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# Final
# Phase III RFI/RI

## Rocky Flats Plant
## 881 Hillside Area

(Operable Unit No. 1)

**June 1994**

ADMIN RECORD

**OVERVIEW**
**TABLE OF CONTENTS**

## *VOLUME I*

**SECTION 1—INTRODUCTION** (Text, Tables, and Figures)

**SECTION 2—OU1 FIELD INVESTIGATION** (Text, Tables, and Figures)

**SECTION 3—PHYSICAL CHARACTERISTICS OF OU1** (Text, Tables, and Figures)

## *VOLUME II*

**SECTION 4—NATURE AND EXTENT OF CONTAMINATION** (Text, Tables, and Figures)

**SECTION 5—CONTAMINANT FATE AND TRANSPORT** (Text, Tables, and Figures)

**SECTION 6—BASELINE RISK ASSESSMENT** (Text, Tables, and Figures)

**SECTION 7—SUMMARY AND CONCLUSIONS**

**SECTION 8—REFERENCES**

## *VOLUME III*

**APPENDIX A — GEOLOGIC DATA**
A1 DRILLING AND SAMPLING DATA

## *VOLUME IV*

**APPENDIX A — GEOLOGIC DATA**
A2 GEOTECHNICAL DATA
A3 SURVEYING DATA
A4 FRENCH DRAIN GEOLOGIC DATA

## *VOLUME V*

APPENDIX A — GEOLOGIC DATA
- A4 FRENCH DRAIN GEOLOGIC DATA (continued)
- A5 HOT SPOT INVESTIGATION

## *VOLUME VI*

APPENDIX B — HYDROGEOLOGIC DATA
- B1 BOREHOLE AND SINGLE WELL TEST DATA
- B2 MULTIPLE WELL TEST DATA
- B3 GROUNDWATER ELEVATION DATA
- B4 FRENCH DRAIN HYDROGEOLOGIC ASSESSMENT
- B5 SURFACE WATER FLOW DATA
- B6 GROUNDWATER CONTAMINANT MIGRATION VELOCITY CALCULATIONS

## *VOLUME VII*

APPENDIX C — ANALYTICAL DATA
- C1 BACKGROUND SOIL DATA
- C2 STATISTICAL SUMMARIES
- C3 PHASE III SUBSURFACE SOIL SAMPLES
- C4 SURFACE SOIL SAMPLES
- C5 SURFACE WATER
- C6 SEEP/SPRING WATER
- C7 SEDIMENTS
- C8 GROUNDWATER
- C9 FIELD PARAMETER DATA FOR OU1 GROUNDWATER MONITORING
- C10 BIOLOGICAL TISSUE SAMPLES
- C11 PHASE III FIELD PROGRAM UNIQUE SAMPLES
- C12 AIR QUALITY
- C13 SUBSURFACE SOIL CONTAMINANT SUMMARY

## *VOLUME VIII*

APPENDIX D — DETERMINATION OF CONTAMINANTS

*VOLUME IX*

APPENDIX E — ENVIRONMENTAL EVALUATION

*VOLUME X*

APPENDIX F — PUBLIC HEALTH EVALUATION

*VOLUME XI*

APPENDIX G — QUALITY ASSURANCE

APPENDIX H — TECHNICAL MEMORANDA

*VOLUME XII*

APPENDIX I — RESPONSES TO AGENCY COMMENTS

APPENDIX J — DISTRIBUTION LIST

# APPENDIX C—ANALYTICAL DATA
# TABLE OF CONTENTS


**Appendix** **Title**

**C1 BACKGROUND SOIL DATA**
Semivolatile Organic Compounds
Pesticide/PCBs
Total Metals
Total Radiochemistry
Water Quality Parameters

**C2 STATISTICAL SUMMARIES**
Subsurface Soil
- Total Metals
- Total Radiochemistry
- Volatile Organics
- Semivolatile Organics
- Pesticide/PCBs
- Water Quality Parameters

Surface Soil
- Total Metals
- Total Radiochemistry
- Volatile Organics
- Semivolatile Organics
- Pesticide/PCBs
- Water Quality Parameters

Surface Water
- Total Metals
- Filtered Metals
- Total Radiochemistry
- Filtered Radiochemistry
- Volatile Organics
- Semivolatile Organics
- Pesticide/PCBs
- Water Quality Parameters

## APPENDIX C—TABLE OF CONTENTS
(continued)


| Appendix | Title |
|---|---|
| | Seep/Spring Water |
| | Total Metals |
| | Filtered Metals |
| | Total Radiochemistry |
| | Filtered Radiochemistry |
| | Volatile Organics |
| | Semivolatile Organics |
| | Pesticide/PCBs |
| | Water Quality Parameters |
| | Sediment |
| | Total Metals |
| | Total Radiochemistry |
| | Volatile Organics |
| | Semivolatile Organics |
| | Pesticide/PCBs |
| | Water Quality Parameters |
| | Groundwater |
| | Total Metals (By Media) |
| | Filtered Metals |
| | Total Radiochemistry (By Media) |
| | Filtered Radiochemistry |
| | Volatile Organics (By Media) |
| | Semivolatile Organics (By Media) |
| | Pesticide/PCBs (By Media) |
| | Water Quality Parameters (By Media) |
| C3 | **SUBSURFACE SOIL SAMPLES** |
| | Volatile Organics |
| | Semivolatile Organic Compounds |
| | Pesticide/PCBs |
| | Total Metals |
| | Total Radiochemistry |
| | Water Quality Parameters |
| | Total Organic Carbon |

**Appendix** **Title**

**C4 SURFACE SOIL SAMPLES**

Volatile Organics
Semivolatile Organic Compounds
Pesticide/PCBs
Total Metals
Total Radiochemistry
Water Quality Parameters

**C5 SURFACE WATER**

Volatile Organics
Semivolatile Organics
Pesticide/PCBs
Total Metals
Filtered Metals
Total Radiochemistry
Filtered Radiochemistry
Water Quality Parameters

**C6 SEEP/SPRING WATER**

Volatile Organics
Semivolatile Organics
Pesticide/PCBs
Total Metals
Filtered Metals
Total Radiochemistry
Filtered Radiochemistry
Water Quality Parameters

## APPENDIX C—TABLE OF CONTENTS
(continued)


| Appendix | Title |
|---|---|
| C7 | SEDIMENTS |
| | Volatile Organics |
| | Semivolatile Organcs Compounds |
| | Pesticide/PCBs |
| | Total Metals |
| | Total Radiochemistry |
| | Water Quality Parameters |
| C8 | GROUNDWATER |
| | Volatile Organics Compounds |
| | Semivolatile Organic |
| | Pesticide/PCBs |
| | Total Metals |
| | Filtered Metals |
| | Total Radiochemistry |
| | Filtered Radiochemistry |
| | Water Quality Parameters |
| C9 | FIELD PARAMETER DATA |
| C10 | BIOLOGICAL TISSUE SAMPLES |
| | Radionuclides |
| | Metals |
| C11 | UNIQUE SAMPLES |
| C12 | AIR QUALITY |

## APPENDIX C—TABLE OF CONTENTS
(continued)


| Appendix | Title |
|---|---|
| C13 | ANALYTICAL DATA SUMMARIES |
| | Phase I and II<br>Subsurface Soil Contaminants |
| | Phase I and II<br>Surface Water Contaminants |
| | Phase I and III<br>Sediment Contaminants |
| | Phase I and II<br>Groundwater Contamiants |

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Table C1-a

## Background Surface Soil Semivolatile Organic Samples (ug/kg)

| ANALYTE | Location: RA001 (SS)<br>Sample: SS03000WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03001WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03002WS (DUP)<br>Date: 02/25/92 | | | Location: RA003 (SS)<br>Sample: SS03006WS (REAL)<br>Date: 02/25/92 | | | Location: RA004 (SS)<br>Sample: SS03010WS (REAL)<br>Date: 02/24/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 1,2-dichlorobenzene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 1,3-dichlorobenzene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 1,4-dichlorobenzene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 2,4,5-trichlorophenol | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | | | |
| 2,4,6-trichlorophenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 2,4-dichlorophenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 2,4-dimethylphenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 2,4-dinitrophenol | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | | | |
| 2,4-dinitrotoluene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 2,6-dinitrotoluene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 2-chloronaphthalene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 2-chlorophenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 2-methylnaphthalene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 2-methylphenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 2-nitroaniline | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | 2400 | U | V |
| 2-nitrophenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 3,3'-dichlorobenzidine | 710 | U | JA | 740 | U | JA | 750 | U | JA | 760 | U | JA | 960 | U | V |
| 3-nitroaniline | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | 2400 | U | V |
| 4,6-dinitro-2-methylphenol | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | | | |
| 4-bromophenyl phenyl ether | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 4-chloro-3-methylphenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 4-chloroaniline | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 4-chlorophenyl phenyl ether | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| 4-methylphenol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| 4-nitroaniline | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | 2400 | U | V |
| 4-nitrophenol | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | | | |
| acenaphthene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| acenaphthylene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| anthracene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| benzo(a)pyrene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| benzo(b)fluoranthene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| benzo(ghi)perylene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| benzo(k)fluoranthene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| benzoic acid | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | | | |
| benzyl alcohol | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| bis(2-chloroethoxy)methane | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| bis(2-chloroethyl)ether | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| bis(2-chloroisopropyl)ether | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| bis(2-ethylhexyl)phthalate | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| butyl benzyl phthalate | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| chrysene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| di-n-butyl phthalate | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| di-n-octyl phthalate | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| dibenzo(a,h)anthracene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| dibenzofuran | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| diethyl phthalate | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| dimethyl phthalate | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| fluoranthene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| fluorene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| hexachlorobenzene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| hexachlorobutadiene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| hexachlorocyclopentadiene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| hexachloroethane | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| indeno(1,2,3-cd)pyrene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| isophorone | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| n-nitroso-di-n-propylamine | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| naphthalene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| nitrobenzene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| pentachlorophenol | 1700 | U | JA | 1800 | U | JA | 1800 | U | JA | 1800 | U | JA | | | |
| phenanthrene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |
| phenol | 3350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | | | |
| pyrene | 350 | U | JA | 370 | U | JA | 370 | U | JA | 380 | U | JA | 480 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-a

## Background Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: RA005 (SS) Sample: SS03013WS (REAL) Date: 02/21/92 | | | Location: RA006 (SS) Sample: SS03014WS (REAL) Date: 02/21/92 | | | Location: RA007 (SS) Sample: SS03015WS (REAL) Date: 02/24/92 | | | Location: RA008 (SS) Sample: SS03016WS (REAL) Date: 02/24/92 | | | Location: RA009 (SS) Sample: SS03019WS (REAL) Date: 02/24/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 1,2-dichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 1,3-dichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 1,4-dichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 2,4,5-trichlorophenol | | | | | | | | | | | | | | | |
| 2,4,6-trichlorophenol | | | | | | | | | | | | | | | |
| 2,4-dichlorophenol | | | | | | | | | | | | | | | |
| 2,4-dimethylphenol | | | | | | | | | | | | | | | |
| 2,4-dinitrophenol | | | | | | | | | | | | | | | |
| 2,4-dinitrotoluene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 2,6-dinitrotoluene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 2-chloronaphthalene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 2-chlorophenol | | | | | | | | | | | | | | | |
| 2-methylnaphthalene | | | | | | | 350 | U | V | 340 | U | V | 340 | U | V |
| 2-methylphenol | | | | | | | | | | | | | | | |
| 2-nitroaniline | 1800 | U | V | 1800 | U | V | 1700 | U | V | 1700 | U | V | 1700 | U | V |
| 2-nitrophenol | | | | | | | | | | | | | | | |
| 3,3'-dichlorobenzidine | 700 | U | V | 710 | U | V | 700 | U | V | 680 | U | V | 690 | U | V |
| 3-nitroaniline | 1800 | U | V | 1800 | U | V | 1700 | U | V | 1700 | U | V | 1700 | U | V |
| 4,6-dinitro-2-methylphenol | | | | | | | | | | | | | | | |
| 4-bromophenyl phenyl ether | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 4-chloro-3-methylphenol | | | | | | | | | | | | | | | |
| 4-chloroaniline | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 4-chlorophenyl phenyl ether | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| 4-methylphenol | | | | | | | | | | | | | | | |
| 4-nitroaniline | 1800 | U | V | 1800 | U | V | 1700 | U | V | 1700 | U | V | 1700 | U | V |
| 4-nitrophenol | | | | | | | | | | | | | | | |
| acenaphthene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| acenaphthylene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| anthracene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| benzo(a)pyrene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| benzo(b)fluoranthene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| benzo(ghi)perylene | 350 | U | V | 350 | U | V | | | | | | | | | |
| benzo(k)fluoranthene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| benzoic acid | | | | | | | | | | | | | | | |
| benzyl alcohol | | | | | | | | | | | | | | | |
| bis(2-chloroethoxy)methane | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| bis(2-chloroethyl)ether | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| bis(2-chloroisopropyl)ether | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| bis(2-ethylhexyl)phthalate | 350 | U | V | 350 | U | V | 140 | J | A | 340 | U | V | 35 | J | A |
| butyl benzyl phthalate | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| chrysene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| di-n-butyl phthalate | 350 | U | V | 350 | U | V | 44 | J | A | 340 | U | V | 39 | J | A |
| di-n-octyl phthalate | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| dibenzo(a,h)anthracene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| dibenzofuran | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| diethyl phthalate | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| dimethyl phthalate | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| fluoranthene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| fluorene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| hexachlorobenzene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| hexachlorobutadiene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| hexachlorocyclopentadiene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| hexachloroethane | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| indeno(1,2,3-cd)pyrene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| isophorone | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| n-nitroso-di-n-propylamine | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| naphthalene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| nitrobenzene | | | | | | | | | | | | | | | |
| pentachlorophenol | | | | | | | | | | | | | | | |
| phenanthrene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |
| phenol | | | | | | | | | | | | | | | |
| pyrene | 350 | U | V | 350 | U | V | 350 | U | V | 340 | U | V | 340 | U | V |

Note: Data reporting order: result, qualifier, validation code.
*Validation Codes: V-valid; A-acceptable with qualifications; R-rejected;* B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-a

## Background Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SS204093 (SS) Sample: SS20040WC (REAL) Date: 03/25/93 | | Location: SS204193 (SS) Sample: SS20041WC (REAL) Date: 03/25/93 | | Location: SS204193 (SS) Sample: SS20051WC (DUP) Date: 03/25/93 | | Location: SS204293 (SS) Sample: SS20042WC (REAL) Date: 03/25/93 | | Location: SS204393 (SS) Sample: SS20043WC (REAL) Date: 03/25/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 1,2-dichlorobenzene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 1,3-dichlorobenzene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 1,4-dichlorobenzene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2,4,5-trichlorophenol | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| 2,4,6-trichlorophenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2,4-dichlorophenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2,4-dimethylphenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2,4-dinitrophenol | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| 2,4-dinitrotoluene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2,6-dinitrotoluene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2-chloronaphthalene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2-chlorophenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2-methylnaphthalene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2-methylphenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 2-nitroaniline | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| 2-nitrophenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 3,3'-dichlorobenzidine | 780 | U | 950 | U | 970 | U | 830 | U | 750 | U |
| 3-nitroaniline | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| 4,6-dinitro-2-methylphenol | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| 4-bromophenyl phenyl ether | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 4-chloro-3-methylphenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 4-chloroaniline | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 4-chlorophenyl phenyl ether | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 4-methylphenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| 4-nitroaniline | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| 4-nitrophenol | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| acenaphthene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| acenaphthylene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| anthracene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| benzenamine | | | | | | | | | | |
| benzidine | | | | | | | | | | |
| benzo(a)anthracene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| benzo(a)pyrene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| benzo(b)fluoranthene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| benzo(ghi)perylene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| benzo(k)fluoranthene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| benzoic acid | 43 | J | 110 | J | 2300 | U | 230 | J | 150 | J |
| benzyl alcohol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| bis(2-chloroethoxy)methane | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| bis(2-chloroethyl)ether | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| bis(2-chloroisopropyl)ether | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| bis(2-ethylhexyl)phthalate | 390 | U | 67 | J | 480 | U | 420 | U | 370 | U |
| butyl benzyl phthalate | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| chrysene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| di-n-butyl phthalate | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| di-n-octyl phthalate | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| dibenzo(a,h)anthracene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| dibenzofuran | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| diethyl phthalate | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| dimethyl phthalate | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| fluoranthene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| fluorene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| hexachlorobenzene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| hexachlorobutadiene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| hexachlorocyclopentadiene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| hexachloroethane | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| indeno(1,2,3-cd)pyrene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| isophorone | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| n-nitroso-di-n-propylamine | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| n-nitrosodimethylamine | | | | | | | | | | |
| n-nitrosodiphenylamine | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| naphthalene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| nitrobenzene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| pentachlorophenol | 1900 | U | 2300 | U | 2300 | U | 2000 | U | 1800 | U |
| phenanthrene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| phenol | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |
| pyrene | 390 | U | 480 | U | 480 | U | 420 | U | 370 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-a

## Background Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SS204493 (SS) Sample: SS20044WC (REAL) Date: 03/25/93 | | Location: SS204593 (SS) Sample: SS20045WC (REAL) Date: 03/26/93 | | Location: SS204693 (SS) Sample: SS20046WC (REAL) Date: 03/26/93 | | Location: SS204793 (SS) Sample: SS20047WC (REAL) Date: 03/26/93 | | Location: SS204893 (SS) Sample: SS20048WC (REAL) Date: 03/25/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 1,2-dichlorobenzene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 1,3-dichlorobenzene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 1,4-dichlorobenzene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2,4,5-trichlorophenol | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| 2,4,6-trichlorophenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2,4-dichlorophenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2,4-dimethylphenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2,4-dinitrophenol | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| 2,4-dinitrotoluene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2,6-dinitrotoluene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2-chloronaphthalene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2-chlorophenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2-methylnaphthalene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2-methylphenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 2-nitroaniline | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| 2-nitrophenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 3,3'-dichlorobenzidine | 750 | U | 860 | U | 810 | U | 710 | U | 730 | U |
| 3-nitroaniline | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| 4,6-dinitro-2-methylphenol | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| 4-bromophenyl phenyl ether | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 4-chloro-3-methylphenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 4-chloroaniline | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 4-chlorophenyl phenyl ether | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 4-methylphenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| 4-nitroaniline | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| 4-nitrophenol | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| acenaphthene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| acenaphthylene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| anthracene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| benzenamine | | | | | | | | | | |
| benzidine | | | | | | | | | | |
| benzo(a)anthracene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| benzo(a)pyrene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| benzo(b)fluoranthene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| benzo(ghi)perylene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| benzo(k)fluoranthene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| benzoic acid | 140 | J | 2100 | U | 110 | J | 1700 | U | 73 | J |
| benzyl alcohol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| bis(2-chloroethoxy)methane | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| bis(2-chloroethyl)ether | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| bis(2-chloroisopropyl)ether | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| bis(2-ethylhexyl)phthalate | 370 | U | 430 | U | 400 | U | 49 | J | 370 | U |
| butyl benzyl phthalate | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| chrysene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| di-n-butyl phthalate | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| di-n-octyl phthalate | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| dibenzo(a,h)anthracene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| dibenzofuran | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| diethyl phthalate | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| dimethyl phthalate | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| fluoranthene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| fluorene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| hexachlorobenzene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| hexachlorobutadiene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| hexachlorocyclopentadiene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| hexachloroethane | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| indeno(1,2,3-cd)pyrene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| isophorone | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| n-nitroso-di-n-propylamine | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| n-nitrosodimethylamine | | | | | | | | | | |
| n-nitrosodiphenylamine | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| naphthalene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| nitrobenzene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| pentachlorophenol | 1800 | U | 2100 | U | 2000 | U | 1700 | U | 1800 | U |
| phenanthrene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| phenol | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |
| pyrene | 370 | U | 430 | U | 400 | U | 350 | U | 370 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-b

## Background Surface Soil Pesticide/PCB Samples (ug/kg)

| ANALYTE | Location: RA001 (SS)<br>Sample: SS03000WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03001WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03002WS (DUP)<br>Date: 02/25/92 | | | Location: RA003 (SS)<br>Sample: SS03006WS (REAL)<br>Date: 02/25/92 | | | Location: RA004 (SS)<br>Sample: SS03010WS (REAL)<br>Date: 02/24/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| 4,4'-dde | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| 4,4'-ddt | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| aldrin | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| alpha-bhc | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| alpha-chlordane | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| aroclor-1016 | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| aroclor-1221 | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| aroclor-1232 | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| aroclor-1242 | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| aroclor-1248 | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| aroclor-1254 | 170 | U | JA | 180 | U | JA | 180 | U | | 180 | U | JA | 230 | U | V |
| aroclor-1260 | 170 | U | JA | 180 | U | JA | 180 | U | | 180 | U | JA | 230 | U | V |
| beta-bhc | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| delta-bhc | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| dieldrin | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| endosulfan I | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| endosulfan II | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| endosulfan sulfate | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| endrin | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| endrin ketone | 17 | U | JA | 18 | U | JA | 18 | U | | 18 | U | JA | 23 | U | V |
| gamma-bhc (lindane) | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| gamma-chlordane | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| heptachlor | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| heptachlor epoxide | 8.6 | U | JA | 9 | U | JA | 9.1 | U | | 9.1 | U | JA | 11 | U | V |
| methoxychlor | 86 | U | JA | 90 | U | JA | 91 | U | | 91 | U | JA | 110 | U | V |
| toxaphene | 170 | U | JA | 180 | U | JA | 180 | U | | 180 | U | JA | 230 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-b

## Background Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: RA005 (SS)<br>Sample: SS03013WS (REAL)<br>Date: 02/21/92 | | | Location: RA006 (SS)<br>Sample: SS03014WS (REAL)<br>Date: 02/21/92 | | | Location: RA007 (SS)<br>Sample: SS03015WS (REAL)<br>Date: 02/24/92 | | | Location: RA008 (SS)<br>Sample: SS03018WS (REAL)<br>Date: 02/24/92 | | | Location: RA009 (SS)<br>Sample: SS03019WS (REAL)<br>Date: 02/24/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 17 | U | V | 17 | U | V | 17 | U | V | 16 | U | V | 17 | U | V |
| 4,4'-dde | 17 | U | V | 17 | U | V | 17 | U | V | 16 | U | V | 17 | U | V |
| 4,4'-ddt | 17 | U | V | 17 | U | V | 17 | U | V | 16 | U | V | 17 | U | V |
| aldrin | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| alpha-bhc | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| alpha-chlordane | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| aroclor-1016 | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| aroclor-1221 | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| aroclor-1232 | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| aroclor-1242 | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| aroclor-1248 | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| aroclor-1254 | 170 | U | V | 170 | U | V | 170 | U | V | 160 | U | V | 170 | U | V |
| aroclor-1260 | 170 | U | V | 170 | U | V | 170 | U | V | 160 | U | V | 170 | U | V |
| beta-bhc | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| delta-bhc | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| dieldrin | 17 | U | V | 17 | U | V | 17 | U | V | 16 | U | V | 17 | U | V |
| endosulfan I | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| endosulfan II | 17 | U | V | 17 | U | V | 17 | U | V | 16 | U | V | 17 | U | V |
| endosulfan sulfate | 17 | U | V | 17 | U | | 17 | U | V | 16 | U | V | 17 | U | V |
| endrin | 17 | U | V | 17 | U | V | 17 | U | V | 16 | U | V | 17 | U | V |
| endrin ketone | 17 | U | V | 17 | U | V | 17 | U | V | 16 | U | V | 17 | U | V |
| gamma-bhc (lindane) | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| gamma-chlordane | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| heptachlor | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| heptachlor epoxide | 8.7 | U | V | 8.5 | U | V | 8.4 | U | V | 8.2 | U | V | 8.5 | U | V |
| methoxychlor | 87 | U | V | 85 | U | V | 84 | U | V | 82 | U | V | 85 | U | V |
| toxaphene | 170 | U | V | 170 | U | V | 170 | U | V | 160 | U | V | 170 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-b

## Background Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: SS204093 (SS) Sample: SS20040WC (REAL) Date: 03/25/93 | | Location: SS204193 (SS) Sample: SS20041WC (REAL) Date: 03/25/93 | | Location: SS204193 (SS) Sample: SS20051WC (DUP) Date: 03/25/93 | | Location: SS204293 (SS) Sample: SS20042WC (REAL) Date: 03/25/93 | | Location: SS204393 (SS) Sample: SS20043WC (REAL) Date: 03/25/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| 4,4'-dde | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| 4,4'-ddt | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| aldrin | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| alpha-bhc | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| alpha-chlordane | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| aroclor-1016 | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| aroclor-1221 | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| aroclor-1232 | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| aroclor-1242 | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| aroclor-1248 | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| aroclor-1254 | 190 | U | 230 | U | 240 | U | 200 | U | 180 | U |
| aroclor-1260 | 190 | U | 230 | U | 240 | U | 200 | U | 180 | U |
| beta-bhc | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| delta-bhc | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| dieldrin | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| endosulfan I | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| endosulfan II | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| endosulfan sulfate | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| endrin | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| endrin ketone | 19 | U | 23 | U | 24 | U | 20 | U | 18 | U |
| gamma-bhc (lindane) | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| gamma-chlordane | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| heptachlor | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| heptachlor epoxide | 9.3 | U | 12 | U | 12 | U | 10 | U | 9.1 | U |
| methoxychlor | 93 | U | 120 | U | 120 | U | 100 | U | 91 | U |
| toxaphene | 190 | U | 230 | U | 240 | U | 200 | U | 180 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-b

## Background Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: SS204493 (SS)<br>Sample: SS20044WC (REAL)<br>Date: 03/25/93 | | Location: SS204593 (SS)<br>Sample: SS20045WC (REAL)<br>Date: 03/26/93 | | Location: SS204693 (SS)<br>Sample: SS20046WC (REAL)<br>Date: 03/26/93 | | Location: SS204793 (SS)<br>Sample: SS20047WC (REAL)<br>Date: 03/26/93 | | Location: SS204893 (SS)<br>Sample: SS20048WC (REAL)<br>Date: 03/25/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| 4,4'-dde | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| 4,4'-ddt | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| aldrin | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| alpha-bhc | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| alpha-chlordane | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| aroclor-1016 | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| aroclor-1221 | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| aroclor-1232 | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| aroclor-1242 | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| aroclor-1248 | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| aroclor-1254 | 180 | U | 210 | U | 190 | U | 170 | U | 180 | U |
| aroclor-1260 | 180 | U | 210 | U | 190 | U | 170 | U | 180 | U |
| beta-bhc | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| delta-bhc | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| dieldrin | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| endosulfan I | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| endosulfan II | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| endosulfan sulfate | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| endrin | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| endrin ketone | 18 | U | 21 | U | 19 | U | 17 | U | 18 | U |
| gamma-bhc (lindane) | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| gamma-chlordane | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| heptachlor | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| heptachlor epoxide | 9.0 | U | 10 | U | 9.7 | U | 8.6 | U | 8.8 | U |
| methoxychlor | 90 | U | 100 | U | 97 | U | 86 | U | 88 | U |
| toxaphene | 180 | U | 210 | U | 190 | U | 170 | U | 180 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-c

## Background Surface Soil Total Metal Samples (mg/kg)

| ANALYTE | Location: RA001 (SS)<br>Sample: SS03000WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03001WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03002WS (DUP)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03004WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03005WS (DUP)<br>Date: 02/25/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 16700 | | V | 7420 | | V | 8010 | | V | 19100 | | JA | 18800 | | JA |
| Antimony | 9.1 | U | JA | 9.2 | U | JA | 9.6 | U | JA | 8.4 | U | JA | 8.4 | U | JA |
| Arsenic | 8.5 | B | | 5.4 | B | | 4.7 | | | 8.7 | B | | 7.4 | B | |
| Barium | 248 | | V | 144 | | V | 145 | | V | 286 | | JA | 300 | | JA |
| Beryllium | .96 | B | V | .44 | B | V | .46 | B | V | 1.1 | | JA | 1.1 | | JA |
| Cadmium | | | | .66 | U | V | .68 | U | V | | | | .64 | B | JA |
| Calcium | 4910 | | V | 5700 | | V | 5700 | | V | 10700 | | JA | 10800 | | JA |
| Cesium | 2.2 | B | | 1.7 | B | | .45 | U | | 2.5 | B | | 2.8 | B | |
| Chromium | 20.2 | | V | 9 | | V | 9.4 | | V | 21.6 | | JA | 20.7 | | JA |
| Cobalt | 10.3 | B | V | 6 | B | V | 5.6 | B | V | 11.8 | | JA | 12.2 | | JA |
| Copper | 17.6 | | V | 11.2 | | V | 11.6 | | V | 22.2 | | JA | 24 | | JA |
| Iron | 24900 | | V | 11300 | | V | 11300 | | V | 21700 | | JA | 21900 | | JA |
| Lead | 34.5 | | | 26.6 | | | 26.7 | | | 44 | | | 50 | | |
| Lithium | 13.3 | B | JA | 6.8 | B | JA | 9.3 | B | JA | 16.1 | B | JA | 15.6 | B | JA |
| Magnesium | 3820 | | V | 1860 | | V | 1930 | | V | 4050 | | JA | 4100 | | JA |
| Manganese | 314 | | V | 269 | | V | 285 | | V | 497 | | JA | 528 | | JA |
| Mercury | .06 | U | | .07 | U | | .07 | U | | | | | | | |
| Molybdenum | 2.8 | B | JA | 1.5 | U | JA | 1.6 | U | JA | 2.5 | B | JA | 1.4 | U | JA |
| Nickel | 17.8 | | V | 10.7 | | V | 7.4 | B | V | 19.1 | | JA | 16.2 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3170 | | V | 2170 | | V | 2570 | | V | 5310 | | JA | 5160 | | JA |
| Selenium | .67 | B | | .61 | B | | .25 | B | | .6 | B | | .57 | B | |
| Silicon | 145 | | JA | 119 | | JA | 72.8 | | JA | 332 | | JA | 368 | | JA |
| Silver | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V | 1 | U | JA | 1 | U | JA |
| Sodium | 95.5 | B | V | 73.3 | B | V | 72.8 | B | V | 177 | B | JA | 147 | B | JA |
| Strontium | 37.7 | B | JA | 29.6 | B | JA | 29.9 | B | JA | 59.1 | | JA | 58.5 | | JA |
| Thallium | .34 | B | | .32 | B | | .27 | B | | .32 | B | | .33 | B | |
| Tin | 58.5 | | JA | 29.9 | U | JA | 47.5 | | JA | 27.2 | U | JA | 42.1 | | JA |
| Vanadium | 41.4 | | V | 21.1 | | V | 20.9 | | V | 46.2 | | JA | 47 | | JA |
| Zinc | 61.7 | | V | 48.7 | | V | 49.1 | | V | 90.2 | | JA | 94.3 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-c

## Background Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA003 (SS)<br>Sample: SS03006WS (REAL)<br>Date: 02/25/92 | | | Location: RA004 (SS)<br>Sample: SS03010WS (REAL)<br>Date: 02/24/92 | | | Location: RA004 (SS)<br>Sample: SS03011WS (REAL)<br>Date: 02/24/92 | | | Location: RA005 (SS)<br>Sample: SS03013WS (REAL)<br>Date: 02/21/92 | | | Location: RA006 (SS)<br>Sample: SS03014WS (REAL)<br>Date: 02/21/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12500 | | V | 14100 | | V | 21800 | | JA | 12600 | | V | 12400 | | V |
| Antimony | 9.2 | U | JA | 11.8 | U | JA | 8.4 | U | JA | 9 | U | JA | 8.9 | U | JA |
| Arsenic | 5 | | | 4.9 | | | 3.9 | B | | 8.4 | B | | 5.4 | | |
| Barium | 192 | | V | 203 | | V | 324 | | JA | 166 | | V | 244 | | V |
| Beryllium | .82 | B | V | .62 | B | V | 1.1 | | JA | .69 | B | V | .73 | B | V |
| Cadmium | .66 | U | V | .84 | U | V | .6 | U | JA | 1 | B | JA | .64 | U | V |
| Calcium | 8640 | | V | 13600 | | V | 4020 | | JA | 4460 | | V | 4160 | | V |
| Cesium | 2.4 | B | | 2.3 | B | | 2.5 | B | | 3 | B | | 2.5 | B | |
| Chromium | 16.3 | | V | 14.8 | | V | 22 | | JA | 15 | | V | 14.9 | | V |
| Cobalt | 7.4 | B | V | 6.5 | B | V | 7.7 | B | JA | 7.7 | B | V | 7.8 | B | V |
| Copper | 14.8 | | V | 15.3 | | V | 21.6 | | JA | 15.3 | | V | 15.2 | | V |
| Iron | 16200 | | V | 15900 | | V | 19400 | | JA | 16200 | | V | 15400 | | V |
| Lead | 30.6 | | | 37.6 | | | 42.3 | | | 34.9 | | | 35.1 | | |
| Lithium | 14.2 | B | JA | 12.2 | B | JA | 17.7 | B | JA | 11.6 | B | JA | 11.9 | B | JA |
| Magnesium | 4780 | | V | 4010 | | V | 6380 | | JA | 3090 | | V | 2910 | | V |
| Manganese | 291 | | V | 257 | | V | 298 | | JA | 360 | | V | 734 | | V |
| Mercury | .06 | U | | .08 | U | | | | | .06 | U | | .07 | U | |
| Molybdenum | 2.7 | B | JA | 2 | U | JA | 1.9 | B | JA | 1.5 | U | JA | 1.5 | U | JA |
| Nickel | 17.4 | | V | 15.5 | | V | 14.8 | | JA | 15.6 | | V | 14.7 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3110 | | V | 3790 | | V | 4620 | | JA | 3470 | | V | 3080 | | V |
| Selenium | .37 | B | | .44 | B | | .67 | B | | .21 | U | | .21 | U | |
| Silicon | 158 | | JA | 188 | | JA | 75.1 | | JA | 133 | | JA | 156 | | JA |
| Silver | 1.1 | U | V | 1.4 | U | V | 1 | U | JA | 1.1 | U | V | 1.1 | U | V |
| Sodium | 187 | B | V | 136 | B | V | 249 | B | JA | 89.5 | B | V | 84.8 | B | V |
| Strontium | 46.5 | | JA | 49.1 | B | JA | 109 | | JA | 33.4 | B | JA | 31.1 | B | JA |
| Thallium | .41 | B | | .29 | U | | .3 | B | | .21 | U | | .21 | U | |
| Tin | 46.1 | | JA | 48.4 | B | JA | 41.9 | | JA | 53.8 | | JA | 38.5 | B | JA |
| Vanadium | 28.6 | | V | 30.2 | | V | 43.2 | | JA | 30.2 | | V | 30.7 | | V |
| Zinc | 62.8 | | V | 61.8 | | V | 78 | | JA | 56.5 | | V | 56 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-c

## Background Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA007 (SS)<br>Sample: SS03015WS (REAL)<br>Date: 02/24/92 | | | Location: RA008 (SS)<br>Sample: SS03018WS (REAL)<br>Date: 02/24/92 | | | Location: RA009 (SS)<br>Sample: SS03019WS (REAL)<br>Date: 02/24/92 | | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 13900 | | V | 10700 | | V | 13500 | | V | | | | |
| Antimony | 8.7 | U | JA | 8.7 | U | JA | 9.1 | U | JA | | | | |
| Arsenic | 2.6 | | | 5.5 | | | 4.9 | | | | | | |
| Barium | 161 | | V | 139 | | V | 138 | | V | | | | |
| Beryllium | .76 | B | V | .59 | B | V | .65 | B | V | | | | |
| Cadmium | .73 | B | JA | .62 | U | V | .84 | B | JA | | | | |
| Calcium | 4470 | | V | 3960 | | V | 3880 | | V | | | | |
| Cesium | 2.1 | B | | 2.2 | B | | 2.1 | B | | | | | |
| Chromium | 15.5 | | V | 12.8 | | V | 17.1 | | V | | | | |
| Cobalt | 7.3 | B | V | 5.5 | B | V | 7 | B | V | | | | |
| Copper | 16.2 | | V | 14 | | V | 14.2 | | V | | | | |
| Iron | 15800 | | V | 12500 | | V | 15800 | | V | | | | |
| Lead | 36.8 | | | 39.7 | | | 37.3 | | | | | | |
| Lithium | 13 | B | JA | 9.4 | B | JA | 11.5 | B | JA | | | | |
| Magnesium | 3220 | | V | 2380 | | V | 2680 | | V | | | | |
| Manganese | 306 | | V | 264 | | V | 302 | | V | | | | |
| Mercury | .06 | U | | .06 | U | | .06 | U | | | | | |
| Molybdenum | 1.4 | U | JA | 1.5 | U | JA | 1.5 | U | JA | | | | |
| Nickel | 13.4 | | V | 11.1 | | V | 13.7 | | V | | | | |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 3390 | | V | 2940 | | V | 3240 | | V | | | | |
| Selenium | .56 | B | | .43 | B | | .28 | B | | | | | |
| Silicon | 110 | | JA | 131 | | JA | 54.8 | | JA | | | | |
| Silver | 1 | U | V | 1 | U | V | 1.1 | U | V | | | | |
| Sodium | 93.4 | B | V | 56.9 | B | V | 84.5 | B | V | | | | |
| Strontium | 28.8 | B | JA | 24.9 | B | JA | 27.7 | B | JA | | | | |
| Thallium | .21 | U | | .21 | U | | .28 | B | | | | | |
| Tin | 39.2 | B | JA | 43.1 | | JA | 42.4 | B | JA | | | | |
| Vanadium | 30.9 | | V | 26.3 | | V | 34 | | V | | | | |
| Zinc | 57.1 | | V | 50.8 | | V | 57.9 | | V | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-d

## Background Surface Soil Total Radiochemistry Samples (pCi/g)

| ANALYTE | Location: RA001 (SS)<br>Sample: SS03000WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03001WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03002WS (DUP)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03004WS (REAL)<br>Date: 02/25/92 | | | Location: RA002 (SS)<br>Sample: SS03005WS (DUP)<br>Date: 02/25/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .009461 | J | A | .04046 | | A | .003917 | J | A | .006385 | J | A | .01381 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 11.96 | | R | | | | 13.4 | | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 13.77 | | A | 36.18 | | A | 33.8 | | A | 30.33 | | A | 32.59 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .04405 | | A | .03249 | | A | .03711 | | A | .043 | | A | .02445 | J | A |
| radium-226 | | | | | | | 1.16 | | R | | | | 1.246 | | R |
| radium-228 | | | | | | | 1.793 | | R | | | | 2.065 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 1.255 | | A | 1.326 | | A | 1.283 | | A | 1.111 | | A | 1.248 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .03671 | J | A | .07231 | J | A | .03074 | J | A | .1393 | J | A | .06823 | J | A |
| uranium-238 | 1.521 | | A | 1.128 | | A | 1.241 | | A | 1.296 | | A | 1.042 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-d

## Background Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA003 (SS)<br>Sample: SS03006WS (REAL)<br>Date: 02/25/92 | | Location: RA004 (SS)<br>Sample: SS03010WS (REAL)<br>Date: 02/24/92 | | Location: RA004 (SS)<br>Sample: SS03011WS (REAL)<br>Date: 02/24/92 | | Location: RA005 (SS)<br>Sample: SS03013WS (REAL)<br>Date: 02/21/92 | | Location: RA006 (SS)<br>Sample: SS03014WS (REAL)<br>Date: 02/21/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .0297 | A | | | .0208 | A | | | | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | | | | | 1.28 | A | | | | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 36.7 | A | 32.53 | A | 29.81 | A | 37.61 | A | 37.81 | A |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | .04486 | A | .03176 | A | .05678 | A | .04047 | A | .06093 | A |
| radium-226 | | | | | | | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 1.18 | A | .9219 | A | .9772 | A | 1.266 | A | 1.215 | A |
| uranium-234 | | | | | | | | | | |
| uranium-235 | .09176 J | A | .01062 J | A | .04896 J | A | .07436 J | A | .01087 J | A |
| uranium-238 | 1.306 | A | 1.028 | A | .8989 | A | 1.365 | A | 1.447 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-d

## Background Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA007 (SS)<br>Sample: SS03015WS (REAL)<br>Date: 02/24/92 | | Location: RA008 (SS)<br>Sample: SS03018WS (REAL)<br>Date: 02/24/92 | | | Location: RA009 (SS)<br>Sample: SS03019WS (REAL)<br>Date: 02/24/92 | | Location: SS204093 (SS)<br>Sample: SS20040WC (REAL)<br>Date: 03/25/93 | | Location: SS204193 (SS)<br>Sample: SS20041WC (REAL)<br>Date: 03/25/93 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | .01466 | J | A | .02404 | A | 0.022 | | 0.012 | J |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | 1.51 | | A | 1.32 | A | 2.1 | | 1.1 | |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | 22 | | 14 | |
| gross beta | 35.87 | A | 34.32 | | A | 36.95 | A | | | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | 31 | | 26 | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | .05029 | A | .04335 | | A | .05409 | A | 0.080 | | 0.026 | J |
| radium-226 | | | | | | | | 0.91 | | 0.80 | |
| radium-228 | | | | | | | | 1.7 | | 1.5 | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | 0.95 | J | 0.080 | U |
| strontium-90 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | |
| uranium-233,-234 | | | | | | 1.472 | A | 1.0 | B | 1.2 | B |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | | | | .05298 | J A | 0.026 | BJ | 0.040 | BJ |
| uranium-238 | | | | | | 1.389 | A | 1.0 | B | 1.1 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-d

## Background Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: SS204193 (SS)<br>Sample: SS20051WC (DUP)<br>Date: 03/25/93 | | Location: SS204293 (SS)<br>Sample: SS20042WC (REAL)<br>Date: 03/25/93 | | Location: SS204393 (SS)<br>Sample: SS20043WC (REAL)<br>Date: 03/25/93 | | Location: SS204493 (SS)<br>Sample: SS20044WC (REAL)<br>Date: 03/25/93 | | Location: SS204593 (SS)<br>Sample: SS20045WC (REAL)<br>Date: 03/26/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.009 | J | -0.003 | U | 0.015 | J | 0.019 | J | 0.021 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 1.1 | | 1.2 | | 2.5 | | 1.6 | | 1.1 | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | 21 | | 20 | | 25 | | 18 | | 18 | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 25 | | 40 | | 34 | | 31 | | 24 | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.045 | | 0.081 | | 0.10 | | 0.050 | | 0.073 | |
| radium-226 | 0.77 | | 0.75 | | 0.92 | | 1.1 | | 0.85 | |
| radium-228 | 2.1 | | 1.3 | | 2.7 | | 2.4 | | 1.7 | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.11 | U | 0.56 | J | 1.0 | | 0.71 | J | 0.81 | J |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 1.1 | B | 1.0 | B | 0.98 | B | 1.2 | B | | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.15 | BJ | 0.019 | BJ | 0.013 | U | 0.036 | BJ | | |
| uranium-238 | 0.94 | B | 0.90 | B | 1.2 | B | 1.2 | B | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-d

## Background Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: SS204693 (SS)<br>Sample: SS20046WC (REAL)<br>Date: 03/26/93 | | Location: SS204793 (SS)<br>Sample: SS20047WC (REAL)<br>Date: 03/26/93 | | Location: SS204893 (SS)<br>Sample: SS20048WC (REAL)<br>Date: 03/25/93 | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.020 | | 0.036 | | 0.014 | J | | | | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 1.0 | | 1.5 | | 0.71 | | | | | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | 23 | | 28 | | 16 | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 31 | | 30 | | 31 | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.042 | | 0.084 | | 0.026 | J | | | | |
| radium-226 | 1.1 | | 1.1 | | 0.97 | | | | | |
| radium-228 | 2.4 | | 2.9 | | 2.7 | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.39 | J | 0.70 | J | 0.35 | J | | | | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | | | | | 1.2 | B | | | | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | | | | | 0.044 | BJ | | | | |
| uranium-238 | | | | | 1.1 | B | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
*Inorganic qualifiers:* U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-e

## Background Surface Soil Water Quality Parameter Samples

| ANALYTE | Location: RA001 (SS)<br>Sample: SS03000WS (REAL)<br>Date: 02/25/92 | | Location: RA002 (SS)<br>Sample: SS03001WS (REAL)<br>Date: 02/25/92 | | Location: RA002 (SS)<br>Sample: SS03002WS (DUP)<br>Date: 02/25/92 | | Location: RA002 (SS)<br>Sample: SS03004WS (REAL)<br>Date: 02/25/92 | | Location: RA002 (SS)<br>Sample: SS03005WS (DUP)<br>Date: 02/25/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 93.8 | V | 94.7 | V | 88.6 | V | 90.0 | V | 90.6 | V |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | 2.55 | V | .335 | V | 1.89 | V | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 2.04 | V | 4.17 | V | 5.26 | V | | | | |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | .07 | V | .17 | V | .059 | V | | | | |
| pH (ph) | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-e

## Background Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA003 (SS)<br>Sample: SS03006WS (REAL)<br>Date: 02/25/92 | | | Location: RA003 (SS)<br>Sample: SS03007WS (REAL)<br>Date: 02/25/92 | | Location: RA003 (SS)<br>Sample: SS03008WS (DUP)<br>Date: 02/25/92 | | Location: RA004 (SS)<br>Sample: SS03010WS (REAL)<br>Date: 02/24/92 | | | Location: RA004 (SS)<br>Sample: SS03011WS (REAL)<br>Date: 02/24/92 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 86.3 | | V | 87.2 | V | 89.3 | V | 69.2 | | V | 70.5 | V |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | |
| ammonia (mg/kg) | .344 | U | V | | | | | .428 | U | V | | |
| bicarbonate as caco3 (mg/kg) | | | | 442 | JA | 674 | JA | | | | | |
| carbonate (mg/kg) | | | | 0 | JA | 0 | JA | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.89 | | V | | | | | .705 | | V | | |
| nitrite (mg/kg) | | | | | | | | | | | | |
| oil & grease (mg/kg) | .16 | | V | | | | | .158 | | V | | |
| pH (ph) | | | | 9.9 | V | 8.3 | V | | | | | |
| sulfide (mg/kg) | | | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-e

## Background Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA004 (SS)<br>Sample: SS03012WS (REAL)<br>Date: 02/24/92 | | Location: RA005 (SS)<br>Sample: SS03013WS (REAL)<br>Date: 02/21/92 | | Location: RA006 (SS)<br>Sample: SS03014WS (REAL)<br>Date: 02/21/92 | | Location: RA007 (SS)<br>Sample: SS03015WS (REAL)<br>Date: 02/24/92 | | Location: RA007 (SS)<br>Sample: SS03017WS (REAL)<br>Date: 02/24/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 74.1 | V | 92.4 | | 93.2 | | 94.6 | V | 94.0 | V |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | | | .472 | V | 4.81 | V | 2.08 U | V | | |
| bicarbonate as caco3 (mg/kg) | 361 | JA | | | | | | | 388 | JA |
| carbonate (mg/kg) | 0 | JA | | | | | | | 0 | JA |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | | | 2.27 | V | 4.79 | V | 1.18 | V | | |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | | | .054 U | V | .059 | V | .057 | V | | |
| pH (ph) | 8.11 | V | | | | | | | 8.04 | V |
| sulfide (mg/kg) | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-e

## Background Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA008 (SS)<br>Sample: SS03018WS (REAL)<br>Date: 02/24/92 | | | Location: RA009 (SS)<br>Sample: SS03019WS (REAL)<br>Date: 02/24/92 | | | Location: SS204193 (SS)<br>Sample: SS20051WC (DUP)<br>Date: 03/25/93 | Location: SS204593 (SS)<br>Sample: SS20045WC (REAL)<br>Date: 03/26/93 | | Location: SS204693 (SS)<br>Sample: SS20046WC (REAL)<br>Date: 03/26/93 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 97.0 | | V | 94.0 | | V | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | |
| ammonia (mg/kg) | 6.12 | U | V | 2.19 | U | V | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | 50.0 | U | 50.0 | U |
| nitrate (mg/kg) | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.18 | | V | 2.1 | | V | | | | | |
| nitrite (mg/kg) | | | | | | | | | | | |
| oil & grease (mg/kg) | .057 | | V | .075 | | V | | | | | |
| pH (ph) | | | | | | | | 6.94 | | 7.77 | |
| sulfide (mg/kg) | | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C1-e

## Background Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: SS204793 (SS)<br>Sample: SS20047WC (REAL)<br>Date: 03/26/93 | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|
| % solids (%) | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | |
| ammonia (mg/kg) | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | |
| carbonate (mg/kg) | 50.0 U | | | | |
| nitrate (mg/kg) | | | | | |
| nitrate/nitrite (mg/kg) | | | | | |
| nitrite (mg/kg) | | | | | |
| oil & grease (mg/kg) | | | | | |
| pH (ph) | 6.39 | | | | |
| sulfide (mg/kg) | | | | | |
| total alkalinity (mg/kg) | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# *Subsurface Soil*

## *Phase III*
## *RFI/RI Report*

# Table C2-1a(1)

## Statistical Summary Phase III Subsurface Soil - RFA - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 2 | 100 | 2410.0 | 3870.0 | | | 3140.0000 | | 69 | 100.0 | | | 10685.0780 | 2.0940 | 46580.729 | 0.29 | | 0 | 0 |
| ANTIMONY | 2 | 100 | 3.0 | 6.6 | | | 4.7750 | | 79 | 16.5 | | | | | 18.1 U * | | | 0 | 0 |
| ARSENIC | 2 | 100 | 2.4 | 3.9 | | | 3.1500 | | 113 | 76.1 | | | 2.5300 | 2.2730 | 12.140 | 1.25 | | 0 | 0 |
| BARIUM | 2 | 100 | 28.8 | 33.0 | | | 30.9000 | | 71 | 85.9 | | | 59.2590 | 2.1030 | 259.619 | 0.52 | | 0 | 0 |
| BERYLLIUM | 2 | 100 | 0.4 | 0.4 | | | 0.3875 | | 109 | 89.0 | | | 3.1060 | 2.5100 | 18.123 | 0.12 | | 0 | 0 |
| CADMIUM | 2 | 0 | | | 0.4 | 0.4 | | | 98 | 7.1 | | | | | 1.8 U * | | | 0 | 0 |
| CALCIUM | 2 | 100 | 4095.0 | 116000.0 | | | 60047.5000 | | 71 | 98.6 | | | 3190.7060 | 2.3110 | 16862.533 | 18.82 | | 0 | 50 |
| CESIUM | 2 | 50 | 15.0 | 15.0 | 11.1 | 11.1 | 10.2750 | | 101 | 1.0 | | | | | 302 U * | | | 0 | 0 |
| CHROMIUM | 2 | 100 | 7.4 | 22.9 | | | 15.1250 | | 38 | 100.0 | | | 18.8950 | 1.9180 | 76.172 | 0.80 | | 0 | 0 |
| COBALT | 2 | 100 | 0.8 | 2.5 | | | 1.6050 | | 118 | 25.4 | | | | | 29.7 * | | | 0 | 0 |
| COPPER | 2 | 100 | 10.6 | 10.8 | | | 10.6750 | | 70 | 94.3 | | | 8.7440 | 1.8570 | 29.956 | 1.22 | | 0 | 0 |
| IRON | 2 | 100 | 2430.0 | 7170.0 | | | 4800.0000 | | 119 | 100.0 | | | 12056.2420 | 1.7060 | 33287.206 | 0.40 | | 0 | 0 |
| LEAD | 2 | 100 | 2.5 | 4.0 | | | 3.2250 | | 70 | 100.0 | | | 6.9670 | 1.8810 | 24.489 | 0.46 | | 0 | 0 |
| LITHIUM | 2 | 100 | 1.1 | 2.5 | | | 1.7750 | | 120 | 64.2 | | | 7.0200 | 1.6670 | 18.531 | 0.25 | | 0 | 0 |
| MAGNESIUM | 2 | 100 | 960.5 | 1330.0 | | | 1145.2500 | | 71 | 94.4 | | | 2071.9370 | 1.9230 | 7600.652 | 0.55 | | 0 | 0 |
| MANGANESE | 2 | 100 | 26.1 | 142.5 | | | 84.3000 | | 119 | 100.0 | | | 142.3960 | 2.2100 | 643.487 | 0.59 | | 0 | 0 |
| MERCURY | 2 | 0 | | | 0.1 | 0.1 | | | 82 | 29.3 | | | | | 0.64 * | | | 0 | 0 |
| MOLYBDENUM | 1 | 0 | | | 0.3 | 0.3 | | | 38 | 81.6 | | | 5.4760 | 2.4580 | 37.559 | | | 0 | 0 |
| NICKEL | 2 | 100 | 4.0 | 9.0 | | | 6.4750 | | 58 | 94.8 | | | 18.4830 | 1.9570 | 72.204 | 0.35 | | 0 | 0 |
| POTASSIUM | 2 | 100 | 300.0 | 695.0 | | | 497.5000 | | 118 | 52.5 | | | 870.0450 | 2.1480 | 3726.431 | 0.57 | | 0 | 0 |
| SELENIUM | 2 | 0 | | | 0.4 | 0.4 | | | 77 | 2.6 | | | | | 3.05 * | | | 0 | 0 |
| SILVER | 2 | 0 | | | 0.4 | 0.4 | | | 97 | 40.2 | | | | | 40.9 * | | | 0 | 0 |
| SODIUM | 2 | 100 | 35.5 | 43.8 | | | 39.6500 | | 56 | 8.9 | | | | | 3680 * | | | 0 | 0 |
| STRONTIUM | 2 | 100 | 10.1 | 60.9 | | | 35.5000 | | 49 | 20.4 | | | | | 226 * | | | 0 | 0 |
| THALLIUM | 2 | 50 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1638 | | 87 | 3.4 | | | | | 2.9 U * | | | 0 | 0 |
| TIN | 1 | 0 | | | 3.6 | 3.6 | | | 57 | 15.8 | | | | | 338 * | | | 0 | 0 |
| VANADIUM | 2 | 100 | 10.1 | 11.9 | | | 11.0000 | | 58 | 98.3 | | | 28.2980 | 1.6390 | 77.097 | 0.39 | | 0 | 0 |
| ZINC | 2 | 100 | 6.1 | 8.5 | | | 7.3000 | | 63 | 100.0 | | | 17.8180 | 2.8040 | 141.742 | 0.41 | | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-1a(2)

## Statistical Summary Phase III Subsurface Soil - COL - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 159 | 100 | 3150.0 | 30000.0 | | | 13097.6070 | 4651.0965 | 36 | 100.0 | | | 8961.0870 | 1.5570 | 23302.696 | 1.46 | 2987.2 | 3 | 2 |
| ANTIMONY | 160 | 64 | 2.6 | 57.0 | 6.1 | 16.1 | 12.3408 | 6.6174 | 79 | 16.5 | | | | | 18.1 U * | | | 18 | 18 |
| ARSENIC | 160 | 89 | 1.0 | 18.1 | 1.3 | 113.0 | 4.0843 | 1.7203 | 113 | 76.1 | | | 2.5300 | 2.2730 | 12.140 | 1.61 | 0.76 | 0 | 1 |
| BARIUM | 160 | 99 | 44.1 | 836.0 | 45.6 | 45.6 | 176.3509 | 85.5154 | 28 | 96.4 | | | 106.1620 | 1.8800 | 438.136 | 1.66 | 45.49 | 2 | 3 |
| BERYLLIUM | 160 | 69 | 0.3 | 2.4 | 0.9 | 1.5 | 1.0007 | 0.4075 | 109 | 89.0 | | | 3.1060 | 2.5100 | 18.123 | 0.32 | 0.16 | 0 | 0 |
| CADMIUM | 154 | 10 | 0.3 | 1.7 | 0.2 | 1.5 | 0.4235 | 0.2884 | 98 | 7.1 | | | | | 1.8 U * | | | 0 | 0 |
| CALCIUM | 160 | 100 | 1810.0 | 78900.0 | | | 14055.9411 | 10687.5321 | 28 | 100.0 | | | 7164.2740 | 1.6890 | 23235.833 | 1.96 | 6327.7 | 14 | 16 |
| CESIUM | 152 | 20 | 2.1 | 29.8 | 3.3 | 298.0 | 56.7838 | 51.8169 | 101 | 1.0 | | | | | 302 U * | | | 0 | 0 |
| CHROMIUM | 160 | 100 | 5.0 | 101.0 | | | 17.3273 | 8.2720 | 9 | 100.0 | | | 18.2170 | 1.3200 | 42.256 | 0.95 | 6.27 | 6 | 1 |
| COBALT | 160 | 63 | 2.1 | 36.0 | 9.5 | 14.9 | 7.4685 | 3.0634 | 118 | 25.4 | | | | | 29.7 * | | | 1 | 1 |
| COPPER | 160 | 99 | 5.7 | 41.3 | 6.1 | 6.1 | 17.2363 | 5.2117 | 28 | 100.0 | | | 13.5700 | 1.4710 | 32.268 | 1.27 | 3.54 | 3 | 1 |
| IRON | 160 | 100 | 3060.0 | 68900.0 | | | 15641.2933 | 5652.4758 | 119 | 100.0 | | | 12056.2420 | 1.7060 | 33287.206 | 1.30 | 3313.3 | 0 | 1 |
| LEAD | 160 | 100 | 3.4 | 78.7 | | | 16.3004 | 6.6754 | 28 | 100.0 | | | 15.6270 | 1.3380 | 30.029 | 1.04 | 4.99 | 3 | 3 |
| LITHIUM | 160 | 53 | 2.1 | 31.5 | 5.4 | 29.8 | 11.1921 | 5.0691 | 120 | 64.2 | | | 7.0200 | 1.6670 | 18.531 | 1.59 | 3.04 | 0 | 6 |
| MAGNESIUM | 160 | 100 | 824.0 | 7610.0 | | | 3488.9322 | 1113.7955 | 28 | 100.0 | | | 2930.6370 | 1.5080 | 7373.561 | 1.19 | 738.59 | 8 | 1 |
| MANGANESE | 160 | 100 | 19.2 | 1873.5 | | | 271.2413 | 141.4706 | 119 | 100.0 | | | 142.3960 | 2.2100 | 643.487 | 1.90 | 64.01 | 0 | 6 |
| MERCURY | 160 | 16 | 0.1 | 0.3 | 0.0 | 0.2 | 0.0714 | 0.0332 | 82 | 29.3 | | 0.640 | | | 0.64 * | | | 0 | 0 |
| MOLYBDENUM | 159 | 35 | 0.7 | 33.0 | 0.3 | 29.8 | 5.8236 | 6.7396 | 12 | 41.7 | | | | | 26.8 * | | | 1 | 1 |
| NICKEL | 160 | 96 | 6.6 | 70.1 | 8.5 | 9.8 | 16.3528 | 6.1279 | 58 | 94.8 | | | 18.4830 | 1.9570 | 72.204 | 0.88 | 3.13 | 0 | 0 |
| POTASSIUM | 159 | 74 | 457.0 | 3710.0 | 535.0 | 1300.0 | 1346.9645 | 650.0539 | 118 | 52.5 | | | 870.0450 | 2.1480 | 3726.431 | 1.55 | 302.63 | 0 | 0 |
| SELENIUM | 158 | 13 | 0.2 | 1.3 | 0.2 | 3.4 | 0.3557 | 0.1866 | 77 | 2.6 | | | | | 3.05 * | | | 0 | 0 |
| SILICON | 14 | 100 | 23.7 | 1120.0 | | | 471.4017 | 149.3881 | | | | | | | | | | | |
| SILVER | 157 | 11 | 0.5 | 6.2 | 0.2 | 3.0 | 0.6941 | 0.4701 | 97 | 40.2 | | | | | 40.9 * | | | 0 | 0 |
| SODIUM | 160 | 59 | 81.0 | 7060.0 | 235.0 | 1300.0 | 517.2467 | 644.7182 | 56 | 8.9 | | | | | 3680 * | | | 2 | 2 |
| STRONTIUM | 160 | 54 | 19.2 | 172.0 | 21.8 | 298.0 | 61.7585 | 20.3423 | 28 | 100.0 | | | 52.3720 | 1.5050 | 131.132 | 1.18 | 13.52 | 2 | 2 |
| THALLIUM | 158 | 30 | 0.2 | 0.9 | 0.1 | 3.0 | 0.5361 | 0.4500 | 87 | 3.4 | | | | | 2.9 U * | | | 0 | 0 |
| TIN | 156 | 7 | 19.3 | 65.5 | 3.0 | 41.2 | 9.3410 | 10.9766 | 57 | 15.8 | | | | | 338 * | | | 0 | 0 |
| VANADIUM | 160 | 100 | 11.1 | 71.7 | | | 32.9894 | 11.5002 | 58 | 98.3 | | | 28.2980 | 1.6390 | 77.097 | 1.17 | 7.02 | 0 | 0 |
| ZINC | 160 | 100 | 14.6 | 161.0 | | | 55.9159 | 22.0625 | 28 | 100.0 | | | 49.3910 | 1.4370 | 111.420 | 1.13 | 15.35 | 4 | 4 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-1a(3)

## Statistical Summary Phase III Subsurface Soil - WCS - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 63 | 100 | 2940.0 | 17250.0 | | | 7921.8750 | 3361.1680 | 36 | 100.0 | | | 8961.0870 | 1.5570 | 23302.696 | 0.88 | 2158.7 | 0 | 0 |
| ANTIMONY | 63 | 86 | 2.7 | 27.4 | 1.6 | 13.5 | 9.6345 | 4.8215 | 79 | 16.5 | | | | | 18.1 U • | | | 8 | 8 |
| ARSENIC | 64 | 100 | 1.0 | 13.9 | | | 3.6303 | 1.6208 | 113 | 76.1 | | | 2.5300 | 2.2730 | 12.140 | 1.43 | 0.71 | 0 | 2 |
| BARIUM | 64 | 100 | 27.3 | 442.0 | | | 123.5242 | 82.2994 | 21 | 95.2 | | | 85.2960 | 1.7990 | 343.408 | 1.45 | 45.75 | 8 | 3 |
| BERYLLIUM | 64 | 98 | 0.5 | 2.3 | 1.1 | 1.1 | 0.9974 | 0.4041 | 109 | 89.0 | | | 3.1060 | 2.5100 | 18.123 | 0.32 | 0.16 | 0 | 0 |
| CADMIUM | 64 | 17 | 0.2 | 3.6 | 0.2 | 1.1 | 0.4282 | 0.6646 | 98 | 7.1 | | | | | 1.8 U • | | | 5 | 5 |
| CALCIUM | 64 | 100 | 3020.0 | 47500.0 | | | 8889.9199 | 6933.6182 | 8 | 100.0 | | | 7164.5660 | 1.7550 | 43000.871 | 1.24 | 3950.8 | 8 | 2 |
| CESIUM | 56 | 25 | 10.9 | 29.6 | 3.5 | 224.0 | 18.8658 | 23.4401 | 101 | 1.0 | | | | | 302 U • | | | 0 | 0 |
| CHROMIUM | 64 | 100 | 3.1 | 19.6 | | | 9.2813 | 3.7950 | | | | | | | 76.172 | | | | 0 |
| COBALT | 64 | 97 | 2.1 | 22.6 | 2.3 | 11.2 | 6.7375 | 3.5834 | 118 | 25.4 | | | | | 29.7 • | | | 0 | 0 |
| COPPER | 64 | 100 | 8.3 | 32.7 | | | 18.0905 | 4.9764 | 7 | 100.0 | | | 16.1760 | 1.4380 | 55.669 | 1.12 | 3.46 | 5 | 0 |
| IRON | 63 | 100 | 1980.0 | 24000.0 | | | 10568.8889 | 4742.8490 | 119 | 100.0 | | | 12056.2420 | 1.7060 | 33287.206 | 0.88 | 2780.1 | 0 | 0 |
| LEAD | 64 | 100 | 6.8 | 41.5 | | | 18.0974 | 5.0165 | 7 | 100.0 | | | 18.4680 | 1.4760 | 69.360 | 0.98 | 3.40 | 2 | 0 |
| LITHIUM | 64 | 89 | 1.4 | 12.6 | 11.3 | 22.4 | 5.4780 | 2.4889 | 120 | 64.2 | | | 7.0200 | 1.6670 | 18.531 | 0.78 | 1.49 | 0 | 0 |
| MAGNESIUM | 64 | 100 | 1260.0 | 7030.0 | | | 2432.1795 | 936.9806 | 21 | 90.5 | | | 2012.6320 | 1.7290 | 7373.128 | 1.21 | 541.92 | 3 | 0 |
| MANGANESE | 64 | 100 | 16.9 | 731.0 | | | 151.2609 | 125.9558 | 119 | 100.0 | | | 142.3960 | 2.2100 | 643.487 | 1.06 | 56.99 | 0 | 3 |
| MERCURY | 63 | 19 | 0.1 | 0.2 | 0.1 | 0.2 | 0.0765 | 0.0407 | 82 | 29.3 | | | | | 0.64 • | | | 0 | 0 |
| MOLYBDENUM | 64 | 48 | 0.7 | 3.2 | 0.3 | 22.4 | 1.1078 | 1.5408 | | | | | | | 37.559 | | | | 0 |
| NICKEL | 64 | 98 | 5.1 | 35.3 | 9.0 | 9.0 | 13.3304 | 5.5037 | | | | | | | 72.204 | | | | 0 |
| POTASSIUM | 64 | 98 | 246.0 | 1870.0 | 1120.0 | 1120.0 | 822.0064 | 341.5432 | 118 | 52.5 | | | 870.0450 | 2.1480 | 3726.431 | 0.94 | 159.01 | 0 | 0 |
| SELENIUM | 64 | 27 | 0.2 | 1.8 | 0.1 | 1.1 | 0.2813 | 0.2683 | 77 | 2.6 | | | | | 3.05 • | | | 0 | 0 |
| SILICON | 7 | 100 | 265.0 | 671.5 | | | 501.2143 | 139.2090 | | | | | | | | | | | |
| SILVER | 62 | 15 | 0.3 | 0.8 | 0.4 | 2.2 | 0.3449 | 0.1924 | 97 | 40.2 | | | | | 40.9 • | | | 0 | 0 |
| SODIUM | 64 | 89 | 37.7 | 1720.0 | 452.0 | 1120.0 | 329.5237 | 250.5085 | | | | | | | 3680 | | | | 0 |
| STRONTIUM | 64 | 98 | 20.1 | 158.0 | 224.0 | 224.0 | 70.5753 | 23.8137 | 8 | 100.0 | | | 69.3230 | 1.4990 | 251.807 | 1.02 | 15.89 | 3 | 0 |
| THALLIUM | 64 | 53 | 0.2 | 0.5 | 0.1 | 2.2 | 0.2535 | 0.1421 | 87 | 3.4 | | | | | 2.9 U • | | | 0 | 0 |
| TIN | 63 | 10 | 6.5 | 392.0 | 3.1 | 23.6 | 11.8392 | 53.9986 | | | | | | | 338 | | | | 2 |
| VANADIUM | 64 | 98 | 11.1 | 43.1 | 11.2 | 11.2 | 20.9752 | 8.1990 | | | | | | | 77.097 | | | | 0 |
| ZINC | 64 | 100 | 19.7 | 148.0 | | | 55.5585 | 23.2423 | 8 | 100.0 | | | 60.1890 | 1.3890 | 171.516 | 0.92 | 16.73 | 5 | 0 |

• No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-1b(1)

## Statistical Summary Phase III Subsurface Soil - RFA - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 2 | 100 | 0.0050 | 0.0550 | | | | | 28 | 100 | -0.02 | 0.01 | -0.0020 | 0.0070 | 0.013 | -15.00 | -1000 | 50 | 5 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 2 | 100 | 0.0000 | 0.0000 | | | | | 120 | 100 | 0 | 0.2 | 0.0100 | 0.0380 | 0.081 | ****** | -1000 | 0 | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 2 | 100 | 15.0000 | 34.6500 | | | | | 71 | 100 | 3 | 40 | 21.8540 | 8.0420 | 37.833 | 1.14 | -1000 | 0 | |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 2 | 100 | 12.4000 | 40.5500 | | | | | 71 | 100 | 6 | 44 | 23.6130 | 6.7030 | 36.932 | 1.12 | -1000 | 0 | 5 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 2 | 100 | 0.0045 | 0.2150 | | | | | 120 | 100 | -0.01 | 0.03 | 0.0030 | 0.0070 | 0.017 | 36.60 | -1000 | 50 | 5 |
| RADIUM-226 | 2 | 100 | 0.2200 | 0.7100 | | | | | 62 | 100 | 0.4 | 0.9 | 0.6310 | 0.1100 | 0.853 | 0.74 | -1000 | 0 | |
| RADIUM-228 | 2 | 100 | 0.0000 | 0.5100 | | | | | 62 | 100 | 0.5 | 2.2 | 1.3370 | 0.3140 | 1.969 | 0.19 | -1000 | 0 | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 2 | 100 | 0.2300 | 0.7700 | | | | | 120 | 100 | -0.7 | 1.2 | -0.0130 | 0.3420 | 0.637 | -38.46 | -1000 | 0 | 5 |
| STRONTIUM-90 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 2 | 100 | 235.0000 | 250.0000 | | | | | 71 | 100 | -150 | 440 | 169.2250 | 121.9030 | 411.455 | 1.43 | -1000 | 0 | |
| URANIUM-233,-234 | 2 | 100 | 0.4250 | 0.6300 | | | | | 71 | 100 | 0.2 | 3.4 | 0.6290 | 0.4320 | 1.488 | 0.84 | -1000 | 0 | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 2 | 100 | 0.0100 | 0.0150 | | | | | 71 | 100 | 0 | 0.2 | 0.0110 | 0.0350 | 0.081 | 1.14 | -1000 | 0 | |
| URANIUM-238 | 2 | 100 | 0.6400 | 0.7200 | | | | | 71 | 100 | 0.2 | 3.2 | 0.6430 | 0.3620 | 1.363 | 1.06 | -1000 | 0 | |

• No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-1b(2)

## Statistical Summary Phase III Subsurface Soil - COL - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 141 | 96 | -0.0030 | 2.6015 | -0.0170 | 0.1700 | 0.0341 | 0.1583 | 0 | 0.0 | | | | | 0.013 | | | | 21 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 109 | 100 | -0.0343 | 0.2100 | | | 0.0563 | 0.0580 | 120 | 100 | 0 | 0.2 | 0.0100 | 0.0380 | 0.081 | 5.63 | 1.53 | 2 | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 159 | 100 | 0.7108 | 70.2000 | | | 25.2546 | 11.6415 | 28 | 100 | 19 | 48 | 31.3570 | 8.8870 | 51.315 | 0.81 | 1.31 | 5 | |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 100 | 100 | 13.5600 | 48.6000 | | | 26.9011 | 5.8701 | 28 | 100 | 20 | 34 | 26.6790 | 3.7320 | 35.060 | 1.01 | 1.57 | 12 | |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 56 | 100 | 0.0020 | 0.0700 | | | 0.0172 | 0.0131 | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 93 | 98 | -0.0140 | 25.5400 | 0.0000 | 0.0010 | 0.3202 | 1.7464 | 120 | 100 | -0.01 | 0.03 | 0.0030 | 0.0070 | 0.017 | 106.73 | 249.49 | 19 | |
| RADIUM-226 | 105 | 100 | 0.0000 | 2.6000 | | | 0.9728 | 0.2561 | 21 | 100 | 0.7 | 1.3 | 1.0620 | 1.1860 | 1.502 | 0.92 | 0.22 | 10 | |
| RADIUM-228 | 115 | 100 | 0.0000 | 3.1000 | | | 1.5845 | 0.4800 | 21 | 100 | 1.1 | 2.1 | 1.5600 | 0.2940 | 2.257 | 1.02 | 1.63 | 20 | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 107 | 95 | 0.0053 | 2.2300 | 0.0700 | 0.2300 | 0.2650 | 0.2183 | 120 | 100 | -0.7 | 1.2 | -0.0130 | 0.3420 | 0.637 | -20.38 | 0.64 | 1 | |
| STRONTIUM-90 | 59 | 100 | -0.3000 | 0.8300 | | | 0.1336 | 0.0794 | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 135 | 96 | -1160.00 | 570.0000 | -170.000 | 320.0000 | 142.9916 | 127.1619 | 28 | 100 | -140 | 240 | 60.5360 | 108.1520 | 303.422 | 2.36 | 1.18 | 18 | |
| URANIUM-233,-234 | 127 | 100 | 0.3100 | 2.5100 | | | 1.0513 | 0.2710 | 28 | 100 | 0.4 | 2.6 | 0.8270 | 0.4110 | 1.749 | 1.27 | 0.66 | 0 | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 127 | 100 | 0.0000 | 0.2800 | | | 0.0548 | 0.0310 | 28 | 100 | 0 | 0.2 | 0.0430 | 0.0570 | 0.171 | 1.27 | 0.54 | 2 | |
| URANIUM-238 | 127 | 100 | 0.4500 | 3.2400 | | | 1.0805 | 0.3098 | 28 | 100 | 0.4 | 2.3 | 0.9210 | 0.3360 | 1.676 | 1.17 | 0.92 | 2 | |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-1b(3)

## Statistical Summary Phase III Subsurface Soil - WCS - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 54 | 100 | -0.0030 | 1.9750 | | | 0.0744 | 0.3308 | 0 | 0.0 | | | | | 0.013 | | | | 15 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 40 | 100 | -0.0504 | 0.0097 | | | -0.0127 | 0.0177 | 120 | 100 | 0 | 0.2 | 0.0100 | 0.0380 | 0.081 | -1.27 | 0.47 | 0 | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 63 | 100 | 3.8630 | 108.1000 | | | 20.5530 | 14.8515 | 8 | 100 | 18 | 46 | 27.6250 | 8.6670 | 55.251 | 0.74 | 1.71 | 8 | 3 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 62 | 100 | 6.3200 | 42.6000 | | | 22.6240 | 5.9045 | 21 | 100 | 18 | 32 | 25.5240 | 3.8390 | 34.627 | 0.89 | 1.54 | 6 | 5 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 1 | 100 | 0.0020 | 0.0020 | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 58 | 100 | -0.0026 | 1.1020 | | | 0.0334 | 0.1781 | 120 | 100 | -0.01 | 0.03 | 0.0030 | 0.0070 | 0.017 | 11.13 | 25.44 | 3 | 1 |
| RADIUM-226 | 29 | 100 | 0.7000 | 2.0900 | | | 1.0076 | 0.1882 | 5 | 100 | 1 | 1.3 | 1.1400 | 0.1340 | 1.704 | 0.88 | 1.40 | 10 | |
| RADIUM-228 | 39 | 100 | 0.0000 | 2.2280 | | | 1.5374 | 0.3080 | 5 | 100 | 1.1 | 1.6 | 1.4000 | 0.1870 | 2.186 | 1.10 | 1.65 | 38 | 3 |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 62 | 100 | -0.0144 | 6.5400 | | | 0.3206 | 0.5602 | 120 | 100 | -0.7 | 1.2 | -0.0130 | 0.3420 | 0.637 | -24.66 | 1.64 | 5 | |
| STRONTIUM-90 | 1 | 100 | 0.1500 | 0.1500 | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 52 | 100 | -114.000 | 530.0000 | | | 121.7576 | 121.8388 | 8 | 100 | -110 | 280 | 71.2500 | 118.4950 | 448.928 | 1.71 | 1.03 | 8 | |
| URANIUM-233,-234 | 57 | 100 | 0.3930 | 2.9200 | | | 1.0602 | 0.3548 | 8 | 100 | 0.8 | 1.7 | 1.1190 | 0.3400 | 2.203 | 0.95 | 1.04 | 5 | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 57 | 100 | 0.0000 | 0.2500 | | | 0.0626 | 0.0494 | 8 | 100 | 0 | 0.3 | 0.0810 | 0.1130 | 0.442 | 0.77 | 0.44 | 0 | |
| URANIUM-238 | 57 | 100 | 0.6490 | 14.1300 | | | 1.3914 | 1.1661 | 8 | 100 | 0.5 | 1.4 | 1.0440 | 0.2800 | 1.935 | 1.33 | 4.16 | 25 | |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-1c

## Statistical Summary Phase III Subsurface Soil - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-TETRACHLOROETHANE | 0 | 0 | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 432 | 0 | 4.0 | 5.0 | 5.0 | 58.5 | 3.0135 | 0.2519 | | | | | |
| 1,1,2,2-TETRACHLOROETHANE | 410 | 0 | | | 5.0 | 58.5 | | | | | | | |
| 1,1,2-TRICHLOROETHANE | 432 | 0 | | | 5.0 | 58.5 | | | | | | | |
| 1,1-DICHLOROETHANE | 432 | 0 | | | 5.0 | 58.5 | | | | | | | |
| 1,1-DICHLOROETHENE | 432 | 0 | 2.0 | 12.0 | 5.0 | 58.5 | 3.0529 | 0.8197 | | | | | |
| 1,1-DICHLOROPROPENE | 0 | 0 | | | | | | | | | | | |
| 1,2,3-TRICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2,3-TRICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2-DIBROMOETHANE | 0 | 0 | | | | | | | | | | | |
| 1,2-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2-DICHLOROETHANE | 422 | 0 | 5.0 | 5.0 | 5.0 | 58.5 | 2.9926 | 0.1563 | | | | | |
| 1,2-DICHLOROETHENE | 400 | 0 | | | 5.0 | 58.5 | | | | | | | |
| 1,2-DICHLOROPROPANE | 432 | 0 | | | 5.0 | 58.5 | | | | | | | |
| 1,2-DIMETHYLBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,3-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,3-DICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| 1,3-DIMETHYLBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,4-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 2-BUTANONE | 330 | 6 | 1.0 | 29.0 | 1.0 | 115.0 | 6.1483 | 1.1739 | | | | | |
| 2-CHLOROETHYL VINYL ETHER | 170 | 0 | | | 9.0 | 115.0 | | | | | | | |
| 2-HEXANONE | 373 | 1 | 1.0 | 2.0 | 9.0 | 115.0 | 5.9320 | 0.4922 | | | | | |
| 2-PROPENENITRILE | 0 | 0 | | | | | | | | | | | |
| 4-METHYL-2-PENTANONE | 387 | 2 | 1.0 | 3.0 | 6.0 | 115.0 | 5.8867 | 0.6122 | | | | | |
| ACETONE | 365 | 47 | 1.0 | 93.0 | 7.0 | 130.0 | 10.6096 | 10.1904 | | | | | |
| BENZENE | 432 | 0 | | | 5.0 | 58.5 | | | | | | | |
| BENZENE, 1,2,4-TRIMETHYL | 0 | 0 | | | | | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | 0 | 0 | | | | | | | | | | | |
| BROMOBENZENE | 0 | 0 | | | | | | | | | | | |
| BROMOCHLOROMETHANE | 0 | 0 | | | | | | | | | | | |
| BROMODICHLOROMETHANE | 432 | 0 | | | 5.0 | 58.5 | | | | | | | |
| BROMOFORM | 409 | 0 | | | 5.0 | 58.5 | | | | | | | |
| BROMOMETHANE | 358 | 0 | | | 9.0 | 115.0 | | | | | | | |
| CARBON DISULFIDE | 424 | 2 | 1.0 | 2.0 | 2.5 | 58.5 | 2.9706 | 0.1973 | | | | | |
| CARBON TETRACHLORIDE | 432 | 0 | 11.0 | 18.0 | 5.0 | 58.5 | 3.0923 | 0.8495 | | | | | |
| CHLOROBENZENE | 432 | 0 | 5.0 | 5.0 | 5.0 | 58.5 | 2.9932 | 0.1554 | | | | | |
| CHLOROETHANE | 395 | 0 | | | 9.0 | 115.0 | | | | | | | |
| CHLOROFORM | 432 | 0 | 5.0 | 5.0 | 3.0 | 58.5 | 3.0017 | 0.2367 | | | | | |
| CHLOROMETHANE | 428 | 0 | | | 6.0 | 115.0 | | | | | | | |
| CUMENE | 0 | 0 | | | | | | | | | | | |
| DIBROMOCHLOROMETHANE | 432 | 0 | | | 5.0 | 58.5 | | | | | | | |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-1c

## Statistical Summary Phase III Subsurface Soil - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIBROMOMETHANE | 0 | 0 | | | | | | | | | | | |
| DICHLORODIFLUOROMETHANE | 0 | 0 | | | | | | | | | | | |
| ETHYLBENZENE | 432 | 0 | 2.0 | 2.0 | 5.0 | 58.5 | 2.9860 | 0.1723 | | | | | |
| HEXACHLOROBUTADIENE | 0 | 0 | | | | | | | | | | | |
| METHYLENE CHLORIDE | 424 | 50 | 1.0 | 230.0 | 2.0 | 58.5 | 7.1650 | 20.6706 | | | | | |
| NAPHTHALENE | 0 | 0 | | | | | | | | | | | |
| PROPANE, 1,2-DIBROMO-3-CHLORO- | 0 | 0 | | | | | | | | | | | |
| STYRENE | 432 | 1 | 1.0 | 28.0 | 5.0 | 58.5 | 3.1907 | 2.2381 | | | | | |
| TETRACHLOROETHENE | 431 | 2 | 1.0 | 47.0 | 5.0 | 58.5 | 3.3726 | 3.9420 | | | | | |
| TOLUENE | 432 | 97 | 1.0 | 2000.0 | 5.0 | 43.0 | 107.9291 | 181.7921 | | | | | |
| TOTAL XYLENES | 432 | 0 | 3.0 | 3.0 | 5.0 | 58.5 | 2.9939 | 0.1480 | | | | | |
| TRICHLOROETHENE | 432 | 2 | 1.0 | 140.0 | 5.0 | 58.5 | 4.2547 | 12.2008 | | | | | |
| TRICHLOROFLUOROMETHANE | 0 | 0 | | | | | | | | | | | |
| VINYL ACETATE | 368 | 0 | | | 5.0 | 115.0 | | | | | | | |
| VINYL CHLORIDE | 432 | 0 | | | 9.0 | 115.0 | | | | | | | |
| cis-1,2-DICHLOROETHENE | 0 | 0 | | | | | | | | | | | |
| cis-1,3-DICHLOROPROPENE | 432 | 0 | | | 5.0 | 58.5 | | | | | | | |
| m-XYLENE | 0 | 0 | | | | | | | | | | | |
| n-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| n-PROPYLBENZENE | 0 | 0 | | | | | | | | | | | |
| o-CHLOROTOLUENE | 0 | 0 | | | | | | | | | | | |
| o-XYLENE | 169 | 0 | | | 5.0 | 140.0 | | | | | | | |
| p-CHLOROTOLUENE | 0 | 0 | | | | | | | | | | | |
| p-CYMENE | 0 | 0 | | | | | | | | | | | |
| p-XYLENE | 0 | 0 | | | | | | | | | | | |
| sec-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| sec-DICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| tert-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| trans-1,2-DICHLOROETHENE | 37 | 0 | | | 5.0 | 7.0 | | | | | | | |
| trans-1,3-DICHLOROPROPENE | 413 | 0 | 5.0 | 5.0 | 5.0 | 58.5 | 2.9927 | 0.1572 | | | | | |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-1d

## Statistical Summary Phase III Subsurface Soil - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 1,2-DICHLOROBENZENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 1,3-DICHLOROBENZENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 1,4-DICHLOROBENZENE | 187 | 2 | 78.0 | 110.0 | 330.0 | 880.0 | 187.1345 | 27.7532 | | | | | |
| 2,4,5-TRICHLOROPHENOL | 187 | 0 | | | 1700.0 | 4400.0 | | | | | | | |
| 2,4,6-TRICHLOROPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2,4-DICHLOROPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2,4-DIMETHYLPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2,4-DINITROPHENOL | 170 | 0 | | | 1700.0 | 4400.0 | | | | | | | |
| 2,4-DINITROTOLUENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2,6-DINITROTOLUENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2-CHLORONAPHTHALENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2-CHLOROPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2-METHYLNAPHTHALENE | 187 | 1 | 655.0 | 655.0 | 330.0 | 880.0 | 204.9028 | 71.9773 | | | | | |
| 2-METHYLPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 2-NITROANILINE | 187 | 0 | | | 1700.0 | 4400.0 | | | | | | | |
| 2-NITROPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 3,3'-DICHLOROBENZIDINE | 187 | 0 | | | 670.0 | 1800.0 | | | | | | | |
| 3-NITROANILINE | 162 | 0 | | | 1700.0 | 4400.0 | | | | | | | |
| 4,6-DINITRO-2-METHYLPHENOL | 187 | 0 | | | 350.0 | 4400.0 | | | | | | | |
| 4-BROMOPHENYL PHENYL ETHER | 187 | 0 | | | 205.0 | 880.0 | | | | | | | |
| 4-CHLORO-3-METHYLPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 4-CHLOROANILINE | 164 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 4-CHLOROPHENYL PHENYL ETHER | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 4-METHYLPHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| 4-NITROANILINE | 166 | 0 | | | 1700.0 | 4400.0 | | | | | | | |
| 4-NITROPHENOL | 185 | 1 | 590.0 | 997.5 | 1700.0 | 4400.0 | 963.4722 | 60.3468 | | | | | |
| ACENAPHTHENE | 187 | 2 | 63.0 | 1995.0 | 330.0 | 880.0 | 233.5775 | 275.4262 | | | | | |
| ACENAPHTHYLENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| ANTHRACENE | 187 | 3 | 91.0 | 2670.0 | 330.0 | 880.0 | 250.4640 | 373.6127 | | | | | |
| BENZENAMINE | 83 | 0 | | | 1700.0 | 4400.0 | | | | | | | |
| BENZIDINE | 83 | 0 | | | 1700.0 | 4400.0 | | | | | | | |
| BENZO(a)ANTHRACENE | 187 | 2 | 170.0 | 4030.0 | 330.0 | 880.0 | 284.2822 | 578.1460 | | | | | |
| BENZO(a)PYRENE | 187 | 2 | 220.0 | 3335.0 | 330.0 | 880.0 | 271.4167 | 479.1890 | | | | | |
| BENZO(b)FLUORANTHENE | 184 | 2 | 230.0 | 2850.0 | 330.0 | 880.0 | 258.9360 | 405.1082 | | | | | |
| BENZO(ghi)PERYLENE | 187 | 1 | 280.0 | 1870.0 | 330.0 | 880.0 | 234.9050 | 255.8508 | | | | | |
| BENZO(k)FLUORANTHENE | 184 | 1 | 330.0 | 3345.0 | 330.0 | 880.0 | 268.8277 | 475.0982 | | | | | |
| BENZOIC ACID | 182 | 1 | 77.5 | 1030.0 | 19.0 | 4400.0 | 945.6667 | 102.9810 | | | | | |
| BENZYL ALCOHOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| BIS(2-CHLOROETHOXY)METHANE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| BIS(2-CHLOROETHYL)ETHER | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| BIS(2-CHLOROISOPROPYL)ETHER | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |

• No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-1d

## Statistical Summary Phase III Subsurface Soil - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BIS(2-ETHYLHEXYL)PHTHALATE | 184 | 16 | 38.0 | 4500.0 | 40.0 | 1400.0 | 199.6314 | 287.5284 | | | | | |
| BUTYL BENZYL PHTHALATE | 187 | 1 | 49.0 | 49.0 | 180.0 | 880.0 | 188.6565 | 29.5781 | | | | | |
| CHRYSENE | 187 | 2 | 180.0 | 3935.0 | 330.0 | 880.0 | 282.7292 | 563.8012 | | | | | |
| DI-n-BUTYL PHTHALATE | 187 | 22 | 41.0 | 630.0 | 330.0 | 880.0 | 195.2161 | 69.0310 | | | | | |
| DI-n-OCTYL PHTHALATE | 187 | 1 | 58.0 | 112.5 | 330.0 | 880.0 | 189.3028 | 26.7969 | | | | | |
| DIBENZO(a,h)ANTHRACENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| DIBENZOFURAN | 185 | 1 | 930.0 | 930.0 | 330.0 | 880.0 | 210.7771 | 112.8216 | | | | | |
| DIETHYL PHTHALATE | 187 | 1 | 520.0 | 520.0 | 330.0 | 880.0 | 201.6885 | 51.4840 | | | | | |
| DIMETHYL PHTHALATE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| FLUORANTHENE | 187 | 6 | 38.0 | 8000.0 | 190.0 | 880.0 | 365.4667 | 1106.2935 | | | | | |
| FLUORENE | 187 | 1 | 134.5 | 1710.0 | 330.0 | 880.0 | 227.8004 | 231.8431 | | | | | |
| HEXACHLOROBENZENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| HEXACHLOROBUTADIENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| HEXACHLOROCYCLOPENTADIENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| HEXACHLOROETHANE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| INDENO(1,2,3-cd)PYRENE | 187 | 1 | 275.0 | 1950.0 | 330.0 | 880.0 | 236.6492 | 268.0069 | | | | | |
| ISOPHORONE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| N-NITROSO-DI-n-PROPYLAMINE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| N-NITROSODI-N-BUTYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIETHYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIMETHYLAMINE | 83 | 0 | | | 670.0 | 1800.0 | | | | | | | |
| N-NITROSODIPHENYLAMINE | 187 | 1 | 44.0 | 113.5 | 190.0 | 880.0 | 189.9187 | 18.5844 | | | | | |
| N-NITROSOPYRROLIDINE | 0 | 0 | | | | | | | | | | | |
| NAPHTHALENE | 187 | 2 | 91.0 | 2485.0 | 330.0 | 880.0 | 248.2254 | 346.9198 | | | | | |
| NITROBENZENE | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| PENTACHLOROPHENOL | 187 | 1 | 390.0 | 1010.0 | 1700.0 | 4400.0 | 961.1240 | 73.1041 | | | | | |
| PHENANTHRENE | 187 | 5 | 100.0 | 8950.0 | 185.0 | 880.0 | 389.3486 | 1252.2219 | | | | | |
| PHENOL | 187 | 0 | | | 330.0 | 880.0 | | | | | | | |
| PYRENE | 187 | 7 | 40.0 | 7300.0 | 190.0 | 880.0 | 347.0450 | 1006.8172 | | | | | |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-1e

## Statistical Summary Phase III Subsurface Soil - Pesticide/PCBs

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| 4,4'-DDE | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| 4,4'-DDT | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| ALDRIN | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| AROCLOR-1016 | 84 | 0 | | | 80.0 | 5000.0 | | | | | | | |
| AROCLOR-1221 | 84 | 0 | | | 80.0 | 5000.0 | | | | | | | |
| AROCLOR-1232 | 84 | 0 | | | 80.0 | 5000.0 | | | | | | | |
| AROCLOR-1242 | 84 | 0 | | | 80.0 | 5000.0 | | | | | | | |
| AROCLOR-1248 | 84 | 0 | | | 80.0 | 5000.0 | | | | | | | |
| AROCLOR-1254 | 84 | 0 | | | 160.0 | 10000.0 | | | | | | | |
| AROCLOR-1260 | 84 | 0 | | | 160.0 | 10000.0 | | | | | | | |
| DIELDRIN | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| ENDOSULFAN I | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| ENDOSULFAN II | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| ENDOSULFAN SULFATE | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| ENDRIN | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| ENDRIN KETONE | 84 | 0 | | | 16.0 | 1000.0 | | | | | | | |
| HEPTACHLOR | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| HEPTACHLOR EPOXIDE | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| METHOXYCHLOR | 84 | 0 | | | 9.7 | 5000.0 | | | | | | | |
| TOXAPHENE | 84 | 0 | | | 160.0 | 10000.0 | | | | | | | |
| alpha-BHC | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| alpha-CHLORDANE | 84 | 0 | | | 54.0 | 5000.0 | | | | | | | |
| beta-BHC | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| delta-BHC | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| gamma-BHC (LINDANE) | 84 | 0 | | | 8.0 | 500.0 | | | | | | | |
| gamma-CHLORDANE | 84 | 0 | | | 54.0 | 5000.0 | | | | | | | |

* No Upper Tolerance Limit - value is *maximum* value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-1f(1)

## Statistical Summary Phase III Subsurface Soil - RFA - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| CHLORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE/NITRITE | 0 | 0 | | | | | | | 58 | 55.2 | 1 U | 3.7 | 1.3450 | 0.9260 | 3.224 | | | | |
| NITRITE | 0 | 0 | | | | | | | | | | | | | | | | | |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHORUS | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICA, DISSOLVED | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFIDE | 0 | 0 | | | | | | | 107 | 18.7 | 2 U | 43000 | | | 43000 * | | | | |
| TOT. DISS. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 0 | 0 | | | | | | | 69 | 100.0 | 6.1 | 9.1 | 7.8520 | 0.7870 | 9.665 | | | | |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CROL, the data point is not used.

## Table C2-1f(2)

## Statistical Summary Phase III Subsurface Soil - COL - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 61 | 100 | 77.4 | 92.3 | | | 85.1705 | 2.3842 | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| CHLORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 21 | 38 | 1.4 | 4.1 | 0.5 | 1.1 | 1.1886 | 1.1502 | | | | | | | | | | | |
| NITRATE/NITRITE | 65 | 48 | 1.3 | 4.3 | 0.5 | 1.9 | 1.2558 | 0.7130 | 58 | 55.2 | 1 U | 3.7 | 1.3450 | 0.9260 | 3.224 | 0.93 | 0.77 | 3 | 3 |
| NITRITE | 0 | 0 | | | | | | | | | | | | | | | | | |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHORUS | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICA, DISSOLVED | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFIDE | 82 | 35 | 2.0 | 498.0 | 1.0 | 10.0 | 30.5981 | 55.1519 | 107 | 18.7 | 2 U | 43000 | | | 43000 * | | | 0 | 0 |
| TOT. DISS. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 82 | 100 | 5.0 | 9.0 | | | 7.9747 | 0.9296 | 41 | 100.0 | 1.6 | 9.2 | 8.1430 | 1.1610 | 10.971 | 0.98 | 0.80 | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-1f(3)

## Statistical Summary Phase III Subsurface Soil - WCS - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 1 | 100 | 87.6 | 87.6 | | | 87.6000 | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| CHLORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE/NITRITE | 1 | 0 | | | 1.1 | 1.1 | | | | | | | | | 3.224 | | | | 0 |
| NITRITE | 0 | 0 | | | | | | | | | | | | | | | | | |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHORUS | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICA, DISSOLVED | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFIDE | 1 | 0 | | | 2.0 | 2.0 | | | 107 | 18.7 | 2 U | 43000 | | | 43000 * | | | 0 | 0 |
| TOT. DISS. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 1 | 100 | 8.3 | 8.3 | | | 8.3000 | | 8 | 100.0 | 7.6 | 9.7 | 8.7000 | 0.6500 | 11.127 | 0.95 | | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# *Surface Soil*

# *Phase III*
# *RFI/RI Report*

# Table C2-2a

## Statistical Summary Surface Soil - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 34 | 100 | 6370.0 | 27600.0 | | | 12281.8750 | 3500.4951 | 13 | 100.0 | | 21800.00 | 13731.3889 | 2253.0171 | 20560.2837 | 0.89 | 1.55 | 3 | 3 |
| ANTIMONY | 34 | 3 | 9.8 | 9.8 | 8.4 | 12.0 | 4.8295 | 1.0532 | 13 | 0.0 | 8.4 | 11.8 | 4.5389 | 0.2103 | 11.8 U * | | | 0 | 0 |
| ARSENIC | 34 | 97 | 3.0 | 8.5 | 0.1 | 0.1 | 4.9259 | 0.9832 | 13 | 100.0 | | | 5.6944 | 1.8845 | 11.4063 | 0.87 | 0.52 | 0 | 0 |
| BARIUM | 34 | 100 | 64.0 | 325.0 | | | 160.2616 | 45.9913 | 13 | 100.0 | | | 196.6944 | 48.5174 | 343.7506 | 0.81 | 0.95 | 3 | 0 |
| BERYLLIUM | 34 | 100 | 0.6 | 6.2 | | | 0.8951 | 0.5745 | 13 | 100.0 | | | 0.7594 | 0.1122 | 1.0995 | 1.18 | 5.12 | 15 | 18 |
| CADMIUM | 28 | 21 | 0.7 | 1.3 | 0.6 | 0.9 | 0.4786 | 0.2714 | 13 | 36.0 | | | 0.5408 | 0.2742 | 1.0 * | 0.88 | 0.99 | 4 | 4 |
| CALCIUM | 34 | 100 | 4160.0 | 42100.0 | | | 11820.9821 | 9859.1154 | 13 | 100.0 | | 13600.00 | 5723.8889 | 2152.6840 | 12248.6741 | 2.07 | 4.58 | 24 | 32 |
| CESIUM | 34 | 100 | 1.5 | 4.4 | | | 2.6201 | 0.6824 | 13 | 92.0 | | | 2.3007 | 0.3343 | 3.3140 | 1.14 | 2.04 | 24 | 15 |
| CHROMIUM | 34 | 100 | 8.4 | 98.4 | | | 20.3777 | 17.6492 | 13 | 100.0 | | | 16.1528 | 2.1757 | 22.7473 | 1.26 | 8.11 | 18 | 18 |
| COBALT | 34 | 100 | 5.2 | 11.7 | | | 7.5607 | 1.2474 | 13 | 100.0 | | | 7.6667 | 1.3295 | 11.6964 | 0.99 | 0.94 | 0 | 3 |
| COPPER | 34 | 100 | 13.2 | 181.0 | | | 21.5777 | 17.0257 | 13 | 100.0 | | | 15.8889 | 1.5757 | 20.6648 | 1.36 | 10.81 | 18 | 24 |
| IRON | 34 | 100 | 11600.0 | 29700.0 | | | 16187.5000 | 3731.3952 | 13 | 100.0 | 11300.00 | 24900.00 | 16777.7778 | 3345.9034 | 26919.2110 | 0.96 | 1.12 | 3 | 3 |
| LEAD | 34 | 97 | 7.1 | 228.0 | 1.1 | 1.1 | 33.2406 | 25.0711 | 13 | 100.0 | | | 36.1861 | 2.8597 | 44.8539 | 0.92 | 8.77 | 6 | 15 |
| LITHIUM | 34 | 100 | 4.5 | 15.0 | | | 9.3902 | 2.7797 | 13 | 100.0 | | | 12.4222 | 1.6512 | 17.4270 | 0.76 | 1.68 | 0 | 0 |
| MAGNESIUM | 34 | 100 | 2130.0 | 5440.0 | | | 3120.8929 | 630.4133 | 13 | 100.0 | | | 3451.1111 | 960.3996 | 6362.0823 | 0.90 | 0.66 | 0 | 0 |
| MANGANESE | 34 | 100 | 145.0 | 476.0 | | | 283.7232 | 72.9775 | 13 | 100.0 | | | 360.3611 | 145.8859 | 802.5413 | 0.79 | 0.50 | 0 | 0 |
| MERCURY | 34 | 15 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0355 | 0.0126 | 13 | 0.0 | 0.06 | 0.08 | 0.0322 | 0.0036 | 0.08 U * | | | 0 | 0 |
| MOLYBDENUM | 32 | 81 | 1.6 | 5.1 | 0.7 | 1.9 | 2.2662 | 1.0182 | 13 | 31.0 | | | 1.3153 | 0.8524 | 2.8 * | 1.72 | 1.19 | 22 | 22 |
| NICKEL | 34 | 100 | 10.0 | 79.8 | | | 19.7027 | 14.2530 | 13 | 100.0 | | | 14.6889 | 2.1031 | 21.0634 | 1.34 | 6.78 | 29 | 21 |
| POTASSIUM | 34 | 100 | 1730.0 | 4600.0 | | | 2851.4286 | 497.5525 | 13 | 100.0 | | | 3378.6111 | 401.1723 | 4594.5643 | 0.84 | 1.24 | 0 | 3 |
| SELENIUM | 33 | 52 | 0.2 | 0.8 | 0.1 | 0.5 | 0.2453 | 0.1691 | 13 | 85.0 | | | 0.3669 | 0.1939 | 0.9546 | 0.67 | 0.87 | 3 | 0 |
| SILICON | 34 | 100 | 81.0 | 1560.0 | | | 400.1554 | 302.0277 | 13 | 100.0 | | | 138.0333 | 44.4569 | 272.7822 | 2.90 | 6.79 | 53 | 59 |
| SILVER | 34 | 0 | | | 1.0 | 1.4 | | | 13 | 0.0 | 1.0 | 1.4 | 0.5417 | 0.0306 | 1.4 U * | | | 0 | 0 |
| SODIUM | 34 | 100 | 70.2 | 362.0 | | | 147.3339 | 68.7706 | 13 | 100.0 | | | 111.2917 | 47.1538 | 254.2149 | 1.32 | 1.46 | 12 | 12 |
| STRONTIUM | 34 | 100 | 23.3 | 104.0 | | | 54.3170 | 20.6886 | 13 | 100.0 | | | 39.2694 | 16.6336 | 89.6858 | 1.38 | 1.24 | 0 | 9 |
| THALLIUM | 34 | 65 | 0.2 | 0.5 | 0.1 | 0.3 | 0.2479 | 0.1124 | 13 | 62.0 | | | 0.2203 | 0.1200 | 0.5840 | 1.13 | 0.94 | 9 | 0 |
| TIN | 34 | 71 | 28.3 | 107.0 | 14.4 | 38.1 | 38.2509 | 19.7442 | 13 | 85.0 | | | 44.0319 | 8.4988 | 69.7918 | 0.87 | 2.32 | 12 | 9 |
| VANADIUM | 34 | 100 | 25.9 | 69.6 | | | 38.1563 | 8.3822 | 13 | 100.0 | | | 32.5111 | 4.5487 | 46.2982 | 1.17 | 1.84 | 18 | 21 |
| ZINC | 34 | 100 | 51.4 | 182.0 | | | 73.9205 | 29.1711 | 13 | 100.0 | | | 60.3639 | 6.5678 | 80.2709 | 1.22 | 4.44 | 21 | 26 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

## Table C2-2b

## Statistical Summary Surface Soil - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 28 | 100 | 0.0129 | 1.9440 | | | 0.4078 | 0.5142 | 19 | 95.0 | | | 0.0181 | 0.0088 | | 22.53 | 58.43 | 82 | 82 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 21 | 100 | 7.0120 | 23.4000 | | | 13.4768 | 4.1526 | 0 | 0.0 | | | | | | | | 100 | |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 34 | 100 | 24.4300 | 44.8300 | | | 31.2494 | 4.6288 | 13 | 100 | | | 33.0472 | 7.5567 | | 0.95 | 0.61 | 3 | 0 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 34 | 100 | 0.0677 | 12.9900 | | | 2.4084 | 3.4885 | 23 | 100 | | | 0.0553 | 0.0202 | | 43.55 | 172.70 | 88 | 88 |
| RADIUM-226 | 21 | 100 | 0.6471 | 1.0920 | | | 0.8655 | 0.1218 | 10 | 100 | | | 0.9428 | 0.1356 | | 0.92 | 0.90 | 0 | 0 |
| RADIUM-228 | 21 | 100 | 1.3280 | 2.2930 | | | 1.7708 | 0.2175 | 10 | 100 | | | 2.1778 | 0.5630 | | 0.81 | 0.39 | 0 | 0 |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-90 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-233,-234 | 34 | 100 | 0.6781 | 1.6620 | | | 1.1464 | 0.2460 | 18 | 100 | | | 1.1623 | 0.1469 | | 0.99 | 1.67 | 12 | 6 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 34 | 100 | -0.0058 | 0.1220 | | | 0.0537 | 0.0272 | 18 | 94.0 | | | 0.0462 | 0.0299 | | 1.16 | 0.91 | 0 | 0 |
| URANIUM-238 | 34 | 100 | 0.6257 | 2.1990 | | | 1.2109 | 0.3144 | 18 | 100 | | | 1.1145 | 0.3419 | | 1.09 | 0.92 | 15 | 3 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-2c

## Statistical Summary Surface Soil - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 1,2-DICHLOROBENZENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 1,3-DICHLOROBENZENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 1,4-DICHLOROBENZENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 2,4,5-TRICHLOROPHENOL | 23 | 0 | | | 1600.0 | 2300.0 | | | 14 | 0.0 | 1700.000 | | 0 |
| 2,4,6-TRICHLOROPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 2,4-DICHLOROPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 2,4-DIMETHYLPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 2,4-DINITROPHENOL | 23 | 0 | | | 1600.0 | 2300.0 | | | 14 | 0.0 | 1700.000 | | 0 |
| 2,4-DINITROTOLUENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 2,6-DINITROTOLUENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 2-CHLORONAPHTHALENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 2-CHLOROPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 2-METHYLNAPHTHALENE | 28 | 0 | | | 340.0 | 470.0 | | | 18 | 0.0 | 340.000 | | 0 |
| 2-METHYLPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 2-NITROANILINE | 28 | 0 | | | 1600.0 | 2300.0 | | | 20 | 0.0 | 1700.000 | | 0 |
| 2-NITROPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 3,3'-DICHLOROBENZIDINE | 28 | 0 | | | 670.0 | 940.0 | | | 20 | 0.0 | 680.000 | | 0 |
| 3-NITROANILINE | 28 | 0 | | | 1600.0 | 2300.0 | | | 20 | 0.0 | 1700.000 | | 0 |
| 4,6-DINITRO-2-METHYLPHENOL | 23 | 0 | | | 1600.0 | 2300.0 | | | 14 | 0.0 | 1700.000 | | 0 |
| 4-BROMOPHENYL PHENYL ETHER | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 4-CHLORO-3-METHYLPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 4-CHLOROANILINE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 4-CHLOROPHENYL PHENYL ETHER | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| 4-METHYLPHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| 4-NITROANILINE | 28 | 0 | | | 1600.0 | 2300.0 | | | 20 | 0.0 | 1700.000 | | 0 |
| 4-NITROPHENOL | 23 | 0 | | | 1600.0 | 2300.0 | | | 14 | 0.0 | 1700.000 | | 0 |
| ACENAPHTHENE | 28 | 21 | 45.0 | 240.0 | 340.0 | 470.0 | 178.5714 | 47.3071 | 20 | 0.0 | 340.000 | | 0 |
| ACENAPHTHYLENE | 28 | 4 | 110.0 | 110.0 | 340.0 | 470.0 | 185.5357 | 25.6161 | 20 | 0.0 | 340.000 | | 0 |
| ANTHRACENE | 28 | 21 | 47.0 | 330.0 | 340.0 | 470.0 | 183.8929 | 52.2907 | 20 | 0.0 | 340.000 | | 0 |
| BENZO(a)ANTHRACENE | 28 | 46 | 140.0 | 830.0 | 350.0 | 470.0 | 266.6071 | 156.8324 | 20 | 0.0 | 340.000 | | 11 |
| BENZO(a)PYRENE | 28 | 50 | 120.0 | 750.0 | 350.0 | 470.0 | 258.3929 | 136.5247 | 20 | 0.0 | 340.000 | | 7 |
| BENZO(b)FLUORANTHENE | 28 | 46 | 115.0 | 810.0 | 350.0 | 470.0 | 259.8214 | 139.2272 | 20 | 0.0 | 340.000 | | 4 |
| BENZO(ghi)PERYLENE | 28 | 29 | 82.0 | 350.0 | 340.0 | 470.0 | 188.4643 | 46.3972 | 16 | 0.0 | 350.000 | | 0 |
| BENZO(k)FLUORANTHENE | 28 | 43 | 115.0 | 740.0 | 350.0 | 470.0 | 246.0714 | 133.4954 | 20 | 0.0 | 340.000 | | 7 |
| BENZOIC ACID | 23 | 0 | | | 1600.0 | 2300.0 | | | 14 | 50.0 | 43.000 | 230.000 | 0 |
| BENZYL ALCOHOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| BIS(2-CHLOROETHOXY)METHANE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| BIS(2-CHLOROETHYL)ETHER | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| BIS(2-CHLOROISOPROPYL)ETHER | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| BIS(2-ETHYLHEXYL)PHTHALATE | 28 | 18 | 46.0 | 150.0 | 340.0 | 470.0 | 171.4286 | 48.5298 | 20 | 20.0 | 35.000 | | 4 |
| BUTYL BENZYL PHTHALATE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-2c

## Statistical Summary Surface Soil - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHRYSENE | 28 | 57 | 120.0 | 790.0 | 350.0 | 470.0 | 294.4643 | 168.2224 | 20 | 0.0 | 340.000 | | 18 |
| DI-n-BUTYL PHTHALATE | 28 | 18 | 40.0 | 49.0 | 340.0 | 470.0 | 164.1786 | 60.4300 | 20 | 10.0 | 39.000 | 44.000 | 7 |
| DI-n-OCTYL PHTHALATE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| DIBENZO(a,h)ANTHRACENE | 27 | 15 | 43.0 | 92.0 | 340.0 | 470.0 | 171.5556 | 50.7811 | 20 | 0.0 | 340.000 | | 0 |
| DIBENZOFURAN | 28 | 7 | 37.0 | 86.0 | 340.0 | 470.0 | 179.5714 | 39.8863 | 20 | 0.0 | 340.000 | | 0 |
| DIETHYL PHTHALATE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| DIMETHYL PHTHALATE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| FLUORANTHENE | 28 | 68 | 240.0 | 1900.0 | 350.0 | 470.0 | 579.6429 | 455.0029 | 20 | 0.0 | 340.000 | | 46 |
| FLUORENE | 28 | 18 | 54.0 | 230.0 | 340.0 | 470.0 | 178.0714 | 42.6032 | 20 | 0.0 | 340.000 | | 0 |
| HEXACHLOROBENZENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| HEXACHLORODUTADIENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| HEXACHLOROCYCLOPENTADIENE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| HEXACHLOROETHANE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| INDENO(1,2,3-cd)PYRENE | 28 | 39 | 88.0 | 280.0 | 180.0 | 470.0 | 186.2143 | 47.7217 | 20 | 0.0 | 340.000 | | 0 |
| ISOPHORONE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| N-NITROSO-DI-n-PROPYLAMINE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| N-NITROSODIPHENYLAMINE | 28 | 0 | | | 340.0 | 470.0 | | | 20 | 0.0 | 340.000 | | 0 |
| NAPHTHALENE | 28 | 4 | 110.0 | 110.0 | 340.0 | 470.0 | 185.3571 | 25.6735 | 20 | 0.0 | 340.000 | | 0 |
| NITROBENZENE | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| PENTACHLOROPHENOL | 23 | 0 | | | 1600.0 | 2300.0 | | | 14 | 0.0 | 1700.000 | | 0 |
| PHENANTHRENE | 28 | 57 | 160.0 | 1600.0 | 175.0 | 470.0 | 419.5536 | 349.7407 | 20 | 0.0 | 340.000 | | 29 |
| PHENOL | 23 | 0 | | | 340.0 | 470.0 | | | 14 | 0.0 | 350.000 | | 0 |
| PYRENE | 28 | 64 | 220.0 | 1800.0 | 350.0 | 470.0 | 525.0893 | 422.1991 | 20 | 0.0 | 340.000 | | 43 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-2d

## Statistical Summary Surface Soil - Pesticide/PCBs

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| 4,4'-DDE | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| 4,4'-DDT | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| ALDRIN | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| AROCLOR-1016 | 29 | 0 | | | 0.5 | 110.0 | | | 20 | 0.0 | 82.00 U | 120.00 U | 0 |
| AROCLOR-1221 | 29 | 0 | | | 0.5 | 110.0 | | | 20 | 0.0 | 82.00 U | 120.00 U | 0 |
| AROCLOR-1232 | 29 | 0 | | | 0.5 | 110.0 | | | 20 | 0.0 | 82.00 U | 120.00 U | 0 |
| AROCLOR-1242 | 29 | 0 | | | 0.5 | 110.0 | | | 20 | 0.0 | 82.00 U | 120.00 U | 0 |
| AROCLOR-1248 | 29 | 3 | 670.0 | 670.0 | 0.5 | 110.0 | 67.1339 | 118.3308 | 20 | 0.0 | 82.00 U | 120.00 U | 3 |
| AROCLOR-1254 | 29 | 10 | 132.5 | 1200.0 | 1.0 | 230.0 | 145.4107 | 223.7109 | 20 | 0.0 | 160.00 U | 240.00 U | 7 |
| AROCLOR-1260 | 29 | 0 | | | 1.0 | 230.0 | | | 20 | 0.0 | 160.00 U | 240.00 U | 0 |
| DIELDRIN | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| ENDOSULFAN I | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| ENDOSULFAN II | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| ENDOSULFAN SULFATE | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| ENDRIN | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| ENDRIN KETONE | 29 | 0 | | | 0.1 | 23.0 | | | 20 | 0.0 | 16.00 U | 24.00 U | 0 |
| HEPTACHLOR | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| HEPTACHLOR EPOXIDE | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| METHOXYCHLOR | 29 | 0 | | | 0.5 | 110.0 | | | 20 | 0.0 | 82.00 U | 120.00 U | 0 |
| TOXAPHENE | 29 | 0 | | | 1.0 | 230.0 | | | 20 | 0.0 | 160.00 U | 240.00 U | 0 |
| alpha-BHC | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| alpha-CHLORDANE | 29 | 0 | | | 0.5 | 110.0 | | | 20 | 0.0 | 82.00 U | 120.00 U | 0 |
| beta-BHC | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| delta-BHC | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| gamma-BHC (LINDANE) | 29 | 0 | | | 0.1 | 11.0 | | | 20 | 0.0 | 8.20 U | 12.00 U | 0 |
| gamma-CHLORDANE | 29 | 0 | | | 0.5 | 170.0 | | | 20 | 0.0 | 82.00 U | 120.00 U | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-2e

## Statistical Summary Surface Soil - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 7 | 100 | 90.7 | 96.1 | | | 92.9429 | 2.1141 | 9 | 100.0 | | | 90.5046 | 7.6590 | 113.7190 | 1.03 | 0.28 | 0 | 0 |
| ALKALINITY AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| AMMONIA | 23 | 91 | 0.7 | 4.4 | 0.3 | 0.4 | 1.9975 | 1.1110 | 9 | 44.0 | 0.3 | | 1.6139 | 1.5562 | 4.8 • | 1.24 | 0.71 | 0 | 0 |
| BICARB. AS CACO3 | 0 | 0 | | | | | | | 3 | 100.0 | | | 435.6667 | 106.8004 | 1253.2238 | | | | |
| BICARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE | 0 | 0 | | | | | | | 6 | 0.0 | 50.0 | 50.0 | 25.0000 | | 50 U • | | | | |
| CARBONATE AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| CHLORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE/NITRITE | 28 | 89 | 0.4 | 3.8 | 0.3 | 0.3 | 1.6524 | 1.1371 | 9 | 100.0 | | | 2.3189 | 1.4730 | 6.7836 | 0.71 | 0.77 | 0 | 0 |
| NITRITE | 0 | 0 | | | | | | | | | | | | | | | | | |
| OIL AND GREASE | 28 | 100 | 0.1 | 2620.0 | | | 456.5451 | 805.0320 | 9 | 89.0 | 0.1 | | 0.0864 | 0.0471 | 0.2292 | 5284 | 17092 | 71 | 43 |
| ORTHOPHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHORUS | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICA, DISSOLVED | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. DISS. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | 6 | 100.0 | | 19900.00 | 15570.0000 | 3783.4905 | 29595.3993 | | | | |
| TOT. SUSP. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 0 | 0 | | | | | | | 6 | 100.0 | | | 7.7250 | 0.9527 | 11.2567 | | | | |

• No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# *Surface Water*

# *Phase III*
# *RFI/RI Report*

# Table C2-3a

## Statistical Summary Surface Water - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 235 | 86 | 15.0 | 18800.0 | 17.7 | 333.0 | 858.2534 | 777.2622 | 87 | 85.1 | 22.3 U | 5840 | 244.9810 | 5.0270 | 5705.632 | 3.50 | 154.62 | 3 | 3 |
| ANTIMONY | 234 | 12 | 9.0 | 55.9 | 7.0 | 500.0 | 14.5376 | 2.8166 | 39 | 20.5 | 7 U | 42.2 U | | | 42.2 U * | | | 1 | 1 |
| ARSENIC | 223 | 12 | 0.7 | 4.3 | 0.7 | 10.0 | 1.6584 | 0.6174 | 38 | 26.3 | 0.7 U | 2.9 | | | 2.9 * | | | 1 | 1 |
| BARIUM | 237 | 85 | 8.6 | 551.0 | 46.8 | 200.0 | 116.8388 | 38.0620 | 97 | 82.5 | 30.2 | 306 | 58.7690 | 1.4210 | 115.983 | 1.99 | 26.79 | 3 | 38 |
| BERYLLIUM | 224 | 7 | 0.5 | 3.1 | 0.2 | 5.0 | 0.8165 | 0.2520 | 45 | 15.6 | 0.2 U | 4.8 | | | 4.8 * | | | 0 | 0 |
| CADMIUM | 219 | 8 | 1.0 | 5.3 | 1.0 | 6.8 | 1.6558 | 0.3025 | 39 | 0.0 | 2 U | 5 U | | | 5 U * | | | 0 | 0 |
| CALCIUM | 237 | 100 | 29.8 | 117000.0 | | | 57781.8630 | 17110.6827 | 60 | 100.0 | 7460 | 74600 | 26378.6300 | 1.5830 | 66809.125 | 2.19 | 10809 | 26 | 34 |
| CESIUM | 235 | 11 | 5.9 | 300.0 | 2.0 | 1000.0 | 261.8898 | 53.4244 | 47 | 17.0 | 50 U | 1000 U | | | 1000 U * | | | *0* | *0* |
| CHROMIUM | 236 | 17 | 2.0 | 66.0 | 2.0 | 20.0 | 4.0481 | 1.4716 | 55 | 25.5 | 2 U | 18.9 | | | 18.9 * | | | 1 | 1 |
| COBALT | 237 | 11 | 2.2 | 9.0 | 1.8 | 50.0 | 5.6639 | 2.5246 | 37 | 16.2 | 2 U | 7.9 | | | 7.9 * | | | 0 | 0 |
| COPPER | 236 | 42 | 2.2 | 226.0 | 1.0 | 28.1 | 7.5248 | 4.4499 | 58 | 56.9 | 2 U | 25 U | 3.7480 | 2.4320 | 22.754 | 2.01 | 1.83 | 2 | 3 |
| IRON | 237 | 93 | 6.0 | 21200.0 | 10.0 | 626.0 | 936.9163 | 782.6571 | 116 | 94.0 | 39 | 26300 | 498.4510 | 4.1640 | 7559.389 | 1.88 | 187.96 | 0 | 1 |
| LEAD | 235 | 48 | 0.9 | 118.0 | 0.5 | 5.4 | 3.0982 | 2.7017 | 76 | 46.1 | 0.9 U | 21 | | | 21 * | | | 2 | 2 |
| LITHIUM | 234 | 55 | 2.5 | 25.0 | 1.0 | 100.0 | 17.6788 | 8.0135 | 76 | 59.2 | 2 U | 100 U | 4.3060 | 1.6860 | 12.076 | 4.11 | 4.75 | 0 | 6 |
| MAGNESIUM | 237 | 98 | 23.7 | 24800.0 | 4880.0 | 5000.0 | 12210.4746 | 4421.8757 | 111 | 90.1 | 2870 | 16600 | 4969.1640 | 1.4300 | 9851.822 | 2.46 | 3092.2 | 18 | 55 |
| MANGANESE | 237 | 91 | 3.2 | 621.0 | 1.0 | 15.0 | 54.9196 | 36.3735 | 61 | 95.1 | 1.8 | 4060 | 45.9040 | 3.8220 | 687.399 | 1.20 | 9.52 | 0 | 0 |
| MERCURY | 218 | 6 | 0.1 | 0.5 | 0.1 | 0.2 | 0.1136 | 0.0242 | 55 | 10.9 | 0.1 U | 1.4 | | | 1.4 * | | | 0 | 0 |
| MOLYBDENUM | 234 | 14 | 2.0 | 58.1 | 1.0 | 500.0 | 15.8152 | 7.2296 | 62 | 19.4 | 2 U | 20.3 | | | 20.3 * | | | 0 | 0 |
| NICKEL | 230 | 14 | 4.1 | 50.0 | 2.0 | 40.0 | 7.5211 | 2.3062 | 31 | 41.9 | 3.6 U | 16.9 | | | 16.9 * | | | 2 | 2 |
| POTASSIUM | 236 | 75 | 455.0 | 8950.0 | 215.0 | 5000.0 | 2202.8978 | 711.1179 | 79 | 81.0 | 380 U | 6700 | 1335.5140 | 1.8600 | 4524.350 | 1.65 | 382.32 | 0 | *2* |
| SELENIUM | 228 | 15 | 1.0 | 10.0 | 0.6 | 20.0 | 1.3465 | 0.3636 | 57 | 8.8 | 1 U | 2.2 U | | | 2.2 U * | | | 4 | 4 |
| SILICON | 118 | 100 | 477.0 | 6620000. | | | 183240.396 | 264312.207 | 37 | 100.0 | 964 | 11700 | 5960.4730 | 3110.8600 | 12645.901 | 30.74 | 84.96 | 9 | 8 |
| SILVER | 236 | 13 | 2.1 | 23.0 | 1.5 | 30.0 | 2.7902 | 0.6510 | 64 | 18.8 | 2 U | 7.2 | | | 7.2 * | | | 2 | 2 |
| SODIUM | 237 | 99 | 6322.0 | 551000.0 | 81.0 | 5000.0 | 27296.0443 | 18491.7003 | 61 | 98.4 | 5000 U | 30800 | 12959.4470 | 1.6070 | 33766.998 | 2.11 | 11507 | 19 | 14 |
| STRONTIUM | 232 | 78 | 87.4 | 611.0 | 1.0 | 1000.0 | 338.4904 | 120.6922 | 92 | 91.3 | 64.9 | 1000 U | 147.6460 | 1.5910 | 364.267 | 2.29 | 75.86 | 0 | 33 |
| THALLIUM | 224 | 1 | 1.0 | 6.2 | 0.9 | 12.0 | 1.7435 | 0.5225 | 36 | 8.3 | 1 U | 3.4 | | | 3.4 * | | | 0 | 0 |
| TIN | 217 | 18 | 11.1 | 93.0 | 3.5 | 1000.0 | 22.8542 | 6.7945 | 48 | 35.4 | 7 U | 180 | | | 180 * | | | 0 | 0 |
| VANADIUM | 237 | 41 | 2.1 | 43.0 | 1.0 | 50.0 | 8.2794 | 4.1690 | 55 | 47.3 | 2 U | 18.2 | | | 18.2 * | | | 3 | 3 |
| ZINC | 236 | 81 | 2.1 | 587.0 | 1.7 | 53.4 | 46.4964 | 43.1412 | 95 | 85.3 | 1.8 U | 480 | 17.9340 | 3.6550 | 221.480 | 2.59 | 11.80 | 0 | 3 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-3b

## Statistical Summary Surface Water - Filtered Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 227 | 44 | 15.0 | 583.0 | 10.0 | 267.0 | 51.2658 | 12.5572 | 78 | 48.7 | 9 U | 631 | | | 631 * | | | 0 | 0 |
| ANTIMONY | 230 | 20 | 7.5 | 35.3 | 6.0 | 500.0 | 15.2139 | 2.9525 | 41 | 34.1 | 7.5 U | 104 U | | | 104 U * | | | 0 | 0 |
| ARSENIC | 214 | 8 | 1.0 | 5.0 | 0.7 | 10.0 | 1.6024 | 0.5467 | 41 | 7.3 | 0.8 U | 10 U | | | 10 U * | | | 0 | 0 |
| BARIUM | 232 | 84 | 20.9 | 202.0 | 5.6 | 200.0 | 97.2853 | 25.7620 | 107 | 67.3 | 0.85 | 391 | 46.5690 | 2.2540 | 221.622 | 2.09 | 11.43 | 0 | 0 |
| BERYLLIUM | 219 | 8 | 0.2 | 4.4 | 0.2 | 5.0 | 0.8772 | 0.3135 | 47 | 12.8 | 0.2 U | 17 | | | 17 * | | | 0 | 0 |
| CADMIUM | 231 | 10 | 1.1 | 5.0 | 1.0 | 5.0 | 1.6317 | 0.2717 | 42 | 4.8 | 2 U | 5 U | | | 5 U * | | | 0 | 0 |
| CALCIUM | 232 | 100 | 18100.0 | 117000.0 | | | 58255.8207 | 17260.7008 | 59 | 100.0 | 7320 | 79300 | 26176.8560 | 1.6160 | 69236.441 | 2.23 | 10681 | 19 | 32 |
| CESIUM | 229 | 15 | 14.5 | 500.0 | 2.0 | 1000.0 | 258.1134 | 43.7483 | 58 | 12.1 | 5 U | 1000 U | | | 1000 U * | | | 0 | 0 |
| CHROMIUM | 232 | 14 | 2.0 | 63.0 | 2.0 | 20.0 | 3.5955 | 1.1285 | 55 | 12.7 | 2 U | 20 U | | | 20 U * | | | 0 | 0 |
| COBALT | 232 | 2 | 3.7 | 38.4 | 1.5 | 50.0 | 5.5477 | 2.3334 | 42 | 2.4 | 2 U | 51.1 U | | | 51.1 U * | | | 0 | 0 |
| COPPER | 228 | 45 | 2.0 | 27.1 | 2.0 | 80.4 | 6.6516 | 2.4455 | 79 | 43.0 | 2 U | 28 | | | 28 * | | | 0 | 0 |
| IRON | 224 | 63 | 8.1 | 540.0 | 1.5 | 143.0 | 46.7776 | 18.7915 | 87 | 92.0 | 3 U | 1340.5 | 102.2100 | 3.4030 | 1112.682 | 0.46 | 5.52 | 0 | 0 |
| LEAD | 230 | 32 | 0.4 | 8.0 | 0.4 | 5.0 | 1.2833 | 0.1735 | 51 | 35.3 | 0.4 U | 6.6 | | | 6.6 * | | | 1 | 1 |
| LITHIUM | 226 | 60 | 1.1 | 19.0 | 1.0 | 100.0 | 17.0760 | 7.7883 | 65 | 60.0 | 1 U | 100 U | 5.2580 | 4.7410 | 119.098 | 3.25 | 1.64 | 0 | 0 |
| MAGNESIUM | 232 | 98 | 3650.0 | 41900.0 | 5000.0 | 5000.0 | 12391.5573 | 4649.9405 | 109 | 90.8 | 10 U | 17800 | 5331.6970 | 2232.8000 | 9610.910 | 2.32 | 2.08 | 12 | 56 |
| MANGANESE | 230 | 84 | 1.7 | 290.0 | 1.0 | 15.0 | 21.9004 | 20.8539 | 58 | 89.7 | 1.3 | 1100 | 20.5940 | 3.6960 | 292.497 | 1.06 | 5.64 | 0 | 0 |
| MERCURY | 217 | 3 | 0.2 | 1.0 | 0.1 | 0.4 | 0.1077 | 0.0209 | 49 | 14.3 | 0.2 U | 0.44 | | | 0.44 * | | | 1 | 1 |
| MOLYBDENUM | 229 | 16 | 2.0 | 20.1 | 1.0 | 500.0 | 15.6522 | 7.4952 | 53 | 13.2 | 2 U | 100 U | | | 100 U * | | | 0 | 0 |
| NICKEL | 232 | 5 | 4.0 | 37.0 | 2.0 | 40.0 | 6.5565 | 1.4288 | 46 | 6.5 | 3.8 U | 60 U | | | 60 U * | | | 0 | 0 |
| POTASSIUM | 232 | 75 | 549.0 | 9430.0 | 675.0 | 5000.0 | 2177.7721 | 657.1740 | 86 | 67.4 | 390 U | 6800 | 1251.1900 | 1.9820 | 4755.058 | 1.74 | 331.57 | 0 | 1 |
| SELENIUM | 231 | 16 | 0.9 | 13.0 | 0.6 | 25.0 | 1.4413 | 0.4433 | 49 | 2.0 | 1 U | 10 U | | | 10 U * | | | 0 | 0 |
| SILICON | 123 | 100 | 629.0 | 12300.0 | | | 5784.3842 | 1829.4718 | 38 | 100.0 | 613 | 12800 | 6267.3820 | 3364.9130 | 13471.140 | 0.92 | 0.54 | 0 | 0 |
| SILVER | 232 | 15 | 1.6 | 10.3 | 1.0 | 30.0 | 2.6872 | 0.5880 | 61 | 11.5 | 2 U | 16.4 U | | | 16.4 U * | | | 0 | 0 |
| SODIUM | 232 | 100 | 1490.0 | 94500.0 | | | 24108.6157 | 7601.9173 | 58 | 100.0 | 5630 | 32300 | 13805.2200 | 1.5110 | 31918.400 | 1.75 | 5031.1 | 17 | 17 |
| STRONTIUM | 225 | 79 | 117.0 | 42800.0 | 0.5 | 1000.0 | 903.6816 | 2225.1336 | 81 | 98.8 | 50 | 422.5 | 139.6000 | 1.9570 | 521.087 | 6.47 | 1137.0 | 22 | 3 |
| THALLIUM | 216 | 0 | 2.0 | 2.0 | 0.5 | 29.0 | 1.8785 | 0.5478 | 47 | 2.1 | 0.9 U | 12 U | | | 12 U * | | | 0 | 0 |
| TIN | 211 | 22 | 7.5 | 75.7 | 5.5 | 1000.0 | 24.0828 | 6.4121 | 64 | 25.0 | 10.8 | 100 U | | | 100 U * | | | 0 | 0 |
| VANADIUM | 231 | 30 | 2.1 | 32.5 | 2.0 | 50.0 | 6.9670 | 2.4326 | 68 | 19.1 | 2 U | 50 U | | | 50 U * | | | 0 | 0 |
| ZINC | 229 | 55 | 2.2 | 109.0 | 1.0 | 30.4 | 13.0486 | 5.9824 | 79 | 79.7 | 1.8 U | 111.5 | 3.7250 | | 140.968 | 3.50 | | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-3c

## Statistical Summary Surface Water - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 173 | 86 | -0.0040 | 0.9360 | -0.0060 | 0.5580 | 0.0208 | 0.0381 | 74 | 98.6 | -0.01 | 0.024 | 0.0050 | 0.0070 | 0.018 | 4.16 | 5.44 | 9 | 11 |
| CESIUM - UNKNOWN | 4 | 100 | -0.3000 | 0.2000 | | | 0.0000 | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 1 | 0 | | | 1.1200 | 1.1200 | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 150 | 87 | -0.3900 | 2.2000 | -0.1200 | 1.3700 | 0.1549 | 0.1184 | 68 | 98.5 | -0.558 | 1.7 | 0.0830 | 0.3260 | 0.734 | 1.87 | 0.36 | 1 | 6 |
| CURIUM-244 | 2 | 0 | | | -0.0430 | 0.0060 | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 105 | 99 | -0.4079 | 31.3000 | 0.2300 | 0.2300 | 4.9454 | 4.6629 | 32 | 100 | -2 | 57 | 4.8280 | 11.4730 | 30.032 | 1.02 | 0.41 | 0 | 1 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 93 | 90 | 0.7000 | 23.8000 | 0.0800 | 5.6000 | 5.4054 | 3.7919 | 35 | 100 | 0 | 41 | 5.1390 | 7.1150 | 20.556 | 1.05 | 0.53 | 0 | 1 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 1 | 100 | -0.0044 | -0.0044 | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 14 | 100 | -0.0160 | 0.0038 | | | 0.0004 | 0.0033 | 3 | 100 | -0.00060 | -0.00013 | | | -0.000135 | | | 79 | 79 |
| PLUTONIUM-239 | 44 | 57 | 0.0000 | 0.3800 | -0.0360 | 0.1080 | 0.0189 | 0.0282 | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 143 | 92 | -0.0050 | 0.0923 | -0.0010 | 0.0050 | 0.0071 | 0.0052 | 75 | 98.7 | -0.001 | 0.04 | 0.0040 | 0.0070 | 0.019 | 1.78 | 0.74 | 1 | 6 |
| RADIUM-226 | 14 | 93 | 0.0000 | 1.3000 | 0.0600 | 0.0600 | 0.3083 | 0.2568 | 3 | 100 | -0.1 | 2.3 | | | 2.3 * | | | 0 | 0 |
| RADIUM-228 | 4 | 100 | 0.0000 | 0.0000 | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 68 | 84 | 0.1500 | 5.4960 | -0.0440 | 0.2700 | 0.5163 | 0.3527 | 29 | 100 | -0.2 | 1.65 | 0.5640 | 0.4780 | 1.630 | 0.92 | 0.74 | 3 | 3 |
| STRONTIUM-90 | 55 | 100 | -0.0923 | 1.5300 | | | 0.2937 | 0.1173 | 21 | 100 | 0.02201 | 1.2 | 0.5570 | 0.3600 | 1.409 | 0.53 | 0.33 | 2 | 2 |
| TOTAL RADIOCESIUM | 1 | 0 | | | 0.1900 | 0.1900 | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 196 | 65 | -121.990 | 700.0000 | -250.000 | 270.0000 | 125.7747 | 43.8553 | 47 | 97.9 | -800 | 520 | 47.5950 | 205.5070 | 475.216 | 2.64 | 0.21 | 1 | 2 |
| URANIUM-233,-234 | 106 | 100 | 0.0857 | 13.7700 | | | 2.1047 | 1.5672 | 54 | 98.1 | 0.05573 | 2.59 | 0.4820 | 0.4760 | 1.456 | 4.37 | 3.29 | 25 | 51 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 106 | 84 | -0.0300 | 1.0300 | -0.0100 | 0.2700 | 0.1248 | 0.0959 | 50 | 96.0 | -0.03 | 0.195 | 0.0390 | 0.0550 | 0.152 | 3.20 | 1.74 | 16 | 21 |
| URANIUM-238 | 106 | 100 | 0.0000 | 74.0000 | | | 3.5319 | 5.9843 | 48 | 100 | 0 | 1.82 | 0.3900 | 0.4540 | 1.332 | 9.06 | 13.18 | 42 | 49 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-3d

## Statistical Summary Surface Water - Filtered Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 27 | 19 | 0.0110 | 0.4400 | -0.0030 | 0.5000 | 0.0479 | 0.0922 | 10 | 40.0 | -0.01 | 0.026 | | | 0.026 * | | | 15 | 15 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 64 | 42 | -0.3900 | 0.7900 | 0.0000 | 1.0000 | 0.2314 | 0.0980 | 4 | 100 | -0.2 | 0.2 | -0.0750 | 0.1890 | 0.899 | -3.09 | 0.52 | 8 | 0 |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 98 | 80 | -0.1440 | 11.6500 | 0.0900 | 2.2000 | 3.2549 | 2.8638 | 25 | 40.0 | -1 | 3.3 | | | 3.3 * | | | 35 | 35 |
| GROSS ALPHA - | 1 | 100 | 4.3000 | 4.3000 | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 46 | 98 | 1.0460 | 36.7900 | 2.3000 | 2.3000 | 4.6645 | 3.0626 | 22 | 68.2 | 0 | 6.6 | 2.9290 | 2.1360 | 7.946 | 1.59 | 1.43 | 15 | 11 |
| NEPTUNIUM-237 | 50 | 30 | -0.3200 | 0.4000 | -0.0120 | 1.0000 | 0.3406 | 0.0910 | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 33 | 6 | 0.2000 | 6.1500 | -0.0020 | 1.0000 | 0.2124 | 0.5650 | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 2 | 0 | | | -0.0010 | 0.0000 | | | 16 | 43.7 | -0.0615 | 0.52 | | | 0.52 * | | | 0 | 0 |
| RADIUM-226 | 15 | 40 | 0.0692 | 0.2034 | -0.0300 | 0.5000 | 0.1261 | 0.0788 | 3 | 33.3 | -0.025 U | 0.3423 | | | 0.3423 * | | | 0 | 0 |
| RADIUM-228 | 9 | 33 | 0.6700 | 1.5300 | 0.7000 | 1.0000 | 0.6778 | 0.4331 | 2 | 50.0 | 0.7 U | 1.4 | | | 1.4 * | | | 11 | 11 |
| STRONTIUM-89 | 60 | 18 | -0.3900 | 1.2000 | -0.4000 | 2.0000 | 0.3194 | 0.0966 | 24 | 0.0 | 0.6 U | 2 U | | | 2 U * | | | 0 | 0 |
| STRONTIUM-89,-90 | 50 | 98 | 0.0546 | 1.5000 | 0.0000 | 0.0000 | 0.5489 | 0.2236 | 27 | 100 | -0.5 | 2.586 | 0.7000 | 0.6920 | 2.264 | 0.78 | 0.32 | 0 | 0 |
| STRONTIUM-90 | 60 | 18 | -0.0200 | 0.8000 | -0.2000 | 1.1000 | 0.2116 | 0.1224 | 23 | 13.0 | 0.3 U | 1.1 | | | 1.1 * | | | 0 | 0 |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 46 | 50.0 | -41.8 | 2700 | | | 2700 * | | | | |
| URANIUM-233,-234 | 53 | 100 | 0.0371 | 18.8000 | | | 2.0942 | 1.6040 | 25 | 68.0 | -0.0157 | 1.8 | 0.2650 | 0.3530 | 1.074 | 7.90 | 4.54 | 40 | 5 |
| URANIUM-234 | 44 | 95 | 0.3700 | 3.8000 | 0.5000 | 0.7000 | 1.6862 | 1.0859 | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 97 | 58 | -0.0158 | 0.4900 | -0.0400 | 0.6000 | 0.0690 | 0.0375 | 48 | 54.2 | -0.0178 | 0.8951 | 0.0320 | 0.1620 | 0.369 | 2.16 | 0.23 | 0 | 2 |
| URANIUM-238 | 96 | 95 | 0.0185 | 25.9000 | 0.0470 | 0.6000 | 2.1824 | 2.6469 | 26 | 69.2 | 0 | 1.7 | 0.2160 | 0.3260 | 0.958 | 10.10 | 8.12 | 46 | 55 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-3e

## Statistical Summary Surface Water - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-TETRACHLOROETHANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,1,1-TRICHLOROETHANE | 200 | 1 | 1.0 | 4.0 | 5.0 | 5.0 | 2.5000 | 0.0711 | 85 | 0.0 | 5 U | 5 U | 0 |
| 1,1,2,2-TETRACHLOROETHANE | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 0.0 | 5 U | 5 U | 0 |
| 1,1,2-TRICHLOROETHANE | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 0.0 | 5 U | 5 U | 0 |
| 1,1-DICHLOROETHANE | 200 | 1 | 3.0 | 3.0 | 5.0 | 5.0 | 2.5020 | 0.0069 | 85 | 0.0 | 5 U | 5 U | 0 |
| 1,1-DICHLOROETHENE | 198 | 1 | 5.0 | 5.0 | 5.0 | 5.0 | 2.5099 | 0.0344 | 85 | 0.0 | 5 U | 5 U | 0 |
| 1,1-DICHLOROPROPENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,2,3-TRICHLOROBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,2,3-TRICHLOROPROPANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,2,4-TRICHLOROBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,2-DIBROMOETHANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,2-DICHLOROBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,2-DICHLOROETHANE | 200 | 2 | 3.0 | 14.0 | 5.0 | 5.0 | 2.5793 | 0.1815 | 85 | 1.2 | 2 | 5 U | 1 |
| 1,2-DICHLOROETHENE | 200 | 1 | 2.0 | 2.0 | 5.0 | 5.0 | 2.4980 | 0.0069 | 85 | 1.2 | 1 | 5 U | 0 |
| 1,2-DICHLOROPROPANE | 200 | 1 | 3.0 | 3.0 | 5.0 | 5.0 | 2.5020 | 0.0069 | 85 | 2.4 | 1 | 5 U | 0 |
| 1,2-DIMETHYLBENZENE | 0 | 0 | | | | | | | 11 | 0.0 | 0.5 U | 5 U | |
| 1,3-DICHLOROBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,3-DICHLOROPROPANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 1,3-DIMETHYLBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| 1,4-DICHLOROBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| 2-BUTANONE | 189 | 3 | 1.0 | 20.0 | 10.0 | 10.0 | 5.1093 | 0.2929 | 84 | 0.0 | 10 U | 100 U | 0 |
| 2-CHLOROETHYL VINYL ETHER | 42 | 0 | | | 10.0 | 10.0 | | | 15 | 0.0 | 10 U | 10 U | 0 |
| 2-HEXANONE | 195 | 0 | | | 10.0 | 10.0 | | | 81 | 0.0 | 10 U | 50 U | 0 |
| 2-PROPENENITRILE | 0 | 0 | | | | | | | 1 | 0.0 | 10 U | 10 U | |
| 4-METHYL-2-PENTANONE | 194 | 0 | | | 10.0 | 10.0 | | | 85 | 1.2 | 4 | 50 U | 0 |
| ACETONE | 173 | 29 | 1.0 | 210.0 | 5.0 | 10.0 | 9.4198 | 6.0070 | 80 | 28.8 | 2 | 100 U | 1 |
| BENZENE | 201 | 0 | | | 5.0 | 5.0 | | | 85 | 2.4 | 1 | 5 U | 0 |
| BENZENE, 1,2,4-TRIMETHYL | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| BENZENE, 1,3,5-TRIMETHYL- | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| BROMOBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| BROMOCHLOROMETHANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| BROMODICHLOROMETHANE | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 1.2 | 2 | 5 U | 0 |
| BROMOFORM | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 0.0 | 5 U | 5 U | 0 |
| BROMOMETHANE | 197 | 0 | | | 10.0 | 10.0 | | | 85 | 0.0 | 10 U | 10 U | 0 |
| CARBON DISULFIDE | 196 | 2 | 1.0 | 2.0 | 5.0 | 5.0 | 2.4857 | 0.0339 | 82 | 1.2 | 5 U | 6 | 0 |
| CARBON TETRACHLORIDE | 198 | 0 | | | 5.0 | 5.0 | | | 85 | 1.2 | 2 | 5 U | 0 |
| CHLOROBENZENE | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 1.2 | 2 | 5 U | 0 |
| CHLOROETHANE | 198 | 0 | | | 10.0 | 10.0 | | | 85 | 0.0 | 10 U | 10 U | 0 |
| CHLOROFORM | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 1.2 | 2 | 5 U | 0 |
| CHLOROMETHANE | 192 | 0 | | | 5.0 | 10.0 | | | 84 | 0.0 | 10 U | 10 U | 0 |
| CUMENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| DIBROMOCHLOROMETHANE | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 0.0 | 5 U | 5 U | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-3e

## Statistical Summary Surface Water - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIBROMOMETHANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| DICHLORODIFLUOROMETHANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| ETHYLBENZENE | 201 | 0 | 1.0 | 1.0 | 5.0 | 5.0 | 2.4940 | 0.0206 | 85 | 0.0 | 5 U | 5 U | 0 |
| HEXACHLOROBUTADIENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| METHYLENE CHLORIDE | 199 | 49 | 1.0 | 57.0 | 5.0 | 5.0 | 3.5287 | 1.1407 | 80 | 38.7 | 1 | 31 | 1 |
| NAPHTHALENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| PROPANE, 1,2-DIBROMO-3-CHLORO- | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| STYRENE | 200 | 1 | 1.0 | 1.0 | 5.0 | 5.0 | 2.4940 | 0.0206 | 85 | 1.2 | 2 | 5 U | 0 |
| TETRACHLOROETHENE | 200 | 2 | 1.0 | 2.0 | 5.0 | 5.0 | 2.4755 | 0.0407 | 85 | 1.2 | 1 | 5 U | 0 |
| TOLUENE | 201 | 3 | 1.0 | 5.0 | 5.0 | 5.0 | 2.4771 | 0.0570 | 85 | 3.5 | 1 | 5 U | 0 |
| TOTAL XYLENES | 201 | 0 | 1.0 | 1.0 | 5.0 | 5.0 | 2.4943 | 0.0197 | 83 | 3.6 | 1 | 5 U | 0 |
| TRICHLOROETHENE | 200 | 3 | 1.0 | 8.0 | 2.5 | 5.0 | 2.5186 | 0.1004 | 85 | 3.5 | 1 | 5 U | 1 |
| TRICHLOROFLUOROMETHANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| VINYL ACETATE | 193 | 0 | | | 10.0 | 10.0 | | | 84 | 0.0 | 10 U | 50 U | 0 |
| VINYL CHLORIDE | 200 | 0 | | | 10.0 | 10.0 | | | 85 | 0.0 | 10 U | 10 U | 0 |
| cis-1,2-DICHLOROETHENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| cis-1,3-DICHLOROPROPENE | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 2.4 | 1 | 5 U | 0 |
| n-BUTYLBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| n-PROPYLBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| o-CHLOROTOLUENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| o-XYLENE | 43 | 0 | | | 5.0 | 5.0 | | | 1 | 0.0 | 0.2 U | 0.2 U | 0 |
| p-CHLOROTOLUENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| p-CYMENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| p-XYLENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| sec-BUTYLBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| sec-DICHLOROPROPANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| tert-BUTYLBENZENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.5 U | 0.5 U | |
| trans-1,2-DICHLOROETHENE | 0 | 0 | | | | | | | 1 | 0.0 | 0.2 U | 0.2 U | |
| trans-1,3-DICHLOROPROPENE | 200 | 0 | | | 5.0 | 5.0 | | | 85 | 0.0 | 5 U | 5 U | 0 |

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# Table C2-3f

## Statistical Summary Surface Water - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5U | 0 |
| 1,2-DICHLOROBENZENE | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5U | 0 |
| 1,3-DICHLOROBENZENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5U | 0 |
| 1,4-DICHLOROBENZENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5U | 0 |
| 2,4,5-TRICHLOROPHENOL | 41 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 10 U | 58 U | 0 |
| 2,4,6-TRICHLOROPHENOL | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 1 U | 11.5 U | 0 |
| 2,4-DICHLOROPHENOL | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 2,4-DIMETHYLPHENOL | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 2,4-DINITROPHENOL | 40 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| 2,4-DINITROTOLUENE | 40 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 2,6-DINITROTOLUENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 2-CHLORONAPHTHALENE | 41 | 0 | | | 10.0 | 16.0 | | | 14 | 0.0 | 10 U | 11.5 U | 0 |
| 2-CHLOROPHENOL | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 2-METHYLNAPHTHALENE | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 2-METHYLPHENOL | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 2-NITROANILINE | 41 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| 2-NITROPHENOL | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 3,3'-DICHLOROBENZIDINE | 41 | 0 | | | 20.0 | 31.0 | | | 16 | 0.0 | 20 U | 23.5 U | 0 |
| 3-NITROANILINE | 40 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| 4,6-DINITRO-2-METHYLPHENOL | 40 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| 4-BROMOPHENYL PHENYL ETHER | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 4-CHLORO-3-METHYLPHENOL | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 20 U | 0 |
| 4-CHLOROANILINE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 20 U | 0 |
| 4-CHLOROPHENYL PHENYL ETHER | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 4-METHYLPHENOL | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| 4-NITROANILINE | 34 | 0 | | | 49.0 | 68.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| 4-NITROPHENOL | 42 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| ACENAPHTHENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| ACENAPHTHYLENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| ANTHRACENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BENZENAMINE | 9 | 0 | | | 52.0 | 54.0 | | | 1 | 0.0 | 52 U | 52 U | 0 |
| BENZIDINE | 9 | 0 | | | 52.0 | 54.0 | | | 2 | 0.0 | 52 U | 10 U | 0 |
| BENZO(a)ANTHRACENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BENZO(a)PYRENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BENZO(b)FLUORANTHENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BENZO(ghi)PERYLENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BENZO(k)FLUORANTHENE | 38 | 0 | | | 10.0 | 14.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BENZOIC ACID | 40 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| BENZYL ALCOHOL | 42 | 2 | 3.0 | 3.0 | 10.0 | 16.0 | 5.0982 | 0.3707 | 16 | 0.0 | 10 U | 20 U | 0 |
| BIS(2-CHLOROETHOXY)METHANE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BIS(2-CHLOROETHYL)ETHER | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| BIS(2-CHLOROISOPROPYL)ETHER | 40 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |

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## Table C2-3f

## Statistical Summary Surface Water - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BIS(2-ETHYLHEXYL)PHTHALATE | 42 | 14 | 1.0 | 2.5 | 10.0 | 16.0 | 4.4405 | 1.2390 | 16 | 6.2 | 5 | 10 U | 0 |
| BUTYL BENZYL PHTHALATE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| CHRYSENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| DI-n-BUTYL PHTHALATE | 42 | 2 | 2.0 | 2.0 | 10.0 | 16.0 | 5.0804 | 0.4061 | 16 | 0.0 | 10 U | 11.5 U | 0 |
| DI-n-OCTYL PHTHALATE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| DIBENZO(a,h)ANTHRACENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| DIBENZOFURAN | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| DIETHYL PHTHALATE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 12.5 | 2 | 11.5 U | 0 |
| DIMETHYL PHTHALATE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| FLUORANTHENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| FLUORENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| HEXACHLOROBENZENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 1 U | 11.5 U | 0 |
| HEXACHLOROBUTADIENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 1 U | 11.5 U | 0 |
| HEXACHLOROCYCLOPENTADIENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| HEXACHLOROETHANE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 1 U | 11.5 U | 0 |
| INDENO(1,2,3-cd)PYRENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| ISOPHORONE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| N-NITROSO-DI-n-PROPYLAMINE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| N-NITROSODI-N-BUTYLAMINE | 0 | 0 | | | | | | | 1 | 0.0 | 5 U | 5 U | |
| N-NITROSODIETHYLAMINE | 0 | 0 | | | | | | | 1 | 0.0 | 5 U | 5 U | |
| N-NITROSODIMETHYLAMINE | 9 | 0 | | | 21.0 | 22.0 | | | 2 | 0.0 | 5 U | 21 U | 0 |
| N-NITROSODIPHENYLAMINE | 42 | 2 | 1.0 | 1.0 | 10.0 | 16.0 | 5.0387 | 0.5136 | 16 | 0.0 | 10 U | 11.5 U | 0 |
| N-NITROSOPYRROLIDINE | 0 | 0 | | | | | | | 1 | 0.0 | 10 U | 10 U | |
| NAPHTHALENE | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| NITROBENZENE | 41 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| PENTACHLOROPHENOL | 41 | 0 | | | 49.0 | 78.0 | | | 16 | 0.0 | 50 U | 58 U | 0 |
| PHENANTHRENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |
| PHENOL | 39 | 0 | | | 10.0 | 16.0 | | | 14 | 0.0 | 10 U | 11.5 U | 0 |
| PYRENE | 42 | 0 | | | 10.0 | 16.0 | | | 16 | 0.0 | 10 U | 11.5 U | 0 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-3g

## Statistical Summary Surface Water - Pesticide/PCBs

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 23 | 0 | | | 0.1 | 0.1 | | | 14 | 0.0 | 0.011 U | 0.16 U | 0 |
| 4,4'-DDE | 23 | 0 | | | 0.1 | 0.1 | | | 14 | 0.0 | 0.004 U | 0.16 U | 0 |
| 4,4'-DDT | 23 | 0 | | | 0.1 | 0.1 | | | 14 | 0.0 | 0.012 U | 0.16 U | 0 |
| ALDRIN | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.004 U | 0.079 U | 0 |
| AROCLOR-1016 | 23 | 0 | | | 0.5 | 0.6 | | | 14 | 0.0 | 0.2 U | 0.79 U | 0 |
| AROCLOR-1221 | 23 | 0 | | | 0.5 | 0.6 | | | 14 | 0.0 | 0.2 U | 0.79 U | 0 |
| AROCLOR-1232 | 23 | 0 | | | 0.5 | 0.6 | | | 14 | 0.0 | 0.13 U | 0.79 U | 0 |
| AROCLOR-1242 | 23 | 0 | | | 0.5 | 0.6 | | | 14 | 0.0 | 0.065 U | 0.79 U | 0 |
| AROCLOR-1248 | 23 | 0 | | | 0.5 | 0.6 | | | 14 | 0.0 | 0.065 U | 0.79 U | 0 |
| AROCLOR-1254 | 23 | 0 | | | 1.0 | 1.1 | | | 14 | 0.0 | 0.065 U | 1.6 U | 0 |
| AROCLOR-1260 | 23 | 0 | | | 1.0 | 1.1 | | | 14 | 0.0 | 0.065 U | 1.6 U | 0 |
| CHLORDANE | 0 | 0 | | | | | | | 1 | 0.0 | 0.014 U | 0.14 U | |
| DIELDRIN | 23 | 0 | | | 0.1 | 0.1 | | | 14 | 0.0 | 0.002 U | 0.014 U | 0 |
| ENDOSULFAN I | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.014 U | 0.16 U | 0 |
| ENDOSULFAN II | 23 | 0 | | | 0.1 | 0.1 | | | 14 | 0.0 | 0.004 U | 0.079 U | 0 |
| ENDOSULFAN SULFATE | 23 | 0 | | | 0.1 | 0.1 | | | 14 | 0.0 | 0.066 U | 0.16 U | 0 |
| ENDRIN | 23 | 0 | | | 0.1 | 0.1 | | | 14 | 0.0 | 0.006 U | 0.16 U | 0 |
| ENDRIN ALDEHYDE | 0 | 0 | | | | | | | 1 | 0.0 | 0.023 U | 0.023 U | |
| ENDRIN KETONE | 23 | 0 | | | 0.1 | 0.1 | | | 13 | 0.0 | 0.1 U | 0.16 U | 0 |
| HEPTACHLOR | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.003 U | 0.079 U | 0 |
| HEPTACHLOR EPOXIDE | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.05 U | 0.083 U | 0 |
| METHOXYCHLOR | 23 | 0 | | | 0.5 | 0.6 | | | 13 | 0.0 | 0.5 U | 0.79 U | 0 |
| TOXAPHENE | 23 | 0 | | | 1.0 | 1.1 | | | 14 | 0.0 | 0.24 U | 1.6 U | 0 |
| alpha-BHC | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.003 U | 0.079 U | 0 |
| alpha-CHLORDANE | 23 | 0 | | | 0.5 | 0.6 | | | 13 | 0.0 | 0.5 U | 0.79 U | 0 |
| beta-BHC | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.006 U | 0.079 U | 0 |
| delta-BHC | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.009 U | 0.079 U | 0 |
| gamma-BHC (LINDANE) | 23 | 0 | | | 0.1 | 0.6 | | | 14 | 0.0 | 0.004 U | 0.079 U | 0 |
| gamma-CHLORDANE | 23 | 0 | | | 0.5 | 0.6 | | | 13 | 0.0 | 0.5 U | 0.79 U | 0 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-3h

## Statistical Summary Surface Water - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 5 | 100 | 160400.0 | 242650.0 | | | 207786.250 | 26686.7574 | | | | | | | | | | | |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 82 | 100 | 20000.0 | 310000.0 | | | 159608.837 | 42499.4453 | 70 | 100.0 | 28000 | 200000 | 90744.2860 | 30913.1770 | 152257.350 | 1.76 | 1.37 | 11 | 48 |
| BICARBONATE | 62 | 100 | 37000.0 | 330000.0 | | | 178107.692 | 48247.6374 | 20 | 100.0 | 25000 | 170000 | 76195.0880 | 1.7420 | 288148.728 | 2.34 | 27697 | 63 | 3 |
| CARBONATE | 69 | 1 | 5000.0 | 5000.0 | 1000.0 | 5000.0 | 2361.1722 | 278.4517 | 50 | 2.0 | 1000 U | 10000 U | | | 10000 U • | | | 0 | 0 |
| CARBONATE AS CACO3 | 32 | 6 | 4000.0 | 18000.0 | 1000.0 | 10000.0 | 4965.9091 | 4395.3423 | 60 | 35.0 | 0 | 25500 | | | 25500 • | | | 0 | 0 |
| CHLORIDE | 141 | 100 | 7000.0 | 180000.0 | | | 47886.1407 | 24126.2777 | 59 | 100.0 | 3000 | 62300 | 15552.4740 | 2.1440 | 72912.404 | 3.08 | 11253 | 29 | 16 |
| CYANIDE | 85 | 5 | 36.6 | 40.0 | 1.5 | 20.0 | 6.7929 | 4.0448 | 36 | 5.6 | 2.5 U | 26 | | | 26 • | | | 5 | 5 |
| CYANIDE, AMENABLE | 1 | 0 | | | 20.0 | 20.0 | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 33 | 0 | | | 10.0 | 25.0 | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 17 | 100 | 3000.0 | 6000.0 | | | 4273.3333 | 793.6624 | 9 | 100.0 | 3000 | 11000 | 5777.7780 | 2682.2460 | 13908.303 | 0.74 | 0.30 | 0 | 0 |
| FLUORIDE | 78 | 90 | 200.0 | 1130.0 | 50.0 | 500.0 | 545.6385 | 161.4824 | 40 | 92.5 | 100 | 720 | 319.2500 | 98.0680 | 527.693 | 1.71 | 1.65 | 9 | 45 |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 12 | 58 | 770.0 | 3510.0 | 100.0 | 100.0 | 1389.5000 | 1370.3983 | 2 | 50.0 | 100 U | 250 | | | 250 • | | | 58 | 58 |
| NITRATE/NITRITE | 137 | 78 | 40.0 | 7800.0 | 10.0 | 100.0 | 1668.7683 | 1359.9055 | 35 | 77.1 | 20 U | 4300 | 110.6240 | 4.4360 | 2790.155 | 15.09 | 306.56 | 4 | 27 |
| NITRITE | 75 | 5 | 10.0 | 80.0 | 10.0 | 1000.0 | 25.1135 | 26.1399 | 69 | 1.4 | 10 U | 58 | | | 58 • | | | 1 | 1 |
| OIL AND GREASE | 148 | 36 | 300.0 | 11100.0 | 200.0 | 10200.0 | 1649.1431 | 564.9390 | 54 | 38.9 | 200 U | 13000 | | | 13000 • | | | 0 | 0 |
| ORTHOPHOSPHATE | 59 | 12 | 10.0 | 20.0 | 5.0 | 50.0 | 12.4107 | 5.0058 | 26 | 11.5 | 10 U | 98 | | | 98 • | | | 0 | 0 |
| PHOSPHATE | 60 | 60 | 10.0 | 265.0 | 5.0 | 200.0 | 52.7029 | 32.1730 | | | | | | | | | | | |
| PHOSPHORUS | 62 | 61 | 10.0 | 1400.0 | 40.0 | 80.0 | 153.9638 | 180.0396 | 50 | 58.0 | 7.5 | 290 | 39.5300 | 47.4670 | 137.550 | 3.89 | 3.79 | 6 | 27 |
| SILICA, DISSOLVED | 43 | 98 | 1500.0 | 60000.0 | 200.0 | 200.0 | 12644.4643 | 9973.2195 | 24 | 91.7 | 400 U | 28000 | 8017.1370 | 7842.7480 | 26128.346 | 1.58 | 1.27 | 9 | 14 |
| SILICON | 5 | 100 | 10000.0 | 19000.0 | | | 13875.0000 | 2594.0637 | | | | | | | | | | | |
| SODIUM FLUORIDE | 1 | 100 | 330.0 | 330.0 | | | 330.0000 | | | | | | | | | | | | |
| SODIUM SULFATE | 1 | 100 | 24100.0 | 24100.0 | | | 24100.0000 | | | | | | | | | | | | |
| SOLIDS,NONVOL/SUSP | 8 | 25 | 6000.0 | 6000.0 | 5000.0 | 5000.0 | 3375.0000 | | | | | | | | | | | | |
| SULFATE | 136 | 99 | 8200.0 | 200000.0 | 1000.0 | 1000.0 | 41788.5029 | 18274.6115 | 116 | 98.3 | 5000 U | 48000 | 19223.7070 | 8324.4260 | 35090.871 | 2.17 | 2.20 | 20 | 43 |
| SULFIDE | 47 | 15 | 1000.0 | 39000.0 | 200.0 | 10000.0 | 3129.4872 | 5071.7144 | 47 | 12.8 | 1000 U | 4000 | | | 4000 • | | | 2 | 2 |
| TOT. DISS. SOLIDS | 149 | 99 | 100000.0 | 590000.0 | 5000.0 | 610000.0 | 317789.275 | 84066.6755 | 114 | 100.0 | 58000 | 620000 | 163038.906 | 1.4060 | 312491.903 | 1.95 | 59791 | 0 | 48 |
| TOT. ORG. CARBON | 17 | 100 | 2000.0 | 9000.0 | | | 5173.3333 | 1575.7221 | 18 | 100.0 | 2800 | 13000 | 5823.1770 | 1.6420 | 19661.714 | 0.89 | 959.64 | 0 | 0 |
| TOT. SUSP. SOLIDS | 133 | 70 | 2000.0 | 3900000. | 2000.0 | 70500.0 | 82559.8395 | 150921.163 | 119 | 61.3 | | 400000 | 7423.5690 | 3.5610 | 83085.126 | 11.12 | 42382 | 2 | 11 |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 12 | 42 | 7500.0 | 14500.0 | 5000.0 | 5000.0 | 5718.7500 | 3996.5108 | | | | | | | | | | | |
| pH | 62 | 100 | 6.8 | 8.3 | | | 7.8646 | 0.1634 | 44 | 100.0 | 6.8 | 8.6 | 7.4300 | 1.0520 | 8.395 | 1.06 | 0.16 | 0 | 0 |

• No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# *Seep/Spring Water*

## *Phase III*
## *RFI/RI Report*

# Table C2-4a

## Statistical Summary Seep/Spring Water - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 36 | 83 | 43.9 | 8750.0 | 60.0 | 231.0 | 680.6107 | 513.7048 | 42 | 95.2 | 47.42 | 293000. | 2392.7820 | 11.0600 | 382571.544 | 0.28 | 46.45 | 0 | 0 |
| ANTIMONY | 36 | 11 | 7.6 | 27.4 | 7.0 | 500.0 | 15.1638 | 4.8283 | 20 | 30.0 | 10 U | 643 | | | 643 * | | | 0 | 0 |
| ARSENIC | 36 | 3 | 1.0 | 1.0 | 0.9 | 10.0 | 1.7916 | 0.6686 | 37 | 56.8 | 0.9 U | 1030 | 82.6960 | 207.3640 | 528.333 | 0.02 | 0.00 | 0 | 0 |
| BARIUM | 36 | 81 | 65.4 | 250.0 | 200.0 | 200.0 | 131.6711 | 11.3822 | 41 | 80.5 | 33.4 | 7070 | 981.2930 | 1736.0180 | 4658.715 | 0.13 | 0.01 | 0 | 0 |
| BERYLLIUM | 33 | 3 | 0.6 | 0.6 | 0.5 | 5.0 | 1.0006 | 0.4073 | 22 | 36.4 | 1 U | 14 | | | 14 • | | | 0 | 0 |
| CADMIUM | 34 | 18 | 1.7 | 3.3 | 1.0 | 5.0 | 1.8629 | 0.3388 | 20 | 35.0 | 2.1 U | 68.4 | | | 68.4 • | | | 0 | 0 |
| CALCIUM | 36 | 100 | 30900.0 | 108000.0 | | | 82387.3718 | 9239.0683 | 49 | 100.0 | 20700 | 803000 | 100478.571 | 132148.179 | 374036.215 | 0.82 | 0.07 | 0 | 0 |
| CESIUM | 36 | 14 | 14.5 | 80.0 | 2.0 | 2500.0 | 219.7514 | 47.8619 | 16 | 25.0 | 50 U | 2530 | | | 2530 • | | | 0 | 0 |
| CHROMIUM | 36 | 25 | 2.7 | 14.6 | 2.0 | 20.0 | 4.7723 | 1.9663 | 31 | 41.9 | 2 U | 275 | | | 275 • | | | 0 | 0 |
| COBALT | 36 | 8 | 2.1 | 6.5 | 2.0 | 50.0 | 7.5663 | 4.0339 | 20 | 40.0 | 3 U | 489 | | | 489 • | | | 0 | 0 |
| COPPER | 35 | 43 | 2.1 | 12.9 | 2.0 | 25.0 | 7.3491 | 2.2678 | 35 | 57.1 | 2.9 U | 607 | 17.6020 | 4.3680 | 429.490 | 0.42 | 0.52 | 0 | 0 |
| IRON | 36 | 92 | 12.6 | 8910.0 | 100.0 | 150.0 | 694.4016 | 485.0584 | 48 | 95.8 | 97.5 U | 3220000 | 186474.255 | 532882.076 | 1292392.12 | 0.00 | 0.00 | 0 | 0 |
| LEAD | 36 | 56 | 1.0 | 14.4 | 1.0 | 6.0 | 2.6928 | 0.6174 | 38 | 76.3 | 0.9 U | 950 | 107.9320 | 221.9160 | 583.019 | 0.02 | 0.00 | 0 | 0 |
| LITHIUM | 36 | 64 | 5.1 | 31.0 | 26.0 | 100.0 | 25.8829 | 8.6763 | 28 | 60.7 | 4.8 | 140 | 16.6640 | 1.9570 | 75.293 | 1.55 | 4.43 | 0 | 0 |
| MAGNESIUM | 36 | 100 | 5710.0 | 25400.0 | | | 19742.2222 | 4008.1644 | 47 | 85.1 | 2330 U | 30300 | 8441.6770 | 2.1420 | 41209.066 | 2.34 | 1871.2 | 0 | 0 |
| MANGANESE | 36 | 81 | 3.3 | 851.0 | 1.0 | 15.0 | 44.4191 | 21.7974 | 48 | 85.4 | 2.1 | 27700 | 1916.5780 | 5162.4320 | 12630.442 | 0.02 | 0.00 | 0 | 0 |
| MERCURY | 34 | 0 | | | 0.1 | 0.2 | | | 19 | 15.8 | 0.2 U | 1.3 | | | 1.3 • | | | 0 | 0 |
| MOLYBDENUM | 36 | 25 | 2.1 | 12.6 | 3.0 | 500.0 | 19.6027 | 8.3942 | 26 | 30.8 | 3 U | 203 | | | 203 • | | | 0 | 0 |
| NICKEL | 36 | 11 | 4.1 | 12.2 | 3.9 | 40.0 | 8.6070 | 3.7262 | 19 | 47.4 | 3.8 U | 646 | | | 646 * | | | 0 | 0 |
| POTASSIUM | 36 | 81 | 1350.0 | 4890.0 | 5000.0 | 5000.0 | 2809.0064 | 147.7429 | 36 | 55.6 | 759 U | 13500 | 2575.9030 | 2.3900 | 16886.243 | 1.09 | 61.82 | 0 | 0 |
| SELENIUM | 34 | 56 | 1.0 | 10.6 | 1.1 | 5.0 | 2.8252 | 0.4691 | 26 | 23.1 | 1 | 11.1 | | | 11.1 • | | | 0 | 0 |
| SILICON | 13 | 100 | 2000.0 | 7980.0 | | | 5317.9167 | 1708.0738 | 8 | 100.0 | 2290 | 12700 | 7825.0000 | 3130.4400 | 17802.633 | 0.68 | 0.55 | 0 | 0 |
| SILVER | 35 | 29 | 2.3 | 10.7 | 2.0 | 30.0 | 3.4541 | 0.9083 | 25 | 24.0 | 2 U | 148 | | | 148 • | | | 0 | 0 |
| SODIUM | 36 | 100 | 17800.0 | 103000.0 | | | 43046.4530 | 4103.8974 | 50 | 100.0 | 560 | 337000 | 18880.9000 | 46146.5300 | 114173.180 | 2.28 | 0.09 | 0 | 0 |
| STRONTIUM | 36 | 86 | 164.0 | 762.0 | 1000.0 | 1000.0 | 578.8672 | 147.6590 | 39 | 71.8 | 118 | 2100 | 403.7480 | 2.0940 | 1953.147 | 1.43 | 70.52 | 0 | 0 |
| THALLIUM | 36 | 0 | | | 0.9 | 10.0 | | | 20 | 5.0 | 1 U | 10 U | | | 10 U • | | | 0 | 0 |
| TIN | 34 | 24 | 14.9 | 32.8 | 10.4 | 1000.0 | 27.7659 | 10.1594 | 26 | 38.5 | 10.4 U | 969 | | | 969 • | | | 0 | 0 |
| VANADIUM | 36 | 50 | 2.5 | 24.5 | 2.0 | 50.0 | 10.2767 | 5.1729 | 32 | 59.4 | 2 U | 1650 | 31.1650 | 6.3090 | 1782.282 | 0.33 | 0.82 | 0 | 0 |
| ZINC | 36 | 97 | 16.8 | 277.0 | 4.7 | 4.7 | 62.0401 | 25.8416 | 42 | 88.1 | 4.5 | 2680 | 70.0050 | 4.9310 | 2033.588 | 0.89 | 5.24 | 0 | 0 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-4b

## Statistical Summary Seep/Spring Water - Filtered Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 36 | 53 | 22.5 | 117.0 | 17.0 | 200.0 | 52.1963 | 10.8156 | 31 | 25.8 | 200 | 200 |  |  | 200 U * |  |  | 0 | 0 |
| ANTIMONY | 37 | 22 | 7.4 | 29.8 | 7.0 | 500.0 | 16.4797 | 5.7794 | 27 | 25.9 | 8.3 | 104 U |  |  | 104 U * |  |  | 0 | 0 |
| ARSENIC | 37 | 5 | 1.0 | 2.0 | 0.9 | 10.0 | 1.7993 | 0.6275 | 28 | 21.4 | 0.8 U | 18 |  |  | 18 * |  |  | 0 | 0 |
| BARIUM | 37 | 81 | 64.4 | 164.0 | 200.0 | 200.0 | 127.3845 | 9.2939 | 44 | 47.7 | 35.8 | 211 |  |  | 211 * |  |  | 0 | 0 |
| BERYLLIUM | 34 | 9 | 0.6 | 4.2 | 0.5 | 5.0 | 1.3053 | 0.7077 | 19 | 0.0 | 0.2 U | 5 U |  |  | 5 U * |  |  | 0 | 0 |
| CADMIUM | 37 | 11 | 1.3 | 2.8 | 1.0 | 5.0 | 1.7036 | 0.2488 | 24 | 0.0 | 2 U | 5 U |  |  | 5 U * |  |  | 0 | 0 |
| CALCIUM | 37 | 97 | 33600.0 | 106000.0 | 5000.0 | 5000.0 | 81116.8651 | 6611.5670 | 47 | 100.0 | 21200 | 216000 | 50787.2340 | 35318.9560 | 124279.352 | 1.60 | 0.19 | 0 | 0 |
| CESIUM | 37 | 14 | 17.3 | 70.0 | 2.0 | 2500.0 | 217.6619 | 55.1902 | 23 | 0.0 | 147 U | 1000 U |  |  | 1000 U * |  |  | 0 | 0 |
| CHROMIUM | 37 | 14 | 5.9 | 15.0 | 2.0 | 20.0 | 4.3271 | 2.0320 | 25 | 4.0 | 2 U | 14.8 |  |  | 14.8 * |  |  | 3 | 3 |
| COBALT | 37 | 5 | 4.0 | 4.2 | 2.0 | 50.0 | 7.7098 | 4.2315 | 28 | 3.6 | 2.2 U | 50 U |  |  | 50 U * |  |  | 0 | 0 |
| COPPER | 37 | 41 | 3.0 | 12.5 | 2.0 | 25.0 | 6.8278 | 2.1109 | 35 | 22.9 | 2.7 | 25 U |  |  | 25 U * |  |  | 0 | 0 |
| IRON | 31 | 42 | 3.0 | 210.0 | 3.0 | 100.0 | 36.2351 | 16.2593 | 41 | 70.7 | 1.1 U | 16700 | 220.6900 | 13.0300 | 50763.072 | 0.16 | 1.25 | 0 | 0 |
| LEAD | 36 | 28 | 1.1 | 3.4 | 0.4 | 14.0 | 1.2095 | 0.2011 | 35 | 17.1 | 0.1 U | 5.4 |  |  | 5.4 * |  |  | 0 | 0 |
| LITHIUM | 37 | 62 | 5.6 | 28.7 | 4.3 | 100.0 | 26.3433 | 8.2371 | 33 | 48.5 | 2 | 100 U |  |  | 100 U * |  |  | 0 | 0 |
| MAGNESIUM | 37 | 97 | 6330.0 | 25600.0 | 5000.0 | 5000.0 | 19062.7381 | 3444.5722 | 44 | 68.2 | 3190 U | 27400 | 6930.5110 | 5400.1340 | 18262.474 | 2.75 | 0.64 | 0 | 70 |
| MANGANESE | 37 | 73 | 1.3 | 102.0 | 1.0 | 15.0 | 15.7307 | 11.2312 | 38 | 86.8 | 1 U | 760 | 37.8730 | 7.3810 | 2734.438 | 0.42 | 1.52 | 0 | 0 |
| MERCURY | 35 | 3 | 0.2 | 0.2 | 0.1 | 0.2 | 0.1013 | 0.0023 | 20 | 30.0 | 0.2 U | 5.1 |  |  | 5.1 * |  |  | 0 | 0 |
| MOLYBDENUM | 37 | 38 | 2.3 | 100.0 | 3.0 | 500.0 | 21.9916 | 8.1896 | 31 | 19.4 | 3.3 | 100 U |  |  | 100 U * |  |  | 0 | 0 |
| NICKEL | 37 | 3 | 4.5 | 4.5 | 3.9 | 40.0 | 8.0060 | 3.3262 | 21 | 14.3 | 3.8 U | 40 U |  |  | 40 U * |  |  | 0 | 0 |
| POTASSIUM | 37 | 81 | 1700.0 | 4890.0 | 5000.0 | 5000.0 | 2874.3770 | 213.8959 | 36 | 38.9 | 255 U | 7073 U |  |  | 7073 U * |  |  | 0 | 0 |
| SELENIUM | 37 | 49 | 2.0 | 6.3 | 1.0 | 5.0 | 2.6567 | 0.8830 | 24 | 4.2 | 0.8 U | 5 U |  |  | 5 U * |  |  | 8 | 8 |
| SILICON | 13 | 100 | 1620.0 | 7530.0 |  |  | 5089.1667 | 2299.8999 | 8 | 100.0 | 274 | 12200 | 7708.0000 | 3804.0890 | 19832.749 | 0.66 | 0.60 | 0 | 0 |
| SILVER | 37 | 22 | 2.2 | 11.3 | 2.0 | 30.0 | 3.5807 | 1.3594 | 29 | 6.9 | 2 U | 12.5 U |  |  | 12.5 U * |  |  | 0 | 0 |
| SODIUM | 37 | 97 | 19300.0 | 100000.0 | 5000.0 | 5000.0 | 43091.8254 | 3898.9801 | 47 | 100.0 | 6950 | 35200 | 12484.7870 | 5640.2430 | 24221.075 | 3.45 | 0.69 | 78 | 89 |
| STRONTIUM | 37 | 84 | 182.0 | 735.0 | 100.0 | 1000.0 | 553.4722 | 96.4912 | 27 | 100.0 | 120 | 1020 | 253.1480 | 191.1480 | 685.151 | 2.19 | 0.50 | 0 | 16 |
| THALLIUM | 34 | 0 |  |  | 0.6 | 15.0 |  |  | 24 | 0.0 | 0.9 U | 10 U |  |  | 10 U * |  |  | 0 | 0 |
| TIN | 33 | 24 | 11.4 | 36.8 | 10.4 | 1000.0 | 28.9711 | 11.4156 | 33 | 15.2 | 11.4 | 100 U |  |  | 100 U * |  |  | 0 | 0 |
| VANADIUM | 37 | 35 | 2.0 | 10.3 | 2.0 | 50.0 | 8.9708 | 4.0398 | 31 | 12.9 | 2 U | 50 U |  |  | 50 U * |  |  | 0 | 0 |
| ZINC | 34 | 68 | 2.2 | 58.8 | 3.0 | 20.0 | 14.2304 | 1.4403 | 37 | 43.2 | 1.8 U | 105 |  |  | 105 * |  |  | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-4c

## Statistical Summary Seep/Spring Water - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 32 | 88 | -0.0029 | 0.2860 | 0.0000 | 0.1230 | 0.0188 | 0.0151 | 34 | 100 | 0 | 0.1 | 0.0140 | 0.0210 | 0.059 | 1.34 | 0.72 | 3 | 3 |
| CESIUM - UNKNOWN | 2 | 100 | -0.1000 | 0.0300 | | | -0.0350 | 0.0919 | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 22 | 95 | -0.6900 | 0.9000 | 0.0100 | 0.0100 | 0.0257 | 0.0503 | 36 | 100 | -0.3 | 12 | 0.6080 | 2.0160 | 4.958 | 0.04 | 0.02 | 0 | 0 |
| CURIUM-244 | 1 | 0 | | | -0.0860 | -0.0860 | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 16 | 100 | 0.7768 | 41.4000 | | | 11.4523 | 2.1115 | 22 | 100 | -0.5 | 440 | 66.0750 | 109.0430 | 322.212 | 0.17 | 0.02 | 0 | 0 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 11 | 100 | 3.2430 | 13.0000 | | | 7.7408 | 0.8775 | 24 | 100 | 0.3 | 420 | 63.4620 | 116.4160 | 332.300 | 0.12 | 0.01 | 0 | 0 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 2 | 100 | 0.0004 | 0.0006 | | | 0.0005 | 0.0001 | 2 | 100 | 0 | 0.000676 | | | 0.0006768 | | | 0 | 0 |
| PLUTONIUM-239 | 9 | 67 | 0.0090 | 0.0340 | -0.0020 | 0.0040 | 0.0136 | 0.0027 | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 21 | 90 | -0.0001 | 0.0190 | -0.0010 | 0.0000 | 0.0046 | 0.0010 | 36 | 100 | -0.007 | 4.4 | 0.1960 | 0.7490 | 1.812 | 0.02 | 0.00 | 0 | 0 |
| RADIUM-226 | 4 | 100 | 0.2100 | 0.3800 | | | 0.2975 | 0.0035 | 12 | 100 | 0.2 | 30 | 7.7210 | 9.1000 | 32.623 | 0.04 | 0.00 | 0 | 0 |
| RADIUM-228 | 0 | 0 | | | | | | | 5 | 100 | -1.1 | 36 | 16.3800 | 14.1130 | 75.692 | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 9 | 89 | 0.0000 | 0.4700 | 0.4500 | 0.4500 | 0.2200 | 0.0577 | 20 | 100 | -0.2 | 1.1 | 0.2850 | 0.4000 | 1.243 | 0.77 | 0.14 | 0 | |
| STRONTIUM-90 | 11 | 100 | -0.1301 | 3.6110 | | | 0.5166 | 0.4946 | 11 | 100 | -0.2 | 0.9 | 0.3160 | 0.3210 | 1.219 | 1.63 | 1.54 | 9 | |
| TOTAL RADIOCESIUM | 1 | 100 | 0.5000 | 0.5000 | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 33 | 76 | -9.7300 | 329.0000 | 0.0000 | 200.0000 | 156.2588 | 52.5775 | 30 | 100 | -6930 | 475 | -90.8010 | 1297.6480 | 2789.766 | -1.72 | 0.04 | 0 | |
| URANIUM-233,-234 | 16 | 100 | 1.3490 | 7.0500 | | | 4.3214 | 0.8399 | 32 | 93.7 | -0.015 | 6.9 | 0.6440 | 1.3100 | 3.521 | 6.71 | 0.64 | 6 | 7 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 16 | 100 | 0.0544 | 1.5800 | | | 0.3075 | 0.1054 | 31 | 100 | -0.2 | 0.19 | | 0.0850 | 0.211 | | 1.24 | 56 | 3 |
| URANIUM-238 | 16 | 100 | 1.3030 | 21.8200 | | | 4.1517 | 1.8234 | 28 | 100 | -0.05 | 5.93 | 0.6420 | 1.2120 | 3.363 | 6.47 | 1.50 | 6 | 3 |

• No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-4d

## Statistical Summary Seep/Spring Water - Filtered Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 5 | 20 | 0.2400 | 0.2400 | 0.0000 | 0.6000 | 0.0628 | 0.0810 | 6 | 50.0 | 0 | 0.01 U | | | 0.01 U * | | | 20 | 20 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 8 | 38 | 0.0000 | 0.8500 | 0.6000 | 0.8000 | 0.3333 | 0.0660 | 3 | 100 | -0.5 | -0.1 | | | -0.1 * | | | 38 | 38 |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 15 | 87 | 2.2000 | 10.0000 | 1.9100 | 2.9000 | 4.8659 | 1.1409 | 7 | 57.1 | 0 | 4 | 1.7350 | 1.5590 | 7.035 | 2.80 | 0.73 | 53 | 7 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 8 | 100 | 2.0300 | 6.2470 | | | 4.7598 | 1.0296 | 7 | 71.4 | -2 | 4.9 | 1.4000 | 2.3070 | 9.243 | 3.40 | 0.45 | 25 | |
| NEPTUNIUM-237 | 8 | 38 | -0.3500 | -0.0100 | 1.0000 | 1.0000 | 0.2750 | 0.0778 | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 6 | 0 | | | -0.0070 | 9.0000 | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 0 | 0 | | | | | | | 5 | 60.0 | 0 | 0.02 U | | | 0.02 U * | | | | |
| RADIUM-226 | 4 | 100 | 0.3321 | 0.3753 | | | 0.3629 | 0.0148 | 2 | 50.0 | 0.07 U | 1.909 | | | 1.909 * | | | 0 | |
| RADIUM-228 | 0 | 0 | | | | | | | 1 | 0.0 | 0.7 U | 0.7 U | | | 0.7 U * | | | | |
| STRONTIUM-89 | 9 | 11 | -0.1400 | -0.1400 | -0.2000 | 1.0000 | 0.1613 | 0.1538 | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 8 | 100 | 0.0957 | 0.9649 | | | 0.6776 | 0.1480 | 8 | 100 | -0.3 | 0.8 | 0.3010 | 0.3470 | 1.406 | 2.25 | 0.43 | 38 | |
| STRONTIUM-90 | 9 | 22 | 0.2900 | 0.3900 | -0.1000 | 0.6000 | 0.1778 | 0.0279 | 5 | 0.0 | 0.4 U | 0.8 U | | | 0.8 U * | | | 0 | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 9 | 66.7 | 82.59 | 1200 | 243.0320 | 360.8290 | 1336.790 | | | | |
| URANIUM-233,-234 | 8 | 100 | 1.3890 | 5.1540 | | | 4.0757 | 1.2177 | 13 | 92.3 | 0 | 2.6 | 0.8990 | 0.7430 | 2.883 | 4.53 | 1.64 | 75 | 7 |
| URANIUM-234 | 7 | 100 | 0.7600 | 5.1000 | | | 3.4617 | 1.3741 | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 15 | 60 | 0.0000 | 0.2300 | 0.0000 | 0.6000 | 0.1103 | 0.0206 | 12 | 58.3 | -0.0183 | 0.3 U | 0.0480 | 0.1040 | 0.333 | 2.30 | 0.20 | 0 | |
| URANIUM-238 | 15 | 93 | 0.7600 | 3.8820 | 2.0000 | 2.0000 | 3.1177 | 0.8017 | 13 | 92.3 | -0.1 | 1.7 | 0.5970 | 0.5500 | 2.065 | 5.22 | 1.46 | 87 | 73 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-4e

## Statistical Summary Seep/Spring Water - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-TETRACHLOROETHANE | 0 | 0 | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,1,2,2-TETRACHLOROETHANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,1,2-TRICHLOROETHANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,1-DICHLOROETHANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,1-DICHLOROETHENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,1-DICHLOROPROPENE | 0 | 0 | | | | | | | | | | | |
| 1,2,3-TRICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2,3-TRICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2-DIBROMOETHANE | 0 | 0 | | | | | | | | | | | |
| 1,2-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2-DICHLOROETHANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,2-DICHLOROETHENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,2-DICHLOROPROPANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| 1,2-DIMETHYLBENZENE | 0 | 0 | | | | | | | 9 | 0.0 | 5 U | 5 U | |
| 1,3-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,3-DICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| 1,3-DIMETHYLBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,4-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 2-BUTANONE | 34 | 3 | 17.0 | 17.0 | 10.0 | 10.0 | 5.3077 | 0.5329 | 23 | 0.0 | 10 U | 10 U | 3 |
| 2-CHLOROETHYL VINYL ETHER | 5 | 0 | | | 10.0 | 10.0 | | | 9 | 0.0 | 10 U | 10 U | 0 |
| 2-HEXANONE | 35 | 0 | | | 10.0 | 10.0 | | | 23 | 0.0 | 10 U | 10 U | 0 |
| 2-PROPENENITRILE | 0 | 0 | | | | | | | | | | | |
| 4-METHYL-2-PENTANONE | 35 | 0 | | | 10.0 | 10.0 | | | 23 | 0.0 | 10 U | 10 U | 0 |
| ACETONE | 32 | 28 | 1.0 | 130.0 | 10.0 | 10.0 | 8.3480 | 6.3002 | 21 | 33.3 | 2 | 91 | 3 |
| BENZENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| BENZENE, 1,2,4-TRIMETHYL | 0 | 0 | | | | | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | 0 | 0 | | | | | | | | | | | |
| BROMOBENZENE | 0 | 0 | | | | | | | | | | | |
| BROMOCHLOROMETHANE | 0 | 0 | | | | | | | | | | | |
| BROMODICHLOROMETHANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| BROMOFORM | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| BROMOMETHANE | 34 | 0 | | | 10.0 | 10.0 | | | 23 | 0.0 | 10 U | 10 U | 0 |
| CARBON DISULFIDE | 34 | 0 | | | 5.0 | 5.0 | | | 22 | 4.5 | 3 | 5 U | 0 |
| CARBON TETRACHLORIDE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| CHLOROBENZENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| CHLOROETHANE | 35 | 0 | | | 10.0 | 10.0 | | | 23 | 0.0 | 10 U | 10 U | 0 |
| CHLOROFORM | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| CHLOROMETHANE | 35 | 0 | | | 10.0 | 10.0 | | | 23 | 4.3 | 4 | 10 U | 0 |
| CUMENE | 0 | 0 | | | | | | | | | | | |
| DIBROMOCHLOROMETHANE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-4e

## Statistical Summary Seep/Spring Water - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIBROMOMETHANE | 0 | 0 | | | | | | | | | | | |
| DICHLORODIFLUOROMETHANE | 0 | 0 | | | | | | | | | | | |
| ETHYLBENZENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| HEXACHLOROBUTADIENE | 0 | 0 | | | | | | | | | | | |
| METHYLENE CHLORIDE | 35 | 66 | 1.0 | 29.0 | 5.0 | 5.0 | 4.8970 | 1.2990 | 22 | 54.5 | 1 | 22 | 3 |
| NAPHTHALENE | 0 | 0 | | | | | | | | | | | |
| PROPANE, 1,2-DIBROMO-3-CHLORO- | 0 | 0 | | | | | | | | | | | |
| STYRENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| TETRACHLOROETHENE | 35 | 31 | 1.0 | 23.0 | 5.0 | 5.0 | 3.8304 | 1.9449 | 23 | 4.3 | 5 U | 10 | 3 |
| TOLUENE | 35 | 6 | 1.0 | 4.0 | 5.0 | 5.0 | 2.4732 | 0.1491 | 23 | 4.3 | 1 | 5 U | 0 |
| TOTAL XYLENES | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 4.3 | 2 | 5 U | 0 |
| TRICHLOROETHENE | 35 | 11 | 1.0 | 7.0 | 5.0 | 5.0 | 2.6392 | 0.3373 | 23 | 0.0 | 5 U | 5 U | 6 |
| TRICHLOROFLUOROMETHANE | 0 | 0 | | | | | | | | | | | |
| VINYL ACETATE | 33 | 0 | | | 10.0 | 10.0 | | | 23 | 0.0 | 10 U | 10 U | 0 |
| VINYL CHLORIDE | 35 | 0 | | | 10.0 | 10.0 | | | 23 | 0.0 | 10 U | 10 U | 0 |
| cis-1,2-DICHLOROETHENE | 0 | 0 | | | | | | | 23 | 0.0 | 5 U | 5 U | |
| cis-1,3-DICHLOROPROPENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |
| m-XYLENE | 0 | 0 | | | | | | | | | | | |
| n-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| n-PROPYLBENZENE | 0 | 0 | | | | | | | | | | | |
| o-CHLOROTOLUENE | 0 | 0 | | | | | | | | | | | |
| o-XYLENE | 5 | 0 | | | 5.0 | 5.0 | | | | | | | |
| p-CHLOROTOLUENE | 0 | 0 | | | | | | | | | | | |
| p-CYMENE | 0 | 0 | | | | | | | | | | | |
| p-XYLENE | 0 | 0 | | | | | | | | | | | |
| sec-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| sec-DICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| tert-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| trans-1,2-DICHLOROETHENE | 0 | 0 | | | | | | | | | | | |
| trans-1,3-DICHLOROPROPENE | 35 | 0 | | | 5.0 | 5.0 | | | 23 | 0.0 | 5 U | 5 U | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-4f

## Statistical Summary Seep/Spring Water - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 1,2-DICHLOROBENZENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 1,3-DICHLOROBENZENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 1,4-DICHLOROBENZENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2,4,5-TRICHLOROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| 2,4,6-TRICHLOROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2,4-DICHLOROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2,4-DIMETHYLPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2,4-DINITROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| 2,4-DINITROTOLUENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2,6-DINITROTOLUENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2-CHLORONAPHTHALENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2-CHLOROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2-METHYLNAPHTHALENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2-METHYLPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 2-NITROANILINE | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| 2-NITROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 3,3'-DICHLOROBENZIDINE | 0 | 0 | | | | | | | 6 | 0.0 | 20 U | 20 U | |
| 3-NITROANILINE | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| 4,6-DINITRO-2-METHYLPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| 4-BROMOPHENYL PHENYL ETHER | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 4-CHLORO-3-METHYLPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 4-CHLOROANILINE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 4-CHLOROPHENYL PHENYL ETHER | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 4-METHYLPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| 4-NITROANILINE | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| 4-NITROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| ACENAPHTHENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| ACENAPHTHYLENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| ANTHRACENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BENZENAMINE | 0 | 0 | | | | | | | 3 | 0.0 | 50 U | 50 U | |
| BENZIDINE | 0 | 0 | | | | | | | 3 | 0.0 | 50 U | 50 U | |
| BENZO(a)ANTHRACENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BENZO(a)PYRENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BENZO(b)FLUORANTHENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BENZO(ghi)PERYLENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BENZO(k)FLUORANTHENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BENZOIC ACID | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| BENZYL ALCOHOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BIS(2-CHLOROETHOXY)METHANE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BIS(2-CHLOROETHYL)ETHER | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| BIS(2-CHLOROISOPROPYL)ETHER | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-4f

## Statistical Summary Seep/Spring Water - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BIS(2-ETHYLHEXYL)PHTHALATE | 0 | 0 | | | | | | | 6 | 16.7 | 9 | 10 U | |
| BUTYL BENZYL PHTHALATE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| CHRYSENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| DI-n-BUTYL PHTHALATE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| DI-n-OCTYL PHTHALATE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| DIBENZO(a,h)ANTHRACENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| DIBENZOFURAN | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| DIETHYL PHTHALATE | 0 | 0 | | | | | | | 6 | 16.7 | 3 | 10 U | |
| DIMETHYL PHTHALATE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| FLUORANTHENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| FLUORENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| HEXACHLOROBENZENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| HEXACHLOROBUTADIENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| HEXACHLOROCYCLOPENTADIENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| HEXACHLOROETHANE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| INDENO(1,2,3-cd)PYRENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| ISOPHORONE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| N-NITROSO-DI-n-PROPYLAMINE | 0 | 0 | | | | | | | 3 | 0.0 | 10 U | 10 U | |
| N-NITROSODI-N-BUTYLAMINE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| N-NITROSODIETHYLAMINE | 0 | 0 | | | | | | | 3 | 0.0 | 20 U | 20 U | |
| N-NITROSODIMETHYLAMINE | 0 | 0 | | | | | | | 6 | 16.7 | 1 | 10 U | |
| N-NITROSODIPHENYLAMINE | 0 | 0 | | | | | | | | | | 10 U | |
| N-NITROSOPYRROLIDINE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| NAPHTHALENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| NITROBENZENE | 0 | 0 | | | | | | | 6 | 0.0 | 50 U | 50 U | |
| PENTACHLOROPHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| PHENANTHRENE | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| PHENOL | 0 | 0 | | | | | | | 6 | 0.0 | 10 U | 10 U | |
| PYRENE | 0 | 0 | | | | | | | | | | | |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-4g

## Statistical Summary Seep/Spring Water - Pesticide/PCBs

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| 4,4'-DDE | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| 4,4'-DDT | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| ALDRIN | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| AROCLOR-1016 | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |
| AROCLOR-1221 | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |
| AROCLOR-1232 | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |
| AROCLOR-1242 | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |
| AROCLOR-1248 | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |
| AROCLOR-1254 | 1 | 0 | | | 1.0 | 1.0 | | | 6 | 0.0 | 0.99 U | 1 U | 0 |
| AROCLOR-1260 | 1 | 0 | | | 1.0 | 1.0 | | | 6 | 0.0 | 0.99 U | 1 U | 0 |
| DIELDRIN | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| ENDOSULFAN I | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| ENDOSULFAN II | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| ENDOSULFAN SULFATE | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| ENDRIN | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| ENDRIN KETONE | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.099 U | 0.1 U | 0 |
| HEPTACHLOR | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| HEPTACHLOR EPOXIDE | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| METHOXYCHLOR | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |
| TOXAPHENE | 1 | 0 | | | 1.0 | 1.0 | | | 6 | 0.0 | 1 U | 1 U | 0 |
| alpha-BHC | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| alpha-CHLORDANE | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |
| beta-BHC | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| delta-BHC | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| gamma-BHC (LINDANE) | 1 | 0 | | | 0.1 | 0.1 | | | 6 | 0.0 | 0.05 U | 0.05 U | 0 |
| gamma-CHLORDANE | 1 | 0 | | | 0.5 | 0.5 | | | 6 | 0.0 | 0.5 U | 0.5 U | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-4h

## Statistical Summary Seep/Spring Water - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 1 | 100 | 233100.0 | 233100.0 | | | 233100.000 | | | | | | | | | | | | |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 10 | 100 | 12000.0 | 260000.0 | | | 206800.000 | 40183.5787 | 21 | 100.0 | 57400 | 1110000 | 222171.429 | 269984.952 | 862419.656 | 0.93 | 0.15 | 0 | 0 |
| BICARBONATE | 11 | 100 | 210000.0 | 270000.0 | | | 244111.111 | 21432.9272 | 36 | 100.0 | 97000 | 4100000 | 446500.000 | 758427.866 | 2082941.06 | 0.55 | 0.03 | 0 | 0 |
| CARBONATE | 14 | 0 | | | 1000.0 | 5000.0 | | | 36 | 0.0 | 1000 U | 5000 U | | | 5000 U * | | | 0 | 0 |
| CARBONATE AS CACO3 | 2 | 0 | | | 1000.0 | 1000.0 | | | 16 | 62.5 | | 40400 | 11150.0000 | 14678.6470 | 48193.894 | | | 0 | 0 |
| CHLORIDE | 21 | 100 | 44000.0 | 160000.0 | | | 95128.8889 | 7492.6967 | 51 | 96.1 | 4000 | 130000 | 12484.3140 | 17226.9480 | 47973.113 | 7.62 | 0.43 | 5 | 95 |
| CYANIDE | 9 | 0 | | | 10.0 | 20.0 | | | 13 | 38.5 | 2.5 U | 45.2 | | | 45.2 * | | | 0 | 0 |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS | 3 | 0 | | | 20.0 | 20.0 | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | 1 | 100.0 | 8000 | 8000 | | | 8000 * | | | | |
| FLUORIDE | 10 | 100 | 500.0 | 1100.0 | | | 893.3333 | 110.1514 | 16 | 87.5 | 200 | 960 | 528.7500 | 295.3390 | 1274.084 | 1.69 | 0.37 | 50 | 0 |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 2 | 100 | 4180.0 | 9060.0 | | | 6620.0000 | 3450.6811 | | | | | | | | | | | |
| NITRATE/NITRITE | 20 | 100 | 700.0 | 31000.0 | | | 7857.7778 | 554.5903 | 36 | 83.3 | 20 U | 11000 | 291.3380 | 6.2700 | 15299.247 | 26.97 | 88.45 | 5 | 5 |
| NITRITE | 11 | 9 | 40.0 | 40.0 | 20.0 | 100.0 | 23.5556 | 4.6706 | 15 | 6.7 | 10 U | 60 | | | 60 * | | | 0 | 0 |
| OIL AND GREASE | 20 | 35 | 600.0 | 2000.0 | 200.0 | 5000.0 | 860.3704 | 72.8294 | 20 | 40.0 | 400 | 8300 U | | | 8300 U * | | | 0 | 0 |
| ORTHOPHOSPHATE | 9 | 22 | 10.0 | 20.0 | 10.0 | 10.0 | 7.8333 | 4.0723 | 11 | 18.2 | 10 U | 50 U | | | 50 U * | | | 0 | 0 |
| PHOSPHATE | 9 | 78 | 10.0 | 60.0 | 10.0 | 200.0 | 34.0333 | 18.7564 | | | | | | | | | | | |
| PHOSPHORUS | 5 | 60 | 120.0 | 664.0 | 10.0 | 20.0 | 159.0000 | 132.3669 | 15 | 60.0 | 40 | 3400 | 392.2670 | 879.5210 | 2649.117 | 0.41 | 0.15 | 0 | 0 |
| SILICA, DISSOLVED | 10 | 100 | 4700.0 | 29000.0 | | | 11791.1111 | 6332.0010 | 6 | 100.0 | 8700 | 39000 | 16283.3330 | 11276.5980 | 58093.392 | 0.72 | 0.56 | 0 | 0 |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 2 | 100 | 700.0 | 700.0 | | | 700.0000 | < .0001 | | | | | | | | | | | |
| SODIUM SULFATE | 1 | 100 | 33000.0 | 33000.0 | | | 33000.0000 | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 21 | 100 | 28000.0 | 94000.0 | | | 47666.6667 | 2682.2462 | 49 | 93.9 | 5000 U | 560000 | 47808.1630 | 90720.6150 | 235607.327 | 1.00 | 0.03 | 0 | 0 |
| SULFIDE | 4 | 50 | 2000.0 | 3000.0 | 10000.0 | 10000.0 | 3750.0000 | 353.5534 | 8 | 12.5 | 1000 U | 18000 | | | 18000 * | | | 0 | 0 |
| TOT. DISS. SOLIDS | 20 | 100 | 320000.0 | 570000.0 | | | 499714.286 | 35700.5688 | 49 | 100.0 | | 1100000 | 269795.918 | 178855.619 | 640041.819 | 1.85 | 0.20 | 0 | 0 |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | 3 | 100.0 | 7400 | 11700 | | | 11700 * | | | | |
| TOT. SUSP. SOLIDS | 21 | 71 | 3000.0 | 870000.0 | 4000.0 | 5000.0 | 83006.9444 | 64724.9802 | 51 | 84.3 | 2000 | 46000000 | 2869941.18 | 7992964.55 | 19336044.6 | 0.03 | 0.01 | 0 | 0 |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 11 | 100 | 7.2 | 8.1 | | | 7.8639 | 0.1248 | 35 | 100.0 | 6 | 7.9 | 7.2160 | 0.4270 | 8.280 | 1.09 | 0.29 | 45 | 0 |

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# *Sediment*

# *Phase III*
# *RFI/RI Report*

# Table C2-5a

## Statistical Summary Sediment - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 11 | 100 | 2400.0 | 18000.0 | | | 10848.0952 | 5410.3268 | 18 | 100.0 | 549 | 25200 | 4569.2220 | 6633.0340 | 20839.704 | 2.37 | 0.82 | 0 | 0 |
| ANTIMONY | 11 | 0 | | | 2.9 | 39.1 | | | 11 | 36.4 | 2.1 U | 11.1 | | | 11.1 • | | | 0 | 0 |
| ARSENIC | 12 | 100 | 0.7 | 7.2 | | | 3.8954 | 1.6765 | 40 | 87.5 | 0.39 | 17.3 | 1.6270 | 2.5060 | 11.469 | 2.39 | 0.67 | 0 | 0 |
| BARIUM | 12 | 100 | 28.1 | 240.0 | | | 126.8250 | 66.8090 | 16 | 100.0 | 12.8 | 180 | 57.9060 | 53.8250 | 193.741 | 2.19 | 1.24 | 25 | 17 |
| BERYLLIUM | 12 | 75 | 0.2 | 1.1 | 0.2 | 0.9 | 0.5339 | 0.3888 | 33 | 54.5 | 0.06 U | 1.4 U | 0.4910 | 0.3300 | 1.212 | 1.09 | 1.18 | 0 | 0 |
| CADMIUM | 12 | 33 | 0.8 | 1.0 | 0.6 | 2.8 | 0.5626 | 0.2277 | 11 | 36.4 | 0.48 U | 1.6 U | | | 1.6 U • | | | 0 | 0 |
| CALCIUM | 12 | 100 | 1250.0 | 36600.0 | | | 11457.5000 | 8281.0052 | 18 | 94.4 | 187 U | 5060 | 870.5070 | 2.7010 | 9957.426 | 13.16 | 3065.9 | 83 | 67 |
| CESIUM | 12 | 25 | 2.2 | 5.2 | 18.0 | 147.0 | 47.5593 | 22.6509 | 9 | 55.6 | 0.56 | 235 U | 64.9600 | 54.9190 | 231.433 | 0.73 | 0.41 | 0 | 0 |
| CHROMIUM | 12 | 100 | 2.9 | 23.9 | | | 12.0375 | 6.9546 | 18 | 66.7 | 1.2 U | 29.7 | 5.7220 | 7.9660 | 25.263 | 2.10 | 0.87 | 0 | 0 |
| COBALT | 12 | 100 | 2.0 | 13.1 | | | 6.9411 | 3.5682 | 37 | 73.0 | 0.59 U | 15 | 4.9150 | 3.2710 | 11.945 | 1.41 | 1.09 | 0 | 8 |
| COPPER | 12 | 100 | 2.7 | 39.0 | | | 16.8714 | 11.8178 | 34 | 76.5 | 0.62 U | 36.7 | 7.7040 | 2.4760 | 55.438 | 2.19 | 4.77 | 17 | 0 |
| IRON | 12 | 100 | 3500.0 | 22300.0 | | | 13480.7143 | 6192.7393 | 40 | 100.0 | 1040 | 31400 | 6701.8080 | 2.1330 | 33548.400 | 2.01 | 2903.3 | 0 | 0 |
| LEAD | 12 | 100 | 3.7 | 32.2 | | | 18.9636 | 8.8873 | 18 | 100.0 | 2.1 | 27.9 | 8.4110 | 8.0030 | 28.042 | 2.25 | 1.11 | 17 | 17 |
| LITHIUM | 12 | 100 | 2.6 | 16.9 | | | 8.9929 | 4.6962 | 37 | 75.7 | 1.5 | 28.3 U | 4.8830 | 1.9840 | 21.279 | 1.84 | 2.37 | 0 | 0 |
| MAGNESIUM | 12 | 100 | 485.0 | 6050.0 | | | 2918.1786 | 1717.1331 | 18 | 88.9 | 197 | 5850 | 583.3380 | 3.0660 | 9110.102 | 5.00 | 560.06 | 8 | 0 |
| MANGANESE | 12 | 100 | 103.0 | 333.0 | | | 213.4464 | 83.1609 | 18 | 100.0 | 96 | 1280 | 297.8580 | 2.0220 | 1675.660 | 0.72 | 41.13 | 0 | 0 |
| MERCURY | 12 | 0 | | | 0.1 | 0.2 | | | 11 | 18.2 | 0.02 U | 0.16 U | | | 0.16 U • | | | 0 | 0 |
| MOLYBDENUM | 12 | 50 | 1.8 | 6.1 | 1.1 | 6.5 | 3.5027 | 1.7319 | 22 | 31.8 | 0.66 U | 5.4 | | | 5.4 • | | | 8 | 8 |
| NICKEL | 12 | 92 | 3.2 | 33.0 | 19.5 | 19.5 | 13.8446 | 8.9678 | 35 | 77.1 | 1.3 U | 25.6 | 5.0950 | 2.6150 | 40.884 | 2.72 | 3.43 | 17 | 0 |
| POTASSIUM | 12 | 92 | 493.0 | 4180.0 | 2070.0 | 2070.0 | 1684.8929 | 1067.8315 | 40 | 75.0 | 114 U | 3770 | 558.4430 | 2.6400 | 4395.039 | 3.02 | 404.48 | 8 | 0 |
| SELENIUM | 12 | 58 | 0.3 | 1.1 | 0.3 | 1.9 | 0.5623 | 0.2462 | 33 | 24.2 | 0.21 U | 2.9 | | | 2.9 • | | | 0 | 0 |
| SILICON | 11 | 100 | 83.8 | 2105.0 | | | 488.6286 | 351.6259 | 14 | 100.0 | 46.7 | 1450 | 225.4900 | 2.4330 | 2304.398 | 2.17 | 144.52 | 9 | 0 |
| SILVER | 12 | 25 | 0.9 | 1.7 | 0.7 | 4.7 | 0.9304 | 0.4986 | 30 | 3.3 | 0.6 U | 1.6 U | | | 1.6 U • | | | 8 | 8 |
| SODIUM | 12 | 100 | 41.1 | 696.0 | | | 170.9143 | 139.1372 | 18 | 83.3 | 28.8 | 264 U | 67.4380 | 1.9040 | 327.168 | 2.53 | 73.08 | 17 | 17 |
| STRONTIUM | 12 | 100 | 7.5 | 135.0 | | | 52.4250 | 33.0924 | 16 | 87.5 | 2.8 | 41.9 | 9.0050 | 2.2940 | 73.210 | 5.82 | 14.43 | 83 | 50 |
| THALLIUM | 12 | 17 | 0.4 | 1.0 | 0.3 | 1.9 | 0.3401 | 0.2112 | 6 | 16.7 | 0.2 U | 0.55 U | | | 0.55 U • | | | 8 | 8 |
| TIN | 12 | 33 | 7.2 | 13.9 | 3.0 | 127.0 | 5.8458 | 4.9879 | 28 | 46.4 | 3 U | 27.1 | | | 27.1 • | | | 0 | 0 |
| VANADIUM | 12 | 100 | 5.9 | 46.7 | | | 27.4875 | 14.1059 | 16 | 87.5 | 3.4 | 57.4 | 7.4650 | 2.8280 | 102.877 | 3.68 | 4.99 | 0 | 0 |
| ZINC | 12 | 100 | 10.6 | 291.0 | | | 79.9607 | 68.9966 | 39 | 97.4 | 6.5 U | 94 | 32.0700 | 2.1770 | 168.581 | 2.49 | 31.69 | 25 | 17 |

• No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-5b

## Statistical Summary Sediment - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 11 | 100 | 0.0066 | 0.0524 | | | 0.0270 | 0.0167 | 24 | 100 | -0.01 | 2.526 | 0.2410 | 0.5870 | 1.597 | 0.11 | 0.03 | 0 | 0 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 4 | 100 | 0.0443 | 0.1262 | | | 0.0878 | 0.0374 | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 12 | 100 | 0.0000 | 0.2532 | | | 0.1076 | 0.0703 | 22 | 100 | -0.0132 | 1.5 | 0.2520 | 0.3850 | 1.155 | 0.43 | 0.18 | 0 | 0 |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 7 | 100 | 2.4300 | 38.4000 | | | 14.5835 | 4.5141 | 31 | 100 | 2.918 | 68.3 | 22.2690 | 21.2560 | 69.203 | 0.65 | 0.21 | 0 | 0 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 7 | 100 | 8.8800 | 43.9200 | | | 29.9194 | 9.5379 | 29 | 100 | 19.46 | 54 | 33.4120 | 9.8780 | 55.464 | 0.90 | 0.97 | 0 | 0 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 1 | 100 | 0.0028 | 0.0028 | | | | | 4 | 100 | -0.00010 | .0007511 | | | 0.002 | | | 100 | 100 |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 12 | 100 | 0.0206 | 17.0600 | | | 1.3050 | 3.2178 | 30 | 96.7 | 0 | 8.933 | 0.7200 | 1.9110 | 4.963 | 1.81 | 1.68 | 8 | 8 |
| RADIUM-226 | 3 | 100 | 0.8500 | 1.1500 | | | | | 17 | 100 | 0.43 | 1.8 | 0.8640 | 0.3680 | 1.780 | 1.19 | -1000 | 0 | 0 |
| RADIUM-228 | 6 | 100 | 0.7400 | 2.2510 | | | 1.4410 | 0.5659 | 16 | 100 | 0.52 | 3.453 | 1.7270 | 0.7990 | 3.744 | 0.83 | 0.71 | 0 | 0 |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 12 | 100 | 0.0000 | 1.5400 | | | 0.1971 | 0.2766 | 29 | 100 | -0.6 | 1.1654 | 0.2170 | 0.3200 | 0.931 | 0.91 | 0.86 | 8 | 8 |
| STRONTIUM-90 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 7 | 100 | 17.6100 | 200.0000 | | | 100.1075 | 28.4762 | 28 | 92.9 | 16.68 | 380 | 167.4210 | 92.0760 | 374.202 | 0.60 | 0.31 | 0 | |
| URANIUM-233,-234 | 12 | 100 | 0.2300 | 2.3010 | | | 0.9753 | 0.6240 | 33 | 100 | 0.171 | 4.258 | 1.6090 | 1.1020 | 4.018 | 0.61 | 0.57 | 0 | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 12 | 100 | 0.0000 | 0.0596 | | | 0.0276 | 0.0106 | 34 | 100 | 0 | 0.191 | 0.0620 | 0.0510 | 0.174 | 0.45 | 0.21 | 0 | |
| URANIUM-238 | 12 | 100 | 0.2480 | 1.8440 | | | 0.9394 | 0.4463 | 29 | 100 | 0.142 | 3.82 | 1.4000 | 1.0380 | 3.717 | 0.67 | 0.43 | 0 | |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-5c

## Statistical Summary Sediment - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-TETRACHLOROETHANE | 0 | 0 | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 11 | 9 | 7.0 | 7.0 | 6.0 | 10.0 | 3.8036 | 0.6609 | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,1,2,2-TETRACHLOROETHANE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,1,2-TRICHLOROETHANE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,1-DICHLOROETHANE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,1-DICHLOROETHENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,1-DICHLOROPROPENE | 0 | 0 | | | | | | | | | | | |
| 1,2,3-TRICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2,3-TRICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2-DIBROMOETHANE | 0 | 0 | | | | | | | | | | | |
| 1,2-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,2-DICHLOROETHANE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,2-DICHLOROETHENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,2-DICHLOROPROPANE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| 1,2-DIMETHYLBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,3-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,3-DICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| 1,3-DIMETHYLBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,4-DICHLOROBENZENE | 0 | 0 | | | | | | | | | | | |
| 2-BUTANONE | 13 | 38 | 11.0 | 19.0 | 12.0 | 20.0 | 11.0536 | 4.3600 | 27 | 18.5 | 2 | 600 | 0 |
| 2-CHLOROETHYL VINYL ETHER | 0 | 0 | | | | | | | | | | | |
| 2-HEXANONE | 10 | 0 | | | 13.0 | 20.0 | | | 25 | 0.0 | 10 U | 20 U | 0 |
| 2-PROPENENITRILE | 0 | 0 | | | | | | | | | | | |
| 4-METHYL-2-PENTANONE | 11 | 0 | | | 12.0 | 20.0 | | | 21 | 0.0 | 10 U | 20 U | 0 |
| ACETONE | 13 | 77 | 24.0 | 270.0 | 8.5 | 31.0 | 73.6518 | 27.1599 | 23 | 60.9 | . | 2300 | 0 |
| BENZENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| BENZENE, 1,2,4-TRIMETHYL | 0 | 0 | | | | | | | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | 0 | 0 | | | | | | | | | | | |
| BROMOBENZENE | 0 | 0 | | | | | | | | | | | |
| BROMOCHLOROMETHANE | 0 | 0 | | | | | | | | | | | |
| BROMODICHLOROMETHANE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| BROMOFORM | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| BROMOMETHANE | 11 | 0 | | | 12.0 | 20.0 | | | 24 | 0.0 | 10 U | 20 U | 0 |
| CARBON DISULFIDE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| CARBON TETRACHLORIDE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| CHLOROBENZENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| CHLOROETHANE | 11 | 0 | | | 12.0 | 20.0 | | | 25 | 0.0 | 10 U | 20 U | 0 |
| CHLOROFORM | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 4.0 | 3 | 10 U | 0 |
| CHLOROMETHANE | 11 | 0 | | | 12.0 | 20.0 | | | 25 | 0.0 | 10 U | 20 U | 0 |
| CUMENE | 0 | 0 | | | | | | | | | | | |
| DIBROMOCHLOROMETHANE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-5c

## Statistical Summary Sediment - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIBROMOMETHANE | 0 | 0 | | | | | | | | | | | |
| DICHLORODIFLUOROMETHANE | 0 | 0 | | | | | | | | | | | |
| ETHYLBENZENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 4.0 | 1 | 10 U | 0 |
| HEXACHLOROBUTADIENE | 0 | 0 | | | | | | | | | | | |
| METHYLENE CHLORIDE | 13 | 77 | 5.0 | 79.0 | 4.5 | 7.0 | 23.8929 | 14.5901 | 20 | 55.0 | | 190 | 0 |
| NAPHTHALENE | 0 | 0 | | | | | | | | | | | |
| PROPANE, 1,2-DIBROMO-3-CHLORO- | 0 | 0 | | | | | | | | | | | |
| STYRENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 4.0 | 2 | 10 U | 0 |
| TETRACHLOROETHENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| TOLUENE | 13 | 15 | 5.0 | 8.0 | 6.0 | 88.0 | 4.0179 | 0.9801 | 25 | 4.0 | 5 U | 10 U | 0 |
| TOTAL XYLENES | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| TRICHLOROETHENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| TRICHLOROFLUOROMETHANE | 0 | 0 | | | | | | | | | | | |
| VINYL ACETATE | 11 | 0 | | | 12.0 | 20.0 | | | 21 | 0.0 | 10 U | 20 U | 0 |
| VINYL CHLORIDE | 11 | 0 | | | 12.0 | 20.0 | | | 25 | 0.0 | 10 U | 20 U | 0 |
| cis-1,2-DICHLOROETHENE | 0 | 0 | | | | | | | 25 | 0.0 | 5 U | 10 U | |
| cis-1,3-DICHLOROPROPENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |
| m-XYLENE | 0 | 0 | | | | | | | | | | | |
| n-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| n-PROPYLBENZENE | 0 | 0 | | | | | | | | | | | |
| o-CHLOROTOLUENE | 0 | 0 | | | | | | | | | | | |
| o-XYLENE | 0 | 0 | | | | | | | | | | | |
| p-CHLOROTOLUENE | 0 | 0 | | | | | | | | | | | |
| p-CYMENE | 0 | 0 | | | | | | | | | | | |
| p-XYLENE | 0 | 0 | | | | | | | | | | | |
| sec-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| sec-DICHLOROPROPANE | 0 | 0 | | | | | | | | | | | |
| tert-BUTYLBENZENE | 0 | 0 | | | | | | | | | | | |
| trans-1,2-DICHLOROETHENE | 0 | 0 | | | | | | | | | | | |
| trans-1,3-DICHLOROPROPENE | 11 | 0 | | | 6.0 | 10.0 | | | 25 | 0.0 | 5 U | 10 U | 0 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-5d

## Statistical Summary Sediment - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 1,2-DICHLOROBENZENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 1,3-DICHLOROBENZENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 1,4-DICHLOROBENZENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2,4,5-TRICHLOROPHENOL | 13 | 0 | | | 2100.0 | 5500.0 | | | 16 | 0.0 | 1700 U | 3300 U | 0 |
| 2,4,6-TRICHLOROPHENOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2,4-DICHLOROPHENOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2,4-DIMETHYLPHENOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2,4-DINITROPHENOL | 12 | 0 | | | 2100.0 | 5500.0 | | | 15 | 0.0 | 1900 U | 3300 U | 0 |
| 2,4-DINITROTOLUENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2,6-DINITROTOLUENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2-CHLORONAPHTHALENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2-CHLOROPHENOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2-METHYLNAPHTHALENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2-METHYLPHENOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 2-NITROANILINE | 13 | 0 | | | 2100.0 | 5500.0 | | | 16 | 0.0 | 1700 U | 3300 U | 0 |
| 2-NITROPHENOL | 13 | 0 | | | 270.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 3,3'-DICHLOROBENZIDINE | 13 | 0 | | | 820.0 | 2300.0 | | | 17 | 0.0 | 680 U | 1300 U | 0 |
| 3-NITROANILINE | 13 | 0 | | | 2100.0 | 5500.0 | | | 16 | 0.0 | 1700 U | 3300 U | 0 |
| 4,6-DINITRO-2-METHYLPHENOL | 12 | 0 | | | 2100.0 | 5500.0 | | | 15 | 0.0 | 1900 U | 3300 U | 0 |
| 4-BROMOPHENYL PHENYL ETHER | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 4-CHLORO-3-METHYLPHENOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 4-CHLOROANILINE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 4-CHLOROPHENYL PHENYL ETHER | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| 4-METHYLPHENOL | 13 | 15 | 510.0 | 720.0 | 285.0 | 1100.0 | 286.3095 | 67.8811 | 18 | 27.8 | 68 | 900 | 0 |
| 4-NITROANILINE | 11 | 0 | | | 2100.0 | 5500.0 | | | 16 | 0.0 | 1700 U | 3300 U | 0 |
| 4-NITROPHENOL | 13 | 0 | | | 2100.0 | 5500.0 | | | 16 | 0.0 | 1700 U | 3300 U | 0 |
| ACENAPHTHENE | 13 | 0 | | | 410.0 | 1100.0 | | | 17 | 11.8 | 75 | 660 U | 0 |
| ACENAPHTHYLENE | 13 | 0 | | | 410.0 | 1100.0 | | | 17 | 11.8 | 190 | 660 U | 0 |
| ANTHRACENE | 13 | 0 | | | 410.0 | 1100.0 | | | 18 | 22.2 | 75 | 700 | 0 |
| BENZENAMINE | 0 | 0 | | | | | | | | | | | |
| BENZIDINE | 0 | 0 | | | | | | | | | | | |
| BENZO(a)ANTHRACENE | 13 | 0 | | | 410.0 | 1100.0 | | | 18 | 44.4 | 37 | 1700 | 0 |
| BENZO(a)PYRENE | 13 | 0 | | | 410.0 | 1100.0 | | | 17 | 29.4 | 59 | 900 | 0 |
| BENZO(b)FLUORANTHENE | 13 | 8 | 190.0 | 190.0 | 410.0 | 1100.0 | 251.7857 | 32.6507 | 17 | 29.4 | 48 | 2400 | 0 |
| BENZO(ghi)PERYLENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 12.5 | 240 | 660 U | 0 |
| BENZO(k)FLUORANTHENE | 13 | 8 | 110.0 | 110.0 | 410.0 | 1100.0 | 246.0714 | 38.5372 | 17 | 23.5 | 64 | 780 | 0 |
| BENZOIC ACID | 12 | 0 | | | 2100.0 | 5500.0 | | | 20 | 20.0 | 270 | 3300 U | 0 |
| BENZYL ALCOHOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| BIS(2-CHLOROETHOXY)METHANE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| BIS(2-CHLOROETHYL)ETHER | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| BIS(2-CHLOROISOPROPYL)ETHER | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |

• No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-5d

## Statistical Summary Sediment - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BIS(2-ETHYLHEXYL)PHTHALATE | 13 | 85 | 76.0 | 1400.0 | 670.0 | 1100.0 | 381.1190 | 460.9303 | 22 | 77.3 | 54 | 1700 U | 0 |
| BUTYL BENZYL PHTHALATE | 13 | 8 | 75.0 | 75.0 | 410.0 | 1100.0 | 229.2857 | 75.5082 | 16 | 18.8 | 56 | 660 U | 0 |
| CHRYSENE | 13 | 15 | 63.0 | 190.0 | 410.0 | 1100.0 | 235.9286 | 57.9205 | 18 | 44.4 | 50 | 2000 | 0 |
| DI-n-BUTYL PHTHALATE | 13 | 46 | 47.0 | 130.0 | 500.0 | 870.0 | 140.9464 | 106.6445 | 20 | 35.0 | 73 | 1900 | 0 |
| DI-n-OCTYL PHTHALATE | 13 | 8 | 210.0 | 210.0 | 410.0 | 1100.0 | 250.0000 | 38.0515 | 15 | 0.0 | 370 U | 660 U | 0 |
| DIBENZO(a,h)ANTHRACENE | 13 | 0 | | | 410.0 | 1100.0 | | | 15 | 6.7 | 220 | 660 U | 0 |
| DIBENZOFURAN | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 6.2 | 180 | 660 U | 0 |
| DIETHYL PHTHALATE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| DIMETHYL PHTHALATE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| FLUORANTHENE | 13 | 31 | 70.0 | 380.0 | 410.0 | 1100.0 | 213.9286 | 74.2723 | 20 | 50.0 | 70 | 3100 | 0 |
| FLUORENE | 13 | 0 | | | 410.0 | 1100.0 | | | 17 | 11.8 | 340 U | 660 U | 0 |
| HEXACHLOROBENZENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 6.2 | 340 U | 660 U | 0 |
| HEXACHLOROBUTADIENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| HEXACHLOROCYCLOPENTADIENE | 12 | 0 | | | 410.0 | 1100.0 | | | 13 | 0.0 | 370 U | 660 U | 0 |
| HEXACHLOROETHANE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| INDENO(1,2,3-cd)PYRENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 12.5 | 220 | 660 U | 0 |
| ISOPHORONE | 13 | 0 | | | 270.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| N-NITROSO-DI-n-PROPYLAMINE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| N-NITROSODI-N-BUTYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIETHYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIMETHYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIPHENYLAMINE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| N-NITROSOPYRROLIDINE | 0 | 0 | | | | | | | | | | | |
| NAPHTHALENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| NITROBENZENE | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| PENTACHLOROPHENOL | 13 | 0 | | | 2100.0 | 5500.0 | | | 16 | 0.0 | 1700 U | 3300 U | 0 |
| PHENANTHRENE | 13 | 8 | 190.0 | 190.0 | 410.0 | 1100.0 | 251.7857 | 32.6507 | 18 | 38.9 | 59 | 3200 | 0 |
| PHENOL | 13 | 0 | | | 410.0 | 1100.0 | | | 16 | 0.0 | 340 U | 660 U | 0 |
| PYRENE | 13 | 31 | 61.0 | 310.0 | 410.0 | 1100.0 | 212.2381 | 69.7454 | 20 | 50.0 | 74 | 4700 | 0 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-5e

## Statistical Summary Sediment - Pesticide/PCBs

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 10 | 0 | | | 20.0 | 55.0 | | | 12 | 0.0 | 18 U | 32 U | 0 |
| 4,4'-DDE | 10 | 0 | | | 20.0 | 55.0 | | | 12 | 0.0 | 18 U | 32 U | 0 |
| 4,4'-DDT | 10 | 10 | 10.0 | 10.0 | 20.0 | 55.0 | 11.9286 | 1.7182 | 12 | 0.0 | 18 U | 32 U | 0 |
| ALDRIN | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| AROCLOR-1016 | 10 | 0 | | | 100.0 | 280.0 | | | 11 | 0.0 | 0.09 U | 160 U | 0 |
| AROCLOR-1221 | 10 | 0 | | | 100.0 | 280.0 | | | 11 | 0.0 | 0.09 U | 160 U | 0 |
| AROCLOR-1232 | 10 | 0 | | | 100.0 | 280.0 | | | 11 | 0.0 | 0.06 U | 160 U | 0 |
| AROCLOR-1242 | 10 | 0 | | | 100.0 | 280.0 | | | 11 | 0.0 | 0.03 U | 160 U | 0 |
| AROCLOR-1248 | 10 | 0 | | | 100.0 | 280.0 | | | 11 | 0.0 | 0.03 U | 160 U | 0 |
| AROCLOR-1254 | 10 | 20 | 84.0 | 86.0 | 200.0 | 550.0 | 118.5000 | 25.3163 | 14 | 28.6 | 0.16 | 320 U | 0 |
| AROCLOR-1260 | 10 | 0 | | | 200.0 | 550.0 | | | 11 | 0.0 | 0.03 U | 320 U | 0 |
| DIELDRIN | 10 | 0 | | | 20.0 | 55.0 | | | 12 | 0.0 | 18 U | 32 U | 0 |
| ENDOSULFAN I | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| ENDOSULFAN II | 10 | 0 | | | 20.0 | 55.0 | | | 12 | 0.0 | 18 U | 32 U | 0 |
| ENDOSULFAN SULFATE | 10 | 0 | | | 20.0 | 55.0 | | | 12 | 0.0 | 18 U | 32 U | 0 |
| ENDRIN | 10 | 0 | | | 20.0 | 55.0 | | | 12 | 0.0 | 18 U | 32 U | 0 |
| ENDRIN KETONE | 10 | 0 | | | 20.0 | 55.0 | | | 12 | 0.0 | 18 U | 32 U | 0 |
| HEPTACHLOR | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| HEPTACHLOR EPOXIDE | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| METHOXYCHLOR | 10 | 0 | | | 100.0 | 280.0 | | | 12 | 0.0 | 90 U | 160 U | 0 |
| TOXAPHENE | 10 | 0 | | | 200.0 | 550.0 | | | 12 | 0.0 | 180 U | 320 U | 0 |
| alpha-BHC | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| alpha-CHLORDANE | 10 | 0 | | | 100.0 | 280.0 | | | 12 | 0.0 | 90 U | 160 U | 0 |
| beta-BHC | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| delta-BHC | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| gamma-BHC (LINDANE) | 10 | 0 | | | 10.0 | 28.0 | | | 12 | 0.0 | 9 U | 16 U | 0 |
| gamma-CHLORDANE | 10 | 0 | | | 100.0 | 280.0 | | | 12 | 0.0 | 90 U | 160 U | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-5f

## Statistical Summary Sediment - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 5 | 100 | 58.8 | 77.5 | | | 68.3600 | 8.5494 | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 6 | 100 | 0.1 | 8800.0 | | | 2006.7717 | 3409.0117 | 18 | 94.4 | 0.33 | 25000 | 231.9000 | 14.8080 | 172383.318 | 8.65 | 230.21 | 0 | 0 |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 2 | 100 | 1720.0 | 5340.0 | | | 3530.0000 | 2559.7265 | | | | | | | | | | | |
| BICARBONATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CARBONATE | 2 | 100 | 0.0 | 0.0 | | | | | | | | | | | | | | | |
| CARBONATE AS CACO3 | 0 | 0 | | | | | | | | | | | | | | | | | |
| CHLORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S.SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 0 | 0 | | | | | | | 1 | 100.0 | 3 | 3 | | | 3 * | | | | |
| NITRATE/NITRITE | 10 | 60 | 0.9 | 8.0 | 1.1 | 1.6 | 1.5257 | 1.3884 | 31 | 61.3 | 0.7 | 76 | 7.3950 | 15.5630 | 41.757 | 0.21 | 0.09 | 0 | 0 |
| NITRITE | 1 | 0 | | | 0.3 | 0.3 | | | 3 | 66.7 | 0.2 U | 0.3 | | | 0.3 * | | | 0 | 0 |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| PHOSPHORUS | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICA, DISSOLVED | 0 | 0 | | | | | | | | | | | | | | | | | |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. DISS. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL ALKALINITY | 1 | 100 | 0.5 | 0.5 | | | 0.4500 | | 6 | 100.0 | 0.1 | 21000 | 4020.0450 | 8347.1890 | 34968.782 | 0.00 | | 0 | 0 |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 10 | 100 | 6.9 | 8.0 | | | 7.4750 | 0.2877 | 35 | 100.0 | 6.1 | 8.7 | 7.2800 | 1.0930 | 9.090 | 1.03 | 0.26 | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# *Groundwater*

# *Phase III*
# *RFI/RI Report*

# Table C2-6a(1)

## Statistical Summary Groundwater - RFA - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 10 | 100 | 56.9 | 12800.0 | | | 2211.0900 | 3046.9234 | 34 | 76.5 | 11 U | 12550 | 249.6630 | 8.1430 | 23957.775 | 8.86 | 374.18 | 10 | 0 |
| ANTIMONY | 10 | 40 | 41.4 | 60.0 | 8.0 | 19.8 | 27.6750 | 21.6060 | 31 | 19.4 | 7 U | 70 U | | | 70 U * | | | 0 | 0 |
| ARSENIC | 10 | 50 | 1.0 | 3.0 | 1.0 | 2.0 | 1.5100 | 0.9222 | 25 | 8.0 | 2 U | 3 | | | 3 * | | | 0 | 0 |
| BARIUM | 10 | 100 | 30.5 | 221.0 | | | 154.3000 | 75.9347 | 63 | 98.4 | 41.6 | 1810 | 134.3560 | 233.2330 | 603.523 | 1.15 | 0.33 | 0 | 0 |
| BERYLLIUM | 10 | 0 | | | 0.6 | 1.0 | | | 62 | 8.1 | 1 U | 160 | | | 160 * | | | 0 | 0 |
| CADMIUM | 10 | 20 | 2.5 | 4.1 | 1.0 | 2.3 | 1.6850 | 1.4071 | 61 | 24.6 | 1 U | 1720 | | | 1720 * | | | 0 | 0 |
| CALCIUM | 10 | 100 | 74000.0 | 139000.0 | | | 105890.000 | 24614.7415 | 23 | 100.0 | 15950 | 74500 | 33742.8580 | 1.5760 | 97261.404 | 3.14 | 15618 | 80 | 60 |
| CESIUM | 9 | 11 | 60.0 | 60.0 | 20.0 | 500.0 | 45.4000 | 50.1764 | 63 | 6.3 | 2 U | 1000 U | | | 1000 U * | | | 0 | 0 |
| CHROMIUM | 10 | 80 | 2.3 | 36.4 | 2.0 | 5.0 | 14.8700 | 11.7075 | 59 | 55.9 | 4 U | 1590 | 36.2010 | 206.1890 | 453.916 | 0.41 | 0.06 | 0 | 0 |
| COBALT | 10 | 50 | 4.7 | 6.9 | 2.0 | 4.0 | 3.3850 | 1.5596 | 62 | 22.6 | 2 U | 1620 | | | 1620 * | | | 0 | 0 |
| COPPER | 10 | 90 | 5.0 | 90.0 | 2.3 | 2.3 | 26.4750 | 28.8203 | 61 | 27.9 | 3 U | 1750 | | | 1750 * | | | 0 | 0 |
| IRON | 10 | 100 | 50.1 | 7740.0 | | | 2223.7100 | 2248.6308 | 33 | 78.8 | 9.8 U | 14800 | 301.5570 | 9.0070 | 36844.569 | 7.37 | 249.65 | 0 | 0 |
| LEAD | 10 | 90 | 1.7 | 9.5 | 1.0 | 1.0 | 3.8700 | 2.4593 | 27 | 59.3 | 1 U | 13.8 | 2.3690 | 3.0370 | 9.233 | 1.63 | 0.81 | 0 | 10 |
| LITHIUM | 10 | 100 | 5.5 | 91.9 | | | 30.4200 | 35.2467 | 23 | 95.7 | 1.2 | 50 U | 5.8190 | 2.1420 | 34.288 | 5.23 | 16.46 | 10 | 10 |
| MAGNESIUM | 10 | 100 | 18400.0 | 50600.0 | | | 34455.0000 | 12044.2206 | 23 | 100.0 | 2465 | 18400 | 4685.5560 | 1.4740 | 11567.976 | 7.35 | 8171.1 | 90 | 100 |
| MANGANESE | 10 | 100 | 59.8 | 592.0 | | | 252.8150 | 183.0296 | 34 | 91.2 | 1 U | 278 | 14.4890 | 6.7780 | 932.505 | 17.45 | 27.00 | 30 | 0 |
| MERCURY | 10 | 0 | | | 0.2 | 0.2 | | | 62 | 1.6 | 0.2 U | 0.27 | | | 0.27 * | | | 0 | 0 |
| MOLYBDENUM | 10 | 80 | 3.5 | 13.4 | 2.0 | 3.0 | 7.6600 | 2.9915 | 63 | 44.4 | 2 U | 1600 | | | 1600 * | | | 0 | 0 |
| NICKEL | 10 | 70 | 2.5 | 112.0 | 3.0 | 17.0 | 27.3000 | 40.8127 | 62 | 16.1 | 3 U | 1660 | | | 1660 * | | | 0 | 0 |
| POTASSIUM | 10 | 100 | 1160.0 | 9470.0 | | | 4838.0000 | 3075.1719 | 15 | 100.0 | 501 | 2780 | 933.0020 | 1.7380 | 3854.795 | 5.19 | 1769.4 | 60 | 20 |
| SELENIUM | 10 | 70 | 1.0 | 15.0 | 1.0 | 2.0 | 4.3300 | 5.9889 | 60 | 23.3 | 1 U | 80 | | | 80 * | | | 0 | 0 |
| SILICON | 4 | 100 | 7630.0 | 33200.0 | | | 16132.5000 | 11576.9408 | 13 | 100.0 | 1.3088 | 32600 | 11055.2540 | 8159.6420 | 32845.609 | 1.46 | 1.42 | 25 | 25 |
| SILVER | 10 | 10 | 3.3 | 3.3 | 2.0 | 2.1 | 1.4650 | 1.0259 | 60 | 15.0 | 2 U | 300 | | | 300 * | | | 0 | 0 |
| SODIUM | 10 | 100 | 23600.0 | 234000.0 | | | 133880.000 | 84148.8384 | 23 | 100.0 | 4340 | 10580 | 7348.8110 | 1.2550 | 12460.018 | 18.22 | 67051 | 100 | 100 |
| STRONTIUM | 10 | 100 | 507.0 | 1970.0 | | | 1040.7000 | 557.1835 | 23 | 100.0 | 58.1 | 270 | 128.7220 | 1.4160 | 289.374 | 8.08 | 393.49 | 100 | 100 |
| THALLIUM | 10 | 0 | | | 1.0 | 2.0 | | | 59 | 16.9 | 1 U | 3 | | | 3 * | | | 0 | 0 |
| TIN | 10 | 30 | 25.6 | 57.2 | 9.4 | 23.0 | 16.4950 | 11.0828 | 34 | 26.5 | 11.75 U | 100 U | | | 100 U * | | | 0 | 0 |
| VANADIUM | 10 | 90 | 2.9 | 34.7 | 3.5 | 3.5 | 9.4800 | 7.9287 | 17 | 76.5 | 2.5 | 29 | 8.3710 | 8.5880 | 29.721 * | 1.13 | 0.92 | 10 | 10 |
| ZINC | 10 | 100 | 8.3 | 117.0 | | | 55.2950 | 40.8116 | 34 | 44.1 | 4.2 U | 498 | | | 498 * | | | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6a(2)

## Statistical Summary Groundwater - VFA - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % • UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 9 | 100 | 220.0 | 6940.0 | | | 2799.9167 | 2586.3945 | 34 | 76.5 | 11 U | 12550 | 249.6630 | 8.1430 | 23957.775 | 11.21 | 317.62 | 0 | 0 |
| ANTIMONY | 9 | 33 | 6.3 | 47.4 | 8.0 | 50.0 | 13.7194 | 7.7596 | 31 | 19.4 | 7 U | 70 U | | | 70 U • | | | 0 | 0 |
| ARSENIC | 9 | 22 | 0.9 | 2.4 | 1.0 | 2.0 | 0.9097 | 0.3513 | 25 | 8.0 | 2 U | 3 | | | 3 * | | | 0 | 0 |
| BARIUM | 9 | 100 | 111.0 | 254.0 | | | 159.1250 | 50.1988 | 63 | 98.4 | 41.6 | 1810 | 134.3560 | 233.2330 | 603.523 | 1.18 | 0.22 | 0 | 0 |
| BERYLLIUM | 9 | 11 | 1.6 | 1.6 | 1.0 | 2.0 | 0.7250 | 0.2883 | 62 | 8.1 | 1 U | 160 | | | 160 • | | | 0 | 0 |
| CADMIUM | 9 | 33 | 1.6 | 1.9 | 1.0 | 3.0 | 1.3167 | 0.2754 | 61 | 24.6 | 1 U | 1720 | | | 1720 • | | | 0 | 0 |
| CALCIUM | 9 | 100 | 38700.0 | 147000.0 | | | 92684.7222 | 51242.2664 | 13 | 100.0 | 18900 | 116000 | 51606.4820 | 1.9670 | 314074.899 | 1.80 | 26051 | 22 | 0 |
| CESIUM | 8 | 25 | 50.0 | 70.0 | 23.0 | 500.0 | 51.7500 | 42.2811 | 63 | 6.3 | 2 U | 1000 U | | | 1000 U • | | | 0 | 0 |
| CHROMIUM | 9 | 67 | 2.9 | 66.4 | 5.0 | 5.0 | 15.6097 | 17.5085 | 59 | 55.9 | 4 U | 1590 | 36.2010 | 206.1890 | 453.916 | 0.43 | 0.08 | 0 | 0 |
| COBALT | 9 | 56 | 3.1 | 19.6 | 3.0 | 10.0 | 6.0528 | 5.6185 | 62 | 22.6 | 2 U | 1620 | | | 1620 • | | | 0 | 0 |
| COPPER | 9 | 89 | 6.1 | 18.7 | 10.0 | 10.0 | 9.4472 | 1.8479 | 61 | 27.9 | 3 U | 1750 | | | 1750 • | | | 0 | 0 |
| IRON | 9 | 100 | 393.0 | 6350.0 | | | 2871.2778 | 2100.4122 | 33 | 78.8 | 9.8 U | 14800 | 301.5570 | 9.0070 | 36844.569 | 9.52 | 233.20 | 0 | 0 |
| LEAD | 9 | 78 | 1.8 | 8.2 | 1.0 | 1.0 | 4.0361 | 2.7355 | 27 | 59.3 | 1 U | 13.8 | 2.3690 | 3.0370 | 9.233 | 1.70 | 0.90 | 0 | 0 |
| LITHIUM | 9 | 89 | 4.9 | 71.7 | 50.0 | 50.0 | 30.1847 | 31.0043 | 13 | 92.3 | 6.6 | 101 | 18.2430 | 2.0270 | 120.427 | 1.65 | 15.30 | 0 | 0 |
| MAGNESIUM | 9 | 100 | 8890.0 | 48300.0 | | | 26253.6111 | 19526.4233 | 13 | 100.0 | 4200 | 29400 | 11642.3230 | 1.8040 | 56291.142 | 2.26 | 10824 | 22 | 0 |
| MANGANESE | 9 | 100 | 71.5 | 1210.0 | | | 407.1722 | 182.8090 | 34 | 91.2 | 1 U | 278 | 14.4890 | 6.7780 | 932.505 | 28.10 | 26.97 | 67 | 22 |
| MERCURY | 9 | 0 | | | 0.2 | 0.2 | | | 62 | 1.6 | 0.2 U | 0.27 | | | 0.27 • | | | 0 | 0 |
| MOLYBDENUM | 9 | 56 | 3.5 | 18.3 | 2.0 | 10.0 | 6.2958 | 3.0061 | 63 | 44.4 | 2 U | 1600 | | | 1600 • | | | 0 | 0 |
| NICKEL | 9 | 89 | 3.6 | 19.5 | 8.5 | 8.5 | 9.6667 | 5.4282 | 62 | 16.1 | 3 U | 1660 | | | 1660 • | | | 0 | 0 |
| POTASSIUM | 9 | 89 | 1190.0 | 6170.0 | 2000.0 | 2000.0 | 2845.0000 | 1915.7048 | 12 | 83.3 | 289 U | 2000 U | 930.6970 | 2.1400 | 7464.326 | 3.06 | 895.19 | 33 | 0 |
| SELENIUM | 9 | 44 | 2.7 | 7.2 | 1.0 | 2.0 | 2.8806 | 1.9598 | 60 | 23.3 | 1 U | 80 | | | 80 • | | | 0 | 0 |
| SILICON | 4 | 100 | 6370.0 | 15800.0 | | | 11363.3333 | 4498.6257 | 13 | 100.0 | 1.3088 | 32600 | 11055.2540 | 8159.6420 | 32845.609 | 1.03 | 0.55 | 0 | 0 |
| SILVER | 9 | 22 | 2.5 | 3.7 | 1.0 | 5.0 | 1.5042 | 0.4597 | 60 | 15.0 | 2 U | 300 | | | 300 • | | | 0 | 0 |
| SODIUM | 9 | 100 | 108.0 | 183000.0 | | | 70258.2778 | 39670.5195 | 13 | 100.0 | 13485.75 | 74000 | 30906.5400 | 1.7400 | 135608.198 | 2.27 | 22799 | 44 | 11 |
| STRONTIUM | 8 | 100 | 237.5 | 1440.0 | | | 751.0000 | 602.8209 | 13 | 100.0 | 119.8 | 873 | 327.1060 | 1.9890 | 2051.452 | 2.30 | 303.08 | 25 | 0 |
| THALLIUM | 9 | 0 | | | 1.0 | 2.0 | | | 59 | 16.9 | 1 U | 3 | | | 3 * | | | 0 | 0 |
| TIN | 9 | 0 | | | 10.0 | 100.0 | | | 34 | 26.5 | 11.75 U | 100 U | | | 100 U • | | | 0 | 0 |
| VANADIUM | 9 | 100 | 3.6 | 14.9 | | | 8.8694 | 3.9612 | 6 | 83.3 | 5.7 | 8.4 | 6.2920 | 1.6270 | 12.323 | 1.41 | 2.43 | 44 | 11 |
| ZINC | 9 | 100 | 14.2 | 69.5 | | | 33.5097 | 1.7840 | 34 | 44.1 | 4.2 U | 498 | | | 498 • | | | 0 | 0 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-6a(3)

## Statistical Summary Groundwater - COL - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 34 | 100 | 87.6 | 205000.0 | | | 18042.7622 | 22257.6205 | 34 | 76.5 | 11 U | 12550 | 249.6630 | 8.1430 | 23957.775 | 72.27 | 2733.3 | 35 | 15 |
| ANTIMONY | 33 | 45 | 10.9 | 210.0 | 8.0 | 50.0 | 26.6411 | 16.4598 | 31 | 19.4 | 7 U | 70 U | | | 70 U * | | | 6 | 6 |
| ARSENIC | 34 | 76 | 1.0 | 11.4 | 1.0 | 2.0 | 3.4200 | 2.8971 | 25 | 8.0 | 2 U | 3 | | | 3 * | | | 26 | 26 |
| BARIUM | 34 | 100 | 52.1 | 1880.0 | | | 269.8578 | 211.2868 | 63 | 98.4 | 41.6 | 1810 | 134.3560 | 233.2330 | 603.523 | 2.01 | 0.91 | 3 | 6 |
| BERYLLIUM | 34 | 44 | 1.0 | 12.7 | 0.6 | 2.0 | 1.7161 | 1.7317 | 62 | 8.1 | 1 U | 160 | | | 160 * | | | 0 | 0 |
| CADMIUM | 33 | 55 | 1.2 | 6.8 | 1.0 | 3.0 | 2.1122 | 1.0687 | 61 | 24.6 | 1 U | 1720 | | | 1720 * | | | 0 | 0 |
| CALCIUM | 34 | 100 | 66100.0 | 269000.0 | | | 150043.333 | 47097.0687 | 6 | 100.0 | 59900 | 144000 | 87676.6390 | 1.4570 | 354200.012 | 1.71 | 32325 | 59 | 0 |
| CESIUM | 31 | 19 | 30.0 | 90.0 | 2.0 | 500.0 | 39.7262 | 42.0190 | 63 | 6.3 | 2 U | 1000 U | | | 1000 U * | | | 0 | 0 |
| CHROMIUM | 34 | 85 | 2.5 | 2360.0 | 2.0 | 5.0 | 236.4022 | 604.1210 | 59 | 55.9 | 4 U | 1590 | 36.2010 | 206.1890 | 453.916 | 6.53 | 2.93 | 3 | 6 |
| COBALT | 34 | 65 | 3.3 | 76.3 | 2.7 | 10.0 | 9.2967 | 7.9947 | 62 | 22.6 | 2 U | 1620 | | | 1620 * | | | 0 | 0 |
| COPPER | 33 | 94 | 2.4 | 2440.0 | 2.0 | 10.0 | 233.0311 | 626.5510 | 61 | 27.9 | 3 U | 1750 | | | 1750 * | | | 3 | 3 |
| IRON | 34 | 100 | 29.2 | 193000.0 | | | 17433.1100 | 18920.9793 | 33 | 78.8 | 9.8 U | 14800 | 301.5570 | 9.0070 | 36844.569 | 57.81 | 2100.7 | 26 | 6 |
| LEAD | 34 | 88 | 1.6 | 86.4 | 1.0 | 2.0 | 15.2489 | 18.7067 | 27 | 59.3 | 1 U | 13.8 | 2.3690 | 3.0370 | 9.233 | 6.44 | 6.16 | 24 | 35 |
| LITHIUM | 34 | 94 | 11.2 | 368.0 | 25.0 | 50.0 | 56.5456 | 81.1854 | 6 | 83.3 | 6.3 | 205 | 49.2350 | 4.7390 | 15762.425 | 1.15 | 17.13 | 12 | 0 |
| MAGNESIUM | 34 | 100 | 16200.0 | 80400.0 | | | 41807.2222 | 14848.4790 | 6 | 100.0 | 10800 | 33400 | 17001.9690 | 1.6750 | 115184.880 | 2.46 | 8864.8 | 68 | 0 |
| MANGANESE | 34 | 97 | 16.6 | 3660.0 | 25.5 | 25.5 | 417.3422 | 446.6382 | 34 | 91.2 | 1 U | 278 | 14.4890 | 6.7780 | 932.505 | 28.80 | 65.90 | 41 | 9 |
| MERCURY | 34 | 18 | 0.2 | 0.6 | 0.2 | 0.2 | 0.1480 | 0.0855 | 62 | 1.6 | 0.2 U | 0.27 | | | 0.27 * | | | 15 | 15 |
| MOLYBDENUM | 34 | 94 | 3.2 | 466.0 | 2.0 | 10.0 | 45.8333 | 118.4490 | 63 | 44.4 | 2 U | 1600 | | | 1600 * | | | 0 | 0 |
| NICKEL | 34 | 82 | 3.3 | 1410.0 | 2.0 | 21.5 | 192.7233 | 387.1703 | 62 | 16.1 | 3 U | 1660 | | | 1660 * | | | 0 | 0 |
| POTASSIUM | 34 | 97 | 753.0 | 23500.0 | 2000.0 | 2000.0 | 4034.7333 | 2522.9859 | 12 | 83.3 | 289 U | 2000 U | 930.6970 | 2.1400 | 7464.326 | 4.34 | 1179.0 | 74 | 6 |
| SELENIUM | 33 | 48 | 2.1 | 2200.0 | 1.0 | 20.0 | 210.2606 | 369.4039 | 60 | 23.3 | 1 U | 80 | | | 80 * | | | 36 | 36 |
| SILICON | 15 | 100 | 6940.0 | 132000.0 | | | 34054.0000 | 34969.4425 | 13 | 100.0 | 1.3088 | 32600 | 11055.2540 | 8159.6420 | 32845.609 | 3.08 | 4.29 | 33 | 33 |
| SILVER | 32 | 34 | 2.0 | 16.9 | 2.0 | 5.0 | 2.2363 | 2.1500 | 60 | 15.0 | 2 U | 300 | | | 300 * | | | 0 | 0 |
| SODIUM | 34 | 100 | 48100.0 | 237000.0 | | | 137624.444 | 50548.0574 | 6 | 100.0 | 23600 | 190000 | 63987.5630 | 2.6600 | 2406648.61 | 2.15 | 19003 | 3 | 0 |
| STRONTIUM | 30 | 100 | 644.0 | 2130.0 | | | 1233.6667 | 435.3949 | 6 | 100.0 | 330 | 1060 | 548.7240 | 1.7090 | 4001.538 | 2.25 | 254.77 | 60 | 0 |
| THALLIUM | 34 | 9 | 1.0 | 2.0 | 1.0 | 2.0 | 0.6994 | 0.2165 | 59 | 16.9 | 1 U | 3 | | | 3 * | | | 0 | 0 |
| TIN | 34 | 26 | 18.1 | 50.8 | 9.4 | 200.0 | 18.5050 | 12.2483 | 34 | 26.5 | 11.75 U | 100 U | | | 100 U * | | | 0 | 0 |
| VANADIUM | 34 | 100 | 4.5 | 403.0 | | | 48.9556 | 54.7343 | 17 | 76.5 | 2.5 | 29 | 8.3710 | 8.5880 | 29.721 * | 5.85 | 6.37 | 44 | 44 |
| ZINC | 34 | 97 | 11.5 | 2730.0 | 2.5 | 2.5 | 321.5683 | 685.9950 | 34 | 44.1 | 4.2 U | 498 | | | 498 * | | | 12 | 12 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6a(4)

## Statistical Summary Groundwater - WCS - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 15 | 100 | 303.0 | 41200.0 | | | 12598.0167 | 11671.4847 | 34 | 76.5 | 11 U | 12550 | 249.6630 | 8.1430 | 23957.775 | 50.46 | 1433.3 | 47 | 20 |
| ANTIMONY | 13 | 54 | 20.8 | 87.5 | 8.0 | 19.8 | 30.6167 | 14.9103 | 31 | 19.4 | 7 U | 70 U | | | 70 U * | | | 8 | 8 |
| ARSENIC | 15 | 60 | 2.0 | 6.6 | 1.0 | 2.0 | 2.9100 | 1.9130 | 25 | 8.0 | 2 U | 3 | | | 3 * | | | 47 | 47 |
| BARIUM | 15 | 100 | 62.1 | 511.0 | | | 195.1467 | 137.8579 | 63 | 98.4 | 41.6 | 1810 | 134.3560 | 233.2330 | 603.523 | 1.45 | 0.59 | 0 | 0 |
| BERYLLIUM | 15 | 33 | 1.1 | 3.0 | 0.6 | 1.0 | 0.9967 | 0.7371 | 62 | 8.1 | 1 U | 160 | | | 160 * | | | 0 | 0 |
| CADMIUM | 14 | 79 | 1.3 | 3.7 | 1.0 | 2.3 | 2.3842 | 0.8354 | 61 | 24.6 | 1 U | 1720 | | | 1720 * | | | 0 | 0 |
| CALCIUM | 15 | 100 | 40200.0 | 312000.0 | | | 154420.000 | 77532.3502 | 8 | 100.0 | 34000 | 68600 | 48006.5270 | 1.3240 | 117426.734 | 3.22 | 58559 | 73 | 67 |
| CESIUM | 13 | 23 | 30.0 | 50.0 | 30.0 | 500.0 | 36.3000 | 23.1742 | 63 | 6.3 | 2 U | 1000 U | | | 1000 U * | | | 0 | 0 |
| CHROMIUM | 15 | 100 | 11.6 | 109.0 | | | 41.4450 | 29.9343 | 59 | 55.9 | 4 U | 1590 | 36.2010 | 206.1890 | 453.916 | 1.14 | 0.15 | 0 | 0 |
| COBALT | 15 | 73 | 3.1 | 26.4 | 2.7 | 3.0 | 7.6825 | 5.0961 | 62 | 22.6 | 2 U | 1620 | | | 1620 * | | | 0 | 0 |
| COPPER | 15 | 100 | 3.9 | 91.7 | | | 28.3183 | 15.5268 | 61 | 27.9 | 3 U | 1750 | | | 1750 * | | | 0 | 0 |
| IRON | 15 | 100 | 545.0 | 56500.0 | | | 14931.8833 | 14176.3180 | 33 | 78.8 | 9.8 U | 14800 | 301.5570 | 9.0070 | 36844.569 | 49.52 | 1573.9 | 47 | 13 |
| LEAD | 15 | 87 | 1.0 | 59.1 | 1.0 | 1.0 | 15.8633 | 13.9480 | 27 | 59.3 | 1 U | 13.8 | 2.3690 | 3.0370 | 9.233 | 6.70 | 4.59 | 47 | 53 |
| LITHIUM | 15 | 100 | 41.3 | 485.0 | | | 183.9217 | 126.6087 | 8 | 100.0 | 9.9 | 38.9 | 17.2520 | 1.6610 | 86.885 | 10.66 | 76.22 | 100 | 60 |
| MAGNESIUM | 15 | 100 | 12800.0 | 94400.0 | | | 43605.0000 | 21329.8073 | 8 | 100.0 | 5710 | 15900 | 9794.5770 | 1.4520 | 32173.857 | 4.45 | 14690 | 80 | 67 |
| MANGANESE | 15 | 100 | 9.0 | 1480.0 | | | 329.6417 | 495.4618 | 34 | 91.2 | 1 U | 278 | 14.4890 | 6.7780 | 932.505 | 22.75 | 73.10 | 27 | 13 |
| MERCURY | 15 | 0 | | | 0.2 | 0.2 | | | 62 | 1.6 | 0.2 U | 0.27 | | | 0.27 * | | | 0 | 0 |
| MOLYBDENUM | 15 | 93 | 4.7 | 41.5 | 3.0 | 3.0 | 14.7117 | 9.6926 | 63 | 44.4 | 2 U | 1600 | | | 1600 * | | | 0 | 0 |
| NICKEL | 15 | 93 | 4.6 | 72.9 | 17.0 | 17.0 | 27.8400 | 13.6704 | 62 | 16.1 | 3 U | 1660 | | | 1660 * | | | 0 | 0 |
| POTASSIUM | 15 | 100 | 2020.0 | 17800.0 | | | 9278.3333 | 5992.8659 | 12 | 83.3 | 289 U | 2000 U | 930.6970 | 2.1400 | 7464.326 | 9.97 | 2800.4 | 100 | 60 |
| SELENIUM | 15 | 100 | 54.0 | 1240.0 | | | 400.0400 | 464.5093 | 60 | 23.3 | 1 U | 80 | | | 80 * | | | 53 | 53 |
| SILICON | 4 | 100 | 11000.0 | 61700.0 | | | 41550.0000 | 21593.5947 | 13 | 100.0 | 1.3088 | 32600 | 11055.2540 | 8159.6420 | 32845.609 | 3.76 | 2.65 | 75 | 75 |
| SILVER | 14 | 43 | 2.0 | 4.4 | 2.0 | 2.1 | 1.9292 | 0.5569 | 60 | 15.0 | 2 U | 300 | | | 300 * | | | 0 | 0 |
| SODIUM | 15 | 100 | 48900.0 | 239000.0 | | | 132961.667 | 58375.3514 | 8 | 100.0 | 14800 | 43500 | 25955.5070 | 1.4960 | 93698.884 | 5.12 | 39021 | 100 | 67 |
| STRONTIUM | 15 | 100 | 463.0 | 3720.0 | | | 1654.1500 | 843.5197 | 8 | 100.0 | 216 | 570 | 329.0740 | 1.4860 | 1162.795 | 5.03 | 567.64 | 87 | 67 |
| THALLIUM | 15 | 7 | 1.0 | 1.0 | 1.0 | 2.0 | 0.7283 | 0.0691 | 59 | 16.9 | 1 U | 3 | | | 3 * | | | 0 | 0 |
| TIN | 15 | 33 | 20.9 | 34.9 | 9.4 | 23.0 | 15.0433 | 4.0352 | 34 | 26.5 | 11.75 U | 100 U | | | 100 U * | | | 0 | 0 |
| VANADIUM | 15 | 100 | 8.1 | 127.0 | | | 43.2550 | 32.3782 | 4 | 50.0 | 2.3 | 5.9 U | | | 5.9 U * | | | 100 | 100 |
| ZINC | 15 | 100 | 15.3 | 303.0 | | | 103.8567 | 67.2648 | 34 | 44.1 | 4.2 U | 498 | | | 498 * | | | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6a(5)

## Statistical Summary Groundwater - KAR - Total Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 13 | 100 | 53.3 | 25400.0 | | | 4428.6188 | 4608.3472 | 34 | 76.5 | 11 U | 12550 | 249.6630 | 8.1430 | 23957.775 | 17.74 | 565.93 | 23 | 8 |
| ANTIMONY | 12 | 75 | 9.3 | 108.0 | 8.0 | 18.0 | 40.2250 | 27.2503 | 31 | 19.4 | 7 U | 70 U | | | 70 U * | | | 17 | 17 |
| ARSENIC | 13 | 69 | 2.0 | 9.3 | 2.0 | 2.0 | 3.7763 | 3.0900 | 25 | 8.0 | 2 U | 3 | | | 3 * | | | 46 | 46 |
| BARIUM | 13 | 100 | 32.7 | 294.0 | | | 85.2088 | 37.3509 | 63 | 98.4 | 41.6 | 1810 | 134.3560 | 233.2330 | 603.523 | 0.63 | 0.16 | 0 | 0 |
| BERYLLIUM | 12 | 33 | 1.3 | 4.3 | 1.0 | 2.0 | 1.5938 | 0.7584 | 62 | 8.1 | 1 U | 160 | | | 160 * | | | 0 | 0 |
| CADMIUM | 13 | 62 | 1.3 | 7.6 | 1.0 | 10.0 | 2.3875 | 1.6378 | 61 | 24.6 | 1 U | 1720 | | | 1720 * | | | 0 | 0 |
| CALCIUM | 13 | 100 | 25700.0 | 316000.0 | | | 129250.000 | 125097.469 | 13 | 100.0 | 10800 | 91900 | 26289.0050 | 1.9390 | 154031.314 | 4.92 | 64516 | 54 | 38 |
| CESIUM | 13 | 31 | 60.0 | 80.0 | 2.0 | 51.0 | 35.5938 | 9.2879 | 63 | 6.3 | 2 U | 1000 U | | | 1000 U * | | | 0 | 0 |
| CHROMIUM | 13 | 92 | 6.8 | 218.0 | 5.0 | 5.0 | 85.1488 | 60.6128 | 59 | 55.9 | 4 U | 1590 | 36.2010 | 206.1890 | 453.916 | 2.35 | 0.29 | 0 | 0 |
| COBALT | 13 | 62 | 4.2 | 26.1 | 2.0 | 10.0 | 6.0813 | 4.1093 | 62 | 22.6 | 2 U | 1620 | | | 1620 * | | | 0 | 0 |
| COPPER | 13 | 100 | 2.3 | 72.2 | | | 25.8488 | 14.9518 | 61 | 27.9 | 3 U | 1750 | | | 1750 * | | | 0 | 0 |
| IRON | 13 | 100 | 18.5 | 35200.0 | | | 7124.8625 | 5440.3203 | 33 | 78.8 | 9.8 U | 14800 | 301.5570 | 9.0070 | 36844.569 | 23.63 | 604.01 | 15 | 0 |
| LEAD | 13 | 77 | 2.4 | 65.3 | 1.0 | 2.0 | 10.3275 | 8.1440 | 27 | 59.3 | 1 U | 13.8 | 2.3690 | 3.0370 | 9.233 | 4.36 | 2.68 | 23 | 46 |
| LITHIUM | 13 | 100 | 36.8 | 507.0 | | | 165.5125 | 202.1611 | 13 | 84.6 | 6.7 | 99.5 | 27.8810 | 2.3460 | 271.802 | 5.94 | 86.17 | 54 | 38 |
| MAGNESIUM | 13 | 100 | 7340.0 | 94600.0 | | | 38177.5000 | 37209.4167 | 13 | 100.0 | 1950 | 19100 | 4900.9930 | 1.8890 | 26784.488 | 7.79 | 19698 | 54 | 54 |
| MANGANESE | 13 | 100 | 11.9 | 701.0 | | | 169.0225 | 115.1445 | 34 | 91.2 | 1 U | 278 | 14.4890 | 6.7780 | 932.505 | 11.67 | 16.99 | 23 | 0 |
| MERCURY | 13 | 0 | | | 0.2 | 0.2 | | | 62 | 1.6 | 0.2 U | 0.27 | | | 0.27 * | | | 0 | 0 |
| MOLYBDENUM | 13 | 92 | 5.0 | 29.7 | 10.0 | 10.0 | 15.4325 | 7.6076 | 63 | 44.4 | 2 U | 1600 | | | 1600 * | | | 0 | 0 |
| NICKEL | 13 | 85 | 6.4 | 213.0 | 3.0 | 17.0 | 61.7813 | 35.0629 | 62 | 16.1 | 3 U | 1660 | | | 1660 * | | | 0 | 0 |
| POTASSIUM | 13 | 100 | 3800.0 | 13900.0 | | | 7880.0000 | 3619.7813 | 7 | 100.0 | 578 | 4160 | 1788.8860 | 2.5840 | 45111.676 | 4.40 | 1400.8 | 92 | 0 |
| SELENIUM | 13 | 38 | 130.0 | 233.0 | 1.0 | 2.0 | 43.3063 | 84.8627 | 60 | 23.3 | 1 U | 80 | | | 80 * | | | 38 | 38 |
| SILICON | 4 | 100 | 5260.0 | 54400.0 | | | 18222.5000 | 18310.5301 | 13 | 100.0 | 1.3088 | 32600 | 11055.2540 | 8159.6420 | 32845.609 | 1.65 | 2.24 | 25 | 25 |
| SILVER | 13 | 46 | 2.2 | 32.5 | 2.0 | 2.0 | 3.1275 | 3.2455 | 60 | 15.0 | 2 U | 300 | | | 300 * | | | 0 | 0 |
| SODIUM | 13 | 100 | 79300.0 | 213000.0 | | | 143293.750 | 56387.6773 | 13 | 100.0 | 11500 | 425000 | 81572.9690 | 3.1530 | 1751482.49 | 1.76 | 17884 | 0 | 0 |
| STRONTIUM | 13 | 100 | 365.0 | 3550.0 | | | 1628.8750 | 1453.9403 | 13 | 100.0 | 121 | 1110 | 288.3790 | 2.0030 | 1842.292 | 5.65 | 725.88 | 54 | 54 |
| THALLIUM | 13 | 0 | | | 1.0 | 2.0 | | | 59 | 16.9 | 1 U | 3 | | | 3 * | | | 0 | 0 |
| TIN | 13 | 38 | 18.0 | 61.0 | 10.0 | 200.0 | 18.8213 | 13.9168 | 34 | 26.5 | 11.75 U | 100 U | | | 100 U * | | | 0 | 0 |
| VANADIUM | 13 | 100 | 3.4 | 96.4 | | | 19.5275 | 20.6560 | 7 | 42.9 | 2 U | 6.3 | | | 6.3 * | | | 69 | 69 |
| ZINC | 13 | 92 | 10.6 | 272.0 | 12.0 | 12.0 | 60.8775 | 34.5234 | 34 | 44.1 | 4.2 U | 498 | | | 498 * | | | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CROL, the data point is not used.

# Table C2-6b(1)

## Statistical Summary Groundwater - RFA - Filtered Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 17 | 88 | 29.9 | 66.2 | 200.0 | 200.0 | 47.0487 | 11.9519 | 173 | 79.2 | 5 U | 8610 | 36.6300 | 2.7090 | 229.710 | 1.28 | 4.41 | 0 | 0 |
| ANTIMONY | 17 | 47 | 14.0 | 58.9 | 8.0 | 60.0 | 24.1553 | 17.9747 | 61 | 63.9 | 7.6 | 60 U | 13.9320 | 1.9060 | 51.248 | 1.73 | 9.43 | 0 | 12 |
| ARSENIC | 17 | 0 | | | 0.8 | 10.0 | | | 37 | 0.0 | 0.9 U | 10 U | | | 10 U * | | | 0 | 0 |
| BARIUM | 17 | 88 | 67.5 | 281.0 | 200.0 | 200.0 | 143.7067 | 61.2267 | 47 | 95.7 | 31.1 | 200 U | 65.3760 | 1.4970 | 151.368 | 2.20 | 40.90 | 12 | 18 |
| BERYLLIUM | 17 | 0 | | | 0.6 | 5.0 | | | 83 | 6.0 | 0.3 U | 5 U | | | 5 U * | | | 0 | 0 |
| CADMIUM | 17 | 24 | 2.0 | 3.1 | 1.0 | 5.0 | 1.5057 | 0.9725 | 118 | 25.4 | 1 U | 8.6 | | | 8.6 * | | | 0 | 0 |
| CALCIUM | 17 | 100 | 67900.0 | 150000.0 | | | 92046.6667 | 20151.4075 | 47 | 100.0 | 1700 | 76500 | 30742.5760 | 1.9670 | 125662.019 | 2.99 | 10245 | 88 | 6 |
| CESIUM | 16 | 6 | 40.0 | 40.0 | 20.0 | 2500.0 | 52.8042 | 48.8305 | 40 | 27.5 | 2 U | 2500 U | | | 2500 U * | | | 0 | 0 |
| CHROMIUM | 17 | 29 | 10.9 | 17.2 | 2.0 | 10.0 | 5.5407 | 5.5949 | 185 | 34.1 | 1 U | 23.2 | | | 23.2 * | | | 0 | 0 |
| COBALT | 17 | 24 | 4.2 | 13.4 | 2.7 | 50.0 | 4.1683 | 2.4363 | 98 | 20.4 | 2 | 50 U | | | 50 U * | | | 0 | 0 |
| COPPER | 17 | 65 | 2.2 | 37.1 | 2.3 | 25.0 | 9.5230 | 10.1432 | 186 | 34.9 | 1 U | 175 | | | 175 * | | | 0 | 0 |
| IRON | 17 | 76 | 10.1 | 1060.0 | 4.0 | 100.0 | 201.2753 | 403.4800 | 180 | 71.1 | 3 U | 8790 | 26.7980 | 3.4890 | 265.914 | 7.51 | 115.64 | 0 | 18 |
| LEAD | 17 | 6 | 1.5 | 1.5 | 0.7 | 3.0 | 0.5400 | 0.1475 | 188 | 22.3 | 0.4 U | 64 | | | 64 * | | | 0 | 0 |
| LITHIUM | 17 | 76 | 5.5 | 27.4 | 20.0 | 100.0 | 17.2420 | 8.1757 | 59 | 64.4 | 1 U | 20 U | 3.6620 | 1.8310 | 12.478 | 4.71 | 4.47 | 12 | 35 |
| MAGNESIUM | 17 | 100 | 17000.0 | 52200.0 | | | 29368.0000 | 14089.1047 | 46 | 95.7 | 28.5 U | 6860 | 3526.8540 | 2.3750 | 21444.922 | 8.33 | 5932.3 | 100 | 76 |
| MANGANESE | 17 | 100 | 2.3 | 1190.0 | | | 257.0920 | 307.5174 | 47 | 68.1 | 1 U | 129 | 2.6700 | 3.8300 | 43.659 | 96.29 | 80.29 | 35 | 59 |
| MERCURY | 17 | 12 | 0.2 | 0.4 | 0.1 | 0.2 | 0.1147 | 0.0304 | 82 | 7.3 | 0.1 U | 1.2 | | | 1.2 * | | | 0 | 0 |
| MOLYBDENUM | 17 | 65 | 2.7 | 19.2 | 2.0 | 100.0 | 13.1647 | 5.4375 | 95 | 35.8 | 2 U | 100 U | | | 100 U * | | | 0 | 0 |
| NICKEL | 17 | 47 | 4.6 | 229.0 | 2.0 | 40.0 | 29.0553 | 51.7368 | 46 | 41.3 | 3 | 35.8 | | | 35.8 * | | | 12 | 12 |
| POTASSIUM | 17 | 88 | 737.0 | 9440.0 | 5000.0 | 5000.0 | 4142.5000 | 3141.8565 | 39 | 94.9 | 320 U | 1960 | 604.4000 | 1.4180 | 1272.334 | 6.85 | 2215.7 | 41 | 53 |
| SELENIUM | 17 | 41 | 1.3 | 17.0 | 1.0 | 5.0 | 4.7870 | 6.8797 | 48 | 12.5 | 0.975 | 607 | | | 607 * | | | 0 | 0 |
| SILICON | 6 | 100 | 5130.0 | 9070.0 | | | 7183.3333 | 1749.1395 | 12 | 91.7 | 2 U | 14500 | 8575.4850 | 4005.0110 | 19534.566 | 0.84 | 0.44 | 0 | 0 |
| SILVER | 17 | 24 | 2.2 | 6.5 | 2.0 | 10.0 | 1.8290 | 1.1492 | 172 | 34.3 | 2 U | 20 U | | | 20 U * | | | 0 | 0 |
| SODIUM | 17 | 100 | 24800.0 | 204000.0 | | | 99350.0000 | 63771.0749 | 69 | 98.6 | 10 U | 11689 | 6652.4160 | 2.4810 | 40691.169 | 14.93 | 25704 | 100 | 88 |
| STRONTIUM | 17 | 100 | 522.0 | 1140.0 | | | 747.8200 | 240.6074 | 45 | 97.8 | 51.05 | 7930 | 127.0280 | 2.0690 | 581.734 | 5.89 | 116.29 | 0 | 76 |
| THALLIUM | 17 | 6 | 1.0 | 1.0 | 1.0 | 10.0 | 0.8800 | 0.5020 | 83 | 10.8 | 0.6 U | 328 | | | 328 * | | | 0 | 0 |
| TIN | 17 | 35 | 19.2 | 55.7 | 9.4 | 100.0 | 15.1353 | 10.2661 | 100 | 56.0 | 10 U | 151 | 14.4790 | 2.0500 | 57.891 | 1.05 | 5.81 | 0 | 0 |
| VANADIUM | 17 | 76 | 2.9 | 12.3 | 2.0 | 50.0 | 6.4750 | 3.1981 | 186 | 50.5 | 1 U | 57.4 | 3.1100 | 2.4400 | 15.944 | 2.08 | 1.31 | 0 | 0 |
| ZINC | 17 | 100 | 5.0 | 126.0 | | | 30.5760 | 35.1015 | 197 | 67.5 | 1.1 U | 137 | 7.9010 | 2.7550 | 50.223 | 3.87 | 12.74 | 0 | 29 |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6b(2)

## Statistical Summary Groundwater - VFA - Filtered Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 15 | 80 | 12.5 | 75.0 | 11.1 | 200.0 | 44.4453 | 15.5081 | 173 | 79.2 | 5 U | 8610 | 36.6300 | 2.7090 | 229.710 | 1.21 | 5.72 | 0 | 0 |
| ANTIMONY | 15 | 40 | 8.1 | 49.0 | 7.0 | 60.0 | 13.4844 | 4.2120 | 61 | 63.9 | 7.6 | 60 U | 13.9320 | 1.9060 | 51.248 | 0.97 | 2.21 | 0 | 0 |
| ARSENIC | 15 | 7 | 1.5 | 1.5 | 1.0 | 10.0 | 0.8989 | 0.3327 | 17 | 0.0 | 0.9 U | 10 U | | | 10 U • | | | 0 | 0 |
| BARIUM | 15 | 93 | 83.3 | 164.0 | 200.0 | 200.0 | 120.9483 | 23.9030 | 22 | 90.9 | 69.4 | 203 | 121.9900 | 1.2710 | 214.185 | 0.99 | 18.81 | 0 | 0 |
| BERYLLIUM | 15 | 0 | | | 1.0 | 5.0 | | | 83 | 6.0 | 0.3 U | 5 U | | | 5 U * | | | 0 | 0 |
| CADMIUM | 15 | 20 | 1.5 | 1.6 | 1.0 | 5.0 | 1.1039 | 0.3183 | 118 | 25.4 | 1 U | 8.6 | | | 8.6 • | | | 0 | 0 |
| CALCIUM | 15 | 100 | 33100.0 | 152000.0 | | | 92507.2222 | 53823.3081 | 22 | 100.0 | 62000 | 149000 | 90805.8610 | 1.2620 | 156794.709 | 1.02 | 42649 | 7 | 0 |
| CESIUM | 15 | 20 | 40.0 | 200.0 | 23.0 | 2500.0 | 60.2593 | 60.3851 | 40 | 27.5 | 2 U | 2500 U | | | 2500 U • | | | 0 | 0 |
| CHROMIUM | 15 | 20 | 6.4 | 12.9 | 1.5 | 10.0 | 3.4667 | 1.5940 | 185 | 34.1 | 1 U | 23.2 | | | 23.2 • | | | 0 | 0 |
| COBALT | 15 | 27 | 6.0 | 16.6 | 1.5 | 50.0 | 5.6661 | 4.5340 | 98 | 20.4 | 2 | 50 U | | | 50 U • | | | 0 | 0 |
| COPPER | 15 | 27 | 2.2 | 5.4 | 1.0 | 25.0 | 2.6228 | 1.2327 | 186 | 34.9 | 1 U | 175 | | | 175 • | | | 0 | 0 |
| IRON | 15 | 87 | 8.6 | 1250.0 | 2.0 | 100.0 | 238.7917 | 302.9414 | 180 | 71.1 | 3 U | 8790 | 26.7980 | 3.4890 | 265.914 | 8.91 | 86.83 | 0 | 40 |
| LEAD | 15 | 13 | 2.6 | 4.4 | 1.0 | 3.0 | 0.7333 | 0.4041 | 188 | 22.3 | 0.4 U | 64 | | | 64 * | | | 0 | 0 |
| LITHIUM | 15 | 80 | 3.0 | 70.7 | 2.0 | 100.0 | 29.0900 | 28.2371 | 40 | 80.0 | 2 U | 281 | 16.0880 | 2.8230 | 145.992 | 1.81 | 10.00 | 0 | 0 |
| MAGNESIUM | 15 | 100 | 7700.0 | 50200.0 | | | 26317.2778 | 20366.5928 | 21 | 100.0 | 11200 | 223000 | 19532.7400 | 1.8590 | 84998.896 | 1.35 | 10956 | 0 | 0 |
| MANGANESE | 15 | 87 | 55.2 | 1130.0 | 2.0 | 15.0 | 298.7083 | 173.5040 | 22 | 68.2 | 1 U | 396 | 2791.6290 | 12.5660 | 2791.629 | 0.11 | 13.81 | 33 | 0 |
| MERCURY | 15 | 0 | | | 0.2 | 0.2 | | | 82 | 7.3 | 0.1 U | 1.2 | | | 1.2 • | | | 0 | 0 |
| MOLYBDENUM | 15 | 53 | 3.1 | 18.1 | 2.0 | 100.0 | 7.3639 | 3.2623 | 95 | 35.8 | 2 U | 100 U | | | 100 U • | | | 0 | 0 |
| NICKEL | 15 | 53 | 3.1 | 17.8 | 2.0 | 40.0 | 7.6361 | 6.8279 | 26 | 53.8 | 2.3 | 40 U | 7.0480 | 5.9940 | 20.686 | 1.08 | 1.14 | 0 | 0 |
| POTASSIUM | 15 | 87 | 779.0 | 4270.0 | 2000.0 | 5000.0 | 2289.8000 | 1163.2412 | 20 | 90.0 | 225 | 5000 U | 938.6490 | 2.0650 | 5331.389 | 2.44 | 563.31 | 0 | 0 |
| SELENIUM | 15 | 33 | 2.9 | 7.6 | 1.0 | 5.0 | 3.7533 | 2.6979 | 35 | 42.9 | 1 | 56 | | | 56 • | | | 0 | 0 |
| SILICON | 5 | 100 | 6310.0 | 8010.0 | | | 7031.6667 | 703.2840 | 28 | 100.0 | 4.7678 | 13800 | 6605.4480 | 2549.9780 | 12332.136 | 1.06 | 0.28 | 0 | 0 |
| SILVER | 14 | 14 | 3.5 | 6.3 | 2.0 | 10.0 | 1.8500 | 0.7365 | 172 | 34.3 | 2 U | 20 U | | | 20 U • | | | 0 | 0 |
| SODIUM | 15 | 100 | 15900.0 | 182000.0 | | | 99299.4444 | 78853.8955 | 43 | 100.0 | 14800 | 923000 | 34634.3990 | 1.9960 | 148389.299 | 2.87 | 39506 | 0 | 13 |
| STRONTIUM | 15 | 100 | 199.0 | 1480.0 | | | 750.5722 | 629.8906 | 21 | 100.0 | 351 | 8730 | 601.6400 | 1.9480 | 2925.851 | 1.25 | 323.35 | 0 | 0 |
| THALLIUM | 15 | 0 | | | 1.0 | 10.0 | | | 83 | 10.8 | 0.6 U | 328 | | | 328 • | | | 0 | 0 |
| TIN | 15 | 33 | 13.1 | 31.2 | 10.0 | 100.0 | 14.0878 | 7.5991 | 100 | 56.0 | 10 U | 151 | 14.4790 | 2.0500 | 57.891 | 0.97 | 3.71 | 0 | 0 |
| VANADIUM | 14 | 79 | 2.1 | 8.8 | 2.0 | 50.0 | 6.3722 | 1.3231 | 186 | 50.5 | 1 U | 57.4 | 3.1100 | 2.4400 | 15.944 | 2.05 | 0.54 | 0 | 0 |
| ZINC | 15 | 87 | 2.0 | 36.1 | 4.5 | 20.0 | 9.4211 | 4.7644 | 197 | 67.5 | 1.1 U | 137 | 7.9010 | 2.7550 | 50.223 | 1.19 | 1.73 | 0 | 0 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-6b(3)

## Statistical Summary Groundwater - COL - Filtered Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 67 | 85 | 11.0 | 331.0 | 29.2 | 200.0 | 67.6410 | 25.5559 | 173 | 79.2 | 5 U | 8610 | 36.6300 | 2.7090 | 229.710 | 1.85 | 9.43 | 0 | 1 |
| ANTIMONY | 67 | 49 | 6.4 | 76.1 | 7.0 | 60.0 | 22.0388 | 15.7082 | 61 | 63.9 | 7.6 | 60 U | 13.9320 | 1.9060 | 51.248 | 1.58 | 8.24 | 1 | 4 |
| ARSENIC | 67 | 24 | 1.0 | 4.6 | 1.0 | 10.0 | 1.5515 | 1.3533 | 3 | 0.0 | 0.8 U | 2 U | | | 2 U * | | | 7 | 7 |
| BARIUM | 67 | 90 | 24.0 | 227.0 | 100.0 | 200.0 | 92.6337 | 45.3532 | 5 | 80.0 | 97.1 | 120 | 107.2210 | 1.1160 | 169.894 | 0.86 | 40.64 | 13 | 4 |
| BERYLLIUM | 67 | 4 | 1.7 | 3.4 | 0.6 | 5.0 | 0.8348 | 0.5285 | 83 | 6.0 | 0.3 U | 5 U | | | 5 U * | | | 0 | 0 |
| CADMIUM | 66 | 27 | 0.8 | 5.1 | 1.0 | 5.0 | 1.5595 | 0.6113 | 118 | 25.4 | 1 U | 8.6 | | | 8.6 * | | | 0 | 0 |
| CALCIUM | 67 | 100 | 34000.0 | 267000.0 | | | 136283.754 | 51695.0377 | 5 | 100.0 | 62400 | 80900 | 72400.9260 | 1.1000 | 108075.372 | 1.88 | 46995 | 93 | 76 |
| CESIUM | 63 | 17 | 40.0 | 400.0 | 23.0 | 2500.0 | 50.0593 | 32.2615 | 40 | 27.5 | 2 U | 2500 U | | | 2500 U * | | | 0 | 0 |
| CHROMIUM | 67 | 45 | 3.3 | 37.3 | 2.0 | 10.0 | 6.4904 | 3.8011 | 185 | 34.1 | 1 U | 23.2 | | | 23.2 * | | | 4 | 4 |
| COBALT | 66 | 14 | 3.0 | 35.7 | 2.0 | 50.0 | 6.5884 | 9.3017 | 98 | 20.4 | 2 | 50 U | | | 50 U * | | | 0 | 0 |
| COPPER | 67 | 43 | 1.1 | 1210.0 | 1.0 | 25.0 | 76.7400 | 292.0846 | 186 | 34.9 | 1 U | 175 | | | 175 * | | | 1 | 1 |
| IRON | 67 | 73 | 3.3 | 703.0 | 2.0 | 100.0 | 48.2851 | 57.9073 | 180 | 71.1 | 3 U | 8790 | 26.7980 | 3.4890 | 265.914 | 1.80 | 16.60 | 0 | 4 |
| LEAD | 67 | 3 | 1.8 | 3.4 | 0.4 | 6.0 | 0.6509 | 0.3033 | 188 | 22.3 | 0.4 U | 64 | | | 64 * | | | 0 | 0 |
| LITHIUM | 64 | 88 | 4.5 | 712.0 | 4.0 | 100.0 | 53.1385 | 94.0363 | 21 | 81.0 | 3 | 250 | 55.9010 | 5.0640 | 2618.415 | 0.95 | 18.57 | 13 | 0 |
| MAGNESIUM | 67 | 100 | 6930.0 | 70300.0 | | | 36881.4099 | 15919.3716 | 5 | 100.0 | 10100 | 18000 | 12401.6680 | 1.2450 | 31171.179 | 2.97 | 12787 | 96 | 69 |
| MANGANESE | 67 | 88 | 1.5 | 1650.0 | 1.0 | 15.0 | 217.5443 | 292.9122 | 5 | 60.0 | 1 U | 5.7 | | | 5.7 * | | | 66 | 66 |
| MERCURY | 66 | 5 | 0.1 | 0.3 | 0.1 | 0.2 | 0.1036 | 0.0131 | 82 | 7.3 | 0.1 U | 1.2 | | | 1.2 * | | | 0 | 0 |
| MOLYBDENUM | 63 | 76 | 2.4 | 236.0 | 2.0 | 100.0 | 30.7857 | 56.1250 | 95 | 35.8 | 2 U | 100 U | | | 100 U * | | | 2 | 2 |
| NICKEL | 67 | 52 | 2.2 | 4950.0 | 2.0 | 40.0 | 354.5662 | 1203.7565 | 15 | 13.3 | 2 U | 40 U | | | 40 U * | | | 15 | 15 |
| POTASSIUM | 67 | 90 | 349.0 | 3580.0 | 2000.0 | 5000.0 | 1785.5774 | 915.1723 | 5 | 80.0 | 170 | 3670 | 496.3060 | 4.0480 | 176851.328 | 3.60 | 226.08 | 0 | 0 |
| SELENIUM | 67 | 67 | 1.7 | 28200.0 | 1.0 | 127.0 | 436.6907 | 1331.9850 | 19 | 57.9 | 1 U | 173 | 26.6420 | 54.1940 | 157.956 | 16.39 | 24.58 | 46 | 46 |
| SILICON | 20 | 100 | 3070.0 | 9030.0 | | | 6749.4048 | 1724.2776 | 28 | 100.0 | 4.7678 | 13800 | 6605.4480 | 2549.9780 | 12332.136 | 1.02 | 0.68 | 0 | 0 |
| SILVER | 64 | 28 | 2.2 | 12.5 | 2.0 | 10.0 | 2.4455 | 1.2924 | 172 | 34.3 | 2 U | 20 U | | | 20 U * | | | 0 | 0 |
| SODIUM | 67 | 100 | 52400.0 | 249000.0 | | | 142904.622 | 57925.5960 | 22 | 100.0 | 19600 | 198000 | 73813.4250 | 2.4130 | 584414.329 | 1.94 | 24006 | 10 | 0 |
| STRONTIUM | 64 | 100 | 242.0 | 2060.0 | | | 1123.7948 | 474.2358 | 5 | 100.0 | 316 | 826 | 406.8990 | 1.4920 | 2188.331 | 2.76 | 317.85 | 86 | 0 |
| THALLIUM | 67 | 3 | 1.0 | 1.5 | 0.6 | 100.0 | 1.0664 | 1.0696 | 83 | 10.8 | 0.6 U | 328 | | | 328 * | | | 0 | 0 |
| TIN | 64 | 52 | 15.8 | 110.0 | 9.4 | 100.0 | 23.6318 | 14.0126 | 19 | 47.4 | 10 U | 340 | | | 340 * | | | 0 | 0 |
| VANADIUM | 66 | 79 | 3.1 | 44.8 | 2.0 | 50.0 | 10.2531 | 5.9777 | 186 | 50.5 | 1 U | 57.4 | 3.1100 | 2.4400 | 15.944 | 3.30 | 2.45 | 0 | 11 |
| ZINC | 67 | 94 | 2.2 | 9850.0 | 1.0 | 20.0 | 597.6446 | 2384.3637 | 197 | 67.5 | 1.1 U | 137 | 7.9010 | 2.7550 | 50.223 | 75.64 | 865.47 | 3 | 12 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6b(4)

## Statistical Summary Groundwater - WCS - Filtered Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 23 | 87 | 5.0 | 696.0 | 11.0 | 35.0 | 112.0883 | 102.8676 | 173 | 79.2 | 5 U | 8610 | 36.6300 | 2.7090 | 229.710 | 3.06 | 37.97 | 0 | 4 |
| ANTIMONY | 22 | 64 | 12.6 | 65.8 | 7.0 | 26.0 | 22.7908 | 7.4206 | 61 | 63.9 | 7.6 | 60 U | 13.9320 | 1.9060 | 51.248 | 1.64 | 3.89 | 5 | 5 |
| ARSENIC | 23 | 22 | 1.0 | 2.0 | 1.0 | 2.0 | 1.0917 | 0.3039 | 11 | 9.1 | 1 U | 15 | | | 15 * | | | 0 | 0 |
| BARIUM | 23 | 100 | 23.8 | 304.0 | | | 83.0892 | 57.0542 | 36 | 94.4 | 34.6 | 200 U | 81.1820 | 1.3420 | 153.252 | 1.02 | 42.51 | 4 | 4 |
| BERYLLIUM | 22 | 5 | 1.1 | 1.1 | 0.6 | 1.0 | 0.5550 | 0.1374 | 83 | 6.0 | 0.3 U | 5 U | | | 5 U * | | | 0 | 0 |
| CADMIUM | 23 | 35 | 1.3 | 4.4 | 1.0 | 2.3 | 1.4821 | 0.5411 | 118 | 25.4 | 1 U | 8.6 | | | 8.6 * | | | 0 | 0 |
| CALCIUM | 23 | 100 | 39800.0 | 312000.0 | | | 152867.500 | 81875.5021 | 13 | 100.0 | 36900 | 152000 | 60834.6250 | 1.6080 | 216291.187 | 2.51 | 50918 | 26 | 9 |
| CESIUM | 21 | 38 | 30.0 | 100.0 | 30.0 | 500.0 | 42.1583 | 23.3142 | 40 | 27.5 | 2 U | 2500 U | | | 2500 U * | | | 0 | 0 |
| CHROMIUM | 23 | 74 | 5.8 | 82.8 | 2.0 | 6.0 | 19.2650 | 23.9884 | 185 | 34.1 | 1 U | 23.2 | | | 23.2 * | | | 35 | 35 |
| COBALT | 23 | 17 | 2.3 | 5.7 | 2.7 | 4.0 | 1.8513 | 0.2532 | 98 | 20.4 | 2 | 50 U | | | 50 U * | | | 0 | 0 |
| COPPER | 23 | 57 | 2.5 | 10.2 | 1.0 | 11.0 | 3.6138 | 1.8833 | 186 | 34.9 | 1 U | 175 | | | 175 * | | | 0 | 0 |
| IRON | 23 | 83 | 8.0 | 865.0 | 2.0 | 18.4 | 115.4200 | 127.3766 | 180 | 71.1 | 3 U | 8790 | 26.7980 | 3.4890 | 265.914 | 4.31 | 36.51 | 0 | 9 |
| LEAD | 23 | 9 | 1.0 | 2.1 | 0.8 | 1.0 | 0.6375 | 0.2334 | 188 | 22.3 | 0.4 U | 64 | | | 64 * | | | 0 | 0 |
| LITHIUM | 23 | 100 | 36.2 | 484.0 | | | 182.5242 | 129.1231 | 21 | 95.2 | 9 | 249 | 22.0700 | 2.5180 | 197.230 | 8.27 | 51.28 | 13 | 30 |
| MAGNESIUM | 23 | 100 | 13400.0 | 93700.0 | | | 42430.0000 | 22204.0862 | 13 | 100.0 | 7250 | 42500 | 13395.8750 | 1.8210 | 66356.399 | 3.17 | 12193 | 48 | 9 |
| MANGANESE | 23 | 70 | 1.5 | 1180.0 | 1.0 | 2.0 | 192.9654 | 412.7383 | 12 | 58.3 | 1 U | 440 | 2.7490 | 11.5500 | 2222.336 | 70.19 | 35.73 | 13 | 0 |
| MERCURY | 23 | 4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1047 | 0.0104 | 82 | 7.3 | 0.1 U | 1.2 | | | 1.2 * | | | 0 | 0 |
| MOLYBDENUM | 23 | 87 | 2.3 | 48.1 | 2.0 | 35.0 | 16.3075 | 12.5609 | 95 | 35.8 | 2 U | 100 U | | | 100 U * | | | 0 | 0 |
| NICKEL | 23 | 48 | 2.5 | 24.1 | 2.0 | 17.0 | 4.4525 | 4.4894 | 10 | 20.0 | 3 U | 40 U | | | 40 U * | | | 0 | 0 |
| POTASSIUM | 23 | 100 | 1980.0 | 13700.0 | | | 7325.8333 | 4012.5492 | 11 | 90.9 | 1090 | 5000 U | 1582.4320 | 1.4530 | 4528.665 | 4.63 | 2761.6 | 57 | 61 |
| SELENIUM | 23 | 100 | 52.0 | 1300.0 | | | 404.2625 | 460.2511 | 18 | 66.7 | 1 | 76 | 5.3260 | 4.6360 | 229.328 | 75.90 | 99.28 | 48 | 26 |
| SILICON | 4 | 100 | 6030.0 | 9870.0 | | | 7857.5000 | 1652.0972 | 28 | 100.0 | 4.7678 | 13800 | 6605.4480 | 2549.9780 | 12332.136 | 1.19 | 0.65 | 0 | 0 |
| SILVER | 23 | 35 | 2.6 | 7.2 | 2.0 | 6.0 | 1.8854 | 0.7101 | 172 | 34.3 | 2 U | 20 U | | | 20 U * | | | 0 | 0 |
| SODIUM | 23 | 100 | 47600.0 | 238000.0 | | | 138846.667 | 61135.1036 | 21 | 100.0 | 15300 | 252000 | 30866.2050 | 2.1890 | 197886.543 | 4.50 | 27928 | 0 | 9 |
| STRONTIUM | 23 | 100 | 460.0 | 3750.0 | | | 1638.1917 | 902.1934 | 13 | 100.0 | 231 | 1910 | 458.8550 | 2.0800 | 3242.179 | 3.57 | 433.75 | 22 | 4 |
| THALLIUM | 23 | 0 | | | 1.0 | 3.0 | | | 83 | 10.8 | 0.6 U | 328 | | | 328 * | | | 0 | 0 |
| TIN | 23 | 57 | 12.7 | 45.8 | 9.4 | 25.0 | 16.9867 | 7.8004 | 100 | 56.0 | 10 U | 151 | 14.4790 | 2.0500 | 57.891 | 1.17 | 3.81 | 0 | 0 |
| VANADIUM | 23 | 83 | 4.8 | 13.0 | 2.0 | 6.0 | 7.8204 | 2.5120 | 186 | 50.5 | 1 U | 57.4 | 3.1100 | 2.4400 | 15.944 | 2.51 | 1.03 | 0 | 0 |
| ZINC | 23 | 91 | 3.1 | 34.9 | 1.7 | 23.2 | 11.6071 | 5.8041 | 197 | 67.5 | 1.1 U | 137 | 7.9010 | 2.7550 | 50.223 | 1.47 | 2.11 | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6b(5)

## Statistical Summary Groundwater - KAR - Filtered Metals

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALUMINUM | 28 | 82 | 5.3 | 4510.0 | 9.0 | 200.0 | 195.9604 | 259.3665 | 173 | 79.2 | 5 U | 8610 | 36.6300 | 2.7090 | 229.710 | 5.35 | 95.74 | 0 | 4 |
| ANTIMONY | 28 | 57 | 10.5 | 105.0 | 7.0 | 60.0 | 25.3771 | 18.0933 | 61 | 63.9 | 7.6 | 60 U | 13.9320 | 1.9060 | 51.248 | 1.82 | 9.49 | 11 | 14 |
| ARSENIC | 28 | 32 | 2.0 | 11.2 | 0.9 | 10.0 | 2.9255 | 3.5143 | 19 | 47.4 | 1 U | 10 U | | | 10 U * | | | 4 | 4 |
| BARIUM | 28 | 96 | 12.6 | 100.0 | 200.0 | 200.0 | 49.5833 | 30.6138 | 36 | 94.4 | 34.6 | 200 U | 81.1820 | 1.3420 | 153.252 | 0.61 | 22.81 | 0 | 0 |
| BERYLLIUM | 27 | 7 | 1.5 | 3.0 | 0.6 | 5.0 | 0.7601 | 0.2628 | 83 | 6.0 | 0.3 U | 5 U | | | 5 U * | | | 0 | 0 |
| CADMIUM | 27 | 26 | 2.0 | 7.3 | 1.0 | 5.0 | 1.9041 | 0.8609 | 118 | 25.4 | 1 U | 8.6 | | | 8.6 * | | | 0 | 0 |
| CALCIUM | 28 | 100 | 18200.0 | 313000.0 | | | 127323.958 | 126674.617 | 24 | 100.0 | 11900 | 64750 | 27739.6550 | 1.8110 | 109384.457 | 4.59 | 69947 | 50 | 50 |
| CESIUM | 27 | 22 | 70.0 | 300.0 | 30.0 | 2500.0 | 73.2500 | 8.6329 | 40 | 27.5 | 2 U | 2500 U | | | 2500 U * | | | 0 | 0 |
| CHROMIUM | 28 | 57 | 2.5 | 157.0 | 3.0 | 10.0 | 13.1490 | 7.7136 | 185 | 34.1 | 1 U | 23.2 | | | 23.2 * | | | 14 | 14 |
| COBALT | 28 | 25 | 2.7 | 12.3 | 2.0 | 50.0 | 3.2396 | 2.1122 | 98 | 20.4 | 2 | 50 U | | | 50 U * | | | 0 | 0 |
| COPPER | 28 | 43 | 2.4 | 22.9 | 1.0 | 25.0 | 5.7521 | 1.3611 | 186 | 34.9 | 1 U | 175 | | | 175 * | | | 0 | 0 |
| IRON | 28 | 89 | 9.5 | 8150.0 | 6.0 | 100.0 | 528.4958 | 622.8261 | 180 | 71.1 | 3 U | 8790 | 26.7980 | 3.4890 | 265.914 | 19.72 | 178.51 | 0 | 32 |
| LEAD | 28 | 11 | 1.6 | 32.3 | 0.4 | 3.0 | 2.1177 | 2.4801 | 188 | 22.3 | 0.4 U | 64 | | | 64 * | | | 0 | 0 |
| LITHIUM | 28 | 100 | 35.2 | 510.0 | | | 165.8167 | 199.7590 | 36 | 88.9 | 3.3 | 100 U | 24.8790 | 2.7570 | 221.946 | 6.66 | 72.46 | 50 | 29 |
| MAGNESIUM | 28 | 100 | 3830.0 | 93900.0 | | | 37826.3542 | 37659.5450 | 24 | 95.8 | 2080 | 9370 | 4788.1450 | 1.6190 | 14572.883 | 7.90 | 23261 | 75 | 50 |
| MANGANESE | 28 | 96 | 3.6 | 409.0 | 15.0 | 15.0 | 81.7896 | 108.4505 | 24 | 83.3 | 1 U | 30.2 | 4.8080 | 4.4340 | 149.813 | 17.01 | 24.46 | 64 | 25 |
| MERCURY | 27 | 4 | 0.3 | 0.3 | 0.1 | 0.4 | 0.1049 | 0.0142 | 82 | 7.3 | 0.1 U | 1.2 | | | 1.2 * | | | 0 | 0 |
| MOLYBDENUM | 28 | 75 | 3.5 | 26.7 | 2.0 | 100.0 | 11.4833 | 4.8965 | 95 | 35.8 | 2 U | 100 U | | | 100 U * | | | 0 | 0 |
| NICKEL | 28 | 57 | 3.2 | 117.0 | 3.0 | 40.0 | 13.1229 | 6.1877 | 17 | 17.6 | 3 U | 40 U | | | 40 U * | | | 4 | 4 |
| POTASSIUM | 28 | 100 | 549.0 | 12800.0 | | | 7542.3646 | 3458.3075 | 23 | 95.7 | 366 | 5170 | 1523.0580 | 2.6390 | 14589.066 | 4.95 | 1310.5 | 68 | 0 |
| SELENIUM | 28 | 32 | 20.0 | 237.0 | 1.0 | 2.0 | 40.8000 | 77.8154 | 31 | 29.0 | 1 | 6 | | | 6 * | | | 32 | 32 |
| SILICON | 4 | 100 | 4820.0 | 13800.0 | | | 8217.5000 | 1545.0283 | 12 | 100.0 | 2720 | 10250 | 4563.3330 | 2373.7100 | 11058.616 | 1.80 | 0.65 | 25 | 25 |
| SILVER | 27 | 44 | 2.0 | 11.3 | 2.0 | 10.0 | 3.0193 | 1.2842 | 172 | 34.3 | 2 U | 20 U | | | 20 U * | | | 0 | 0 |
| SODIUM | 28 | 100 | 15000.0 | 224000.0 | | | 145589.583 | 60854.8491 | 43 | 100.0 | 11000 | 432000 | 83451.1680 | 3.1150 | 912186.843 | 1.74 | 19536 | 0 | 0 |
| STRONTIUM | 28 | 100 | 106.0 | 3660.0 | | | 1624.3854 | 1500.5740 | 23 | 100.0 | 168 | 406 | 300.9690 | 1.3440 | 599.523 | 5.40 | 1116.5 | 79 | 50 |
| THALLIUM | 28 | 0 | | | 0.6 | 10.0 | | | 83 | 10.8 | 0.6 U | 328 | | | 328 * | | | 0 | 0 |
| TIN | 28 | 50 | 12.0 | 87.3 | 7.0 | 100.0 | 24.3906 | 15.0232 | 32 | 43.7 | 10 U | 100 U | | | 100 U * | | | 0 | 0 |
| VANADIUM | 27 | 70 | 2.6 | 20.6 | 2.0 | 50.0 | 7.5610 | 5.3445 | 186 | 50.5 | 1 U | 57.4 | 3.1100 | 2.4400 | 15.944 | 2.43 | 2.19 | 0 | 11 |
| ZINC | 28 | 96 | 3.2 | 59.8 | 20.0 | 20.0 | 14.5208 | 2.6098 | 197 | 67.5 | 1.1 U | 137 | 7.9010 | 2.7550 | 50.223 | 1.84 | 0.95 | 0 | 4 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-6c(1)

## Statistical Summary Groundwater - RFA - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 10 | 100 | -0.0003 | 0.0100 | | | 0.0049 | 0.0015 | 129 | 100 | -0.00706 | 0.09698 | 0.0070 | 0.0130 | 0.032 | 0.70 | 0.12 | 0 | 0 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 7 | 86 | -0.7210 | 0.0499 | 0.9200 | 0.9200 | | | 110 | 93.6 | -0.594 | 1.16 | 0.0910 | 0.3180 | 0.700 | -0.59 | -1000 | 0 | 0 |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 2 | 100 | 58.9000 | 64.4000 | | | | | 14 | 100 | 0.351 | 362 | 46.9290 | 102.3640 | 314.552 | 1.31 | -1000 | 0 | 0 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 1 | 100 | 34.6000 | 34.6000 | | | | | 14 | 100 | 1.1 | 220 | 30.1500 | 61.7460 | 191.580 | 1.15 | -1000 | 0 | 0 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 1 | 100 | -0.0003 | -0.0003 | | | | | 20 | 100 | -0.00066 | 0.03587 | 0.0050 | 0.0100 | 0.028 | -0.06 | -1000 | 0 | 0 |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 11 | 91 | -0.0003 | 0.0090 | 0.0000 | 0.0000 | 0.0013 | 0.0014 | 81 | 100 | -0.00327 | 0.2237 | 0.0060 | 0.0290 | 0.064 | 0.22 | 0.05 | 0 | 0 |
| RADIUM-226 | 2 | 100 | 0.7100 | 1.6800 | | | 1.1950 | 0.6859 | 0 | 0.0 | | | | | 1.480 • | | | | 50 |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 1 | 100 | 0.1800 | 0.1800 | | | | | 14 | 100 | 0.02 | 0.73 | 0.2770 | 0.2140 | 0.836 | 0.65 | -1000 | 0 | 0 |
| STRONTIUM-90 | 1 | 100 | 0.8960 | 0.8960 | | | | | 20 | 100 | -0.286 | 1.12 | 0.1520 | 0.3150 | 0.906 | 5.89 | -1000 | 0 | 0 |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 22 | 91 | -41.4000 | 617.9000 | 170.0000 | 400.0000 | 136.2273 | 153.2136 | 23 | 69.6 | -180 | 1350 | 280.2390 | 281.9620 | 936.738 | 0.49 | 0.54 | 0 | 0 |
| URANIUM-233,-234 | 2 | 100 | 11.0400 | 31.4000 | | | 21.2200 | 14.3967 | 12 | 100 | 0 | 1.33 | 0.4760 | 0.4540 | 1.717 | 44.58 | 31.71 | 100 | 100 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 2 | 100 | 0.9900 | 1.0100 | | | 1.0000 | 0.0141 | 7 | 100 | 0 | 0.667 | 0.1660 | 0.2450 | 0.999 | 6.02 | 0.06 | 100 | 50 |
| URANIUM-238 | 3 | 100 | 6.9900 | 21.9000 | | | 13.9150 | 9.7934 | 11 | 100 | 0 | 1.418 | 0.4040 | 0.5020 | 1.817 | 34.44 | 19.51 | 100 | 100 |

• No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6c(2)

## Statistical Summary Groundwater - VFA - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 14 | 100 | 0.0005 | 0.0349 | | | 0.0050 | 0.0020 | 129 | 100 | -0.00706 | 0.09698 | 0.0070 | 0.0130 | 0.032 | 0.71 | 0.15 | 0 | 7 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 13 | 100 | -0.5620 | 0.4409 | | | 0.0339 | 0.1318 | 110 | 93.6 | -0.594 | 1.16 | 0.0910 | 0.3180 | 0.700 | 0.37 | 0.41 | 0 | 0 |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 3 | 100 | 2.3000 | 9.3000 | | | 5.8250 | 4.9144 | 14 | 100 | 0.351 | 362 | 46.9290 | 102.3640 | 314.552 | 0.12 | 0.05 | 0 | 0 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 3 | 100 | 2.7000 | 26.7000 | | | 15.2500 | 16.1927 | 14 | 100 | 1.1 | 220 | 30.1500 | 61.7460 | 191.580 | 0.51 | 0.26 | 0 | 0 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 2 | 100 | 0.0003 | 0.0025 | | | | | 20 | 100 | -0.00066 | 0.03587 | 0.0050 | 0.0100 | 0.028 | 0.28 | -1000 | 0 | 0 |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 15 | 100 | -0.0015 | 0.0387 | | | 0.0031 | 0.0030 | 81 | 100 | -0.00327 | 0.2237 | 0.0060 | 0.0290 | 0.064 | 0.52 | 0.10 | 0 | 0 |
| RADIUM-226 | 0 | 0 | | | | | | | 7 | 100 | 0.0709 | 0.88 | 0.4200 | 0.3120 | 1.480 | | | | |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 1 | 100 | 0.5300 | 0.5300 | | | | | 14 | 100 | 0.02 | 0.73 | 0.2770 | 0.2140 | 0.836 | 1.91 | -1000 | 0 | |
| STRONTIUM-90 | 0 | 0 | | | | | | | 20 | 100 | -0.286 | 1.12 | 0.1520 | 0.3150 | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 20 | 100 | -75.8500 | 270.0000 | | | 147.5550 | 62.8566 | 23 | 69.6 | -180 | 1350 | 280.2390 | 281.9620 | 936.738 | 0.53 | 0.22 | 0 | |
| URANIUM-233,-234 | 2 | 100 | 0.7800 | 5.3200 | | | 3.0500 | 3.2103 | 9 | 100 | 0.1 | 107.42 | 23.5740 | 43.7900 | 156.312 | *0.13* | *0.07* | *0* | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 2 | 100 | 0.0800 | 0.1600 | | | 0.1200 | 0.0566 | 6 | 100 | -0.01 | 3.57 | 1.2340 | 1.7310 | 7.652 | 0.10 | 0.03 | 0 | |
| URANIUM-238 | 2 | 100 | 0.4400 | 4.6400 | | | 2.5400 | 2.9698 | 8 | 100 | 0.169 | 73.4 | 11.4890 | 25.2530 | 91.978 | *0.22* | *0.12* | *0* | |

• No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6c(3)

## Statistical Summary Groundwater - COL - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 46 | 100 | -0.0014 | 0.0357 | | | 0.0064 | 0.0047 | 129 | 100 | -0.00706 | 0.09698 | 0.0070 | 0.0130 | 0.032 | 0.91 | 0.36 | 0 | 2 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 41 | 95 | -0.9640 | 0.6093 | 0.6100 | 0.6500 | 0.0382 | 0.2137 | 110 | 93.6 | -0.594 | 1.16 | 0.0910 | 0.3180 | 0.700 | 0.42 | 0.67 | 0 | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 7 | 100 | 2.5600 | 64.1000 | | | 22.5533 | 24.1078 | 14 | 100 | 0.351 | 362 | 46.9290 | 102.3640 | 314.552 | 0.48 | 0.24 | 0 | |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 5 | 100 | 1.9000 | 30.9000 | | | 15.9200 | 11.2797 | 14 | 100 | 1.1 | 220 | 30.1500 | 61.7460 | 191.580 | 0.53 | 0.18 | 0 | |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 5 | 100 | 0.0000 | 0.0164 | | | 0.0070 | 0.0082 | 20 | 100 | -0.00066 | 0.03587 | 0.0050 | 0.0100 | 0.028 | 1.40 | 0.82 | 0 | |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 53 | 98 | -0.0011 | 0.0529 | 0.0030 | 0.0030 | 0.0103 | 0.0135 | 81 | 100 | -0.00327 | 0.2237 | 0.0060 | 0.0290 | 0.064 | 1.72 | 0.47 | 0 | 0 |
| RADIUM-226 | 2 | 100 | 0.0600 | 0.8800 | | | 0.4700 | 0.5798 | 7 | 100 | 0.0709 | 0.88 | 0.4200 | 0.3120 | 1.480 | 1.12 | 1.86 | 0 | 0 |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 2 | 100 | 0.1100 | 0.2000 | | | 0.1550 | 0.0636 | 14 | 100 | 0.02 | 0.73 | 0.2770 | 0.2140 | 0.836 | 0.56 | 0.30 | 0 | |
| STRONTIUM-90 | 3 | 100 | -0.0664 | 0.9730 | | | 0.3094 | 0.5764 | 20 | 100 | -0.286 | 1.12 | 0.1520 | 0.3150 | 0.906 | 2.04 | 1.83 | 0 | 3 |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 74 | 96 | -182.000 | 925.8000 | 180.0000 | 400.0000 | 145.8235 | 197.8462 | 23 | 69.6 | -180 | 1350 | 280.2390 | 281.9620 | 936.738 | 0.52 | 0.70 | 0 | |
| URANIUM-233,-234 | 8 | 100 | 5.5800 | 19.9800 | | | 13.0175 | 4.6675 | 6 | 100 | 2.405 | 164 | 55.9870 | 71.3290 | 320.452 | 0.23 | 0.07 | 0 | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 8 | 100 | 0.2900 | 1.5000 | | | 0.7134 | 0.4252 | 0 | 0.0 | | | | | 10.939 * | | | | |
| URANIUM-238 | 10 | 100 | 4.9800 | 13.6300 | | | 8.6643 | 3.5744 | 4 | 100 | 1.772 | 108 | 31.2360 | 51.2520 | 294.870 | 0.28 | 0.07 | 0 | |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6c(4)

## Statistical Summary Groundwater - WCS - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 19 | 100 | 0.0000 | 0.0230 | | | 0.0076 | 0.0028 | 129 | 100 | -0.00706 | 0.09698 | 0.0070 | 0.0130 | 0.032 | 1.09 | 0.22 | 0 | 0 |
| CESIUM - UNKNOWN | 1 | 100 | 0.1000 | 0.1000 | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 17 | 100 | -0.4140 | 0.5285 | | | 0.1427 | 0.2783 | 12 | 83.3 | -0.19 | 0.89 U | 0.1580 | 0.2030 | 0.713 | 0.90 | 1.37 | 0 | 0 |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 1 | 100 | 11.8000 | 11.8000 | | | | | 14 | 100 | 0.351 | 362 | 46.9290 | 102.3640 | 314.552 | 0.25 | -1000 | 0 | 0 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 1 | 100 | 17.1000 | 17.1000 | | | | | 14 | 100 | 1.1 | 220 | 30.1500 | 61.7460 | 191.580 | 0.57 | -1000 | 0 | 0 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 3 | 100 | 0.0000 | 0.0003 | | | 0.0001 | .134E+155 | 20 | 100 | -0.00066 | 0.03587 | 0.0050 | 0.0100 | 0.028 | 0.02 | -1000 | 0 | 0 |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 23 | 100 | -0.0008 | 0.0155 | | | 0.0051 | 0.0037 | 81 | 100 | -0.00327 | 0.2237 | 0.0060 | 0.0290 | 0.064 | 0.85 | 0.13 | 0 | 0 |
| RADIUM-226 | 0 | 0 | | | | | | | 7 | 100 | 0.0709 | 0.88 | 0.4200 | 0.3120 | 1.480 | | | | |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 3 | 100 | 0.1000 | 0.3900 | | | 0.3100 | 0.1131 | 14 | 100 | 0.02 | 0.73 | 0.2770 | 0.2140 | 0.836 | 1.12 | 0.53 | 0 | 0 |
| STRONTIUM-90 | 0 | 0 | | | | | | | 20 | 100 | -0.286 | 1.12 | 0.1520 | 0.3150 | 0.906 | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 24 | 100 | -358.000 | 411.2000 | | | 59.4485 | 62.8797 | 23 | 69.6 | -180 | 1350 | 280.2390 | 281.9620 | 936.738 | 0.21 | 0.22 | 0 | |
| URANIUM-233,-234 | 1 | 100 | 4.2000 | 4.2000 | | | | | 8 | 100 | 1.83 | 17.5 | 7.4920 | 6.3040 | 27.585 | 0.56 | -1000 | 0 | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 1 | 100 | 0.2000 | 0.2000 | | | | | 6 | 100 | -0.01 | 0.751 | 0.3500 | 0.2670 | 1.339 | 0.57 | -1000 | 0 | |
| URANIUM-238 | 1 | 100 | 2.6000 | 2.6000 | | | | | 8 | 100 | 0.169 | 73.4 | 11.4890 | 25.2530 | 91.978 | 0.23 | -1000 | 0 | |

• No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6c(5)

## Statistical Summary Groundwater - KAR - Total Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 29 | 97 | -0.0080 | 0.0844 | 0.0060 | 0.0060 | 0.0053 | 0.0073 | 129 | 100 | -0.00706 | 0.09698 | 0.0070 | 0.0130 | 0.032 | 0.76 | 0.56 | 0 | 3 |
| CESIUM - UNKNOWN | 2 | 100 | 0.0000 | 0.1000 | | | 0.1000 | .134E+155 | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 25 | 100 | -0.5390 | 1.1560 | | | 0.1443 | 0.1362 | 29 | 93.1 | -0.442 | 0.63 U | -0.0460 | 0.2350 | 0.479 | -3.14 | 0.58 | 4 | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 0 | 0 | | | | | | | 14 | 100 | 0.351 | 362 | 46.9290 | 102.3640 | 314.552 | | | | |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 0 | 0 | | | | | | | 14 | 100 | 1.1 | 220 | 30.1500 | 61.7460 | 191.580 | | | | |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 4 | 100 | 0.0000 | 0.0096 | | | 0.0040 | 0.0049 | 20 | 100 | -0.00066 | 0.03587 | 0.0050 | 0.0100 | 0.028 | 0.80 | 0.49 | 0 | 0 |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 31 | 100 | -0.0012 | 0.0279 | | | 0.0036 | 0.0031 | 81 | 100 | -0.00327 | 0.2237 | 0.0060 | 0.0290 | 0.064 | 0.60 | 0.11 | 0 | |
| RADIUM-226 | 0 | 0 | | | | | | | 7 | 100 | 0.0709 | 0.88 | 0.4200 | 0.3120 | 1.480 | | | | |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 1 | 100 | 0.2000 | 0.2000 | | | | | 14 | 100 | 0.02 | 0.73 | 0.2770 | 0.2140 | 0.836 | 0.72 | -1000 | 0 | |
| STRONTIUM-90 | 1 | 100 | 0.0199 | 0.0199 | | | | | 20 | 100 | -0.286 | 1.12 | 0.1520 | 0.3150 | 0.906 | 0.13 | -1000 | 0 | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 26 | 96 | -105.000 | 203.4000 | 120.0000 | 120.0000 | 40.2100 | 32.6629 | 23 | 69.6 | -180 | 1350 | 280.2390 | 281.9620 | 936.738 | 0.14 | 0.12 | 0 | |
| URANIUM-233,-234 | 2 | 100 | 0.6000 | 0.7000 | | | 0.6500 | 0.0707 | 4 | 100 | 0.15 | 1.52 | 0.7700 | 0.5670 | 3.685 | 0.84 | 0.12 | 0 | |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 2 | 100 | 0.0000 | 0.0000 | | | | | 2 | 100 | 0.034 | 0.04 | | | 0.04 • | | | 0 | |
| URANIUM-238 | 2 | 100 | 0.0500 | 0.3000 | | | 0.1750 | 0.1768 | 8 | 100 | 0.169 | 73.4 | 11.4890 | 25.2530 | 91.978 | 0.02 | 0.01 | 0 | |

• No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6d(1)

## Statistical Summary Groundwater - RFA - Filtered Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 1 | 100 | 0.0100 | 0.0100 | | | | | 3 | 100 | 0.003 | 0.028 | | | 0.028 • | | | 0 | 0 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 1 | 100 | 0.4300 | 0.4300 | | | | | 0 | 0.0 | | | | | | | | | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 14 | 100 | 4.9590 | 61.3000 | | | 26.5893 | 16.5793 | 2 | 100 | 0.7 | 0.9 | | | 0.9 • | | | 100 | 100 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 16 | 100 | 4.4340 | 31.5800 | | | 14.7475 | 7.2831 | 2 | 100 | 3.5 | 7.9 | | | 7.9 • | | | 81 | 81 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 1 | 100 | 0.0090 | 0.0090 | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 0 | 0 | | | | | | | 1 | 100 | 0.011 | 0.011 | | | | | | | |
| RADIUM-226 | 7 | 100 | 0.3206 | 0.8352 | | | 0.5802 | 0.2222 | 0 | 0.0 | | | | | 1.878 • | | | | 0 |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 8 | 100 | 0.1158 | 0.7934 | | | 0.3564 | 0.1035 | 44 | 100 | -0.214 | 0.5712 | 0.2760 | 0.1570 | 0.604 | 1.29 | 0.66 | 25 | 25 |
| STRONTIUM-90 | 1 | 100 | 0.1500 | 0.1500 | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 43 | 95.3 | -61.2 | 370.3 | 133.6400 | 103.6900 | 351.889 | | | | |
| URANIUM-233,-234 | 17 | 100 | 5.1330 | 34.3700 | | | 16.6606 | 12.0562 | 45 | 100 | -0.02355 | 0.88 | 0.2270 | 0.2360 | 0.721 | 73.39 | 51.09 | 100 | 100 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 17 | 100 | 0.0465 | 1.2280 | | | 0.4427 | 0.4628 | 45 | 100 | -0.0271 | 0.38 | 0.0270 | 0.0670 | 0.167 | 16.40 | 6.91 | 59 | 71 |
| URANIUM-238 | 17 | 100 | 3.0300 | 30.2900 | | | 12.8576 | 9.9305 | 45 | 100 | -0.022 | 0.6708 | 0.1510 | 0.1560 | 0.478 | 85.15 | 63.66 | 100 | 100 |

• No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6d(2)

## Statistical Summary Groundwater - VFA - Filtered Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 0 | 0 | | | | | | | 3 | 100 | 0.003 | 0.028 | | | | | | | |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 1 | 100 | 0.1400 | 0.1400 | | | | | 0 | 0.0 | | | | | | | | | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 11 | 100 | 0.2062 | 40.7400 | | | 21.3849 | 19.3676 | 2 | 100 | 0.7 | 0.9 | | | 0.9 * | | | 91 | 91 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 13 | 100 | 1.7060 | 17.0500 | | | 8.3526 | 6.4189 | 2 | 100 | 3.5 | 7.9 | | | 7.9 * | | | 31 | 31 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 1 | 100 | 0.0140 | 0.0140 | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,240 | 0 | 0 | | | | | | | 1 | 100 | 0.011 | 0.011 | | | | | | | |
| RADIUM-226 | 5 | 100 | 0.5530 | 0.9811 | | | 0.7835 | 0.1977 | 20 | 100 | 0.1026 | 2.981 | 0.4010 | 0.6160 | 1.878 | 1.95 | 0.32 | 0 | 0 |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 12 | 100 | 0.3708 | 1.4030 | | | 0.7293 | 0.2454 | 32 | 100 | 0.068055 | 1.454 | 0.5120 | 0.2910 | 1.150 | 1.42 | 0.84 | 0 | 8 |
| STRONTIUM-90 | 1 | 100 | 0.1200 | 0.1200 | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 36 | 100 | -64.2 | 561.2 | 114.0300 | 128.9070 | 392.169 | | | | |
| URANIUM-233,-234 | 13 | 100 | 0.0676 | 33.1000 | | | 14.5857 | 15.4329 | 31 | 100 | 0.09159 | 20.26 | 2.4650 | 3.6240 | 10.467 | 5.92 | 4.26 | 15 | 3 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 13 | 100 | 0.0000 | 0.8173 | | | 0.3719 | 0.3337 | 31 | 100 | -0.03048 | 0.8535 | 0.0810 | 0.1580 | 0.430 | 4.59 | 2.11 | 0 | 23 |
| URANIUM-238 | 13 | 100 | 0.0912 | 21.6500 | | | 9.5553 | 10.1415 | 30 | 100 | 0 | 15.5 | 1.8530 | 2.8320 | 8.140 | 5.16 | 3.58 | 15 | 23 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6d(3)

## Statistical Summary Groundwater - COL - Filtered Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 4 | 100 | 0.0020 | 0.0140 | | | 0.0075 | 0.0055 | 0 | 0.0 | | | | | 0.028 * | | | | 0 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 6 | 83 | -0.0200 | 0.7800 | 0.2700 | 0.2700 | 0.3625 | 0.3180 | 0 | 0.0 | | | | | | | | | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 58 | 100 | 0.9473 | 217.4000 | | | 20.1192 | 16.9180 | 0 | 0.0 | | | | | 0.9 * | | | | 100 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 60 | 98 | 1.2190 | 157.4000 | 2.1000 | 2.1000 | 10.3502 | 8.6818 | 0 | 0.0 | | | | | 7.9 * | | | | 48 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 6 | 100 | 0.0060 | 0.0180 | | | 0.0122 | 0.0042 | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| RADIUM-226 | 38 | 100 | 0.0000 | 1.0460 | | | 0.4191 | 0.2535 | 20 | 100 | 0.1026 | 2.981 | 0.4010 | 0.6160 | 1.878 | 1.05 | 0.41 | 0 | 0 |
| RADIUM-228 | 2 | 100 | 0.0000 | 0.0000 | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 41 | 98 | -0.0986 | 1.0340 | 0.2100 | 0.2100 | 0.3887 | 0.2050 | 13 | 100 | -0.396 | 0.7469 | 0.2540 | 0.2670 | 0.967 | 1.53 | 0.77 | 7 | 7 |
| STRONTIUM-90 | 5 | 100 | -0.0900 | 0.2100 | | | 0.0960 | 0.1165 | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 54 | 100 | -150 | 413.1 | 66.7510 | 118.7950 | 309.837 | | | | |
| URANIUM-233,-234 | 65 | 100 | 0.1800 | 26.2900 | | | 9.6202 | 5.3835 | 16 | 100 | 1.221 | 199.5 | 39.7230 | 65.2660 | 204.433 | 0.24 | 0.08 | 0 | 4 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 65 | 98 | -0.0100 | 0.7412 | 0.0000 | 0.0000 | 0.2903 | 0.1814 | 16 | 100 | 0 | 4.803 | 1.0640 | 1.5880 | 5.073 | 0.27 | 0.11 | 0 | 0 |
| URANIUM-238 | 65 | 100 | 0.3912 | 19.5700 | | | 7.1750 | 4.4271 | 15 | 100 | 0.5167 | 135.6 | 28.4640 | 44.8920 | 143.657 | 0.25 | 0.10 | 0 | 0 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6d(4)

## Statistical Summary Groundwater - WCS - Filtered Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 1 | 100 | -0.0033 | -0.0033 | | | | | 0 | 0.0 | | | | | 0.028 * | | | | 0 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 2 | 100 | -0.2562 | 0.5750 | | | 0.1594 | 0.5877 | 0 | 0.0 | | | | | | | | | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 20 | 100 | 1.4320 | 36.7900 | | | 16.3044 | 9.7005 | 0 | 0.0 | | | | | 0.9 * | | | | 10 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 21 | 100 | 4.1810 | 31.1200 | | | 12.9080 | 7.4711 | 0 | 0.0 | | | | | 7.9 * | | | | 48 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 1 | 100 | 0.0074 | 0.0074 | | | | | 0 | 0.0 | | | | | 0.011 * | | | | 0 |
| RADIUM-226 | 13 | 100 | 0.2141 | 1.9680 | | | 0.6257 | 0.4890 | 20 | 100 | 0.1026 | 2.981 | 0.4010 | 0.6160 | 1.878 | 1.56 | 0.79 | 0 | 1 |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 20 | 100 | 0.1509 | 2.4740 | | | 0.6119 | 0.4378 | 35 | 100 | 0.009756 | 1.289 | 0.3500 | 0.2580 | 0.908 | 1.75 | 1.70 | 5 | 1 |
| STRONTIUM-90 | 1 | 100 | 0.3914 | 0.3914 | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 22 | 100 | -223 | 189.2 | 4.7720 | 114.6770 | 274.143 | | | | |
| URANIUM-233,-234 | 23 | 100 | 0.2743 | 26.9500 | | | 12.8421 | 8.1043 | 26 | 100 | 1.324 | 15.59 | 5.3770 | 4.3070 | 15.176 | 2.39 | 1.88 | 30 | 3 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 23 | 100 | -0.0104 | 0.7953 | | | 0.3309 | 0.2200 | 26 | 100 | -0.0109 | 0.4045 | 0.1200 | 0.1130 | 0.377 | 2.76 | 1.95 | 35 | 3 |
| URANIUM-238 | 23 | 100 | 0.1593 | 17.0000 | | | 8.4339 | 5.2214 | 26 | 100 | 0.3893 | 9.936 | 3.5370 | 2.9710 | 10.297 | 2.38 | 1.76 | 39 | 3 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6d(5)

## Statistical Summary Groundwater - KAR - Filtered Radiochemistry

| Compound/Analyte | Tot. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Bkg. UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AMERICIUM-241 | 1 | 100 | -0.0080 | -0.0080 | | | | | 3 | 100 | 0.003 | 0.028 | | | 0.028 * | | | 0 | 0 |
| CESIUM - UNKNOWN | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-134 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| CESIUM-137 | 3 | 67 | 0.0500 | 0.8700 | 0.3700 | 0.3700 | 0.2888 | 0.3376 | 0 | 0.0 | | | | | | | | | |
| CURIUM-244 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS ALPHA | 27 | 100 | 0.2000 | 25.1100 | | | 5.7184 | 7.3787 | 2 | 100 | 0.7 | 0.9 | | | 0.9 * | | | 74 | 74 |
| GROSS ALPHA - | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| GROSS BETA | 28 | 96 | 2.1640 | 28.9300 | 22.0000 | 22.0000 | 9.2957 | 6.5605 | 2 | 100 | 3.5 | 7.9 | | | 7.9 * | | | 43 | 43 |
| NEPTUNIUM-237 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-236 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-238 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239 | 1 | 100 | 0.0140 | 0.0140 | | | | | 0 | 0.0 | | | | | | | | | |
| PLUTONIUM-239,-240 | 1 | 100 | 0.0020 | 0.0020 | | | | | 1 | 100 | 0.011 | 0.011 | | | 0.011 * | | | 0 | 0 |
| RADIUM-226 | 9 | 100 | 0.1900 | 0.9019 | | | 0.3922 | 0.1200 | 20 | 100 | 0.1026 | 2.981 | 0.4010 | 0.6160 | 1.878 | 0.98 | 0.19 | 0 | 0 |
| RADIUM-228 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| STRONTIUM-89,-90 | 27 | 96 | -0.1510 | 0.8446 | 0.2300 | 0.2300 | 0.2295 | 0.1193 | 35 | 100 | 0.009756 | 1.289 | 0.3500 | 0.2580 | 0.908 | 0.66 | 0.46 | 0 | 0 |
| STRONTIUM-90 | 1 | 100 | 0.0900 | 0.0900 | | | | | 0 | 0.0 | | | | | | | | | |
| TOTAL RADIOCESIUM | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| TRITIUM | 0 | 0 | | | | | | | 54 | 100 | -150 | 413.1 | 66.7510 | 118.7950 | 309.837 | | | | |
| URANIUM-233,-234 | 30 | 100 | 0.1532 | 60.7500 | | | 5.9958 | 6.5839 | 38 | 100 | -0.0099 | 15.33 | 1.9440 | 3.3230 | 9.057 | 3.08 | 1.98 | 13 | 3 |
| URANIUM-234 | 0 | 0 | | | | | | | 0 | 0.0 | | | | | | | | | |
| URANIUM-235 | 30 | 100 | -0.0196 | 1.3720 | | | 0.1580 | 0.1833 | 38 | 100 | -0.0187 | 0.231 | 0.0410 | 0.0670 | 0.184 | 3.85 | 2.74 | 30 | 3 |
| URANIUM-238 | 30 | 100 | 0.0500 | 39.2700 | | | 3.8507 | 4.6250 | 36 | 100 | -0.183 | 8.01 | 0.8710 | 1.8050 | 4.765 | 4.42 | 2.56 | 33 | 3 |

* No Upper Tolerance Limit - value is maximum value for Background

Notes: Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6e

## Statistical Summary Groundwater - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-TETRACHLOROETHANE | 56 | 0 | | | 0.1 | 20.0 | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 211 | 14 | 1.0 | 19000.0 | 0.1 | 8400.0 | 363.2938 | 1721.9961 | 268 | 1.1 | 2 | 8 | 10 |
| 1,1,2,2-TETRACHLOROETHANE | 211 | 0 | | | 0.1 | 500.0 | | | | | | | |
| 1,1,2-TRICHLOROETHANE | 211 | 3 | 7.0 | 84.0 | 0.1 | 500.0 | 2.6874 | 7.3627 | | | | | |
| 1,1-DICHLOROETHANE | 211 | 5 | 2.0 | 35.0 | 0.2 | 500.0 | 2.1043 | 3.6376 | 274 | 0.4 | 2 | 5 U | 4 |
| 1,1-DICHLOROETHENE | 211 | 13 | 2.0 | 18000.0 | 0.2 | 6400.0 | 283.2304 | 1449.2808 | 274 | 0.4 | 5 U | 7 | 10 |
| 1,1-DICHLOROPROPENE | 56 | 0 | | | 0.1 | 20.0 | | | | | | | |
| 1,2,3-TRICHLOROBENZENE | 56 | 0 | | | 0.1 | 30.0 | | | | | | | |
| 1,2,3-TRICHLOROPROPANE | 56 | 0 | | | 0.1 | 30.0 | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | 56 | 0 | | | 0.1 | 30.0 | | | | | | | |
| 1,2-DIBROMOETHANE | 56 | 0 | | | 0.2 | 50.0 | | | | | | | |
| 1,2-DICHLOROBENZENE | 56 | 0 | | | 0.1 | 30.0 | | | | | | | |
| 1,2-DICHLOROETHANE | 211 | 2 | 7.0 | 29.0 | 0.1 | 500.0 | 1.7987 | 2.7464 | 274 | 0.4 | 1 | 5 U | 2 |
| 1,2-DICHLOROETHENE | 146 | 4 | 10.0 | 12000.0 | 5.0 | 500.0 | 106.6552 | 559.7399 | 246 | 0.4 | 3 | 5 U | 4 |
| 1,2-DICHLOROPROPANE | 211 | 0 | 0.4 | 0.4 | 0.1 | 500.0 | 1.3913 | 1.1026 | 274 | 0.4 | 1 | 5 U | 0 |
| 1,2-DIMETHYLBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,3-DICHLOROBENZENE | 56 | 0 | | | 0.1 | 20.0 | | | | | | | |
| 1,3-DICHLOROPROPANE | 56 | 0 | | | 0.1 | 20.0 | | | | | | | |
| 1,3-DIMETHYLBENZENE | 0 | 0 | | | | | | | | | | | |
| 1,4-DICHLOROBENZENE | 56 | 0 | | | 0.1 | 20.0 | | | | | | | |
| 2-BUTANONE | 123 | 3 | 2.0 | 580.0 | 10.0 | 1000.0 | 11.6379 | 35.5899 | 196 | 1.0 | 1 | 10 U | 2 |
| 2-CHLOROETHYL VINYL ETHER | 2 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2-HEXANONE | 138 | 1 | 43.0 | 43.0 | 10.0 | 1000.0 | 5.2184 | 1.1761 | | | | | |
| 2-PROPENENITRILE | 0 | 0 | | | | | | | | | | | |
| 4-METHYL-2-PENTANONE | 148 | 1 | 25.0 | 25.0 | 10.0 | 1000.0 | 5.0985 | 0.5306 | | | | | |
| ACETONE | 142 | 33 | 1.0 | 1400.0 | 5.0 | 1000.0 | 26.9801 | 74.3685 | 246 | 18.3 | 1 | 36 | 4 |
| BENZENE | 211 | 0 | 3.0 | 3.0 | 0.2 | 500.0 | 1.4134 | 1.0844 | | | | | |
| BENZENE, 1,2,4-TRIMETHYL | 56 | 2 | 0.1 | 0.1 | 0.1 | 20.0 | 0.4989 | 1.9196 | | | | | |
| BENZENE, 1,3,5-TRIMETHYL- | 56 | 0 | | | 0.1 | 20.0 | | | | | | | |
| BROMOBENZENE | 56 | 0 | | | 0.2 | 20.0 | | | | | | | |
| BROMOCHLOROMETHANE | 56 | 0 | | | 0.4 | 50.0 | | | | | | | |
| BROMODICHLOROMETHANE | 211 | 0 | | | 0.2 | 500.0 | | | | | | | |
| BROMOFORM | 205 | 0 | | | 0.5 | 500.0 | | | | | | | |
| BROMOMETHANE | 206 | 0 | | | 0.4 | 1000.0 | | | | | | | |
| CARBON DISULFIDE | 156 | 1 | 2.3 | 2.3 | 5.0 | 500.0 | 2.4988 | 0.0066 | 263 | 0.8 | 1 | 31 | 0 |
| CARBON TETRACHLORIDE | 211 | 16 | 0.2 | 4500.0 | 0.1 | 500.0 | 81.2005 | 499.8759 | 264 | 0.8 | 2 | 5 U | 10 |
| CHLOROBENZENE | 211 | 0 | | | 0.1 | 500.0 | | | 274 | 1.1 | 1.75 | 5 U | 0 |
| CHLOROETHANE | 209 | 0 | | | 0.5 | 1000.0 | | | | | | | |
| CHLOROFORM | 211 | 19 | 0.1 | 170.0 | 0.1 | 500.0 | 4.6797 | 13.9995 | 274 | 1.1 | 1 | 5 U | 9 |
| CHLOROMETHANE | 211 | 0 | | | 0.2 | 1000.0 | | | | | | | |
| CUMENE | 56 | 0 | | | 0.2 | 20.0 | | | | | | | |
| DIBROMOCHLOROMETHANE | 211 | 0 | 56.0 | 56.0 | 0.2 | 500.0 | 1.7110 | 2.4091 | | | | | |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detectio limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6e

## Statistical Summary Groundwater - Volatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIBROMOMETHANE | 56 | 0 | | | 0.2 | 50.0 | | | | | | | |
| DICHLORODIFLUOROMETHANE | 56 | 5 | 0.8 | 2.8 | 0.4 | 50.0 | 1.4599 | 4.3190 | | | | | |
| ETHYLBENZENE | 211 | 0 | 1.0 | 1.0 | 0.2 | 500.0 | 1.4065 | 1.0837 | | | | | |
| HEXACHLOROBUTADIENE | 56 | 0 | | | 0.1 | 30.0 | | | | | | | |
| METHYLENE CHLORIDE | 212 | 45 | 0.3 | 620.0 | 2.0 | 250.0 | 8.9475 | 22.6677 | 274 | 28.8 | 1 | 25 | 7 |
| NAPHTHALENE | 56 | 4 | 0.2 | 2.4 | 0.2 | 20.0 | 0.1294 | 0.1474 | | | | | |
| PROPANE, 1,2-DIBROMO-3-CHLORO- | 56 | 0 | | | 0.3 | 100.0 | | | | | | | |
| STYRENE | 211 | 1 | 0.1 | 0.2 | 0.1 | 500.0 | 1.3930 | 1.1019 | | | | | |
| TETRACHLOROETHENE | 211 | 28 | 0.1 | 6000.0 | 0.0 | 2000.0 | 103.4808 | 480.6170 | 274 | 2.2 | 1 | 42 | 10 |
| TOLUENE | 211 | 10 | 0.2 | 270.0 | 0.1 | 500.0 | 4.6751 | 19.3238 | 274 | 2.2 | 1 | 6 | 6 |
| TOTAL XYLENES | 160 | 3 | 1.0 | 120.0 | 0.3 | 500.0 | 3.2276 | 5.3057 | 260 | 0.4 | 5 U | 7 | 1 |
| TRICHLOROETHENE | 211 | 34 | 0.1 | 14000.0 | 0.0 | 9400.0 | 371.6499 | 1557.4362 | 274 | 2.9 | 2 | 42 | 18 |
| TRICHLOROFLUOROMETHANE | 56 | 5 | 1.1 | 10.2 | 0.2 | 50.0 | 1.2827 | 3.0244 | | | | | |
| VINYL ACETATE | 142 | 1 | 8.0 | 8.0 | 10.0 | 1000.0 | 5.0200 | 0.1000 | | | | | |
| VINYL CHLORIDE | 211 | 0 | 0.2 | 0.2 | 0.2 | 1000.0 | 2.7745 | 2.2146 | | | | | |
| cis-1,2-DICHLOROETHENE | 56 | 5 | 0.2 | 0.9 | 0.1 | 20.0 | 0.5158 | 1.9363 | | | | | |
| cis-1,3-DICHLOROPROPENE | 206 | 0 | | | 0.1 | 500.0 | | | 274 | 0.4 | 3 | 5 U | 0 |
| m-XYLENE | 51 | 2 | 0.4 | 0.4 | 0.2 | 20.0 | 0.2941 | 0.9702 | | | | | |
| n-BUTYLBENZENE | 56 | 0 | | | 0.2 | 20.0 | | | | | | | |
| n-PROPYLBENZENE | 56 | 0 | | | 0.2 | 20.0 | | | | | | | |
| o-CHLOROTOLUENE | 56 | 0 | | | 0.2 | 30.0 | | | | | | | |
| o-XYLENE | 53 | 0 | | | 0.2 | 20.0 | | | | | | | |
| p-CHLOROTOLUENE | 56 | 2 | 0.6 | 0.6 | 0.2 | 30.0 | 0.8217 | 2.9314 | | | | | |
| p-CYMENE | 56 | 2 | 0.4 | 0.4 | 0.2 | 20.0 | 0.6337 | 2.0597 | | | | | |
| p-XYLENE | 0 | 0 | | | | | | | | | | | |
| sec-BUTYLBENZENE | 56 | 9 | 0.4 | 0.9 | 0.2 | 20.0 | 0.6766 | 2.0510 | | | | | |
| sec-DICHLOROPROPANE | 56 | 0 | | | 0.2 | 50.0 | | | | | | | |
| tert-BUTYLBENZENE | 56 | 2 | 4.0 | 4.0 | 0.2 | 30.0 | 0.8824 | 2.9394 | | | | | |
| trans-1,2-DICHLOROETHENE | 66 | 0 | | | 0.1 | 170.0 | | | | | | | |
| trans-1,3-DICHLOROPROPENE | 206 | 0 | | | 0.1 | 500.0 | | | | | | | |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6f

## Statistical Summary Groundwater - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-TRICHLOROBENZENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 1,2-DICHLOROBENZENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 1,3-DICHLOROBENZENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 1,4-DICHLOROBENZENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2,4,5-TRICHLOROPHENOL | 25 | 0 | | | 50.0 | 50.0 | | | | | | | |
| 2,4,6-TRICHLOROPHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2,4-DICHLOROPHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2,4-DIMETHYLPHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2,4-DINITROPHENOL | 17 | 0 | | | 50.0 | 50.0 | | | | | | | |
| 2,4-DINITROTOLUENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2,6-DINITROTOLUENE | 26 | 4 | 2.0 | 2.0 | 10.0 | 10.0 | 4.9167 | 0.3536 | | | | | |
| 2-CHLORONAPHTHALENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2-CHLOROPHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2-METHYLNAPHTHALENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2-METHYLPHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 2-NITROANILINE | 26 | 0 | | | 50.0 | 50.0 | | | | | | | |
| 2-NITROPHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 3,3'-DICHLOROBENZIDINE | 26 | 0 | | | 20.0 | 20.0 | | | | | | | |
| 3-NITROANILINE | 26 | 0 | | | 50.0 | 50.0 | | | | | | | |
| 4,6-DINITRO-2-METHYLPHENOL | 25 | 0 | | | 50.0 | 50.0 | | | | | | | |
| 4-BROMOPHENYL PHENYL ETHER | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 4-CHLORO-3-METHYLPHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 4-CHLOROANILINE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 4-CHLOROPHENYL PHENYL ETHER | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 4-METHYLPHENOL | 22 | 0 | | | 10.0 | 10.0 | | | | | | | |
| 4-NITROANILINE | 26 | 0 | | | 50.0 | 50.0 | | | | | | | |
| 4-NITROPHENOL | 25 | 0 | | | 50.0 | 50.0 | | | | | | | |
| ACENAPHTHENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| ACENAPHTHYLENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| ANTHRACENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BENZENAMINE | 0 | 0 | | | | | | | | | | | |
| BENZIDINE | 0 | 0 | | | | | | | | | | | |
| BENZO(a)ANTHRACENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BENZO(a)PYRENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BENZO(b)FLUORANTHENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BENZO(ghi)PERYLENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BENZO(k)FLUORANTHENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BENZOIC ACID | 19 | 5 | 14.0 | 14.0 | 50.0 | 50.0 | 24.6333 | 1.4201 | | | | | |
| BENZYL ALCOHOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BIS(2-CHLOROETHOXY)METHANE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BIS(2-CHLOROETHYL)ETHER | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| BIS(2-CHLOROISOPROPYL)ETHER | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |

* No Upper Tolerance Limit - value is maximum value for Background

Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6f

## Statistical Summary Groundwater - Semivolatile Organics

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BIS(2-ETHYLHEXYL)PHTHALATE | 26 | 8 | 2.0 | 8.0 | 10.0 | 25.0 | 5.0000 | 0.5145 | | | | | |
| BUTYL BENZYL PHTHALATE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| CHRYSENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| DI-n-BUTYL PHTHALATE | 26 | 15 | 2.0 | 3.0 | 10.0 | 10.0 | 4.6944 | 0.5975 | | | | | |
| DI-n-OCTYL PHTHALATE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| DIBENZO(a,h)ANTHRACENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| DIBENZOFURAN | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| DIETHYL PHTHALATE | 26 | 19 | 2.0 | 7.0 | 10.0 | 10.0 | 4.8889 | 0.7584 | | | | | |
| DIMETHYL PHTHALATE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| FLUORANTHENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| FLUORENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| HEXACHLOROBENZENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| HEXACHLOROBUTADIENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| HEXACHLOROCYCLOPENTADIENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| HEXACHLOROETHANE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| INDENO(1,2,3-cd)PYRENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| ISOPHORONE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| N-NITROSO-DI-n-PROPYLAMINE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| N-NITROSODI-N-BUTYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIETHYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIMETHYLAMINE | 0 | 0 | | | | | | | | | | | |
| N-NITROSODIPHENYLAMINE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| N-NITROSOPYRROLIDINE | 0 | 0 | | | | | | | | | | | |
| NAPHTHALENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| NITROBENZENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| PENTACHLOROPHENOL | 25 | 0 | | | 50.0 | 50.0 | | | | | | | |
| PHENANTHRENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |
| PHENOL | 25 | 0 | | | 10.0 | 10.0 | | | | | | | |
| PYRENE | 26 | 0 | | | 10.0 | 10.0 | | | | | | | |

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Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6g

## Statistical Summary Groundwater - Pesticide/PCBs

| Compound/Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | % > Bkgd Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-DDD | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| 4,4'-DDE | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| 4,4'-DDT | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| ALDRIN | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| AROCLOR-1016 | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |
| AROCLOR-1221 | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |
| AROCLOR-1232 | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |
| AROCLOR-1242 | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |
| AROCLOR-1248 | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |
| AROCLOR-1254 | 15 | 0 | | | 1.0 | 1.0 | | | | | | | |
| AROCLOR-1260 | 15 | 0 | | | 1.0 | 1.0 | | | | | | | |
| DIELDRIN | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| ENDOSULFAN I | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| ENDOSULFAN II | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| ENDOSULFAN SULFATE | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| ENDRIN | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| ENDRIN KETONE | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| HEPTACHLOR | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| HEPTACHLOR EPOXIDE | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| METHOXYCHLOR | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |
| TOXAPHENE | 15 | 0 | | | 1.0 | 1.0 | | | | | | | |
| alpha-BHC | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| alpha-CHLORDANE | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |
| beta-BHC | 15 | 7 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0270 | 0.0077 | | | | | |
| delta-BHC | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| gamma-BHC (LINDANE) | 15 | 0 | | | 0.1 | 0.1 | | | | | | | |
| gamma-CHLORDANE | 15 | 0 | | | 0.5 | 0.5 | | | | | | | |

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Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

## Table C2-6h(1)

## Statistical Summary Groundwater - RFA - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 1 | 100 | 240000.0 | 240000.0 | | | 240000.000 | | 2 | 100.0 | 70200 | 205500 | | | 205 | | | 100 | 100 |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 16 | 100 | 150000.0 | 600000.0 | | | 387053.333 | 107475.180 | 41 | 100.0 | 38500 | 180000 | 83248.9910 | 1.6080 | 2 | 88 | 4.65 | 66838 | 94 | 88 |
| BICARBONATE | 2 | 100 | 570000.0 | 630000.0 | | | 600000.000 | 42426.4069 | 16 | 100.0 | 60300 | 526000 | 154586.999 | 1.8900 | 7 | 867 | 3.88 | 22448 | 100 | 0 |
| CARBONATE | 6 | 0 | | | 1000.0 | 5000.0 | | | 32 | 6.2 | 500.5 U | 10000 U | | | | * | | | 0 | 0 |
| CARBONATE AS CACO3 | 10 | 10 | 10000.0 | 10000.0 | 1000.0 | 2000.0 | 1135.4167 | 1162.3805 | 181 | 39.2 | 0 | 54000 | | | | * | | | 0 | 0 |
| CHLORIDE | 16 | 100 | 22000.0 | 1200000. | | | 297528.000 | 506494.772 | 41 | 92.7 | 1200 | 48000 | 6144.2010 | 2.3000 | | .450 | 48.42 | 220215 | 63 | 75 |
| CYANIDE | 2 | 0 | | | 2.0 | 10.0 | | | 45 | 2.2 | 2 U | 20 U | | | | * | | | 0 | 0 |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 18 | 94 | 400.0 | 2100.0 | 500.0 | 500.0 | 922.8571 | 621.5804 | 39 | 87.2 | 200 U | 50000 U | 302.8140 | 2.2560 | | .716.747 | 3.05 | 275.52 | 0 | 11 |
| HYDROCYANIC ACID | 1 | 0 | | | 5.0 | 5.0 | | | | | | | | | | | | | |
| NITRATE | 1 | 0 | | | 1000.0 | 1000.0 | | | 6 | 50.0 | 100 U | 1070 | | | 1070 * | | | 0 | 0 |
| NITRATE/NITRITE | 17 | 94 | 60.0 | 12000.0 | 20.0 | 20.0 | 3793.3333 | 4815.1520 | 46 | 100.0 | 165 | 2050 | 923.7950 | 1.6350 | 2577.081 | 4.11 | 2945.0 | 18 | 18 |
| NITRITE | 3 | 33 | 160.0 | 160.0 | 20.0 | 1000.0 | 292.5000 | 293.4493 | 62 | 11.3 | 10 U | 900 | | | 900 * | | | 0 | 0 |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 9 | 44 | 10.0 | 30.0 | 10.0 | 20.0 | 10.8333 | 8.4163 | 118 | 45.8 | 0.01 | 190 | | | 190 * | | | 0 | 0 |
| PHOSPHATE | 4 | 50 | 20.0 | 1000.0 | 200.0 | 200.0 | 305.0000 | 289.9138 | | | | | | | | | | | |
| PHOSPHORUS | 3 | 67 | 30.0 | 842.0 | 10.0 | 10.0 | 292.3333 | | 65 | 60.0 | 10 U | 15000 | 27.8430 | 4.6710 | 612.264 | 10.50 | | 0 | 33 |
| SILICA, DISSOLVED | 9 | 100 | 6000.0 | 27000.0 | | | 9491.6667 | 2185.3680 | 51 | 100.0 | 3800 | 57000 | 10547.8890 | 1.4300 | 22030.351 | 0.90 | 1528.2 | 0 | 11 |
| SILICON | 1 | 100 | 13000.0 | 13000.0 | | | 13000.0000 | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 17 | 100 | 27000.0 | 240000.0 | | | 98719.0476 | 77428.7808 | 67 | 100.0 | 2900 | 2900 | 20224.3830 | 1.6310 | 53734.539 | 4.88 | 47473 | 100 | 88 |
| SULFIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. DISS. SOLIDS | 18 | 100 | 370000.0 | 3200000. | | | 1221400.00 | 1128238.58 | 47 | 100.0 | 100000 | 310000 | 175907.240 | 1.3020 | 304827.148 | 6.94 | 866543 | 100 | 100 |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 16 | 100 | 20000.0 | 1480000. | | | 209400.000 | 255403.211 | 44 | 88.6 | 4000 U | 1400000 | 52273.4650 | 6.7750 | 2896760.03 | 4.01 | 37698 | 6 | 0 |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 3 | 100 | 7.2 | 7.8 | | | 7.5000 | 0.3000 | 1 | 100.0 | 6.9 | 6.9 | | | 6.9 * | | | 100 | 100 |

A-0001-000729

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6h(2)

## Statistical Summary Groundwater - VFA - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 0 | 0 | | | | | | | 2 | 100.0 | 70200 | 205500 | | | 205500 • | | | | |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 11 | 100 | 110000.0 | 440000.0 | | | 254600.000 | 122203.137 | 21 | 100.0 | 198000 | 430000 | 295315.309 | 1.2580 | 509332.113 | 0.86 | 97141 | 9 | 0 |
| BICARBONATE | 2 | 100 | 144500.0 | 150000.0 | | | 147250.000 | | 16 | 100.0 | 60300 | 526000 | 154586.999 | 1.8900 | 770444.867 | 0.95 | | 0 | 0 |
| CARBONATE | 2 | 100 | 7500.0 | 150000.0 | | | 78750.0000 | | 32 | 6.2 | 500.5 U | 10000 U | | | 10000 U • | | | 50 | 50 |
| CARBONATE AS CACO3 | 8 | 0 | | | 1000.0 | 2000.0 | | | 181 | 39.2 | 0 | 54000 | | | 54000 • | | | 0 | 0 |
| CHLORIDE | 11 | 100 | 13700.0 | 180000.0 | | | 86554.1667 | 67217.7933 | 23 | 100.0 | 15000 | 260000 | 36242.3980 | 2.6410 | 347746.155 | 2.39 | 25452 | 0 | 0 |
| CYANIDE | 1 | 100 | 0.0 | 0.0 | | | 0.0091 | | 45 | 2.2 | 2 U | 20 U | | | 20 U • | | | 0 | 0 |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 12 | 100 | 320.0 | 2200.0 | | | 1259.1667 | 781.0267 | 23 | 100.0 | 400 | 8200 | 1011.8550 | 2.6190 | 9517.363 | 1.24 | 298.22 | 0 | 0 |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 0 | 0 | | | | | | | 6 | 50.0 | 100 U | 1070 | | | 1070 • | | | | |
| NITRATE/NITRITE | 14 | 29 | 110.0 | 6600.0 | 20.0 | 2800.0 | 1001.8667 | 1395.0292 | 20 | 85.0 | 20 U | 2800 U | 108.7070 | 2.6510 | 1123.800 | 9.22 | 526.23 | 7 | 14 |
| NITRITE | 3 | 0 | | | 20.0 | 100.0 | | | 62 | 11.3 | 10 U | 900 | | | 900 • | | | 0 | 0 |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 8 | 63 | 10.0 | 40.0 | 10.0 | 10.0 | 20.8333 | 16.9148 | 118 | 45.8 | 0.01 U | 190 | | | 190 • | | | 0 | 0 |
| PHOSPHATE | 2 | 100 | 20.0 | 54.0 | | | 37.0000 | 24.0416 | | | | | | | | | | | |
| PHOSPHORUS | 0 | 0 | | | | | | | 65 | 60.0 | 10 U | 15000 | 27.8430 | 4.6710 | 612.264 | | | | |
| SILICA, DISSOLVED | 5 | 100 | 4700.0 | 7850.0 | | | 6072.2222 | 1216.1338 | 36 | 100.0 | 4200 | 70597.89 | 10232.0400 | 1.8500 | 38605.129 | 0.59 | 657.37 | 0 | 0 |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 12 | 100 | 10000.0 | 400000.0 | | | 160429.167 | 129578.218 | 47 | 100.0 | 4505 | 2800000 | 53424.3040 | 4.1550 | 1034598.01 | 3.00 | 31186 | 0 | 0 |
| SULFIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. DISS. SOLIDS | 12 | 100 | 185000.0 | 1100000. | | | 610958.333 | 370052.858 | 24 | 100.0 | 290000 | 4590000 | | 638044.574 | 5208971.59 | | 0.58 | 0 | 0 |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 11 | 73 | 9000.0 | 330000.0 | 2000.0 | 5000.0 | 76850.0000 | 103403.369 | 23 | 82.6 | 4000 U | 310000 | 14315.7290 | 3.3340 | 236329.032 | 5.37 | 31015 | 9 | 9 |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 1 | 100 | 7.4 | 7.4 | | | 7.4000 | | 1 | 100.0 | 6.9 | 6.9 | | | 6.9 * | | | 100 | 100 |

* No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit is greater than 2 times the CRQL, the data point is not used.

# Table C2-6h(3)

## Statistical Summary Groundwater - COL - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 2 | 100 | 270000.0 | 340000.0 | | | 305000.000 | 49497.4747 | 2 | 100.0 | 70200 | 205500 | | | 205500 • | | | 100 | 100 |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 42 | 100 | 47000.0 | 680000.0 | | | 334205.556 | 128385.378 | 8 | 100.0 | 180000 | 320000 | 218106.671 | 1.1900 | 379954.511 | 1.53 | 107887 | 40 | 29 |
| BICARBONATE | 9 | 100 | 186000.0 | 570000.0 | | | 395375.000 | 108784.108 | 16 | 100.0 | 60300 | 526000 | 154586.999 | 1.8900 | 770444.867 | 2.56 | 57558 | 11 | 0 |
| CARBONATE | 19 | 5 | 470000.0 | 470000.0 | 1000.0 | 5000.0 | 37663.4615 | 129903.504 | 32 | 6.2 | 500.5 U | 10000 U | | | 10000 U • | | | 5 | 5 |
| CARBONATE AS CACO3 | 22 | 0 | | | 1000.0 | 2000.0 | | | 181 | 39.2 | 0 | 54000 | | | 54000 • | | | 0 | 0 |
| CHLORIDE | 45 | 100 | 6400.0 | 480000.0 | | | 170762.963 | 136049.004 | 8 | 100.0 | 13000 | 25000 | 18134.3300 | 1.2820 | 39980.040 | 9.42 | 106122 | 98 | 98 |
| CYANIDE | 2 | 0 | | | 10.0 | 11.1 | | | 45 | 2.2 | 2 U | 20 U | | | 20 U • | | | 0 | 0 |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 4 | 0 | | | 20.0 | 20.0 | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 50 | 100 | 200.0 | 4100.0 | | | 1306.2963 | 707.7192 | 8 | 100.0 | 500 | 2200 | 873.3890 | 1.9910 | 7841.469 | 1.50 | 355.46 | 8 | 0 |
| HYDROCYANIC ACID | 1 | 0 | | | 5.0 | 5.0 | | | | | | | | | | | | | |
| NITRATE | 3 | 67 | 16200.0 | 32000.0 | 100.0 | 100.0 | 16083.3333 | 15975.3195 | 6 | 50.0 | 100 U | 1070 | | | 1070 • | | | 67 | 67 |
| NITRATE/NITRITE | 52 | 92 | 30.0 | 43000.0 | 20.0 | 50.0 | 4851.5909 | 9152.4210 | 7 | 85.7 | 20 U | 600 | 194.0690 | 4.2150 | 25819.417 | 25.00 | 2171.4 | 65 | 13 |
| NITRITE | 15 | 13 | 80.0 | 160.0 | 20.0 | 10000.0 | 307.9630 | 831.8728 | 62 | 11.3 | 10 U | 900 | | | 900* | | | 0 | 0 |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 22 | 73 | 10.0 | 590.0 | 10.0 | 20.0 | 53.0556 | 126.7899 | 118 | 45.8 | 0.01 | 190 | | | 190 • | | | 9 | 9 |
| PHOSPHATE | 18 | 72 | 30.0 | 1400.0 | 50.0 | 1000.0 | 458.4444 | 388.1237 | | | | | | | | | | | |
| PHOSPHORUS | 6 | 83 | 291.0 | 1490.0 | 10.0 | 10.0 | 593.1250 | 403.6517 | 65 | 60.0 | 10 U | 15000 | 27.8430 | 4.6710 | 612.264 | 21.30 | 86.42 | 0 | 50 |
| SILICA, DISSOLVED | 22 | 100 | 4600.0 | 32000.0 | | | 9601.3889 | 4346.4978 | 21 | 100.0 | 6000 | 42000 | 8742.5030 | 1.5320 | 24023.241 | 1.10 | 2837.1 | 0 | 14 |
| SILICON | 1 | 100 | 11000.0 | 11000.0 | | | 11000.0000 | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 49 | 100 | 41000.0 | 730000.0 | | | 227648.148 | 165225.296 | 27 | 100.0 | 30000 | 770000 | 110782.136 | 2.7200 | 1063290.46 | 2.05 | 60745 | 0 | 0 |
| SULFIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. DISS. SOLIDS | 51 | 100 | 348000.0 | 2310000. | | | 988092.593 | 379002.644 | 8 | 100.0 | 280000 | 650000 | 342721.987 | 1.3060 | 801632.030 | 2.88 | 290201 | 78 | 76 |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 43 | 91 | 4000.0 | 5100000. | 4000.0 | 5000.0 | 554644.444 | 958119.487 | 8 | 62.5 | 4000 U | 14000 | 5466.0150 | 2.0890 | 57179.718 | 101.5 | 458650 | 84 | 65 |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 10 | 100 | 7.3 | 7.7 | | | 7.5400 | 0.1506 | 1 | 100.0 | 6.9 | 6.9 | | | 6.9 • | | | 100 | 100 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-6h(4)

## Statistical Summary Groundwater - WCS - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 1 | 100 | 220000.0 | 220000.0 | | | 220000.000 | | 2 | 100.0 | 70200 | 205500 | | | 205500 • | | | 100 | 100 |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 13 | 100 | 130000.0 | 560000.0 | | | 310920.000 | 156458.403 | 16 | 100.0 | 140000 | 470000 | 248511.649 | 1.5660 | 770424.028 | 1.25 | 99910 | 8 | 0 |
| BICARBONATE | 2 | 100 | 180000.0 | 490000.0 | | | 335000.000 | 219203.102 | 16 | 100.0 | 60300 | 526000 | 154586.999 | 1.8900 | 770444.867 | 2.17 | 115980 | 0 | 0 |
| CARBONATE | 5 | 0 | | | 1000.0 | 5000.0 | | | 32 | 6.2 | 500.5 U | 10000 U | | | 10000 U • | | | 0 | 0 |
| CARBONATE AS CACO3 | 8 | 38 | 4000.0 | 10000.0 | 1000.0 | 1000.0 | 1531.2500 | 2062.5000 | 181 | 39.2 | 0 | 54000 | | | 54000 • | | | 0 | 0 |
| CHLORIDE | 14 | 100 | 33100.0 | 260000.0 | | | 172524.000 | 87774.7280 | 13 | 100.0 | 2400 | 36000 | 14039.6180 | 2.2820 | 127071.870 | 12.29 | 38464 | 86 | 64 |
| CYANIDE | 0 | 0 | | | | | | | 45 | 2.2 | 2 U | 20 U | | | 20 U • | | | | |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 0 | 0 | | | | | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 15 | 100 | 300.0 | 1600.0 | | | 810.0000 | 462.8715 | 15 | 86.7 | 200 U | 800 | 477.8840 | 1.6700 | 1781.180 | 1.69 | 277.17 | 60 | 0 |
| HYDROCYANIC ACID | 1 | 0 | | | 5.0 | 5.0 | | | | | | | | | | | | | |
| NITRATE | 0 | 0 | | | | | | | 6 | 50.0 | 100 U | 1070 | | | 1070 • | | | | |
| NITRATE/NITRITE | 15 | 100 | 1200.0 | 38000.0 | | | 15320.0000 | 16740.1978 | 17 | 94.1 | 90 | 5300 | 454.0540 | 2.8830 | 6317.637 | 33.74 | 5806.5 | 33 | 33 |
| NITRITE | 4 | 0 | | | 20.0 | 20.0 | | | 62 | 11.3 | 10 U | 900 | | | 900 • | | | 0 | 0 |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 9 | 89 | 10.0 | 90.0 | 20.0 | 20.0 | 36.2500 | 32.7554 | 118 | 45.8 | 0.01 | 190 | | | 190 • | | | 0 | 0 |
| PHOSPHATE | 3 | 67 | 30.0 | 60.0 | 10.0 | 10.0 | 25.0000 | 28.2843 | | | | | | | | | | | |
| PHOSPHORUS | 0 | 0 | | | | | | | 65 | 60.0 | 10 U | 15000 | 27.8430 | 4.6710 | 612.264 | | | | |
| SILICA, DISSOLVED | 8 | 100 | 5200.0 | 11000.0 | | | 8146.6667 | 2138.3535 | 38 | 100.0 | 3800 | 33000 | 7455.7380 | 1.7160 | 25061.682 | 1.09 | 1246.1 | 0 | 0 |
| SILICON | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 14 | 93 | 45000.0 | 1300000. | 230000.0 | 230000.0 | 438082.667 | 389251.308 | 36 | 100.0 | 18000 | 890000 | 54937.1680 | 2.7920 | 503510.082 | 7.97 | 139417 | 7 | 21 |
| SULFIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. DISS. SOLIDS | 15 | 100 | 320000.0 | 2000000. | | | 1171933.33 | 573902.160 | 17 | 100.0 | 180000 | 1430000 | 414110.170 | 2.1450 | 2760446.58 | 2.83 | 267553 | 13 | 0 |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 13 | 100 | 13000.0 | 2700000. | | | 909460.000 | 844714.335 | 17 | 52.9 | 4000 U | 60000 | 5299.0240 | 3.1060 | 88706.417 | 171.6 | 271962 | 69 | 62 |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 3 | 100 | 7.6 | 8.5 | | | 7.9250 | 0.4596 | 1 | 100.0 | 6.9 | 6.9 | | | 6.9 • | | | 100 | 100 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Table C2-6h(5)

## Statistical Summary Groundwater - KAR - Water Quality Parameters

| Analyte | No. Obs. | % Det. | Minimum | Maximum | Minimum Detect. Limit | Maximum Detect. Limit | Mean | Standard Deviation | No. Obs. Bkgd. | % Det. Bkgd. | Minimum Bkgd. | Maximum Bkgd. | Mean Bkgd. | Std. Dev. Background | Background UTL | Ratio Means | Ratio St.Dev | % > Bkgd Max | % > UTL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| ALKALINITY AS CACO3 | 0 | 0 | | | | | | | 2 | 100.0 | 70200 | 205500 | | | 205500 • | | | | |
| AMMONIA | 0 | 0 | | | | | | | | | | | | | | | | | |
| BICARB. AS CACO3 | 13 | 100 | 210000.0 | 540000.0 | | | 339775.000 | 138024.886 | 26 | 100.0 | 52000 | 490000 | 192820.603 | 1.5590 | 529689.314 | 1.76 | 88534 | 31 | 15 |
| BICARBONATE | 4 | 100 | 250000.0 | 640000.0 | | | 417500.000 | 165604.952 | 16 | 100.0 | 60300 | 526000 | 154586.999 | 1.8900 | 770444.867 | 2.70 | 87622 | 25 | 0 |
| CARBONATE | 8 | 13 | 4000.0 | 4000.0 | 1000.0 | 5000.0 | 2104.1667 | 951.0594 | 32 | 6.2 | 500.5 U | 10000 U | | | 10000 U • | | | 0 | 0 |
| CARBONATE AS CACO3 | 4 | 25 | 32000.0 | 32000.0 | 1000.0 | 10000.0 | 6500.0000 | 8485.2814 | 181 | 39.2 | 0 | 54000 | | | 54000 • | | | 0 | 0 |
| CHLORIDE | 16 | 100 | 16700.0 | 290000.0 | | | 112862.500 | 114491.168 | 23 | 95.7 | 4200 | 230000 | 34469.5140 | 4.7200 | 1278362.93 | 3.27 | 24257 | 25 | 0 |
| CYANIDE | 0 | 0 | | | | | | | 45 | 2.2 | 2 U | 20 U | | | 20 U • | | | | |
| CYANIDE, AMENABLE | 0 | 0 | | | | | | | | | | | | | | | | | |
| CYANIDES (S. SALTS) | 3 | 0 | | | 20.0 | 20.0 | | | | | | | | | | | | | |
| DISS. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| FLUORIDE | 17 | 88 | 200.0 | 1200.0 | 500.0 | 500.0 | 597.0833 | 425.7855 | 25 | 100.0 | 200 | 1300 | 614.3510 | 1.8990 | 2672.161 | 0.97 | 224.22 | 0 | 0 |
| HYDROCYANIC ACID | 0 | 0 | | | | | | | | | | | | | | | | | |
| NITRATE | 1 | 100 | 12000.0 | 12000.0 | | | 12000.0000 | | 6 | 50.0 | 100 U | 1070 | | | 1070 • | | | 100 | 100 |
| NITRATE/NITRITE | 16 | 63 | 30.0 | 16000.0 | 20.0 | 50.0 | 3359.1667 | 6411.1704 | 27 | 85.2 | 20 U | 3300 | 204.7540 | 6.2030 | 12663.275 | 16.41 | 1033.6 | 25 | 13 |
| NITRITE | 6 | 17 | 20.0 | 20.0 | 20.0 | 10000.0 | 636.2500 | 1245.8423 | 62 | 11.3 | 10 U | 900 | | | 900 • | | | 0 | 0 |
| OIL AND GREASE | 0 | 0 | | | | | | | | | | | | | | | | | |
| ORTHOPHOSPHATE | 6 | 17 | 10.0 | 10.0 | 10.0 | 2000.0 | 254.3750 | 497.0847 | 118 | 45.8 | 0.01 | 190 | | | 190 • | | | 0 | 0 |
| PHOSPHATE | 7 | 57 | 20.0 | 810.0 | 10.0 | 2000.0 | 305.0000 | 336.0308 | | | | | | | | | | | |
| PHOSPHORUS | 5 | 100 | 20.0 | 465.0 | | | 224.3333 | 113.4023 | 65 | 60.0 | 10 U | 15000 | 27.8430 | 4.6710 | 612.264 | 8.06 | 24.28 | 0 | 0 |
| SILICA, DISSOLVED | 9 | 100 | 3300.0 | 23000.0 | | | 8704.1667 | 3614.1793 | 46 | 100.0 | 17 | 28200 | 4467.9300 | 2.7580 | 37098.104 | 1.95 | 1310.4 | 0 | 0 |
| SILICON | 1 | 100 | 18000.0 | 18000.0 | | | 18000.0000 | | | | | | | | | | | | |
| SODIUM FLUORIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SODIUM SULFATE | 0 | 0 | | | | | | | | | | | | | | | | | |
| SOLIDS, NONVOL/SUSP | 0 | 0 | | | | | | | | | | | | | | | | | |
| SULFATE | 17 | 94 | 4700.0 | 660000.0 | 5000.0 | 5000.0 | 312166.667 | 325418.607 | 53 | 96.2 | 600 | 1200000 | 26198.3260 | 5.5950 | 895031.054 | 11.92 | 58162 | 0 | 0 |
| SULFIDE | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. DISS. SOLIDS | 17 | 100 | 370000.0 | 2000000. | | | 966750.000 | 676975.320 | 27 | 100.0 | 160000 | 1000000 | 375827.519 | 1.6760 | 1206931.63 | 2.57 | 403923 | 47 | 41 |
| TOT. ORG. CARBON | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOT. SUSP. SOLIDS | 13 | 92 | 9000.0 | 4800000. | 4000.0 | 4000.0 | 550475.000 | 902450.979 | 26 | 65.4 | 4000 U | 1600000 | 16827.5580 | 8.5530 | 2222530.62 | 32.71 | 105513 | 8 | 8 |
| TOTAL ALKALINITY | 0 | 0 | | | | | | | | | | | | | | | | | |
| TOTAL SOLIDS | 0 | 0 | | | | | | | | | | | | | | | | | |
| pH | 4 | 100 | 7.3 | 7.9 | | | 7.6250 | 0.2500 | 1 | 100.0 | 6.9 | 6.9 | | | 6.9 • | | | 100 | 100 |

• No Upper Tolerance Limit - value is maximum value for Background
Site means are calculated by first calculating a mean for each location and then calculating a grand mean. Site standard deviations are calculated using the grand mean and the means from individual locations. Non-Detects: In calculating the mean for each location, one-half the detection limit is used for non-detects; if the detection limit i greater than 2 times the CRQL, the data point is not used.

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg)

| ANALYTE | Location: 0974 (COL)<br>Sample: BP00029IT (REAL)<br>Depth: 0.00 - 20.0 '<br>Date: 05/07/92 | | | Location: 1074 (COL)<br>Sample: BP00030IT (REAL)<br>Depth: 0.00 - 12.0 '<br>Date: 05/07/92 | | | Location: 30091 (VFA)<br>Sample: BH00001EBU1B (REAL)<br>Depth: 3.75 - 4.0 '<br>Date: 08/05/91 | | | Location: 30091 (VFA)<br>Sample: BH00001EBU1C (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 08/05/91 | | | Location: 30091 (VFA)<br>Sample: BH00002EBU1A (REAL)<br>Depth: 7.7 - 7.9 '<br>Date: 08/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 4 | J | A | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | R | 13 | U | R | 10 | U | V | 10 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | V | 13 | U | V | 10 | U | V | 10 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 13 | U | V | 13 | U | V | 10 | U | V | 10 | U | V | 12 | U | V |
| acetone | 13 | U | V | 12 | BJ | JA | 21 | B | JA | 21 | B | JA | 54 | B | JA |
| benzene | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| bromomethane | 13 | U | V | 13 | U | V | 10 | U | V | 10 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 11 | | V | 5 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 13 | U | V | 13 | U | V | 10 | U | V | 10 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 5 | J | A | 5 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 13 | U | V | 10 | U | V | 10 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 2 | BJ | JA | 5 | U | V | 5 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | J | A | 28 | | V | 5 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 7 | | JA | 6 | U | R | 5 | U | V | 5 | U | V | 6 | U | V |
| toluene | 15 | | V | 9 | | V | 6 | | V | 5 | J | A | 16 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V | 6 | U | V |
| trichloroethene | 13 | | V | 11 | | V | 5 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 13 | U | V | 10 | U | V | 10 | U | V | 12 | U | V |
| vinyl chloride | 13 | U | V | 13 | U | V | 10 | U | V | 10 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pasticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30091 (WCS)<br>Sample: BH00002EBU1B (REAL)<br>Depth: 9.7 - 9.9 '<br>Date: 08/05/91 | | | Location: 30191 (COL)<br>Sample: BH00004EBU1A (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 08/07/91 | | | Location: 30191 (COL)<br>Sample: BH00004EBU1B (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 08/07/91 | | | Location: 30191 (COL)<br>Sample: BH00005EBU1A (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/07/91 | | | Location: 30191 (COL)<br>Sample: BH00006EBU1A (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 1 | J | JA | 13 | U | V | 11 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| acetone | 26 | B | JA | 12 | B | JA | 13 | U | R | 29 | B | JA | 27 | B | JA |
| benzene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| carbon disulfide | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| chloroform | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| toluene | 32 | | V | 110 | | V | 70 | | V | 5 | U | V | 42 | | V |
| total xylenes | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| vinyl chloride | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30191 (WCS)<br>Sample: BH00006EBU1B (REAL)<br>Depth: 15.7 - 16.0 '<br>Date: 08/07/91 | | | Location: 30291 (COL)<br>Sample: BH00008EBU1A (REAL)<br>Depth: 1.7 - 1.9 '<br>Date: 08/08/91 | | | Location: 30291 (COL)<br>Sample: BH00008EBU1B (REAL)<br>Depth: 5.7 - 5.9 '<br>Date: 08/08/91 | | | Location: 30291 (COL)<br>Sample: BH00009EBU1A (REAL)<br>Depth: 5.9 - 11.9 '<br>Date: 08/08/91 | | | Location: 30291 (WCS)<br>Sample: BH00010EBU1A (REAL)<br>Depth: 11.9 - 17.9 '<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 3 | J | A | 12 | U | V | 2 | J | A | 12 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| 4-methyl-2-pentanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| acetone | 28 | B | JA | 19 | B | JA | 19 | B | JA | 13 | B | JA | 15 | B | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| bromomethane | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| chloroethane | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| chloromethane | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 6 | U | V | 6 | U | V | 6 | U | V | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| toluene | 58 | | V | 49 | | V | 35 | | V | 28 | | V | 33 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| vinyl chloride | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30291 (COL)<br>Sample: BH00010EBU1B (REAL)<br>Depth: 13.7 - 13.9 '<br>Date: 08/08/91 | | | Location: 30391 (COL)<br>Sample: BH00012EBU1A (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00012EBU1B (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00013EBU1A (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00014EBU1A (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| acetone | 15 | B | JA | 24 | B | JA | 25 | B | JA | 12 | U | V | 28 | B | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | R | 6 | U | R | 6 | U | V | 6 | U | R |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 2 | BJ | JA | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 9 | | V | 62 | | V | 19 | | V | 26 | | V | 7 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | R | 11 | U | R | 12 | U | V | 12 | U | R |
| vinyl chloride | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30391 (COL)<br>Sample: BH00014EBU1B (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00015EBU1A (REAL)<br>Depth: 21.7 - 22.0 '<br>Date: 08/09/91 | | | Location: 30491 (WCS)<br>Sample: BH00042EBU1 (REAL)<br>Depth: 27.7 - 28.0 '<br>Date: 08/13/91 | | | Location: 30591 (COL)<br>Sample: BH00045EBU1 (REAL)<br>Depth: 1.75 - 2.00 '<br>Date: 08/14/91 | | | Location: 30591 (COL)<br>Sample: BH00046EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 08/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | R | 12 | U | R |
| 4-methyl-2-pentanone | 12 | U | V | 11 | U | V | 11 | U | V | 2 | J | V | 12 | U | V |
| acetone | 39 | B | JA | 11 | U | V | 11 | U | V | 30 | B | JA | 24 | B | V |
| benzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | JA |
| *benzene, 1,2,4-trimethyl* | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | R | 5 | U | V | 6 | U | V | 6 | U | R | 6 | U | R |
| carbon tetrachloride | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 5 | U | V | 2 | BJ | JA | 6 | J | A | 4 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 48 | | V | 5 | U | V | 19 | | V | 48 | | V | 16 | | V |
| total xylenes | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | R | 11 | U | V | 11 | U | V | 12 | U | R | 12 | U | R |
| vinyl chloride | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30591 (WCS)<br>Sample: 8H00048E8U1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/14/91 | | | Location: 30691 (VFA)<br>Sample: 8H00051E8U1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 08/15/91 | | | Location: 30691 (VFA)<br>Sample: 8H00053E8U1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 08/15/91 | | | Location: 30691 (VFA)<br>Sample: 8H00054E8U1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/15/91 | | | Location: 30691 (WCS)<br>Sample: 8H00056E8U1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 8 | BJ | JA | 12 | U | V | 12 | U | | 10 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | R | 12 | U | V | 12 | U | V | 12 | U | | 10 | U | |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | | 10 | U | |
| acetone | 26 | B | JA | 18 | B | JA | 24 | B | JA | 21 | B | | 11 | B | |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | | 10 | U | |
| carbon disulfide | 6 | U | R | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | | 10 | U | |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | | 10 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | J | A | 6 | U | V | 6 | U | V | 6 | U | | 2 | BJ | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| toluene | 11 | | V | 46 | | V | 45 | | V | 42 | | | 10 | | |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 5 | U | |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 5 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | R | 12 | U | V | 12 | U | | 12 | U | | 10 | U | |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | | 12 | U | | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30791 (VFA)<br>Sample: BH00059EBU1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 08/16/91 | | | Location: 30791 (VFA)<br>Sample: BH00061EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00062EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00066EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00067EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 08/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,1,2-trichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,1-dichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,1-dichloroethene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,2-dichloroethene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,2-dichloropropane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 8 | BJ | JA | 12 | U | V | 13 | U | | 2 | BJ | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | | 12 | U | |
| 4-methyl-2-pentanone | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | | 12 | U | |
| acetone | 25 | B | JA | 24 | B | JA | 17 | B | JA | 26 | B | | 29 | B | |
| benzene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| bromoform | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| bromomethane | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | | 12 | U | |
| carbon disulfide | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| carbon tetrachloride | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| chlorobenzene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| chloroethane | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | | 12 | U | |
| chloroform | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| chloromethane | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | | 12 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 7 | U | V | 6 | | V | 6 | U | | 6 | U | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| toluene | 100 | | V | 33 | | V | 12 | | V | 29 | | | 17 | | |
| total xylenes | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| trichloroethene | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | | 6 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | | 12 | U | |
| vinyl chloride | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | | 12 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; *A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range;* JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30891 (VFA)<br>Sample: BH00071EBU1 (REAL)<br>Depth: 0.75 - 1.0 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00072EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00076EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00077EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00079EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 08/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| acetone | 2 | BJ | JA | 4 | BJ | JA | 3 | BJ | JA | 4 | BJ | JA | 5 | BJ | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | J | A | 2 | J | A | 2 | J | A | 3 | J | A | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 53 | | V | 19 | | V | 13 | | V | 25 | | V | 20 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31091 (COL)<br>Sample: BH00081EBU1 (REAL)<br>Depth: 1.75 - 2.00 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00082EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00086EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00088EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/20/91 | | | Location: 31291 (WCS)<br>Sample: BH00092EBU1 (REAL)<br>Depth: 25.7 - 26.0 '<br>Date: 08/21/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 7 | J | A | 13 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| acetone | 10 | U | JA | 15 | B | JA | 12 | U | JA | 13 | U | V | 8 | BJ | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 13 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 47 | B | V | 40 | B | V | 34 | B | V | 7 | B | JA | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 78 | | V | 43 | U | V | 46 | | V | 8 | | V | 49 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 3 | J | A | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31291 (WCS) Sample: BH00093EBU1 (REAL) Depth: 29.7 - 30.0 ' Date: 08/21/91 | | | Location: 31291 (WCS) Sample: BH00096EBU1 (REAL) Depth: 33.7 - 34.0 ' Date: 08/22/91 | | | Location: 31391 (WCS) Sample: MW00098EBU1 (REAL) Depth: 3.75 - 4.0 ' Date: 08/22/91 | | | Location: 31591 (COL) Sample: BH00101EBU1 (REAL) Depth: 1.75 - 2.00 ' Date: 08/23/91 | | | Location: 31591 (COL) Sample: BH00102EBU1 (REAL) Depth: 5.75 - 6.0 ' Date: 08/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 5 | J | A | 11 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 10 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 10 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| acetone | 7 | BJ | JA | 10 | U | V | 7 | BJ | JA | 12 | U | JA | 12 | U | V |
| benzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 10 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 10 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 10 | U | V | 11 | U | V | 6 | U | V | 6 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 1 | BJ | JA | 2 | BJ | JA | 5 | U | JA | 1 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 36 | | V | 5 | U | V | 45 | | V | 17 | | V | 31 | | V |
| total xylenes | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 10 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 10 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31591 (COL)<br>Sample: BH00104EBU1 (REAL)<br>Depth: 7.75 - 8.0 '<br>Date: 08/23/91 | | | Location: 31591 (COL)<br>Sample: BH00107EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/23/91 | | | Location: 31591 (WCS)<br>Sample: BH00108EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/23/91 | | | Location: 31691 (COL)<br>Sample: BH00110EBU1 (REAL)<br>Depth: 25.7 - 26.0 '<br>Date: 08/26/91 | | | Location: 31691 (WCS)<br>Sample: BH00111EBU1 (REAL)<br>Depth: 29.7 - 30.0 '<br>Date: 08/26/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | R |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | R |
| acetone | 12 | U | JA | 12 | U | JA | 12 | U | JA | 4 | J | A | 13 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 2 | J | A | 2 | U | V | 6 | U | V | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 29 | | V | 49 | | V | 30 | U | V | 13 | | V | 6 | U | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | R |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31791 (WCS)<br>Sample: MW00161EBU1 (REAL)<br>Depth: 11.7 - 12.0 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00123EBU1 (REAL)<br>Depth: 1.5 - 1.75 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00124EBU1 (REAL)<br>Depth: 4.5 - 4.75 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00126EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00127EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/27/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 53 | | V | 110 | | V | 3 | J | A | 95 | | V | 110 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31891 (WCS)<br>Sample: BH00129EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 08/27/91 | | | Location: 31891 (WCS)<br>Sample: BH00130EBU1 (REAL)<br>Depth: 19.7 - 20.0 '<br>Date: 08/27/91 | | | Location: 31991 (COL)<br>Sample: BH00138EBU1 (REAL)<br>Depth: 1.75 - 2.00 '<br>Date: 08/28/91 | | | Location: 31991 (COL)<br>Sample: BH00139EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 08/28/91 | | | Location: 31991 (COL)<br>Sample: BH00141EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/28/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | R | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 2 | J | A | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 36 | | V | 86 | | V | 57 | | V | 160 | | V | 65 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | R | 12 | U | R |
| vinyl chloride | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31991 (COL)<br>Sample: BH00142EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/28/91 | | | Location: 31991 (WCS)<br>Sample: BH00144EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 08/28/91 | | | Location: 32091 (COL)<br>Sample: BH00203EBU1 (REAL)<br>Depth: 1.75 - 2.00 '<br>Date: 08/29/91 | | | Location: 32091 (COL)<br>Sample: BH00204EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 08/29/91 | | | Location: 32091 (COL)<br>Sample: BH00206EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/29/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 11 | U | V | 12 | U | V | 12 | U | R | 12 | U | R | 8 | BJ | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 2 | J | A | 6 | U | V | 3 | BJ | JA | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| set-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 4 | J | A |
| toluene | 55 | | V | 48 | | V | 15 | | V | 56 | | V | 22 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | R | 12 | U | R | 12 | U | V | 12 | U | V | 12 | U | R |
| vinyl chloride | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32091 (COL)<br>Sample: BH00207EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/29/91 | | | Location: 32091 (WCS)<br>Sample: BH00209EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 08/29/91 | | | Location: 32191 (COL)<br>Sample: BH00217EBU1 (REAL)<br>Depth: 1.75 - 2.00 '<br>Date: 08/30/91 | | | Location: 32191 (COL)<br>Sample: BH00218EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 08/30/91 | | | Location: 32191 (COL)<br>Sample: BH00220EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 08/30/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 3 | BJ | JA | 2 | BJ | JA | 2 | BJ | JA | 7 | BJ | JA | 5 | BJ | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 2 | BJ | JA | 6 | U | V | 2 | BJ | JA | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 1 | J | A | 6 | U | V | 6 | U | V | 6 | U | V | 12 | | V |
| toluene | 18 | | V | 49 | | V | 7 | | V | 8 | | V | 17 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 12 | | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | R | 13 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| vinyl chloride | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32191 (COL)<br>Sample: 8H00222E8U1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 08/30/91 | | | Location: 32191 (WCS)<br>Sample: 8H00223E8U1 (REAL)<br>Depth: 15.7 - 16.0 '<br>Date: 08/30/91 | | | Location: 32291 (WCS)<br>Sample: MW00165E8U1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/03/91 | | | Location: 32391 (COL)<br>Sample: 8H00227E8U1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 09/03/91 | | | Location: 32391 (WCS)<br>Sample: 8H00228E8U1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/03/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 7 | U | V | | | | | | | | | |
| 1,2-dichloropropane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| acetone | 6 | BJ | JA | 13 | U | V | 12 | U | V | 12 | | JA | 18 | | JA |
| benzene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 2 | BJ | JA | 13 | | V | 5 | J | A | 14 | | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| toluene | 10 | | V | 10 | | V | 31 | | V | 120 | | V | 14 | | V |
| total xylenes | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,3-dichloropropene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 7 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | R | 13 | U | R | 12 | U | V | 10 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32391 (WCS)<br>Sample: BH00230EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/03/91 | | | Location: 32491 (COL)<br>Sample: BH00237EBU1 (REAL)<br>Depth: 0.75 - 1.00 '<br>Date: 09/04/91 | | | Location: 32491 (COL)<br>Sample: BH00238EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/04/91 | | | Location: 32491 (WCS)<br>Sample: BH00241EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/04/91 | | | Location: 32591 (WCS)<br>Sample: MW00174EBU1 (REAL)<br>Depth: 15.7 - 16.0 '<br>Date: 09/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | | | | | | | | | | | | | | | |
| 1,2-dichloropropane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |
| acetone | 12 | U | V | 10 | U | V | 12 | U | V | 11 | J | A | 13 | U | V |
| benzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |
| carbon disulfide | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |
| chloroform | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 15 | | A | 4 | J | A | 7 | | V | 7 | | V | 14 | | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 4 | J | A | 6 | | V | 34 | | V | 22 | | V | 20 | | V |
| total xylenes | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |
| vinyl chloride | 12 | U | V | 10 | U | V | 12 | U | V | 12 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32691 (COL) Sample: BH00247EBU1 (REAL) Depth: 0.90 - 1.20 ' Date: 09/05/91 | | | Location: 32691 (WCS) Sample: BH00248EBU1 (REAL) Depth: 5.75 - 6.00 ' Date: 09/05/91 | | | Location: 32791 (WCS) Sample: MW00183EBU1 (REAL) Depth: 7.75 - 8.00 ' Date: 09/05/91 | | | Location: 32891 (COL) Sample: BH00255EBU1 (REAL) Depth: 1.75 - 2.00 ' Date: 09/06/91 | | | Location: 32891 (WCS) Sample: BH00256EBU1 (REAL) Depth: 5.75 - 6.00 ' Date: 09/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | | | | | | | | | | | | | | | |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| acetone | 12 | U | V | 13 | U | V | 8 | J | A | 6 | BJ | JA | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 3 | BJ | JA | 3 | BJ | JA | 4 | BJ | JA | 9 | B | JA | 2 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| toluene | 220 | | V | 53 | | V | 42 | | V | 10 | | V | 150 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32991 (COL)<br>Sample: BH00262EBU1 (REAL)<br>Depth: 0.75 - 1.00 '<br>Date: 09/06/91 | | | Location: 32991 (WCS)<br>Sample: BH00263EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/06/91 | | | Location: 33091 (WCS)<br>Sample: MW00188EBU1 (REAL)<br>Depth: 7.75 - 8.00 '<br>Date: 09/06/91 | | | Location: 33191 (WCS)<br>Sample: BH00272EBU1 (REAL)<br>Depth: 1.75 - 2.00 '<br>Date: 09/09/91 | | | Location: 33191 (WCS)<br>Sample: BH00273EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | | | | | | | | | | | | | | | |
| 1,2-dichloropropane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 13 | | JA | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| benzene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | J | A | 2 | BJ | JA | 4 | J | A | 2 | J | A | 3 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 120 | | V | 19 | | V | 190 | | V | 230 | | V | 120 | | V |
| total xylenes | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,3-dichloropropene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 11 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 33291 (COL)<br>Sample: BH00282EBU1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 09/10/91 | | | Location: 33291 (COL)<br>Sample: BH00283EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/10/91 | | | Location: 33291 (COL)<br>Sample: BH00285EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/10/91 | | | Location: 33291 (WCS)<br>Sample: BH00287EBU1 (REAL)<br>Depth: 11.7 - 12.0 '<br>Date: 09/10/91 | | | Location: 33391 (WCS)<br>Sample: MW00192EBU1 (REAL)<br>Depth: - '<br>Date: 09/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | | | | | | | | | | | | | | | |
| 1,2-dichloropropane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| acetone | 8 | J | A | 15 | | JA | 8 | J | A | 12 | U | V | 12 | U | V |
| benzene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 23 | B | JA | 8 | B | JA | 8 | B | JA | 16 | B | JA | 3 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 140 | | V | 19 | | V | 55 | | V | 59 | | V | 30 | | V |
| total xylenes | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,3-dichloropropene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 7 | U | V | 5 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 15 | U | V | 11 | U | V | 11 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 33491 (WCS)<br>Sample: MW00302EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/12/91 | | | Location: 33591 (COL)<br>Sample: BH00292EBU1 (REAL)<br>Depth: 1.0 - 1.3 '<br>Date: 09/11/91 | | | Location: 33591 (COL)<br>Sample: BH00293EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/11/91 | | | Location: 33591 (COL)<br>Sample: BH00296EBU1 (REAL)<br>Depth: 8.75 - 9.00 '<br>Date: 09/11/91 | | | Location: 33591 (WCS)<br>Sample: BH00298EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 09/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 11 | U | R | 13 | U | R | 11 | U | R | 13 | U | R |
| 4-methyl-2-pentanone | 12 | U | V | 11 | U | R | 13 | U | R | 11 | U | R | 13 | U | R |
| acetone | 12 | U | R | 11 | U | R | 13 | U | R | 7 | BJ | JA | 13 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | R | 6 | U | R | 5 | U | R | 6 | U | R |
| bromomethane | 12 | U | R | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| toluene | 77 | | V | 420 | D | V | 100 | | V | 58 | | V | 200 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |
| vinyl chloride | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 33791 (RFA)<br>Sample: BH00351EBU1 (REAL)<br>Depth: 1.15 - 1.4 '<br>Date: 09/12/91 | | | Location: 33791 (RFA)<br>Sample: BH00352EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/12/91 | | | Location: 33791 (RFA)<br>Sample: BH00354EBU1 (REAL)<br>Depth: 9.25 - 9.50 '<br>Date: 09/12/91 | | | Location: 33791 (RFA)<br>Sample: BH00357EBU1 (REAL)<br>Depth: 13.6 - 13.9 '<br>Date: 09/12/91 | | | Location: 33791 (RFA)<br>Sample: BH00358EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 09/12/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | R | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| acetone | 15 | B | JA | 11 | U | V | 5 | BJ | JA | 4 | BJ | JA | 4 | BJ | JA |
| benzene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | R | 5 | U | V | 6 | U | R | 5 | U | R | 6 | U | R |
| bromomethane | 11 | U | V | 11 | U | R | 12 | U | V | 11 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| toluene | 230 | D | JA | 17 | | V | 45 | | V | 14 | | V | 190 | | V |
| total xylenes | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 5 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| vinyl chloride | 11 | U | V | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 33891 (WCS)<br>Sample: MW00312EBU1 (REAL)<br>Depth: 8.70 - 8.95 '<br>Date: 09/13/91 | | | Location: 33991 (COL)<br>Sample: BH00362EBU1 (REAL)<br>Depth: 1.05 - 1.30 '<br>Date: 09/13/91 | | | Location: 33991 (WCS)<br>Sample: BH00363EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/13/91 | | | Location: 33991 (WCS)<br>Sample: BH00366EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/13/91 | | | Location: 34091 (COL)<br>Sample: BH00369EBU1 (REAL)<br>Depth: 0.75 - 1.00 '<br>Date: 09/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | |
| 1,1,2,2-tetrachloroethane | 6 | U | R | 6 | U | R | 6 | U | R | 6 | U | R | 6 | U | R |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| 4-methyl-2-pentanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| acetone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | BJ | JA | 6 | U | R | 3 | BJ | JA | 6 | BJ | JA | 16 | B | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 70 | | V | 220 | D | | 13 | | V | 24 | | V | 15 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34091 (COL)<br>Sample: BH00370EBU1 (REAL)<br>Depth: 5.75 - 6.00 '<br>Date: 09/16/91 | | | Location: 34091 (WCS)<br>Sample: BH00373EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/16/91 | | | Location: 34191 (WCS)<br>Sample: MW00316EBU1 (REAL)<br>Depth: 7.75 - 8.00 '<br>Date: 09/16/91 | | | Location: 34291 (COL)<br>Sample: BH00377EBU1 (REAL)<br>Depth: 1.45 - 1.7 '<br>Date: 09/16/91 | | | Location: 34291 (WCS)<br>Sample: BH00378EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 09/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | R | 6 | U | V | 6 | U | V | 5 | U | R | 6 | U | R |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 12 | U | R | 12 | U | R | 11 | U | R | 13 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | R | 12 | U | R | 12 | U | R | 11 | U | R | 13 | U | R |
| 4-methyl-2-pentanone | 12 | U | R | 12 | U | V | 12 | U | V | 11 | U | R | 13 | U | R |
| acetone | 12 | U | R | 12 | U | R | 12 | U | R | 4 | J | A | 13 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromomethane | 12 | U | R | 12 | U | R | 12 | U | R | 11 | U | R | 13 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 12 | U | R | 12 | U | R | 12 | U | R | 11 | U | R | 13 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 4 | BJ | JA | 6 | U | R | 1 | J | A | 4 | BJ | JA | 11 | B | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| toluene | 14 | | V | 36 | | V | 140 | | V | 140 | D | JA | 18 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | R | 6 | U | R | 5 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | R | 12 | U | R | 12 | U | R | 11 | U | R | 13 | U | R |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34391 (WCS)<br>Sample: MW00319EBU1 (REAL)<br>Depth: 4.75 - 5.0 '<br>Date: 09/17/91 | | | Location: 34491 (WCS)<br>Sample: BH00383EBU1 (REAL)<br>Depth: 1.15 - 1.4 '<br>Date: 09/17/91 | | | Location: 34491 (WCS)<br>Sample: BH00384EBU1 (REAL)<br>Depth: 5.55 - 5.8 '<br>Date: 09/17/91 | | | Location: 34591 (WCS)<br>Sample: MW00325EBU1 (REAL)<br>Depth: 11.0 - 11.2 '<br>Date: 09/18/91 | | | Location: 34691 (COL)<br>Sample: BH00389EBU1 (REAL)<br>Depth: 1.15 - 4.0 '<br>Date: 09/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | R | 13 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 13 | U | R | 12 | U | V | 12 | U | R | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | R | 12 | U | V |
| acetone | 3 | J | A | 13 | U | R | 12 | U | V | 12 | U | R | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | R | 13 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | R | 13 | U | R | 12 | U | R | 12 | U | V | 12 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | R | 6 | U | V | 6 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 28 | | V | 11 | | V | 22 | | V | 95 | | V | 67 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | 6 | U | V | 6 | U | V |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | R | 6 | U | V | 6 | U | R | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | R | 13 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| vinyl chloride | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34691 (COL) Sample: BH00390EBU1 (REAL) Depth: 5.75 - 6.00 ' Date: 09/18/91 | | | Location: 34691 (COL) Sample: BH00393EBU1 (REAL) Depth: 8.75 - 9.0 ' Date: 09/18/91 | | | Location: 34691 (WCS) Sample: BH00395EBU1 (REAL) Depth: 13.7 - 14.0 ' Date: 09/18/91 | | | Location: 34891 (COL) Sample: BH00402EBU1 (REAL) Depth: 0.65 - 0.90 ' Date: 09/19/91 | | | Location: 34891 (COL) Sample: BH00404EBU1 (REAL) Depth: 5.75 - 6.0 ' Date: 09/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | R | 6 | U | R | 6 | U | R | 5 | U | R | 6 | U | R |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | R | 12 | U | R | 11 | U | R | 11 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | R | 12 | U | R | 11 | U | R | 11 | U | R | 12 | U | R |
| 4-methyl-2-pentanone | 11 | U | R | 12 | U | R | 11 | U | R | 11 | U | V | 12 | U | V |
| acetone | 11 | U | R | 12 | U | R | 11 | U | R | 2 | BJ | JA | 12 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| bromomethane | 11 | U | R | 12 | U | R | 11 | U | R | 11 | U | R | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 1 | J | A | 6 | U | V |
| toluene | 40 | | V | 67 | | V | 59 | | V | 70 | | V | 45 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | | | | | | |
| trans-1,3-dichloropropene | 6 | U | R | 6 | U | R | 6 | U | R | 5 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | R | 12 | U | R | 11 | U | R | 11 | U | R | 12 | U | R |
| vinyl chloride | 11 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34891 (COL)<br>Sample: BH00406EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/19/91 | | | Location: 34891 (WCS)<br>Sample: BH00408EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 09/19/91 | | | Location: 34991 (COL)<br>Sample: BH00411EBU1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 09/20/91 | | | Location: 34991 (COL)<br>Sample: BH00412EBU1 (REAL)<br>Depth: 5.65 - 5.9 '<br>Date: 09/20/91 | | | Location: 34991 (COL)<br>Sample: BH00416EBU1 (REAL)<br>Depth: 11.6 - 11.9 '<br>Date: 09/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | R | 6 | U | R | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | R | 12 | U | R | 12 | U | V | 11 | U | V | 11 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | R | 12 | U | R | 12 | U | V | 11 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V |
| acetone | 13 | U | R | 12 | U | R | 3 | BJ | JA | 13 | B | JA | 6 | J | A |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | R |
| bromomethane | 13 | U | R | 12 | U | R | 12 | U | R | 11 | U | R | 11 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| chloroethane | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| chloromethane | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | R |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | R | 6 | U | R | 2 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| toluene | 33 | | V | 14 | | V | 84 | | V | 23 | | V | 23 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| trichloroethene | 3 | J | A | 1 | J | A | 6 | U | V | 6 | U | V | 5 | U | V |
| trichlorofluoromethanee | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | R | 12 | U | R | 12 | U | V | 11 | U | V | 11 | U | V |
| vinyl chloride | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34991 (WCS)<br>Sample: BH00417EBU1 (REAL)<br>Depth: 15.7 - 16.0 '<br>Date: 09/23/91 | | | Location: 35091 (WCS)<br>Sample: MW00334EBU1 (REAL)<br>Depth: 5.3 - 5.55 '<br>Date: 09/23/91 | | | Location: 35191 (WCS)<br>Sample: BH00338EBU1 (REAL)<br>Depth: 3.05 - 3.3 '<br>Date: 09/23/91 | | | Location: 35191 (WCS)<br>Sample: BH00339EBU1 (REAL)<br>Depth: 5.5 - 5.75 '<br>Date: 09/23/91 | | | Location: 35291 (COL)<br>Sample: BH00420EBU1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 09/24/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | | | |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 14 | U | V | 11 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 14 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 14 | U | V | 11 | U | V |
| acetone | 5 | BJ | JA | 12 | J | A | 11 | J | A | 9 | J | A | 11 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | R | 6 | U | R | 7 | U | R | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | R | 12 | U | R | 14 | U | R | 11 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 14 | U | V | 11 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | R | 12 | U | R | 14 | U | R | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | BJ | JA | 3 | J | A | 3 | J | A | 3 | J | A | 12 | | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| toluene | 120 | | JA | 130 | | V | 44 | | V | 110 | | V | 140 | D | JA |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | 6 | U | V |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 14 | U | V | 11 | U | R |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 14 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 35291 (COL)<br>Sample: BH00421EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 09/24/91 | | | Location: 35291 (WCS)<br>Sample: BH00424EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/24/91 | | | Location: 35391 (COL)<br>Sample: BH00342EBU1 (REAL)<br>Depth: 1.2 - 1.45 '<br>Date: 09/24/91 | | | Location: 35391 (COL)<br>Sample: BH00343EBU1 (REAL)<br>Depth: 5.4 - 5.65 '<br>Date: 09/24/91 | | | Location: 35391 (WCS)<br>Sample: BH00346EBU1 (REAL)<br>Depth: 7.75 - 8.0 '<br>Date: 09/24/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | | | | | | | | | | | | | | | |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | R | 13 | U | R | 12 | U | R | 11 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| acetone | 11 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | R | 13 | U | R | 12 | U | R | 11 | U | R | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 18 | | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | R | 13 | U | R | 12 | U | R | 11 | U | R | 12 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 14 | | V | 9 | | V | 14 | | V | 6 | U | V | 7 | | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 41 | | V | 25 | | V | 300 | D | V | 6 | U | V | 42 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 4 | J | A | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | R | 13 | U | R | 12 | U | R | 11 | U | R | 12 | U | R |
| vinyl chloride | 11 | U | V | 13 | U | V | 12 | U | V | 11 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 35391 (WCS)<br>Sample: BH00347EBU1 (REAL)<br>Depth: 9.2 - 9.45 '<br>Date: 09/24/91 | | | Location: 35491 (COL)<br>Sample: BH00427EBU1 (REAL)<br>Depth: 1.35 - 1.6 '<br>Date: 09/24/91 | | | Location: 35491 (COL)<br>Sample: BH00428EBU1 (REAL)<br>Depth: 5.05 - 5.3 '<br>Date: 09/24/91 | | | Location: 35491 (WCS)<br>Sample: BH00430EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/24/91 | | | Location: 35591 (COL)<br>Sample: BH00434EBU1 (REAL)<br>Depth: 0.45 - 0.7 '<br>Date: 09/26/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,2-dichloroethene | | | | | | | | | | 6 | U | V | 5 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| acetone | 12 | U | R | 11 | U | R | 12 | U | R | 13 | U | R | 11 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| bromomethane | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| chloroethane | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| chloromethane | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 10 | B | JA | 18 | B | JA | 14 | B | JA | 6 | BJ | JA | 3 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| toluene | 86 | | V | 120 | | V | 48 | | V | 23 | | V | 29 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| vinyl chloride | 12 | U | V | 11 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 35591 (WCS)<br>Sample: BH00435EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 09/26/91 | | | Location: 35691 (COL)<br>Sample: MW00505EBU1 (REAL)<br>Depth: 19.6 - 19.8 '<br>Date: 09/26/91 | | | Location: 35691 (WCS)<br>Sample: MW00506EBU1 (REAL)<br>Depth: 27.3 - 27.6 '<br>Date: 09/26/91 | | | Location: 35691 (WCS)<br>Sample: MW00507EBU1 (REAL)<br>Depth: 29.5 - 29.8 '<br>Date: 09/26/91 | | | Location: 35691 (COL)<br>Sample: BH00490EBU1 (REAL)<br>Depth: 7.3 - 7.5 '<br>Date: 10/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 13 | U | R | 12 | U | R | 13 | U | R | 11 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| acetone | 12 | U | R | 13 | U | R | 10 | BJ | JA | 13 | U | R | 11 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 11 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 11 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 17 | B | JA | 13 | B | JA | 13 | B | JA | 12 | B | JA | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 28 | | V | 51 | | V | 34 | | V | 6 | U | V | 69 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |
| vinyl chloride | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 35791 (COL)<br>Sample: BH00439EBU1 (REAL)<br>Depth: 1.35 - 1.6 '<br>Date: 09/27/91 | | | Location: 35791 (COL)<br>Sample: BH00440EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 09/27/91 | | | Location: 35791 (COL)<br>Sample: BH00443EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 09/27/91 | | | Location: 35791 (WCS)<br>Sample: BH00445EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 09/27/91 | | | Location: 35891 (COL)<br>Sample: BH00448EBU1 (REAL)<br>Depth: 1.15 - 1.4 '<br>Date: 10/01/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | R | 12 | U | R | 11 | U | R | 12 | U | R | 11 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 11 | U | V |
| acetone | 11 | U | R | 4 | BJ | JA | 5 | BJ | JA | 12 | U | R | 11 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 11 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 11 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 3 | BJ | JA | 12 | | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 90 | | V | 31 | | V | 16 | | V | 6 | U | V | 6 | U | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 11 | U | V |
| vinyl chloride | 11 | U | V | 12 | U | V | 11 | U | V | 12 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 35891 (COL)<br>Sample: BH00449EBU1 (REAL)<br>Depth: 5.35 - 5.6 '<br>Date: 10/01/91 | | | Location: 35891 (WCS)<br>Sample: BH00452EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 10/01/91 | | | Location: 35991 (WCS)<br>Sample: MW00512EBU1 (REAL)<br>Depth: 15.6 - 15.9 '<br>Date: 10/01/91 | | | Location: 36091 (COL)<br>Sample: BH00456EBU1 (REAL)<br>Depth: 1.65 - 1.9 '<br>Date: 10/02/91 | | | Location: 36091 (COL)<br>Sample: BH00457EBU1 (REAL)<br>Depth: 5.65 - 5.9 '<br>Date: 10/02/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,1-dichloroethane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,1-dichloroethene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,2-dichloroethene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,2-dichloropropane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | R | 13 | U | R |
| 4-methyl-2-pentanone | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | V | 13 | U | V |
| acetone | 9 | J | A | 13 | U | V | 13 | U | V | 43 | U | V | 21 | | JA |
| benzene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| bromoform | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | V | 13 | U | V |
| carbon disulfide | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| carboh tetrachloride | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| chlorobenzene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | V | 13 | U | V |
| chloroform | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | J | A | 7 | U | V | 7 | U | V | 7 | BJ | JA | 3 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| toluene | 120 | | JA | 90 | | V | 46 | | V | 620 | | V | 100 | | JA |
| total xylenes | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| trichloroethene | 5 | U | V | 7 | U | V | 7 | U | V | 21 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | V | 13 | U | V |
| vinyl chloride | 11 | U | V | 13 | U | V | 13 | U | V | 43 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36091 (COL)<br>Sample: BH00460EBU1 (REAL)<br>Depth: 8.9 - 9.2 '<br>Date: 10/02/91 | | | Location: 36091 (COL)<br>Sample: BH00462EBU1 (REAL)<br>Depth: 13.1 - 13.4 '<br>Date: 10/02/91 | | | Location: 36091 (WCS)<br>Sample: BH00463EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 10/02/91 | | | Location: 36191 (WCS)<br>Sample: MW00517EBU1 (REAL)<br>Depth: 15.7 - 16.0 '<br>Date: 10/03/91 | | | Location: 36291 (COL)<br>Sample: BH00466EBU1 (REAL)<br>Depth: 1.15 - 1.4 '<br>Date: 10/03/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 14 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | R | 13 | U | R | 12 | U | R | 13 | U | V | 14 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 14 | U | V |
| acetone | 8 | J | A | 9 | J | A | 12 | U | V | 13 | U | R | 14 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| bromomethane | 11 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 14 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| chloroethane | 11 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 14 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| chloromethane | 11 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 14 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 3 | BJ | JA | 3 | BJ | JA | 2 | BJ | JA | 1 | J | A | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| toluene | 72 | | V | 150 | | V | 65 | | V | 38 | | V | 170 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 14 | U | V |
| vinyl chloride | 11 | U | V | 13 | U | V | 12 | U | V | 13 | U | V | 14 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36291 (COL)<br>Sample: BH00467EBU1 (REAL)<br>Depth: 5.65 - 5.9 '<br>Date: 10/03/91 | | | Location: 36291 (WCS)<br>Sample: BH00469EBU1 (REAL)<br>Depth: 9.35 - 9.6 '<br>Date: 10/03/91 | | | Location: 36291 (WCS)<br>Sample: BH00472EBU1 (REAL)<br>Depth: 13.6 - 13.9 '<br>Date: 10/03/91 | | | Location: 36391 (COL)<br>Sample: BH00521EBU1 (REAL)<br>Depth: 0.7 - 1.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00522EBU1 (REAL)<br>Depth: 5.0 - 5.25 '<br>Date: 10/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | R | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 13 | U | R | 12 | U | V | 21 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 13 | U | R | 12 | U | V | 21 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 13 | U | R | 12 | U | V | 21 | U | V | 12 | U | R |
| acetone | 12 | U | V | 14 | B | JA | 4 | J | A | 21 | U | R | 12 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 13 | U | V | 12 | U | V | 21 | U | R | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 13 | U | V | 12 | U | V | 21 | U | R | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 13 | U | V | 12 | U | V | 21 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 3 | BJ | JA | 1 | J | A | 16 | B | JA | 37 | | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| toluene | 310 | D | V | 43 | | V | 110 | | V | 220 | | V | 110 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 11 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 13 | U | V | 12 | U | V | 21 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 13 | U | V | 12 | U | V | 21 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36391 (COL)<br>Sample: BH00525EBU1 (REAL)<br>Depth: 9.00 - 9.25 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00528EBU1 (REAL)<br>Depth: 13.5 - 13.8 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00529EBU1 (REAL)<br>Depth: 17.9 - 18.2 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: MW00527EBU1 (REAL)<br>Depth: 11.8 - 12.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00532EBU1 (REAL)<br>Depth: 21.9 - 22.2 '<br>Date: 10/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 13 | U | R | 13 | U | R | 12 | U | R | 12 | U | R | 11 | U | R |
| acetone | 13 | U | R | 13 | U | R | 12 | U | R | 12 | U | R | 11 | U | R |
| benzene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 13 | U | R | 13 | U | R | 12 | U | R | 12 | U | R | 11 | U | R |
| carbon disulfide | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 13 | U | V | 13 | U | V | 12 | U | V | 12 | U | R | 11 | U | R |
| chloroform | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 57 | | JA | 49 | | JA | 16 | | JA | 10 | B | JA | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 150 | | V | 64 | | V | 100 | | V | 30 | | V | 31 | | V |
| total xylenes | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 7 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| vinyl chloride | 13 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36391 (COL)<br>Sample: BH00534EBU1 (REAL)<br>Depth: 25.5 - 25.7 '<br>Date: 10/07/91 | | | Location: 36391 (WCS)<br>Sample: BH00535EBU1 (REAL)<br>Depth: 27.9 - 28.2 '<br>Date: 10/07/91 | | | Location: 36391 (WCS)<br>Sample: BH00536EBU1 (REAL)<br>Depth: 29.4 - 29.6 '<br>Date: 10/07/91 | | | Location: 36491 (COL)<br>Sample: BH00475EBU1 (REAL)<br>Depth: 1.45 - 1.7 '<br>Date: 10/04/91 | | | Location: 36491 (COL)<br>Sample: BH00476EBU1 (REAL)<br>Depth: 5.15 - 5.4 '<br>Date: 10/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 12 | U | R | 12 | U | R | 12 | U | V | 4 | BJ | JA | 12 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | R | 12 | U | R | 12 | U | V | 12 | U | V | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | R | 12 | U | R | 12 | U | V | 12 | U | V | 12 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 2 | J | A | 14 | | JA | 22 | B | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 29 | | V | 26 | | V | 32 | | V | 200 | | JA | 130 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36491 (COL)<br>Sample: BH00479EBU1 (REAL)<br>Depth: 9.65 - 9.9 '<br>Date: 10/04/91 | | | Location: 36491 (COL)<br>Sample: BH00481EBU1 (REAL)<br>Depth: 13.0 - 13.3 '<br>Date: 10/04/91 | | | Location: 36491 (WCS)<br>Sample: BH00482EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 10/04/91 | | | Location: 36591 (COL)<br>Sample: BH00486EBU1 (REAL)<br>Depth: 1.3 - 1.5 '<br>Date: 10/07/91 | | | Location: 36591 (COL)<br>Sample: BH00487EBU1 (REAL)<br>Depth: 5.25 - 5.5 '<br>Date: 10/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | | 11 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 11 | U | V | 13 | U | R | 11 | U | | 11 | U | V |
| acetone | 12 | U | R | 11 | U | R | 13 | U | R | 26 | B | | 11 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| bromomethane | 12 | U | R | 11 | U | R | 13 | U | R | 11 | U | | 11 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| chloroethane | 12 | U | R | 11 | U | R | 13 | U | V | 11 | U | | 11 | U | R |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| chloromethane | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 20 | B | JA | 8 | B | JA | 54 | | JA | 6 | U | | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| toluene | 170 | | V | 28 | | V | 30 | | V | 13 | | | 40 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | | 11 | U | V |
| vinyl chloride | 12 | U | V | 11 | U | V | 13 | U | V | 11 | U | | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36591 (WCS)<br>Sample: BH00492EBU1 (REAL)<br>Depth: 14.7 - 15.0 '<br>Date: 10/07/91 | | | Location: 36691 (COL)<br>Sample: BH00539EBU1 (REAL)<br>Depth: 1.15 - 1.4 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00540EBU1 (REAL)<br>Depth: 5.35 - 5.6 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00542EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00545EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | R |
| 1,1,2-trichloroethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | | 12 | U | V | 14 | U | V | 12 | U | V | 12 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | | 12 | U | V | 14 | U | V | 12 | U | V | 12 | U | R |
| 4-methyl-2-pentanone | 12 | U | | 12 | U | V | 14 | U | V | 12 | U | V | 12 | U | R |
| acetone | 18 | B | | 12 | U | V | 5 | BJ | JA | 12 | U | V | 12 | U | R |
| benzene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | R |
| bromomethane | 12 | U | | 12 | U | R | 14 | U | R | 12 | U | V | 12 | U | R |
| carbon disulfide | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | | 12 | U | V | 14 | U | V | 12 | U | R | 12 | U | V |
| chloroform | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | | 12 | U | V | 14 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | J | | 6 | U | V | 7 | U | V | 6 | U | V | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethane | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| toluene | 31 | | | 20 | | V | 150 | | V | 6 | U | V | 34 | | V |
| total xylenes | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | R |
| trichloroethene | 6 | U | | 6 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | | 12 | U | V | 14 | U | V | 12 | U | V | 12 | U | R |
| vinyl chloride | 12 | U | | 12 | U | V | 14 | U | V | 12 | U | V | 12 | U | V |

Note: Data *reporting order:* result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36691 (COL)<br>Sample: BH00546EBU1 (REAL)<br>Depth: 17.1 - 17.4 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00548EBU1 (REAL)<br>Depth: 21.7 - 22.0 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00549EBU1 (REAL)<br>Depth: 23.7 - 24.0 '<br>Date: 10/10/91 | | | Location: 36691 (WCS)<br>Sample: BH00552EBU1 (REAL)<br>Depth: 25.7 - 26.0 '<br>Date: 10/11/91 | | | Location: 36691 (WCS)<br>Sample: BH00553EBU1 (REAL)<br>Depth: 27.7 - 28.0 '<br>Date: 10/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | R | 6 | U | R | 6 | U | R | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropane | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | V | 12 | U | V |
| acetone | 7 | J | A | 7 | J | A | 6 | J | A | 7 | BJ | JA | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | R | 6 | U | R | 6 | U | R | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 1 | BJ | JA | 6 | U | V | 2 | BJ | JA | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 38 | | V | 16 | | V | 52 | | V | 150 | | V | 180 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | R | 6 | U | R | 6 | U | R | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36791 (COL)<br>Sample: BH00496EBU1 (REAL)<br>Depth: 3.75 - 4.0 '<br>Date: 10/09/91 | | | Location: 36791 (COL)<br>Sample: BH00497EBU1 (REAL)<br>Depth: 0.65 - 0.90 '<br>Date: 10/09/91 | | | Location: 36791 (COL)<br>Sample: BH00498EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 10/09/91 | | | Location: 36791 (COL)<br>Sample: BH00601EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 10/09/91 | | | Location: 36791 (WCS)<br>Sample: BH00603EBU1 (REAL)<br>Depth: 13.5 - 14.0 '<br>Date: 10/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 15 | U | | 12 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 15 | U | | 12 | U | V | 13 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 15 | U | | 12 | U | V | 13 | U | V |
| acetone | 7 | J | A | 12 | U | V | 44 | | | 12 | U | V | 13 | U | V |
| benzene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| bromomethane | 12 | U | V | 12 | U | R | 15 | U | | 12 | U | R | 13 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 15 | U | | 12 | U | V | 13 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 15 | U | | 12 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | R | 7 | U | | 6 | U | R | 7 | U | R |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| toluene | 38 | | V | 97 | | V | 150 | D | | 99 | | V | 95 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 7 | U | | 6 | U | V | 7 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 15 | U | | 12 | U | V | 13 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 15 | U | | 12 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36891 (COL)<br>Sample: BH00607EBU1 (REAL)<br>Depth: 1.15 - 1.40 '<br>Date: 10/10/91 | | | Location: 36891 (COL)<br>Sample: BH00608EBU1 (REAL)<br>Depth: 5.55 - 5.80 '<br>Date: 10/10/91 | | | Location: 36891 (WCS)<br>Sample: BH00611EBU1 (REAL)<br>Depth: 10.7 - 11.0 '<br>Date: 10/10/91 | | | Location: 36991 (COL)<br>Sample: BH00614EBU1 (REAL)<br>Depth: 0.5 - 0.75 '<br>Date: 10/11/91 | | | Location: 36991 (COL)<br>Sample: BH00615EBU1 (REAL)<br>Depth: 4.8 - 5.05 '<br>Date: 10/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloroethene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloroethene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,2-dichloropropane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 5 | J | | 13 | U | V | 11 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 13 | U | | 13 | U | V | 11 | U | V | 13 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 13 | U | | 13 | U | V | 11 | U | V | 13 | U | V |
| acetone | 11 | U | V | 13 | U | | 13 | U | V | 11 | U | V | 13 | U | V |
| benzene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| bromoform | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 13 | U | | 13 | U | V | 11 | U | V | 13 | U | V |
| carbon disulfide | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| carbon tetrachloride | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| chlorobenzene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| chloroethane | 11 | U | R | 13 | U | | 13 | U | R | 11 | U | R | 13 | U | R |
| chloroform | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 13 | U | | 13 | U | V | 11 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 6 | U | | 1 | J | A | 5 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| toluene | 40 | | V | 49 | D | JA | 89 | | V | 20 | | V | 86 | | V |
| total xylenes | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| trichloroethene | 5 | U | V | 6 | U | | 7 | U | V | 5 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 13 | U | | 13 | U | V | 11 | U | V | 13 | U | V |
| vinyl chloride | 11 | U | V | 13 | U | | 13 | U | V | 11 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36991 (COL)<br>Sample: BH00617EBU1 (REAL)<br>Depth: 7.75 - 8.0 '<br>Date: 10/11/91 | | | Location: 37091 (COL)<br>Sample: BH00622EBU1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 10/14/91 | | | Location: 37091 (WCS)<br>Sample: BH00623EBU1 (REAL)<br>Depth: 5.75 - 6.0 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: BH00556EBU1 (REAL)<br>Depth: 0.4 - 0.65 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: BH00557EBU1 (REAL)<br>Depth: 5.0 - 5.25 '<br>Date: 10/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | R | 12 | U | R |
| 4-methyl-2-pentanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | R | 12 | U | R |
| acetone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | R | 12 | U | R |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 13 | U | V | 12 | U | R | 13 | U | R | 12 | U | R | 12 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 13 | U | R | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 1 | BJ | JA | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 55 | | V | 150 | | V | 71 | | V | 40 | | V | 250 | D | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 12 | U | R | 13 | U | R | 12 | U | R | 12 | U | R |
| vinyl chloride | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37191 (COL)<br>Sample: BH00559EBU1 (REAL)<br>Depth: 9.4 - 9.65 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: BH00562EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: BH00563EBU1 (REAL)<br>Depth: 17.4 - 17.6 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: BH00566EBU1 (REAL)<br>Depth: 19.3 - 19.5 '<br>Date: 10/15/91 | | | Location: 37191 (WCS)<br>Sample: BH00567EBU1 (REAL)<br>Depth: 21.3 - 21.5 '<br>Date: 10/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | R | 12 | U | R | 12 | U | R | 13 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | R | 12 | U | R | 12 | U | R | 13 | U | R | 12 | U | R |
| 4-methyl-2-pentanone | 13 | U | R | 12 | U | R | 12 | U | R | 13 | U | R | 12 | U | R |
| acetone | 6 | J | JA | 12 | U | V | 2 | J | A | 13 | U | V | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 13 | U | R | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 13 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 14 | | V | 13 | | V | 14 | | V | 23 | | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 210 | | V | 200 | | V | 130 | | V | 250 | | V | 54 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | R | 12 | U | R | 12 | U | R | 13 | U | R | 12 | U | R |
| vinyl chloride | 13 | U | V | 12 | U | V | 12 | U | V | 13 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37291 (COL)<br>Sample: BH00630EBU1 (REAL)<br>Depth: 1.75 - 2.0 '<br>Date: 10/15/91 | | | Location: 37291 (COL)<br>Sample: BH00631EBU1 (REAL)<br>Depth: 5.55 - 5.8 '<br>Date: 10/15/91 | | | Location: 37291 (COL)<br>Sample: BH00635EBU1 (REAL)<br>Depth: 9.15 - 9.4 '<br>Date: 10/15/91 | | | Location: 37291 (COL)<br>Sample: BH00637EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 10/15/91 | | | Location: 37291 (COL)<br>Sample: BH00638EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 10/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | R | 6 | U | R | 6 | U | R | 7 | U | R | 6 | U | R |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | R | 12 | U | R | 13 | U | R | 13 | U | R | 14 | | JA |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | R | 12 | U | R | 13 | U | R | 13 | U | R | 13 | U | R |
| 4-methyl-2-pentanone | 11 | U | R | 12 | U | R | 13 | U | R | 13 | U | R | 13 | U | R |
| acetone | 11 | U | R | 12 | U | R | 13 | U | R | 6 | J | A | 47 | | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| bromoform | 6 | U | R | 6 | U | R | 6 | U | R | 7 | U | R | 6 | U | R |
| bromomethane | 11 | U | R | 12 | U | R | 13 | U | R | 13 | U | R | 13 | U | R |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 12 | U | V | 13 | U | V | 13 | U | V | 13 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 12 | U | V | 13 | U | V | 13 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 17 | | JA | 21 | | JA | 16 | | JA | 21 | | JA | 51 | | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| toluene | 100 | | V | 120 | | V | 120 | | V | 110 | | V | 200 | D | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | R | 6 | U | V | 6 | U | R | 7 | U | R | 6 | U | R |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 7 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 12 | U | R | 13 | U | V | 13 | U | V | 13 | U | V |
| vinyl chloride | 11 | U | V | 12 | U | V | 13 | U | V | 13 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interferance from another compound

REAL - Field Sample; DUP - Field Duplicate;
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37291 (COL)<br>Sample: BH00640EBU1 (REAL)<br>Depth: 21.3 - 21.6 '<br>Date: 10/15/91 | | | Location: 37291 (WCS)<br>Sample: BH00643EBU1 (REAL)<br>Depth: 25.7 - 26.0 '<br>Date: 10/15/91 | | | Location: 37391 (COL)<br>Sample: BH00647EBU1 (REAL)<br>Depth: 1.65 - 1.9 '<br>Date: 10/16/91 | | | Location: 37391 (COL)<br>Sample: BH00649EBU1 (REAL)<br>Depth: - '<br>Date: 10/16/91 | | | Location: 37391 (COL)<br>Sample: BH00653EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 10/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | R | 6 | U | R | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | R | 12 | U | R | 11 | U | | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | R | 12 | U | R | 11 | U | | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | R | 12 | U | R | 11 | U | | 12 | U | V | 12 | U | V |
| acetone | 11 | U | R | 12 | U | R | 47 | B | | 12 | U | V | 12 | U | V |
| benzene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| bromoform | 5 | U | R | 6 | U | R | 6 | U | | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | R | 12 | U | R | 11 | U | | 12 | U | V | 12 | U | V |
| carbon disulfide | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| chlorobenzene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 12 | U | V | 11 | U | | 12 | U | V | 12 | U | V |
| chloroform | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 12 | U | V | 11 | U | | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 30 | | JA | 8 | | JA | 22 | B | | 2 | BJ | JA | 3 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| toluene | 140 | | V | 60 | | V | 120 | | | 79 | | V | 13 | | V |
| total xylenes | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | R | 6 | U | R | 6 | U | | 6 | U | V | 6 | U | V |
| trichloroethene | 5 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 12 | U | V | 11 | U | | 12 | U | V | 12 | U | V |
| vinyl chloride | 11 | U | V | 12 | U | V | 11 | U | | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37391 (COL)<br>Sample: BH00655EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 10/16/91 | | | Location: 37391 (WCS)<br>Sample: BH00657EBU1 (REAL)<br>Depth: 17.7 - 18.0 '<br>Date: 10/16/91 | | | Location: 37491 (COL)<br>Sample: BH00569EBU1 (REAL)<br>Depth: 1.5 - 1.75 '<br>Date: 10/16/91 | | | Location: 37491 (COL)<br>Sample: BH00572EBU1 (REAL)<br>Depth: 5.95 - 6.2 '<br>Date: 10/16/91 | | | Location: 37491 (COL)<br>Sample: BH00575EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 10/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 33 | B | | 1 | J | A | 12 | U | V | 12 | U | V | 12 | U | V |
| benzene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 13 | B | | 1 | BJ | JA | 2 | BJ | JA | 6 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 53 | | | 110 | | V | 24 | | V | 44 | | V | 160 | | V |
| total xylenes | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37491 (WCS)<br>Sample: BH00578EBU1 (REAL)<br>Depth: 13.8 - 14.0 '<br>Date: 10/16/91 | | | Location: 37591 (WCS)<br>Sample: BH00673EBU1 (REAL)<br>Depth: 12.8 - 13.1 '<br>Date: 10/18/91 | | | Location: 37591 (WCS)<br>Sample: MW00673EBU1 (REAL)<br>Depth: - '<br>Date: 10/18/91 | | | Location: 37691 (WCS)<br>Sample: MW00700EBU1 (REAL)<br>Depth: 17.8 - 18.0 '<br>Date: 10/18/91 | | | Location: 37791 (WCS)<br>Sample: BH00681EBU1 (REAL)<br>Depth: 21.7 - 22.0 '<br>Date: 10/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,2-dichloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| acetone | 3 | J | A | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| benzene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| chloroform | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 170 | | V | 100 | | | 100 | | V | 110 | | V | 37 | | V |
| total xylenes | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | R |
| trichloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | | 12 | U | V | 12 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37891 (WCS)<br>Sample: MW00713EBU1 (REAL)<br>Depth: 5.4 - 5.65 '<br>Date: 10/21/91 | | | Location: 37991 (WCS)<br>Sample: BH00722EBU1 (REAL)<br>Depth: 9.45 - 9.7 '<br>Date: 10/23/91 | | | Location: 38191 (WCS)<br>Sample: BH00693EBU1 (REAL)<br>Depth: 15.6 - 15.9 '<br>Date: 10/28/91 | | | Location: 38291 (COL)<br>Sample: BH00698EBU1 (REAL)<br>Depth: - '<br>Date: 10/31/91 | | | Location: 38391 (WCS)<br>Sample: BH00802EBU1 (REAL)<br>Depth: 9.75 - 10.0 '<br>Date: 11/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 5 | J | | 6 | U | | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 12 | | | 2 | J | | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | R | 6 | U | | 6 | U | | 6 | U | V |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |
| 4-methyl-2-pentanone | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |
| acetone | 13 | U | V | 13 | U | V | 60 | B | | 14 | B | | 2 | BJ | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| bromomethane | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| chloroethane | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| chloromethane | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 230 | B | V | 6 | U | V | 23 | B | | 3 | BJ | | 4 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 47 | | | 6 | U | | 6 | U | V |
| toluene | 96 | | V | 29 | | V | 93 | | | 170 | | | 170 | D | JA |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | R | 6 | U | | 6 | U | | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 140 | | | 7 | | | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |
| vinyl chloride | 13 | U | V | 13 | U | V | 12 | U | | 12 | U | | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 38491 (WCS)<br>Sample: BH00804EBU1 (REAL)<br>Depth: 5.65 - 5.90 '<br>Date: 11/04/91 | | | Location: 38591 (WCS)<br>Sample: BH00813EBU1 (REAL)<br>Depth: 7.75 - 8.0 '<br>Date: 11/05/91 | | | Location: 38691 (WCS)<br>Sample: BH00819EBU1 (REAL)<br>Depth: 7.75 - 8.0 '<br>Date: 11/07/91 | | | Location: 38791 (WCS)<br>Sample: BH00822EBU1 (REAL)<br>Depth: 6.95 - 7.20 '<br>Date: 11/07/91 | | | Location: 38891 (WCS)<br>Sample: BH00828EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 11/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 13 | U | R | 13 | U | R | 13 | U | R | 12 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 13 | U | V | 13 | U | R | 13 | U | R | 12 | U | |
| 4-methyl-2-pentanone | 12 | U | V | 13 | U | V | 13 | U | R | 13 | U | R | 12 | U | |
| acetone | 3 | BJ | JA | 13 | U | V | 9 | BJ | JA | 13 | U | R | 13 | | |
| benzene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| bromoform | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| bromomethane | 12 | U | V | 13 | U | V | 13 | U | V | 13 | U | V | 12 | U | |
| carbon disulfide | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| chlorobenzene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| chloroethane | 12 | U | V | 13 | U | V | 13 | U | V | 13 | U | V | 12 | U | |
| chloroform | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| chloromethane | 12 | U | V | 13 | U | V | 13 | U | V | 13 | U | V | 12 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 14 | | V | 1 | BJ | JA | 7 | U | V | 1 | BJ | JA | 13 | B | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| toluene | 120 | D | JA | 63 | | V | 130 | | V | 140 | | V | 65 | | |
| total xylenes | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| trichloroethene | 6 | U | V | 6 | U | V | 7 | U | V | 7 | U | V | 6 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 13 | U | V | 13 | U | R | 13 | U | R | 12 | U | |
| vinyl chloride | 12 | U | V | 13 | U | V | 13 | U | V | 13 | U | V | 12 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 38991 (COL)<br>Sample: BH00834EBU1 (REAL)<br>Depth: 3.05 - 3.30 '<br>Date: 11/11/91 | | | Location: 38991 (WCS)<br>Sample: BH00842EBU1 (REAL)<br>Depth: 19.6 - 19.9 '<br>Date: 11/12/91 | | | Location: 39091 (WCS)<br>Sample: BH00756EBU1 (REAL)<br>Depth: 7.75 - 8.00 '<br>Date: 11/13/91 | | | Location: 39191 (WCS)<br>Sample: BH00764EBU1 (REAL)<br>Depth: 10.2 - 10.5 '<br>Date: 11/14/91 | | | Location: 39291 (WCS)<br>Sample: BH00851EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 11/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropane | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 13 | U | V | 12 | U | V | 12 | | JA | 12 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | R | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | R | 12 | U | V |
| acetone | 11 | U | V | 13 | U | V | 12 | U | R | 4 | J | A | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 6 | U | V | 6 | U | V | 2 | BJ | JA | 1 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 15 | | V | 120 | | V | 26 | | V | 40 | | V | 56 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 11 | U | V | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 39491 (WCS)<br>Sample: BH00855EBU1 (REAL)<br>Depth: 3.0 - 4.0 '<br>Date: 11/19/91 | | | Location: 39491 (COL)<br>Sample: BH01032EBU1 (REAL)<br>Depth: 0.6 - 0.85 '<br>Date: 12/14/91 | | | Location: 39491 (WCS)<br>Sample: BH01033EBU1 (REAL)<br>Depth: 3.3 - 3.55 '<br>Date: 12/14/91 | | | Location: 39591 (COL)<br>Sample: BH00859EBU1 (REAL)<br>Depth: 0.0 - 0.8 '<br>Date: 11/20/91 | | | Location: 39591 (COL)<br>Sample: BH01036EBU1 (REAL)<br>Depth: 0.95 - 1.20 '<br>Date: 12/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | R | 6 | U | V | 6 | U | V | 6 | U | R | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| 4-methyl-2-pentanone | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| acetone | 13 | U | V | 47 | B | JA | 55 | B | JA | 12 | U | R | 44 | B | JA |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | R | 13 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | V | 9 | B | JA | 7 | B | JA | 6 | U | V | 6 | U | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 13 | | V | 170 | | V | 110 | | V | 19 | | V | 120 | D | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |
| vinyl chloride | 13 | U | V | 12 | U | V | 13 | U | V | 12 | U | V | 13 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 39691 (WCS)<br>Sample: BH00870EBU1 (REAL)<br>Depth: 13.7 - 14.0 '<br>Date: 11/25/91 | | | Location: 39791 (WCS)<br>Sample: BH00875EBU1 (REAL)<br>Depth: 5.65 - 5.90 '<br>Date: 11/26/91 | | | Location: B300190 (COL)<br>Sample: B3001900002 (REAL)<br>Depth: 0.0 - 1.2 '<br>Date: 02/02/90 | | | Location: B300190 (COL)<br>Sample: B3001900006 (REAL)<br>Depth: 6.0 - 0.0 '<br>Date: 02/02/90 | | | Location: B300190 (COL)<br>Sample: B3001900006D (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 02/02/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 11 | UJ | A | 1 | JB | A | 12 | UJ | A |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 12 | U | V | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |
| acetone | 22 | B | JA | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |
| benzene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| bromoform | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| bromomethane | 12 | U | V | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| chloroethane | 12 | U | V | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |
| chloroform | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| chloromethane | 12 | U | V | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | U | JA | 7 | B | JA | 6 | UJ | A | 9 | B | A | 6 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 2 | J | A | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| toluene | 130 | | V | 130 | | V | 68 | J | A | 9 | | A | 8 | J | A |
| total xylenes | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | A | 6 | UJ | A |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |
| vinyl chloride | 12 | U | V | 12 | U | V | 11 | UJ | A | 12 | U | A | 12 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300190 (COL) Sample: B3001900204 (REAL) Depth: 2.0 - 3.8 ' Date: 02/02/90 | | | Location: B300190 (COL) Sample: B3001900406 (REAL) Depth: 4.0 - 6.0 ' Date: 02/02/90 | | | Location: B300190 (COL) Sample: B3001900406D (DUP) Depth: 4.0 - 6.0 ' Date: 02/02/90 | | | Location: B300190 (WCS) Sample: B3001900608 (REAL) Depth: 6.0 - 8.0 ' Date: 02/05/90 | | | Location: B300190 (WCS) Sample: B3001900810 (REAL) Depth: 8.0 - 9.9 ' Date: 02/05/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| 1,1,2,2-tetrachloroethane | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,1,2-trichloroethane | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| 1,1-dichloroethane | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| 1,1-dichloroethene | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| 1,2-dichloroethene | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| 1,2-dichloropropane | 6 | U | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | UJ | A | 12 | UJ | A | 11 | U | V | 11 | U | | 11 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | 11 | U | | 11 | U | |
| 2-hexanone | 12 | UJ | A | 12 | UJ | A | 11 | UJ | A | 11 | U | | 11 | UJ | A |
| 4-methyl-2-pentanone | 12 | UJ | A | 12 | UJ | A | 11 | UJ | A | 11 | U | | 11 | UJ | A |
| acetone | 12 | UJ | A | 12 | UJ | A | 11 | U | V | 11 | U | | 11 | UJ | A |
| benzene | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| bromoform | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| bromomethane | 12 | UJ | A | 12 | UJ | A | 11 | U | V | 11 | U | | 11 | UJ | A |
| carbon disulfide | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| carbon tetrachloride | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| chlorobenzene | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| chloroethane | 12 | UJ | A | 12 | UJ | A | 11 | U | V | 11 | U | | 11 | UJ | A |
| chloroform | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| chloromethane | 12 | UJ | A | 12 | UJ | A | 11 | U | V | 11 | U | | 11 | UJ | A |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 4 | J | | 10 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| toluene | 480 | E | A | 52 | J | A | 52 | J | A | 120 | | | 77 | J | A |
| total xylenes | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| trichloroethene | 6 | U | A | 6 | UJ | A | 6 | U | V | 6 | U | | 6 | UJ | A |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | UJ | A | 12 | UJ | A | 11 | U | V | 11 | U | | 11 | UJ | A |
| vinyl chloride | 12 | UJ | A | 12 | UJ | A | 11 | U | V | 11 | U | | 11 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300290 (COL)<br>Sample: B3002900002 (REAL)<br>Depth: 0.0 - 1.0 '<br>Date: 02/05/90 | | | Location: B300290 (COL)<br>Sample: B3002900204 (REAL)<br>Depth: 2.0 - 3.1 '<br>Date: 02/05/90 | | | Location: B300290 (COL)<br>Sample: B3002900406 (REAL)<br>Depth: 4.0 - 5.9 '<br>Date: 02/05/90 | | | Location: B300290 (WCS)<br>Sample: B3002900608 (REAL)<br>Depth: 6.0 - 7.5 '<br>Date: 02/05/90 | | | Location: B300290 (WCS)<br>Sample: B3002900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/05/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 15 | U | R | 11 | U | R | 11 | U | R | 12 | U | R | 11 | U | R |
| 2-chloroethyl vinyl ether | 15 | U | | 11 | U | | 11 | U | | 12 | U | | 11 | U | |
| 2-hexanone | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |
| acetone | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |
| benzene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| bromoform | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| bromomethane | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |
| carbon disulfide | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chlorobenzene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chloroethane | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |
| chloroform | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chloromethane | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 48 | UJ | A | 32 | UJ | A | 25 | UJ | A | 26 | UJ | A | 18 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 8 | U | | 6 | U | | 6 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| toluene | 200 | J | A | 78 | J | A | 68 | J | A | 140 | | V | 57 | | V |
| total xylenes | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trichloroethene | 8 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |
| vinyl chloride | 15 | UJ | A | 11 | UJ | A | 11 | UJ | A | 12 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300390 (COL)<br>Sample: B3003900203 (REAL)<br>Depth: 2.0 - 2.9 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900305 (REAL)<br>Depth: 3.0 - 4.7 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900507 (REAL)<br>Depth: 5.0 - 6.3 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/07/90 | | | Location: B300490 (COL)<br>Sample: B3004900002 (REAL)<br>Depth: 0.0 - 1.0 '<br>Date: 02/09/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 65 | U |
| 2-chloroethyl vinyl ether | 12 | U | | 12 | U | | 12 | U | | 47 | U | | 65 | U |
| 2-hexanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 65 | U |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 65 | U |
| acetone | 12 | U | R | 12 | U | R | 57 | J | A | 12 | U | R | 65 | U |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 65 | U |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 65 | U |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 65 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| cumene | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| dibromomethane | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| hexachlorobutadiene | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | |
| methylene chloride | 8 | UJ | A | 10 | | A | 23 | UJ | A | 9 | UJ | A | 32 | U |
| n-butylbenzene | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | |
| o-xylene | 6 | U | V | 6 | U | V | 6 | U | V | 24 | U | V | 32 | U |
| p-chlorotoluene | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| tert-butylbenzene | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| toluene | 99 | | V | 140 | | V | 130 | | V | 250 | E | A | 860 | |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U |
| trichlorofluoromethane | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 65 | U |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 65 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300490 (COL)<br>Sample: B3004900204 (REAL)<br>Depth: 2.0 - 3.8 '<br>Date: 02/09/90 | | Location: B300490 (COL)<br>Sample: B3004900406 (REAL)<br>Depth: 4.0 - 5.4 '<br>Date: 02/09/90 | | Location: B300490 (COL)<br>Sample: B3004900607 (REAL)<br>Depth: 6.0 - 7.0 '<br>Date: 02/09/90 | | Location: B300490 (WCS)<br>Sample: B3004900709 (REAL)<br>Depth: 7.0 - 8.5 '<br>Date: 02/09/90 | | Location: B300590 (COL)<br>Sample: B3005900003 (REAL)<br>Depth: 0.0 - 0.4 '<br>Date: 02/09/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,1,2-trichloroethane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,1-dichloroethane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,1-dichloroethene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,2-dichloroethene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,2-dichloropropane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| 2-chloroethyl vinyl ether | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| 2-hexanone | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| 4-methyl-2-pentanone | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| acetone | 4 | J | 6 | J | 7 | J | 23 | U | 58 | U |
| benzene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| bromoform | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| bromomethane | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| carbon disulfide | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| carbon tetrachloride | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| chlorobenzene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| chloroethane | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| chloroform | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| chloromethane | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 5 | JB | 4 | JB | 10 | B | 12 | U | 29 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| toluene | 180 | | 150 | | 110 | | 160 | | 190 | |
| total xylenes | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| trichloroethene | 6 | U | 6 | U | 6 | U | 12 | U | 29 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |
| vinyl chloride | 11 | U | 12 | U | 12 | U | 23 | U | 58 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300590 (COL)<br>Sample: B3005900305 (REAL)<br>Depth: 3.0 - 4.2 '<br>Date: 02/09/90 | | Location: B300690 (COL)<br>Sample: B3006900002 (REAL)<br>Depth: 0.0 - 1.8 '<br>Date: 02/09/90 | | Location: B300690 (COL)<br>Sample: B3006900203 (REAL)<br>Depth: 2.0 - 2.6 '<br>Date: 02/09/90 | | Location: B300790 (COL)<br>Sample: B3007900002 (REAL)<br>Depth: 0.0 - 0.5 '<br>Date: 02/09/90 | | Location: B300790 (COL)<br>Sample: B30079000020 (DUP)<br>Depth: 0.0 - 0.5 '<br>Date: 02/09/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,1,2,2-tetrachloroethane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,1,2-trichloroethane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,1-dichloroethane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,1-dichloroethene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,2-dichloroethene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,2-dichloropropane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| 2-chloroethyl vinyl ether | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| 2-hexanone | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| 4-methyl-2-pentanone | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| acetone | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| benzene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| bromoform | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| bromomethane | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| carbon disulfide | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| carbon tetrachloride | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| chlorobenzene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| chloroethane | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| chloroform | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| chloromethane | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 12 | U | 12 | U | 2 | JB | 59 | U | 29 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| toluene | 41 | | 110 | | 200 | | 410 | | 190 | |
| total xylenes | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| trichloroethene | 12 | U | 12 | U | 6 | U | 59 | U | 29 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |
| vinyl chloride | 24 | U | 23 | U | 11 | U | 120 | U | 58 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300790 (COL)<br>Sample: B3007900204 (REAL)<br>Depth: 2.0 - 3.9 '<br>Date: 02/09/90 | | | Location: B300890 (COL)<br>Sample: B3008900002 (REAL)<br>Depth: 0.0 - 1.0 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900204 (REAL)<br>Depth: 2.0 - 3.4 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900406 (REAL)<br>Depth: 4.0 - 5.8 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900608 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,1,2,2-tetrachloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,1,2-trichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,1-dichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,1-dichloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,2-dichloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,2-dichloropropane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |
| 2-chloroethyl vinyl ether | 11 | U | | 12 | U | | 12 | U | A | 11 | U | A | 12 | U | A |
| 2-hexanone | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |
| 4-methyl-2-pentanone | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |
| acetone | 10 | J | | 12 | U | V | 12 | U | V | 11 | U | V | 5 | JB | R |
| benzene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| bromoform | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| bromomethane | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |
| carbon disulfide | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| carbon tetrachloride | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| chlorobenzene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| chloroethane | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |
| chloroform | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| chloromethane | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | JB | | 6 | B | A | 18 | UJ | A | 21 | UJ | A | 3 | JB | R |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| toluene | 210 | | | 140 | | V | 220 | | V | 180 | | V | 35 | | R |
| total xylenes | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| trichloroethene | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | R |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |
| vinyl chloride | 11 | U | | 12 | U | V | 12 | U | V | 11 | U | V | 12 | U | R |

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E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300890 (COL)<br>Sample: B3008900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008901012 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900002 (REAL)<br>Depth: 0.0 - 1.7 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900204 (REAL)<br>Depth: 2.0 - 3.7 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900406 (REAL)<br>Depth: 4.0 - 5.7 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 1 | U | V |
| 2-chloroethyl vinyl ether | 12 | U | A | 12 | U | A | 11 | U | A | 12 | U | A | 11 | U | A |
| 2-hexanone | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |
| acetone | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |
| benzene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| bromoform | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| bromomethane | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |
| carbon disulfide | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chloroethane | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |
| chloroform | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chloromethane | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | UJ | A | 6 | UJ | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 6 | UJ | V | 6 | UJ | A | 6 | UJ | A | 6 | UJ | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 5 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| toluene | 200 | J | A | 190 | | V | 120 | J | A | 270 | | E | 150 | | V |
| total xylenes | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | UJ | A | 6 | U | V | 6 | U | A | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |
| vinyl chloride | 12 | UJ | A | 12 | U | V | 11 | UJ | A | 12 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300990 (COL)<br>Sample: B3009900608 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009901012 (REAL)<br>Depth: 10.0 - 11.0 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010900607 (REAL)<br>Depth: 6.0 - 6.6 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010900708 (REAL)<br>Depth: 7.5 - 8.0 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 29 | | A | 11 | U | V |
| 2-chloroethyl vinyl ether | 12 | U | A | 12 | U | A | 12 | U | A | 10 | U | | 11 | U | A |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 10 | U | A | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 2 | JB | A | 11 | U | V |
| acetone | 12 | U | V | 12 | U | V | 12 | U | V | 39 | B | A | 11 | UJ | A |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 10 | U | A | 11 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 10 | U | A | 11 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 10 | U | A | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 9 | B | A | 5 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 5 | U | | 5 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| toluene | 270 | | E | 220 | | V | 40 | | A | 460 | E | A | 55 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | A | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 10 | U | A | 11 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 10 | U | A | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301090 (COL)<br>Sample: B3010900810 (REAL)<br>Depth: 8.0 - 9.2 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010901314 (REAL)<br>Depth: 12.5 - 13.6 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010901415 (REAL)<br>Depth: 14.0 - 15.0 '<br>Date: 02/16/90 | | Location: B301090 (COL)<br>Sample: B3010901517 (REAL)<br>Depth: 15.0 - 16.3 '<br>Date: 02/16/90 | | Location: B301090 (COL)<br>Sample: B3010901719 (REAL)<br>Depth: 17.0 - 19.0 '<br>Date: 02/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropene | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 53 | U | R | 57 | U | R | 3 | J | 3 | J | 4 | J |
| 2-chloroethyl vinyl ether | 53 | U | A | 57 | U | A | 12 | U | 12 | U | 11 | U |
| 2-hexanone | 53 | U | R | 57 | U | R | 12 | U | 12 | U | 11 | U |
| 4-methyl-2-pentanone | 53 | U | R | 57 | U | R | 1 | J | 1 | J | 2 | J |
| acetone | 53 | U | R | 17 | JB | R | 12 | U | 12 | U | 3 | J |
| benzene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| bromoform | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| bromomethane | 53 | U | R | 57 | U | R | 12 | U | 12 | U | 11 | U |
| carbon disulfide | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| carbon tetrachloride | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| chlorobenzene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| chloroethane | 53 | U | R | 57 | U | R | 12 | U | 12 | U | 11 | U |
| chloroform | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| chloromethane | 53 | U | R | 57 | U | R | 12 | U | 12 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 9 | | R | 38 | B | R | 3 | J | 3 | J | 3 | J |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | 27 | U | R | 140 | U | | 6 | U | 6 | U | 6 | U |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| toluene | 10 | U | R | 43 | | R | 240 | | 230 | | 160 | |
| total xylenes | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| trichloroethene | 27 | U | R | 29 | U | R | 6 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 53 | U | R | 57 | U | R | 12 | U | 12 | U | 11 | U |
| vinyl chloride | 53 | U | R | 57 | U | R | 12 | U | 12 | U | 11 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301090 (COL)<br>Sample: B3010901921 (REAL)<br>Depth: 19.0 - 21.0 '<br>Date: 02/16/90 | | | Location: B301190 (COL)<br>Sample: B3011900002 (REAL)<br>Depth: 0.0 - 2.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900002D (DUP)<br>Depth: 0.0 - 2.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900204 (REAL)<br>Depth: 2.0 - 3.5 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900406 (REAL)<br>Depth: 4.0 - 6.0 '<br>Date: 02/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,1,2,2-tetrachloroethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,1,2-trichloroethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,1-dichloroethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,1-dichloroethene | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,2-dichloroethene | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,2-dichloropropane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 3 | J | | 11 | U | R | 11 | U | R | 11 | U | | 12 | U | R |
| 2-chloroethyl vinyl ether | 12 | U | | 19 | U | | 26 | U | | 11 | U | | 11 | U | |
| 2-hexanone | 12 | U | | 11 | UJ | A | 11 | UJ | A | 11 | U | | 12 | UJ | A |
| 4-methyl-2-pentanone | 12 | U | | 11 | UJ | A | 11 | UJ | A | 11 | U | | 12 | UJ | A |
| acetone | 12 | U | | 30 | UJ | A | 37 | UJ | A | 26 | B | | 12 | UJ | A |
| benzene | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| *bromobenzene* | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| bromoform | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| bromomethane | 12 | U | | 11 | UJ | A | 11 | UJ | A | 11 | U | | 12 | UJ | A |
| carbon disulfide | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| carbon tetrachloride | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| chlorobenzene | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| chloroethane | 12 | U | | 11 | UJ | A | 11 | UJ | A | 11 | U | | 12 | UJ | A |
| chloroform | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| chloromethane | 12 | U | | 11 | UJ | A | 11 | UJ | A | 11 | U | | 12 | UJ | A |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 3 | J | | 17 | UJ | A | 13 | UJ | A | 10 | B | | 7 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 9 | U | | 13 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| *propane, 1,2-dibromo-3-chloro-* | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethane | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| toluene | 260 | | | 231 | | E | 350 | | E | 100 | | | 220 | | A |
| total xylenes | 6 | U | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | J | | 6 | UJ | A | 6 | UJ | A | 6 | U | | 6 | UJ | A |
| trichloroethene | 6 | U | | 6 | UJ | A | 6 | U | A | 6 | U | | 6 | UJ | A |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | | 11 | UJ | A | 11 | UJ | A | 11 | U | | 12 | UJ | A |
| vinyl chloride | 12 | U | | 11 | UJ | A | 11 | UJ | A | 11 | U | | 12 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate,
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301190 (COL)<br>Sample: B3011900608 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011901012 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011901214 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011901416 (REAL)<br>Depth: 14.0 - 15.1 '<br>Date: 02/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 12 | U | R | 11 | U | R | 11 | U | R | 11 | U | R |
| 2-chloroethyl vinyl ether | 12 | U | | 12 | U | | 11 | U | | 11 | U | | 11 | U | |
| 2-hexanone | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 11 | U | V |
| acetone | 12 | UJ | A | 17 | UJ | A | 11 | UJ | A | 11 | UJ | A | 11 | UJ | A |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 11 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 11 | UJ | A | 5 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 11 | U | V |
| chloroform | 6 | UJ | A | 6 | U | V | 6 | UJ | A | 5 | UJ | A | 5 | UJ | A |
| chloromethane | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 7 | UJ | A | 6 | UJ | A | 6 | UJ | A | 12 | UJ | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 5 | U | | 5 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| toluene | 37 | | V | 57 | | V | 28 | | V | 77 | | V | 29 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 11 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 11 | U | V | 11 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301190 (COL)<br>Sample: B3011901618 (REAL)<br>Depth: 16.0 - 16.9 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011901820 (REAL)<br>Depth: 18.0 - 18.7 '<br>Date: 02/22/90 | | | Location: B301290 (COL)<br>Sample: B3012900204 (REAL)<br>Depth: 2.0 - 3.6 '<br>Date: 02/26/90 | | | Location: B301290 (COL)<br>Sample: B3012900406 (REAL)<br>Depth: 4.0 - 6.0 '<br>Date: 02/26/90 | | | Location: B301290 (COL)<br>Sample: B3012900002 (REAL)<br>Depth: 0.0 - 1.0 '<br>Date: 02/27/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 5 | B | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | | 6 | U | V |
| 1,2-dichloropropane | 6 | U | | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | R | 11 | U | R | 14 | U | R | 11 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | 13 | U | | 11 | U | | 14 | U | | 11 | U | | 12 | U | |
| 2-hexanone | 13 | U | V | 11 | U | V | 14 | U | V | 11 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 13 | U | V | 11 | U | V | 14 | U | V | 11 | U | V | 12 | U | V |
| acetone | 13 | UJ | A | 8 | UJ | A | 14 | UJ | A | 12 | UJ | A | 16 | UJ | A |
| benzene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 13 | U | V | 11 | U | V | 14 | U | V | 11 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 13 | U | | 11 | U | V | 14 | U | V | 11 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 5 | UJ | A | 7 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 11 | U | V | 14 | U | V | 11 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 9 | UJ | A | 13 | UJ | A | 7 | UJ | A | 6 | UJ | A | 7 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 7 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| toluene | 84 | | V | 130 | | V | 150 | | V | 130 | | V | 130 | | V |
| total xylenes | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 5 | U | V | 7 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 11 | U | V | 14 | U | V | 11 | U | V | 12 | U | V |
| vinyl chloride | 13 | U | V | 11 | U | V | 14 | U | V | 11 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301390 (COL)<br>Sample: B3013900002 (REAL)<br>Depth: 0.0 - 0.7 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900204 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900406 (REAL)<br>Depth: 4.0 - 4.9 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900608 (REAL)<br>Depth: 6.0 - 6.8 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900304 (REAL)<br>Depth: 3.0 - 3.9 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | UJ | A | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | 43 | U | | 12 | U | | 12 | U | | 12 | U | | 12 | U | |
| 2-hexanone | 13 | UJ | A | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 13 | UJ | A | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 13 | UJ | A | 12 | UJ | A | 12 | UJ | A | 12 | UJ | A | 12 | U | V |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | UJ | A | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | UJ | A | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 7 | UJ | A | 6 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 21 | U | | 6 | U | | 6 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | UJ | A | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | UJ | A | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 840 | | E | 120 | | V | 240 | | V | 130 | | V | 120 | | V |
| total xylenes | 6 | UJ | A | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 13 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301490 (COL)<br>Sample: B3014900406 (REAL)<br>Depth: 4.0 - 5.3 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900608 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900810 (REAL)<br>Depth: 8.0 - 9.7 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014901012 (REAL)<br>Depth: 10.0 - 11.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014901012D (DUP)<br>Depth: 10.0 - 11.9 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 5 | U | | 6 | U | V | 10 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 10 | U | R | 12 | U | R | 20 | U | V |
| 2-chloroethyl vinyl ether | 12 | U | | 12 | U | | 10 | U | | 12 | U | | 20 | U | |
| 2-hexanone | 12 | U | V | 12 | U | R | 10 | U | V | 12 | U | V | 20 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 10 | U | V | 12 | U | V | 20 | U | V |
| acetone | 12 | UJ | A | 12 | UJ | A | 10 | UJ | A | 12 | UJ | A | 20 | UJ | A |
| benzene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 10 | U | V | 12 | U | V | 20 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | A | 5 | U | V | 6 | U | V | 10 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 10 | U | V | 12 | U | V | 20 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 10 | U | V | 12 | U | V | 20 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 6 | UJ | V | 5 | UJ | A | 6 | UJ | A | 13 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 5 | U | | 6 | U | | 10 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethane | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| toluene | 67 | | V | 91 | | V | 26 | | V | 120 | | V | 170 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 5 | U | V | 6 | U | V | 10 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 5 | U | V | 12 | U | V | 20 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 10 | U | V | 12 | U | V | 20 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301490 (COL) Sample: B3014901214 (REAL) Depth: 12.0 - 13.7 ' Date: 02/26/90 | | | Location: B301490 (COL) Sample: B3014901416 (REAL) Depth: 14.0 - 15.6 ' Date: 02/26/90 | | | Location: B301590 (COL) Sample: B3015900002 (REAL) Depth: 0.0 - 2.0 ' Date: 03/19/90 | | | Location: B301590 (COL) Sample: B3015900204 (REAL) Depth: 2.0 - 3.1 ' Date: 03/19/90 | | | Location: B301590 (COL) Sample: B3015900406 (REAL) Depth: 4.0 - 4.7 ' Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 13 | U | R | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | 13 | U | | 12 | U | | 12 | U | | 12 | U | | 12 | U | |
| 2-hexanone | 13 | U | V | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 13 | U | V | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |
| acetone | 13 | UJ | A | 14 | B | | 5 | J | | 12 | UJ | A | 12 | UJ | A |
| benzene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| bromomethane | 13 | U | V | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| chloroethane | 13 | U | V | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| chloromethane | 13 | U | V | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 5 | JB | | 6 | | | 6 | UJ | A | 6 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 12 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| toluene | 66 | | V | 51 | | | 200 | | | 270 | | E | 70 | | V |
| total xylenes | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | | 6 | U | | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 13 | U | V | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |
| vinyl chloride | 13 | U | V | 12 | U | | 12 | U | | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301590 (COL)<br>Sample: B3015900708 (REAL)<br>Depth: 7.0 - 7.7 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015901012 (REAL)<br>Depth: 10.0 - 11.0 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015901214 (REAL)<br>Depth: 11.5 - 13.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900002 (REAL)<br>Depth: 0.0 - 2.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900204 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | U | V | 11 | U | | 5 | J | A | 13 | U | V | 12 | U | V |
| 2-chloroethyl vinyl ether | 11 | U | | 11 | U | | 12 | U | | 13 | U | | 12 | U | V |
| 2-hexanone | 11 | U | V | 11 | U | | 12 | U | V | 13 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 11 | U | V | 11 | U | | 12 | U | V | 13 | U | V | 12 | U | V |
| acetone | 11 | UJ | A | 7 | J | | 12 | UJ | A | 13 | UJ | A | 12 | UJ | A |
| benzene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 11 | U | V | 11 | U | | 12 | U | V | 13 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 11 | U | V | 11 | U | | 12 | U | V | 13 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 11 | U | V | 11 | U | | 12 | U | V | 13 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | UJ | A | 3 | J | | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 32 | U | | 13 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 200 | | V | 57 | | | 270 | | E | 640 | | E | 340 | | E |
| total xylenes | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 11 | U | V | 11 | U | | 12 | U | V | 13 | U | V | 12 | U | V |
| vinyl chloride | 11 | U | V | 11 | U | | 12 | U | V | 13 | U | V | 12 | U | V |

*Note: Data reporting order:* result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate;
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301690 (COL) Sample: B3016900406 (REAL) Depth: 4.0 - 6.0 ' Date: 03/19/90 | | | Location: B301690 (COL) Sample: B3016900608 (REAL) Depth: 6.0 - 8.0 ' Date: 03/19/90 | | | Location: B301690 (COL) Sample: B3016900810 (REAL) Depth: 8.0 - 10.0 ' Date: 03/19/90 | | | Location: B301690 (COL) Sample: B3016901012 (REAL) Depth: 10.0 - 12.0 ' Date: 03/19/90 | | | Location: B301690 (COL) Sample: B3016901214 (REAL) Depth: 12.0 - 13.7 ' Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 3 | J | A |
| 2-chloroethyl vinyl ether | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| acetone | 12 | U | R | 12 | U | R | 3 | J | A | 12 | U | R | 6 | J | A |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 30 | U | | 6 | U | | 6 | U | | 6 | U | | 12 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 280 | | E | 230 | | V | 250 | | V | 200 | | V | 280 | | E |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301690 (COL)<br>Sample: B3016901416 (REAL)<br>Depth: 14.9 - 15.9 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901618 (REAL)<br>Depth: 16.9 - 18.9 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901820 (REAL)<br>Depth: 18.9 - 19.9 '<br>Date: 03/19/90 | | | Location: B301790 (COL)<br>Sample: B3017900002 (REAL)<br>Depth: 0.0 - 1.5 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900204 (REAL)<br>Depth: 2.0 - 2.5 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | |
| 2-butanone | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |
| 2-chloroethyl vinyl ether | 12 | U | V | 12 | U | V | 12 | U | | 63 | U | 65 | U |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |
| acetone | 2 | J | A | 3 | J | A | 2 | J | A | 63 | U | 65 | U |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| cumene | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| dibromomethane | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| hexachlorobutadiene | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | |
| methylene chloride | 6 | UJ | A | 6 | UJ | A | 6 | UJ | A | 32 | U | 32 | U |
| n-butylbenzene | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 32 | U | 32 | U |
| p-chlorotoluene | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| tert-butylbenzene | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| toluene | 240 | | V | 220 | | V | 230 | | V | 7 | J | 30 | J |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 32 | U | 32 | U |
| trichlorofluoromethane | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 63 | U | 65 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301790 (COL)<br>Sample: B3017900408 (REAL)<br>Depth: 4.0 - 5.9 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900406D (DUP)<br>Depth: 4.0 - 5.9 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900608 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017901012 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,1,2,2-tetrachloroethane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,1,2-trichloroethane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,1-dichloroethane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,1-dichloroethene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,1-dichloropropane | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,2-dichloroethene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,2-dichloropropane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| 2-chloroethyl vinyl ether | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| 2-hexanone | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| 4-methyl-2-pentanone | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| acetone | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| benzene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| bromoform | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| bromomethane | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| carbon disulfide | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| carbon tetrachloride | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| chlorobenzene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| chloroethane | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| chloroform | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| chloromethane | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| toluene | 23 | | 15 | | 20 | | 11 | J | 8 | J |
| total xylenes | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| trichloroethene | 12 | U | 12 | U | 13 | U | 32 | U | 13 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |
| vinyl chloride | 24 | U | 25 | U | 25 | U | 64 | U | 26 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301790 (COL)<br>Sample: B3017901213 (REAL)<br>Depth: 12.0 - 13.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017901315 (REAL)<br>Depth: 13.0 - 15.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900002 (REAL)<br>Depth: 0.0 - 1.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900204 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900406 (REAL)<br>Depth: 4.0 - 6.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,1,2,2-tetrachloroethane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,1,2-trichloroethane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,1-dichloroethane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,1-dichloroethene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,2-dichloroethene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,2-dichloropropane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| 2-chloroethyl vinyl ether | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| 2-hexanone | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| 4-methyl-2-pentanone | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| acetone | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| benzene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| bromoform | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| bromomethane | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| carbon disulfide | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| carbon tetrachloride | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| chlorobenzene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| chloroethane | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| chloroform | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| chloromethane | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| toluene | 6 | J | 10 | J | 460 | B | 280 | B | 150 | B |
| total xylenes | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropane | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| trichloroethene | 13 | U | 13 | U | 30 | U | 30 | U | 12 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |
| vinyl chloride | 26 | U | 25 | U | 59 | U | 59 | U | 24 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301890 (COL)<br>Sample: B3018900608 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901012 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901214 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901416 (REAL)<br>Depth: 14.0 - 16.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,1,2,2-tetrachloroethane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,1,2-trichloroethane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,1-dichloroethane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,1-dichloroethene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,2-dichloroethene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,2-dichloropropane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| 2-chloroethyl vinyl ether | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| 2-hexanone | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| 4-methyl-2-pentanone | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| acetone | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| benzene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| bromoform | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| bromomethane | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| carbon disulfide | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| carbon tetrachloride | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| chlorobenzene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| chloroethane | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| chloroform | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| chloromethane | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| toluene | 180 | B | 200 | B | 240 | B | 130 | B | 9 | J |
| total xylenes | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| trichloroethene | 12 | U | 12 | U | 12 | U | 13 | U | 12 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |
| vinyl chloride | 24 | U | 24 | U | 25 | U | 25 | U | 25 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301890 (COL)<br>Sample: B3018901618 (REAL)<br>Depth: 16.0 - 18.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901820 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B3019900002 (REAL)<br>Depth: 0.0 - 1.6 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B3019900204 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B3019900406 (REAL)<br>Depth: 4.0 - 6.0 '<br>Date: 03/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,1,2,2-tetrachloroethane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,1,2-trichloroethane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,1-dichloroethane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,1-dichloroethene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,2-dichloroethene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,2-dichloropropane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| 2-chloroethyl vinyl ether | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| 2-hexanone | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| 4-methyl-2-pentanone | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| acetone | 25 | U | 1 | J | 58 | U | 42 | U | 52 | U |
| benzene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| bromoform | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| bromomethane | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| carbon disulfide | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| carbon tetrachloride | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| chlorobenzene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| chloroethane | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| chloroform | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| chloromethane | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 13 | U | 15 | B | 29 | U | 21 | U | 26 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| toluene | 8 | J | 27 | | 52 | | 290 | | 98 | |
| total xylenes | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropane | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| trichloroethene | 13 | U | 6 | U | 29 | U | 21 | U | 26 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |
| vinyl chloride | 25 | U | 12 | U | 58 | U | 42 | U | 52 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301990 (COL)<br>Sample: B3019900608 (REAL)<br>Depth: 6.0 - 7.5 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B3019900608D (DUP)<br>Depth: 6.0 - 7.5 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B3019901416 (REAL)<br>Depth: 14.3 - 16.3 '<br>Date: 03/22/90 | | Location: B301990 (COL)<br>Sample: B3019901718 (REAL)<br>Depth: 17.0 - 17.7 '<br>Date: 03/22/90 | | | Location: B301990 (COL)<br>Sample: B3019901819 (REAL)<br>Depth: 17.7 - 18.7 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 45 | U | 58 | U | 12 | U | 12 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | 45 | U | 58 | U | 12 | U | 12 | U | | 12 | U | |
| 2-hexanone | 45 | U | 58 | U | 12 | U | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 45 | U | 58 | U | 12 | U | 12 | U | V | 12 | U | V |
| acetone | 45 | U | 58 | U | 7 | J | 5 | J | A | 7 | UJ | A |
| benzene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| bromoform | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| bromomethane | 45 | U | 58 | U | 12 | U | 12 | U | V | 12 | U | V |
| carbon disulfide | 23 | U | 29 | U | 2 | J | 1 | J | A | 6 | U | V |
| carbon tetrachloride | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| chlorobenzene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| chloroethane | 45 | U | 58 | U | 12 | U | 12 | U | V | 12 | U | V |
| chloroform | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| chloromethane | 45 | U | 58 | U | 12 | U | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 23 | U | 29 | U | 7 | B | 8 | UJ | A | 11 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | 23 | U | 29 | U | 6 | U | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| toluene | 260 | | 330 | | 31 | | 40 | | V | 37 | | V |
| total xylenes | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 23 | U | 29 | U | 6 | U | 6 | U | | 6 | U | V |
| trichloroethene | 23 | U | 29 | U | 6 | U | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 45 | U | 58 | U | 12 | U | 12 | U | V | 12 | U | V |
| vinyl chloride | 45 | U | 58 | U | 12 | U | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302090 (COL)<br>Sample: B3020900002 (REAL)<br>Depth: 0.0 - 0.7 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900204 (REAL)<br>Depth: 2.0 - 3.4 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900406 (REAL)<br>Depth: 4.0 - 5.1 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900608 (REAL)<br>Depth: 6.0 - 7.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900810 (REAL)<br>Depth: 8.0 - 9.6 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R |
| 2-chloroethyl vinyl ether | 12 | U | | 12 | U | | 12 | U | | 12 | U | | 12 | U | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | UJ | A | 12 | U | V | 12 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | UJ | A | 12 | U | V | 12 | U | V |
| acetone | 12 | U | V | 3 | J | A | 18 | UJ | A | 12 | UJ | A | 2 | J | A |
| benzene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 10 | UJ | A | 8 | UJ | A | 13 | UJ | A | 10 | UJ | A | 8 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| toluene | 110 | | V | 150 | | V | 110 | J | A | 110 | | V | 110 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | UJ | A | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | UJ | A | 12 | U | V | 12 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302090 (COL)<br>Sample: B3020901012 (REAL)<br>Depth: 10.0 - 11.9 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901214 (REAL)<br>Depth: 12.0 - 13.0 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901416 (REAL)<br>Depth: 14.0 - 16.0 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901618 (REAL)<br>Depth: 16.0 - 17.2 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901921 (REAL)<br>Depth: 19.0 - 19.8 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2,2-tetrachloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,1-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,2-dichloropropane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 12 | U | R | 12 | U | R | 12 | U | R | 12 | U | R | 11 | U | R |
| 2-chloroethyl vinyl ether | 12 | U | | 12 | U | | 12 | U | | 12 | U | | 11 | U | |
| 2-hexanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| 4-methyl-2-pentanone | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| acetone | 12 | U | V | 17 | UJ | A | 22 | UJ | V | 24 | UJ | A | 130 | UJ | A |
| benzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromoform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| bromomethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| carbon disulfide | 6 | U | V | 6 | U | V | 1 | J | A | 6 | U | V | 1 | J | A |
| carbon tetrachloride | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chlorobenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloroethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| chloroform | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| chloromethane | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 8 | UJ | A | 8 | UJ | A | 8 | UJ | A | 15 | UJ | A | 8 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 6 | U | | 6 | U | | 6 | U | | 6 | U | | 6 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| toluene | 150 | | V | 160 | | V | 190 | | V | 110 | | V | 150 | | V |
| total xylenes | 6 | U | V | 6 | U | V | 6 | U | | 6 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichloroethene | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V | 6 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |
| vinyl chloride | 12 | U | V | 12 | U | V | 12 | U | V | 12 | U | V | 11 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021900002 (REAL)<br>Depth: 0.00 - 2.00 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021900204D (DUP)<br>Depth: 2.00 - 4.00 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021900406 (REAL)<br>Depth: 4.00 - 6.00 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021900608 (REAL)<br>Depth: 6.00 - 8.35 '<br>Date: 06/25/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| 2-chloroethyl vinyl ether | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| 2-hexanone | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| 4-methyl-2-pentanone | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| acetone | 5 | JB | 11 | U | 5 | J | 11 | U | 12 | U |
| benzene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| bromoform | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| bromomethane | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| carbon disulfide | 7 | U | 2 | JB | 5 | U | 2 | JB | 6 | U |
| carbon tetrachloride | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| chlorobenzene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| chloroethane | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| chloroform | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| chloromethane | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 8 | B | 2 | JB | 1 | JB | 2 | JB | 4 | JB |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| toluene | 21 | B | 39 | B | 53 | B | 24 | B | 10 | |
| total xylenes | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| trichloroethene | 7 | U | 5 | U | 5 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |
| vinyl chloride | 13 | U | 11 | U | 11 | U | 11 | U | 12 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021900810 (REAL)<br>Depth: 8.35 - 10.35 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901012 (REAL)<br>Depth: 10.35 - 12.35 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901214 (REAL)<br>Depth: 12.35 - 14.35 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901416 (REAL)<br>Depth: 14.35 - 16.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901618 (REAL)<br>Depth: 16.30 - 18.30 '<br>Date: 06/25/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 12 | U | 10 | U | 11 | U | 12 | U | 11 | U |
| 2-chloroethyl vinyl ether | 12 | U | 10 | U | 11 | U | 12 | U | 11 | U |
| 2-hexanone | 12 | U | 2 | JB | 11 | U | 12 | U | 11 | U |
| 4-methyl-2-pentanone | 12 | U | 1 | JB | 11 | U | 12 | U | 11 | U |
| acetone | 2 | J | 6 | JB | 4 | JB | 12 | U | 5 | JB |
| benzene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| bromoform | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| bromomethane | 12 | U | 10 | U | 11 | U | 12 | U | 11 | U |
| carbon disulfide | 6 | U | 5 | U | 6 | U | 2 | J | 6 | U |
| carbon tetrachloride | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| chlorobenzene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| chloroethane | 12 | U | 10 | U | 11 | U | 12 | U | 11 | U |
| chloroform | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| chloromethane | 12 | U | 10 | U | 11 | U | 12 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 2 | JB | 8 | B | 2 | JB | 8 | B | 8 | B |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| toluene | 42 | B | 27 | B | 44 | B | 47 | B | 78 | B |
| total xylenes | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| trichloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 12 | U | 10 | U | 11 | U | 12 | U | 11 | U |
| vinyl chloride | 12 | U | 10 | U | 11 | U | 12 | U | 11 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021901820 (REAL)<br>Depth: 18.30 - 20.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021902022 (REAL)<br>Depth: 20.30 - 22.70 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021902224 (REAL)<br>Depth: 22.70 - 24.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021902426 (REAL)<br>Depth: 24.70 - 26.70 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021902628 (REAL)<br>Depth: 26.90 - 28.40 '<br>Date: 06/25/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 26 | | 13 | | 11 | U | 11 | U | 11 | U |
| 2-chloroethyl vinyl ether | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |
| 2-hexanone | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |
| 4-methyl-2-pentanone | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |
| acetone | 93 | B | 67 | B | 6 | JB | 6 | JB | 4 | JB |
| benzene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| bromoform | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| bromomethane | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |
| carbon disulfide | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| carbon tetrachloride | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| chlorobenzene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| chloroethane | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |
| chloroform | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| chloromethane | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 9 | B | 7 | B | 8 | B | 7 | B | 8 | B |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| toluene | 170 | B | 67 | B | 51 | B | 60 | B | 39 | B |
| total xylenes | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| trichloroethene | 6 | U | 5 | U | 6 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |
| vinyl chloride | 12 | U | 10 | U | 11 | U | 11 | U | 11 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate;
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302290 (COL)<br>Sample: B3022900002 (REAL)<br>Depth: 0.00 - 2.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900406 (REAL)<br>Depth: 4.00 - 6.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900810 (REAL)<br>Depth: 8.00 - 10.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900810D (DUP)<br>Depth: 8.00 - 10.00 '<br>Date: 06/26/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,1,2,2-tetrachloroethane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,1,2-trichloroethane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,1-dichloroethane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,1-dichloroethene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,2-dichloroethene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,2-dichloropropane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| 2-chloroethyl vinyl ether | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| 2-hexanone | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| 4-methyl-2-pentanone | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| acetone | 24 | U | 2 | J | 11 | U | 25 | U | 26 | U |
| benzene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| bromoform | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| bromomethane | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| carbon disulfide | 12 | U | 5 | U | 1 | JB | 12 | U | 13 | U |
| carbon tetrachloride | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| chlorobenzene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| chloroethane | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| chloroform | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| chloromethane | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 12 | U | 6 | B | 6 | B | 12 | U | 13 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| toluene | 290 | B | 100 | B | 83 | B | 220 | B | 310 | B |
| total xylenes | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| trichloroethene | 12 | U | 5 | U | 6 | U | 12 | U | 13 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |
| vinyl chloride | 24 | U | 11 | U | 11 | U | 25 | U | 26 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302290 (COL)<br>Sample: B3022901012 (REAL)<br>Depth: 10.00 - 12.30 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022901214 (REAL)<br>Depth: 12.30 - 14.50 '<br>Date: 06/26/90 | | Location: B302990 (COL)<br>Sample: B3029900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/06/90 | | Location: B303090 (COL)<br>Sample: B3030900204 (REAL)<br>Depth: 2.00 - 4.20 '<br>Date: 07/06/90 | | Location: B303190 (COL)<br>Sample: B3031900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/09/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1,2-trichloroethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1-dichloroethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1-dichloroethene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,2-dichloroethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,2-dichloropropane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 25 | U | 20 | | 13 | U | 12 | U | 10 | U |
| 2-chloroethyl vinyl ether | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |
| 2-hexanone | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |
| 4-methyl-2-pentanone | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |
| acetone | 25 | U | 92 | | 34 | B | 9 | JB | 4 | JB |
| benzene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| bromoform | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| bromomethane | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |
| carbon disulfide | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| carbon tetrachloride | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| chlorobenzene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| chloroethane | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |
| chloroform | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| chloromethane | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 13 | U | 7 | B | 4 | JB | 3 | JB | 3 | JB |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| toluene | 410 | B | 180 | B | 1 | J | 6 | U | 22 | |
| total xylenes | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| trichloroethene | 13 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |
| vinyl chloride | 25 | U | 11 | U | 13 | U | 12 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303290 (COL)<br>Sample: B3032900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/10/90 | | Location: B303290 (COL)<br>Sample: B3032900204D (DUP)<br>Depth: 2.00 - 4.00 '<br>Date: 07/10/90 | | Location: B303390 (COL)<br>Sample: B3033900002 (REAL)<br>Depth: 0.00 - 2.00 '<br>Date: 07/11/90 | | Location: B303390 (COL)<br>Sample: B3033900002D (DUP)<br>Depth: 0.00 - 2.00 '<br>Date: 07/11/90 | | Location: B303390 (COL)<br>Sample: B3033900006 (REAL)<br>Depth: 0.00 - 5.50 '<br>Date: 07/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,1,2-trichloroethane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,1-dichloroethane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,1-dichloroethene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,2-dichloroethene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,2-dichloropropane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| 2-chloroethyl vinyl ether | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| 2-hexanone | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| 4-methyl-2-pentanone | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| acetone | 20 | U | 46 | B | 6 | JB | 110 | U | 4 | JB |
| benzene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| bromoform | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| bromomethane | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| carbon disulfide | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| carbon tetrachloride | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| chlorobenzene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| chloroethane | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| chloroform | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| chloromethane | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 10 | U | 3 | JB | 6 | B | 57 | U | 5 | B |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| toluene | 23 | | 190 | | 170 | | 1200 | | 5 | |
| total xylenes | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| trichloroethene | 10 | U | 5 | U | 6 | U | 57 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |
| vinyl chloride | 20 | U | 11 | U | 11 | U | 110 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303390 (COL) Sample: B3033900204 (REAL) Depth: 2.00 - 4.00 ' Date: 07/11/90 | | Location: B303390 (COL) Sample: B3033900608 (REAL) Depth: 5.50 - 8.00 ' Date: 07/11/90 | | Location: B303490 (COL) Sample: B3034900002 (REAL) Depth: 0.00 - 2.00 ' Date: 07/11/90 | | Location: B303490 (COL) Sample: B3034900002D (DUP) Depth: 0.00 - 2.00 ' Date: 07/11/90 | | Location: B303490 (COL) Sample: B3034900204 (REAL) Depth: 2.00 - 4.00 ' Date: 07/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,1,2-trichloroethane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,1-dichloroethane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,1-dichloroethene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,2-dichloroethene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,2-dichloropropane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| 2-chloroethyl vinyl ether | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| 2-hexanone | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| 4-methyl-2-pentanone | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| acetone | 5 | JB | 14 | B | 130 | U | 100 | U | 6 | JB |
| benzene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| bromoform | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| bromomethane | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| carbon disulfide | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| carbon tetrachloride | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| chlorobenzene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| chloroethane | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| chloroform | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| chloromethane | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 6 | B | 6 | B | 67 | U | 50 | U | 7 | B |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| toluene | 89 | | 5 | J | 730 | | 360 | | 120 | |
| total xylenes | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| trichloroethene | 5 | U | 6 | U | 67 | U | 50 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |
| vinyl chloride | 10 | U | 11 | U | 130 | U | 100 | U | 11 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303590 (COL)<br>Sample: B3035900002 (REAL)<br>Depth: 0.00 - 2.00 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B3035900002D (DUP)<br>Depth: 0.00 - 2.00 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B3035900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B3035900204D (DUP)<br>Depth: 2.00 - 4.00 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B3035900507 (REAL)<br>Depth: 4.40 - 7.70 '<br>Date: 07/12/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 52 | U | 11 | U | 11 | U | 11 | U | 11 | U |
| 2-chloroethyl vinyl ether | 52 | U | | | 11 | U | | | 11 | U |
| 2-hexanone | 52 | U | 11 | U | 11 | U | 11 | U | 11 | U |
| 4-methyl-2-pentanone | 52 | U | 11 | U | 11 | U | 11 | U | 42 | |
| acetone | 52 | U | 93 | | 4 | JB | 34 | | 13 | B |
| benzene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| bromoform | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| bromomethane | 52 | U | 11 | U | 11 | U | 11 | U | 11 | U |
| carbon disulfide | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| carbon tetrachloride | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| chlorobenzene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| chloroethane | 52 | U | 11 | U | 11 | U | 11 | U | 11 | U |
| chloroform | 26 | U | 6 | U | 6 | U | 6 | U | 63 | |
| chloromethane | 52 | U | 11 | U | 11 | U | 11 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 26 | U | 20 | B | 5 | JB | 26 | B | 5 | JB |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 26 | U | | | 6 | U | | | 6 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| toluene | 270 | | 260 | | 160 | B | 52 | | 43 | |
| total xylenes | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethane | | | | | | | | | | |
| trans-1,3-dichloropropene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| trichloroethene | 26 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 52 | U | 11 | U | 11 | U | 11 | U | 11 | U |
| vinyl chloride | 52 | U | 11 | U | 11 | U | 11 | U | 11 | U |

Note: Date reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303590 (COL)<br>Sample: B3035900507D (DUP)<br>Depth: 5.40 - 7.70 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B3035900709 (REAL)<br>Depth: 7.70 - 9.70 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B3035900709D (DUP)<br>Depth: 7.70 - 9.70 '<br>Date: 07/12/90 | | Location: B303590 (WCS)<br>Sample: B3035900911 (REAL)<br>Depth: 9.70 - 11.70 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B3035900911D (DUP)<br>Depth: 9.70 - 11.70 '<br>Date: 07/12/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,1,2-trichloroethane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,1-dichloroethane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,1-dichloroethene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,2-dichloroethene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,2-dichloropropane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 12 | U | 11 | U | 14 | U | 17 | U | 12 | U |
| 2-chloroethyl vinyl ether | | | 11 | U | | | 17 | U | | |
| 2-hexanone | 12 | U | 11 | U | 14 | U | 17 | U | 12 | U |
| 4-methyl-2-pentanone | 12 | U | 23 | | 14 | U | 17 | U | 12 | U |
| acetone | 41 | | 9 | JB | 53 | | 5 | JB | 44 | |
| benzene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| bromoform | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| bromomethane | 12 | U | 11 | U | 14 | U | 17 | U | 12 | U |
| carbon disulfide | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| carbon tetrachloride | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| chlorobenzene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| chloroethane | 12 | U | 11 | U | 14 | U | 17 | U | 12 | U |
| chloroform | 6 | U | 23 | | 7 | U | 8 | U | 6 | U |
| chloromethane | 12 | U | 11 | U | 14 | U | 17 | U | 12 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 33 | B | 5 | JB | 39 | B | 9 | B | 16 | B |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | | | 6 | U | | | 8 | U | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| toluene | 43 | | 13 | | 7 | | 190 | B | 48 | |
| total xylenes | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| trichloroethene | 6 | U | 6 | U | 7 | U | 8 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 12 | U | 11 | U | 14 | U | 17 | U | 12 | U |
| vinyl chloride | 12 | U | 11 | U | 14 | U | 17 | U | 12 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303590 (COL)<br>Sample: B30359012I3 (REAL)<br>Depth: 11.70 - 13.50 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359012I3D (DUP)<br>Depth: 11.70 - 13.50 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359016I8 (REAL)<br>Depth: 16.10 - 17.80 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359016I8D (DUP)<br>Depth: 16.10 - 17.80 '<br>Date: 07/12/90 | | Location: B303690 (COL)<br>Sample: B30369000020 (DUP)<br>Depth: 0.00 - 2.00 '<br>Date: 07/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,1-dichloropropane | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| 2-chloroethyl vinyl ether | 12 | U | | | 11 | U | | | | |
| 2-hexanone | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| 4-methyl-2-pentanone | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| acetone | 4 | JB | 20 | B | 6 | JB | 57 | B | 12 | B |
| benzene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| bromoform | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| bromomethane | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| carbon disulfide | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| carbon tetrachloride | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| chlorobenzene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| chloroethane | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| chloroform | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| chloromethane | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 6 | B | 22 | B | 6 | B | 54 | B | 21 | B |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 6 | U | | | 6 | U | | | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| toluene | 110 | B | 58 | | 71 | B | 14 | | 460 | |
| total xylenes | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| trichloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| vinyl chloride | 12 | U | 12 | U | 11 | U | 12 | U | 11 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303690 (COL)<br>Sample: B3036900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/13/90 | | Location: B303690 (COL)<br>Sample: B3036900204D (DUP)<br>Depth: 2.00 - 4.00 '<br>Date: 07/13/90 | | Location: B303690 (COL)<br>Sample: B3036901012 (REAL)<br>Depth: 10.00 - 11.90 '<br>Date: 07/13/90 | | Location: B303690 (COL)<br>Sample: B3036901214 (REAL)<br>Depth: 11.90 - 14.00 '<br>Date: 07/13/90 | | Location: B303690 (WCS)<br>Sample: B3036901718 (REAL)<br>Depth: 17.20 - 18.80 '<br>Date: 07/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,1,2,2-tetrachloroethane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,1,2-trichloroethane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,1-dichloroethane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,1-dichloroethene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,2-dichloroethene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,2-dichloropropane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |
| 2-chloroethyl vinyl ether | 21 | U | | | 11 | U | 9 | U | 24 | U |
| 2-hexanone | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |
| 4-methyl-2-pentanone | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |
| acetone | 21 | U | 62 | B | 7 | J | 7 | J | 24 | U |
| benzene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| bromoform | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| bromomethane | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |
| carbon disulfide | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| carbon tetrachloride | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| chlorobenzene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| chloroethane | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |
| chloroform | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| chloromethane | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 10 | U | 21 | B | 9 | | 9 | | 12 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 10 | U | | | 6 | U | 5 | U | 12 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| toluene | 110 | | 350 | | 160 | | 90 | | 230 | |
| total xylenes | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| trichloroethene | 10 | U | 6 | U | 6 | U | 5 | U | 12 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |
| vinyl chloride | 21 | U | 11 | U | 11 | U | 9 | U | 24 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303790 (COL)<br>Sample: B3037900204 (REAL)<br>Depth: 2.00 - 3.50 '<br>Date: 07/16/90 | | Location: B303790 (COL)<br>Sample: B3037900507 (REAL)<br>Depth: 5.30 - 6.80 '<br>Date: 07/16/90 | | Location: B303890 (COL)<br>Sample: B3038900002 (REAL)<br>Depth: 0.00 - 2.00 '<br>Date: 07/13/90 | | Location: B303890 (COL)<br>Sample: B3038900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/13/90 | | Location: B303890 (COL)<br>Sample: B3038900406 (REAL)<br>Depth: 4.00 - 6.00 '<br>Date: 07/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |
| 2-chloroethyl vinyl ether | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |
| 2-hexanone | 11 | U | 1 | JB | 47 | U | 11 | U | 12 | U |
| 4-methyl-2-pentanone | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |
| acetone | 6 | JB | 8 | JB | 47 | U | 3 | J | 14 | |
| benzene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| bromoform | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| bromomethane | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |
| carbon disulfide | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| carbon tetrachloride | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| chlorobenzene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| chloroethane | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |
| chloroform | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| chloromethane | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 3 | JB | 3 | JB | 23 | U | 10 | | 10 | |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| toluene | 33 | | 5 | U | 200 | | 150 | | 77 | |
| total xylenes | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| trichloroethene | 6 | U | 5 | U | 23 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |
| vinyl chloride | 11 | U | 11 | U | 47 | U | 11 | U | 12 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303890 (COL)<br>Sample: B3038900608 (REAL)<br>Depth: 6.00 - 8.00 '<br>Date: 07/13/90 | | Location: B303890 (COL)<br>Sample: B3038900810 (REAL)<br>Depth: 8.10 - 10.00 '<br>Date: 07/13/90 | | Location: B303990 (COL)<br>Sample: B3039900204 (REAL)<br>Depth: 2.00 - 3.70 '<br>Date: 07/17/90 | | Location: B304090 (COL)<br>Sample: B3040900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/18/90 | | Location: B304190 (COL)<br>Sample: B3041900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/18/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1,2-trichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1-dichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1-dichloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,2-dichloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,2-dichloropropane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |
| 2-chloroethyl vinyl ether | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |
| 2-hexanone | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |
| 4-methyl-2-pentanone | 12 | U | 12 | U | 2 | JB | 11 | U | 11 | U |
| acetone | 5 | J | 4 | J | 6 | JB | 4 | JB | 11 | U |
| benzene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| bromoform | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| bromomethane | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |
| carbon disulfide | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| carbon tetrachloride | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| chlorobenzene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| chloroethane | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |
| chloroform | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| chloromethane | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 6 | U | 6 | U | 6 | U | 6 | U | 2 | J |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 8 | | 7 | | 3 | JB | 3 | JB | 4 | JB |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 6 | U | 6 | U | 6 | U | 6 | U | 1 | J |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| toluene | 58 | | 100 | | 130 | | 68 | | 2000 | E |
| total xylenes | 6 | U | 6 | U | 6 | U | 6 | U | 3 | J |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| trichloroethene | 6 | U | 6 | U | 6 | U | 6 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |
| vinyl chloride | 12 | U | 12 | U | 11 | U | 11 | U | 11 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-a

## Phase III Subsurface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B304290 (COL)<br>Sample: B3042900204 (REAL)<br>Depth: 2.00 - 4.00 '<br>Date: 07/19/90 | | Location: B304290 (WCS)<br>Sample: B3042902620 (REAL)<br>Depth: 26.40 - 28.40 '<br>Date: 07/19/90 | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 6 | U | | | | | | |
| 1,1,2,2-tetrachloroethane | 5 | U | 6 | U | | | | | | |
| 1,1,2-trichloroethane | 5 | U | 6 | U | | | | | | |
| 1,1-dichloroethane | 5 | U | 6 | U | | | | | | |
| 1,1-dichloroethene | 5 | U | 6 | U | | | | | | |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 6 | U | | | | | | |
| 1,2-dichloroethene | 5 | U | 6 | U | | | | | | |
| 1,2-dichloropropane | 5 | U | 6 | U | | | | | | |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 12 | U | | | | | | |
| 2-chloroethyl vinyl ether | 10 | U | 12 | U | | | | | | |
| 2-hexanone | 10 | U | 2 | JB | | | | | | |
| 4-methyl-2-pentanone | 10 | U | 3 | JB | | | | | | |
| acetone | 5 | JB | 8 | JB | | | | | | |
| benzene | 5 | U | 6 | U | | | | | | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 6 | U | | | | | | |
| bromoform | 5 | U | 6 | U | | | | | | |
| bromomethane | 10 | U | 12 | U | | | | | | |
| carbon disulfide | 5 | U | 6 | U | | | | | | |
| carbon tetrachloride | 5 | U | 6 | U | | | | | | |
| chlorobenzene | 5 | U | 6 | U | | | | | | |
| chloroethane | 10 | U | 12 | U | | | | | | |
| chloroform | 5 | U | 6 | U | | | | | | |
| chloromethane | 10 | U | 12 | U | | | | | | |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 6 | U | | | | | | |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 6 | U | | | | | | |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 6 | U | | | | | | |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 3 | JB | 3 | JB | | | | | | |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 5 | U | 6 | U | | | | | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 6 | U | | | | | | |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 6 | U | | | | | | |
| toluene | 89 | | 390 | E | | | | | | |
| total xylenes | 5 | U | 6 | U | | | | | | |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 6 | U | | | | | | |
| trichloroethene | 5 | U | 6 | U | | | | | | |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 12 | U | | | | | | |
| vinyl chloride | 10 | U | 12 | U | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg)

| ANALYTE | Location: 30091 (VFA)<br>Sample: BH00001EBU1 (REAL)<br>Depth: 0.5 - 6.0 '<br>Date: 08/05/91 | | | Location: 30091 (WCS)<br>Sample: BH00002EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/05/91 | | | Location: 30091 (WCS)<br>Sample: BH00003EBU1 (REAL)<br>Depth: 11.9 - 13.9 '<br>Date: 08/05/91 | | | Location: 30191 (COL)<br>Sample: BH00004EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/07/91 | | | Location: 30191 (COL)<br>Sample: BH00005EBU1 (REAL)<br>Depth: 6.0 - 12.00 '<br>Date: 08/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 1,2-dichlorobenzene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 1,3-dichlorobenzene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 1,4-dichlorobenzene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2,4,5-trichlorophenol | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 2,4,6-trichlorophenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2,4-dichlorophenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2,4-dimethylphenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2,4-dinitrophenol | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 2,4-dinitrotoluene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2,6-dinitrotoluene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2-chloronaphthalene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2-chlorophenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2-methylnaphthalene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2-methylphenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 2-nitroaniline | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 2-nitrophenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 3,3'-dichlorobenzidine | 1400 | U | V | 1500 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 3400 | U | R | 3700 | U | R | 3800 | U | R | 3800 | U | R | 3800 | U | R |
| 4,6-dinitro-2-methylphenol | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 4-bromophenyl phenyl ether | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 4-chloro-3-methylphenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 4-chloroaniline | 700 | U | R | 770 | U | R | 790 | U | R | 780 | U | R | 780 | U | R |
| 4-chlorophenyl phenyl ether | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 4-methylphenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| 4-nitroaniline | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 4-nitrophenol | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| acenaphthene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| acenaphthylene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| anthracene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| benzo(a)pyrene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| benzo(b)fluoranthene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| benzo(ghi)perylene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| benzo(k)fluoranthene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| benzoic acid | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| benzyl alcohol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| bis(2-chloroethoxy)methane | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| bis(2-chloroethyl)ether | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| bis(2-chloroisopropyl)ether | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| bis(2-ethylhexyl)phthalate | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| butyl benzyl phthalate | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| chrysene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| di-n-butyl phthalate | 110 | J | A | 130 | J | A | 140 | J | A | 780 | U | V | 780 | U | V |
| di-n-octyl phthalate | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| dibenzo(a,h)anthracene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| dibenzofuran | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| diethyl phthalate | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| dimethyl phthalate | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| fluoranthene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| fluorene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| hexachlorobenzene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| hexachlorobutadiene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| hexachlorocyclopentadiene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| hexachloroethane | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| indeno(1,2,3-cd)pyrene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| isophorone | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| n-nitroso-di-n-propylamine | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| naphthalene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| nitrobenzene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| pentachlorophenol | 3400 | U | V | 3700 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| phenanthrene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| phenol | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |
| pyrene | 700 | U | V | 770 | U | V | 790 | U | V | 780 | U | V | 780 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate;
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30191 (WCS)<br>Sample: BH00006EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/07/91 | | | Location: 30191 (WCS)<br>Sample: BH00007EBU1 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 08/07/91 | | | Location: 30291 (COL)<br>Sample: BH00008EBU1 (REAL)<br>Depth: 0.0 - 5.9 '<br>Date: 08/08/91 | | | Location: 30291 (COL)<br>Sample: BH00008EBU1D (REAL)<br>Depth: 0.0 - 5.9 '<br>Date: 08/08/91 | | | Location: 30291 (COL)<br>Sample: BH00009EBU1 (REAL)<br>Depth: 9.7 - 10.0 '<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3800 | U | V | 3800 | U | V | 3700 | U | V | 3600 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3800 | U | V | 3800 | U | V | 3700 | U | R | 3600 | U | R | 3900 | U | R |
| 2,4-dinitrotoluene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2-chloronaphthalene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2-chlorophenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2-methylnaphthalene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2-methylphenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 2-nitroaniline | 3800 | U | V | 3800 | U | V | 3700 | U | V | 3600 | U | V | 3900 | U | V |
| 2-nitrophenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1600 | U | V | 1500 | U | V | 1500 | U | V | 1600 | U | V |
| 3-nitroaniline | 3800 | U | R | 3800 | U | R | 3700 | U | V | 3600 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 3800 | U | V | 3800 | U | V | 3700 | U | V | 3600 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 4-chloroaniline | 790 | U | R | 790 | U | R | 760 | U | V | 750 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 4-methylphenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| 4-nitroaniline | 3800 | U | V | 3800 | U | V | 3700 | U | R | 3600 | U | R | 3900 | U | R |
| 4-nitrophenol | 3800 | U | V | 3800 | U | V | 3700 | U | V | 3600 | U | V | 3900 | U | V |
| acenaphthene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| acenaphthylene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| anthracene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| benzo(a)pyrene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 790 | U | V | 790 | U | V | 760 | U | R | 750 | U | R | 800 | U | R |
| benzo(ghi)perylene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 790 | U | V | 790 | U | V | 760 | U | R | 750 | U | R | 800 | U | R |
| benzoic acid | 3800 | U | V | 3800 | U | V | 3700 | U | V | 3600 | U | V | 3900 | U | V |
| benzyl alcohol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| butyl benzyl phthalate | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| chrysene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| di-n-butyl phthalate | 790 | U | V | 790 | U | V | 89 | BJ | JA | 110 | BJ | JA | 140 | BJ | JA |
| di-n-octyl phthalate | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| dibenzofuran | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| diethyl phthalate | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| dimethyl phthalate | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| fluoranthene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| fluorene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| hexachlorobenzene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| hexachlorobutadiene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| hexachloroethane | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| isophorone | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| naphthalene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| nitrobenzene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| pentachlorophenol | 3800 | U | V | 3800 | U | V | 3700 | U | V | 3600 | U | V | 3900 | U | V |
| phenanthrene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| phenol | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |
| pyrene | 790 | U | V | 790 | U | V | 760 | U | V | 750 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30291 (WCS)<br>Sample: BH00010EBU1 (REAL)<br>Depth: 14.4 - 14.1 '<br>Date: 08/08/91 | | | Location: 30391 (COL)<br>Sample: BH00012EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00013EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00014EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00015EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 08/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3900 | U | R | 3800 | U | R | 3800 | U | R | 3900 | U | R | 3900 | U | V |
| 2,4-dinitrotoluene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2-chloronaphthalene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2-chlorophenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2-methylnaphthalene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2-methylphenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 2-nitroaniline | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V | 3900 | U | V |
| 2-nitrophenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V | 3900 | U | R |
| 4,6-dinitro-2-methylphenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 4-chloroaniline | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | R |
| 4-chlorophenyl phenyl ether | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 4-methylphenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| 4-nitroaniline | 3900 | U | R | 3800 | U | V | 3800 | U | V | 3900 | U | V | 3900 | U | V |
| 4-nitrophenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V | 3900 | U | V |
| acenaphthene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| acenaphthylene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| anthracene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| benzo(a)pyrene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| benzo(ghi)perylene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| benzoic acid | 3900 | U | V | 3800 | U | R | 3800 | U | R | 3900 | U | R | 3900 | U | V |
| benzyl alcohol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| butyl benzyl phthalate | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| chrysene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| di-n-butyl phthalate | 86 | BJ | JA | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| di-n-octyl phthalate | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| dibenzofuran | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| diethyl phthalate | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| dimethyl phthalate | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| fluoranthene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| fluorene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| hexachlorobenzene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| hexachlorobutadiene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| hexachloroethane | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| isophorone | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| naphthalene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| nitrobenzene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| pentachlorophenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V | 3900 | U | V |
| phenanthrene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| phenol | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |
| pyrene | 810 | U | V | 790 | U | V | 780 | U | V | 800 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30491 (COL)<br>Sample: BH00041EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/13/91 | | | Location: 30491 (WCS)<br>Sample: BH00043EBU1 (REAL)<br>Depth: 30.0 - 32.0 '<br>Date: 08/13/91 | | | Location: 30591 (COL)<br>Sample: BH00044EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/14/91 | | | Location: 30591 (WCS)<br>Sample: BH00047EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/14/91 | | | Location: 30591 (WCS)<br>Sample: BH00049EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 4000 | U | V | 4100 | U | V | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 4000 | U | R | 4100 | U | R | 4000 | U | R | 3900 | U | R | 3900 | U | R |
| 2,4-dinitrotoluene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2-chloronaphthalene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2-chlorophenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2-methylnaphthalene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2-methylphenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 2-nitroaniline | 4000 | U | V | 4100 | U | V | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| 2-nitrophenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1700 | U | V | 1700 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 4000 | U | V | 4100 | U | V | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 4000 | U | V | 4100 | U | V | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 4-chloroaniline | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 4-methylphenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| 4-nitroaniline | 4000 | U | V | 4100 | U | V | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| 4-nitrophenol | 4000 | U | V | 4100 | U | V | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| acenaphthene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| acenaphthylene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| anthracene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| benzo(a)pyrene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| benzo(ghi)perylene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| benzoic acid | 4000 | U | R | 4100 | U | R | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| benzyl alcohol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| butyl benzyl phthalate | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| chrysene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| di-n-butyl phthalate | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| di-n-octyl phthalate | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| dibenzofuran | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| diethyl phthalate | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| dimethyl phthalate | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| fluoranthene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| fluorene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| hexachlorobenzene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| hexachlorobutadiene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| hexachloroethane | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| isophorone | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| naphthalene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| nitrobenzene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| pentachlorophenol | 4000 | U | V | 4100 | U | V | 4000 | U | V | 3900 | U | V | 3900 | U | V |
| phenanthrene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| phenol | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |
| pyrene | 830 | U | V | 850 | U | V | 820 | U | V | 810 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30691 (VFA)<br>Sample: BH00052EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/15/91 | | | Location: 30691 (WCS)<br>Sample: BH00055EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/15/91 | | | Location: 30691 (WCS)<br>Sample: BH00056EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/15/91 | | | Location: 30791 (VFA)<br>Sample: BH00060EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00063EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 1,2-dichlorobenzene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 1,3-dichlorobenzene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 1,4-dichlorobenzene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2,4,5-trichlorophenol | 3700 | U | V | 3700 | U | V | 3700 | U | V | 3800 | U | V | 3600 | U | V |
| 2,4,6-trichlorophenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2,4-dichlorophenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2,4-dimethylphenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2,4-dinitrophenol | 3700 | U | V | 3700 | U | V | 3700 | U | V | 3800 | U | V | 3600 | U | V |
| 2,4-dinitrotoluene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2,6-dinitrotoluene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2-chloronaphthalene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2-chlorophenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2-methylnaphthalene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2-methylphenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 2-nitroaniline | 3700 | U | V | 3700 | U | V | 3700 | U | V | 3800 | U | V | 3600 | U | V |
| 2-nitrophenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 3,3'-dichlorobenzidine | 1500 | U | V | 1500 | U | V | 1500 | U | V | 1600 | U | V | 1500 | U | V |
| 3-nitroaniline | 3700 | U | R | 3700 | U | R | 3700 | U | R | 3800 | U | V | 3600 | U | V |
| 4,6-dinitro-2-methylphenol | 3700 | U | V | 3700 | U | V | 3700 | U | V | 3800 | U | V | 3600 | U | V |
| 4-bromophenyl phenyl ether | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 4-chloro-3-methylphenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 4-chloroaniline | 770 | U | R | 760 | U | R | 770 | U | R | 780 | U | V | 730 | U | V |
| 4-chlorophenyl phenyl ether | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 4-methylphenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 4-nitroaniline | 3700 | U | R | 3700 | U | R | 3700 | U | V | 3800 | U | V | 3600 | U | V |
| 4-nitrophenol | 3700 | U | R | 3700 | U | R | 3700 | U | V | 3800 | U | V | 3600 | U | V |
| acenaphthene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| acenaphthylene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| anthracene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| benzo(a)pyrene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| benzo(b)fluoranthene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| benzo(ghi)perylene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| benzo(k)fluoranthene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| benzoic acid | 3700 | U | V | 3700 | U | V | 210 | J | A | 3800 | U | V | 3600 | U | V |
| benzyl alcohol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| bis(2-chloroethoxy)methane | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| bis(2-chloroethyl)ether | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| bis(2-chloroisopropyl)ether | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| bis(2-ethylhexyl)phthalate | 290 | J | A | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| butyl benzyl phthalate | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| chrysene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| di-n-butyl phthalate | 200 | BJ | JA | 200 | BJ | JA | 210 | BJ | JA | 630 | J | A | 440 | J | A |
| di-n-octyl phthalate | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| dibenzo(a,h)anthracene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| dibenzofuran | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| diethyl phthalate | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| dimethyl phthalate | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| fluoranthene | 300 | J | A | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| fluorene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| hexachlorobenzene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| hexachlorobutadiene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| hexachlorocyclopentadiene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| hexachloroethane | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| indeno(1,2,3-cd)pyrene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| isophorone | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| n-nitroso-di-n-propylamine | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| naphthalene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| nitrobenzene | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| pentachlorophenol | 3700 | U | V | 3700 | U | V | 3700 | U | V | 3800 | U | V | 3600 | U | V |
| phenanthrene | 280 | J | A | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| phenol | 770 | U | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| pyrene | 260 | J | V | 760 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30791 (WCS)<br>Sample: BH00064EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00065EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/16/91 | | | Location: 30891 (WCS)<br>Sample: BH00070EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00073EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00075EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2-chloronaphthalene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2-chlorophenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2-methylnaphthalene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2-methylphenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 2-nitroaniline | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 2-nitrophenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1500 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 4-chloroaniline | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 4-methylphenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| 4-nitroaniline | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 4-nitrophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| acenaphthene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| acenaphthylene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| anthracene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| benzo(a)pyrene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| benzo(ghi)perylene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| benzoic acid | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| benzyl alcohol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| butyl benzyl phthalate | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| chrysene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| di-n-butyl phthalate | 380 | J | A | 510 | J | A | 460 | BJ | JA | 380 | BJ | JA | 550 | BJ | JA |
| di-n-octyl phthalate | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| dibenzofuran | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| diethyl phthalate | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| dimethyl phthalate | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| fluoranthene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| fluorene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| hexachlorobenzene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| hexachlorobutadiene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| hexachloroethane | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| isophorone | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| naphthalene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| nitrobenzene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| pentachlorophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| phenanthrene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| phenol | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |
| pyrene | 730 | U | V | 790 | U | V | 790 | U | V | 790 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 30891 (WCS)<br>Sample: BH00078EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/19/91 | | | Location: 31091 (COL)<br>Sample: BH00080EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00084EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00085EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00087EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2-chloronaphthalene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2-chlorophenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2-methylnaphthalene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2-methylphenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 2-nitroaniline | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 2-nitrophenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1500 | U | JA | 1600 | U | V | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 3800 | U | V | 3700 | U | R | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 4-chloroaniline | 790 | U | V | 770 | U | R | 780 | U | V | 790 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 4-methylphenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| 4-nitroaniline | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 3800 | U | V | 3900 | U | V |
| 4-nitrophenol | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 95 | J | A | 3900 | U | V |
| acenaphthene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| acenaphthylene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| anthracene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| benzo(a)pyrene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| benzo(ghi)perylene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| benzoic acid | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 3800 | U | V | 3900 | U | A |
| benzyl alcohol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| butyl benzyl phthalate | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| chrysene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| di-n-butyl phthalate | 520 | BJ | JA | 88 | J | A | 780 | U | V | 790 | U | V | 800 | U | V |
| di-n-octyl phthalate | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| dibenzofuran | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| diethyl phthalate | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| dimethyl phthalate | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| fluoranthene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| fluorene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| hexachlorobenzene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| hexachlorobutadiene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| hexachloroethane | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| isophorone | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| naphthalene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| nitrobenzene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| pentachlorophenol | 3800 | U | V | 3700 | U | JA | 3800 | U | V | 120 | J | A | 3900 | U | V |
| phenanthrene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| phenol | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |
| pyrene | 790 | U | V | 770 | U | JA | 780 | U | V | 790 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate;
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31091 (COL)<br>Sample: BH00090EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 08/20/91 | | | Location: 31291 (WCS)<br>Sample: BH00091EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/21/91 | | | Location: 31291 (WCS)<br>Sample: BH00094EBU1 (DUP)<br>Depth: 24.0 - 30.0 '<br>Date: 08/21/91 | | | Location: 31291 (WCS)<br>Sample: BH00097EBU1 (REAL)<br>Depth: 30.0 - 36.0 '<br>Date: 08/22/91 | | | Location: 31591 (COL)<br>Sample: BH00100EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 08/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 1,2-dichlorobenzene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 1,3-dichlorobenzene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 1,4-dichlorobenzene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | JA |
| 2,4,5-trichlorophenol | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 2,4,6-trichlorophenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2,4-dichlorophenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2,4-dimethylphenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2,4-dinitrophenol | 4100 | U | V | 3800 | U | R | 3800 | U | R | 3800 | U | R | 3800 | U | R |
| 2,4-dinitrotoluene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2,6-dinitrotoluene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2-chloronaphthalene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2-chlorophenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2-methylnaphthalene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2-methylphenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 2-nitroaniline | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 2-nitrophenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 3,3'-dichlorobenzidine | 1700 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 4,6-dinitro-2-methylphenol | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 4-bromophenyl phenyl ether | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 4-chloro-3-methylphenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 4-chloroaniline | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 4-chlorophenyl phenyl ether | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 4-methylphenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| 4-nitroaniline | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| 4-nitrophenol | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| acenaphthene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| acenaphthylene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| anthracene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| benzo(a)pyrene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | A | 780 | U | V |
| benzo(b)fluoranthene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| benzo(ghi)perylene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| benzo(k)fluoranthene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| benzoic acid | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| benzyl alcohol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| bis(2-chloroethoxy)methane | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| bis(2-chloroethyl)ether | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| bis(2-chloroisopropyl)ether | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| bis(2-ethylhexyl)phthalate | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| butyl benzyl phthalate | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| chrysene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | A | 780 | U | V |
| di-n-butyl phthalate | 850 | U | V | 790 | U | V | 81 | J | A | 790 | U | A | 780 | U | V |
| di-n-octyl phthalate | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| dibenzo(a,h)anthracene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| dibenzofuran | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| diethyl phthalate | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| dimethyl phthalate | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| fluoranthene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| fluorene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| hexachlorobenzene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| hexachlorobutadiene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| hexachlorocyclopentadiene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| hexachloroethane | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| indeno(1,2,3-cd)pyrene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| isophorone | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| n-nitroso-di-n-propylamine | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| naphthalene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| nitrobenzene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| pentachlorophenol | 4100 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V |
| phenanthrene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| phenol | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |
| pyrene | 850 | U | V | 790 | U | V | 780 | U | V | 790 | U | V | 780 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31591 (COL)<br>Sample: BH00103EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/23/91 | | | Location: 31591 (COL)<br>Sample: BH00106EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/23/91 | | | Location: 31591 (WCS)<br>Sample: BH00109EBU1 (REAL)<br>Depth: 12.0 - 16.30 '<br>Date: 08/23/91 | | | Location: 31691 (WCS)<br>Sample: BH00112EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/26/91 | | | Location: 31691 (WCS)<br>Sample: BH00113EBU1 (DUP)<br>Depth: 24.0 - 30.0 '<br>Date: 08/26/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 1,2-dichlorobenzene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 1,3-dichlorobenzene | 790 | U | V | 790 | U | V | 820 | U | V | 180 | J | A | 770 | U | V |
| 1,4-dichlorobenzene | 790 | U | JA | 790 | U | JA | 820 | U | JA | 800 | U | V | 770 | U | V |
| 2,4,5-trichlorophenol | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V | 3700 | U | V |
| 2,4,6-trichlorophenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2,4-dichlorophenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2,4-dimethylphenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2,4-dinitrophenol | 3800 | U | R | 3800 | U | R | 4000 | U | R | 3900 | U | V | 3700 | U | V |
| 2,4-dinitrotoluene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2,6-dinitrotoluene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2-chloronaphthalene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 700 | U | V |
| 2-chlorophenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2-methylnaphthalene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2-methylphenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 2-nitroaniline | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V | 3700 | U | V |
| 2-nitrophenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1500 | U | V |
| 3-nitroaniline | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | R | 3700 | U | R |
| 4,6-dinitro-2-methylphenol | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V | 3700 | U | V |
| 4-bromophenyl phenyl ether | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 4-chloro-3-methylphenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 4-chloroaniline | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | R | 770 | U | R |
| 4-chlorophenyl phenyl ether | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 4-methylphenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| 4-nitroaniline | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V | 3700 | U | V |
| 4-nitrophenol | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V | 3700 | U | V |
| acenaphthene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| acenaphthylene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| anthracene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| benzo(a)pyrene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| benzo(b)fluoranthene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| benzo(ghi)perylene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| benzo(k)fluoranthene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| benzoic acid | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V | 3700 | U | V |
| benzyl alcohol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| bis(2-chloroethoxy)methane | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| bis(2-chloroethyl)ether | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| bis(2-chloroisopropyl)ether | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| bis(2-ethylhexyl)phthalate | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| butyl benzyl phthalate | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| chrysene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| di-n-butyl phthalate | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| di-n-octyl phthalate | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| dibenzo(a,h)anthracene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| dibenzofuran | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| diethyl phthalate | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| dimethyl phthalate | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| fluoranthene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| fluorene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| hexachlorobenzene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| hexachlorobutadiene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| hexachlorocyclopentadiene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| hexachloroethane | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| indeno(1,2,3-cd)pyrene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| isophorone | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| n-nitroso-di-n-propylamine | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| naphthalene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| nitrobenzene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| pentachlorophenol | 3800 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V | 3700 | U | V |
| phenanthrene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| phenol | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |
| pyrene | 790 | U | V | 790 | U | V | 820 | U | V | 800 | U | V | 770 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31691 (WCS)<br>Sample: BH00114EBU1 (REAL)<br>Depth: 30.0 - 32.0 '<br>Date: 08/26/91 | | | Location: 31891 (COL)<br>Sample: BH00122EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00125EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00128EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00131EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/27/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 110 | J | A | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2-chloronaphthalene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2-chlorophenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2-methylnaphthalene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2-methylphenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 2-nitroaniline | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| 2-nitrophenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1500 | U | V | 1600 | U | V | 1700 | U | V | 1600 | U | V |
| 3-nitroaniline | 4000 | U | R | 3700 | U | R | 3800 | U | R | 4000 | U | R | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 4-chloroaniline | 820 | U | R | 770 | U | R | 780 | U | R | 830 | U | R | 800 | U | V |
| 4-chlorophenyl phenyl ether | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 4-methylphenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| 4-nitroaniline | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| 4-nitrophenol | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| acenaphthene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| acenaphthylene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| anthracene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| benzo(a)pyrene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| benzo(ghi)perylene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| benzoic acid | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| benzyl alcohol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| butyl benzyl phthalate | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| chrysene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| di-n-butyl phthalate | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 110 | J | A |
| di-n-octyl phthalate | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| dibenzofuran | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| diethyl phthalate | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| dimethyl phthalate | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| fluoranthene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| fluorene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| hexachlorobenzene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| hexachlorobutadiene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| hexachloroethane | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| isophorone | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| naphthalene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| nitrobenzene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| pentachlorophenol | 4000 | U | V | 3700 | U | V | 3800 | U | V | 4000 | U | V | 3900 | U | V |
| phenanthrene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| phenol | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |
| pyrene | 820 | U | V | 770 | U | V | 780 | U | V | 830 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 31891 (WCS)<br>Sample: BH00132EBU1 (REAL)<br>Depth: 18.0 - 21.0 '<br>Date: 08/27/91 | | | Location: 31991 (COL)<br>Sample: BH00137EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 08/28/91 | | | Location: 31991 (COL)<br>Sample: BH00140EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/28/91 | | | Location: 31991 (COL)<br>Sample: BH00143EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/28/91 | | | Location: 31991 (WCS)<br>Sample: BH00146EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/28/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 1,2-dichlorobenzene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 1,3-dichlorobenzene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 1,4-dichlorobenzene | 790 | U | V | 740 | U | V | 750 | U | V | 78 | J | A | 810 | U | V |
| 2,4,5-trichlorophenol | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| 2,4,6-trichlorophenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2,4-dichlorophenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2,4-dimethylphenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2,4-dinitrophenol | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| 2,4-dinitrotoluene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2,6-dinitrotoluene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2-chloronaphthalene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2-chlorophenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2-methylnaphthalene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2-methylphenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 2-nitroaniline | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| 2-nitrophenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1500 | U | V | 1500 | U | V | 1500 | U | V | 1600 | U | V |
| 3-nitroaniline | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| 4,6-dinitro-2-methylphenol | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| 4-bromophenyl phenyl ether | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 4-chloro-3-methylphenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 4-chloroaniline | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 4-chlorophenyl phenyl ether | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 4-methylphenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| 4-nitroaniline | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| 4-nitrophenol | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| acenaphthene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| acenaphthylene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| anthracene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| benzo(a)pyrene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| benzo(b)fluoranthene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| benzo(ghi)perylene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| benzo(k)fluoranthene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| benzoic acid | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| benzyl alcohol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| bis(2-chloroethoxy)methane | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| bis(2-chloroethyl)ether | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| bis(2-chloroisopropyl)ether | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| bis(2-ethylhexyl)phthalate | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| butyl benzyl phthalate | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| chrysene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| di-n-butyl phthalate | 230 | J | A | 150 | BJ | JA | 110 | BJ | JA | 260 | BJ | JA | 120 | BJ | JA |
| di-n-octyl phthalate | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| dibenzo(a,h)anthracene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| dibenzofuran | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| diethyl phthalate | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| dimethyl phthalate | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| fluoranthene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| fluorene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| hexachlorobenzene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| hexachlorobutadiene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| hexachlorocyclopentadiene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| hexachloroethane | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| indeno(1,2,3-cd)pyrene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| isophorone | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| n-nitroso-di-n-propylamine | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| naphthalene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| nitrobenzene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| pentachlorophenol | 3800 | U | V | 3600 | U | V | 3600 | U | V | 3700 | U | V | 4000 | U | V |
| phenanthrene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| phenol | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |
| pyrene | 790 | U | V | 740 | U | V | 750 | U | V | 760 | U | V | 810 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32091 (COL)<br>Sample: BH00202EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/29/91 | | | Location: 32091 (COL)<br>Sample: BH00205EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/29/91 | | | Location: 32091 (COL)<br>Sample: BH00208EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/29/91 | | | Location: 32091 (COL)<br>Sample: BH00211EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/29/91 | | | Location: 32091 (WCS)<br>Sample: BH00212EBU1 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 08/29/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-chloronaphthalene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-chlorophenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-methylnaphthalene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-methylphenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-nitroaniline | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 2-nitrophenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1500 | U | V | 1600 | U | V | 1600 | U | V | 1500 | U | V | 1600 | U | V |
| 3-nitroaniline | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-chloroaniline | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-methylphenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-nitroaniline | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 4-nitrophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| acenaphthene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| acenaphthylene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| anthracene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(a)pyrene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(ghi)perylene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzoic acid | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| benzyl alcohol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| butyl benzyl phthalate | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| chrysene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| di-n-butyl phthalate | 170 | J | A | 140 | J | A | 250 | J | A | 190 | J | A | 160 | J | A |
| di-n-octyl phthalate | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| dibenzofuran | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| diethyl phthalate | 750 | U | V | 780 | U | V | 790 | U | V | 520 | J | A | 800 | U | V |
| dimethyl phthalate | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| fluoranthene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| fluorene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachlorobenzene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachlorobutadiene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachloroethane | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| isophorone | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| naphthalene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| nitrobenzene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| pentachlorophenol | 3600 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| phenanthrene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| phenol | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| pyrene | 750 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32191 (COL)<br>Sample: BH00216EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/30/91 | | | Location: 32191 (COL)<br>Sample: BH00219EBU1 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 08/30/91 | | | Location: 32191 (COL)<br>Sample: BH00221EBU1 (DUP)<br>Depth: 6.00 - 12.0 '<br>Date: 08/30/91 | | | Location: 32191 (WCS)<br>Sample: BH00224EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/30/91 | | | Location: 32391 (COL)<br>Sample: BH00229EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/03/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 1,2-dichlorobenzene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 1,3-dichlorobenzene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 1,4-dichlorobenzene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2,4,5-trichlorophenol | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| 2,4,6-trichlorophenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2,4-dichlorophenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2,4-dimethylphenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2,4-dinitrophenol | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| 2,4-dinitrotoluene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2,6-dinitrotoluene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2-chloronaphthalene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2-chlorophenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2-methylnaphthalene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2-methylphenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 2-nitroaniline | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| 2-nitrophenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1700 | U | V | 1600 | U | V | 1600 | U | V | 780 | U | V |
| 3-nitroaniline | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| 4,6-dinitro-2-methylphenol | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| 4-bromophenyl phenyl ether | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 4-chloro-3-methylphenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 4-chloroaniline | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 4-chlorophenyl phenyl ether | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 4-methylphenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| 4-nitroaniline | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| 4-nitrophenol | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| acenaphthene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| acenaphthylene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| anthracene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 800 | U | V | 130 | J | A | 810 | U | V | 810 | U | V | 390 | U | V |
| benzo(a)pyrene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| benzo(b)fluoranthene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| benzo(ghi)perylene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| benzo(k)fluoranthene | 800 | U | V | 110 | J | A | 810 | U | V | 810 | U | V | 390 | U | V |
| benzoic acid | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| benzyl alcohol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| bis(2-chloroethoxy)methane | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| bis(2-chloroethyl)ether | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| bis(2-chloroisopropyl)ether | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| bis(2-ethylhexyl)phthalate | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| butyl benzyl phthalate | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| chrysene | 800 | U | V | 180 | J | A | 810 | U | V | 810 | U | V | 390 | U | V |
| di-n-butyl phthalate | 200 | J | A | 210 | J | A | 360 | J | A | 410 | J | A | 390 | U | V |
| di-n-octyl phthalate | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| dibenzo(a,h)anthracene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| dibenzofuran | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| diethyl phthalate | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| dimethyl phthalate | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| fluoranthene | 800 | U | V | 440 | J | A | 810 | U | V | 810 | U | V | 390 | U | V |
| fluorene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| hexachlorobenzene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| hexachlorobutadiene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| hexachlorocyclopentadiene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| hexachloroethane | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| indeno(1,2,3-cd)pyrene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| isophorone | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| n-nitroso-di-n-propylamine | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| naphthalene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| nitrobenzene | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| pentachlorophenol | 3900 | U | V | 4100 | U | V | 4000 | U | V | 4000 | U | V | 1900 | U | V |
| phenanthrene | 800 | U | V | 380 | J | A | 810 | U | V | 810 | U | V | 390 | U | V |
| phenol | 800 | U | V | 840 | U | V | 810 | U | V | 810 | U | V | 390 | U | V |
| pyrene | 800 | U | V | 380 | J | A | 810 | U | V | 810 | U | V | 390 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32391 (WCS)<br>Sample: BH00231EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/03/91 | | | Location: 32391 ()<br>Sample: BH00232EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 09/03/91 | | | Location: 32491 (COL)<br>Sample: BH00239EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/04/91 | | | Location: 32491 (COL)<br>Sample: BH00240EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/04/91 | | | Location: 32491 (WCS)<br>Sample: BH00242EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 1,2-dichlorobenzene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 1,3-dichlorobenzene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 1,4-dichlorobenzene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2,4,5-trichlorophenol | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 2,4,6-trichlorophenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2,4-dichlorophenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2,4-dimethylphenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2,4-dinitrophenol | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 2,4-dinitrotoluene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2,6-dinitrotoluene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2-chloronaphthalene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2-chlorophenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2-methylnaphthalene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2-methylphenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 2-nitroaniline | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 2-nitrophenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 3,3'-dichlorobenzidine | 790 | U | V | 790 | U | V | 820 | U | V | 820 | U | V | 810 | U | V |
| 3-nitroaniline | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 4,6-dinitro-2-methylphenol | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 4-bromophenyl phenyl ether | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 4-chloro-3-methylphenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 4-chloroaniline | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 4-chlorophenyl phenyl ether | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 4-methylphenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| 4-nitroaniline | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 4-nitrophenol | 1900 | U | V | 1900 | U | V | 2000 | U | V | 180 | J | A | 2000 | U | V |
| acenaphthene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| acenaphthylene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| anthracene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| benzo(a)pyrene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| benzo(b)fluoranthene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| benzo(ghi)perylene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| benzo(k)fluoranthene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| benzoic acid | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| benzyl alcohol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| bis(2-chloroethoxy)methane | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| bis(2-chloroethyl)ether | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| bis(2-chloroisopropyl)ether | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| bis(2-ethylhexyl)phthalate | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| butyl benzyl phthalate | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| chrysene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| di-n-butyl phthalate | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| di-n-octyl phthalate | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| dibenzo(a,h)anthracene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| dibenzofuran | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| diethyl phthalate | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| dimethyl phthalate | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| fluoranthene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| fluorene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| hexachlorobenzene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| hexachlorobutadiene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| hexachlorocyclopentadiene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| hexachloroethane | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| indeno(1,2,3-cd)pyrene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| isophorone | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| n-nitroso-di-n-propylamine | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| naphthalene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| nitrobenzene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| pentachlorophenol | 1900 | U | V | 1900 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| phenanthrene | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| phenol | 390 | U | V | 390 | U | V | 410 | U | V | 410 | U | V | 400 | U | V |
| pyrene | 390 | U | V | 390 | U | V | 81 | J | A | 150 | J | A | 400 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 32991 (COL)<br>Sample: BH00264EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/06/91 | | | Location: 32991 (COL)<br>Sample: BH00265EBU1 (DUP)<br>Depth: - '<br>Date: 09/06/91 | | | Location: 32991 (WCS)<br>Sample: BH00266EBU1 (REAL)<br>Depth: 6.00 - 8.00 '<br>Date: 09/06/91 | | | Location: 33191 (WCS)<br>Sample: BH00274EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/09/91 | | | Location: 33191 (WCS)<br>Sample: BH00275EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 1,2-dichlorobenzene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 1,3-dichlorobenzene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 1,4-dichlorobenzene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2,4,5-trichlorophenol | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| 2,4,6-trichlorophenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2,4-dichlorophenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2,4-dimethylphenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2,4-dinitrophenol | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| 2,4-dinitrotoluene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2,6-dinitrotoluene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2-chloronaphthalene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2-chlorophenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2-methylnaphthalene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2-methylphenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 2-nitroaniline | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| 2-nitrophenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 3,3'-dichlorobenzidine | 780 | U | V | 740 | U | V | 770 | U | V | 780 | U | V | 730 | U | V |
| 3-nitroaniline | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| 4,6-dinitro-2-methylphenol | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| 4-bromophenyl phenyl ether | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 4-chloro-3-methylphenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 4-chloroaniline | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 4-chlorophenyl phenyl ether | 390 | U | V | 370 | U | V | 380 | U | V | 330 | U | V | 330 | U | V |
| 4-methylphenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| 4-nitroaniline | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| 4-nitrophenol | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| acenaphthene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| acenaphthylene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| anthracene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| benzo(a)pyrene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| benzo(b)fluoranthene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| benzo(ghi)perylene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| benzo(k)fluoranthene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| benzoic acid | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| benzyl alcohol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| bis(2-chloroethoxy)methane | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| bis(2-chloroethyl)ether | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| bis(2-chloroisopropyl)ether | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| bis(2-ethylhexyl)phthalate | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| butyl benzyl phthalate | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| chrysene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| di-n-butyl phthalate | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| di-n-octyl phthalate | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| dibenzo(a,h)anthracene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| dibenzofuran | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| diethyl phthalate | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| dimethyl phthalate | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| fluoranthene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| fluorene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| hexachlorobenzene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| hexachlorobutadiene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| hexachlorocyclopentadiene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| hexachloroethane | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| indeno(1,2,3-cd)pyrene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| isophorone | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| n-nitroso-di-n-propylamine | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| naphthalene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| nitrobenzene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| pentachlorophenol | 1900 | U | V | 1800 | U | V | 1900 | U | V | 1900 | U | V | 1800 | U | V |
| phenanthrene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| phenol | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |
| pyrene | 390 | U | V | 370 | U | V | 380 | U | V | 390 | U | V | 360 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 33291 (COL)<br>Sample: BH00284EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/10/91 | | | Location: 33291 (COL)<br>Sample: BH00286EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/10/91 | | | Location: 33291 (WCS)<br>Sample: BH00288EBU1 (REAL)<br>Depth: 10.0 - 14.0 '<br>Date: 09/10/91 | | | Location: 33291 (WCS)<br>Sample: BH00289EBU1 (DUP)<br>Depth: 12.0 - 14.0 '<br>Date: 09/10/91 | | | Location: 33591 (COL)<br>Sample: BH00294EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 1,2-dichlorobenzene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 1,3-dichlorobenzene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 1,4-dichlorobenzene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 120 | BJ | A |
| 2,4,5-trichlorophenol | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| 2,4,6-trichlorophenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2,4-dichlorophenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2,4-dimethylphenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2,4-dinitrophenol | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| 2,4-dinitrotoluene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2,6-dinitrotoluene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2-chloronaphthalene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2-chlorophenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2-methylnaphthalene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2-methylphenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 2-nitroaniline | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| 2-nitrophenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 3,3'-dichlorobenzidine | 700 | U | V | 780 | U | V | 800 | U | V | 810 | U | V | 1500 | U | V |
| 3-nitroaniline | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| 4,6-dinitro-2-methylphenol | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| 4-bromophenyl phenyl ether | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 4-chloro-3-methylphenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 4-chloroaniline | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 4-chlorophenyl phenyl ether | 330 | U | V | 330 | U | V | 330 | U | V | 330 | U | V | 760 | U | V |
| 4-methylphenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| 4-nitroaniline | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| 4-nitrophenol | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| acenaphthene | 63 | J | A | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| acenaphthylene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| anthracene | 91 | J | A | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 250 | J | A | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| benzo(a)pyrene | 220 | J | A | 390 | U | V | 400 | U | JA | 400 | U | V | 760 | U | V |
| benzo(b)fluoranthene | 230 | J | A | 390 | U | V | 400 | U | JA | 400 | U | V | 760 | U | V |
| benzo(ghi)perylene | 350 | U | V | 390 | U | V | 400 | U | JA | 400 | U | V | 760 | U | V |
| benzo(k)fluoranthene | 350 | U | V | 390 | U | V | 400 | U | JA | 400 | U | V | 760 | U | V |
| benzoic acid | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| benzyl alcohol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| bis(2-chloroethoxy)methane | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| bis(2-chloroethyl)ether | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| bis(2-chloroisopropyl)ether | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| bis(2-ethylhexyl)phthalate | 1500 | | V | 4500 | | V | 53 | J | A | 100 | J | A | 760 | U | V |
| butyl benzyl phthalate | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| chrysene | 300 | J | A | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| di-n-butyl phthalate | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 80 | J | A |
| di-n-octyl phthalate | 350 | U | V | 390 | U | V | 400 | U | JA | 400 | U | V | 760 | U | V |
| dibenzo(a,h)anthracene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| dibenzofuran | 350 | U | V | 390 | U | V | 400 | U | JA | 400 | U | V | 760 | U | V |
| diethyl phthalate | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| dimethyl phthalate | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| fluoranthene | 540 | | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| fluorene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| hexachlorobenzene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| hexachlorobutadiene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| hexachlorocyclopentadiene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| hexachloroethane | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| indeno(1,2,3-cd)pyrene | 350 | U | V | 390 | U | V | 400 | U | JA | 400 | U | V | 760 | U | V |
| isophorone | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| n-nitroso-di-n-propylamine | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| naphthalene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| nitrobenzene | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| pentachlorophenol | 1700 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V | 3700 | U | V |
| phenanthrene | 510 | | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| phenol | 350 | U | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |
| pyrene | 760 | | V | 390 | U | V | 400 | U | V | 400 | U | V | 760 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 33591 (COL)<br>Sample: BH00295EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/11/91 | | | Location: 33591 (COL)<br>Sample: BH00297EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/11/91 | | | Location: 33591 (WCS)<br>Sample: BH00299EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 09/11/91 | | | Location: 34291 (COL)<br>Sample: BH00379EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/16/91 | | | Location: 34291 (COL)<br>Sample: BH00380EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 92 | BJ | A | 84 | BJ | | 790 | U | | 780 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2-chloronaphthalene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2-chlorophenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2-methylnaphthalene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2-methylphenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 2-nitroaniline | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| 2-nitrophenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1500 | U | V | 1600 | U | | 1600 | U | | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 4-chloroaniline | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 4-methylphenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| 4-nitroaniline | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| 4-nitrophenol | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| acenaphthene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| acenaphthylene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| anthracene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| benzo(a)pyrene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| benzo(ghi)perylene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| benzoic acid | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| benzyl alcohol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| butyl benzyl phthalate | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| chrysene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| di-n-butyl phthalate | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| di-n-octyl phthalate | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| dibenzofuran | 770 | U | V | 790 | U | | 790 | U | | 780 | U | R | 800 | U | R |
| diethyl phthalate | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| dimethyl phthalate | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| fluoranthene | 770 | U | V | 270 | J | | 790 | U | | 780 | U | V | 800 | U | V |
| fluorene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| hexachlorobenzene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| hexachlorobutadiene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| hexachloroethane | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| isophorone | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| naphthalene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| nitrobenzene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| pentachlorophenol | 3700 | U | V | 3800 | U | | 3800 | U | | 3800 | U | V | 3900 | U | V |
| phenanthrene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| phenol | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | V |
| pyrene | 770 | U | V | 790 | U | | 790 | U | | 780 | U | V | 800 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34291 (WCS)<br>Sample: 8H003B1EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 09/16/91 | | | Location: 34691 (COL)<br>Sample: 8H00391EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/18/91 | | | Location: 34691 (COL)<br>Sample: 8H00392EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/18/91 | | | Location: 34691 (WCS)<br>Sample: 8H00394EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/18/91 | | | Location: 34691 (WCS)<br>Sample: 8H00396EBU1 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 09/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-chloronaphthalene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-chlorophenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-methylnaphthalene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-methylphenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 2-nitroaniline | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 2-nitrophenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1500 | U | V | 1600 | U | V |
| 3-nitroaniline | 3900 | U | V | 3800 | U | R | 3800 | U | R | 3600 | U | R | 3900 | U | R |
| 4,6-dinitro-2-methylphenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-chloroaniline | 800 | U | V | 780 | U | R | 790 | U | R | 750 | U | R | 800 | U | R |
| 4-chlorophenyl phenyl ether | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-methylphenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| 4-nitroaniline | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| 4-nitrophenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| acenaphthene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| acenaphthylene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| anthracene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(a)pyrene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(ghi)perylene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| benzoic acid | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| benzyl alcohol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| butyl benzyl phthalate | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| chrysene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| di-n-butyl phthalate | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| di-n-octyl phthalate | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| dibenzofuran | 800 | U | R | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| diethyl phthalate | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| dimethyl phthalate | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| fluoranthene | 800 | U | V | 160 | J | A | 790 | U | V | 750 | U | V | 800 | U | V |
| fluorene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachlorobenzene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachlorobutadiene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| hexachloroethane | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| isophorone | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| naphthalene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| nitrobenzene | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| pentachlorophenol | 3900 | U | V | 3800 | U | V | 3800 | U | V | 3600 | U | V | 3900 | U | V |
| phenanthrene | 800 | U | V | 160 | J | A | 790 | U | V | 750 | U | V | 800 | U | V |
| phenol | 800 | U | V | 780 | U | V | 790 | U | V | 750 | U | V | 800 | U | V |
| pyrene | 800 | U | V | 160 | J | A | 790 | U | V | 750 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34891 (COL)<br>Sample: BH00403EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/19/91 | | | Location: 34891 (COL)<br>Sample: BH00405EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/19/91 | | | Location: 34891 (WCS)<br>Sample: BH00407EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/19/91 | | | Location: 34891 (WCS)<br>Sample: BH00409EBU1 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 09/19/91 | | | Location: 34991 (COL)<br>Sample: BH00413EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 1,2-dichlorobenzene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 1,3-dichlorobenzene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 1,4-dichlorobenzene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2,4,5-trichlorophenol | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| 2,4,6-trichlorophenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2,4-dichlorophenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2,4-dimethylphenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2,4-dinitrophenol | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| 2,4-dinitrotoluene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2,6-dinitrotoluene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2-chloronaphthalene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2-chlorophenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2-methylnaphthalene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2-methylphenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 2-nitroaniline | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| 2-nitrophenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1500 | U | V |
| 3-nitroaniline | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| 4,6-dinitro-2-methylphenol | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| 4-bromophenyl phenyl ether | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 4-chloro-3-methylphenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 4-chloroaniline | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 4-chlorophenyl phenyl ether | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 4-methylphenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| 4-nitroaniline | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| 4-nitrophenol | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| acenaphthene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| acenaphthylene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| anthracene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| benzo(a)pyrene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| benzo(b)fluoranthene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| benzo(ghi)perylene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| benzo(k)fluoranthene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| benzoic acid | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| benzyl alcohol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| bis(2-chloroethoxy)methane | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| bis(2-chloroethyl)ether | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| bis(2-chloroisopropyl)ether | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| bis(2-ethylhexyl)phthalate | 180 | J | A | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| butyl benzyl phthalate | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| chrysene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| di-n-butyl phthalate | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| di-n-octyl phthalate | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| dibenzo(a,h)anthracene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| dibenzofuran | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| diethyl phthalate | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| dimethyl phthalate | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| fluoranthene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| fluorene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| hexachlorobenzene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| hexachlorobutadiene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| hexachlorocyclopentadiene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| hexachloroethane | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| indeno(1,2,3-cd)pyrene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| isophorone | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| n-nitroso-di-n-propylamine | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| naphthalene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| nitrobenzene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| pentachlorophenol | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3800 | U | V | 3700 | U | V |
| phenanthrene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| phenol | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |
| pyrene | 780 | U | V | 790 | U | V | 790 | U | V | 780 | U | V | 760 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 34991 (COL)<br>Sample: BH00414EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/20/91 | | | Location: 34991 (COL)<br>Sample: BH00415EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/20/91 | | | Location: 35191 (WCS)<br>Sample: BH00340EBU1 (REAL)<br>Depth: 0.0 - 5.50 '<br>Date: 09/23/91 | | | Location: 36091 (COL)<br>Sample: BH00458EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/02/91 | | | Location: 36091 (COL)<br>Sample: BH00459EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/02/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 1,2-dichlorobenzene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 1,3-dichlorobenzene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 1,4-dichlorobenzene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2,4,5-trichlorophenol | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | V | 3500 | U | V |
| 2,4,6-trichlorophenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2,4-dichlorophenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2,4-dimethylphenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2,4-dinitrophenol | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | V | 3500 | U | V |
| 2,4-dinitrotoluene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2,6-dinitrotoluene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2-chloronaphthalene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2-chlorophenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2-methylnaphthalene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2-methylphenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 2-nitroaniline | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | V | 3500 | U | V |
| 2-nitrophenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 3,3'-dichlorobenzidine | 1500 | U | V | 1400 | U | V | 1600 | U | V | 1500 | U | V | 1500 | U | V |
| 3-nitroaniline | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | R | 3500 | U | R |
| 4,6-dinitro-2-methylphenol | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | V | 3500 | U | V |
| 4-bromophenyl phenyl ether | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 4-chloro-3-methylphenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 4-chloroaniline | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 4-chlorophenyl phenyl ether | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 4-methylphenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| 4-nitroaniline | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | R | 3500 | U | R |
| 4-nitrophenol | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | V | 3500 | U | V |
| acenaphthene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| acenaphthylene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| anthracene | 150 | J | A | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| benzo(a)pyrene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| benzo(b)fluoranthene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| benzo(ghi)perylene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| benzo(k)fluoranthene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| benzoic acid | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | V | 3500 | U | V |
| benzyl alcohol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| bis(2-chloroethoxy)methane | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| bis(2-chloroethyl)ether | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| bis(2-chloroisopropyl)ether | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| bis(2-ethylhexyl)phthalate | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| butyl benzyl phthalate | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| chrysene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| di-n-butyl phthalate | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| di-n-octyl phthalate | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| dibenzo(a,h)anthracene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| dibenzofuran | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| diethyl phthalate | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| dimethyl phthalate | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| fluoranthene | 740 | U | V | 720 | U | V | 780 | U | V | 160 | J | A | 150 | J | A |
| fluorene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| hexachlorobenzene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| hexachlorobutadiene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| hexachlorocyclopentadiene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| hexachloroethane | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| indeno(1,2,3-cd)pyrene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| isophorone | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| n-nitroso-di-n-propylamine | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| naphthalene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| nitrobenzene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| pentachlorophenol | 3600 | U | V | 3500 | U | V | 3800 | U | V | 3500 | U | V | 3500 | U | V |
| phenanthrene | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| phenol | 740 | U | V | 720 | U | V | 780 | U | V | 730 | U | V | 730 | U | V |
| pyrene | 110 | J | A | 720 | U | V | 780 | U | V | 160 | J | A | 160 | J | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36091 (COL)<br>Sample: BH00461EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/02/91 | | | Location: 36091 (WCS)<br>Sample: BH00464EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/02/91 | | | Location: 36391 (COL)<br>Sample: BH00523EBU1 (REAL)<br>Depth: 0.0 - 5.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00524EBU1 (DUP)<br>Depth: 0.0 - 5.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00526EBU1 (REAL)<br>Depth: 6.0 - 11.80 '<br>Date: 10/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 1,2-dichlorobenzene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 1,3-dichlorobenzene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 1,4-dichlorobenzene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2,4,5-trichlorophenol | 3900 | U | V | 3900 | U | V | 3700 | U | V | 3600 | U | | 3800 | U | |
| 2,4,6-trichlorophenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2,4-dichlorophenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2,4-dimethylphenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2,4-dinitrophenol | 3900 | U | V | 3900 | U | V | 3700 | U | V | 3600 | U | | 3800 | U | |
| 2,4-dinitrotoluene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2,6-dinitrotoluene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2-chloronaphthalene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2-chlorophenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2-methylnaphthalene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2-methylphenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 2-nitroaniline | 3900 | U | V | 3900 | U | V | 3700 | U | V | 3600 | U | | 3800 | U | |
| 2-nitrophenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1600 | U | V | 1500 | U | V | 1500 | U | | 1600 | U | |
| 3-nitroaniline | 3900 | U | R | 3900 | U | V | 3700 | U | V | 3600 | U | | 3800 | U | |
| 4,6-dinitro-2-methylphenol | 3900 | U | V | 3900 | U | V | 3700 | U | V | 3600 | U | | 3800 | U | |
| 4-bromophenyl phenyl ether | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 4-chloro-3-methylphenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 4-chloroaniline | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 4-chlorophenyl phenyl ether | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 4-methylphenol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| 4-nitroaniline | 3900 | U | R | 3900 | U | R | 3700 | U | R | 3600 | U | | 3800 | U | |
| 4-nitrophenol | 3900 | U | V | 3900 | U | V | 3700 | U | V | 3600 | U | | 3800 | U | |
| acenaphthene | 800 | U | V | 800 | U | V | 250 | J | A | 110 | J | | 93 | J | |
| acenaphthylene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| anthracene | 800 | U | V | 800 | U | V | 260 | J | A | 130 | J | | 130 | J | |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 800 | U | V | 800 | U | V | 530 | J | A | 330 | J | | 170 | J | |
| benzo(a)pyrene | 800 | U | V | 800 | U | V | 480 | J | A | 260 | J | | 790 | U | |
| benzo(b)fluoranthene | 800 | U | V | 800 | U | V | 390 | J | A | 240 | J | | 790 | U | |
| benzo(ghi)perylene | 800 | U | V | 800 | U | V | 760 | U | V | 180 | J | | 790 | U | |
| benzo(k)fluoranthene | 800 | U | V | 800 | U | V | 460 | J | A | 200 | J | | 790 | U | |
| benzoic acid | 3900 | U | V | 3900 | U | V | 840 | J | A | 3600 | U | | 3800 | U | |
| benzyl alcohol | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| bis(2-chloroethoxy)methane | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| bis(2-chloroethyl)ether | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| bis(2-chloroisopropyl)ether | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| bis(2-ethylhexyl)phthalate | 800 | U | V | 800 | U | R | 760 | U | V | 730 | U | | 790 | U | |
| butyl benzyl phthalate | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| chrysene | 800 | U | V | 800 | U | V | 560 | J | A | 320 | J | | 180 | J | |
| di-n-butyl phthalate | 800 | U | V | 800 | U | V | 110 | J | A | 730 | U | | 790 | U | |
| di-n-octyl phthalate | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| dibenzo(a,h)anthracene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| dibenzofuran | 800 | U | V | 800 | U | V | 110 | J | A | 730 | U | | 790 | U | |
| diethyl phthalate | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| dimethyl phthalate | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| fluoranthene | 800 | U | V | 800 | U | V | 1600 | | V | 840 | | | 480 | J | |
| fluorene | 800 | U | V | 800 | U | V | 190 | J | A | 79 | J | | 790 | U | |
| hexachlorobenzene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| hexachlorobutadiene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| hexachlorocyclopentadiene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| hexachloroethane | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| indeno(1,2,3-cd)pyrene | 800 | U | V | 800 | U | V | 760 | U | V | 170 | J | | 790 | U | |
| isophorone | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| n-nitroso-di-n-propylamine | 800 | U | V | 800 | U | V | 760 | U | | 730 | U | | 790 | U | |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 800 | U | V | 800 | U | V | 760 | U | | 730 | U | | 790 | U | |
| naphthalene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 91 | J | |
| nitrobenzene | 800 | U | V | 800 | U | V | 760 | U | V | 730 | U | | 790 | U | |
| pentachlorophenol | 3900 | U | V | 3900 | U | V | 250 | J | | 3600 | U | | 3800 | U | |
| phenanthrene | 800 | U | V | 800 | U | V | 1500 | | | 710 | J | | 570 | J | |
| phenol | 800 | U | V | 800 | U | V | 760 | U | | 730 | U | | 790 | U | |
| pyrene | 800 | U | V | 800 | U | V | 1400 | | | 590 | J | | 400 | J | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36391 (COL)<br>Sample: BH00530EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/04/91 | | | Location: 36591 (COL)<br>Sample: BH00488EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/07/91 | | | Location: 36591 (COL)<br>Sample: BH00489EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/07/91 | | | Location: 36591 (COL)<br>Sample: BH00491EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/07/91 | | | Location: 36591 (WCS)<br>Sample: BH00493EBU1 (REAL)<br>Depth: 13.0 - 17.0 '<br>Date: 10/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3900 | U | | 3700 | U | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 800 | U | | 89 | J | A | 740 | U | V | 730 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3900 | U | | 3700 | U | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2-chloronaphthalene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2-chlorophenol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2-methylnaphthalene | 800 | U | | 1200 | DJ | | 110 | J | A | 730 | U | V | 800 | U | V |
| 2-methylphenol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 2-nitroaniline | 3900 | U | | 3700 | U | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| 2-nitrophenol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | | 1500 | U | V | 1500 | U | V | 1500 | U | V | 1600 | U | V |
| 3-nitroaniline | 3900 | U | | 3700 | U | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 3900 | U | | 3700 | U | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 4-chloroaniline | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| 4-methylphenol | 800 | U | | 140 | J | A | 740 | U | V | 730 | U | V | 800 | U | V |
| 4-nitroaniline | 3900 | U | | 3700 | U | R | 3600 | U | V | 3600 | U | R | 3900 | U | R |
| 4-nitrophenol | 3900 | U | | 3700 | U | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| acenaphthene | 800 | U | | 3600 | D | | 390 | J | A | 730 | U | V | 800 | U | V |
| acenaphthylene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| anthracene | 800 | U | | 4800 | D | | 540 | J | A | 730 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 800 | U | | 7300 | D | | 760 | | V | 730 | U | V | 800 | U | V |
| benzo(a)pyrene | 800 | U | | 6000 | D | | 670 | J | A | 730 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 800 | U | | 5200 | D | | 500 | J | A | 730 | U | V | 800 | U | V |
| benzo(ghi)perylene | 800 | U | | 3300 | D | | 440 | J | A | 730 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 800 | U | | 6100 | D | | 590 | J | A | 730 | U | V | 800 | U | V |
| benzoic acid | 3900 | U | | 230 | J | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| benzyl alcohol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | R | 800 | U | R |
| butyl benzyl phthalate | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| chrysene | 800 | U | | 7100 | D | | 770 | | V | 730 | U | V | 800 | U | V |
| di-n-butyl phthalate | 800 | U | | 410 | DJ | | 740 | U | V | 730 | U | V | 800 | U | V |
| di-n-octyl phthalate | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 800 | U | | 1600 | D | | 740 | U | V | 730 | U | V | 800 | U | V |
| dibenzofuran | 800 | U | | 1700 | D | | 160 | J | A | 730 | U | V | 800 | U | V |
| diethyl phthalate | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| dimethyl phthalate | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| fluoranthene | 800 | U | | 14000 | D | V | 2000 | | V | 730 | U | V | 800 | U | V |
| fluorene | 800 | U | | 3100 | D | | 320 | J | A | 730 | U | V | 800 | U | V |
| hexachlorobenzene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| hexachlorobutadiene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| hexachloroethane | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 800 | U | | 3500 | D | | 400 | J | A | 730 | U | V | 800 | U | V |
| isophorone | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| naphthalene | 800 | U | | 4500 | D | | 470 | J | A | 730 | U | V | 800 | U | V |
| nitrobenzene | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| pentachlorophenol | 390 | J | | 3700 | U | V | 3600 | U | V | 3600 | U | V | 3900 | U | V |
| phenanthrene | 800 | U | | 16000 | D | V | 1900 | | V | 730 | U | V | 800 | U | V |
| phenol | 800 | U | | 760 | U | V | 740 | U | V | 730 | U | V | 800 | U | V |
| pyrene | 800 | U | | 13000 | D | V | 1600 | | V | 730 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36791 (COL)<br>Sample: BH00499EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/09/91 | | | Location: 36791 (COL)<br>Sample: BH00600EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/09/91 | | | Location: 36791 (COL)<br>Sample: BH00602EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/09/91 | | | Location: 36791 (WCS)<br>Sample: BH00604EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 10/09/91 | | | Location: 36891 (COL)<br>Sample: BH00609EBU1 (REAL)<br>Depth: 0.0 - 5.80 '<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 1,2-dichlorobenzene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 1,3-dichlorobenzene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 1,4-dichlorobenzene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2,4,5-trichlorophenol | 3800 | U | V | 4000 | U | V | 3800 | U | V | 4000 | U | V | 3600 | U | V |
| 2,4,6-trichlorophenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2,4-dichlorophenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2,4-dimethylphenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2,4-dinitrophenol | 3800 | U | V | 4000 | U | V | 3800 | U | V | 4000 | U | V | 3600 | U | V |
| 2,4-dinitrotoluene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2,6-dinitrotoluene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2-chloronaphthalene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2-chlorophenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2-methylnaphthalene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2-methylphenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 2-nitroaniline | 3800 | U | V | 4000 | U | V | 3800 | U | V | 4000 | U | V | 3600 | U | V |
| 2-nitrophenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 3,3'-dichlorobenzidine | 1600 | U | V | 1600 | U | V | 1600 | U | V | 1700 | U | V | 1500 | U | V |
| 3-nitroaniline | 3800 | U | R | 4000 | U | R | 3800 | U | R | 4000 | U | R | 3600 | U | V |
| 4,6-dinitro-2-methylphenol | 3800 | U | V | 4000 | U | V | 3800 | U | V | 4000 | U | V | 3600 | U | V |
| 4-bromophenyl phenyl ether | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 4-chloro-3-methylphenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 4-chloroaniline | 790 | U | R | 820 | U | R | 790 | U | R | 830 | U | R | 750 | U | V |
| 4-chlorophenyl phenyl ether | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 4-methylphenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| 4-nitroaniline | 3800 | U | R | 4000 | U | R | 3800 | U | R | 4000 | U | R | 3600 | U | V |
| 4-nitrophenol | 3800 | U | V | 4000 | U | V | 3800 | U | V | 4000 | U | V | 3600 | U | V |
| acenaphthene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| acenaphthylene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| anthracene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| benzo(a)pyrene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| benzo(b)fluoranthene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| benzo(ghi)perylene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| benzo(k)fluoranthene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| benzoic acid | 3800 | U | V | 4000 | U | V | 3800 | U | V | 4000 | U | V | 3600 | U | V |
| benzyl alcohol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| bis(2-chloroethoxy)methane | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| bis(2-chloroethyl)ether | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| bis(2-chloroisopropyl)ether | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| bis(2-ethylhexyl)phthalate | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| butyl benzyl phthalate | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| chrysene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| di-n-butyl phthalate | 790 | U | V | 820 | U | A | 790 | U | V | 830 | U | V | 160 | J | A |
| di-n-octyl phthalate | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| dibenzo(a,h)anthracene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| dibenzofuran | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| diethyl phthalate | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| dimethyl phthalate | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| fluoranthene | 790 | U | V | 120 | J | A | 790 | U | V | 830 | U | V | 750 | U | V |
| fluorene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| hexachlorobenzene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| hexachlorobutadiene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| hexachlorocyclopentadiene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| hexachloroethane | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| indeno(1,2,3-cd)pyrene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| isophorone | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| n-nitroso-di-n-propylamine | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| naphthalene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| nitrobenzene | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| pentachlorophenol | 3800 | U | V | 4000 | U | V | 3800 | U | V | 4000 | U | V | 3600 | U | V |
| phenanthrene | 790 | U | V | 150 | J | A | 790 | U | V | 830 | U | V | 750 | U | V |
| phenol | 790 | U | V | 820 | U | V | 790 | U | V | 830 | U | V | 750 | U | V |
| pyrene | 790 | U | V | 120 | J | A | 790 | U | V | 830 | U | V | 750 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 36891 (COL)<br>Sample: BH00610EBU1 (DUP)<br>Depth: 0.0 - 5.80 '<br>Date: 10/10/91 | | | Location: 36891 (WCS)<br>Sample: BH00612EBU1 (REAL)<br>Depth: 5.8 - 13.0 '<br>Date: 10/10/91 | | | Location: 37091 (COL)<br>Sample: BH00624EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/14/91 | | | Location: 37091 (COL)<br>Sample: BH00625EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/14/91 | | | Location: 37091 (WCS)<br>Sample: BH00627EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 10/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 1,2-dichlorobenzene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 1,3-dichlorobenzene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 1,4-dichlorobenzene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2,4,5-trichlorophenol | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| 2,4,6-trichlorophenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2,4-dichlorophenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2,4-dimethylphenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2,4-dinitrophenol | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| 2,4-dinitrotoluene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2,6-dinitrotoluene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2-chloronaphthalene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2-chlorophenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2-methylnaphthalene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2-methylphenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 2-nitroaniline | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| 2-nitrophenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 3,3'-dichlorobenzidine | 1500 | U | V | 1600 | U | V | 1500 | U | V | 1500 | U | V | 1600 | U | V |
| 3-nitroaniline | 3600 | U | V | 3900 | U | V | 3600 | U | R | 3700 | U | R | 3800 | U | R |
| 4,6-dinitro-2-methylphenol | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| 4-bromophenyl phenyl ether | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 4-chloro-3-methylphenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 4-chloroaniline | 730 | U | V | 800 | U | V | 750 | U | R | 750 | U | R | 780 | U | R |
| 4-chlorophenyl phenyl ether | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 4-methylphenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| 4-nitroaniline | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| 4-nitrophenol | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| acenaphthene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| acenaphthylene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| anthracene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| benzo(a)pyrene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| benzo(b)fluoranthene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| benzo(ghi)perylene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| benzo(k)fluoranthene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| benzoic acid | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| benzyl alcohol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| bis(2-chloroathoxy)methane | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| bis(2-chloroethyl)ether | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| bis(2-chloroisopropyl)ether | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| bis(2-ethylhexyl)phthalate | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| butyl benzyl phthalate | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| chrysene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| di-n-butyl phthalate | 160 | J | A | 170 | J | A | 160 | BJ | JA | 83 | BJ | JA | 120 | BJ | JA |
| di-n-octyl phthalate | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| dibenzo(a,h)anthracene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| dibenzofuran | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| diethyl phthalate | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| dimethyl phthalate | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| fluoranthene | 87 | J | A | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| fluorene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| hexachlorobenzene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| hexachlorobutadiene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| hexachlorocyclopentadiene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| hexachloroethane | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| indeno(1,2,3-cd)pyrene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| isophorone | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| n-nitroso-di-n-propylamine | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| naphthalene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| nitrobenzene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| pentachlorophenol | 3600 | U | V | 3900 | U | V | 3600 | U | V | 3700 | U | V | 3800 | U | V |
| phenanthrene | 91 | J | A | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| phenol | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |
| pyrene | 730 | U | V | 800 | U | V | 750 | U | V | 750 | U | V | 780 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37291 (COL) Sample: BH00632EBU1 (REAL) Depth: 0.0 - 6.0 ' Date: 10/15/91 | | | Location: 37291 (COL) Sample: BH00634EBU1 (DUP) Depth: 0.0 - 6.0 ' Date: 10/15/91 | | | Location: 37291 (COL) Sample: BH00636EBU1 (REAL) Depth: 6.0 - 12.0 ' Date: 10/15/91 | | | Location: 37291 (COL) Sample: BH00639EBU1 (REAL) Depth: 12.0 - 18.0 ' Date: 10/15/91 | | | Location: 37291 (COL) Sample: BH00642EBU1 (REAL) Depth: 18.0 - 24.0 ' Date: 10/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 1,2-dichlorobenzene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 1,3-dichlorobenzene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 1,4-dichlorobenzene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2,4,5-trichlorophenol | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | V | 4000 | U | |
| 2,4,6-trichlorophenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2,4-dichlorophenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2,4-dimethylphenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2,4-dinitrophenol | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | V | 4000 | U | |
| 2,4-dinitrotoluene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2,6-dinitrotoluene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2-chloronaphthalene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2-chlorophenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2-methylnaphthalene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2-methylphenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 2-nitroaniline | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | V | 4000 | U | |
| 2-nitrophenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | V | 820 | U | |
| 3,3'-dichlorobenzidine | 1500 | U | V | 1500 | U | V | 1600 | U | V | 1600 | U | V | 1600 | U | |
| 3-nitroaniline | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | | 4000 | U | |
| 4,6-dinitro-2-methylphenol | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | | 4000 | U | |
| 4-bromophenyl phenyl ether | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| 4-chloro-3-methylphenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| 4-chloroaniline | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| 4-chlorophenyl phenyl ether | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| 4-methylphenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| 4-nitroaniline | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | | 4000 | U | |
| 4-nitrophenol | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | | 4000 | U | |
| acenaphthene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| acenaphthylene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| anthracene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| benzo(a)pyrene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| benzo(b)fluoranthene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| benzo(ghi)perylene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| benzo(k)fluoranthene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| benzoic acid | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | | 4000 | U | |
| benzyl alcohol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| bis(2-chloroethoxy)methane | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| bis(2-chloroethyl)ether | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| bis(2-chloroisopropyl)ether | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| bis(2-ethylhexyl)phthalate | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| butyl benzyl phthalate | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| chrysene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| di-n-butyl phthalate | 140 | BJ | JA | 170 | BJ | JA | 120 | BJ | JA | 180 | BJ | | 150 | BJ | |
| di-n-octyl phthalate | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| dibenzo(a,h)anthracene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| dibenzofuran | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| diethyl phthalate | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| dimethyl phthalate | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| fluoranthene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| fluorene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| hexachlorobenzene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| hexachlorobutadiene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| hexachlorocyclopentadiene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| hexachloroethane | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| indeno(1,2,3-cd)pyrene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| isophorone | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| n-nitroso-di-n-propylamine | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| naphthalene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| nitrobenzene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| pentachlorophenol | 3700 | U | V | 3700 | U | V | 3900 | U | V | 3900 | U | | 4000 | U | |
| phenanthrene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| phenol | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |
| pyrene | 770 | U | V | 770 | U | V | 800 | U | V | 800 | U | | 820 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 37291 (WCS)<br>Sample: BH00644EBU1 (REAL)<br>Depth: 24.0 - 28.0 '<br>Date: 10/15/91 | | | Location: 37391 (COL)<br>Sample: BH00650EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | | | Location: 37391 (COL)<br>Sample: BH00651EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | | | Location: 37391 (COL)<br>Sample: BH00654EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/16/91 | | | Location: 37391 (WCS)<br>Sample: BH00656EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 770 | U | V | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 1,2-dichlorobenzene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 1,3-dichlorobenzene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 1,4-dichlorobenzene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2,4,5-trichlorophenol | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| 2,4,6-trichlorophenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dichlorophenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dimethylphenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2,4-dinitrophenol | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| 2,4-dinitrotoluene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2,6-dinitrotoluene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2-chloronaphthalene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2-chlorophenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2-methylnaphthalene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2-methylphenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 2-nitroaniline | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| 2-nitrophenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 3,3'-dichlorobenzidine | 1500 | U | | 1600 | U | V | 1500 | U | R | 1600 | U | V | 1600 | U | V |
| 3-nitroaniline | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| 4,6-dinitro-2-methylphenol | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| 4-bromophenyl phenyl ether | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 4-chloro-3-methylphenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 4-chloroaniline | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 4-chlorophenyl phenyl ether | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 4-methylphenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| 4-nitroaniline | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| 4-nitrophenol | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| acenaphthene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| acenaphthylene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| anthracene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| benzo(a)pyrene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| benzo(b)fluoranthene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| benzo(ghi)perylene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| benzo(k)fluoranthene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| benzoic acid | 3700 | U | | 3900 | U | V | 3600 | U | R | 3800 | U | V | 3900 | U | V |
| benzyl alcohol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroethoxy)methane | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroethyl)ether | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| bis(2-chloroisopropyl)ether | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| bis(2-ethylhexyl)phthalate | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| butyl benzyl phthalate | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| chrysene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| di-n-butyl phthalate | 170 | BJ | | 800 | U | V | 730 | U | V | 110 | BJ | JA | 800 | U | V |
| di-n-octyl phthalate | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| dibenzo(a,h)anthracene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| dibenzofuran | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| diethyl phthalate | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| dimethyl phthalate | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| fluoranthene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| fluorene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| hexachlorobenzene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| hexachlorobutadiene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| hexachlorocyclopentadiene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| hexachloroethane | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| indeno(1,2,3-cd)pyrene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| isophorone | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| n-nitroso-di-n-propylamine | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| naphthalene | 770 | U | | 800 | U | V | 390 | J | A | 790 | U | V | 800 | U | V |
| nitrobenzene | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| pentachlorophenol | 3700 | U | | 3900 | U | V | 3600 | U | V | 3800 | U | V | 3900 | U | V |
| phenanthrene | 770 | U | | 800 | U | V | 110 | J | A | 790 | U | V | 800 | U | V |
| phenol | 770 | U | | 800 | U | V | 730 | U | V | 790 | U | V | 800 | U | V |
| pyrene | 770 | U | | 800 | U | V | 100 | J | A | 790 | U | V | 800 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: 39491 (COL)<br>Sample: BH01034EBU1 (REAL)<br>Depth: 0.0 - 3.30 '<br>Date: 12/14/91 | | | Location: 39491 (COL)<br>Sample: BH01035EBU1 (REAL)<br>Depth: 0.0 - 3.30 '<br>Date: 12/14/91 | | | Location: B300190 (COL)<br>Sample: B3001900006 (REAL)<br>Depth: 6.0 - 0.0 '<br>Date: 02/02/90 | | | Location: B300190 (COL)<br>Sample: B300190006D (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 02/02/90 | | | Location: B300190 (WCS)<br>Sample: B3001900610 (REAL)<br>Depth: 6.0 - 9.9 '<br>Date: 02/05/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 1,2-dichlorobenzene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 1,3-dichlorobenzene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 1,4-dichlorobenzene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2,4,5-trichlorophenol | 1800 | U | V | 2100 | U | V | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| 2,4,6-trichlorophenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2,4-dichlorophenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2,4-dimethylphenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2,4-dinitrophenol | 1800 | U | V | 2100 | U | R | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| 2,4-dinitrotoluene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2,6-dinitrotoluene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2-chloronaphthalene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2-chlorophenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2-methylnaphthalene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2-methylphenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 2-nitroaniline | 1800 | U | V | 2100 | U | V | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| 2-nitrophenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 3,3'-dichlorobenzidine | 740 | U | V | 850 | U | V | 780 | U | V | 770 | U | V | 750 | U | V |
| 3-nitroaniline | 1800 | U | V | 2100 | U | V | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| 4,6-dinitro-2-methylphenol | 1800 | U | V | 2100 | U | V | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| 4-bromophenyl phenyl ether | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 4-chloro-3-methylphenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 4-chloroaniline | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 4-chlorophenyl phenyl ether | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 4-methylphenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| 4-nitroaniline | 1800 | U | V | 2100 | U | V | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| 4-nitrophenol | 1800 | U | V | 2100 | U | V | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| acenaphthene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| acenaphthylene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| anthracene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| benzenamine | | | | | | | | | | | | | 1900 | U | V |
| benzidine | | | | | | | | | | | | | 1900 | U | V |
| benzo(a)anthracene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| benzo(a)pyrene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| benzo(b)fluoranthene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| benzo(ghi)perylene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| benzo(k)fluoranthene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| benzoic acid | 1800 | U | V | 2100 | U | V | 46 | UJ | A | 1900 | U | V | 1900 | U | V |
| benzyl alcohol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| bis(2-chloroethoxy)methane | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| bis(2-chloroethyl)ether | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| bis(2-chloroisopropyl)ether | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| bis(2-ethylhexyl)phthalate | 78 | | A | 72 | J | A | 61 | J | A | 380 | U | V | 370 | U | V |
| butyl benzyl phthalate | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| chrysene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| di-n-butyl phthalate | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| di-n-octyl phthalate | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| dibenzo(a,h)anthracene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| dibenzofuran | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| diethyl phthalate | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| dimethyl phthalate | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| fluoranthene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| fluorene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| hexachlorobenzene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| hexachlorobutadiene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| hexachlorocyclopentadiene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| hexachloroethane | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| indeno(1,2,3-cd)pyrene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| isophorone | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| n-nitroso-di-n-propylamine | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | 750 | U | V |
| n-nitrosodiphenylamine | 370 | U | V | 420 | U | V | 46 | J | A | 380 | U | V | 370 | U | V |
| naphthalene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| nitrobenzene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| pentachlorophenol | 1800 | U | V | 2100 | U | V | 2000 | U | V | 1900 | U | V | 1900 | U | V |
| phenanthrene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| phenol | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |
| pyrene | 370 | U | V | 420 | U | V | 390 | U | V | 380 | U | V | 370 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300290 (COL)<br>Sample: B3002900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 02/05/90 | | | Location: B300290 (COL)<br>Sample: B3002900408 (REAL)<br>Depth: 4.0 - 7.5 '<br>Date: 02/05/90 | | | Location: B300390 (COL)<br>Sample: B3003900004 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900408 (REAL)<br>Depth: 4.0 - 6.3 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 1,2-dichlorobenzene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 1,3-dichlorobenzene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 1,4-dichlorobenzene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2,4,5-trichlorophenol | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| 2,4,6-trichlorophenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2,4-dichlorophenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2,4-dimethylphenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2,4-dinitrophenol | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| 2,4-dinitrotoluene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2,6-dinitrotoluene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2-chloronaphthalene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2-chlorophenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2-methylnaphthalene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2-methylphenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 2-nitroaniline | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| 2-nitrophenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 3,3'-dichlorobenzidine | 760 | U | V | 750 | U | V | 770 | U | V | 750 | U | V | 780 | U | A |
| 3-nitroaniline | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| 4,6-dinitro-2-methylphenol | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| 4-bromophenyl phenyl ether | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 4-chloro-3-methylphenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 4-chloroaniline | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 4-chlorophenyl phenyl ether | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 4-methylphenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| 4-nitroaniline | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| 4-nitrophenol | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| acenaphthene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| acenaphthylene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| anthracene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| benzenamine | 1900 | U | V | 1900 | U | V | 1900 | U | | 1900 | U | | 2000 | U | A |
| benzidine | 1900 | U | V | 1900 | U | V | 1900 | U | | 1900 | U | | 2000 | U | A |
| benzo(a)anthracene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| benzo(a)pyrene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| benzo(b)fluoranthene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| benzo(ghi)perylene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| benzo(k)fluoranthene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| benzoic acid | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| benzyl alcohol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| bis(2-chloroethoxy)methane | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| bis(2-chloroethyl)ether | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| bis(2-chloroisopropyl)ether | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| bis(2-ethylhexyl)phthalate | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| butyl benzyl phthalate | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| chrysene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| di-n-butyl phthalate | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| di-n-octyl phthalate | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| dibenzo(a,h)anthracene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| dibenzofuran | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| diethyl phthalate | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| dimethyl phthalate | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| fluoranthene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| fluorene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| hexachlorobenzene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| hexachlorobutadiene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| hexachlorocyclopentadiene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| hexachloroethane | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| indeno(1,2,3-cd)pyrene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| isophorone | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| n-nitroso-di-n-propylamine | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| n-nitrosodimethylamine | 760 | U | V | 750 | U | V | 770 | U | | 750 | U | | 780 | U | A |
| n-nitrosodiphenylamine | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | A |
| naphthalene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| nitrobenzene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| pentachlorophenol | 1900 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V | 2000 | U | V |
| phenanthrene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| phenol | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |
| pyrene | 380 | U | V | 380 | U | V | 380 | U | V | 380 | U | V | 390 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300490 (COL)<br>Sample: B3004900004 (REAL)<br>Depth: 0.0 - 3.8 '<br>Date: 02/09/90 | | | Location: B300490 (COL)<br>Sample: B3004900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 02/09/90 | | | Location: B300590 (COL)<br>Sample: B3005900005 (REAL)<br>Depth: 0.0 - 5.2 '<br>Date: 02/09/90 | | | Location: B300690 (COL)<br>Sample: B3006900003 (REAL)<br>Depth: 0.0 - 2.6 '<br>Date: 02/09/90 | | | Location: B300790 (COL)<br>Sample: B3007900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 1,2-dichlorobenzene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 1,3-dichlorobenzene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 1,4-dichlorobenzene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2,4,5-trichlorophenol | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| 2,4,6-trichlorophenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2,4-dichlorophenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2,4-dimethylphenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2,4-dinitrophenol | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| 2,4-dinitrotoluene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2,6-dinitrotoluene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2-chloronaphthalene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2-chlorophenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2-methylnaphthalene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2-methylphenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 2-nitroaniline | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| 2-nitrophenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 3,3'-dichlorobenzidine | 780 | U | V | 770 | U | V | 780 | U | V | 770 | U | | 780 | U | V |
| 3-nitroaniline | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| 4,6-dinitro-2-methylphenol | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| 4-bromophenyl phenyl ether | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 4-chloro-3-methylphenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 4-chloroaniline | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 4-chlorophenyl phenyl ether | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 4-methylphenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| 4-nitroaniline | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| 4-nitrophenol | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| acenaphthene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| acenaphthylene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| anthracene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| benzenamine | 2000 | U | | 1900 | U | | 2000 | U | | 1900 | U | | 2000 | U | |
| benzidine | 2000 | U | | 1900 | U | | 2000 | U | | 1900 | U | | 2000 | U | |
| benzo(a)anthracene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| benzo(a)pyrene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| benzo(b)fluoranthene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| benzo(ghi)perylene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| benzo(k)fluoranthene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| benzoic acid | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| benzyl alcohol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| bis(2-chloroethoxy)methane | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| bis(2-chloroethyl)ether | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| bis(2-chloroisopropyl)ether | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| bis(2-ethylhexyl)phthalate | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| butyl benzyl phthalate | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| chrysene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| di-n-butyl phthalate | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| di-n-octyl phthalate | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| dibenzo(a,h)anthracene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| dibenzofuran | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| diethyl phthalate | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| dimethyl phthalate | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| fluoranthene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| fluorene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| hexachlorobenzene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| hexachlorobutadiene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| hexachlorocyclopentadiene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| hexachloroethane | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| indeno(1,2,3-cd)pyrene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| isophorone | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| n-nitroso-di-n-propylamine | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| n-nitrosodimethylamine | 780 | U | | 770 | U | | 780 | U | | 770 | U | | 780 | U | |
| n-nitrosodiphenylamine | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| naphthalene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| nitrobenzene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| pentachlorophenol | 2000 | U | V | 1900 | U | V | 2000 | U | V | 1900 | U | | 2000 | U | V |
| phenanthrene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| phenol | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |
| pyrene | 390 | U | V | 390 | U | V | 390 | U | V | 380 | U | | 390 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300790 (COL)<br>Sample: B3007900004D (DUP)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | | Location: B300890 (COL)<br>Sample: B3008900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 1,2-dichlorobenzene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 1,3-dichlorobenzene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 1,4-dichlorobenzene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2,4,5-trichlorophenol | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | V |
| 2,4,6-trichlorophenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2,4-dichlorophenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2,4-dimethylphenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2,4-dinitrophenol | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | V |
| 2,4-dinitrotoluene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2,6-dinitrotoluene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2-chloronaphthalene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2-chlorophenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2-methylnaphthalene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2-methylphenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 2-nitroaniline | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | V |
| 2-nitrophenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 3,3'-dichlorobenzidine | 760 | U | V | 780 | U | V | 670 | U | V | 950 | U | V | 700 | U | V |
| 3-nitroaniline | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | V |
| 4,6-dinitro-2-methylphenol | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 350 | U | V |
| 4-bromophenyl phenyl ether | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 4-chloro-3-methylphenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 4-chloroaniline | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 4-chlorophenyl phenyl ether | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 4-methylphenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| 4-nitroaniline | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | R |
| 4-nitrophenol | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | V |
| acenaphthene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| acenaphthylene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| anthracene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| benzenamine | 1900 | U | | 1900 | U | | 1700 | U | | 2400 | U | | 1700 | U | |
| benzidine | 1900 | U | | 1900 | U | | 1700 | U | | 2400 | U | | 1700 | U | |
| benzo(a)anthracene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| benzo(a)pyrene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| benzo(b)fluoranthene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| benzo(ghi)perylene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| benzo(k)fluoranthene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| benzoic acid | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | V |
| benzyl alcohol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| bis(2-chloroethoxy)methane | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| bis(2-chloroethyl)ether | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| bis(2-chloroisopropyl)ether | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| bis(2-ethylhexyl)phthalate | 380 | U | V | 390 | U | V | 40 | U | A | 480 | U | V | 350 | U | V |
| butyl benzyl phthalate | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| chrysene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| di-n-butyl phthalate | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| di-n-octyl phthalate | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| dibenzo(a,h)anthracene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| dibenzofuran | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| diethyl phthalate | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| dimethyl phthalate | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| fluoranthene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| fluorene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| hexachlorobenzene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| hexachlorobutadiene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| hexachlorocyclopentadiene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| hexachloroethane | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| indeno(1,2,3-cd)pyrene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| isophorone | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| n-nitroso-di-n-propylamine | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| n-nitrosodimethylamine | 760 | U | | 780 | U | | 670 | U | | 950 | U | | 700 | U | |
| n-nitrosodiphenylamine | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| naphthalene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| nitrobenzene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| pentachlorophenol | 1900 | U | V | 1900 | U | V | 1700 | U | V | 2400 | U | V | 1700 | U | V |
| phenanthrene | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| phenol | 380 | U | V | 390 | U | V | 330 | U | V | 480 | U | V | 350 | U | V |
| pyrene | 380 | U | V | 40 | J | A | 330 | U | V | 480 | U | V | 350 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B300990 (COL) Sample: B3009900408 (REAL) Depth: 4.0 - 8.0 ' Date: 02/12/90 | | | Location: B300990 (COL) Sample: B3009900812 (REAL) Depth: 8.0 - 11.0 ' Date: 02/12/90 | | | Location: B301090 (COL) Sample: B3010900008 (REAL) Depth: 0.0 - 8.0 ' Date: 02/12/90 | | | Location: B301090 (COL) Sample: B3010900814 (REAL) Depth: 8.0 - 13.6 ' Date: 02/12/90 | | | Location: B301090 (COL) Sample: B3010901418 (REAL) Depth: 14.0 - 18.0 ' Date: 02/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 1,2-dichlorobenzene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 1,3-dichlorobenzene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 1,4-dichlorobenzene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2,4,5-trichlorophenol | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| 2,4,6-trichlorophenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2,4-dichlorophenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2,4-dimethylphenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2,4-dinitrophenol | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| 2,4-dinitrotoluene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2,6-dinitrotoluene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2-chloronaphthalene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2-chlorophenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2-methylnaphthalene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2-methylphenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 2-nitroaniline | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| 2-nitrophenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 3,3'-dichlorobenzidine | 780 | U | V | 780 | U | V | 680 | U | V | 780 | U | V | 800 | U | |
| 3-nitroaniline | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| 4,6-dinitro-2-methylphenol | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| 4-bromophenyl phenyl ether | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 4-chloro-3-methylphenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 4-chloroaniline | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 4-chlorophenyl phenyl ether | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 4-methylphenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| 4-nitroaniline | 2000 | U | R | 2100 | U | R | 1700 | U | R | 1900 | U | R | 2000 | U | |
| 4-nitrophenol | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| acenaphthene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| acenaphthylene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| anthracene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| benzenamine | 2000 | U | | 2100 | U | | 1700 | U | | 1900 | U | | 2000 | U | |
| benzidine | 2000 | U | | 2100 | U | | 1700 | U | | 1900 | U | | 2000 | U | |
| benzo(a)anthracene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| benzo(a)pyrene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| benzo(b)fluoranthene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| benzo(ghi)perylene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| benzo(k)fluoranthene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| benzoic acid | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| benzyl alcohol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| bis(2-chloroethoxy)methane | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| bis(2-chloroethyl)ether | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| bis(2-chloroisopropyl)ether | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| bis(2-ethylhexyl)phthalate | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 93 | J | |
| butyl benzyl phthalate | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| chrysene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| di-n-butyl phthalate | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| di-n-octyl phthalate | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| dibenzo(a,h)anthracene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| dibenzofuran | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| diethyl phthalate | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| dimethyl phthalate | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| fluoranthene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| fluorene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| hexachlorobenzene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| hexachlorobutadiene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| hexachlorocyclopentadiene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| hexachloroethane | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| indeno(1,2,3-cd)pyrene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| isophorone | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| n-nitroso-di-n-propylamine | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| n-nitrosodimethylamine | 780 | U | | 860 | U | | 680 | U | | 780 | U | | 800 | U | |
| n-nitrosodiphenylamine | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| naphthalene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| nitrobenzene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| pentachlorophenol | 2000 | U | V | 2100 | U | V | 1700 | U | V | 1900 | U | V | 2000 | U | |
| phenanthrene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| phenol | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |
| pyrene | 390 | U | V | 430 | U | V | 340 | U | V | 390 | U | V | 400 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate;
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301090 (COL)<br>Sample: B3010901821 (REAL)<br>Depth: 18.0 - 21.0 '<br>Date: 02/16/90 | | | Location: B301190 (COL)<br>Sample: B3011900004 (REAL)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900004D (DUP)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 1,2-dichlorobenzene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 1,3-dichlorobenzene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 1,4-dichlorobenzene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2,4,5-trichlorophenol | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| 2,4,6-trichlorophenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2,4-dichlorophenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2,4-dimethylphenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2,4-dinitrophenol | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| 2,4-dinitrotoluene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2,6-dinitrotoluene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2-chloronaphthalene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2-chlorophenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2-methylnaphthalene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2-methylphenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 2-nitroaniline | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| 2-nitrophenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 3,3'-dichlorobenzidine | 770 | U | | 790 | U | V | 780 | U | V | 750 | U | V | 750 | U | V |
| 3-nitroaniline | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| 4,6-dinitro-2-methylphenol | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| 4-bromophenyl phenyl ether | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 4-chloro-3-methylphenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 4-chloroaniline | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 4-chlorophenyl phenyl ether | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 4-methylphenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| 4-nitroaniline | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| 4-nitrophenol | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| acenaphthene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| acenaphthylene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| anthracene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| benzenamine | 1900 | U | | 2000 | U | | 1900 | U | | 1900 | U | | 1900 | U | |
| benzidine | 1900 | U | | 2000 | U | | 1900 | U | | 1900 | U | | 1900 | U | |
| benzo(a)anthracene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| benzo(a)pyrene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| benzo(b)fluoranthene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| benzo(ghi)perylene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| benzo(k)fluoranthene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| benzoic acid | 1900 | U | | 77 | J | A | 78 | J | A | 1900 | U | V | 1900 | U | V |
| benzyl alcohol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| bis(2-chloroethoxy)methane | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| bis(2-chloroethyl)ether | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| bis(2-chloroisopropyl)ether | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| bis(2-ethylhexyl)phthalate | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| butyl benzyl phthalate | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| chrysene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| di-n-butyl phthalate | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| di-n-octyl phthalate | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| dibenzo(a,h)anthracene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| dibenzofuran | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| diethyl phthalate | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| dimethyl phthalate | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| fluoranthene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| fluorene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| hexachlorobenzene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| hexachlorobutadiene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| hexachlorocyclopentadiene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| hexachloroethane | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| indeno(1,2,3-cd)pyrene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| isophorone | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| n-nitroso-di-n-propylamine | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| n-nitrosodimethylamine | 770 | U | | 790 | U | | 780 | U | | 750 | U | | 750 | U | |
| n-nitrosodiphenylamine | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| naphthalene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| nitrobenzene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| pentachlorophenol | 1900 | U | | 2000 | U | V | 1900 | U | V | 1900 | U | V | 1900 | U | V |
| phenanthrene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| phenol | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |
| pyrene | 390 | U | | 400 | U | V | 390 | U | V | 370 | U | V | 380 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301190 (COL)<br>Sample: B3011901216 (REAL)<br>Depth: 12.0 - 15.1 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011901620 (REAL)<br>Depth: 16.0 - 18.6 '<br>Date: 02/22/90 | | | Location: B301290 (COL)<br>Sample: B3012900004 (REAL)<br>Depth: 0.0 - 3.6 '<br>Date: 02/26/90 | | | Location: B301290 (COL)<br>Sample: B3012900408 (REAL)<br>Depth: 4.0 - 4.6 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 1,2-dichlorobenzene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 1,3-dichlorobenzene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 1,4-dichlorobenzene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2,4,5-trichlorophenol | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| 2,4,6-trichlorophenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2,4-dichlorophenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2,4-dimethylphenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2,4-dinitrophenol | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| 2,4-dinitrotoluene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2,6-dinitrotoluene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2-chloronaphthalene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2-chlorophenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2-methylnaphthalene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2-methylphenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 2-nitroaniline | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| 2-nitrophenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 3,3'-dichlorobenzidine | 740 | U | | 730 | U | V | 760 | U | V | 780 | U | | 850 | U | V |
| 3-nitroaniline | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| 4,6-dinitro-2-methylphenol | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| 4-bromophenyl phenyl ether | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 4-chloro-3-methylphenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 4-chloroaniline | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 4-chlorophenyl phenyl ether | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 4-methylphenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| 4-nitroaniline | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| 4-nitrophenol | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| acenaphthene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| acenaphthylene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| anthracene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| benzenamine | 1800 | U | | 1800 | U | | 1900 | U | | 1900 | U | | 2100 | U | |
| benzidine | 1800 | U | | 1800 | U | | 1900 | U | | 1900 | U | | 2100 | U | |
| benzo(a)anthracene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| benzo(a)pyrene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| benzo(b)fluoranthene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| benzo(ghi)perylene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| benzo(k)fluoranthene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| benzoic acid | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | A |
| benzyl alcohol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| bis(2-chloroethoxy)methane | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| bis(2-chloroethyl)ether | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| bis(2-chloroisopropyl)ether | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| bis(2-ethylhexyl)phthalate | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| butyl benzyl phthalate | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| chrysene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| di-n-butyl phthalate | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| di-n-octyl phthalate | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| dibenzo(a,h)anthracene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| dibenzofuran | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| diethyl phthalate | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| dimethyl phthalate | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| fluoranthene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| fluorene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| hexachlorobenzene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| hexachlorobutadiene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| hexachlorocyclopentadiene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| hexachloroethane | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| indeno(1,2,3-cd)pyrene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| isophorone | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| n-nitroso-di-n-propylamine | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| n-nitrosodimethylamine | 740 | U | | 730 | U | | 760 | U | | 780 | U | | 850 | U | |
| n-nitrosodiphenylamine | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| naphthalene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| nitrobenzene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| pentachlorophenol | 1800 | U | | 1800 | U | V | 1900 | U | V | 1900 | U | | 2100 | U | V |
| phenanthrene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| phenol | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |
| pyrene | 370 | U | | 370 | U | V | 380 | U | V | 390 | U | | 430 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301390 (COL)<br>Sample: B3013900412 (REAL)<br>Depth: 4.0 - 11.5 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900004 (REAL)<br>Depth: 3.0 - 3.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900812D (DUP)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 1,2-dichlorobenzene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 1,3-dichlorobenzene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 1,4-dichlorobenzene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2,4,5-trichlorophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2100 | U | V | 2000 | U | V |
| 2,4,6-trichlorophenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2,4-dichlorophenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2,4-dimethylphenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2,4-dinitrophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2100 | U | V | 2000 | U | V |
| 2,4-dinitrotoluene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2,6-dinitrotoluene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2-chloronaphthalene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2-chlorophenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2-methylnaphthalene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 2-methylphenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | | 410 | U | V |
| 2-nitroaniline | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2100 | U | V | 2000 | U | V |
| 2-nitrophenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 3,3'-dichlorobenzidine | 800 | U | V | 810 | U | V | 810 | U | V | 830 | U | V | 820 | U | V |
| 3-nitroaniline | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2100 | U | V | 2000 | U | V |
| 4,6-dinitro-2-methylphenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 4-bromophenyl phenyl ether | 400 | U | V | 410 | U | V | 410 | U | V | 410 | | V | 410 | U | V |
| 4-chloro-3-methylphenol | 400 | U | V | 410 | U | V | 410 | U | V | 440 | U | V | 410 | U | V |
| 4-chloroaniline | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 4-chlorophenyl phenyl ether | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 4-methylphenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| 4-nitroaniline | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| 4-nitrophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| acenaphthene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | V | 410 | U | V |
| acenaphthylene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| anthracene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| benzenamine | 2000 | U | | 2000 | U | | 2000 | U | | 2100 | U | | 2000 | U | |
| benzidine | 2000 | U | | 2000 | U | | 2000 | U | | 2100 | U | | 2000 | U | |
| benzo(a)anthracene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| benzo(a)pyrene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| benzo(b)fluoranthene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| benzo(ghi)perylene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| benzo(k)fluoranthene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| benzoic acid | 2000 | UJ | A | 2000 | UJ | A | 2000 | UJ | A | 2000 | UJ | A | 2000 | UJ | A |
| benzyl alcohol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| bis(2-chloroethoxy)methane | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| bis(2-chloroethyl)ether | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| bis(2-chloroisopropyl)ether | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| bis(2-ethylhexyl)phthalate | 400 | U | V | 410 | U | V | 410 | U | V | 52 | J | A | 410 | U | V |
| butyl benzyl phthalate | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| chrysene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| di-n-butyl phthalate | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| di-n-octyl phthalate | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| dibenzo(a,h)anthracene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| dibenzofuran | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| diethyl phthalate | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| dimethyl phthalate | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| fluoranthene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| fluorene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| hexachlorobenzene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| hexachlorobutadiene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| hexachlorocyclopentadiene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| hexachloroethane | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| indeno(1,2,3-cd)pyrene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| isophorone | 400 | U | V | 410 | U | V | 410 | U | | 410 | U | V | 410 | U | V |
| n-nitroso-di-n-propylamine | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| n-nitrosodimethylamine | 800 | U | | 810 | U | | 810 | U | | 830 | U | | 820 | U | |
| n-nitrosodiphenylamine | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| naphthalene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| nitrobenzene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| pentachlorophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | V |
| phenanthrene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| phenol | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | V | 410 | U | V |
| pyrene | 400 | U | V | 410 | U | V | 410 | U | V | 410 | U | | 410 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301490 (COL)<br>Sample: B3014901216 (REAL)<br>Depth: 12.0 - 15.6 '<br>Date: 02/26/90 | | | Location: B301590 (COL)<br>Sample: B3015900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015900812 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 1,2-dichlorobenzene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 1,3-dichlorobenzene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 1,4-dichlorobenzene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2,4,5-trichlorophenol | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| 2,4,6-trichlorophenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2,4-dichlorophenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2,4-dimethylphenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2,4-dinitrophenol | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| 2,4-dinitrotoluene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2,6-dinitrotoluene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 330 | U | V |
| 2-chloronaphthalene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2-chlorophenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2-methylnaphthalene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2-methylphenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 2-nitroaniline | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| 2-nitrophenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 3,3'-dichlorobenzidine | 800 | U | V | 830 | U | V | 790 | U | V | 800 | U | V | 910 | U | V |
| 3-nitroaniline | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| 4,6-dinitro-2-methylphenol | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| 4-bromophenyl phenyl ether | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 4-chloro-3-methylphenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 4-chloroaniline | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 4-chlorophenyl phenyl ether | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 4-methylphenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| 4-nitroaniline | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| 4-nitrophenol | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| acenaphthene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| acenaphthylene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| anthracene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| benzenamine | 2000 | U | | 2100 | U | | 2000 | U | | 2000 | U | | 2300 | U | |
| benzidine | 2000 | U | | 2100 | U | | 2000 | U | | 2000 | U | | 2300 | U | |
| benzo(a)anthracene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| benzo(a)pyrene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| benzo(b)fluoranthene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| benzo(ghi)perylene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| benzo(k)fluoranthene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| benzoic acid | 2000 | UJ | A | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| benzyl alcohol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| bis(2-chloroethoxy)methane | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| bis(2-chloroethyl)ether | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| bis(2-chloroisopropyl)ether | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| bis(2-ethylhexyl)phthalate | 400 | U | V | 1400 | UJ | A | 1200 | UJ | A | 400 | UJ | A | 460 | U | V |
| butyl benzyl phthalate | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| chrysene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| di-n-butyl phthalate | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| di-n-octyl phthalate | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| dibenzo(a,h)anthracene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| dibenzofuran | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| diethyl phthalate | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| dimethyl phthalate | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| fluoranthene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| fluorene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| hexachlorobenzene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| hexachlorobutadiene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| hexachlorocyclopentadiene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| hexachloroethane | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| indeno(1,2,3-cd)pyrene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| isophorone | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| n-nitroso-di-n-propylamine | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| n-nitrosodimethylamine | 800 | U | | 830 | U | | 790 | U | | 800 | U | | 910 | U | |
| n-nitrosodiphenylamine | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| naphthalene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| nitrobenzene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| pentachlorophenol | 2000 | U | V | 2100 | U | V | 2000 | U | V | 2000 | U | V | 2300 | U | V |
| phenanthrene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| phenol | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |
| pyrene | 400 | U | V | 420 | U | V | 400 | U | V | 400 | U | V | 460 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301690 (COL)<br>Sample: B3016900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901216 (REAL)<br>Depth: 12.0 - 15.9 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901620 (REAL)<br>Depth: 16.9 - 19.9 '<br>Date: 03/19/90 | | | Location: B301790 (COL)<br>Sample: B3017900004 (REAL)<br>Depth: 0.0 - 2.5 '<br>Date: 03/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 1,2-dichlorobenzene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 1,3-dichlorobenzene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 1,4-dichlorobenzene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2,4,5-trichlorophenol | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| 2,4,6-trichlorophenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2,4-dichlorophenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2,4-dimethylphenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2,4-dinitrophenol | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| 2,4-dinitrotoluene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2,6-dinitrotoluene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2-chloronaphthalene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2-chlorophenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2-methylnaphthalene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2-methylphenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 2-nitroaniline | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| 2-nitrophenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 3,3'-dichlorobenzidine | 840 | U | V | 810 | U | | 780 | U | V | 780 | U | V | 840 | U | |
| 3-nitroaniline | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| 4,6-dinitro-2-methylphenol | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| 4-bromophenyl phenyl ether | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 4-chloro-3-methylphenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 4-chloroaniline | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 4-chlorophenyl phenyl ether | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 4-methylphenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| 4-nitroaniline | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| 4-nitrophenol | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| acenaphthene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| acenaphthylene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| anthracene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| benzenamine | 2100 | U | | 2000 | U | | 1900 | U | | 2000 | U | | 2100 | U | |
| benzidine | 2100 | U | | 2000 | U | | 1900 | U | | 2000 | U | | 2100 | U | |
| benzo(a)anthracene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| benzo(a)pyrene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| benzo(b)fluoranthene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| benzo(ghi)perylene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| benzo(k)fluoranthene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| benzoic acid | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| benzyl alcohol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| bis(2-chloroethoxy)methane | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| bis(2-chloroethyl)ether | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| bis(2-chloroisopropyl)ether | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| bis(2-ethylhexyl)phthalate | 420 | UJ | A | 46 | JB | | 390 | UJ | A | 390 | UJ | A | 44 | J | |
| butyl benzyl phthalate | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| chrysene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| di-n-butyl phthalate | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| di-n-octyl phthalate | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| dibenzo(a,h)anthracene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| dibenzofuran | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| diethyl phthalate | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| dimethyl phthalate | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| fluoranthene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 97 | J | |
| fluorene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| hexachlorobenzene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| hexachlorobutadiene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| hexachlorocyclopentadiene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| hexachloroethane | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| indeno(1,2,3-cd)pyrene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| isophorone | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| n-nitroso-di-n-propylamine | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| n-nitrosodimethylamine | 840 | U | | 810 | U | | 780 | U | | 780 | U | | 840 | U | |
| n-nitrosodiphenylamine | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 44 | J | |
| naphthalene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| nitrobenzene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| pentachlorophenol | 2100 | U | V | 2000 | U | | 1900 | U | V | 2000 | U | V | 2100 | U | |
| phenanthrene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 100 | J | |
| phenol | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 420 | U | |
| pyrene | 420 | U | V | 410 | U | | 390 | U | V | 390 | U | V | 63 | J | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301790 (COL)<br>Sample: B3017900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900408D (DUP)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017901217 (REAL)<br>Depth: 12.0 - 17.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 1,2-dichlorobenzene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 1,3-dichlorobenzene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 1,4-dichlorobenzene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2,4,5-trichlorophenol | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| 2,4,6-trichlorophenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2,4-dichlorophenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2,4-dimethylphenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2,4-dinitrophenol | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| 2,4-dinitrotoluene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2,6-dinitrotoluene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2-chloronaphthalene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2-chlorophenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2-methylnaphthalene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2-methylphenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 2-nitroaniline | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| 2-nitrophenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 3,3'-dichlorobenzidine | 830 | U | 840 | U | 860 | U | 830 | U | 830 | U |
| 3-nitroaniline | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| 4,6-dinitro-2-methylphenol | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| 4-bromophenyl phenyl ether | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 4-chloro-3-methylphenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 4-chloroaniline | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 4-chlorophenyl phenyl ether | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 4-methylphenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| 4-nitroaniline | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| 4-nitrophenol | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| acenaphthene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| acenaphthylene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| anthracene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| benzenamine | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| benzidine | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| benzo(a)anthracene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| benzo(a)pyrene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| benzo(b)fluoranthene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| benzo(ghi)perylene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| benzo(k)fluoranthene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| benzoic acid | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| benzyl alcohol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| bis(2-chloroethoxy)methane | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| bis(2-chloroethyl)ether | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| bis(2-chloroisopropyl)ether | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| bis(2-ethylhexyl)phthalate | 42 | J | 61 | J | 52 | J | 79 | J | 70 | J |
| butyl benzyl phthalate | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| chrysene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| di-n-butyl phthalate | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| di-n-octyl phthalate | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| dibenzo(a,h)anthracene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| dibenzofuran | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| diethyl phthalate | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| dimethyl phthalate | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| fluoranthene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| fluorene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| hexachlorobenzene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| hexachlorobutadiene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| hexachlorocyclopentadiene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| hexachloroethane | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| indeno(1,2,3-cd)pyrene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| isophorone | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| n-nitroso-di-n-propylamine | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| n-nitrosodimethylamine | 830 | U | 840 | U | 860 | U | 830 | U | 830 | U |
| n-nitrosodiphenylamine | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| naphthalene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| nitrobenzene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| pentachlorophenol | 2100 | U | 2100 | U | 2200 | U | 2100 | U | 2100 | U |
| phenanthrene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| phenol | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |
| pyrene | 420 | U | 420 | U | 430 | U | 420 | U | 410 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301890 (COL)<br>Sample: B3018900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901618 (REAL)<br>Depth: 16.0 - 18.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901820 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 03/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 1,2-dichlorobenzene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 1,3-dichlorobenzene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 1,4-dichlorobenzene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2,4,5-trichlorophenol | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| 2,4,6-trichlorophenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2,4-dichlorophenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2,4-dimethylphenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2,4-dinitrophenol | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| 2,4-dinitrotoluene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2,6-dinitrotoluene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2-chloronaphthalene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2-chlorophenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2-methylnaphthalene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2-methylphenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 2-nitroaniline | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| 2-nitrophenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 3,3'-dichlorobenzidine | 820 | U | 840 | U | 840 | U | 830 | U | 830 | U |
| 3-nitroaniline | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| 4,6-dinitro-2-methylphenol | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| 4-bromophenyl phenyl ether | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 4-chloro-3-methylphenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 4-chloroaniline | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 4-chlorophenyl phenyl ether | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 4-methylphenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| 4-nitroaniline | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| 4-nitrophenol | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| acenaphthene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| acenaphthylene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| anthracene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| benzenamine | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| benzidine | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| benzo(a)anthracene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| benzo(a)pyrene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| benzo(b)fluoranthene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| benzo(ghi)perylene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| benzo(k)fluoranthene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| benzoic acid | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| benzyl alcohol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| bis(2-chloroethoxy)methane | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| bis(2-chloroethyl)ether | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| bis(2-chloroisopropyl)ether | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| bis(2-ethylhexyl)phthalate | 67 | J | 420 | U | 420 | U | 72 | J | 78 | JB |
| butyl benzyl phthalate | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| chrysene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| di-n-butyl phthalate | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| di-n-octyl phthalate | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| dibenzo(a,h)anthracene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| dibenzofuran | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| diethyl phthalate | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| dimethyl phthalate | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| fluoranthene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| fluorene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| hexachlorobenzene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| hexachlorobutadiene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| hexachlorocyclopentadiene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| hexachloroethane | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| indeno(1,2,3-cd)pyrene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| isophorone | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| n-nitroso-di-n-propylamine | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| n-nitrosodimethylamine | 820 | U | 840 | U | 840 | U | 830 | U | 830 | U |
| n-nitrosodiphenylamine | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| naphthalene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| nitrobenzene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| pentachlorophenol | 2100 | U | 2100 | U | 2100 | U | 2100 | U | 2100 | U |
| phenanthrene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| phenol | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |
| pyrene | 410 | U | 420 | U | 420 | U | 420 | U | 410 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B301990 (COL)<br>Sample: B3019900006 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 | | | Location: B301990 (COL)<br>Sample: B3019900006D (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 | | | Location: B301990 (COL)<br>Sample: B3019900614 (REAL)<br>Depth: 6.0 - 14.0 '<br>Date: 03/21/90 | | | Location: B301990 (COL)<br>Sample: B3019901420 (REAL)<br>Depth: 14.3 - 19.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 1,2-dichlorobenzene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 1,3-dichlorobenzene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 1,4-dichlorobenzene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2,4,5-trichlorophenol | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| 2,4,6-trichlorophenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2,4-dichlorophenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2,4-dimethylphenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2,4-dinitrophenol | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| 2,4-dinitrotoluene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2,6-dinitrotoluene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2-chloronaphthalene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2-chlorophenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2-methylnaphthalene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2-methylphenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 2-nitroaniline | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| 2-nitrophenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 3,3'-dichlorobenzidine | 830 | U | | 820 | U | | 790 | U | | 870 | U | V | 820 | U | V |
| 3-nitroaniline | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| 4,6-dinitro-2-methylphenol | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| 4-bromophenyl phenyl ether | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 4-chloro-3-methylphenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 4-chloroaniline | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 4-chlorophenyl phenyl ether | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 4-methylphenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| 4-nitroaniline | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| 4-nitrophenol | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| acenaphthene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| acenaphthylene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| anthracene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| benzenamine | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | | 2100 | U | |
| benzidine | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | | 2100 | U | |
| benzo(a)anthracene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| benzo(a)pyrene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| benzo(b)fluoranthene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| benzo(ghi)perylene | 410 | U | | 410 | U | | 390 | U | | 430 | U | | 410 | U | |
| benzo(k)fluoranthene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| benzoic acid | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| benzyl alcohol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| bis(2-chloroethoxy)methane | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| bis(2-chloroethyl)ether | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| bis(2-chloroisopropyl)ether | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| bis(2-ethylhexyl)phthalate | 87 | JB | | 190 | JB | | 71 | JB | | 430 | U | V | 410 | U | V |
| butyl benzyl phthalate | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| chrysene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| di-n-butyl phthalate | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| di-n-octyl phthalate | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| dibenzo(a,h)anthracene | 410 | U | | 410 | U | | 390 | U | | 430 | U | | 410 | U | |
| dibenzofuran | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| diethyl phthalate | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| dimethyl phthalate | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| fluoranthene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| fluorene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| hexachlorobenzene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| hexachlorobutadiene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| hexachlorocyclopentadiene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| hexachloroethane | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| indeno(1,2,3-cd)pyrene | 410 | U | | 410 | U | | 390 | U | | 430 | U | | 410 | U | |
| isophorone | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| n-nitroso-di-n-propylamine | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| n-nitrosodimethylamine | 830 | U | | 820 | U | | 790 | U | | 870 | U | | 820 | U | |
| n-nitrosodiphenylamine | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| naphthalene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| nitrobenzene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| pentachlorophenol | 2100 | U | | 2100 | U | | 2000 | U | | 2200 | U | V | 2100 | U | V |
| phenanthrene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| phenol | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |
| pyrene | 410 | U | | 410 | U | | 390 | U | | 430 | U | V | 410 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302090 (COL)<br>Sample: B3020900408 (REAL)<br>Depth: 4.0 - 7.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901619 (REAL)<br>Depth: 16.0 - 19.0 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901927 (REAL)<br>Depth: 19.0 - 26.9 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 1,2-dichlorobenzene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 1,3-dichlorobenzene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 1,4-dichlorobenzene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2,4,5-trichlorophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| 2,4,6-trichlorophenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2,4-dichlorophenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2,4-dimethylphenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2,4-dinitrophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| 2,4-dinitrotoluene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2,6-dinitrotoluene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2-chloronaphthalene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2-chlorophenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2-methylnaphthalene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2-methylphenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 2-nitroaniline | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| 2-nitrophenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 3,3'-dichlorobenzidine | 800 | U | V | 820 | U | V | 810 | U | V | 820 | U | | 780 | U | V |
| 3-nitroaniline | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| 4,6-dinitro-2-methylphenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| 4-bromophenyl phenyl ether | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 4-chloro-3-methylphenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 4-chloroaniline | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 4-chlorophenyl phenyl ether | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 4-methylphenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| 4-nitroaniline | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| 4-nitrophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| acenaphthene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| acenaphthylene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| anthracene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| benzenamine | 2000 | U | | 2000 | U | | 2000 | U | | 2000 | U | | 2000 | U | |
| benzidine | 2000 | U | | 2000 | U | | 2000 | U | | 2000 | U | | 2000 | U | |
| benzo(a)anthracene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| benzo(a)pyrene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| benzo(b)fluoranthene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| benzo(ghi)perylene | 400 | U | | 410 | U | | 400 | U | | 410 | U | | 390 | U | |
| benzo(k)fluoranthene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| benzoic acid | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| benzyl alcohol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| bis(2-chloroethoxy)methane | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| bis(2-chloroethyl)ether | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| bis(2-chloroisopropyl)ether | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| bis(2-ethylhexyl)phthalate | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| butyl benzyl phthalate | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| chrysene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| di-n-butyl phthalate | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| di-n-octyl phthalate | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| dibenzo(a,h)anthracene | 400 | U | | 410 | U | | 400 | U | | 410 | U | | 390 | U | |
| dibenzofuran | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| diethyl phthalate | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| dimethyl phthalate | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| fluoranthene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| fluorene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| hexachlorobenzene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| hexachlorobutadiene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| hexachlorocyclopentadiene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| hexachloroethane | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| indeno(1,2,3-cd)pyrene | 400 | U | | 410 | U | | 400 | U | | 410 | U | | 390 | U | |
| isophorone | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| n-nitroso-di-n-propylamine | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| n-nitrosodimethylamine | 800 | U | | 820 | U | | 810 | U | | 820 | U | | 780 | U | |
| n-nitrosodiphenylamine | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| naphthalene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| nitrobenzene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| pentachlorophenol | 2000 | U | V | 2000 | U | V | 2000 | U | V | 2000 | U | | 2000 | U | V |
| phenanthrene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| phenol | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |
| pyrene | 400 | U | V | 410 | U | V | 400 | U | V | 410 | U | | 390 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021900814 (REAL)<br>Depth: 8.35 - 14.35 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901418 (REAL)<br>Depth: 14.35 - 18.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901822 (REAL)<br>Depth: 18.30 - 22.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021902227 (REAL)<br>Depth: 22.70 - 28.40 '<br>Date: 06/25/90 | | Location: B302290 (COL)<br>Sample: B3022900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 06/26/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 1,2-dichlorobenzene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 1,3-dichlorobenzene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 1,4-dichlorobenzene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2,4,5-trichlorophenol | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| 2,4,6-trichlorophenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2,4-dichlorophenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2,4-dimethylphenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2,4-dinitrophenol | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| 2,4-dinitrotoluene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2,6-dinitrotoluene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2-chloronaphthalene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2-chlorophenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2-methylnaphthalene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2-methylphenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 2-nitroaniline | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| 2-nitrophenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 3,3'-dichlorobenzidine | 720 | U | 740 | U | 750 | U | 740 | U | 700 | U |
| 3-nitroaniline | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| 4,6-dinitro-2-methylphenol | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| 4-bromophenyl phenyl ether | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 4-chloro-3-methylphenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 4-chloroaniline | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 4-chlorophenyl phenyl ether | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 4-methylphenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| 4-nitroaniline | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| 4-nitrophenol | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| acenaphthene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| acenaphthylene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| anthracene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| benzenamine | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| benzidine | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| benzo(a)anthracene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| benzo(a)pyrene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| benzo(b)fluoranthene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| benzo(ghi)perylene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| benzo(k)fluoranthene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| benzoic acid | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| benzyl alcohol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| bis(2-chloroethoxy)methane | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| bis(2-chloroethyl)ether | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| bis(2-chloroisopropyl)ether | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| bis(2-ethylhexyl)phthalate | 360 | U | 370 | U | 48 | JB | 40 | JB | 42 | JB |
| butyl benzyl phthalate | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| chrysene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| di-n-butyl phthalate | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| di-n-octyl phthalate | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| dibenzo(a,h)anthracene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| dibenzofuran | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| diethyl phthalate | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| dimethyl phthalate | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| fluoranthene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| fluorene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| hexachlorobenzene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| hexachlorobutadiene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| hexachlorocyclopentadiene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| hexachloroethane | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| indeno(1,2,3-cd)pyrene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| isophorone | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| n-nitroso-di-n-propylamine | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| n-nitrosodimethylamine | 720 | U | 740 | U | 750 | U | 740 | U | 700 | U |
| n-nitrosodiphenylamine | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| naphthalene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| nitrobenzene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| pentachlorophenol | 1800 | U | 1800 | U | 1900 | U | 1900 | U | 1800 | U |
| phenanthrene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| phenol | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |
| pyrene | 360 | U | 370 | U | 380 | U | 370 | U | 350 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B302290 (COL)<br>Sample: B3022900408 (REAL)<br>Depth: 4.00 - 8.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900814 (REAL)<br>Depth: 8.00 - 14.50 '<br>Date: 06/26/90 | | Location: B302990 (COL)<br>Sample: B3029900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/06/90 | | Location: B303090 (COL)<br>Sample: B3030900004 (REAL)<br>Depth: 0.00 - 4.20 '<br>Date: 07/06/90 | | Location: B303190 (COL)<br>Sample: B3031900005 (REAL)<br>Depth: 0.00 - 5.00 '<br>Date: 07/09/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 1,2-dichlorobenzene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 1,3-dichlorobenzene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 1,4-dichlorobenzene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2,4,5-trichlorophenol | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| 2,4,6-trichlorophenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2,4-dichlorophenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2,4-dimethylphenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2,4-dinitrophenol | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| 2,4-dinitrotoluene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2,6-dinitrotoluene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2-chloronaphthalene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2-chlorophenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2-methylnaphthalene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2-methylphenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 2-nitroaniline | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| 2-nitrophenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 3,3'-dichlorobenzidine | 730 | U | 720 | U | 790 | U | 730 | U | 760 | U |
| 3-nitroaniline | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| 4,6-dinitro-2-methylphenol | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| 4-bromophenyl phenyl ether | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 4-chloro-3-methylphenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 4-chloroaniline | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 4-chlorophenyl phenyl ether | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 4-methylphenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| 4-nitroaniline | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| 4-nitrophenol | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| acenaphthene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| acenaphthylene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| anthracene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| benzenamine | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| benzidine | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| benzo(a)anthracene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| benzo(a)pyrene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| benzo(b)fluoranthene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| benzo(ghi)perylene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| benzo(k)fluoranthene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| benzoic acid | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| benzyl alcohol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| bis(2-chloroethoxy)methane | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| bis(2-chloroethyl)ether | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| bis(2-chloroisopropyl)ether | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| bis(2-ethylhexyl)phthalate | 66 | JB | 39 | JB | 400 | U | 360 | U | 380 | U |
| butyl benzyl phthalate | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| chrysene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| di-n-butyl phthalate | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| di-n-octyl phthalate | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| dibenzo(a,h)anthracene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| dibenzofuran | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| diethyl phthalate | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| dimethyl phthalate | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| fluoranthene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| fluorene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| hexachlorobenzene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| hexachlorobutadiene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| hexachlorocyclopentadiene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| hexachloroethane | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| indeno(1,2,3-cd)pyrene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| isophorone | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| n-nitroso-di-n-propylamine | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| n-nitrosodimethylamine | 730 | U | 720 | U | 790 | U | 730 | U | 760 | U |
| n-nitrosodiphenylamine | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| naphthalene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| nitrobenzene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| pentachlorophenol | 1800 | U | 1800 | U | 2000 | U | 1800 | U | 1900 | U |
| phenanthrene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| phenol | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |
| pyrene | 370 | U | 360 | U | 400 | U | 360 | U | 380 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303290 (COL)<br>Sample: B3032900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/10/90 | | Location: B303390 (COL)<br>Sample: B3033900008 (REAL)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | | Location: B303390 (COL)<br>Sample: B3033900008D (DUP)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | | Location: B303490 (COL)<br>Sample: B3034900008 (REAL)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303490 (COL)<br>Sample: B3034900008D (DUP)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 1,2-dichlorobenzene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 1,3-dichlorobenzene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 1,4-dichlorobenzene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2,4,5-trichlorophenol | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| 2,4,6-trichlorophenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2,4-dichlorophenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2,4-dimethylphenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2,4-dinitrophenol | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| 2,4-dinitrotoluene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2,6-dinitrotoluene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2-chloronaphthalene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2-chlorophenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2-methylnaphthalene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2-methylphenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 2-nitroaniline | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| 2-nitrophenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 3,3'-dichlorobenzidine | 720 | U | 730 | U | 730 | U | 790 | U | 790 | U |
| 3-nitroaniline | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| 4,6-dinitro-2-methylphenol | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| 4-bromophenyl phenyl ether | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 4-chloro-3-methylphenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 4-chloroaniline | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 4-chlorophenyl phenyl ether | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 4-methylphenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| 4-nitroaniline | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| 4-nitrophenol | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| acenaphthene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| acenaphthylene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| anthracene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| benzenamine | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| benzidine | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| benzo(a)anthracene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| benzo(a)pyrene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| benzo(b)fluoranthene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| benzo(ghi)perylene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| benzo(k)fluoranthene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| benzoic acid | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| benzyl alcohol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| bis(2-chloroethoxy)methane | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| bis(2-chloroethyl)ether | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| bis(2-chloroisopropyl)ether | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| bis(2-ethylhexyl)phthalate | 360 | U | 130 | JB | 93 | JB | 40 | JB | 390 | U |
| butyl benzyl phthalate | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| chrysene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| di-n-butyl phthalate | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| di-n-octyl phthalate | 58 | J | 370 | U | 370 | U | 400 | U | 390 | U |
| dibenzo(a,h)anthracene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| dibenzofuran | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| diethyl phthalate | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| dimethyl phthalate | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| fluoranthene | 38 | J | 370 | U | 370 | U | 400 | U | 390 | U |
| fluorene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| hexachlorobenzene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| hexachlorobutadiene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| hexachlorocyclopentadiene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| hexachloroethane | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| indeno(1,2,3-cd)pyrene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| isophorone | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| n-nitroso-di-n-propylamine | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| n-nitrosodimethylamine | 720 | U | 730 | U | 730 | U | 790 | U | 790 | U |
| n-nitrosodiphenylamine | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| naphthalene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| nitrobenzene | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| pentachlorophenol | 1800 | U | 1800 | U | 1800 | U | 2000 | U | 2000 | U |
| phenanthrene | 360 | U | 38 | J | 370 | U | 400 | U | 390 | U |
| phenol | 360 | U | 370 | U | 370 | U | 400 | U | 390 | U |
| pyrene | 42 | J | 370 | U | 370 | U | 400 | U | 390 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303590 (COL)<br>Sample: B30359000009 (REAL)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000009D (DUP)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: B303690 (COL)<br>Sample: B30369000006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303690 (COL)<br>Sample: B30369000006D (DUP)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303790 (COL)<br>Sample: B30379000004 (REAL)<br>Depth: 0.00 - 3.50 '<br>Date: 07/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | 380 | U | 360 | U | 360 | U | 680 | U |
| 1,2-dichlorobenzene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 1,3-dichlorobenzene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 1,4-dichlorobenzene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2,4,5-trichlorophenol | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| 2,4,6-trichlorophenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2,4-dichlorophenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2,4-dimethylphenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2,4-dinitrophenol | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| 2,4-dinitrotoluene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2,6-dinitrotoluene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2-chloronaphthalene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2-chlorophenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2-methylnaphthalene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2-methylphenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 2-nitroaniline | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| 2-nitrophenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 3,3'-dichlorobenzidine | 740 | U | 750 | U | 730 | U | 730 | U | 1800 | U |
| 3-nitroaniline | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| 4,6-dinitro-2-methylphenol | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| 4-bromophenyl phenyl ether | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 4-chloro-3-methylphenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 4-chloroaniline | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 4-chlorophenyl phenyl ether | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 4-methylphenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| 4-nitroaniline | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| 4-nitrophenol | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| acenaphthene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| acenaphthylene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| anthracene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| benzenamine | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| benzidine | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| benzo(a)anthracene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| benzo(a)pyrene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| benzo(b)fluoranthene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| benzo(ghi)perylene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| benzo(k)fluoranthene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| benzoic acid | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| benzyl alcohol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| bis(2-chloroethoxy)methane | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| bis(2-chloroethyl)ether | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| bis(2-chloroisopropyl)ether | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| bis(2-ethylhexyl)phthalate | 47 | JB | 48 | JB | 43 | JB | 44 | JB | 89 | JB |
| butyl benzyl phthalate | 370 | U | 380 | U | 51 | JB | 360 | U | 880 | U |
| chrysene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| di-n-butyl phthalate | 370 | U | 380 | U | 43 | JB | 39 | JB | 880 | U |
| di-n-octyl phthalate | 370 | U | 380 | U | 360 | U | 45 | J | 880 | U |
| dibenzo(a,h)anthracene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| dibenzofuran | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| diethyl phthalate | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| dimethyl phthalate | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| fluoranthene | 47 | J | 380 | U | 360 | U | 360 | U | 880 | U |
| fluorene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| hexachlorobenzene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| hexachlorobutadiene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| hexachlorocyclopentadiene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| hexachloroethane | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| indeno(1,2,3-cd)pyrene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| isophorone | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| n-nitroso-di-n-propylamine | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| n-nitrosodimethylamine | 740 | U | 750 | U | 730 | U | 730 | U | 1800 | U |
| n-nitrosodiphenylamine | 370 | U | 42 | J | 360 | U | 360 | U | 880 | U |
| naphthalene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| nitrobenzene | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| pentachlorophenol | 1900 | U | 1900 | U | 1800 | U | 1800 | U | 4400 | U |
| phenanthrene | 42 | J | 380 | U | 360 | U | 360 | U | 880 | U |
| phenol | 370 | U | 380 | U | 360 | U | 360 | U | 880 | U |
| pyrene | 51 | J | 380 | U | 360 | U | 360 | U | 880 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B303890 (COL)<br>Sample: B3038900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303890 (COL)<br>Sample: B3038900610 (REAL)<br>Depth: 6.00 - 10.00 '<br>Date: 07/13/90 | | Location: B303990 (COL)<br>Sample: B3039900004 (REAL)<br>Depth: 0.00 - 3.70 '<br>Date: 07/17/90 | | Location: B304090 (COL)<br>Sample: B3040900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | | Location: B304190 (COL)<br>Sample: B3041900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 1,2-dichlorobenzene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 1,3-dichlorobenzene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 1,4-dichlorobenzene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2,4,5-trichlorophenol | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| 2,4,6-trichlorophenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2,4-dichlorophenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2,4-dimethylphenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2,4-dinitrophenol | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| 2,4-dinitrotoluene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2,6-dinitrotoluene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2-chloronaphthalene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2-chlorophenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2-methylnaphthalene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2-methylphenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 2-nitroaniline | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| 2-nitrophenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 3,3'-dichlorobenzidine | 750 | U | 810 | U | 740 | U | 940 | U | 710 | U |
| 3-nitroaniline | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| 4,6-dinitro-2-methylphenol | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| 4-bromophenyl phenyl ether | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 4-chloro-3-methylphenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 4-chloroaniline | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 4-chlorophenyl phenyl ether | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 4-methylphenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| 4-nitroaniline | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| 4-nitrophenol | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| acenaphthene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| acenaphthylene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| anthracene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| benzenamine | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| benzidine | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| benzo(a)anthracene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| benzo(a)pyrene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| benzo(b)fluoranthene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| benzo(ghi)perylene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| benzo(k)fluoranthene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| benzoic acid | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| benzyl alcohol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| bis(2-chloroethoxy)methane | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| bis(2-chloroethyl)ether | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| bis(2-chloroisopropyl)ether | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| bis(2-ethylhexyl)phthalate | 370 | U | 57 | JB | 370 | U | 470 | U | 77 | JB |
| butyl benzyl phthalate | 370 | U | 400 | U | 370 | U | 470 | U | 49 | JB |
| chrysene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| di-n-butyl phthalate | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| di-n-octyl phthalate | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| dibenzo(a,h)anthracene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| dibenzofuran | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| diethyl phthalate | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| dimethyl phthalate | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| fluoranthene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| fluorene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| hexachlorobenzene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| hexachlorobutadiene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| hexachlorocyclopentadiene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| hexachloroethane | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| indeno(1,2,3-cd)pyrene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| isophorone | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| n-nitroso-di-n-propylamine | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| n-nitrosodimethylamine | 750 | U | 810 | U | 740 | U | 940 | U | 710 | U |
| n-nitrosodiphenylamine | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| naphthalene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| nitrobenzene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| pentachlorophenol | 1900 | U | 2000 | U | 1800 | U | 2300 | U | 1800 | U |
| phenanthrene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| phenol | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |
| pyrene | 370 | U | 400 | U | 370 | U | 470 | U | 350 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-b

## Phase III Subsurface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: B304290 (COL)<br>Sample: B3042900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/19/90 | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 360 | U | | | | | | | | |
| 1,2-dichlorobenzene | 360 | U | | | | | | | | |
| 1,3-dichlorobenzene | 360 | U | | | | | | | | |
| 1,4-dichlorobenzene | 360 | U | | | | | | | | |
| 2,4,5-trichlorophenol | 1800 | U | | | | | | | | |
| 2,4,6-trichlorophenol | 360 | U | | | | | | | | |
| 2,4-dichlorophenol | 360 | U | | | | | | | | |
| 2,4-dimethylphenol | 360 | U | | | | | | | | |
| 2,4-dinitrophenol | 1800 | U | | | | | | | | |
| 2,4-dinitrotoluene | 360 | U | | | | | | | | |
| 2,6-dinitrotoluene | 360 | U | | | | | | | | |
| 2-chloronaphthalene | 360 | U | | | | | | | | |
| 2-chlorophenol | 360 | U | | | | | | | | |
| 2-methylnaphthalene | 360 | U | | | | | | | | |
| 2-methylphenol | 360 | U | | | | | | | | |
| 2-nitroaniline | 1800 | U | | | | | | | | |
| 2-nitrophenol | 360 | U | | | | | | | | |
| 3,3'-dichlorobenzidine | 720 | U | | | | | | | | |
| 3-nitroaniline | 1800 | U | | | | | | | | |
| 4,6-dinitro-2-methylphenol | 1800 | U | | | | | | | | |
| 4-bromophenyl phenyl ether | 360 | U | | | | | | | | |
| 4-chloro-3-methylphenol | 360 | U | | | | | | | | |
| 4-chloroaniline | 360 | U | | | | | | | | |
| 4-chlorophenyl phenyl ether | 360 | U | | | | | | | | |
| 4-methylphenol | 360 | U | | | | | | | | |
| 4-nitroaniline | 1800 | U | | | | | | | | |
| 4-nitrophenol | 1800 | U | | | | | | | | |
| acenaphthene | 360 | U | | | | | | | | |
| acenaphthylene | 360 | U | | | | | | | | |
| anthracene | 360 | U | | | | | | | | |
| benzenamine | 1800 | U | | | | | | | | |
| benzidine | 1800 | U | | | | | | | | |
| benzo(a)anthracene | 360 | U | | | | | | | | |
| benzo(a)pyrene | 360 | U | | | | | | | | |
| benzo(b)fluoranthene | 360 | U | | | | | | | | |
| benzo(ghi)perylene | 360 | U | | | | | | | | |
| benzo(k)fluoranthene | 360 | U | | | | | | | | |
| benzoic acid | 1800 | U | | | | | | | | |
| benzyl alcohol | 360 | U | | | | | | | | |
| bis(2-chloroethoxy)methane | 360 | U | | | | | | | | |
| bis(2-chloroethyl)ether | 360 | U | | | | | | | | |
| bis(2-chloroisopropyl)ether | 360 | U | | | | | | | | |
| bis(2-ethylhexyl)phthalate | 38 | J | | | | | | | | |
| butyl benzyl phthalate | 360 | U | | | | | | | | |
| chrysene | 360 | U | | | | | | | | |
| di-n-butyl phthalate | 360 | U | | | | | | | | |
| di-n-octyl phthalate | 360 | U | | | | | | | | |
| dibenzo(a,h)anthracene | 360 | U | | | | | | | | |
| dibenzofuran | 360 | U | | | | | | | | |
| diethyl phthalate | 360 | U | | | | | | | | |
| dimethyl phthalate | 360 | U | | | | | | | | |
| fluoranthene | 360 | U | | | | | | | | |
| fluorene | 360 | U | | | | | | | | |
| hexachlorobenzene | 360 | U | | | | | | | | |
| hexachlorobutadiene | 360 | U | | | | | | | | |
| hexachlorocyclopentadiene | 360 | U | | | | | | | | |
| hexachloroethane | 360 | U | | | | | | | | |
| indeno(1,2,3-cd)pyrene | 360 | U | | | | | | | | |
| isophorone | 360 | U | | | | | | | | |
| n-nitroso-di-n-propylamine | 360 | U | | | | | | | | |
| n-nitrosodimethylamine | 720 | U | | | | | | | | |
| n-nitrosodiphenylamine | 360 | U | | | | | | | | |
| naphthalene | 360 | U | | | | | | | | |
| nitrobenzene | 360 | U | | | | | | | | |
| pentachlorophenol | 1800 | U | | | | | | | | |
| phenanthrene | 360 | U | | | | | | | | |
| phenol | 360 | U | | | | | | | | |
| pyrene | 360 | U | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg)

| ANALYTE | Location: B300190 (COL)<br>Sample: B3001900006 (REAL)<br>Depth: 6.0 - 0.0 '<br>Date: 02/02/90 | | | Location: B300190 (COL)<br>Sample: B3001900006D (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 02/02/90 | | | Location: B300190 (WCS)<br>Sample: B3001900610 (REAL)<br>Depth: 6.0 - 9.9 '<br>Date: 02/05/90 | | | Location: B300290 (COL)<br>Sample: B3002900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 02/05/90 | | | Location: B300290 (COL)<br>Sample: B3002900408 (REAL)<br>Depth: 4.0 - 7.5 '<br>Date: 02/05/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| 4,4'-dde | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| 4,4'-ddt | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| aldrin | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| alpha-bhc | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| alpha-chlordane | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | | 90 | U | V |
| aroclor-1016 | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | V | 90 | U | V |
| aroclor-1221 | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | V | 90 | U | V |
| aroclor-1232 | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | V | 90 | U | V |
| aroclor-1242 | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | V | 90 | U | V |
| aroclor-1248 | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | V | 90 | U | V |
| aroclor-1254 | 190 | U | V | 180 | U | | 180 | U | V | 180 | U | V | 180 | U | V |
| aroclor-1260 | 190 | U | V | 180 | U | | 180 | U | V | 180 | U | V | 180 | U | V |
| beta-bhc | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| delta-bhc | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| dieldrin | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| endosulfan I | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| endosulfan II | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| endosulfan sulfate | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| endrin | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| endrin ketone | 19 | U | V | 18 | U | | 18 | U | V | 18 | U | V | 18 | U | V |
| gamma-bhc (lindane) | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| gamma-chlordane | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | V | 90 | U | V |
| heptachlor | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| heptachlor epoxide | 9.4 | U | V | 9.2 | U | | 9.0 | U | V | 9.1 | U | V | 9.0 | U | V |
| methoxychlor | 94 | U | V | 92 | U | | 90 | U | V | 91 | U | V | 90 | U | V |
| toxaphene | 190 | U | V | 180 | U | | 180 | U | V | 180 | U | V | 180 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B300390 (COL)<br>Sample: B3003900004 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900408 (REAL)<br>Depth: 4.0 - 6.3 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/07/90 | | | Location: B300490 (COL)<br>Sample: B3004900004 (REAL)<br>Depth: 0.0 - 3.8 '<br>Date: 02/09/90 | | | Location: B300490 (COL)<br>Sample: B3004900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 02/09/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| 4,4'-dde | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| 4,4'-ddt | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| aldrin | 9.2 | U | V | 9.0 | U | V | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| alpha-bhc | 9.2 | U | V | 9.0 | U | V | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| alpha-chlordane | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| aroclor-1016 | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| aroclor-1221 | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| aroclor-1232 | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| aroclor-1242 | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| aroclor-1248 | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| aroclor-1254 | 180 | U | V | 180 | U | V | 190 | U | V | 190 | U | V | 190 | U | V |
| aroclor-1260 | 180 | U | V | 180 | U | V | 190 | U | V | 190 | U | V | 190 | U | V |
| beta-bhc | 9.2 | U | V | 9.0 | U | V | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| delta-bhc | 9.2 | U | V | 9.0 | U | V | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| dieldrin | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| endosulfan I | 9.2 | U | V | 9.0 | U | V | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| endosulfan II | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| endosulfan sulfate | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| endrin | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| endrin ketone | 18 | U | V | 18 | U | V | 19 | U | V | 19 | U | V | 19 | U | V |
| gamma-bhc (lindane) | 9.2 | U | V | 9.0 | U | V | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| gamma-chlordane | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| heptachlor | 9.2 | U | V | 9.0 | U | | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| heptachlor epoxide | 9.2 | U | V | 9.0 | U | | 9.4 | U | V | 9.4 | U | V | 9.3 | U | V |
| methoxychlor | 92 | U | V | 90 | U | V | 94 | U | V | 94 | U | V | 93 | U | V |
| toxaphene | 180 | U | V | 180 | U | V | 190 | U | V | 190 | U | V | 190 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B300590 (COL)<br>Sample: B3005900005 (REAL)<br>Depth: 0.0 - 5.2 '<br>Date: 02/09/90 | | | Location: B300690 (COL)<br>Sample: B3006900003 (REAL)<br>Depth: 0.0 - 2.6 '<br>Date: 02/09/90 | | | Location: B300790 (COL)<br>Sample: B3007900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | | Location: B300790 (COL)<br>Sample: B3007900004D (DUP)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | | Location: B300890 (COL)<br>Sample: B3008900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| 4,4'-dde | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| 4,4'-ddt | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| aldrin | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| alpha-bhc | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| alpha-chlordane | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| aroclor-1016 | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| aroclor-1221 | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| aroclor-1232 | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| aroclor-1242 | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| aroclor-1248 | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| aroclor-1254 | 190 | U | V | 180 | U | V | 190 | U | V | 180 | U | V | 190 | U | V |
| aroclor-1260 | 190 | U | V | 180 | U | V | 190 | U | V | 180 | U | V | 190 | U | V |
| beta-bhc | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| delta-bhc | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| dieldrin | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| endosulfan I | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| endosulfan II | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| endosulfan sulfate | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| endrin | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| endrin ketone | 19 | U | V | 18 | U | V | 19 | U | V | 18 | U | V | 19 | U | V |
| gamma-bhc (lindane) | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| gamma-chlordane | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| heptachlor | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| heptachlor epoxide | 9.4 | U | V | 9.2 | U | V | 9.4 | U | V | 9.1 | U | V | 9.3 | U | V |
| methoxychlor | 94 | U | V | 92 | U | V | 94 | U | V | 91 | U | V | 93 | U | V |
| toxaphene | 190 | U | V | 180 | U | V | 190 | U | V | 180 | U | V | 190 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B300890 (COL)<br>Sample: B3008900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900812 (REAL)<br>Depth: 8.0 - 11.0 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| 4,4'-dde | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| 4,4'-ddt | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| aldrin | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| alpha-bhc | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| alpha-chlordane | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| aroclor-1016 | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| aroclor-1221 | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| aroclor-1232 | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| aroclor-1242 | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| aroclor-1248 | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| aroclor-1254 | 160 | U | V | 230 | U | V | 170 | U | V | 190 | U | V | 210 | U | |
| aroclor-1260 | 160 | U | V | 230 | U | V | 170 | U | V | 190 | U | V | 210 | U | |
| beta-bhc | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| delta-bhc | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| dieldrin | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| endosulfan I | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| endosulfan II | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| endosulfan sulfate | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| endrin | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| endrin ketone | 16 | U | V | 23 | U | V | 17 | U | V | 19 | U | V | 21 | U | |
| gamma-bhc (lindane) | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| gamma-chlordane | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| heptachlor | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| heptachlor epoxide | 8.0 | U | V | 11 | U | V | 8.4 | U | V | 9.4 | U | V | 10 | U | |
| methoxychlor | 80 | U | V | 110 | U | V | 84 | U | V | 94 | U | V | 100 | U | |
| toxaphene | 160 | U | V | 230 | U | V | 170 | U | V | 190 | U | V | 210 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301090 (COL)<br>Sample: B3010900008 (REAL)<br>Depth: 0.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010900814 (REAL)<br>Depth: 8.0 - 13.6 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010901418 (REAL)<br>Depth: 14.0 - 18.0 '<br>Date: 02/16/90 | | Location: B301090 (COL)<br>Sample: B3010901821 (REAL)<br>Depth: 18.0 - 21.0 '<br>Date: 02/16/90 | | Location: B301190 (COL)<br>Sample: B3011900004 (REAL)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| 4,4'-dde | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| 4,4'-ddt | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| aldrin | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| alpha-bhc | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| alpha-chlordane | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| aroclor-1016 | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| aroclor-1221 | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| aroclor-1232 | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| aroclor-1242 | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| aroclor-1248 | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| aroclor-1254 | 160 | U | V | 190 | U | V | 190 | U | 190 | U | 190 | U | V |
| aroclor-1260 | 160 | U | V | 190 | U | V | 190 | U | 190 | U | 190 | U | V |
| beta-bhc | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| delta-bhc | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| dieldrin | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| endosulfan I | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| endosulfan II | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| endosulfan sulfate | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| endrin | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| endrin ketone | 16 | U | V | 19 | U | V | 19 | U | 19 | U | 19 | U | V |
| gamma-bhc (lindane) | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| gamma-chlordane | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| heptachlor | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| heptachlor epoxide | 8.1 | U | V | 9.4 | U | V | 9.6 | U | 9.3 | U | 9.5 | U | V |
| methoxychlor | 81 | U | V | 94 | U | V | 96 | U | 93 | U | 95 | U | V |
| toxaphene | 160 | U | V | 190 | U | V | 190 | U | 190 | U | 190 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301190 (COL)<br>Sample: B30119000004D (DUP)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B30119000408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B30119000812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B30119001216 (REAL)<br>Depth: 12.0 - 15.1 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B30119001620 (REAL)<br>Depth: 16.0 - 18.6 '<br>Date: 02/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| 4,4'-dde | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| 4,4'-ddt | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| aldrin | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| alpha-bhc | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| alpha-chlordane | 93 | U | V | 89 | U | V | 90 | U | | 89 | U | V | 88 | U | V |
| aroclor-1016 | 93 | U | V | 89 | U | V | 90 | U | | 89 | U | V | 88 | U | V |
| aroclor-1221 | 93 | U | V | 89 | U | V | 90 | U | | 89 | U | V | 88 | U | V |
| aroclor-1232 | 93 | U | V | 89 | U | V | 90 | U | | 89 | U | V | 88 | U | V |
| aroclor-1242 | 93 | U | V | 89 | U | V | 90 | U | | 89 | U | V | 88 | U | V |
| aroclor-1248 | 93 | U | V | 89 | U | | 90 | U | | 89 | U | V | 88 | U | V |
| aroclor-1254 | 190 | U | V | 180 | U | V | 180 | U | | 180 | U | V | 180 | U | V |
| aroclor-1260 | 190 | U | V | 180 | U | V | 180 | U | | 180 | U | V | 180 | U | V |
| beta-bhc | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| delta-bhc | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| dieldrin | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| endosulfan I | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| endosulfan II | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| endosulfan sulfate | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| endrin | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| endrin ketone | 19 | U | V | 18 | U | V | 18 | U | | 18 | U | V | 18 | U | V |
| gamma-bhc (lindane) | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| gamma-chlordane | 93 | U | V | 89 | U | V | 90 | U | | 89 | U | V | 88 | U | V |
| heptachlor | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| heptachlor epoxide | 9.3 | U | V | 8.9 | U | V | 9.0 | U | | 8.9 | U | V | 8.8 | U | V |
| methoxychlor | 93 | U | V | 89 | U | V | 90 | U | | 89 | U | V | 88 | U | V |
| toxaphene | 190 | U | V | 180 | U | V | 180 | U | | 180 | U | V | 180 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: *U-analyzed/not detected*; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301290 (COL)<br>Sample: B3012900004 (REAL)<br>Depth: 0.0 - 3.6 '<br>Date: 02/26/90 | | | Location: B301290 (COL)<br>Sample: B3012900408 (REAL)<br>Depth: 4.0 - 4.6 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900412 (REAL)<br>Depth: 4.0 - 11.5 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900004 (REAL)<br>Depth: 3.0 - 3.9 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| 4,4'-dde | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| 4,4'-ddt | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| aldrin | 46 | U | | 9.3 | U | V | 51 | U | V | 48 | U | V | 9.7 | U | V |
| alpha-bhc | 46 | U | | 9.3 | U | V | 51 | U | V | 48 | U | V | 9.7 | U | V |
| alpha-chlordane | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| aroclor-1016 | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| aroclor-1221 | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| aroclor-1232 | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| aroclor-1242 | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| aroclor-1248 | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| aroclor-1254 | 910 | U | | 190 | U | V | 1000 | U | V | 970 | U | V | 190 | U | V |
| aroclor-1260 | 910 | U | | 190 | U | V | 1000 | U | V | 970 | U | V | 190 | U | V |
| beta-bhc | 46 | U | | 9.3 | U | V | 51 | U | V | 48 | U | V | 9.7 | U | V |
| delta-bhc | 46 | U | | 9.3 | U | U | 51 | U | V | 48 | U | V | 9.7 | U | V |
| dieldrin | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| endosulfan I | 46 | U | | 9.3 | U | V | 51 | U | V | 48 | U | V | 9.7 | U | V |
| endosulfan II | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| endosulfan sulfate | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| endrin | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| endrin ketone | 91 | U | | 19 | U | V | 100 | U | V | 97 | U | V | 19 | U | V |
| gamma-bhc (lindane) | 46 | U | | 9.3 | U | V | 51 | U | V | 48 | U | V | 9.7 | U | V |
| gamma-chlordane | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| heptachlor | 46 | U | | 9.3 | U | V | 51 | U | V | 48 | U | V | 9.7 | U | V |
| heptachlor epoxide | 46 | U | | 9.3 | U | V | 51 | U | V | 48 | U | V | 9.7 | U | V |
| methoxychlor | 460 | U | | 93 | U | V | 510 | U | V | 480 | U | V | 97 | U | V |
| toxaphene | 910 | U | | 190 | U | V | 1000 | U | V | 970 | U | V | 190 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301490 (COL)<br>Sample: B3014900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B30149008120 (DUP)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014901216 (REAL)<br>Depth: 12.0 - 15.6 '<br>Date: 02/26/90 | | | Location: B301590 (COL)<br>Sample: B3015900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | V | 20 | U | V | 20 | U | V | 96 | U | V | 20 | U | C |
| 4,4'-dde | 19 | U | V | 20 | U | V | 20 | U | V | 96 | U | V | 20 | U | V |
| 4,4'-ddt | 19 | U | V | 20 | U | V | 20 | U | V | 96 | U | V | 20 | U | V |
| aldrin | 9.7 | U | V | 9.9 | U | V | 9.8 | U | V | 48 | U | V | 10 | U | V |
| alpha-bhc | 9.7 | U | V | 9.9 | U | V | 9.8 | U | B | 48 | U | V | 10 | U | V |
| alpha-chlordane | 97 | U | V | 9.9 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| aroclor-1016 | 97 | U | V | 99 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| aroclor-1221 | 97 | U | V | 99 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| aroclor-1232 | 97 | U | V | 99 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| aroclor-1242 | 97 | U | V | 99 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| aroclor-1248 | 97 | U | V | 99 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| aroclor-1254 | 190 | U | V | 200 | U | V | 200 | U | V | 960 | U | V | 200 | U | V |
| aroclor-1260 | 190 | U | V | 200 | U | V | 200 | U | V | 960 | U | V | 200 | U | V |
| beta-bhc | 9.7 | U | V | 9.9 | U | C | 9.8 | U | B | 48 | U | C | 10 | U | V |
| delta-bhc | 9.7 | U | V | 9.9 | U | V | 9.8 | U | V | 48 | U | V | 10 | U | V |
| dieldrin | 19 | U | V | 20 | U | V | 20 | U | V | 960 | U | | 20 | U | V |
| endosulfan I | 9.7 | U | V | 9.9 | U | V | 9.8 | U | V | 48 | U | V | 10 | U | V |
| endosulfan II | 19 | U | V | 20 | U | V | 20 | U | V | 96 | U | V | 20 | U | V |
| endosulfan sulfate | 19 | U | V | 20 | U | V | 20 | U | V | 96 | U | V | 20 | U | V |
| endrin | 19 | U | V | 20 | U | V | 20 | U | V | 96 | U | V | 20 | U | V |
| endrin ketone | 19 | U | V | 20 | U | V | 20 | U | V | 96 | U | V | 20 | U | V |
| gamma-bhc (lindane) | 9.7 | U | V | 9.9 | U | V | 9.8 | U | V | 48 | U | V | 10 | U | V |
| gamma-chlordane | 97 | U | V | 9.9 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| heptachlor | 9.7 | U | V | 9.9 | U | V | 9.8 | U | V | 48 | U | V | 10 | U | V |
| heptachlor epoxide | 9.7 | U | V | 9.9 | U | V | 9.8 | U | V | 48 | U | V | 10 | U | V |
| methoxychlor | 9.7 | U | V | 99 | U | V | 98 | U | V | 480 | U | V | 100 | U | V |
| toxaphene | 190 | U | V | 200 | U | V | 200 | U | V | 960 | U | V | 200 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301590 (COL)<br>Sample: B3015900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015900812 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| 4,4'-dde | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| 4,4'-ddt | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| aldrin | 9.5 | U | V | 9.6 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| alpha-bhc | 9.5 | U | V | 9.6 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| alpha-chlordane | 95 | U | V | 96 | U | V | 100 | U | V | 100 | U | V | 98 | U | |
| aroclor-1016 | 95 | U | V | 96 | U | V | 100 | U | V | 100 | U | V | 98 | U | |
| aroclor-1221 | 95 | U | V | 96 | U | V | 100 | U | V | 100 | U | V | 98 | U | |
| aroclor-1232 | 95 | U | V | 96 | U | V | 100 | U | V | 100 | U | V | 98 | U | |
| aroclor-1242 | 95 | U | V | 96 | U | V | 100 | U | V | 100 | U | V | 98 | U | |
| aroclor-1248 | 95 | U | V | 96 | U | V | 100 | U | V | 100 | U | V | 98 | U | |
| aroclor-1254 | 190 | U | V | 190 | U | C | 210 | U | V | 200 | U | V | 200 | U | |
| aroclor-1260 | 190 | U | V | 190 | U | V | 210 | U | V | 200 | U | V | 200 | U | |
| beta-bhc | 9.5 | U | V | 9.6 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| delta-bhc | 9.5 | U | V | 9.6 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| dieldrin | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| endosulfan I | 9.5 | U | V | 96 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| endosulfan II | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| endosulfan sulfate | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| endrin | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| endrin ketone | 19 | U | V | 19 | U | V | 21 | U | V | 20 | U | V | 20 | U | |
| gamma-bhc (lindane) | 9.5 | U | V | 9.6 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| gamma-chlordane | 95 | U | V | 96 | U | V | 100 | U | V | 100 | U | V | 98 | U | |
| heptachlor | 9.5 | U | V | 9.6 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| heptachlor epoxide | 9.5 | U | V | 9.6 | U | V | 10 | U | V | 10 | U | V | 9.8 | U | |
| methoxychlor | 95 | U | V | 96 | U | C | 100 | U | V | 100 | U | V | 98 | U | |
| toxaphene | 190 | U | V | 190 | U | V | 210 | U | V | 200 | U | V | 200 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301690 (COL)<br>Sample: B3016901216 (REAL)<br>Depth: 12.0 - 15.9 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901620 (REAL)<br>Depth: 16.9 - 19.9 '<br>Date: 03/19/90 | | | Location: B301790 (COL)<br>Sample: B3017900004 (REAL)<br>Depth: 0.0 - 2.5 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900408D (DUP)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| 4,4'-dde | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| 4,4'-ddt | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| aldrin | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| alpha-bhc | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| alpha-chlordane | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| aroclor-1016 | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| aroclor-1221 | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| aroclor-1232 | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| aroclor-1242 | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| aroclor-1248 | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| aroclor-1254 | 200 | U | V | 200 | U | V | 200 | U | 200 | U | 200 | U |
| aroclor-1260 | 200 | U | V | 200 | U | V | 200 | U | 200 | U | 200 | U |
| beta-bhc | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| delta-bhc | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| dieldrin | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| endosulfan I | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| endosulfan II | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| endosulfan sulfate | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| endrin | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| endrin ketone | 20 | U | V | 20 | U | V | 20 | U | 20 | U | 20 | U |
| gamma-bhc (lindane) | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| gamma-chlordane | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| heptachlor | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| heptachlor epoxide | 10 | U | V | 9.8 | U | V | 10 | U | 10 | U | 10 | U |
| methoxychlor | 100 | U | V | 98 | U | V | 100 | U | 100 | U | 100 | U |
| toxaphene | 200 | U | V | 200 | U | V | 200 | U | 200 | U | 200 | U |

Note: Data reporting order: result, qualifier, validation code.
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Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301790 (COL)<br>Sample: B3017900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017901217 (REAL)<br>Depth: 12.0 - 17.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| 4,4'-dde | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| 4,4'-ddt | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| aldrin | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| alpha-bhc | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| alpha-chlordane | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| aroclor-1016 | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| aroclor-1221 | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| aroclor-1232 | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| aroclor-1242 | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| aroclor-1248 | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| aroclor-1254 | 210 | U | 200 | U | 10000 | U | 200 | U | 200 | U |
| aroclor-1260 | 210 | U | 200 | U | 10000 | U | 200 | U | 200 | U |
| beta-bhc | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| delta-bhc | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| dieldrin | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| endosulfan I | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| endosulfan II | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| endosulfan sulfate | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| endrin | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| endrin ketone | 21 | U | 20 | U | 1000 | U | 20 | U | 20 | U |
| gamma-bhc (lindane) | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| gamma-chlordane | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| heptachlor | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| heptachlor epoxide | 10 | U | 10 | U | 500 | U | 9.9 | U | 10 | U |
| methoxychlor | 100 | U | 100 | U | 5000 | U | 99 | U | 100 | U |
| toxaphene | 210 | U | 200 | U | 10000 | U | 200 | U | 200 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301890 (COL)<br>Sample: B3018901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901618 (REAL)<br>Depth: 16.0 - 18.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901820 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B3019900006 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B30199000060 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| 4,4'-dde | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| 4,4'-ddt | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| aldrin | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| alpha-bhc | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| alpha-chlordane | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| aroclor-1016 | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| aroclor-1221 | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| aroclor-1232 | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| aroclor-1242 | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| aroclor-1248 | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| aroclor-1254 | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U |
| aroclor-1260 | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U |
| beta-bhc | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| delta-bhc | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| dieldrin | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| endosulfan I | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| endosulfan II | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| endosulfan sulfate | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| endrin | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| endrin ketone | 20 | U | 20 | U | 20 | U | 20 | U | 20 | U |
| gamma-bhc (lindane) | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| gamma-chlordane | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| heptachlor | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| heptachlor epoxide | 10 | U | 10 | U | 9.9 | U | 9.9 | U | 9.9 | U |
| methoxychlor | 100 | U | 100 | U | 99 | U | 99 | U | 99 | U |
| toxaphene | 200 | U | 200 | U | 200 | U | 200 | U | 200 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B301990 (COL)<br>Sample: B3019900614 (REAL)<br>Depth: 6.0 - 14.0 '<br>Date: 03/21/90 | | | Location: B301990 (COL)<br>Sample: B3019901420 (REAL)<br>Depth: 14.3 - 19.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900408 (REAL)<br>Depth: 4.0 - 7.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| 4,4'-dde | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| 4,4'-ddt | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| aldrin | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| alpha-bhc | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| alpha-chlordane | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| aroclor-1016 | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| aroclor-1221 | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| aroclor-1232 | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| aroclor-1242 | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| aroclor-1248 | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| aroclor-1254 | 190 | U | | 210 | U | V | 200 | U | V | 190 | U | V | 200 | U | V |
| aroclor-1260 | 190 | U | | 210 | U | V | 200 | U | V | 190 | U | V | 200 | U | V |
| beta-bhc | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| delta-bhc | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| dieldrin | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| endosulfan I | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| endosulfan II | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| endosulfan sulfate | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| endrin | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| endrin ketone | 19 | U | | 21 | U | V | 20 | U | V | 19 | U | V | 20 | U | V |
| gamma-bhc (lindane) | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| gamma-chlordane | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| heptachlor | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| heptachlor epoxide | 9.4 | U | | 10 | U | V | 9.9 | U | V | 9.6 | U | V | 9.8 | U | V |
| methoxychlor | 94 | U | | 100 | U | V | 99 | U | V | 96 | U | V | 98 | U | V |
| toxaphene | 190 | U | | 210 | U | V | 200 | U | V | 190 | U | V | 200 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B302090 (COL)<br>Sample: B3020901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901619 (REAL)<br>Depth: 16.0 - 19.0 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901927 (REAL)<br>Depth: 19.0 - 26.9 '<br>Date: 03/22/90 | | | Location: B302190 (COL)<br>Sample: B3021900814 (REAL)<br>Depth: 8.35 - 14.35 '<br>Date: 06/25/90 | | | Location: B302190 (COL)<br>Sample: B3021901418 (REAL)<br>Depth: 14.35 - 18.30 '<br>Date: 06/25/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| 4,4'-dde | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| 4,4'-ddt | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| aldrin | 9.7 | U | | 9.8 | U | V | 9.4 | U | | 8.7 | U | | 8.9 | U | |
| alpha-bhc | 9.7 | U | | 9.8 | U | V | 9.4 | U | | 8.7 | U | | 8.9 | U | |
| alpha-chlordane | 97 | U | | 98 | U | V | 94 | U | V | 87 | U | | 89 | U | |
| aroclor-1016 | 97 | U | | 98 | U | V | 94 | U | | 87 | U | | 89 | U | |
| aroclor-1221 | 97 | U | | 98 | U | V | 94 | U | V | 87 | U | | 89 | U | |
| aroclor-1232 | 97 | U | | 98 | U | V | 94 | U | V | 87 | U | | 89 | U | |
| aroclor-1242 | 97 | U | | 98 | U | V | 94 | U | V | 87 | U | | 89 | U | |
| aroclor-1248 | 97 | U | | 98 | U | V | 94 | U | V | 87 | U | | 89 | U | |
| aroclor-1254 | 190 | U | | 200 | U | V | 190 | U | V | 170 | U | | 180 | U | |
| aroclor-1260 | 190 | U | | 200 | U | V | 190 | U | V | 170 | U | | 180 | U | |
| beta-bhc | 9.7 | U | | 9.8 | U | V | 9.4 | U | V | 8.7 | U | | 8.9 | U | |
| delta-bhc | 9.7 | U | | 9.8 | U | V | 9.4 | U | V | 8.7 | U | | 8.9 | U | |
| dieldrin | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| endosulfan I | 9.7 | U | | 9.8 | U | V | 9.4 | U | V | 8.7 | U | | 8.9 | U | |
| endosulfan II | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| endosulfan sulfate | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| endrin | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| endrin ketone | 19 | U | | 20 | U | V | 19 | U | V | 17 | U | | 18 | U | |
| gamma-bhc (lindane) | 9.7 | U | | 9.8 | U | V | 9.4 | U | V | 8.7 | U | | 8.9 | U | |
| gamma-chlordane | 97 | U | | 98 | U | V | 94 | U | V | 87 | U | | 89 | U | |
| heptachlor | 9.7 | U | | 9.8 | U | V | 9.4 | U | V | 8.7 | U | | 8.9 | U | |
| heptachlor epoxide | 9.7 | U | | 9.8 | U | V | 9.4 | U | V | 8.7 | U | | 8.9 | U | |
| methoxychlor | 97 | U | | 98 | U | V | 94 | U | V | 87 | U | | 89 | U | |
| toxaphene | 190 | U | | 200 | U | V | 190 | U | V | 170 | U | | 180 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021901822 (REAL)<br>Depth: 18.30 - 22.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021902227 (REAL)<br>Depth: 22.70 - 28.40 '<br>Date: 06/25/90 | | Location: B302290 (COL)<br>Sample: B3022900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900408 (REAL)<br>Depth: 4.00 - 8.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900814 (REAL)<br>Depth: 8.00 - 14.50 '<br>Date: 06/26/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| 4,4'-dde | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| 4,4'-ddt | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| aldrin | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| alpha-bhc | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| alpha-chlordane | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| aroclor-1016 | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| aroclor-1221 | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| aroclor-1232 | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| aroclor-1242 | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| aroclor-1248 | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| aroclor-1254 | 180 | U | 180 | U | 170 | U | 180 | U | 170 | U |
| aroclor-1260 | 180 | U | 180 | U | 170 | U | 180 | U | 170 | U |
| beta-bhc | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| delta-bhc | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| dieldrin | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| endosulfan I | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| endosulfan II | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| endosulfan sulfate | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| endrin | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| endrin ketone | 18 | U | 18 | U | 17 | U | 18 | U | 17 | U |
| gamma-bhc (lindane) | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| gamma-chlordane | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| heptachlor | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| heptachlor epoxide | 9.0 | U | 8.9 | U | 8.4 | U | 8.8 | U | 8.7 | U |
| methoxychlor | 90 | U | 89 | U | 84 | U | 88 | U | 87 | U |
| toxaphene | 180 | U | 180 | U | 170 | U | 180 | U | 170 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B302990 (COL)<br>Sample: B3029900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/06/90 | | Location: B303090 (COL)<br>Sample: B3030900004 (REAL)<br>Depth: 0.00 - 4.20 '<br>Date: 07/06/90 | | Location: B303190 (COL)<br>Sample: B3031900005 (REAL)<br>Depth: 0.00 - 5.00 '<br>Date: 07/09/90 | | Location: B303290 (COL)<br>Sample: B3032900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/10/90 | | Location: B303390 (COL)<br>Sample: B3033900008 (REAL)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| 4,4'-dde | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| 4,4'-ddt | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| aldrin | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| alpha-bhc | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| alpha-chlordane | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| aroclor-1016 | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| aroclor-1221 | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| aroclor-1232 | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| aroclor-1242 | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| aroclor-1248 | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| aroclor-1254 | 190 | U | 170 | U | 180 | U | 170 | U | 180 | U |
| aroclor-1260 | 190 | U | 170 | U | 180 | U | 170 | U | 180 | U |
| beta-bhc | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| delta-bhc | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| dieldrin | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| endosulfan I | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| endosulfan II | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| endosulfan sulfate | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| endrin | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| endrin ketone | 19 | U | 17 | U | 18 | U | 17 | U | 18 | U |
| gamma-bhc (lindane) | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| gamma-chlordane | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| heptachlor | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| heptachlor epoxide | 9.5 | U | 8.7 | U | 9.1 | U | 8.7 | U | 8.8 | U |
| methoxychlor | 95 | U | 87 | U | 91 | U | 87 | U | 88 | U |
| toxaphene | 190 | U | 170 | U | 180 | U | 170 | U | 180 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B303390 (COL)<br>Sample: B30339000008D (DUP)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | | Location: B303490 (COL)<br>Sample: B3034900008 (REAL)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303490 (COL)<br>Sample: B30349000008D (DUP)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000009 (REAL)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000009D (DUP)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| 4,4'-dde | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| 4,4'-ddt | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| aldrin | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| alpha-bhc | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| alpha-chlordane | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| aroclor-1016 | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| aroclor-1221 | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| aroclor-1232 | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| aroclor-1242 | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| aroclor-1248 | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| aroclor-1254 | 180 | U | 190 | U | 190 | U | 180 | U | 180 | U |
| aroclor-1260 | 180 | U | 190 | U | 190 | U | 180 | U | 180 | U |
| beta-bhc | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| delta-bhc | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| dieldrin | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| endosulfan I | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| endosulfan II | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| endosulfan sulfate | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| endrin | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| endrin ketone | 18 | U | 19 | U | 19 | U | 18 | U | 18 | U |
| gamma-bhc (lindane) | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| gamma-chlordane | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| heptachlor | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| heptachlor epoxide | 8.8 | U | 9.5 | U | 9.4 | U | 8.9 | U | 9.0 | U |
| methoxychlor | 88 | U | 95 | U | 94 | U | 89 | U | 90 | U |
| toxaphene | 180 | U | 190 | U | 190 | U | 180 | U | 180 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B303690 (COL)<br>Sample: B3036900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303690 (COL)<br>Sample: B3036900006D (DUP)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303790 (COL)<br>Sample: B3037900004 (REAL)<br>Depth: 0.00 - 3.50 '<br>Date: 07/16/90 | | Location: B303890 (COL)<br>Sample: B3038900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303890 (COL)<br>Sample: B3038900610 (REAL)<br>Depth: 6.00 - 10.00 '<br>Date: 07/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| 4,4'-dde | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| 4,4'-ddt | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| aldrin | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| alpha-bhc | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| alpha-chlordane | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| aroclor-1016 | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| aroclor-1221 | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| aroclor-1232 | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| aroclor-1242 | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| aroclor-1248 | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| aroclor-1254 | 170 | U | 870 | U | 420 | U | 900 | U | 190 | U |
| aroclor-1260 | 170 | U | 870 | U | 420 | U | 900 | U | 190 | U |
| beta-bhc | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| delta-bhc | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| dieldrin | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| endosulfan I | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| endosulfan II | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| endosulfan sulfate | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| endrin | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| endrin ketone | 17 | U | 87 | U | 42 | U | 90 | U | 19 | U |
| gamma-bhc (lindane) | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| gamma-chlordane | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| heptachlor | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| heptachlor epoxide | 8.7 | U | 44 | U | 21 | U | 45 | U | 9.7 | U |
| methoxychlor | 87 | U | 440 | U | 210 | U | 450 | U | 97 | U |
| toxaphene | 170 | U | 870 | U | 420 | U | 900 | U | 190 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualiffiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-c

## Phase III Subsurface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: B303990 (COL)<br>Sample: B3039900004 (REAL)<br>Depth: 0.00 - 3.70 '<br>Date: 07/17/90 | | Location: B304090 (COL)<br>Sample: B3040900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | | Location: B304190 (COL)<br>Sample: B3041900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | | Location: B304290 (COL)<br>Sample: B3042900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/19/90 | | Location: ()<br>Sample: ()<br>Depth: ,<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 18 | U | 23 | U | 17 | U | 17 | U | | |
| 4,4'-dde | 18 | U | 23 | U | 17 | U | 17 | U | | |
| 4,4'-ddt | 18 | U | 23 | U | 17 | U | 17 | U | | |
| aldrin | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| alpha-bhc | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| alpha-chlordane | 89 | U | 110 | U | 85 | U | 87 | U | | |
| aroclor-1016 | 89 | U | 110 | U | 85 | U | 87 | U | | |
| aroclor-1221 | 89 | U | 110 | U | 85 | U | 87 | U | | |
| aroclor-1232 | 89 | U | 110 | U | 85 | U | 87 | U | | |
| aroclor-1242 | 89 | U | 110 | U | 85 | U | 87 | U | | |
| aroclor-1248 | 89 | U | 110 | U | 85 | U | 87 | U | | |
| aroclor-1254 | 180 | U | 230 | U | 170 | U | 170 | U | | |
| aroclor-1260 | 180 | U | 230 | U | 170 | U | 170 | U | | |
| beta-bhc | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| delta-bhc | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| dieldrin | 18 | U | 23 | U | 17 | U | 17 | U | | |
| endosulfan I | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| endosulfan II | 18 | U | 23 | U | 17 | U | 17 | U | | |
| endosulfan sulfate | 18 | U | 23 | U | 17 | U | 17 | U | | |
| endrin | 18 | U | 23 | U | 17 | U | 17 | U | | |
| endrin ketone | 18 | U | 23 | U | 17 | U | 17 | U | | |
| gamma-bhc (lindane) | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| gamma-chlordane | 89 | U | 110 | U | 85 | U | 87 | U | | |
| heptachlor | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| heptachlor epoxide | 8.9 | U | 11 | U | 8.5 | U | 8.7 | U | | |
| methoxychlor | 89 | U | 110 | U | 85 | U | 87 | U | | |
| toxaphene | 180 | U | 230 | U | 170 | U | 170 | U | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg)

| ANALYTE | Location: 0974 (COL)<br>Sample: BP00029IT (REAL)<br>Depth: 0.00 - 20.0 '<br>Date: 05/07/92 | | | Location: 1074 (COL)<br>Sample: BP00030IT (REAL)<br>Depth: 0.00 - 12.0 '<br>Date: 05/07/92 | | | Location: 30091 (VFA)<br>Sample: BH00001EBUI (REAL)<br>Depth: 0.5 - 6.0 '<br>Date: 08/05/91 | | | Location: 30091 (WCS)<br>Sample: BH00002EBUI (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/05/91 | | | Location: 30091 (WCS)<br>Sample: BH00003EBUI (REAL)<br>Depth: 11.9 - 13.9 '<br>Date: 08/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20300 | | V | 30000 | | V | 3040.00 | * | JA | 6850.00 | * | JA | 8450.00 | * | JA |
| Antimony | 10.8 | U | V | 10.7 | U | V | 10.20 | BN | JA | 24.40 | N | JA | 19.10 | N | JA |
| Arsenic | 4.8 | | JA | 6.2 | | JA | 3.20 | N | JA | 4.80 | N | JA | 5.60 | N | JA |
| Barium | 158 | | V | 277 | | V | 46.50 | | V | 102.00 | | V | 285.00 | | V |
| Beryllium | .65 | B | V | 1.1 | B | V | 0.33 | B | JA | 0.93 | B | JA | 0.61 | B | JA |
| Cadmium | .77 | U | V | .77 | U | R | 0.78 | B | JA | 2.10 | | JA | 1.60 | | JA |
| Calcium | 6140 | | V | 7590 | | V | 1170.00 | | V | 11200.00 | | V | 12900.00 | | V |
| Cesium | 2.8 | B | JA | 2.1 | B | JA | 6.4 | U | JA | 6.9 | U | JA | 6.9 | U | JA |
| Chromium | 49.5 | | V | 39 | | V | 13.90 | | V | 12.60 | | V | 11.50 | | V |
| Cobalt | 9.3 | B | V | 13.2 | | JA | 5.70 | B | V | 9.70 | B | V | 5.50 | B | V |
| Copper | 21.4 | | V | 19.3 | | V | 7.50 | | JA | 20.80 | | JA | 18.80 | | JA |
| Iron | 23700 | | V | 28100 | | V | 10100.00 | | V | 23400.00 | | V | 15500.00 | | V |
| Lead | 15.4 | | V | 3.4 | | V | 7.80 | * | JA | 17.90 | S* | JA | 18.40 | S* | JA |
| Lithium | 18.8 | B | JA | 22.5 | B | JA | 2.60 | B | JA | 7.90 | B | JA | 7.80 | B | JA |
| Magnesium | 4710 | | V | 6560 | | V | 622.00 | B | V | 6720.00 | | V | 7030.00 | | V |
| Manganese | 275 | | V | 426 | | V | 220.00 | | V | 216.00 | | V | 138.00 | | V |
| Mercury | .07 | B | V | .06 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| Molybdenum | 4.2 | B | JA | 1.8 | U | JA | 1.80 | B | JA | 3.10 | B | JA | 2.50 | B | JA |
| Nickel | 14.3 | | JA | 21.6 | | JA | 6.10 | B | V | 23.70 | | V | 13.80 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2690 | | V | 3710 | | V | 662.00 | BE | JA | 1350.00 | E | JA | 1420.00 | E | JA |
| Selenium | .51 | U | R | .51 | U | R | 0.21 | BN | JA | 1.80 | N | JA | 1.40 | N | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 1.3 | U | V | 1.3 | U | V | 0.43 | U | V | 0.46 | U | V | 0.46 | U | V |
| Sodium | 413 | B | V | 573 | B | V | 58.40 | B | V | 401.00 | B | V | 362.00 | B | V |
| Strontium | 58.6 | | JA | 71 | | JA | 12.70 | B | JA | 76.60 | | JA | 99.50 | | JA |
| Thallium | .28 | B | V | .25 | U | V | 0.43 | U | V | 0.46 | UW | V | 0.47 | UW | V |
| Tin | 49.7 | B | JA | 58.1 | | JA | 6.80 | B | JA | 29.10 | B | JA | 24.50 | B | JA |
| Vanadium | 53 | | V | 68.2 | | V | 13.30 | | V | 23.40 | | V | 22.20 | | V |
| Zinc | 64.3 | | JA | 74.6 | | JA | 23.20 | E | JA | 79.30 | E | JA | 52.00 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 30191 (COL)<br>Sample: BH00004EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/07/91 | | | Location: 30191 (COL)<br>Sample: BH00005EBU1 (REAL)<br>Depth: 6.0 - 12.00 '<br>Date: 08/07/91 | | | Location: 30191 (WCS)<br>Sample: BH00006EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/07/91 | | | Location: 30191 (WCS)<br>Sample: BH00007EBU1 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 08/07/91 | | | Location: 30291 (COL)<br>Sample: BH00008EBU1 (REAL)<br>Depth: 0.0 - 5.9 '<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 16500.00 | * | JA | 8620.00 | * | JA | 9240.00 | * | JA | 4230.00 | * | JA | 16800.00 | | V |
| Antimony | 15.40 | N | JA | 15.70 | N | JA | 8.70 | BN | JA | 5.10 | BN | JA | 15.80 | N | JA |
| Arsenic | 4.40 | N | JA | 2.80 | N | JA | 2.30 | N | JA | 3.50 | N | JA | 4.20 | | V |
| Barium | 186.00 | | V | 231.00 | | V | 85.20 | | V | 45.20 | B | V | 231.00 | | V |
| Beryllium | 1.10 | B | JA | 0.51 | B | JA | 0.77 | B | JA | 0.59 | B | JA | 1.10 | B | JA |
| Cadmium | 1.70 | | JA | 1.30 | | JA | 0.70 | B | JA | 0.38 | B | JA | 0.23 | U | V |
| Calcium | 6920.00 | | V | 2930.00 | | V | 4970.00 | | V | 4180.00 | | V | 11300.00 | | V |
| Cesium | 7.0 | U | JA | 7.0 | U | JA | 7.1 | U | JA | 6.9 | U | JA | 6.90 | U | JA |
| Chromium | 19.20 | | V | 32.40 | | V | 12.70 | | V | 4.70 | | JA | 19.20 | * | JA |
| Cobalt | 9.50 | B | V | 7.40 | B | V | 4.20 | B | V | 2.40 | B | JA | 9.20 | B | V |
| Copper | 16.50 | | JA | 12.20 | | JA | 23.30 | | V | 11.90 | | JA | 24.30 | | V |
| Iron | 19300.00 | | V | 16600.00 | | V | 7190.00 | | V | 1980.00 | | V | 21500.00 | E | JA |
| Lead | 15.10 | * | JA | 7.90 | * | JA | 14.20 | * | JA | 15.00 | * | JA | 16.30 | N* | JA |
| Lithium | 14.20 | B | JA | 8.20 | B | JA | 6.70 | B | JA | 3.30 | B | JA | 15.40 | B | JA |
| Magnesium | 4250.00 | | V | 2550.00 | | V | 2510.00 | | V | 1500.00 | | V | 4210.00 | | V |
| Manganese | 471.00 | | V | 282.00 | | V | 50.00 | | V | 33.00 | | V | 355.00 | E | JA |
| Mercury | 0.11 | U | V | 0.11 | U | V | 0.11 | U | V | 0.11 | U | V | 0.11 | U | V |
| Molybdenum | 2.40 | B | JA | 2.40 | B | JA | 1.20 | B | JA | 0.69 | U | JA | 1.10 | B | JA |
| Nickel | 17.60 | | V | 11.50 | | V | 7.30 | B | V | 5.30 | B | V | 17.00 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2900.00 | E | JA | 1710.00 | E | JA | 1080.00 | BE | JA | 504.00 | BE | JA | 2450.00 | | V |
| Selenium | 0.23 | UN | JA | 0.23 | UN | JA | 0.23 | UN | JA | 0.23 | BN | JA | 0.45 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.47 | U | V | 0.46 | U | V | 0.47 | U | V | 0.46 | U | V | 0.46 | U | JA |
| Sodium | 285.00 | B | V | 260.00 | B | V | 264.00 | B | V | 206.00 | B | V | 617.00 | B | V |
| Strontium | 44.00 | B | JA | 35.50 | B | JA | 85.40 | | JA | 61.90 | | JA | 57.40 | | JA |
| Thallium | 0.46 | UW | V | 0.46 | U | V | 0.46 | UW | V | 0.47 | UW | V | 0.45 | U | V |
| Tin | 24.60 | B | JA | 19.30 | B | JA | 15.90 | B | JA | 6.50 | B | JA | 3.20 | U | JA |
| Vanadium | 37.00 | | V | 26.50 | | V | 23.40 | | V | 12.40 | | V | 39.60 | | V |
| Zinc | 57.30 | E | JA | 44.70 | E | JA | 41.30 | E | JA | 23.40 | E | JA | 58.80 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 30291 (COL)<br>Sample: BH00008EBU1D (REAL)<br>Depth: 0.0 - 5.9 '<br>Date: 08/08/91 | | | Location: 30291 (COL)<br>Sample: BH00009EBU1 (REAL)<br>Depth: 9.7 - 10.0 '<br>Date: 08/08/91 | | | Location: 30291 (WCS)<br>Sample: BH00010EBU1 (REAL)<br>Depth: 14.4 - 14.1 '<br>Date: 08/08/91 | | | Location: 30391 (COL)<br>Sample: BH00012EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00013EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 22900.00 | | V | 15700.00 | | V | 10300.00 | * | JA | 22800.00 | | V | 9230.00 | | V |
| Antimony | 17.70 | N | JA | 13.90 | BN | JA | 11.20 | BN | JA | 15.60 | N | JA | 9.80 | BN | JA |
| Arsenic | 4.30 | | V | 5.70 | | V | 3.30 | N | JA | 4.50 | | V | 2.30 | | V |
| Barium | 193.00 | | V | 200.00 | | V | 158.00 | | V | 238.00 | | V | 836.00 | | V |
| Beryllium | 1.20 | | JA | 0.99 | B | JA | 0.93 | B | JA | 1.30 | | JA | 0.90 | B | JA |
| Cadmium | 0.32 | B | JA | 0.24 | U | V | 0.78 | B | JA | 0.29 | B | JA | 0.23 | U | V |
| Calcium | 17300.00 | | V | 36100.00 | | V | 40500.00 | | V | 11400.00 | | V | 34100.00 | | V |
| Cesium | 10.80 | B | JA | 7.23 | U | JA | 7.3 | U | JA | 11.90 | B | JA | 18.70 | B | JA |
| Chromium | 25.80 | * | JA | 18.40 | * | JA | 13.50 | | V | 23.50 | * | JA | 11.80 | * | JA |
| Cobalt | 10.50 | B | V | 6.30 | B | V | 5.00 | B | V | 8.50 | B | V | 4.80 | B | V |
| Copper | 22.30 | | V | 18.10 | | JA | 10.00 | | JA | 20.40 | | JA | 17.00 | | JA |
| Iron | 22100.00 | E | JA | 16800.00 | E | JA | 6640.00 | | V | 21300.00 | E | JA | 10300.00 | E | JA |
| Lead | 15.90 | N* | JA | 9.30 | N* | JA | 13.90 | S* | JA | 17.10 | N* | JA | 17.10 | N* | JA |
| Lithium | 19.10 | B | JA | 17.70 | B | JA | 11.80 | B | JA | 19.50 | B | JA | 11.90 | B | JA |
| Magnesium | 5530.00 | | V | 4270.00 | | V | 3250.00 | | V | 5320.00 | | V | 3940.00 | | V |
| Manganese | 388.00 | E | JA | 229.00 | E | JA | 86.80 | | V | 239.00 | E | JA | 107.00 | E | JA |
| Mercury | 0.11 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.15 | | V |
| Molybdenum | 1.20 | B | JA | 1.20 | B | JA | 1.30 | B | JA | 1.00 | B | JA | 0.70 | U | JA |
| Nickel | 19.40 | | V | 13.60 | | V | 7.80 | B | V | 20.90 | | V | 9.80 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2800.00 | | V | 1890.00 | | V | 1020.00 | BE | JA | 2240.00 | | V | 980.00 | B | V |
| Selenium | 0.45 | U | V | 0.48 | U | V | 0.23 | UN | JA | 0.47 | U | V | 0.45 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.43 | U | JA | 0.48 | U | JA | 0.48 | U | V | 0.48 | U | JA | 0.47 | U | JA |
| Sodium | 993.00 | B | V | 259.00 | B | V | 323.00 | B | V | 272.00 | B | V | 480.00 | B | V |
| Strontium | 63.20 | | JA | 85.50 | | JA | 158.00 | | JA | 84.70 | | JA | 145.00 | | JA |
| Thallium | 0.45 | U | V | 0.48 | U | V | 0.47 | UW | JA | 0.47 | U | | 0.45 | U | V |
| Tin | 3.00 | U | JA | 3.40 | U | JA | 16.70 | B | JA | 3.30 | U | JA | 3.30 | U | JA |
| Vanadium | 48.40 | | V | 36.50 | | V | 24.90 | | V | 47.40 | | V | 22.10 | | V |
| Zinc | 64.90 | E* | JA | 40.50 | E* | JA | 35.50 | E | JA | 59.20 | E* | JA | 34.40 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) *and* > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 30391 (COL)<br>Sample: BH00014EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00015EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 08/09/91 | | | Location: 30491 (COL)<br>Sample: BH00041EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/13/91 | | | Location: 30491 (WCS)<br>Sample: BH00043EBU1 (REAL)<br>Depth: 30.0 - 32.0 '<br>Date: 08/13/91 | | | Location: 30591 (COL)<br>Sample: BH00044EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20700.00 | | V | 3800.00 | | V | 3150.00 | | V | 5720.00 | | V | 21300.00 | | V |
| Antimony | 16.80 | N | JA | 5.60 | BN | JA | 2.60 | BN | JA | 5.00 | BN | JA | 17.20 | N | JA |
| Arsenic | 4.30 | | V | 2.10 | B | V | 2.80 | | V | 3.20 | | V | 4.30 | | V |
| Barium | 156.00 | | V | 46.70 | B | V | 44.50 | B | V | 90.00 | | V | 184.00 | | V |
| Beryllium | 1.20 | | JA | 0.48 | B | JA | 0.28 | B | JA | 0.66 | B | JA | 1.20 | B | JA |
| Cadmium | 0.23 | U | V | 0.24 | U | V | 0.25 | U | V | 0.25 | U | V | 0.24 | U | JA |
| Calcium | 20900.00 | | V | 25200.00 | | V | 1810.00 | | V | 4830.00 | | V | 33500.00 | | |
| Cesium | 16.30 | B | JA | 14.60 | B | JA | 22.70 | B | JA | 22.50 | B | JA | 19.00 | B | JA |
| Chromium | 23.10 | * | JA | 12.70 | * | JA | 14.10 | * | JA | 7.80 | | V | 26.00 | | V |
| Cobalt | 6.10 | B | V | 5.40 | B | V | 3.30 | B | V | 3.00 | B | V | 9.80 | B | V |
| Copper | 18.70 | | JA | 7.20 | | JA | 8.00 | | JA | 25.40 | | V | 22.00 | | V |
| Iron | 20400.00 | E | JA | 5760.00 | E | JA | 6090.00 | E | JA | 4930.00 | * | JA | 20300.00 | * | JA |
| Lead | 14.10 | N* | JA | 6.50 | N* | JA | 7.70 | N* | JA | 20.50 | S | V | 15.30 | | V |
| Lithium | 25.30 | | JA | 3.30 | B | JA | 2.40 | B | JA | 3.10 | B | JA | 18.50 | B | JA |
| Magnesium | 5780.00 | | V | 1540.00 | | V | 824.00 | B | V | 2060.00 | | V | 4820.00 | | V |
| Manganese | 176.00 | E | JA | 184.00 | E | JA | 213.00 | E | JA | 31.50 | * | JA | 259.00 | * | JA |
| Mercury | 0.11 | U | V | 0.12 | U | V | 0.11 | U | V | 0.14 | | V | 0.10 | U | V |
| Molybdenum | 0.97 | B | JA | 0.73 | U | JA | 1.90 | B | JA | 0.75 | U | JA | 1.10 | B | JA |
| Nickel | 15.70 | | V | 6.60 | B | JA | 6.90 | B | JA | 7.30 | B | V | 20.00 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2150.00 | | V | 527.00 | B | V | 457.00 | B | V | 646.00 | B | V | 1980.00 | | V |
| Selenium | 0.48 | U | V | 0.47 | U | V | 0.51 | U | V | 0.25 | B | V | 0.24 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.47 | U | JA | 0.49 | U | JA | 0.51 | U | V | 0.50 | U | V | 0.66 | B | V |
| Sodium | 410.00 | B | V | 146.00 | B | V | 87.80 | B | V | 198.00 | B | V | 359.00 | B | V |
| Strontium | 95.80 | | JA | 49.80 | | JA | 24.90 | B | JA | 91.60 | | JA | 91.80 | | JA |
| Thallium | 0.48 | U | V | 0.47 | U | V | 0.51 | U | V | 0.49 | U | V | 0.48 | U | V |
| Tin | 3.30 | U | JA | 3.40 | U | JA | 3.50 | U | JA | 3.50 | U | JA | 3.30 | U | JA |
| Vanadium | 41.40 | | V | 11.10 | B | V | 11.70 | B | V | 16.50 | | V | 52.60 | | V |
| Zinc | 53.70 | E* | JA | 18.10 | E* | JA | 20.80 | E* | JA | 42.10 | E* | JA | 57.60 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
M-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 30591 (WCS)<br>Sample: BH00047EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/14/91 | | | Location: 30591 (WCS)<br>Sample: BH00049EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/14/91 | | | Location: 30691 (VFA)<br>Sample: BH00052EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/15/91 | | | Location: 30691 (WCS)<br>Sample: BH00055EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/15/91 | | | Location: 30691 (WCS)<br>Sample: BH00056EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 13000.00 | | V | 11000.00 | | V | 13900.00 | | V | 6300.00 | | V | 7740.00 | | V |
| Antimony | 9.50 | BN | JA | 9.20 | BN | JA | 13.30 | BN | JA | 6.40 | BN | JA | 5.40 | BN | JA |
| Arsenic | 2.90 | | V | 1.90 | B | JA | 3.80 | | V | 2.20 | | JA | 2.50 | | V |
| Barium | 128.00 | | V | 104.00 | | V | 143.00 | | V | 40.30 | B | V | 47.80 | | V |
| Beryllium | 0.82 | B | JA | 0.85 | B | JA | 0.89 | B | JA | 0.48 | B | JA | 0.53 | B | JA |
| Cadmium | 0.24 | U | V | 0.24 | U | V | 0.22 | U | V | 0.22 | U | V | 0.23 | U | V |
| Calcium | 13400.00 | | V | 22900.00 | | V | 14200.00 | | V | 12800.00 | | V | 9160.00 | | V |
| Cesium | 21.40 | B | JA | 21.30 | B | JA | 20.10 | B | JA | 17.90 | B | JA | 20.70 | B | JA |
| Chromium | 14.70 | | V | 13.40 | | V | 17.60 | | V | 7.20 | | V | 8.70 | | V |
| Cobalt | 5.70 | B | V | 4.80 | B | V | 7.10 | B | V | 1.90 | B | V | 3.00 | B | V |
| Copper | 24.20 | | V | 18.30 | | V | 17.70 | | V | 8.40 | | JA | 10.10 | | JA |
| Iron | 9700.00 | * | JA | 7500.00 | * | JA | 15000.00 | * | JA | 5480.00 | * | JA | 6350.00 | * | JA |
| Lead | 19.90 | | V | 15.30 | | V | 17.70 | S | V | 9.70 | | V | 10.60 | | V |
| Lithium | 7.80 | B | JA | 7.60 | B | JA | 12.70 | B | JA | 6.20 | B | JA | 8.10 | B | JA |
| Magnesium | 3140.00 | | V | 2700.00 | | V | 3200.00 | | V | 2010.00 | | V | 2240.00 | | V |
| Manganese | 45.30 | * | JA | 36.00 | * | JA | 178.00 | * | JA | 44.50 | * | JA | 48.10 | * | JA |
| Mercury | 0.12 | U | V | 0.10 | U | V | 0.12 | U | V | 0.10 | U | V | 0.11 | U | V |
| Molybdenum | 0.71 | U | JA | 0.71 | U | JA | 0.72 | B | JA | 0.67 | U | JA | 0.69 | U | JA |
| Nickel | 13.00 | | V | 13.10 | | V | 14.50 | | V | 5.20 | B | V | 7.20 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1210.00 | | V | 945.00 | B | V | 1680.00 | | V | 627.00 | B | V | 797.00 | B | V |
| Selenium | 0.24 | U | V | 0.23 | U | V | 0.44 | B | V | 0.22 | U | V | 0.23 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.48 | U | V | 0.55 | B | V | 0.52 | B | V | 0.45 | U | V | 0.46 | U | V |
| Sodium | 326.00 | B | V | 286.00 | B | V | 222.00 | B | V | 336.00 | B | V | 348.00 | B | V |
| Strontium | 91.50 | | JA | 97.60 | | JA | 73.70 | | JA | 66.50 | | JA | 59.70 | | JA |
| Thallium | 0.49 | U | V | 0.46 | U | V | 0.44 | UW | V | 0.44 | U | V | 0.45 | U | V |
| Tin | 3.30 | U | JA | 3.30 | U | JA | 3.10 | U | JA | 3.10 | U | JA | 3.20 | U | JA |
| Vanadium | 29.70 | | V | 27.50 | | V | 30.90 | | V | 13.60 | | V | 16.20 | | V |
| Zinc | 58.60 | E* | JA | 68.80 | E* | JA | 53.10 | E* | JA | 30.40 | E* | JA | 37.50 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 30791 (VFA)<br>Sample: BH00060EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00063EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00064EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/16/91 | | | Location: 30791 (WCS)<br>Sample: BH00065EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/16/91 | | | Location: 30891 (WCS)<br>Sample: BH00070EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9100 | | JA | 5230.00 | | V | 7290.00 | | V | 5740.00 | | V | 9630 | | JA |
| Antimony | 15.1 | | V | 13.90 | N | JA | 12.50 | BN | JA | 4.50 | BN | JA | 18.4 | | V |
| Arsenic | 2.8 | | JA | 2.60 | | V | 2.20 | | JA | 2.60 | | V | 3.9 | | JA |
| Barium | 152 | | V | 280.00 | | V | 83.10 | | V | 57.90 | | V | 249 | | V |
| Beryllium | 0.81 | | JA | 0.64 | B | JA | 0.72 | B | JA | 0.60 | B | JA | 0.90 | | JA |
| Cadmium | 0.23 | U | V | 0.22 | U | JA | 0.22 | U | JA | 0.24 | U | V | 0.23 | U | V |
| Calcium | 6370 | | V | 9560.00 | | V | 44100.00 | | V | 3800.00 | | V | 21500 | | V |
| Cesium | 29.6 | | JA | 19.60 | B | JA | 24.10 | B | JA | 28.60 | B | JA | 13.9 | | JA |
| Chromium | 11.5 | | V | 6.20 | | JA | 11.40 | | V | 6.50 | | JA | 13.4 | | V |
| Cobalt | 8.4 | | V | 5.60 | B | V | 3.80 | B | V | 2.10 | B | V | 9.9 | | V |
| Copper | 24.6 | | V | 13.60 | | JA | 11.20 | | JA | 17.60 | | JA | 23.3 | | V |
| Iron | 16300 | | V | 13500.00 | * | JA | 10300.00 | * | JA | 2900.00 | * | JA | 16400 | | V |
| Lead | 14.5 | | JA | 13.10 | S | V | 11.70 | | V | 22.00 | S | V | 12.5 | | JA |
| Lithium | 9.0 | | JA | 5.40 | B | JA | 9.20 | B | JA | 4.40 | B | JA | 9.3 | | JA |
| Magnesium | 2570 | | V | 1640.00 | | V | 2780.00 | | V | 2170.00 | | V | 3170 | | V |
| Manganese | 454 | | V | 70.70 | * | JA | 110.00 | * | JA | 28.80 | * | JA | 311 | | V |
| Mercury | 0.11 | U | V | 0.11 | U | V | 0.18 | | V | 0.13 | | V | 0.12 | U | V |
| Molybdenum | 1.0 | | JA | 1.10 | B | JA | 0.68 | B | JA | 0.71 | U | JA | 1.4 | | JA |
| Nickel | 19.8 | | V | 20.30 | | V | 10.80 | | V | 5.10 | B | V | 23.0 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1150 | | V | 488.00 | B | V | 1000.00 | B | V | 828.00 | B | V | 1040 | | V |
| Selenium | 0.24 | | V | 0.22 | U | V | 0.22 | B | V | 0.24 | B | V | 0.23 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.45 | U | V | 0.44 | U | V | 0.44 | U | V | 0.48 | U | V | 0.70 | | V |
| Sodium | 209 | | JA | 340.00 | B | V | 202.00 | B | V | 623.00 | B | V | 226 | | JA |
| Strontium | 68.0 | | JA | 75.80 | | JA | 90.60 | | JA | 93.40 | | JA | 110 | | JA |
| Thallium | 0.47 | U | V | 0.44 | U | V | 0.43 | U | V | 0.48 | U | V | 0.46 | U | V |
| Tin | 3.2 | U | JA | 3.10 | U | JA | 3.10 | U | JA | 3.30 | U | JA | 3.2 | U | JA |
| Vanadium | 23.0 | | JA | 14.90 | | V | 20.80 | | V | 15.30 | | V | 23.9 | | JA |
| Zinc | 60.9 | | JA | 54.50 | E* | JA | 25.30 | E* | JA | 20.70 | E* | JA | 59.2 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 30891 (WCS)<br>Sample: BH00073EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00075EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/19/91 | | | Location: 30891 (WCS)<br>Sample: BH00078EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/19/91 | | | Location: 31091 (COL)<br>Sample: BH00080EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00084EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9560 | | JA | 7840 | | JA | 4420 | | JA | 14800 | | JA | 20700 | | JA |
| Antimony | 14.8 | | V | 14.1 | | V | 5.4 | | JA | 25.80 | N | | 26.70 | N | |
| Arsenic | 7.9 | | JA | 4.3 | | JA | 2.1 | | JA | 4.5 | | JA | 4.4 | | JA |
| Barium | 208 | | V | 107 | | V | 69.3 | | V | 273 | | JA | 210 | | JA |
| Beryllium | 0.84 | | JA | 0.79 | | JA | 0.72 | | JA | 1.80 | | | 1.90 | | |
| Cadmium | 0.30 | | V | 0.24 | U | V | 0.24 | U | V | 0.83 | B | | 0.71 | B | |
| Calcium | 29500 | | V | 5270 | | V | 3830 | | V | 9360 | | JA | 5550 | | JA |
| Cesium | 16.4 | | JA | 21.5 | | JA | 28.9 | | JA | 29.80 | B | | 27.80 | B | |
| Chromium | 13.3 | | V | 10.3 | | V | 5.6 | | JA | 20.6 | | JA | 27.0 | | JA |
| Cobalt | 8.1 | | V | 7.0 | | V | 2.9 | | V | 12.3 | | JA | 9.70 | B | |
| Copper | 20.2 | | V | 21.7 | | V | 18.3 | | V | 20.7 | | JA | 20.90 | | |
| Iron | 13300 | | V | 14000 | | V | 3440 | | V | 21500 | | JA | 24800 | | JA |
| Lead | 16.7 | | JA | 17.9 | | JA | 19.9 | | JA | 13.9 | | JA | 13.8 | | JA |
| Lithium | 9.6 | | JA | 8.6 | | JA | 4.1 | | JA | 16.7 | | JA | 21.2 | | JA |
| Magnesium | 3150 | | V | 2920 | | V | 1760 | | V | 5410 | | JA | 6150 | | JA |
| Manganese | 219 | | V | 204 | | V | 16.9 | | V | 535 | | JA | 408 | | JA |
| Mercury | 0.10 | U | V | 0.12 | U | V | 0.12 | | V | 0.11 | U | JA | 0.10 | U | JA |
| Molybdenum | 0.96 | | JA | 1.2 | | JA | 0.72 | U | JA | 3.20 | B | | 3.10 | B | |
| Nickel | 18.0 | | V | 17.5 | | V | 6.8 | | V | 23.9 | | JA | 21.4 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1230 | | V | 918 | | V | 594 | | V | 2340 | | JA | 3240 | | JA |
| Selenium | 0.24 | | V | 0.24 | U | V | 0.24 | U | V | 0.23 | | JA | 0.23 | U | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.56 | | V | 0.48 | U | V | 0.48 | U | V | 1.10 | B | | 0.68 | B | |
| Sodium | 222 | | JA | 267 | | JA | 401 | | JA | 477 | | JA | 226.00 | BE | |
| Strontium | 114 | | JA | 93.5 | | JA | 79.7 | | JA | 57.1 | | JA | 54.20 | | |
| Thallium | 0.48 | U | V | 0.48 | U | V | 0.47 | U | V | 0.45 | U | JA | 0.46 | | JA |
| Tin | 3.3 | U | JA | 3.4 | U | JA | 3.4 | U | JA | 3.2 | U | JA | 3.2 | U | R |
| Vanadium | 23.9 | | JA | 18.6 | | JA | 21.8 | | JA | 39.8 | | JA | 47.5 | | JA |
| Zinc | 50.7 | | JA | 66.2 | | JA | 41.8 | | JA | 51.2 | | JA | 58.9 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 31091 (COL)<br>Sample: BH00085EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00087EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/20/91 | | | Location: 31091 (COL)<br>Sample: BH00090EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 08/20/91 | | | Location: 31291 (WCS)<br>Sample: BH00091EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/21/91 | | | Location: 31291 (WCS)<br>Sample: BH00094EBU1 (DUP)<br>Depth: 24.0 - 30.0 '<br>Date: 08/21/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 15300 | | JA | 17500 | | JA | 16400 | | JA | 6110 | | V | 5950 | | V |
| Antimony | 23.20 | N | | 25.70 | N | | 24.80 | N | | 13.8 | | JA | 14.6 | | JA |
| Arsenic | 4.2 | | JA | 6.2 | | JA | 5.5 | | JA | 1.9 | | V | 1.9 | | V |
| Barium | 337 | | JA | 153 | | JA | 277 | | JA | 90.3 | | V | 76.9 | | V |
| Beryllium | 1.80 | | | 1.80 | | | 2.00 | | | 0.81 | | V | 0.82 | | V |
| Cadmium | 0.81 | B | | 0.71 | B | | 0.69 | B | | 0.23 | U | V | 0.23 | U | V |
| Calcium | 5160 | | JA | 5150 | | JA | 14000 | | JA | 5080 | | JA | 4530 | | JA |
| Cesium | 30.10 | B | | 26.10 | B | | 29.50 | B | | 23.1 | | JA | 23.1 | | JA |
| Chromium | 20.4 | | JA | 22.5 | | JA | 21.2 | | JA | 6.9 | | V | 7.8 | | V |
| Cobalt | 12.0 | | JA | 9.1 | | JA | 9.3 | | JA | 13.0 | | JA | 7.8 | | JA |
| Copper | 16.9 | | JA | 18.2 | | JA | 17.5 | | JA | 19.4 | | V | 20.4 | | V |
| Iron | 20300 | | JA | 23100 | | JA | 21000 | | JA | 19600 | | V | 20600 | | V |
| Lead | 14.2 | | JA | 15.0 | | JA | 14.3 | | JA | 13.9 | | V | 13.5 | | V |
| Lithium | 17.9 | | JA | 19.4 | | JA | 15.7 | | JA | 4.8 | | JA | 4.7 | | JA |
| Magnesium | 5130 | | JA | 5240 | | JA | 4390 | | JA | 1900 | | V | 1920 | | V |
| Manganese | 1320 | | JA | 207 | | JA | 247 | | JA | 260 | | V | 185 | | V |
| Mercury | 0.11 | U | JA | 0.11 | U | JA | 0.11 | U | JA | 0.18 | | V | 0.10 | U | V |
| Molybdenum | 3.60 | B | | 3.00 | B | | 3.10 | B | | 0.97 | | JA | 0.69 | U | JA |
| Nickel | 21.7 | | JA | 19.8 | | JA | 20.7 | | JA | 24.5 | | V | 23.7 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2480 | | JA | 2400 | | JA | 1970 | | JA | 801 | | JA | 765 | | JA |
| Selenium | 0.23 | U | JA | 0.24 | U | JA | 0.25 | U | JA | 0.23 | | V | 0.24 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 1.10 | B | | 0.87 | B | | 1.10 | B | | 0.46 | U | V | 0.46 | | JA |
| Sodium | 178 | | JA | 268 | | JA | 292 | | JA | 198 | | JA | 194 | | JA |
| Strontium | 52.2 | | JA | 55.0 | | JA | 77.7 | | JA | 75.6 | | JA | 72.6 | | JA |
| Thallium | 0.47 | U | JA | 0.48 | | JA | 0.50 | U | JA | 0.47 | U | V | 0.47 | | V |
| Tin | 3.2 | U | JA | 3.3 | U | JA | 3.4 | U | JA | 3.2 | U | JA | 3.2 | U | JA |
| Vanadium | 32.3 | | JA | 36.3 | | JA | 42.3 | | JA | 18.0 | | V | 20.2 | | V |
| Zinc | 57.7 | | JA | 50.0 | | JA | 46.8 | | JA | 57.9 | | V | 59.2 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 31291 (WCS)<br>Sample: BH00097EBU1 (REAL)<br>Depth: 30.0 - 36.0 '<br>Date: 08/22/91 | | | Location: 31591 (COL)<br>Sample: BH00100EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 08/23/91 | | | Location: 31591 (COL)<br>Sample: BH00103EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/23/91 | | Location: 31591 (COL)<br>Sample: BH00106EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/23/91 | | Location: 31591 (WCS)<br>Sample: BH00109EBU1 (REAL)<br>Depth: 12.0 - 16.30 '<br>Date: 08/23/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 7280 | | V | 12000 | | JA | 8990.00 | * | 8200.00 | * | 6770.00 | * |
| Antimony | 6.7 | | JA | 22.00 | N | | 20.60 | N | 19.80 | N | 27.40 | N |
| Arsenic | 2.8 | | V | 5.0 | | V | 2.50 | | 2.80 | | 2.50 | |
| Barium | 97.3 | | V | 185 | | V | 165.00 | * | 108.00 | * | 210.00 | * |
| Beryllium | 0.77 | | V | 1.70 | | | 1.70 | | 1.60 | | 1.90 | |
| Cadmium | 0.23 | U | V | 0.71 | B | | 0.59 | B | 0.54 | B | 0.71 | B |
| Calcium | 4150 | | JA | 26300 | | JA | 16500.00 | E | 11000.00 | E | 10600.00 | E |
| Cesium | 22.8 | | JA | 25.20 | B | | 26.00 | B | 28.10 | B | 29.60 | B |
| Chromium | 8.7 | | V | 15.4 | | V | 11.70 | | 10.90 | | 11.10 | |
| Cobalt | 8.1 | | JA | 7.10 | B | | 7.50 | B | 9.10 | B | 10.20 | B |
| Copper | 14.8 | | V | 12.2 | | JA | 11.40 | | 11.20 | | 23.40 | |
| Iron | 9310 | | V | 14100 | | JA | 15300.00 | E* | 13700.00 | E* | 23600.00 | E* |
| Lead | 19.4 | | V | 14.3 | | V | 12.40 | | 13.00 | | 18.10 | |
| Lithium | 5.9 | | JA | 9.20 | B | | 5.80 | B | 5.70 | B | 7.00 | B |
| Magnesium | 2140 | | V | 3580.00 | E | | 2680.00 | E | 2700.00 | E | 3180.00 | E |
| Manganese | 141 | | V | 124.00 | E* | | 75.00 | E* | 100.00 | E* | 176.00 | E* |
| Mercury | 0.12 | U | V | 0.10 | U | | 0.10 | U | 0.10 | U | 0.11 | U |
| Molybdenum | 0.68 | U | JA | 2.30 | B | | 2.80 | B | 2.30 | B | 3.20 | B |
| Nickel | 14.1 | | V | 15.10 | | | 16.30 | | 16.20 | | 24.70 | |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 852 | | JA | 995.00 | BE | | 788.00 | BE | 774.00 | BE | 881.00 | BE |
| Selenium | 0.23 | U | V | 0.23 | UN | | 0.23 | UN | 0.23 | UN | 0.25 | UN |
| Silicon | | | | | | | | | | | | |
| Silver | 0.46 | U | V | 1.10 | B | | 0.97 | B | 0.94 | B | 0.82 | B |
| Sodium | 242 | | JA | 366.00 | BE | | 362.00 | BE | 371.00 | BE | 526.00 | BE |
| Strontium | 90.3 | | JA | 74.50 | | | 64.60 | | 54.40 | | 89.10 | |
| Thallium | 0.46 | U | V | 0.45 | U | | 0.46 | U | 0.47 | U | 0.49 | U |
| Tin | 3.2 | U | JA | 3.20 | U | | 3.30 | U | 3.30 | U | 3.50 | U |
| Vanadium | 18.6 | | V | 25.60 | E | | 21.30 | E | 21.00 | E | 33.20 | E |
| Zinc | 38.4 | | V | 36.90 | E | | 41.80 | E | 34.20 | E | 99.20 | E |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 31691 (WCS)<br>Sample: 8H00112EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/26/91 | | | Location: 31691 (WCS)<br>Sample: 8H00113EBU1 (DUP)<br>Depth: 24.0 - 30.0 '<br>Date: 08/26/91 | | | Location: 31691 (WCS)<br>Sample: 8H00114EBU1 (REAL)<br>Depth: 30.0 - 32.0 '<br>Date: 08/26/91 | | | Location: 31891 (COL)<br>Sample: 8H00122EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: 8H00125EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/27/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 5120 | | V | 7030 | | V | 5700 | | V | 19400.00 | E | JA | 19400.00 | E | JA |
| Antimony | 9.8 | | JA | 6.8 | | JA | 4.0 | | JA | 13.50 | N | JA | 13.20 | BN | JA |
| Arsenic | 3.7 | | V | 2.8 | | V | 5.0 | | V | 3.40 | N | JA | 4.40 | N | JA |
| Barium | 138 | | V | 147 | | V | 66.9 | | V | 169.00 | EN* | JA | 182.00 | EN* | JA |
| Beryllium | 0.68 | | V | 0.73 | | V | 0.69 | | V | 1.00 | B | V | 1.10 | B | V |
| Cadmium | 0.24 | U | V | 0.23 | U | V | 0.25 | U | V | 0.23 | U | V | 0.23 | U | V |
| Calcium | 9160 | | JA | 8880 | | JA | 4520 | | JA | 6060.00 | E | JA | 10800.00 | E | JA |
| Cesium | 23.7 | | JA | 27.5 | | JA | 27.4 | | JA | 6.8 | U | JA | 6.9 | U | JA |
| Chromium | 8.7 | | V | 9.6 | | V | 6.4 | | V | 19.50 | * | V | 18.60 | * | V |
| Cobalt | 10.1 | | JA | 6.0 | | JA | 3.5 | | JA | 8.10 | B | V | 8.00 | B | V |
| Copper | 20.1 | | V | 13.5 | | JA | 27.0 | | V | 22.60 | | JA | 21.80 | | JA |
| Iron | 12300 | | V | 11100 | | V | 6240 | | V | 19700.00 | E* | JA | 20500.00 | E* | JA |
| Lead | 16.2 | | V | 14.5 | | V | 20.8 | | V | 13.60 | * | V | 12.80 | * | V |
| Lithium | 4.5 | | JA | 6.5 | | JA | 5.8 | | JA | 14.50 | B | JA | 14.50 | B | JA |
| Magnesium | 1960 | | V | 2340 | | V | 2230 | | V | 3490.00 | E | JA | 3630.00 | E | JA |
| Manganese | 155 | | V | 147 | | V | 27.4 | | V | 295.00 | EN* | JA | 300.00 | EN* | JA |
| Mercury | 0.10 | U | V | 0.12 | U | V | | | | 0.12 | U | V | 0.10 | U | V |
| Molybdenum | 1.2 | | JA | 0.70 | | JA | 0.75 | U | JA | 0.68 | U | JA | 0.70 | U | JA |
| Nickel | 16.5 | | V | 13.1 | | V | 11.8 | | V | 17.30 | | V | 17.30 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 624 | | JA | 758 | | JA | 695 | | JA | 2540.00 | | V | 2330.00 | | V |
| Selenium | 0.23 | | V | 0.23 | U | V | 0.25 | U | V | 0.23 | BN | JA | 0.23 | BN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.47 | U | JA | 0.46 | U | JA | 0.50 | U | JA | 0.45 | U | V | 0.47 | U | V |
| Sodium | 205 | | JA | 204 | | JA | 245 | | JA | 312.00 | BE | JA | 413.00 | BE | JA |
| Strontium | 109 | | JA | 105 | | JA | 84.7 | | JA | 46.30 | E | JA | 56.80 | E | JA |
| Thallium | 0.46 | U | V | 0.47 | U | V | 0.50 | U | V | 0.45 | U | V | 0.46 | U | V |
| Tin | 3.3 | U | JA | 3.2 | U | JA | 3.5 | U | JA | 3.20 | U | JA | 3.30 | U | JA |
| Vanadium | 19.4 | | V | 18.3 | | V | 20.8 | | V | 39.40 | | V | 39.60 | | V |
| Zinc | 60.2 | | V | 40.9 | | V | 60.9 | | V | 51.00 | E | JA | 51.50 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - *Arapahoe/Laramie Formation*; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 31891 (COL)<br>Sample: BH00128EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/27/91 | | | Location: 31891 (COL)<br>Sample: BH00131EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/27/91 | | | Location: 31891 (WCS)<br>Sample: BH00132EBU1 (REAL)<br>Depth: 18.0 - 21.0 '<br>Date: 08/27/91 | | | Location: 31991 (COL)<br>Sample: BH00137EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 08/28/91 | | | Location: 31991 (COL)<br>Sample: BH00140EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/28/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 17100.00 | E | JA | 13300.00 | E | JA | 6280.00 | E | JA | 10400.00 | E | JA | 10400.00 | E | JA |
| Antimony | 13.80 | BN | JA | 8.90 | BN | JA | 1.90 | UN | R | 8.10 | BN | JA | 7.40 | BN | JA |
| Arsenic | 5.30 | N | JA | 3.60 | SN | JA | 3.00 | N | JA | 5.00 | N | JA | 5.00 | N | JA |
| Barium | 319.00 | EN* | JA | 152.00 | EN* | JA | 91.30 | EN* | JA | 140.00 | EN* | JA | 126.00 | EN* | JA |
| Beryllium | 1.30 | | V | 0.95 | B | V | 0.61 | B | V | 0.85 | B | V | 0.86 | B | V |
| Cadmium | 0.25 | U | V | 0.24 | U | V | 0.23 | U | V | 0.21 | U | V | 0.22 | U | V |
| Calcium | 8800.00 | E | JA | 8500.00 | E | JA | 4340.00 | E | JA | 9060.00 | E | JA | 7510.00 | E | JA |
| Cesium | 17.50 | B | JA | 11.90 | B | JA | 7.0 | U | JA | 12.80 | B | JA | 24.40 | B | JA |
| Chromium | 18.00 | * | V | 12.10 | * | V | 4.70 | * | JA | 9.60 | * | JA | 10.20 | * | V |
| Cobalt | 8.20 | B | V | 9.20 | B | V | 6.40 | B | V | 5.10 | B | V | 6.00 | B | V |
| Copper | 22.40 | | JA | 15.40 | | JA | 9.20 | | JA | 15.30 | | JA | 16.90 | | JA |
| Iron | 21200.00 | E* | JA | 21200 | | JA | 6680.00 | E* | JA | 13400.00 | E* | JA | 13900.00 | E* | JA |
| Lead | 20.20 | * | V | 16.10 | * | V | 18.50 | * | V | 18.60 | * | V | 15.00 | * | V |
| Lithium | 12.00 | B | JA | 10.20 | B | JA | 3.70 | B | JA | 6.70 | B | JA | 7.10 | B | JA |
| Magnesium | 4000.00 | E | JA | 3300.00 | E | JA | 1600.00 | E | JA | 2170.00 | E | JA | 2220.00 | E | JA |
| Manganese | 274.00 | EN* | JA | 221.00 | EN* | JA | 133.00 | EN* | JA | 208.00 | EN* | JA | 212.00 | EN* | JA |
| Mercury | 0.11 | U | V | 0.10 | U | V | 0.11 | U | V | 0.11 | U | V | 0.11 | U | V |
| Molybdenum | 0.75 | U | JA | 0.72 | U | JA | 0.70 | U | JA | 0.64 | U | JA | 0.66 | U | JA |
| Nickel | 17.80 | | V | 15.10 | | V | 6.90 | B | V | 10.70 | | V | 11.60 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1640.00 | | V | 1350.00 | | V | 667.00 | B | V | 1290.00 | | V | 1770.00 | | V |
| Selenium | 0.25 | UN | JA | 0.24 | BN | JA | 0.23 | UN | JA | 0.22 | BN | JA | 0.43 | BN | JA |
| Silicon | 381 | | | 23.7 | | | | | | | | | | | |
| Silver | 0.50 | U | V | 0.48 | U | V | 0.47 | U | V | 0.43 | U | V | 0.44 | U | V |
| Sodium | 471.00 | BE | JA | 489.00 | BE | JA | 139.00 | BE | JA | 116.00 | BE | JA | 136.00 | BE | JA |
| Strontium | 61.70 | E | JA | 54.30 | E | JA | 65.80 | E | JA | 52.30 | E | JA | 47.50 | E | JA |
| Thallium | 0.50 | U | V | 0.49 | U | V | 0.46 | U | V | 0.43 | U | V | 0.43 | U | V |
| Tin | 3.50 | U | JA | 3.30 | U | JA | 3.30 | U | JA | 3.00 | U | JA | 3.10 | U | JA |
| Vanadium | 41.30 | | V | 25.50 | | V | 12.90 | | V | 25.70 | | V | 26.80 | | V |
| Zinc | 52.20 | E | JA | 46.50 | E | JA | 30.40 | E | JA | 40.90 | E | JA | 43.00 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 31991 (COL)<br>Sample: BH00143EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/28/91 | | | Location: 31991 (WCS)<br>Sample: BH00146EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/28/91 | | | Location: 32091 (COL)<br>Sample: BH00202EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/29/91 | | | Location: 32091 (COL)<br>Sample: BH00205EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/29/91 | | | Location: 32091 (COL)<br>Sample: BH00208EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/29/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 13800.00 | E | JA | 5540.00 | * | JA | 12600.00 | * | JA | 9200.00 | * | JA | 11100.00 | * | JA |
| Antimony | 12.40 | BN | JA | 13.80 | BN | JA | 13.70 | N | JA | 9.60 | BN | JA | 11.80 | BN | JA |
| Arsenic | 6.40 | N | JA | 2.10 | BN* | JA | 3.40 | N* | JA | 6.60 | N* | JA | 2.00 | BN* | JA |
| Barium | 133.00 | EN* | JA | 59.20 | * | V | 242.00 | * | V | 164.00 | * | V | 163.00 | * | V |
| Beryllium | 1.10 | B | V | 1.00 | B | V | 0.85 | B | V | 0.68 | B | V | 0.87 | B | V |
| Cadmium | 0.23 | U | V | 0.48 | U | V | 0.45 | U | V | 0.46 | U | V | 0.47 | U | V |
| Calcium | 8580.00 | E | JA | 5400.00 | | V | 7200.00 | | V | 2930.00 | | V | 3350.00 | | V |
| Cesium | 16.20 | B | JA | 3.4 | U | R | 3.4 | U | JA | 3.60 | U | JA | 3.6 | U | JA |
| Chromium | 18.90 | * | V | 6.60 | * | V | 19.00 | * | V | 13.70 | * | V | 17.10 | * | V |
| Cobalt | 9.60 | B | V | 12.00 | B | V | 10.40 | B | V | 6.40 | B | V | 9.00 | B | V |
| Copper | 14.50 | | JA | 22.00 | * | JA | 25.30 | * | JA | 19.20 | * | JA | 22.30 | * | JA |
| Iron | 17600.00 | E* | JA | 16800.00 | * | JA | 17600.00 | * | JA | 13700.00 | * | JA | 15100.00 | * | JA |
| Lead | 14.60 | * | V | 14.20 | | V | 13.10 | S | | 9.20 | | V | 9.00 | | V |
| Lithium | 11.50 | B | JA | 3.10 | B | JA | 13.30 | B | JA | 9.20 | B | JA | 10.50 | B | JA |
| Magnesium | 3690.00 | E | JA | 2180.00 | * | V | 4950.00 | * | V | 3300.00 | * | V | 3560.00 | * | V |
| Manganese | 380.00 | EN* | JA | 196.00 | N | JA | 416.00 | N | JA | 370.00 | N | JA | 358.00 | N | JA |
| Mercury | 0.11 | U | V | 0.10 | U | V | 0.10 | U | V | 0.11 | U | V | 0.11 | U | V |
| Molybdenum | 1.40 | B | JA | 0.81 | B | V | 0.67 | U | V | 0.68 | U | V | 0.83 | B | V |
| Nickel | 15.70 | | V | 19.10 | | V | 15.30 | | V | 13.30 | | V | 18.20 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1370.00 | | V | 670.00 | B | V | 1340.00 | | V | 1000.00 | B | V | 1130.00 | B | V |
| Selenium | 0.23 | UN | JA | 0.24 | UN | JA | 0.22 | UN | JA | 0.23 | UN | JA | 0.23 | UN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.46 | U | V | 0.48 | U | V | 0.45 | U | V | 0.46 | U | V | 0.47 | U | V |
| Sodium | 331.00 | BE | JA | 190.00 | BE | V | 1030.00 | BE | JA | 405.00 | BE | JA | 414.00 | BE | JA |
| Strontium | 45.80 | BE | JA | 58.50 | | JA | 55.90 | | JA | 31.90 | B | JA | 33.00 | B | JA |
| Thallium | 0.46 | U | V | 0.47 | U | V | 0.45 | B | V | 0.46 | B | V | 0.45 | U | V |
| Tin | 3.20 | U | JA | 4.10 | U | JA | 3.80 | U | JA | 3.90 | U | JA | 4.00 | U | JA |
| Vanadium | 35.70 | | V | 25.20 | | V | 31.40 | | V | 28.30 | | V | 33.40 | | V |
| Zinc | 33.60 | E | JA | 71.70 | E* | JA | 50.80 | E* | JA | 39.60 | E* | JA | 43.70 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and ≥ Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 32091 (COL)<br>Sample: BH00211EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/29/91 | | | Location: 32091 (WCS)<br>Sample: BH00212EBU1 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 08/29/91 | | | Location: 32191 (COL)<br>Sample: BH00216EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/30/91 | | | Location: 32191 (COL)<br>Sample: BH00219EBU1 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 08/30/91 | | | Location: 32191 (COL)<br>Sample: BH00221EBU1 (DUP)<br>Depth: 6.00 - 12.0 '<br>Date: 08/30/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 4110.00 | * | JA | 3960.00 | * | JA | 9310.00 | | V | 13100.00 | | V | 11700.00 | | V |
| Antimony | 5.10 | BN | JA | 7.60 | BN | JA | 10.20 | BN | JA | 14.50 | BN | JA | 12.10 | BN | JA |
| Arsenic | 3.40 | N* | JA | 2.70 | N* | JA | 2.70 | | V | 6.60 | | V | 2.90 | | V |
| Barium | 44.10 | * | V | 51.00 | * | V | 139.00 | | V | 595.00 | | V | 135.00 | | V |
| Beryllium | 0.53 | B | V | 0.64 | B | V | 0.74 | B | V | 1.10 | B | V | 0.95 | B | V |
| Cadmium | 0.44 | U | V | 0.47 | U | V | 0.47 | U | V | 0.48 | U | V | 0.48 | U | V |
| Calcium | 2350.00 | | V | 4950.00 | | V | 4690.00 | E | JA | 27800.00 | E | JA | 5080.00 | E | JA |
| Cesium | 3.3 | U | JA | 3.5 | U | JA | 7.10 | U | R | 7.30 | U | R | 7.30 | U | JA |
| Chromium | 6.80 | * | V | 4.20 | * | V | 15.40 | | V | 19.10 | | V | 18.40 | | V |
| Cobalt | 3.60 | B | V | 4.00 | B | V | 7.00 | B | V | 9.70 | B | V | 7.30 | B | V |
| Copper | 12.80 | * | JA | 18.40 | * | JA | 23.80 | | V | 32.20 | | V | 25.60 | | V |
| Iron | 6900.00 | * | JA | 8810.00 | * | JA | 14000.00 | E | JA | 18100.00 | E | JA | 17400.00 | E | JA |
| Lead | 7.60 | | V | 15.30 | | V | 13.80 | | JA | 17.90 | S | V | 19.80 | | JA |
| Lithium | 3.20 | B | JA | 1.40 | B | JA | 12.90 | BE | JA | 13.40 | BE | JA | 15.70 | BE | JA |
| Magnesium | 1280.00 | * | V | 1480.00 | * | V | 4590.00 | E | JA | 6110.00 | E | JA | 5240.00 | E | JA |
| Manganese | 80.10 | N | JA | 153.00 | N | JA | 153.00 | EN | JA | 560.00 | EN | JA | 133.00 | EN | JA |
| Mercury | 0.11 | U | V | 0.11 | U | V | 0.12 | UN | JA | 0.13 | UN | JA | 0.10 | UN | JA |
| Molybdenum | 0.66 | U | V | 0.70 | U | V | 0.71 | U | JA | 1.10 | B | JA | 0.73 | U | JA |
| Nickel | 9.20 | | V | 7.60 | B | V | 13.90 | | V | 18.60 | | V | 14.80 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 464.00 | B | V | 344.00 | B | V | 1130.00 | BE | JA | 1510.00 | E | JA | 1260.00 | E | JA |
| Selenium | 0.23 | UN | JA | 0.23 | UN | JA | 0.48 | U | V | 0.49 | B | V | 0.48 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.44 | U | V | 0.47 | U | V | 0.47 | U | V | 0.48 | U | V | 0.48 | U | V |
| Sodium | 130.00 | BE | JA | 145.00 | BE | JA | 701.00 | BE | JA | 1060.00 | BE | JA | 707.00 | BE | JA |
| Strontium | 19.20 | B | JA | 44.50 | B | JA | 49.70 | | JA | 136.00 | | JA | 49.20 | | JA |
| Thallium | 0.46 | U | V | 0.46 | U | V | 0.24 | B | V | 0.24 | U | V | 0.24 | B | V |
| Tin | 3.70 | U | JA | 4.00 | U | JA | 4.00 | U | JA | 4.10 | U | JA | 4.10 | U | JA |
| Vanadium | 16.50 | | V | 12.80 | | V | 22.00 | E | JA | 37.90 | E | JA | 28.10 | E | JA |
| Zinc | 23.10 | E* | JA | 44.70 | E* | JA | 50.00 | E | JA | 53.60 | E | JA | 55.20 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 32191 (WCS)<br>Sample: BH00224E8U1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/30/91 | | | Location: 32391 (COL)<br>Sample: BH00229E8U1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/03/91 | | | Location: 32391 (WCS)<br>Sample: BH00231E8U1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/03/91 | | | Location: 32391 ()<br>Sample: BH00232E8U1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 09/03/91 | | | Location: 32491 (COL)<br>Sample: BH00239E8U1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 5110.00 | | V | 15000 | | JA | 15100 | | JA | 12700 | | JA | 15200 | | JA |
| Antimony | 6.30 | BN | JA | 10.9 | U | JA | 11.6 | U | JA | 11.4 | U | JA | 12.1 | U | JA |
| Arsenic | 2.20 | B | V | 3.9 | | JA | 3.3 | | JA | 2.3 | B | JA | 4.2 | | JA |
| Barium | 143.00 | | V | 690 | | JA | 103 | | JA | 281 | | JA | 236 | | JA |
| Beryllium | 0.81 | B | V | 1.8 | | JA | 1.3 | | JA | 1.1 | | JA | 1.4 | | JA |
| Cadmium | 0.48 | U | V | 1.5 | | JA | 0.69 | U | JA | 0.69 | U | JA | 0.73 | U | JA |
| Calcium | 5630.00 | E | JA | 18900 | | JA | 8510 | | JA | 8000 | | JA | 11200 | | JA |
| Cesium | 7.20 | U | R | 113 | U | JA | 111 | U | JA | | | | 294 | U | JA |
| Chromium | 3.90 | | V | 16.6 | | JA | 16.9 | | JA | 13.8 | | JA | 15.6 | | JA |
| Cobalt | 7.40 | B | V | 3.6 | B | JA | 2.3 | U | JA | 2.3 | U | JA | 8.6 | B | JA |
| Copper | 14.80 | | JA | 25.4 | | JA | 18.2 | | JA | 16.7 | | JA | 18.4 | | JA |
| Iron | 8960.00 | E | JA | 19700 | | JA | 9960 | | JA | 9160 | | JA | 14600 | | JA |
| Lead | 10.50 | | JA | 27.2 | | JA | 19.3 | | JA | 20.6 | | JA | 20.0 | | JA |
| Lithium | 3.00 | BE | JA | 10.9 | U | JA | 11.6 | U | JA | 11.4 | U | JA | 12.1 | U | JA |
| Magnesium | 1850.00 | E | JA | 2560 | | JA | 3000 | | JA | 2800 | | JA | 3710 | | JA |
| Manganese | 205.00 | EN | JA | 167 | | JA | 46.9 | | JA | 50.3 | | JA | 236 | | JA |
| Mercury | 0.10 | UN | JA | 0.18 | U | JA | 0.18 | U | JA | 0.18 | U | JA | 0.19 | U | JA |
| Molybdenum | 0.72 | U | JA | 2.2 | U | JA | 2.3 | U | JA | 2.3 | U | JA | 2.4 | U | JA |
| Nickel | 10.50 | | V | 10.3 | | JA | 6.2 | B | JA | 5.8 | B | JA | 18.0 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 246.00 | BE | JA | 1060 | B | JA | 1450 | | JA | 1320 | | JA | 1380 | | JA |
| Selenium | 0.49 | U | V | 0.52 | B | JA | 0.24 | U | JA | 0.23 | U | JA | 0.38 | B | JA |
| Silicon | | | | 482 | | JA | 708 | | JA | 635 | | JA | 505 | B | JA |
| Silver | 0.48 | U | V | 1.1 | U | JA | 1.2 | U | JA | 1.1 | U | JA | 1.2 | U | JA |
| Sodium | 292.00 | BE | JA | 436 | U | JA | 462 | U | JA | 458 | U | JA | 622 | B | JA |
| Strontium | 48.30 | | JA | 65.3 | | JA | 61.6 | | JA | 70.0 | | JA | 90.3 | | JA |
| Thallium | 0.24 | U | V | 0.24 | U | JA | 0.35 | B | JA | 0.37 | B | JA | 0.29 | B | JA |
| Tin | 4.10 | U | JA | 21.8 | U | JA | 23.1 | U | JA | 22.9 | U | JA | 24.2 | U | JA |
| Vanadium | 11.40 | BE | JA | 35.6 | | JA | 30.6 | | JA | 27.8 | | JA | 35.2 | | JA |
| Zinc | 23.30 | E | JA | 46.1 | | JA | 66.0 | | JA | 63.7 | | JA | 71.6 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 32491 (COL)<br>Sample: BH00240EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/04/91 | | | Location: 32491 (WCS)<br>Sample: BH00242EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/04/91 | | | Location: 32691 (COL)<br>Sample: BH00249EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/05/91 | | | Location: 32691 (COL)<br>Sample: BH00250EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/05/91 | | | Location: 32691 (WCS)<br>Sample: BH00251EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 09/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20900 | | JA | 11400 | | JA | 13200 | | JA | 13300 | | JA | 16700 | | JA |
| Antimony | 11.8 | U | JA | 11.7 | U | JA | 11.5 | U | JA | 11.7 | U | JA | 11.4 | U | JA |
| Arsenic | 4.4 | | JA | 5.1 | | JA | 8.8 | | JA | 3.3 | | JA | 3.9 | | JA |
| Barium | 300 | | JA | 111 | | JA | 162 | | JA | 177 | | JA | 188 | | JA |
| Beryllium | 2.0 | | JA | 1.2 | | JA | 1.4 | | JA | 1.7 | | JA | 2.3 | | JA |
| Cadmium | 0.71 | U | JA | 0.70 | U | JA | 0.69 | U | JA | 0.70 | U | JA | 3.3 | | JA |
| Calcium | 7810 | | JA | 5230 | | JA | 9520 | | JA | 11500 | | JA | 7260 | | JA |
| Cesium | 119 | U | JA | 115 | U | JA | 118 | U | JA | 117 | U | JA | 120 | U | JA |
| Chromium | 20.2 | | JA | 12.4 | | JA | 11.2 | | JA | 13.5 | | JA | 16.8 | | JA |
| Cobalt | 8.1 | B | JA | 5.3 | B | JA | 4.3 | B | JA | 8.6 | B | JA | 9.0 | B | JA |
| Copper | 64.1 | | JA | 22.6 | | JA | 13.5 | | JA | 16.2 | | JA | 23.8 | | JA |
| Iron | 17000 | | JA | 14400 | | JA | 10600 | | JA | 11000 | | JA | 20200 | | JA |
| Lead | 19.8 | | JA | 19.4 | | JA | 10.5 | | JA | 18.5 | | JA | 20.8 | | JA |
| Lithium | 17.1 | B | JA | 11.7 | U | JA | 11.5 | U | JA | 11.7 | U | JA | 11.4 | U | JA |
| Magnesium | 3690 | | JA | 2820 | | JA | 1820 | | JA | 1880 | | JA | 2780 | | JA |
| Manganese | 228 | | JA | 171 | | JA | 57.8 | | JA | 73.5 | | JA | 656 | | JA |
| Mercury | 0.19 | U | JA | 0.18 | U | JA | 0.19 | U | JA | 0.18 | U | JA | 0.18 | U | JA |
| Molybdenum | 2.4 | U | JA | 2.3 | U | JA | 2.3 | U | JA | 2.3 | U | JA | 2.3 | U | JA |
| Nickel | 20.4 | | JA | 13.3 | | JA | 19.7 | | JA | 16.8 | | JA | 18.0 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1650 | | JA | 1210 | | JA | 773 | B | JA | 750 | B | JA | 1660 | | JA |
| Selenium | 0.39 | B | JA | 0.35 | B | JA | 0.24 | U | JA | 0.23 | U | JA | 0.24 | U | JA |
| Silicon | 382 | | JA | 619 | | JA | 479 | | JA | 528 | | JA | 523 | | JA |
| Silver | 1.2 | U | JA | 1.2 | U | JA | 1.2 | U | JA | 1.2 | U | JA | 1.1 | U | JA |
| Sodium | 470 | U | JA | 590 | B | JA | 462 | U | JA | 468 | U | JA | 456 | U | JA |
| Strontium | 96.5 | | JA | 82.4 | | JA | 23.8 | B | JA | 43.6 | B | JA | 81.7 | | JA |
| Thallium | 0.23 | U | JA | 0.35 | B | JA | 0.24 | U | JA | 0.23 | U | JA | 0.31 | B | JA |
| Tin | 23.5 | U | JA | 23.5 | U | JA | 23.1 | U | JA | 23.4 | U | JA | 22.8 | U | JA |
| Vanadium | 46.7 | | JA | 26.1 | | JA | 33.0 | | JA | 40.5 | | JA | 41.8 | | JA |
| Zinc | 75.7 | | JA | 56.6 | | JA | 40.7 | | JA | 41.4 | | JA | 148 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 32891 (COL)<br>Sample: 8H00257E8U1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/06/91 | | | Location: 32891 (COL)<br>Sample: 8H00258E8U1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/06/91 | | | Location: 32891 (WCS)<br>Sample: 8H00259E8U1 (REAL)<br>Depth: 6.00 - 8.00 '<br>Date: 09/06/91 | | | Location: 32991 (COL)<br>Sample: 8H00264E8U1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/06/91 | | | Location: 32991 (COL)<br>Sample: 8H00265E8U1 (DUP)<br>Depth: - '<br>Date: 09/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 18400 | | JA | 12200 | | JA | 12300 | | JA | 19400 | | JA | 14000 | | JA |
| Antimony | 10.9 | U | JA | 10.8 | U | JA | 11.8 | U | JA | 10.9 | U | JA | 11.0 | U | JA |
| Arsenic | 3.3 | | JA | 5.5 | | JA | 1.8 | B | JA | 0.82 | B | JA | 1.1 | B | JA |
| Barium | 154 | | JA | 160 | | JA | 147 | | JA | 224 | | JA | 122 | | JA |
| Beryllium | 1.6 | | JA | 1.3 | | JA | 1.8 | | JA | 1.9 | | JA | 1.4 | | JA |
| Cadmium | 0.66 | U | JA | 0.65 | U | JA | 3.6 | | JA | 3.5 | | JA | 0.66 | U | JA |
| Calcium | 13400 | | JA | 8780 | | JA | 6680 | | JA | 16300 | | JA | 7870 | | JA |
| Cesium | 113 | U | JA | 111 | U | JA | 116 | U | JA | 111 | U | JA | 110 | U | JA |
| Chromium | 20.7 | | JA | 12.1 | | JA | 10.1 | | JA | 22.7 | | JA | 18.1 | | JA |
| Cobalt | 5.0 | B | JA | 5.0 | B | JA | 4.2 | B | JA | 5.9 | B | JA | 4.6 | B | JA |
| Copper | 14.0 | | JA | 13.4 | | JA | 12.8 | | JA | 16.4 | | JA | 13.1 | | JA |
| Iron | 14800 | | JA | 10600 | | JA | 20000 | | JA | 13700 | | JA | 10400 | | JA |
| Lead | 21.2 | | JA | 16.4 | | JA | 18.9 | | JA | 21.1 | | JA | 16.8 | | JA |
| Lithium | 11.1 | B | JA | 10.8 | U | JA | 11.8 | U | JA | 12.3 | B | JA | 11.0 | U | JA |
| Magnesium | 3280 | | JA | 2660 | | JA | 2660 | | JA | 3520 | | JA | 2490 | | JA |
| Manganese | 127 | | JA | 110 | | JA | 151 | | JA | 132 | | JA | 115 | | JA |
| Mercury | 0.17 | U | JA | 0.17 | U | JA | 0.18 | U | JA | 0.18 | U | JA | 0.17 | U | JA |
| Molybdenum | 2.2 | U | JA | 2.2 | U | JA | 2.4 | U | JA | 2.2 | U | JA | 2.2 | U | JA |
| Nickel | 11.4 | | JA | 10.0 | | JA | 14.2 | | JA | 14.6 | | JA | 10.9 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1640 | | JA | 1000 | B | JA | 1070 | B | JA | 1810 | | JA | 1370 | | JA |
| Selenium | 0.23 | U | JA | 0.27 | B | JA | 0.23 | B | JA | 0.24 | U | JA | 0.21 | U | JA |
| Silicon | 558 | | JA | 597 | | JA | 545 | | JA | 709 | | JA | 570 | | JA |
| Silver | 1.1 | U | JA | 1.1 | U | JA | 1.2 | U | JA | 1.1 | U | JA | 1.1 | U | JA |
| Sodium | 437 | U | JA | 433 | U | JA | 472 | U | JA | 449 | B | JA | 447 | B | JA |
| Strontium | 54.9 | | JA | 57.8 | | JA | 43.9 | B | JA | 64.0 | | JA | 45.3 | | JA |
| Thallium | 0.36 | B | JA | 0.36 | B | JA | 0.32 | B | JA | 0.28 | B | JA | 0.27 | B | JA |
| Tin | 21.9 | U | JA | 21.6 | U | JA | 23.6 | U | JA | 21.8 | U | JA | 22.0 | U | JA |
| Vanadium | 35.4 | | JA | 21.5 | | JA | 19.0 | | JA | 42.4 | | JA | 28.9 | | JA |
| Zinc | 60.1 | | JA | 62.4 | | JA | 101 | | JA | 53.4 | | JA | 39.7 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 32991 (WCS)<br>Sample: BH00266EBU1 (REAL)<br>Depth: 6.00 - 8.00 '<br>Date: 09/06/91 | | | Location: 33191 (WCS)<br>Sample: BH00274EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/09/91 | | | Location: 33191 (WCS)<br>Sample: BH00275EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/09/91 | | | Location: 33291 (COL)<br>Sample: BH00284EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/10/91 | | | Location: 33291 (COL)<br>Sample: BH00286EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 10700 | | JA | 19300 | | JA | 15200 | | JA | 12800 | | V | 12600 | | V |
| Antimony | 11.3 | U | JA | 11.5 | U | JA | 11.4 | U | JA | 10.4 | U | V | 10.9 | U | V |
| Arsenic | 2.7 | | JA | 2.1 | B | JA | 2.5 | | JA | 3.6 | | V | 2.1 | B | V |
| Barium | 56.1 | | JA | 216 | | JA | 314 | | JA | 165 | | JA | 61.8 | | JA |
| Beryllium | 0.97 | B | JA | 1.1 | B | JA | 1.2 | | JA | 1.1 | | JA | 1.0 | B | V |
| Cadmium | 0.68 | U | JA | 0.69 | U | JA | 0.69 | U | JA | 0.63 | U | V | 0.65 | U | V |
| Calcium | 4920 | | JA | 7940 | | JA | 8230 | | JA | 7420 | | V | 2690 | | V |
| Cesium | 109 | U | JA | 115 | U | JA | 114 | U | JA | 104 | U | JA | 109 | U | JA |
| Chromium | 10.3 | | JA | 19.6 | | JA | 19.5 | | JA | 32.7 | | JA | 17.1 | | JA |
| Cobalt | 2.7 | B | JA | 4.1 | B | JA | 4.6 | B | JA | 5.8 | B | V | 4.5 | B | V |
| Copper | 12.2 | | JA | 17.5 | | JA | 21.0 | | JA | 23.4 | | V | 11.1 | | V |
| Iron | 5040 | | JA | 16900 | | JA | 16200 | | JA | 21400 | | V | 12600 | | V |
| Lead | 17.4 | | JA | 29.5 | | JA | 26.3 | | JA | 42.2 | | V | 4.6 | | V |
| Lithium | 11.3 | U | JA | 12.7 | B | JA | 12.5 | B | JA | 11.4 | B | JA | 10.9 | U | JA |
| Magnesium | 2190 | | JA | 2940 | | JA | 3060 | | JA | 2850 | | V | 2360 | | V |
| Manganese | 20.1 | | JA | 186 | | JA | 273 | | JA | 354 | | JA | 134 | | JA |
| Mercury | 0.17 | U | JA | 0.18 | U | JA | 0.18 | U | JA | 0.16 | U | V | 0.17 | U | V |
| Molybdenum | 2.3 | U | JA | 2.3 | U | JA | 2.3 | U | JA | 2.1 | U | JA | 2.2 | U | JA |
| Nickel | 5.6 | B | JA | 12.5 | | JA | 11.4 | | JA | 70.1 | | V | 11.1 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 888 | B | JA | 1850 | | JA | 1890 | | JA | 2170 | | V | 1310 | | V |
| Selenium | 0.23 | U | JA | 0.33 | B | JA | 0.22 | U | JA | 0.20 | U | V | 0.22 | U | V |
| Silicon | 507 | | JA | 286 | | JA | 244 | | JA | 104 | U | R | 287 | | JA |
| Silver | 1.1 | U | JA | 1.2 | U | JA | 1.1 | U | JA | 1.0 | U | R | 1.1 | U | JA |
| Sodium | 452 | U | JA | 461 | U | JA | 458 | U | JA | 417 | U | V | 436 | U | V |
| Strontium | 63.7 | | JA | 68.6 | | JA | 62.4 | | JA | 31.6 | B | JA | 21.8 | U | JA |
| Thallium | 0.23 | B | JA | 0.35 | B | JA | 0.35 | B | JA | 0.20 | U | V | 0.22 | U | V |
| Tin | 22.6 | U | JA | 23.1 | U | JA | 22.9 | U | JA | 20.9 | U | JA | 21.8 | U | JA |
| Vanadium | 19.8 | | JA | 49.3 | | JA | 36.8 | | JA | 37.9 | | JA | 22.2 | | JA |
| Zinc | 50.1 | | JA | 74.9 | | JA | 67.8 | | JA | 68.8 | | V | 28.2 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 33291 (WCS)<br>Sample: BH00288EBU1 (REAL)<br>Depth: 10.0 - 14.0 '<br>Date: 09/10/91 | | | Location: 33291 (WCS)<br>Sample: BH00289EBU1 (DUP)<br>Depth: 12.0 - 14.0 '<br>Date: 09/10/91 | | | Location: 33591 (COL)<br>Sample: BH00294EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/11/91 | | | Location: 33591 (COL)<br>Sample: BH00295EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/11/91 | | | Location: 33591 (COL)<br>Sample: BH00297EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14000 | | V | 17000 | | V | 14900.00 | | JA | 16900.00 | | V | 13300.00 | | V |
| Antimony | 11.5 | U | V | 12.0 | U | V | 17.50 | N | JA | 16.80 | N | JA | 11.70 | BN | JA |
| Arsenic | 2.1 | B | V | 3.7 | | V | 5.30 | | V | 5.20 | | V | 5.10 | | V |
| Barium | 184 | | JA | 146 | | JA | 178.00 | | V | 550.00 | | V | 130.00 | | V |
| Beryllium | 1.5 | | V | 1.3 | | V | 0.99 | B | JA | 1.10 | B | V | 0.94 | B | V |
| Cadmium | 0.69 | U | V | 0.72 | U | V | 0.45 | U | V | 0.45 | U | V | 0.47 | U | V |
| Calcium | 6780 | | V | 6840 | | V | 58800.00 | E | JA | 34700.00 | E | JA | 4460.00 | E | JA |
| Cesium | 115 | U | JA | 120 | U | JA | 6.80 | U | R | 6.70 | U | R | 7.00 | U | R |
| Chromium | 15.4 | | JA | 18.9 | | JA | 21.40 | | V | 22.80 | | V | 18.50 | | V |
| Cobalt | 9.0 | B | V | 5.1 | B | V | 8.10 | B | JA | 8.80 | B | V | 6.20 | B | V |
| Copper | 19.7 | | V | 19.3 | | V | 20.80 | | JA | 21.60 | | V | 21.50 | | V |
| Iron | 15900 | | V | 13700 | | V | 18900.00 | E | JA | 20800.00 | E | JA | 17000.00 | E | JA |
| Lead | 23.9 | | V | 24.3 | | V | 13.40 | | JA | 17.30 | | JA | 11.00 | | JA |
| Lithium | 11.5 | U | JA | 12.0 | U | JA | 13.60 | BE | JA | 15.40 | BE | JA | 12.30 | BE | JA |
| Magnesium | 2410 | | V | 2650 | | V | 5170.00 | E | JA | 5390.00 | E | JA | 4110.00 | E | JA |
| Manganese | 222 | | JA | 104 | | JA | 429.00 | EN | JA | 357.00 | EN | JA | 160.00 | EN | JA |
| Mercury | 0.18 | U | V | 0.18 | U | V | 0.11 | UN | JA | 0.12 | UN | JA | 0.24 | UN | JA |
| Molybdenum | 2.3 | U | JA | 2.4 | U | JA | 1.00 | B | JA | 0.67 | U | JA | 0.71 | U | JA |
| Nickel | 17.4 | | V | 13.3 | | V | 16.10 | | V | 17.10 | | V | 15.90 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1480 | | V | 1640 | | V | 1590.00 | E | JA | 1680.00 | E | JA | 1300.00 | E | JA |
| Selenium | 0.23 | U | V | 0.23 | U | V | 0.44 | U | V | 0.45 | UW | V | 0.46 | UW | V |
| Silicon | 396 | | JA | 360 | | JA | | | | | | | | | |
| Silver | 1.1 | U | JA | 1.2 | U | JA | 0.45 | U | V | 0.45 | U | V | 0.47 | U | V |
| Sodium | 459 | U | V | 478 | U | V | 978.00 | BE | JA | 941.00 | BE | JA | 589.00 | BE | JA |
| Strontium | 89.0 | | JA | 102 | | JA | 88.10 | | JA | 85.70 | | JA | 42.80 | B | JA |
| Thallium | 0.30 | B | V | 0.34 | B | V | 0.22 | B | V | 0.22 | B | JA | 0.23 | B | V |
| Tin | 22.9 | U | JA | 23.9 | U | JA | 3.80 | U | R | 3.80 | U | JA | 4.00 | U | JA |
| Vanadium | 40.4 | | JA | 44.3 | | JA | 34.80 | E | JA | 39.90 | E | JA | 37.50 | E | JA |
| Zinc | 112 | | V | 85.9 | | V | 52.30 | E | JA | 57.70 | E | JA | 43.10 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 33591 (WCS)<br>Sample: BH00299EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 09/11/91 | | | Location: 33791 (RFA)<br>Sample: BH00353EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/12/91 | | | Location: 33791 (RFA)<br>Sample: BH00355EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/12/91 | | | Location: 33791 (RFA)<br>Sample: BH00356EBU1 (DUP)<br>Depth: 6.00 - 12.0 '<br>Date: 09/12/91 | | | Location: 33791 (WCS)<br>Sample: BH00359EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 09/12/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 5050.00 | E* | JA | 2410.00 | E* | JA | 3040.00 | E* | JA | 4700.00 | E* | JA | 4840.00 | E* | JA |
| Antimony | 1.60 | UN | JA | 6.60 | BN | | 2.80 | BN | JA | 3.10 | BN | JA | 2.70 | BN | JA |
| Arsenic | 3.90 | | V | 2.40 | | V | 3.90 | | V | 3.90 | | V | 2.80 | | V |
| Barium | 82.90 | | V | 28.80 | B | V | 25.80 | B | V | 40.20 | B | V | 56.40 | | V |
| Beryllium | 0.65 | B | V | 0.41 | B | JA | 0.27 | B | V | 0.46 | B | V | 0.52 | B | V |
| Cadmium | 0.46 | U | V | 0.44 | U | V | 0.43 | U | V | 0.42 | U | V | 0.44 | U | V |
| Calcium | 5120.00 | E | JA | 116000.00 | E | JA | 3650.00 | E | JA | 4540.00 | E | JA | 3020.00 | E | JA |
| Cesium | 11.5 | U | JA | 11.1 | U | JA | 15.00 | B | JA | 10.4 | U | R | 10.9 | U | R |
| Chromium | 3.10 | * | JA | 7.40 | * | JA | 39.80 | * | V | 5.90 | * | JA | 6.40 | * | JA |
| Cobalt | 2.60 | B | JA | 0.76 | B | JA | 1.70 | B | JA | 3.20 | B | JA | 3.90 | B | JA |
| Copper | 32.70 | | V | 10.60 | | JA | 15.10 | | JA | 6.40 | | JA | 9.40 | | JA |
| Iron | 5790.00 | E* | JA | 2430.00 | E* | JA | 7960.00 | E* | JA | 6380.00 | E* | JA | 6870.00 | E* | JA |
| Lead | 20.80 | | V | 2.50 | | V | 4.10 | | V | 3.80 | | V | 6.80 | | V |
| Lithium | 1.80 | B | JA | 1.10 | B | JA | 1.90 | B | JA | 3.00 | B | JA | 3.10 | B | JA |
| Magnesium | 1260.00 | E | JA | 1330.00 | E | JA | 751.00 | BE | JA | 1170.00 | E | JA | 1310.00 | E | JA |
| Manganese | 44.10 | E | JA | 26.10 | E | JA | 123.00 | E | JA | 162.00 | E | JA | 166.00 | E | JA |
| Mercury | 0.12 | UN | JA | 0.11 | UN | JA | 0.11 | UN | JA | 0.11 | UN | JA | 0.11 | UN | JA |
| Molybdenum | 0.69 | U | JA | 0.67 | U | R | 8.40 | B | JA | 0.63 | U | JA | 0.65 | U | JA |
| Nickel | 7.20 | B | V | 4.00 | B | V | 9.30 | | V | 8.60 | | V | 10.30 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 628.00 | B | V | 300.00 | B | | 608.00 | B | V | 782.00 | B | V | 938.00 | B | V |
| Selenium | 0.46 | UN | JA | 0.44 | UWN | JA | 0.43 | UN | JA | 0.41 | UN | JA | 0.44 | UN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.46 | U | V | 0.44 | U | V | 0.43 | U | V | 0.42 | U | V | 0.44 | U | V |
| Sodium | 62.70 | B | V | 43.80 | B | JA | 37.10 | B | V | 33.90 | B | V | 37.70 | B | V |
| Strontium | 51.80 | | JA | 60.90 | | JA | 8.40 | B | JA | 11.80 | B | JA | 20.10 | B | JA |
| Thallium | 0.23 | BW | JA | 0.22 | B | V | 0.22 | U | V | 0.21 | U | V | 0.22 | B | V |
| Tin | 3.90 | U | JA | 3.80 | U | R | 3.60 | U | JA | 3.60 | U | JA | 3.70 | U | JA |
| Vanadium | 17.30 | | V | 10.10 | B | JA | 8.20 | B | V | 15.60 | | V | 16.60 | | V |
| Zinc | 40.60 | | V | 6.10 | | V | 6.80 | | V | 10.20 | | V | 19.70 | | V |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 33791 (WCS)<br>Sample: BH00360EBU1 (REAL)<br>Depth: 18.0 - 22.0 '<br>Date: 09/12/91 | | | Location: 33991 (WCS)<br>Sample: BH00364EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/13/91 | | | Location: 33991 (WCS)<br>Sample: BH00365EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/13/91 | | | Location: 33991 (WCS)<br>Sample: BH00367EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/13/91 | | | Location: 34091 (COL)<br>Sample: BH00371EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6250.00 | E* | JA | | | | 9990.00 | * | V | 4570.00 | E* | JA | 9740.00 | * | V |
| Antimony | 17.00 | N | JA | 12.00 | BN | JA | 12.10 | BN | JA | 4.60 | BN | JA | 12.30 | BN | JA |
| Arsenic | 3.60 | | V | 2.00 | B | V | 3.50 | | V | 5.30 | | V | 3.50 | | V |
| Barium | 110.00 | | V | 153.00 | * | JA | 445.00 | * | JA | 59.20 | | V | 245.00 | * | JA |
| Beryllium | 0.95 | B | JA | 0.89 | B | V | 0.98 | B | V | 0.47 | B | V | 0.75 | B | V |
| Cadmium | 0.48 | U | V | 0.45 | U | V | 0.45 | U | V | 0.44 | U | V | 0.43 | U | V |
| Calcium | 8720.00 | E | JA | 6770.00 | * | JA | 19300.00 | * | JA | 3860.00 | E | JA | 7990.00 | * | JA |
| Cesium | 12.1 | U | R | 11.4 | U | JA | 11.2 | U | JA | 10.9 | | JA | 10.8 | U | JA |
| Chromium | 6.60 | * | JA | 12.00 | | V | 12.10 | | V | 5.10 | * | JA | 13.40 | | V |
| Cobalt | 21.80 | | V | 7.20 | B | V | 13.10 | | V | 3.40 | B | JA | 7.40 | B | V |
| Copper | 19.90 | | JA | 18.10 | | V | 19.20 | | V | 15.50 | | JA | 12.50 | | JA |
| Iron | 24000.00 | E* | JA | 13500.00 | E* | V | 11700.00 | E* | V | 8630.00 | E* | JA | 13700.00 | E* | V |
| Lead | 20.60 | | V | 14.50 | N | JA | 16.50 | N | JA | 15.90 | S | V | 14.20 | N | JA |
| Lithium | 2.00 | B | JA | 8.90 | B | JA | 9.70 | B | JA | 6.10 | B | JA | 9.10 | B | JA |
| Magnesium | 1290.00 | E | JA | 2490.00 | | V | 3050.00 | | V | 1880.00 | E | JA | 3140.00 | | V |
| Manganese | 342.00 | E | JA | 167.00 | EN* | JA | 121.00 | EN* | JA | 80.00 | E | JA | 335.00 | EN* | JA |
| Mercury | 0.10 | UN | JA | 0.12 | U | V | 0.10 | U | V | 0.11 | UN | JA | 0.10 | U | V |
| Molybdenum | 1.40 | B | JA | 0.68 | U | JA | 1.00 | B | JA | 1.50 | B | JA | 0.78 | B | JA |
| Nickel | 35.30 | | V | 16.30 | | V | 33.90 | | V | 13.80 | | V | 13.80 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 561.00 | B | V | 1500.00 | E | JA | 947.00 | BE | JA | 697.00 | B | V | 1800.00 | E | JA |
| Selenium | 0.47 | UN | JA | 0.44 | U | V | 0.46 | B | V | 0.45 | UN | JA | 0.43 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.48 | U | JA | 0.45 | U | V | 0.45 | U | JA | 0.44 | U | V | 0.43 | U | V |
| Sodium | 57.60 | B | JA | 225.00 | B | V | 336.00 | B | V | 187.00 | B | V | 244.00 | B | V |
| Strontium | 59.40 | | JA | 60.00 | | JA | 103.00 | | JA | 47.40 | | JA | 43.80 | | JA |
| Thallium | 0.47 | B | V | 0.22 | B | V | 0.23 | B | V | 0.45 | B | V | 0.22 | B | V |
| Tin | 4.10 | U | R | 3.90 | U | JA | 3.80 | U | JA | 3.70 | U | JA | 3.70 | U | JA |
| Vanadium | 33.80 | | V | 28.30 | E | JA | 24.60 | E | JA | 11.80 | | V | 28.60 | E | JA |
| Zinc | 89.90 | | V | 57.40 | E | V | 74.20 | E | V | 50.70 | | V | 40.50 | E | V |

Note: Data reporting order: result, qualifier, validation code.
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 34091 (COL)<br>Sample: BH00372EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/16/91 | | | Location: 34091 (WCS)<br>Sample: BH00374EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/16/91 | | | Location: 34291 (COL)<br>Sample: BH00379EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/16/91 | | | Location: 34291 (COL)<br>Sample: BH00380EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/16/91 | | | Location: 34291 (WCS)<br>Sample: BH00381EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 09/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14200.00 | * | V | 6300.00 | * | V | 13400.00 | * | V | 10400.00 | * | V | 5230.00 | * | V |
| Antimony | 15.30 | N | JA | 5.50 | BN | JA | 15.60 | N | JA | 8.70 | BN | JA | 5.90 | BN | JA |
| Arsenic | 3.60 | | V | 4.90 | | V | 4.90 | | V | 1.90 | B | V | 2.20 | B | V |
| Barium | 185.00 | * | JA | 102.00 | | V | 166.00 | * | JA | 75.70 | * | JA | 148.00 | * | JA |
| Beryllium | 0.93 | B | V | 0.62 | B | V | 0.97 | B | V | 0.86 | B | V | 0.46 | B | V |
| Cadmium | 0.46 | U | V | 0.47 | U | V | 0.54 | B | JA | 0.46 | U | V | 0.49 | U | V |
| Calcium | 8260.00 | * | JA | 5150.00 | E | JA | 7200.00 | * | JA | 8410.00 | * | JA | 10000.00 | * | JA |
| Cesium | 11.4 | U | JA | 11.7 | U | R | 11.8 | U | JA | 11.6 | U | JA | 12.2 | U | JA |
| Chromium | 18.70 | | V | 6.50 | | V | 16.00 | | V | 10.60 | | V | 6.20 | | JA |
| Cobalt | 8.20 | B | V | 4.40 | B | V | 9.00 | B | V | 3.20 | B | JA | 7.90 | B | V |
| Copper | 15.50 | | JA | 14.80 | | JA | 22.50 | | V | 18.50 | | V | 12.00 | | JA |
| Iron | 18900.00 | E* | V | 5750.00 | * | V | 17200.00 | E* | V | 8950.00 | E* | V | 6170.00 | E* | V |
| Lead | 13.20 | SN | JA | 17.60 | | JA | 22.30 | N | JA | 18.10 | N | JA | 15.90 | N | JA |
| Lithium | 13.50 | B | JA | 2.50 | B | JA | 9.50 | B | JA | 6.60 | B | JA | 7.20 | B | JA |
| Magnesium | 4470.00 | | V | 1550.00 | E | JA | 2850.00 | | V | 2630.00 | | V | 2050.00 | | V |
| Manganese | 288.00 | EN* | JA | 117.00 | N | JA | 459.00 | EN* | JA | 117.00 | EN* | JA | 85.70 | EN* | JA |
| Mercury | 0.10 | U | V | 0.10 | U | V | 0.12 | U | V | 0.12 | U | V | 0.12 | U | V |
| Molybdenum | 0.82 | B | JA | 0.70 | U | JA | 2.30 | B | JA | 0.69 | U | JA | 0.73 | U | JA |
| Nickel | 16.40 | | V | 6.80 | B | V | 21.70 | | V | 7.70 | B | V | 10.20 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2230.00 | E | JA | 593.00 | B | V | 2070.00 | E | JA | 784.00 | BE | JA | 659.00 | BE | JA |
| Selenium | 0.45 | U | V | 0.47 | U | V | 0.47 | B | V | 0.46 | U | V | 0.49 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.46 | U | V | 0.47 | U | V | 0.47 | U | JA | 0.46 | U | V | 0.49 | U | V |
| Sodium | 341.00 | B | V | 284.00 | B | V | 200.00 | B | V | 518.00 | B | V | 330.00 | B | V |
| Strontium | 51.70 | | JA | 55.00 | | JA | 50.10 | | JA | 56.60 | | JA | 53.70 | | JA |
| Thallium | 0.45 | B | V | 0.23 | B | V | 0.24 | B | V | 0.23 | B | V | 0.24 | B | V |
| Tin | 3.90 | U | JA | 4.00 | U | JA | 4.00 | U | JA | 3.90 | U | JA | 4.10 | U | JA |
| Vanadium | 37.20 | E | JA | 14.00 | | V | 35.90 | E | JA | 18.90 | E | JA | 12.70 | E | JA |
| Zinc | 52.60 | E | V | 37.10 | * | V | 61.00 | E | V | 34.30 | E | V | 57.40 | E | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 34491 (WCS)<br>Sample: BH00385EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/17/91 | | | Location: 34491 (WCS)<br>Sample: BH00386EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/17/91 | | | Location: 34691 (COL)<br>Sample: BH00391EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/18/91 | | | Location: 34691 (COL)<br>Sample: BH00392EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/18/91 | | | Location: 34691 (WCS)<br>Sample: BH00394EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12300.00 | * | V | 8470.00 | * | V | 20500.00 | | V | 19700.00 | | V | 6580.00 | | V |
| Antimony | 15.40 | N | JA | 14.50 | N | JA | 13.80 | BN | JA | 14.10 | N | JA | 18.70 | N | JA |
| Arsenic | 1.90 | B | V | 1.90 | B | V | 4.20 | N | JA | 4.50 | N | JA | 4.60 | N | JA |
| Barium | 160.00 | | V | 50.70 | | V | 160.00 | | V | 218.00 | | V | 50.00 | | V |
| Beryllium | 0.93 | B | V | 0.69 | B | V | 1.30 | | V | 1.10 | | V | 0.63 | B | V |
| Cadmium | 0.48 | U | V | 0.48 | U | V | 0.46 | U | V | 0.45 | U | V | 0.43 | U | V |
| Calcium | 5370.00 | E | JA | 5830.00 | E | JA | 7910.00 | E | V | 5930.00 | E | V | 4060.00 | E | V |
| Cesium | 12.0 | U | R | 11.9 | U | R | 11.6 | U | JA | 11.2 | U | JA | 10.7 | U | JA |
| Chromium | 15.00 | | V | 9.20 | | V | 24.00 | | V | 20.80 | | V | 7.90 | | V |
| Cobalt | 7.10 | B | V | 6.90 | B | V | 8.50 | B | V | 9.80 | B | V | 10.20 | B | V |
| Copper | 18.00 | | JA | 17.30 | | JA | 32.60 | | V | 18.70 | | V | 22.10 | | V |
| Iron | 16900.00 | * | V | 15000.00 | * | V | 17900.00 | | V | 18300.00 | | V | 21900.00 | | V |
| Lead | 22.50 | S | JA | 21.80 | | JA | 20.90 | S | JA | 19.00 | S | JA | 8.00 | | JA |
| Lithium | 9.30 | B | JA | 4.80 | B | JA | 15.50 | B | JA | 14.80 | B | JA | 6.70 | B | JA |
| Magnesium | 2620.00 | E | JA | 1930.00 | E | JA | 4300.00 | | V | 4280.00 | | V | 2080.00 | | V |
| Manganese | 249.00 | N | JA | 110.00 | N | JA | 307.00 | * | JA | 457.00 | * | JA | 222.00 | * | JA |
| Mercury | 0.11 | U | V | 0.11 | U | V | 0.11 | U | V | 0.10 | U | V | 0.12 | | V |
| Molybdenum | 4.70 | B | JA | 0.72 | U | JA | 0.69 | U | JA | 0.67 | U | JA | 1.20 | B | JA |
| Nickel | 15.80 | | V | 9.50 | B | V | 17.10 | | V | 16.60 | | V | 21.00 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1740.00 | | V | 737.00 | B | V | 2860.00 | E | JA | 2150.00 | E | JA | 657.00 | BE | JA |
| Selenium | 0.96 | B | V | 0.48 | U | V | 0.47 | BW | JA | 0.45 | U | V | 0.44 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.48 | U | V | 0.48 | U | V | 0.46 | U | V | 0.45 | U | V | 0.43 | U | V |
| Sodium | 190.00 | B | V | 319.00 | B | V | 408.00 | BE | JA | 612.00 | BE | JA | 249.00 | BE | JA |
| Strontium | 42.30 | B | JA | 54.80 | | JA | 61.40 | | JA | 61.20 | | JA | 52.90 | | JA |
| Thallium | 0.24 | B | V | 0.24 | B | V | 0.23 | B | V | 0.23 | B | V | 0.22 | B | V |
| Tin | 4.10 | U | JA | 4.10 | U | JA | 3.90 | U | JA | 3.80 | U | JA | 3.70 | U | JA |
| Vanadium | 34.90 | | V | 21.00 | | V | 42.80 | | V | 39.80 | | V | 25.40 | | V |
| Zinc | 50.70 | * | V | 73.10 | * | V | 67.60 | E | V | 63.30 | E | V | 133.00 | E | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 34691 (WCS)<br>Sample: BH00396EBU1 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 09/18/91 | | | Location: 34891 (COL)<br>Sample: BH00403EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/19/91 | | | Location: 34891 (COL)<br>Sample: BH00405EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/19/91 | | | Location: 34891 (WCS)<br>Sample: BH00407EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/19/91 | | | Location: 34891 (WCS)<br>Sample: BH00409EBU1 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 09/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 8940.00 | | V | 10400.00 | * | V | 9940.00 | * | V | 2940.00 | * | V | 4200.00 | * | V |
| Antimony | 7.70 | BN | JA | 14.90 | N | JA | 11.40 | BN | JA | 2.90 | BN | JA | 9.60 | BN | JA |
| Arsenic | 5.60 | N | JA | 4.70 | | V | 4.10 | | V | 3.10 | | V | 4.40 | | V |
| Barium | 59.30 | | V | 252.00 | | V | 169.00 | | V | 41.10 | B | V | 30.30 | B | V |
| Beryllium | 0.73 | B | V | 1.10 | B | V | 0.94 | B | V | 1.00 | B | V | 0.56 | B | V |
| Cadmium | 0.44 | U | V | 0.60 | B | V | 0.45 | U | V | 0.48 | U | V | 0.45 | U | V |
| Calcium | 5220.00 | E | V | 7150.00 | | V | 7640.00 | | V | 4930.00 | | V | 4770.00 | | V |
| Cesium | 11.0 | U | JA | 11.3 | U | JA | 11.3 | U | R | 12.0 | U | JA | 11.4 | U | R |
| Chromium | 11.20 | | V | 14.30 | | V | 13.20 | | V | 3.60 | | V | 4.70 | | V |
| Cobalt | 5.20 | B | V | 22.40 | | V | 8.30 | B | V | 2.10 | B | V | 3.80 | B | V |
| Copper | 23.20 | | V | 29.70 | | V | 24.20 | | V | 18.40 | | V | 22.80 | | V |
| Iron | 9930.00 | | V | 18900.00 | * | JA | 14700.00 | * | JA | 3230.00 | * | JA | 11300.00 | * | JA |
| Lead | 20.70 | | JA | 20.80 | N* | JA | 21.80 | N* | JA | 16.20 | N* | JA | 24.70 | N* | JA |
| Lithium | 8.80 | B | JA | 13.70 | B | JA | 15.60 | B | JA | 2.40 | B | JA | 4.60 | B | JA |
| Magnesium | 2110.00 | | V | 4050.00 | | V | 3650.00 | | V | 1340.00 | | V | 1460.00 | | V |
| Manganese | 62.50 | * | JA | 1500.00 | N* | JA | 294.00 | N* | JA | 35.00 | N* | JA | 56.20 | N* | JA |
| Mercury | 0.10 | U | V | 0.11 | U | V | 0.10 | U | V | 0.11 | U | V | 0.12 | U | V |
| Molybdenum | 0.66 | U | JA | 1.30 | B | JA | 0.68 | U | JA | 0.72 | U | JA | 0.83 | B | JA |
| Nickel | 11.70 | | V | 27.60 | | V | 14.80 | | V | 6.50 | B | V | 8.30 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 915.00 | BE | JA | 1430.00 | | V | 1460.00 | | V | 299.00 | B | V | 492.00 | B | V |
| Selenium | 0.43 | U | V | 0.71 | B | V | 0.69 | BW | JA | 0.48 | U | V | 0.69 | B | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.44 | U | V | 0.45 | U | V | 0.45 | U | V | 0.48 | U | V | 0.45 | U | V |
| Sodium | 384.00 | BE | JA | 413.00 | B | V | 371.00 | B | V | 233.00 | B | V | 226.00 | B | V |
| Strontium | 77.40 | | JA | 68.30 | | JA | 59.80 | | JA | 47.70 | B | JA | 52.10 | | JA |
| Thallium | 0.22 | B | V | 0.24 | B | V | 0.23 | B | V | 0.24 | B | V | 0.23 | B | V |
| Tin | 3.70 | U | JA | 3.90 | U | JA | 3.90 | U | JA | 4.10 | U | JA | 3.90 | U | JA |
| Vanadium | 28.50 | | V | 39.80 | | V | 29.70 | | V | 13.40 | | V | 21.80 | | V |
| Zinc | 65.20 | E | V | 50.20 | | V | 55.90 | | V | 25.90 | | V | 74.20 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 34991 (COL)<br>Sample: BH00413EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/20/91 | | | Location: 34991 (COL)<br>Sample: BH00414EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/20/91 | | | Location: 34991 (COL)<br>Sample: BH00415EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/20/91 | | | Location: 34991 (WCS)<br>Sample: BH00418EBU1 (REAL)<br>Depth: 10.0 - 16.3 '<br>Date: 09/23/91 | | | Location: 35191 (WCS)<br>Sample: BH00340EBU1 (REAL)<br>Depth: 0.0 - 5.50 '<br>Date: 09/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 13500.00 | * | JA | 11900.00 | * | JA | 7300.00 | * | JA | 9140.00 | * | JA | 6680.00 | * | JA |
| Antimony | 19.90 | N | JA | 18.30 | N | JA | 17.20 | N | JA | 14.40 | N | JA | 19.30 | N | JA |
| Arsenic | 4.70 | N | JA | 4.60 | N | JA | 4.30 | N | JA | 8.10 | N | JA | 3.40 | N | JA |
| Barium | 170.00 | | V | 260.00 | | V | 77.20 | | V | 84.30 | | V | 84.20 | | V |
| Beryllium | 1.60 | | V | 1.60 | | V | 1.50 | | V | 1.70 | | V | 1.60 | | V |
| Cadmium | 0.45 | B | JA | 0.52 | B | JA | 0.42 | U | V | 0.48 | U | V | 0.62 | B | JA |
| Calcium | 5360.00 | | V | 8190.00 | | V | 2750.00 | | V | 4580.00 | | V | 4370.00 | | V |
| Cesium | 11.2 | U | JA | 11.2 | U | JA | 10.5 | U | R | 11.8 | U | JA | 11.8 | U | R |
| Chromium | 18.50 | * | JA | 16.30 | * | JA | 101.00 | * | JA | 12.60 | * | JA | 7.90 | * | JA |
| Cobalt | 8.40 | B | V | 9.70 | B | V | 36.00 | | V | 11.50 | B | V | 9.90 | B | V |
| Copper | 18.00 | | V | 18.40 | | V | 34.40 | | V | 19.90 | | V | 21.00 | | V |
| Iron | 15900.00 | * | JA | 14900.00 | * | JA | 13900.00 | * | JA | 10200.00 | * | JA | 14100.00 | * | JA |
| Lead | 14.30 | | JA | 16.30 | | V | 5.90 | | V | 20.60 | | V | 14.90 | S | V |
| Lithium | 14.10 | B | JA | 9.90 | B | JA | 6.50 | B | JA | 7.00 | B | JA | 5.10 | B | JA |
| Magnesium | 3890.00 | | V | 2940.00 | | V | 2010.00 | | V | 2570.00 | | V | 2710.00 | | V |
| Manganese | 310.00 | N* | JA | 451.00 | N* | JA | 162.00 | N* | JA | 95.40 | N* | JA | 137.00 | N* | JA |
| Mercury | 0.10 | U | V | 0.10 | U | V | 0.11 | U | V | 0.10 | U | V | 0.11 | U | V |
| Molybdenum | 1.80 | B | JA | 1.90 | B | JA | 14.90 | B | JA | 1.70 | B | JA | 1.40 | B | JA |
| Nickel | 15.30 | | V | 15.10 | | V | 42.20 | | V | 19.50 | | V | 22.70 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2160.00 | | V | 2200.00 | | V | 784.00 | B | V | 1050.00 | B | V | 881.00 | B | V |
| Selenium | 0.45 | B | V | 0.44 | B | V | 0.43 | U | V | 0.48 | U | V | 0.45 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.45 | U | JA | 0.45 | U | JA | 0.42 | U | JA | 0.48 | U | R | 0.47 | U | R |
| Sodium | 287.00 | B | V | 162.00 | B | V | 195.00 | B | V | 248.00 | B | V | 185.00 | B | V |
| Strontium | 45.40 | | JA | 49.50 | | JA | 27.20 | B | JA | 67.50 | | JA | 80.80 | | JA |
| Thallium | 0.22 | B | V | 0.22 | B | V | 0.21 | B | V | 0.24 | B | V | 0.23 | B | V |
| Tin | 3.80 | UN | JA | 3.80 | UN | JA | 3.60 | UN | JA | 4.10 | UN | JA | 4.00 | UN | JA |
| Vanadium | 31.60 | | V | 33.40 | | V | 22.10 | | V | 28.30 | | V | 14.10 | | V |
| Zinc | 48.60 | * | JA | 49.20 | * | JA | 31.10 | * | JA | 53.80 | * | JA | 84.90 | * | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 35291 (COL)<br>Sample: BH00422EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/24/91 | | | Location: 35291 (COL)<br>Sample: BH00423EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/24/91 | | | Location: 35291 (WCS)<br>Sample: BH00425EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/24/91 | | | Location: 35391 (COL)<br>Sample: BH00344EBU1 (REAL)<br>Depth: 0.0 - 5.4 '<br>Date: 09/24/91 | | | Location: 35391 (COL)<br>Sample: BH00345EBU1 (DUP)<br>Depth: 0.0 - 5.4 '<br>Date: 09/24/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12900.00 | | V | 10700.00 | | V | 8750.00 | | V | 9920.00 | | V | 10000.00 | | V |
| Antimony | 17.50 | N | JA | 15.10 | N | JA | 10.30 | BN | JA | 15.00 | N | JA | 14.30 | N | JA |
| Arsenic | 3.30 | | V | 4.00 | | V | 1.10 | B | V | 14.70 | | V | 7.80 | | V |
| Barium | 151.00 | * | V | 211.00 | * | V | 115.00 | * | V | 112.00 | * | V | 124.00 | * | V |
| Beryllium | 1.10 | B | V | 0.97 | B | V | 1.10 | B | V | 1.00 | B | V | 1.00 | B | V |
| Cadmium | 0.43 | U | V | 0.45 | U | V | 0.47 | U | V | 0.42 | U | V | 0.41 | U | V |
| Calcium | 8180.00 | | V | 7460.00 | | V | 9030.00 | | V | 4320.00 | | V | 4050.00 | | V |
| Cesium | 10.9 | U | R | 11.3 | U | JA | 11.8 | U | JA | 10.5 | U | JA | 10.,3 | U | JA |
| Chromium | 15.70 | | V | 20.30 | | V | 14.20 | | V | 13.10 | | V | 13.90 | | V |
| Cobalt | 7.30 | B | V | 7.50 | B | V | 7.50 | B | V | 6.60 | B | V | 6.40 | B | V |
| Copper | 17.50 | | V | 18.00 | | V | 14.20 | | V | 16.80 | | V | 15.80 | | V |
| Iron | 16200.00 | | V | 15000.00 | | V | 7220.00 | | V | 15200.00 | | V | 14600.00 | | V |
| Lead | 12.50 | SN | V | 15.70 | N | JA | 15.20 | SN | V | 8.30 | N | JA | 12.00 | SN | V |
| Lithium | 10.20 | B | JA | 9.50 | B | JA | 5.50 | B | JA | 7.30 | B | JA | 6.90 | B | JA |
| Magnesium | 3600.00 | | V | 3410.00 | | V | 2590.00 | | V | 2320.00 | | V | 2250.00 | | V |
| Manganese | 264.00 | N* | JA | 251.00 | N* | JA | 246.00 | N* | JA | 317.00 | N* | JA | 384.00 | N* | JA |
| Mercury | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| Molybdenum | 1.50 | B | JA | 1.90 | B | JA | 1.40 | B | JA | 1.50 | B | JA | 1.50 | B | JA |
| Nickel | 17.00 | | V | 16.00 | | V | 14.60 | | V | 20.20 | | V | 19.90 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1490.00 | | V | 1540.00 | | V | 586.00 | B | V | 985.00 | B | V | 1060.00 | | V |
| Selenium | 0.43 | BN | JA | 0.45 | BN | JA | 0.46 | UN | JA | 0.42 | UN | JA | 0.41 | UN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.43 | U | V | 0.45 | U | V | 0.50 | B | V | 0.42 | U | V | 0.41 | U | V |
| Sodium | 349.00 | B | V | 325.00 | B | V | 298.00 | B | V | 108.00 | B | V | 120.00 | B | V |
| Strontium | 57.80 | | JA | 57.00 | | JA | 82.70 | | JA | 31.50 | B | JA | 31.40 | B | JA |
| Thallium | 0.22 | B | V | 0.22 | B | V | 0.23 | B | V | 0.21 | B | V | 0.21 | B | V |
| Tin | 3.70 | U | JA | 3.90 | U | JA | 392.00 | | JA | 3.60 | U | JA | 3.50 | U | JA |
| Vanadium | 32.00 | | V | 29.40 | | V | 15.00 | | V | 29.20 | | V | 27.50 | | V |
| Zinc | 48.60 | | V | 48.10 | | V | 51.30 | | V | 34.00 | | V | 33.90 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 35391 (WCS)<br>Sample: BH00348EBU1 (REAL)<br>Depth: 5.40 - 9.20 '<br>Date: 09/24/91 | | | Location: 35491 (COL)<br>Sample: BH00429EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/24/91 | | | Location: 35491 (WCS)<br>Sample: BH00431EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/24/91 | | | Location: 35491 (WCS)<br>Sample: BH00432EBU1 (DUP)<br>Depth: 6.0 - 10.0 '<br>Date: 09/24/91 | | | Location: 35591 (WCS)<br>Sample: BH00436EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/26/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 7120.00 | | V | 11700.00 | | V | 8840.00 | | V | 7490.00 | | V | 3350.00 | | V |
| Antimony | 7.60 | BN | JA | 15.40 | N | JA | 14.00 | N | JA | 16.70 | N | JA | 6.40 | BN | JA |
| Arsenic | 3.80 | | V | 3.60 | | V | 2.60 | | V | 3.10 | | V | 2.10 | B | V |
| Barium | 66.50 | * | V | 177.00 | * | V | 112.00 | | V | 112.00 | | V | 66.20 | | V |
| Beryllium | 0.95 | B | V | 0.92 | B | V | 1.60 | | JA | 1.50 | | JA | 1.30 | | JA |
| Cadmium | 0.46 | U | V | 0.44 | U | V | 0.47 | U | V | 0.47 | U | V | 0.46 | U | V |
| Calcium | 3930.00 | | V | 28700.00 | | V | 24600.00 | | V | 21100.00 | | V | 5730.00 | | V |
| Cesium | 11.5 | U | JA | 11.1 | U | JA | 11.7 | U | JA | 11.8 | U | JA | 11.6 | U | JA |
| Chromium | 12.20 | | V | 14.70 | | V | 11.50 | | V | 11.30 | | V | 3.70 | | V |
| Cobalt | 5.70 | B | V | 6.50 | B | V | 5.60 | B | V | 13.50 | | V | 7.50 | B | V |
| Copper | 17.30 | | V | 15.40 | | V | 25.80 | | V | 30.90 | | V | 16.40 | | V |
| Iron | 7970.00 | | V | 11900.00 | | V | 10300.00 | * | JA | 14200.00 | * | JA | | | |
| Lead | 14.00 | SN | V | 39.00 | SN | V | 19.90 | S* | V | 21.30 | * | V | 12.80 | * | V |
| Lithium | 5.00 | B | JA | 9.60 | B | JA | 6.60 | B | JA | 7.60 | B | JA | 1.70 | B | JA |
| Magnesium | 1890.00 | | V | 2870.00 | | V | 2840.00 | | V | 3120.00 | | V | 1480.00 | | V |
| Manganese | 73.20 | N* | JA | 219.00 | N* | JA | 55.40 | N | JA | 104.00 | N | JA | 145.00 | N | JA |
| Mercury | 0.10 | U | V | 0.09 | U | V | 0.12 | | V | 0.10 | U | V | 0.11 | U | V |
| Molybdenum | 1.30 | B | JA | 1.30 | B | JA | 1.10 | B | JA | 1.20 | B | JA | 0.96 | B | JA |
| Nickel | 15.40 | | V | 13.10 | | V | 18.00 | | V | 36.80 | | V | 8.80 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 634.00 | B | V | 1720.00 | | V | 702.00 | BE | JA | 888.00 | BE | JA | 318.00 | BE | JA |
| Selenium | 0.47 | UN | JA | 0.43 | BN | JA | 0.47 | B | V | 0.48 | B | V | 0.46 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.46 | U | V | 0.44 | U | V | 0.51 | B | V | 0.50 | B | V | 0.46 | U | V |
| Sodium | 238.00 | B | V | 151.00 | B | V | 462.00 | BE | JA | 418.00 | BE | JA | 273.00 | BE | JA |
| Strontium | 46.40 | | JA | 113.00 | | JA | 109.00 | | JA | 114.00 | | JA | 45.90 | B | JA |
| Thallium | 0.24 | B | V | 0.21 | BW | JA | 0.47 | B | V | 0.24 | B | V | 0.23 | B | V |
| Tin | 3.90 | U | JA | 3.80 | U | JA | 4.00 | U | JA | 4.00 | U | JA | 3.90 | U | JA |
| Vanadium | 20.90 | | V | 27.80 | | V | 28.90 | | V | 21.70 | | V | 15.40 | | V |
| Zinc | 35.00 | | V | 43.30 | | V | 48.70 | E* | JA | 90.20 | E* | JA | 37.30 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 35591 (WCS)<br>Sample: BH00437EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/26/91 | | | Location: 35791 (COL)<br>Sample: BH00441EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/27/91 | | | Location: 35791 (COL)<br>Sample: BH00442EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/27/91 | | | Location: 35791 (COL)<br>Sample: BH00444EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/27/91 | | | Location: 35791 (WCS)<br>Sample: BH00446EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 09/27/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 4940.00 | | V | 11400.00 | | V | 11400.00 | | V | 10400.00 | | V | 4860.00 | | V |
| Antimony | 10.90 | BN | JA | 16.80 | N | JA | 18.10 | N | JA | 18.90 | N | JA | 12.80 | BN | JA |
| Arsenic | 3.60 | | V | 4.70 | | V | 4.70 | | V | 4.60 | | V | 1.10 | B | V |
| Barium | 736.00 | | V | 86.90 | | V | 121.00 | | V | 237.00 | | V | 48.60 | | V |
| Beryllium | 1.40 | | JA | 1.50 | | JA | 1.50 | | JA | 1.60 | | JA | 1.20 | | JA |
| Cadmium | 0.45 | U | V | 0.46 | U | V | 0.45 | U | V | 0.46 | U | V | 0.45 | U | V |
| Calcium | 10600.00 | | V | 9620.00 | | V | 17700.00 | | V | 7900.00 | | V | 6630.00 | | V |
| Cesium | 11.3 | U | JA | 11.6 | U | R | 11.2 | U | R | 11.6 | U | R | 11.4 | U | JA |
| Chromium | 6.60 | | V | 16.60 | | V | 15.80 | | V | 16.30 | | V | 5.20 | | JA |
| Cobalt | 6.80 | B | V | 7.10 | B | V | 11.60 | | V | 7.50 | B | V | 7.40 | B | V |
| Copper | 16.80 | | V | 16.10 | | V | 17.80 | | V | 16.70 | | V | 13.20 | | V |
| Iron | 6980.00 | * | JA | 15400.00 | * | JA | 16900.00 | * | JA | 16600.00 | * | JA | 10800.00 | * | JA |
| Lead | 19.30 | * | V | 12.50 | * | V | 14.60 | * | V | 10.30 | S* | V | 17.90 | * | V |
| Lithium | 3.00 | B | JA | 10.70 | B | JA | 9.10 | B | JA | 10.80 | B | JA | 2.80 | B | JA |
| Magnesium | 1650.00 | | V | 4030.00 | | V | 3680.00 | | V | 3920.00 | | V | 1660.00 | | V |
| Manganese | 151.00 | N | JA | 451.00 | N | JA | 392.00 | N | JA | 326.00 | N | JA | 187.00 | N | JA |
| Mercury | 0.12 | U | V | 0.09 | U | V | 0.11 | U | V | 0.12 | U | V | 0.12 | U | V |
| Molybdenum | 0.94 | B | JA | 1.30 | B | JA | 1.90 | B | JA | 1.60 | B | JA | 1.00 | B | JA |
| Nickel | 11.70 | | V | 16.10 | | V | 17.30 | | V | 16.40 | | V | 13.70 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 453.00 | BE | JA | 1380.00 | E | JA | 1320.00 | E | JA | 1160.00 | E | JA | 500.00 | BE | JA |
| Selenium | 0.44 | B | V | 0.45 | U | V | 0.45 | B | V | 0.48 | U | V | 0.45 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.46 | B | V | 0.47 | B | V | 0.45 | U | V | 0.46 | U | V | 0.45 | U | V |
| Sodium | 259.00 | BE | JA | 476.00 | BE | JA | 301.00 | BE | JA | 585.00 | BE | JA | 297.00 | BE | JA |
| Strontium | 69.80 | | JA | 47.60 | | JA | 66.80 | | JA | 54.60 | | JA | 48.50 | | JA |
| Thallium | 0.22 | U | V | 0.22 | B | V | 0.22 | B | V | 0.24 | UW | V | 0.23 | U | V |
| Tin | 3.90 | U | JA | 3.90 | U | JA | 3.80 | U | JA | 3.90 | U | JA | 3.90 | U | JA |
| Vanadium | 17.70 | | V | 22.70 | | V | 31.60 | | V | 29.90 | | V | 11.10 | B | V |
| Zinc | 46.20 | E* | JA | 46.20 | E* | JA | 52.70 | E* | JA | 41.90 | E* | JA | 39.90 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 35891 (COL)<br>Sample: 8H00450EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/01/91 | | | Location: 35891 (COL)<br>Sample: 8H00451EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/01/91 | | | Location: 35891 (WCS)<br>Sample: 8H00453EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/01/91 | | | Location: 36091 (COL)<br>Sample: 8H00458EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/02/91 | | | Location: 36091 (COL)<br>Sample: 8H00459EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/02/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 6740.00 | | V | 4040.00 | | V | 7740.00 | | V | 7670.00 | | V |
| Antimony | 15.70 | N | JA | 17.20 | N | JA | 9.90 | BN | JA | 10.30 | BN | JA | 9.50 | BN | JA |
| Arsenic | 2.90 | | V | 3.10 | | V | 0.95 | BW | JA | 3.10 | N | JA | 2.10 | N | JA |
| Barium | 125.00 | N | JA | 151.00 | N | JA | 51.20 | N | JA | 69.90 | * | V | 73.00 | * | V |
| Beryllium | 1.40 | | JA | 1.50 | | JA | 1.40 | | JA | 0.38 | B | V | 0.41 | B | V |
| Cadmium | 0.45 | U | V | 0.46 | U | V | 0.57 | B | JA | 0.43 | U | V | 0.44 | U | V |
| Calcium | 10800.00 | | V | 11900.00 | | V | 8570.00 | | V | 9900.00 | E | V | 10300.00 | E | V |
| Cesium | 11.4 | U | JA | 11.0 | U | JA | 11.8 | U | JA | 10.8 | U | JA | 10.9 | U | JA |
| Chromium | 9.00 | | JA | 9.80 | | JA | 5.90 | | JA | 9.30 | | V | 11.40 | | V |
| Cobalt | 6.90 | B | V | 9.00 | B | V | 4.40 | B | JA | 3.30 | B | JA | 4.00 | B | V |
| Copper | 28.20 | | V | 25.70 | | V | 22.10 | | V | 15.30 | | V | 14.00 | | V |
| Iron | 10700.00 | | V | 12600.00 | | V | 3670.00 | | V | 9840.00 | E | V | 10300.00 | E | V |
| Lead | 15.00 | N | JA | 12.60 | N | JA | 12.70 | N | JA | 12.40 | SN | JA | 145.00 | N | JA |
| Lithium | 5.40 | B | JA | 5.00 | B | JA | 1.80 | B | JA | 7.60 | B | JA | 8.80 | B | JA |
| Magnesium | 1970.00 | | V | 2080.00 | | V | 1570.00 | | V | 1870.00 | E | V | 2200.00 | E | V |
| Manganese | 156.00 | | V | 195.00 | | V | 129.00 | | | 202.00 | E* | JA | 217.00 | E* | JA |
| Mercury | 0.11 | U | V | 0.11 | | V | 0.11 | | V | 0.10 | U | V | 0.11 | | V |
| Molybdenum | 1.50 | B | JA | 1.70 | B | JA | 1.40 | B | JA | 0.86 | B | JA | 1.10 | B | JA |
| Nickel | 14.80 | | V | 16.70 | | V | 9.30 | B | V | 8.20 | B | V | 9.60 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 880.00 | BE | JA | 818.00 | BE | JA | 329.00 | BE | JA | 1530.00 | E | JA | 1610.00 | E | JA |
| Selenium | 0.46 | U | V | 0.44 | UW | V | 0.47 | U | V | 0.44 | U | V | 0.43 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.59 | B | JA | 0.62 | B | JA | 0.78 | B | JA | 0.43 | U | JA | 0.44 | U | R |
| Sodium | 209.00 | BE | JA | 220.00 | BE | JA | 285.00 | BE | JA | 86.10 | BE | JA | 75.90 | BE | JA |
| Strontium | 54.20 | | JA | 56.70 | | JA | 46.00 | B | JA | 36.90 | B | JA | 30.20 | B | JA |
| Thallium | 0.23 | U | V | 0.22 | B | V | 0.24 | B | V | 0.22 | | V | 0.21 | U | V |
| Tin | 3.90 | U | JA | 3.90 | U | JA | 4.00 | U | JA | 3.70 | UN | JA | 3.70 | UN | JA |
| Vanadium | 18.60 | | V | 20.20 | | V | 13.60 | | V | 19.70 | E | JA | 21.50 | E | JA |
| Zinc | 46.90 | E | JA | 52.40 | E | JA | 24.90 | E | JA | 32.30 | E | JA | 40.20 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 36091 (COL)<br>Sample: BH00461EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/02/91 | | | Location: 36091 (WCS)<br>Sample: BH00464EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/02/91 | | | Location: 36291 (COL)<br>Sample: BH00468EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/03/91 | | | Location: 36291 (WCS)<br>Sample: BH00470EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/03/91 | | | Location: 36291 (WCS)<br>Sample: BH00471EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 10/03/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 8980.00 | | V | 13300.00 | | V | 10000.00 | | V | 6600.00 | | V | 5500.00 | | V |
| Antimony | 8.40 | BN | JA | 11.60 | BN | JA | 12.30 | BN | JA | 9.40 | BN | JA | 5.80 | BN | JA |
| Arsenic | 4.30 | N | JA | 5.40 | N | JA | 3.30 | N | JA | 2.50 | N | JA | 3.40 | N | JA |
| Barium | 151.00 | * | V | 137.00 | * | V | 104.00 | * | V | 205.00 | * | V | 255.00 | * | V |
| Beryllium | 0.84 | B | V | 1.00 | B | V | 1.00 | B | V | 0.64 | B | V | 0.62 | B | V |
| Cadmium | 0.46 | U | V | 0.47 | U | V | 0.42 | U | V | 0.47 | U | V | 0.45 | U | V |
| Calcium | 14900.00 | E | V | 11600.00 | E | V | 35300.00 | E | V | 12300.00 | E | V | 7190.00 | E | V |
| Cesium | 11.6 | U | JA | 11.8 | U | JA | 10.5 | U | JA | 11.8 | U | JA | 11.4 | U | JA |
| Chromium | 10.30 | | V | 15.10 | | V | 14.40 | | V | 8.30 | | V | 6.10 | | JA |
| Cobalt | 3.00 | B | JA | 6.30 | B | V | 6.00 | B | V | 9.00 | B | V | 4.80 | B | V |
| Copper | 22.50 | | V | 15.30 | | V | 11.00 | | V | 17.30 | | V | 14.30 | | V |
| Iron | 9700.00 | E | V | 14200.00 | E | V | 11200.00 | E | V | 8070.00 | E | V | 5050.00 | E | V |
| Lead | 20.00 | SN | JA | 15.80 | N | JA | 16.20 | N | JA | 15.90 | N | JA | 13.40 | N | JA |
| Lithium | 3.80 | B | JA | 8.80 | B | JA | 7.40 | B | JA | 4.30 | B | JA | 3.40 | B | JA |
| Magnesium | 2850.00 | E | V | 2230.00 | E | V | 2100.00 | E | V | 2320.00 | E | V | 2060.00 | E | V |
| Manganese | 108.00 | E* | JA | 223.00 | E* | JA | 123.00 | E* | JA | 270.00 | E* | JA | 93.30 | E* | JA |
| Mercury | 0.15 | | V | 0.16 | | V | 0.12 | | V | 0.13 | | V | 0.11 | U | V |
| Molybdenum | 0.89 | B | JA | 0.71 | U | JA | 0.79 | B | JA | 0.90 | B | JA | 0.68 | U | JA |
| Nickel | 7.60 | B | V | 14.20 | | V | 12.70 | | V | 20.20 | | V | 12.30 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 720.00 | BE | JA | 1380.00 | E | JA | 1050.00 | BE | JA | 820.00 | BE | JA | 541.00 | BE | JA |
| Selenium | 0.48 | UW | V | 0.71 | B | V | 0.42 | U | V | 0.46 | B | V | 0.46 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.46 | U | JA | 0.47 | U | JA | 0.49 | B | JA | 0.47 | U | JA | 0.45 | U | JA |
| Sodium | 280.00 | BE | JA | 276.00 | BE | JA | 86.20 | BE | JA | 97.20 | BE | JA | 179.00 | BE | JA |
| Strontium | 97.90 | | JA | 43.20 | B | JA | 73.10 | | JA | 66.40 | | JA | 62.30 | | JA |
| Thallium | 0.24 | B | V | 0.24 | U | V | 0.21 | U | V | 0.23 | B | V | 0.23 | B | V |
| Tin | 3.90 | UN | JA | 4.00 | UN | JA | 3.60 | UN | JA | 4.00 | UN | JA | 3.90 | UN | JA |
| Vanadium | 29.60 | E | JA | 38.00 | E | JA | 30.40 | E | JA | 17.60 | E | JA | 12.40 | E | JA |
| Zinc | 44.10 | E | JA | 32.00 | E | JA | 24.90 | E | JA | 56.40 | E | JA | 35.10 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 36291 (WCS)<br>Sample: BH00473EBU1 (REAL)<br>Depth: 12.0 - 13.9 '<br>Date: 10/03/91 | | | Location: 36391 (COL)<br>Sample: BH00523EBU1 (REAL)<br>Depth: 0.0 - 5.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00524EBU1 (DUP)<br>Depth: 0.0 - 5.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00526EBU1 (REAL)<br>Depth: 6.0 - 11.80 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00530EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 4520.00 | | V | 7180.00 | | V | 7350.00 | | V | 3940.00 | | V | 7200.00 | | V |
| Antimony | 10.00 | BN | JA | 14.60 | N | JA | 15.20 | N | JA | 10.90 | BN | JA | 12.80 | BN | JA |
| Arsenic | 13.90 | N | JA | 4.60 | * | V | 2.80 | * | V | 1.60 | B* | V | 6.00 | * | V |
| Barium | 165.00 | * | V | 151.00 | | V | 115.00 | | V | 185.00 | | V | 110.00 | | V |
| Beryllium | 0.54 | B | V | 0.73 | B | V | 0.68 | B | V | 0.55 | B | V | 0.69 | B | V |
| Cadmium | 0.46 | U | V | 0.44 | U | V | 0.44 | U | V | 0.45 | U | V | 0.48 | U | V |
| Calcium | 47500.00 | E | V | 21200.00 | * | V | 24500.00 | * | V | 7640.00 | * | V | 24800.00 | * | V |
| Cesium | 11.4 | U | JA | 11 | U | JA | 11 | U | JA | 11 | U | JA | 12 | | JA |
| Chromium | 8.20 | | V | 10.60 | | V | 12.40 | | V | 5.00 | | V | 12.30 | | V |
| Cobalt | 5.30 | B | V | 7.20 | B | V | 4.90 | B | V | 5.20 | B | V | 5.50 | B | V |
| Copper | 15.80 | | V | 17.70 | | V | 16.30 | | V | 13.30 | | V | 16.70 | | V |
| Iron | 6210.00 | E | V | 11600.00 | | V | 10800.00 | | V | 7230.00 | | V | 9480.00 | | V |
| Lead | 13.20 | N | JA | 14.00 | N | JA | 12.40 | N | JA | 10.60 | N | JA | 17.80 | N | JA |
| Lithium | 3.20 | B | JA | 4.90 | B | JA | 5.20 | B | JA | 2.30 | B | JA | 5.00 | B | JA |
| Magnesium | 2310.00 | E | V | 2390.00 | | V | 2270.00 | | V | 1870.00 | | V | 2540.00 | | V |
| Manganese | 74.30 | E* | JA | 211.00 | N* | JA | 166.00 | N* | JA | 100.00 | N* | JA | 163.00 | N* | JA |
| Mercury | 0.11 | U | V | 0.11 | | V | 0.20 | | V | 0.11 | U | V | 0.11 | U | V |
| Molybdenum | 1.50 | B | JA | 1.10 | B | JA | 1.20 | B | JA | 0.84 | B | JA | 1.70 | B | JA |
| Nickel | 13.20 | | V | 14.90 | | V | 11.30 | | V | 8.90 | B | V | 13.50 | | V |
| *Phosphorus* | | | | | | | | | | | | | | | |
| Potassium | 549.00 | BE | JA | 934.00 | BE | JA | 1010.00 | BE | JA | 525.00 | BE | JA | 981.00 | BE | JA |
| Selenium | 0.46 | U | V | 0.44 | UWN | JA | 0.43 | UWN | JA | 0.45 | UWN | JA | 0.48 | UWN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.49 | B | JA | 0.44 | U | V | 0.44 | U | V | 0.45 | U | V | 0.48 | U | V |
| Sodium | 150.00 | BE | JA | 148.00 | BE | JA | 105.00 | BE | JA | 152.00 | BE | JA | 183.00 | BE | JA |
| Strontium | 98.30 | | JA | 67.90 | | JA | 60.90 | | JA | 58.80 | | JA | 69.00 | | JA |
| Thallium | 0.23 | B | V | 0.22 | B | V | 0.21 | U | V | 0.23 | U | V | 0.23 | B | V |
| Tin | 3.90 | UN | JA | 3.70 | U | JA | 3.70 | U | JA | 3.90 | U | JA | 4.10 | U | JA |
| Vanadium | 16.10 | E | JA | 23.20 | | V | 21.60 | | V | 13.00 | | V | 20.00 | | V |
| Zinc | 41.90 | E | JA | 45.90 | E | JA | 42.80 | E | JA | 36.10 | E | JA | 44.20 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 36391 (COL)<br>Sample: BH00533EBU1 (REAL)<br>Depth: 18.2 - 23.95 '<br>Date: 10/07/91 | | | Location: 36391 (WCS)<br>Sample: BH00537EBU1 (REAL)<br>Depth: 23.9 - 29.70 '<br>Date: 10/07/91 | | | Location: 36491 (COL)<br>Sample: BH00477EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/04/91 | | | Location: 36491 (COL)<br>Sample: BH00478EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/04/91 | | | Location: 36491 (COL)<br>Sample: BH00480EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 13600.00 | | V | 5260.00 | | V | 12200.00 | * | V | 15900.00 | * | V | 10600.00 | * | V |
| Antimony | 14.40 | N | JA | 6.20 | BN | JA | 18.60 | N | JA | 19.30 | N | JA | 12.10 | BN | JA |
| Arsenic | 4.60 | * | V | 4.60 | BS* | V | 4.00 | BS | V | 4.60 | | V | 3.30 | | V |
| Barium | 109.00 | | V | 42.30 | B | V | 202.00 | | V | 219.00 | | V | 310.00 | | V |
| Beryllium | 0.98 | B | V | 0.70 | B | V | 0.82 | B | V | 0.96 | B | V | 0.89 | B | V |
| Cadmium | 0.47 | U | V | 0.46 | U | V | 0.45 | U | V | 0.46 | U | V | 0.47 | U | V |
| Calcium | 4370.00 | * | V | 4210.00 | * | V | 12100.00 | * | V | 9370.00 | * | V | 5150.00 | * | V |
| Cesium | 12 | U | JA | 11 | U | JA | 11 | U | JA | 11 | U | JA | 12 | U | JA |
| Chromium | 18.50 | | V | 5.50 | | V | 16.00 | | V | 18.40 | | V | 12.50 | | V |
| Cobalt | 8.30 | B | V | 3.10 | B | V | 9.60 | B | V | 9.50 | B | V | 4.70 | B | V |
| Copper | 13.10 | | V | 13.00 | | V | 19.40 | | V | 21.30 | | V | 12.10 | | V |
| Iron | 14600.00 | | V | 4470.00 | | V | 16700.00 | | V | 20400.00 | | V | 13300.00 | | V |
| Lead | 9.10 | N | JA | 15.20 | N | JA | 14.40 | | V | 16.00 | | V | 9.20 | | V |
| Lithium | 11.20 | B | JA | 2.50 | B | JA | 11.60 | B | JA | 14.00 | B | JA | 8.30 | B | JA |
| Magnesium | 3050.00 | | V | 1650.00 | | V | 4090.00 | | V | 4360.00 | | V | 3100.00 | | V |
| Manganese | 813.00 | N* | JA | 99.20 | N* | JA | 329.00 | | V | 369.00 | | V | 81.10 | | V |
| Mercury | 0.11 | U | V | 0.23 | | V | 0.13 | | V | 0.10 | U | V | 0.12 | | V |
| Molybdenum | 1.50 | B | JA | 0.69 | U | JA | 0.84 | B | JA | 0.90 | B | JA | 0.70 | U | JA |
| Nickel | 27.40 | | V | 6.30 | B | V | 19.00 | | V | 20.50 | | V | 12.20 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 817.00 | BE | JA | 472.00 | BE | JA | 1930.00 | E | JA | 2340.00 | E | JA | 942.00 | BE | JA |
| Selenium | 0.46 | UWN | JA | 0.47 | UWN | JA | 0.45 | UWN | JA | 0.46 | UWN | JA | 0.47 | UWN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.47 | U | V | 0.46 | U | V | 0.45 | U | JA | 0.46 | U | JA | 0.47 | U | V |
| Sodium | 367.00 | BE | JA | 279.00 | BE | JA | 171.00 | BE | JA | 178.00 | BE | JA | 233.00 | BE | JA |
| Strontium | 43.30 | B | JA | 47.00 | | JA | 62.60 | | JA | 67.80 | | JA | 69.20 | | JA |
| Thallium | 0.23 | UW | JA | 0.23 | UW | V | 0.23 | B | V | 0.23 | B | V | 0.24 | BW | JA |
| Tin | 4.00 | U | JA | 3.90 | U | JA | 3.80 | UN | JA | 3.90 | UN | JA | 4.00 | UN | JA |
| Vanadium | 27.50 | | V | 13.60 | | V | 32.90 | | V | 38.40 | | V | 27.00 | | V |
| Zinc | 27.00 | E | JA | 27.50 | E | JA | 55.40 | E | JA | 65.30 | E | JA | 23.70 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 36491 (WCS)<br>Sample: 8H00483EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/04/91 | | | Location: 36591 (COL)<br>Sample: 8H00488EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/07/91 | | | Location: 36591 (COL)<br>Sample: 8H00489EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/07/91 | | | Location: 36591 (COL)<br>Sample: 8H00491EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/07/91 | | | Location: 36591 (WCS)<br>Sample: 8H00493EBU1 (REAL)<br>Depth: 13.0 - 17.0 '<br>Date: 10/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 5960.00 | * | V | 5350.00 | | V | 6500.00 | | V | 6340.00 | | V | 5800.00 | | V |
| Antimony | 11.10 | BN | JA | 13.30 | BN | JA | 14.00 | N | JA | 8.40 | BN | JA | 9.70 | BN | JA |
| Arsenic | 3.10 | | V | 5.60 | * | V | 5.40 | * | V | 5.20 | * | V | 5.1 | | JA |
| Barium | 72.40 | | V | 88.50 | | V | 104.00 | | V | 51.60 | | V | 60.00 | | V |
| Beryllium | 0.69 | B | V | 0.62 | B | V | 0.58 | B | V | 0.56 | B | V | 0.64 | B | V |
| Cadmium | 0.47 | U | V | 0.46 | U | V | 0.44 | U | V | 0.43 | U | V | 0.48 | U | V |
| Calcium | 8380.00 | * | V | 82100.00 | * | V | 61300.00 | * | V | 7510.00 | * | V | 4890.00 | * | V |
| Cesium | 12 | U | JA | 11 | U | JA | 11 | U | JA | 11 | U | JA | 12 | U | JA |
| Chromium | 7.2 | B | V | 10.40 | | V | 10.40 | | V | 10.40 | | V | 6.50 | | V |
| Cobalt | 10.80 | B | V | 3.30 | B | JA | 5.50 | B | JA | 3.40 | B | V | 4.70 | B | V |
| Copper | 13.30 | | V | 8.90 | | JA | 11.70 | | JA | 9.30 | | JA | 19.20 | | V |
| Iron | 10400.00 | | V | 5490.00 | | V | 7610.00 | | V | 8520.00 | | V | 8570.00 | | V |
| Lead | 11.20 | | V | 17.20 | N | JA | 13.10 | N | JA | 5.10 | SN | JA | 20.50 | N | JA |
| Lithium | 4.00 | B | JA | 6.30 | B | JA | 6.10 | B | JA | 4.30 | B | JA | 2.90 | B | JA |
| Magnesium | 2080.00 | | V | 3360.00 | | V | 2810.00 | | V | 1240.00 | | V | 1920.00 | | V |
| Manganese | 152.00 | | V | 82.80 | N* | JA | 139.00 | N* | JA | 88.60 | N* | JA | 80.10 | N* | JA |
| Mercury | 0.16 | | V | 0.11 | U | V | 0.11 | U | V | 0.10 | U | V | 0.13 | | V |
| Molybdenum | 0.70 | U | JA | 1.10 | B | JA | 1.00 | B | JA | 1.00 | B | JA | 0.72 | U | JA |
| Nickel | 13.60 | | V | 6.80 | B | JA | 10.00 | | JA | 7.80 | B | V | 10.90 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 499.00 | BE | JA | 767.00 | BE | JA | 1010.00 | BE | JA | 618.00 | BE | JA | 642.00 | BE | JA |
| Selenium | 0.48 | UWN | JA | 0.45 | UWN | JA | 0.45 | UWN | JA | 0.43 | UWN | JA | 0.46 | UWN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.47 | U | V | 0.46 | U | V | 0.44 | U | V | 0.43 | U | V | 0.48 | U | V |
| Sodium | 328.00 | BE | JA | 283.00 | BE | JA | 186.00 | BE | JA | 155.00 | BE | JA | 300.00 | BE | JA |
| Strontium | 46.00 | B | JA | 204.00 | | JA | 138.00 | | JA | 30.30 | B | JA | 51.50 | | JA |
| Thallium | 0.24 | U | V | 0.22 | U | V | 0.22 | UW | JA | 0.21 | UW | JA | 0.23 | UW | JA |
| Tin | 4.00 | UN | JA | 3.90 | U | R | 3.70 | U | R | 3.70 | U | JA | 4.10 | U | JA |
| Vanadium | 18.40 | | V | 15.10 | | JA | 20.50 | | JA | 19.30 | | V | 18.30 | | V |
| Zinc | 34.80 | E | JA | 20.00 | E | JA | 27.60 | E | JA | 14.60 | E | JA | 57.10 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 36691 (COL)<br>Sample: BH00541EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00543EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00544EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00547EBU1 (REAL)<br>Depth: 12.0 - 17.40 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00550EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6880.00 | | V | 14400.00 | | V | 14700.00 | | V | 12800.00 | | V | 5270.00 | | V |
| Antimony | 7.40 | BN | JA | 13.20 | BN | JA | 14.10 | BN | JA | 10.80 | BN | JA | 10.90 | BN | JA |
| Arsenic | 3.00 | | V | 4.20 | | V | 2.60 | | V | 4.10 | | V | 1.90 | B | V |
| Barium | 132.00 | N | JA | 182.00 | N | JA | 203.00 | N | JA | 89.70 | N | JA | 131.00 | N | JA |
| Beryllium | 0.67 | B | V | 0.83 | B | V | 0.89 | B | V | 0.96 | B | V | 0.78 | B | V |
| Cadmium | 0.47 | U | V | 0.44 | U | V | 0.47 | U | V | 0.45 | U | V | 0.47 | U | V |
| Calcium | 7860.00 | | V | 5100.00 | | V | 9470.00 | | V | 3630.00 | | V | 78900.00 | | V |
| Cesium | 11.6 | U | JA | 11.1 | U | JA | 11.9 | U | JA | 11.4 | U | JA | 11.7 | U | JA |
| Chromium | 7.60 | | V | 18.30 | | V | 19.40 | | JA | 11.80 | | V | 9.40 | | V |
| Cobalt | 6.50 | B | V | 7.30 | B | V | 8.50 | B | V | 5.10 | B | V | 3.00 | B | JA |
| Copper | 22.80 | | V | 21.80 | | V | 23.00 | | V | 14.50 | | V | 10.40 | | JA |
| Iron | 9060.00 | | V | 17800.00 | | V | 19200.00 | | V | 13200.00 | | V | 7190.00 | | V |
| Lead | 18.30 | N* | JA | 18.80 | SN* | JA | 13.50 | SN* | JA | 7.90 | N* | JA | 8.90 | N* | JA |
| Lithium | 3.50 | B | JA | 12.60 | B | JA | 12.80 | B | JA | 14.20 | B | JA | 4.40 | B | JA |
| Magnesium | 2360.00 | | V | 3860.00 | | V | 4170.00 | | V | 2920.00 | | V | 3050.00 | | V |
| Manganese | 170.00 | N | JA | 308.00 | N | JA | 598.00 | N | JA | 113.00 | N | JA | 151.00 | N | JA |
| Mercury | 0.11 | U | V | 0.09 | U | V | 0.10 | U | V | 0.11 | U | V | 0.10 | U | V |
| Molybdenum | 0.70 | U | JA | 0.84 | B | JA | 1.10 | B | JA | 0.70 | B | JA | 0.70 | U | R |
| Nickel | 12.00 | | V | 14.70 | | V | 18.40 | | V | 18.90 | | V | 9.40 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 892.00 | B | V | 1710.00 | | V | 1770.00 | | V | 1020.00 | B | V | 482.00 | B | V |
| Selenium | 0.47 | UN | JA | 0.45 | UN | JA | 0.47 | UN | JA | 0.45 | UN | JA | 0.47 | UN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.47 | U | V | 0.44 | U | V | 0.47 | U | JA | 0.45 | U | JA | 0.47 | U | V |
| Sodium | 252.00 | B | V | 408.00 | B | V | 450.00 | B | V | 409.00 | B | V | 303.00 | B | JA |
| Strontium | 83.70 | | JA | 42.10 | B | JA | 47.30 | B | JA | 36.70 | B | JA | 172.00 | | JA |
| Thallium | 0.23 | BN | JA | 0.22 | BN | JA | 0.23 | BN | JA | 0.23 | BN | JA | 0.23 | UN | JA |
| Tin | 4.00 | UN | JA | 3.80 | UN | JA | 4.00 | UN | JA | 3.90 | UN | JA | 4.00 | UN | R |
| Vanadium | 18.60 | | V | 32.40 | | V | 36.10 | | V | 25.00 | | V | 22.90 | | JA |
| Zinc | 65.10 | E | JA | 52.30 | E | JA | 56.30 | E | JA | 26.30 | E | JA | 23.70 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 36691 (WCS)<br>Sample: BH00554EBU1 (REAL)<br>Depth: 24.0 - 28.0 '<br>Date: 10/11/91 | | | Location: 36791 (COL)<br>Sample: BH00499EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/09/91 | | | Location: 36791 (COL)<br>Sample: BH00600EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/09/91 | | | Location: 36791 (COL)<br>Sample: BH00602EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/09/91 | | | Location: 36791 (WCS)<br>Sample: BH00604EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 10/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 5840.00 | | V | 8890.00 | | V | 8730.00 | | V | 13000.00 | | V | 7780.00 | | V |
| Antimony | 3.50 | BN | JA | 11.50 | BN | JA | 13.40 | BN | JA | 18.50 | N | JA | 15.20 | BN | JA |
| Arsenic | 2.90 | | V | 3.40 | | V | 2.70 | | V | 4.00 | | V | 2.70 | | V |
| Barium | 153.00 | N | JA | 122.00 | N | JA | 145.00 | N | JA | 152.00 | N | JA | 74.40 | N | JA |
| Beryllium | 0.67 | B | V | 0.75 | B | V | 0.72 | B | V | 0.87 | B | V | 0.86 | B | V |
| Cadmium | 0.47 | U | V | 0.47 | U | V | 0.50 | U | V | 0.48 | U | V | 0.51 | U | V |
| Calcium | 9470.00 | | V | 14900.00 | * | JA | 14300.00 | * | JA | 12500.00 | * | JA | 4250.00 | * | JA |
| Cesium | 11.7 | U | JA | 11.8 | U | JA | 12.4 | U | JA | 11.9 | U | JA | 12.6 | U | JA |
| Chromium | 6.90 | | V | 10.00 | | V | 10.10 | | V | 17.70 | | V | 7.20 | | V |
| Cobalt | 2.70 | B | V | 7.80 | B | V | 7.50 | B | V | 9.50 | B | V | 9.40 | B | V |
| Copper | 23.00 | | V | 32.60 | | V | 15.80 | | JA | 19.70 | | JA | 21.30 | | JA |
| Iron | 3870.00 | | V | 13200.00 | | V | 13000.00 | | V | 18100.00 | | V | 14300.00 | | V |
| Lead | 23.70 | N* | JA | 12.50 | | V | 14.00 | | V | 13.60 | | V | 14.7 | | V |
| Lithium | 3.40 | B | JA | 5.00 | B | JA | 5.70 | B | JA | 12.20 | B | JA | 4.60 | B | JA |
| Magnesium | 1840.00 | | V | 2670.00 | | V | 2730.00 | | V | 5170.00 | | V | 2350.00 | | V |
| Manganese | 60.50 | N | JA | 385.00 | * | JA | 285.00 | * | JA | 519.00 | * | JA | 194.00 | * | JA |
| Mercury | 0.12 | U | V | 0.12 | U | V | 0.13 | | V | 0.11 | U | V | 0.19 | | V |
| Molybdenum | 0.96 | B | JA | 0.83 | B | JA | 0.75 | U | JA | 1.20 | B | JA | 0.76 | U | JA |
| Nickel | 7.70 | B | V | 13.80 | | V | 13.30 | | V | 19.20 | | V | 22.20 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 686.00 | B | V | 1130.00 | B | V | 1440.00 | | V | 1730.00 | | | 692.00 | B | V |
| Selenium | 0.45 | UN | JA | 0.48 | U | V | 0.49 | U | V | 0.48 | U | V | 0.50 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.47 | U | JA | 0.47 | U | JA | 0.50 | U | V | 0.48 | U | V | 0.51 | U | V |
| Sodium | 229.00 | B | V | 220.00 | B | V | 257.00 | B | V | 1130.00 | B | V | 733.00 | B | V |
| Strontium | 88.60 | | JA | 57.80 | | JA | 54.70 | | JA | 61.50 | | JA | 63.60 | | JA |
| Thallium | 0.23 | BN | JA | 0.24 | U | V | 0.24 | U | V | 0.24 | B | V | 0.25 | U | V |
| Tin | 4.00 | UN | JA | 4.00 | U | JA | 4.20 | U | JA | 4.00 | U | JA | 4.30 | U | JA |
| Vanadium | 20.10 | | V | 24.90 | | V | 26.50 | | V | 33.30 | | V | 15.00 | | V |
| Zinc | 64.90 | E | JA | 53.60 | E* | JA | 46.70 | E* | JA | 49.10 | E* | JA | 72.00 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 36891 (COL)<br>Sample: BH00609EBU1 (REAL)<br>Depth: 0.0 - 5.80 '<br>Date: 10/10/91 | | | Location: 36891 (COL)<br>Sample: BH00610EBU1 (DUP)<br>Depth: 0.0 - 5.80 '<br>Date: 10/10/91 | | | Location: 36891 (WCS)<br>Sample: BH00612EBU1 (REAL)<br>Depth: 5.8 - 13.0 '<br>Date: 10/10/91 | | | Location: 36991 (COL)<br>Sample: BH00616EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/11/91 | | | Location: 36991 (WCS)<br>Sample: BH00618EBU1 (REAL)<br>Depth: 6.0 - 10.55 '<br>Date: 10/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 5050.00 | | V | 3200.00 | | V | 10000.00 | | V | 10600.00 | | V | 13000.00 | | V |
| Antimony | 17.20 | N | JA | 9.80 | BN | JA | 11.50 | BN | JA | 15.00 | N | JA | 16.70 | N | JA |
| Arsenic | 4.50 | | V | 5.90 | | V | 5.80 | | V | 4.60 | | V | 5.20 | | V |
| Barium | 126.00 | N | JA | 54.10 | N | JA | 27.30 | BN | JA | 104.00 | N | JA | 442.00 | N | JA |
| Beryllium | 0.65 | B | V | 0.27 | B | V | 1.00 | B | V | 0.80 | B | V | 1.20 | | V |
| Cadmium | 0.45 | U | V | 0.43 | U | V | 0.47 | U | V | 0.47 | U | V | 0.48 | U | V |
| Calcium | 18700.00 | * | JA | 6630.00 | * | JA | 4870.00 | * | JA | 11100.00 | * | JA | 25100.00 | * | JA |
| Cesium | 11.2 | U | JA | 10.6 | U | JA | 11.7 | U | JA | 11.8 | U | JA | 12.0 | U | JA |
| Chromium | 8.40 | | V | 4.60 | | V | 8.50 | | V | 11.00 | | V | 14.40 | | V |
| Cobalt | 9.20 | B | V | 2.00 | B | JA | 7.10 | B | V | 6.70 | B | V | 12.50 | | V |
| Copper | 14.10 | | V | 13.80 | | V | 15.50 | | V | 16.50 | | V | 18.40 | | V |
| Iron | 13300.00 | | V | 4580.00 | | V | 10900.00 | | V | 13800.00 | | V | 12700.00 | | V |
| Lead | 14.90 | | V | 6.50 | | V | 15.70 | | V | 18.90 | | V | 21.10 | | V |
| Lithium | 2.20 | B | JA | 1.90 | B | JA | 6.30 | B | JA | 6.50 | B | JA | 7.00 | B | JA |
| Magnesium | 2270.00 | | V | 996.00 | B | V | 3340.00 | | V | 2510.00 | | V | 4410.00 | | V |
| Manganese | 414.00 | * | JA | 108.00 | * | JA | 191.00 | * | JA | 219.00 | * | JA | 241.00 | * | JA |
| Mercury | 0.10 | U | V | 0.10 | U | V | 0.13 | | V | 0.10 | U | V | 0.12 | U | V |
| Molybdenum | 1.50 | B | JA | 0.64 | U | JA | 0.74 | B | JA | 0.71 | U | JA | 0.72 | B | JA |
| Nickel | 12.10 | | V | 5.10 | B | V | 15.30 | | V | 15.70 | | V | 18.20 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 525.00 | B | V | 550.00 | B | V | 567.00 | B | V | 1370.00 | | V | 794.00 | B | V |
| Selenium | 0.45 | U | V | 0.43 | U | V | 0.48 | B | V | 0.46 | UW | V | 1.20 | | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.45 | U | JA | 0.43 | U | V | 0.47 | U | V | 0.47 | U | V | 0.48 | U | JA |
| Sodium | 197.00 | B | V | 174.00 | B | V | 1720.00 | | V | 103.00 | B | V | 960.00 | B | V |
| Strontium | 64.80 | | JA | 22.50 | B | JA | 59.40 | | JA | 37.80 | B | JA | 134.00 | | JA |
| Thallium | 0.23 | B | V | 0.22 | U | V | 0.24 | B | V | 0.23 | B | V | 0.24 | U | V |
| Tin | 3.80 | U | JA | 3.60 | U | JA | 4.00 | U | JA | 4.00 | U | JA | 4.10 | U | JA |
| Vanadium | 16.00 | | V | 12.10 | | V | 13.10 | | V | 30.10 | | V | 29.20 | | V |
| Zinc | 48.40 | E* | JA | 20.40 | E* | JA | 47.70 | E* | JA | 66.80 | E* | JA | 67.40 | E* | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 37091 (COL)<br>Sample: 8H00624EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/14/91 | | | Location: 37091 (COL)<br>Sample: 8H00625EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/14/91 | | | Location: 37091 (WCS)<br>Sample: 8H00627EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: 8H00558EBU1 (REAL)<br>Depth: 0.0 - 5.0 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: 8H00560EBU1 (REAL)<br>Depth: 6.00 - 12.00 '<br>Date: 10/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 17200.00 | | V | 16000.00 | | V | 9110.00 | | V | 10300.00 | | V | 14100.00 | | V |
| Antimony | 16.50 | N | JA | 12.20 | BN | JA | 5.00 | BN | JA | 5.80 | BN | JA | 11.30 | BN | JA |
| Arsenic | 4.20 | | V | 3.90 | | V | 3.40 | | V | 4.90 | | V | 4.40 | | V |
| Barium | 150.00 | N* | JA | 158.00 | N* | JA | 237.00 | N* | JA | 140.00 | | V | 345.00 | | V |
| Beryllium | 1.50 | | JA | 1.40 | | JA | 1.40 | | JA | 0.86 | B | V | 0.95 | B | V |
| Cadmium | 0.44 | B | V | 0.46 | U | V | 0.48 | U | V | 0.46 | UN | V | 0.49 | UN | V |
| Calcium | 22700.00 | | V | 9560.00 | | V | 5850.00 | | V | 18100.00 | | V | 14500.00 | | V |
| Cesium | 10.8 | U | JA | 11.4 | U | V | 12.0 | U | V | 11.6 | U | JA | 14.70 | B | JA |
| Chromium | 22.30 | | V | 18.00 | | V | 9.60 | | V | 12.00 | | V | 20.00 | | V |
| Cobalt | 8.10 | B | V | 6.30 | B | V | 6.00 | B | V | 5.20 | B | V | 8.30 | B | V |
| Copper | 21.50 | | V | 17.10 | | V | 21.90 | | V | 14.40 | | V | 18.60 | | V |
| Iron | 20500.00 | | V | 16600.00 | | V | 5980.00 | | V | 11800.00 | | V | 19100.00 | | V |
| Lead | 14.80 | S* | V | 12.10 | * | V | 26.00 | * | V | 15.50 | S | V | 12.30 | | V |
| Lithium | 15.80 | B | V | 17.00 | B | V | 3.70 | B | V | 5.00 | B | JA | 13.90 | B | JA |
| Magnesium | 5810.00 | | V | 3620.00 | | V | 2190.00 | | V | 2710.00 | | V | 5560.00 | | V |
| Manganese | 260.00 | | V | 208.00 | | V | 185.00 | | V | 183.00 | N* | JA | 287.00 | N* | JA |
| Mercury | 0.11 | U | V | 0.11 | U | V | 0.12 | U | V | 0.12 | U* | V | 0.12 | U* | V |
| Molybdenum | 1.80 | B | V | 1.20 | B | V | 0.92 | B | V | 0.81 | B | JA | 0.73 | U | JA |
| Nickel | 16.50 | | V | 14.90 | | V | 13.00 | | V | 8.80 | B | V | 16.50 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1960.00 | | V | 1670.00 | | V | 888.00 | B | V | 921.00 | BE | JA | 1740.00 | E | JA |
| Selenium | 0.44 | U | V | 0.44 | U | V | 0.48 | UW | V | 0.46 | B | V | 0.49 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.43 | U | R | 0.46 | U | JA | 0.48 | U | JA | 1.60 | B | JA | 0.49 | U | V |
| Sodium | 542.00 | B | V | 255.00 | B | V | 386.00 | B | V | 284.00 | B | V | 518.00 | B | V |
| Strontium | 67.80 | | V | 43.20 | B | V | 66.10 | | V | 67.00 | | JA | 64.80 | | JA |
| Thallium | 0.44 | B | V | 0.22 | B | V | 0.24 | B | V | 0.23 | B | V | 0.24 | B | V |
| Tin | 3.70 | UN | JA | 3.90 | UN | JA | 4.10 | UN | JA | 3.90 | U | JA | 4.20 | U | JA |
| Vanadium | 40.40 | | V | 34.50 | | V | 21.70 | | V | 26.00 | | V | 34.30 | | V |
| Zinc | 37.80 | E | JA | 39.90 | E | JA | 40.30 | E | JA | 43.60 | E | JA | 54.60 | E | JA |

*Note: Data reporting order: result, qualifier, validation code.*
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 37191 (COL)<br>Sample: BH00561EBU1 (DUP)<br>Depth: 6.00 - 12.00 '<br>Date: 10/14/91 | | | Location: 37191 (COL)<br>Sample: BH00564EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/14/91 | | | Location: 37291 (COL)<br>Sample: BH00632EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/15/91 | | | Location: 37291 (COL)<br>Sample: BH00634EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/15/91 | | | Location: 37291 (COL)<br>Sample: BH00636EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 15500.00 | | V | 13500.00 | | V | 8380.00 | | V | 9440.00 | | V | 8040.00 | | V |
| Antimony | 24.80 | N | JA | 5.90 | BN | JA | 8.00 | BN | JA | 13.00 | BN | JA | 11.90 | BN | JA |
| Arsenic | 3.70 | | V | 4.40 | | V | 3.20 | | V | 3.30 | | V | 4.00 | | V |
| Barium | 719.00 | | V | 97.00 | | V | 155.00 | N* | JA | 123.00 | N* | JA | 282.00 | N* | JA |
| Beryllium | 1.50 | | JA | 0.70 | B | V | 1.30 | | JA | 1.50 | | JA | 1.50 | | JA |
| Cadmium | 0.49 | UN | V | 0.46 | UN | V | 0.48 | U | V | 0.45 | U | V | 1.50 | | V |
| Calcium | 23900.00 | | V | 5050.00 | | V | 4520.00 | | V | 8660.00 | | V | 27800.00 | | V |
| Cesium | 14.60 | B | JA | 11.5 | U | JA | 11.30 | U | JA | 11.3 | U | JA | 11.4 | U | JA |
| Chromium | 20.60 | | V | 15.10 | | V | 8.30 | | V | 10.40 | | V | 9.30 | | V |
| Cobalt | 36.50 | | V | 6.80 | B | V | 9.40 | B | V | 10.20 | B | V | 7.70 | B | V |
| Copper | 29.60 | | JA | 14.30 | | V | 21.30 | | V | 25.30 | | V | 21.80 | | V |
| Iron | 36400.00 | | V | 14500.00 | | V | 12000.00 | | V | 16600.00 | | V | 11900.00 | | V |
| Lead | 14.10 | S | V | 11.10 | | V | 18.70 | * | V | 19.80 | * | V | 19.10 | * | V |
| Lithium | 13.90 | B | JA | 12.60 | B | JA | 5.20 | B | V | 5.60 | B | V | 3.20 | B | V |
| Magnesium | 5670.00 | | V | 2900.00 | | V | 3040.00 | | V | 3190.00 | | V | 2720.00 | | V |
| Manganese | 3460.00 | N* | JA | 307.00 | N* | JA | 231.00 | | V | 200.00 | | V | 248.00 | | V |
| Mercury | 0.11 | U* | V | 0.11 | U* | V | 0.12 | U | V | 0.12 | U | V | 0.11 | U | V |
| Molybdenum | 2.50 | B | JA | 0.69 | U | JA | 1.20 | B | V | 1.30 | B | V | 1.20 | B | V |
| Nickel | 43.70 | | V | 15.00 | | V | 17.50 | | V | 21.00 | | V | 11.20 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1750.00 | E | JA | 1340.00 | E | JA | 1030.00 | B | V | 1240.00 | | V | 905.00 | B | V |
| Selenium | 0.49 | B | V | 0.46 | U | V | 0.46 | UW | V | 0.44 | U | V | 0.47 | B | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.49 | U | V | 0.46 | U | V | 0.44 | U | V | 0.45 | U | JA | 0.46 | U | JA |
| Sodium | 539.00 | B | JA | 224.00 | B | V | 195.00 | B | V | 224.00 | B | V | 232.00 | B | V |
| Strontium | 81.10 | | JA | 34.30 | B | V | 106.00 | | V | 92.80 | | V | 94.00 | | V |
| Thallium | 0.24 | B | V | 0.23 | B | V | 0.23 | B | V | 0.44 | B | V | 0.23 | B | V |
| Tin | 4.10 | U | R | 3.90 | U | JA | 3.80 | UN | JA | 3.90 | UN | JA | 3.90 | UN | JA |
| Vanadium | 76.60 | | V | 30.70 | | V | 16.40 | | V | 22.00 | | V | 18.00 | | V |
| Zinc | 59.70 | E | JA | 38.50 | E | JA | 69.70 | E | JA | 72.90 | E | JA | 88.40 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 37291 (COL)<br>Sample: BH00639EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/15/91 | | | Location: 37291 (COL)<br>Sample: BH00642EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 10/15/91 | | | Location: 37291 (WCS)<br>Sample: BH00644EBU1 (REAL)<br>Depth: 24.0 - 28.0 '<br>Date: 10/15/91 | | | Location: 37391 (COL)<br>Sample: BH00650EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | | | Location: 37391 (COL)<br>Sample: BH00651EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12900.00 | | V | 16900.00 | | V | 7300.00 | | V | 18000.00 | * | V | 12300.00 | * | V |
| Antimony | 10.80 | BN | JA | 15.00 | N | JA | 9.40 | BN | JA | 14.20 | N | JA | 14.60 | N | JA |
| Arsenic | 4.30 | | V | 6.00 | | V | 5.10 | | V | 4.10 | | V | 3.80 | | V |
| Barium | 131.00 | N* | JA | 247.00 | N* | JA | 81.50 | N* | JA | 161.00 | | V | 174.00 | | V |
| Beryllium | 1.50 | | JA | 1.70 | | JA | 1.30 | | JA | 1.60 | | V | 1.40 | | V |
| Cadmium | 0.46 | U | V | 0.49 | U | V | 0.46 | U | V | 0.46 | U | V | 0.44 | U | V |
| Calcium | 4700.00 | | V | 3240.00 | | V | 3990.00 | | V | 6840.00 | * | JA | 13400.00 | * | JA |
| Cesium | 11.5 | U | V | 12.2 | U | V | 11.5 | U | V | 12 | U | JA | 11 | U | JA |
| Chromium | 14.30 | | V | 21.10 | | V | 9.00 | | V | 21.10 | * | V | 16.60 | * | V |
| Cobalt | 6.70 | B | V | 9.60 | B | V | 5.60 | B | V | 8.70 | B | V | 8.00 | B | V |
| Copper | 17.00 | | V | 16.00 | | V | 19.60 | | V | 19.20 | | V | 23.40 | | V |
| Iron | 15100.00 | | V | 19600.00 | | V | 10900.00 | | V | 19600.00 | | V | 16200.00 | | V |
| Lead | 19.00 | * | V | 10.20 | * | V | 23.90 | * | V | 14.70 | | V | 15.30 | | V |
| Lithium | 8.90 | B | V | 13.40 | B | V | 5.40 | B | V | 15.90 | B | JA | 10.70 | B | JA |
| Magnesium | 3080.00 | | V | 3880.00 | | V | 2690.00 | | V | 5170.00 | | V | 3670.00 | | V |
| Manganese | 183.00 | | V | 312.00 | | V | 105.00 | | V | 329.00 | N* | JA | 270.00 | N* | JA |
| Mercury | 0.11 | U | V | 0.11 | U | V | 0.12 | U | V | 0.12 | UN | V | 0.11 | UN | V |
| Molybdenum | 1.30 | B | V | 1.50 | B | V | 1.50 | B | V | 0.75 | B | JA | 0.95 | B | JA |
| Nickel | 14.30 | | V | 19.60 | | V | 13.80 | | V | 17.70 | | V | 15.80 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1480.00 | | V | 1570.00 | | V | 861.00 | B | V | 2160.00 | | V | 1850.00 | | V |
| Selenium | 0.48 | B | V | 1.30 | | V | 0.69 | B | V | 0.48 | U | V | 0.42 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 0.46 | U | V | 0.49 | U | JA | 0.46 | U | JA | 0.46 | U | V | 0.44 | U | V |
| Sodium | 242.00 | B | V | 305.00 | B | V | 336.00 | B | V | 194.00 | BE | JA | 152.00 | BE | JA |
| Strontium | 66.60 | | V | 42.60 | B | V | 82.40 | | V | 54.10 | | JA | 57.00 | | JA |
| Thallium | 0.24 | B | V | 0.25 | B | V | 0.23 | B | V | 0.48 | B | V | 0.42 | B | V |
| Tin | 3.90 | UN | JA | 4.10 | UN | JA | 3.90 | UN | JA | 3.90 | UN | JA | 3.80 | UN | JA |
| Vanadium | 29.10 | | V | 44.40 | | V | 18.00 | | V | 35.80 | | V | 31.00 | | V |
| Zinc | 68.10 | E | JA | 41.10 | E | JA | 57.20 | E | JA | 56.30 | E | JA | 68.90 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 37391 (COL)<br>Sample: BH00654EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/16/91 | | | Location: 37391 (WCS)<br>Sample: BH00656EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/16/91 | | | Location: 37491 (COL)<br>Sample: BH00573EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | | | Location: 37491 (COL)<br>Sample: BH00576EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/16/91 | | | Location: 37491 (COL)<br>Sample: BH00577EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 10/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 17100.00 | * | V | 6520.00 | * | V | 16500.00 | | | 18500 | | JA | 13500.00 | | |
| Antimony | 19.30 | N | JA | 10.30 | BN | JA | 23.40 | N | | 8.5 | B | JA | 18.70 | N | |
| Arsenic | 7.40 | | V | 7.10 | | V | 4.40 | | | 3.8 | | JA | 1.80 | B | |
| Barium | 180.00 | | V | 74.90 | | V | 183.00 | | | 135 | | JA | 198.00 | | |
| Beryllium | 1.60 | | V | 1.40 | | V | 0.92 | B | | .96 | B | JA | 0.84 | B | |
| Cadmium | 0.48 | U | V | 0.47 | U | V | 0.46 | U | | .91 | U | JA | 0.44 | U | |
| Calcium | 33300.00 | * | JA | 11500.00 | * | JA | 8230.00 | * | | 3980 | | JA | 3660.00 | * | |
| Cesium | 14.30 | B | JA | 12 | U | JA | 16.10 | B | | 2.7 | B | JA | 15.40 | B | |
| Chromium | 23.20 | * | V | 8.80 | * | V | 22.80 | | | 17.4 | | JA | 18.90 | | |
| Cobalt | 10.10 | B | V | 7.50 | B | V | 9.30 | B | | 8.2 | B | JA | 11.20 | | |
| Copper | 31.70 | | V | 25.00 | | V | 25.20 | | | 10.6 | | JA | 18.10 | | |
| Iron | 20800.00 | | V | 10200.00 | | V | 19300.00 | | | 15800 | | JA | 16000.00 | | |
| Lead | 15.50 | | V | 20.60 | | V | 16.70 | | | 10.1 | | JA | 12.10 | | |
| Lithium | 17.00 | B | JA | 7.50 | B | JA | 15.10 | BE | | 12.3 | B | JA | 12.40 | BE | |
| Magnesium | 5200.00 | | V | 2930.00 | | V | 5560.00 | | | 3680 | | JA | 3740.00 | | |
| Manganese | 127.00 | N* | JA | 82.20 | N* | JA | 283.00 | N* | | 492 | | JA | 362.00 | N* | |
| Mercury | 0.12 | UN | V | 0.12 | UN | V | 0.11 | U | | .1 | B | JA | 0.11 | U | |
| Molybdenum | 1.70 | B | JA | 1.30 | B | JA | 2.00 | B | | 1.8 | U | JA | 1.50 | B | |
| Nickel | 19.00 | | V | 18.10 | | V | 18.50 | | | 24.6 | | JA | 19.40 | | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2020.00 | | V | 803.00 | B | V | 3640.00 | E | | 1200 | | JA | 1320.00 | E | |
| Selenium | 0.46 | U | V | 0.47 | U | V | 0.46 | U | | .23 | U | JA | 0.45 | U | |
| Silicon | | | | | | | | | | 491 | | JA | | | |
| Silver | 0.48 | U | V | 0.47 | U | V | 0.61 | B | | 1.5 | B | JA | 0.75 | B | |
| Sodium | 374.00 | BE | JA | 458.00 | BE | JA | 833.00 | BE | | 178 | B | JA | 242.00 | BE | |
| Strontium | 93.30 | | JA | 82.50 | | JA | 77.40 | | | 33.2 | B | JA | 32.60 | B | |
| Thallium | 0.23 | B | V | 0.24 | B | V | 0.23 | B | | .23 | U | JA | 0.23 | B | |
| Tin | 4.10 | UN | JA | 4.00 | UN | JA | 3.90 | U | | 37.2 | U | JA | 3.80 | U | |
| Vanadium | 44.10 | | V | 22.40 | | V | 35.20 | E | | 28.1 | | JA | 30.30 | E | |
| Zinc | 61.10 | E | JA | 64.10 | E | JA | 64.60 | E | | 29.6 | | JA | 44.70 | E | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 37491 (WCS)<br>Sample: BH00582EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 10/16/91 | | | Location: 39491 (COL)<br>Sample: BH00857EBU1 (REAL)<br>Depth: 0.0 - 3.0 '<br>Date: 11/19/91 | | | Location: 39491 (COL)<br>Sample: BH01034EBU1 (REAL)<br>Depth: 0.0 - 3.30 '<br>Date: 12/14/91 | | | Location: 39491 (COL)<br>Sample: BH01035EBU1 (REAL)<br>Depth: 0.0 - 3.30 '<br>Date: 12/14/91 | | | Location: 39591 (COL)<br>Sample: BH00860EBU1 (REAL)<br>Depth: 0.0 - 3.0 '<br>Date: 11/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9370.00 | * | V | 9380 | | | 15300 | | JA | 13900 | | JA | 7750.00 | | V |
| Antimony | 9.40 | BN | JA | 7.8 | U | | 6.3 | U | V | 6.5 | U | V | 8.80 | BN | JA |
| Arsenic | 5.10 | | V | 8.7 | B | JA | 7.2 | B | JA | 6.5 | B | JA | 4.20 | | V |
| Barium | 200.00 | | V | 145 | | | 175 | | JA | 155 | | JA | 129.00 | | V |
| Beryllium | 1.30 | | V | .67 | B | | 1.1 | | JA | .95 | | JA | 1.50 | | V |
| Cadmium | 0.48 | U | V | 1 | U | | .37 | U | R | .38 | U | R | 0.49 | U | V |
| Calcium | 4800.00 | * | JA | 5410 | | | 5570 | | JA | 5930 | | JA | 6370.00 | | V |
| Cesium | 12 | U | JA | 4.4 | B | JA | 3.1 | B | JA | 2.6 | B | JA | 12 | | JA |
| Chromium | 10.90 | * | V | 7.3 | | | 17.2 | | JA | 13.1 | | JA | 8.90 | | V |
| Cobalt | 22.60 | | V | 11.1 | B | | 12.6 | | JA | 14.7 | | JA | 7.10 | B | V |
| Copper | 12.80 | | V | 16.6 | | | 23 | | JA | 20.9 | | JA | 19.10 | | V |
| Iron | 9580.00 | | V | 14600 | | | 26600 | | JA | 25800 | | JA | 12800.00 | | V |
| Lead | 41.50 | S | V | 21.1 | | JA | 17.8 | | JA | 17.6 | | JA | 16.00 | N | JA |
| Lithium | 4.90 | B | JA | 4.9 | B | | 8 | B | JA | 6.1 | B | | 4.50 | B | JA |
| Magnesium | 2550.00 | | V | 3060 | | | 3660 | | JA | 3450 | | JA | 2460.00 | | V |
| Manganese | 731.00 | N* | JA | 304 | | | 330 | | JA | 352 | | JA | 203.00 | | V |
| Mercury | 0.12 | UN | V | .09 | B | JA | .07 | U | JA | .11 | B | JA | 0.11 | | V |
| Molybdenum | 1.20 | B | JA | 2 | U | | 1.3 | B | JA | 1.1 | U | JA | 0.81 | B | JA |
| Nickel | 14.70 | | V | 21.3 | | | 33.1 | | JA | 28.5 | | JA | 14.50 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 853.00 | B | V | 1190 | B | | 2190 | | JA | 1910 | | JA | 871.00 | BE | JA |
| Selenium | 0.47 | U | V | .51 | U | JA | .49 | B | | .25 | U | | 0.49 | U | V |
| Silicon | | | | 299 | | | 558 | | JA | 339 | | JA | | | |
| Silver | 0.48 | U | V | .76 | U | | 3 | | | 3.1 | | | 0.49 | U | V |
| Sodium | 171.00 | BE | JA | 227 | B | | 227 | B | JA | 215 | B | JA | 407.00 | BE | JA |
| Strontium | 49.10 | | JA | 95.8 | | | 112 | | JA | 108 | | JA | 67.20 | | JA |
| Thallium | 0.47 | B | V | .5 | B | JA | .3 | B | JA | .35 | B | JA | 0.25 | B | V |
| Tin | 4.10 | UN | JA | 41.2 | U | | 24.4 | U | JA | 24.9 | U | JA | 4.20 | UN | JA |
| Vanadium | 17.00 | | V | 17.2 | | | 47.4 | | JA | 34.2 | | JA | 21.90 | | V |
| Zinc | 48.00 | E | JA | 84.9 | | | 137 | | JA | 104 | | JA | 51.30 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: 39591 (COL)<br>Sample: BH00861EBU1 (DUP)<br>Depth: 0.0 - 3.0 '<br>Date: 11/20/91 | | | Location: 39591 (COL)<br>Sample: BH01037EBU1 (REAL)<br>Depth: 0.00 - 2.70 '<br>Date: 12/14/91 | | | Location: 39591 (COL)<br>Sample: BH01038EBU1 (REAL)<br>Depth: 0.00 - 2.70 '<br>Date: 12/14/91 | | | Location: B300190 (COL)<br>Sample: B3001900006 (REAL)<br>Depth: 6.0 - 0.0 '<br>Date: 02/02/90 | | | Location: B300190 (COL)<br>Sample: B3001900006D (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 02/02/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 7700.00 | | V | 14900 | | JA | 16900 | | JA | 19400 | | | 16200 | J | A |
| Antimony | 11.00 | BN | JA | 6.4 | U | V | 6.3 | U | V | 17.5 | | | 13.7 | J | A |
| Arsenic | 4.90 | | V | 5.4 | B | JA | 7.4 | B | JA | 4.4 | | | 2.7 | | V |
| Barium | 143.00 | | V | 121 | | JA | 154 | | JA | 147 | | | 151 | J | A |
| Beryllium | 1.40 | | V | .67 | | JA | .89 | | JA | 1.2 | U | | 0.99 | J | A |
| Cadmium | 0.51 | U | V | .37 | U | R | .37 | U | R | 1.9 | | | 0.90 | | V |
| Calcium | 10100.00 | | V | 6350 | | JA | 7330 | | JA | 7630 | | | 24600 | J | A |
| Cesium | 13 | | JA | 4.2 | B | JA | 3.4 | B | JA | 230 | U | | 226 | U | V |
| Chromium | 8.40 | | V | 15.7 | | JA | 17.4 | | JA | 22.1 | | | 18.1 | J | A |
| Cobalt | 7.50 | B | V | 6.9 | | JA | 12.8 | | JA | 11.5 | U | | 7.4 | J | A |
| Copper | 20.80 | | V | 14.2 | | JA | 15.6 | | JA | 14.0 | | | 12.0 | J | A |
| Iron | 12500.00 | | V | 17300 | | JA | 18900 | | JA | 21100 | | | 16900 | J | A |
| Lead | 17.40 | N | JA | 19.5 | B | JA | 22 | | JA | 18.4 | | | 14.0 | J | A |
| Lithium | 4.90 | B | JA | 9 | B | JA | 10.3 | B | JA | 23.0 | U | | 22.6 | UJ | A |
| Magnesium | 2450.00 | | V | 3200 | | JA | 3640 | | JA | 5110 | | | 4450 | J | A |
| Manganese | 181.00 | | V | 161 | | JA | 210 | | JA | 298 | | | 317 | J | A |
| Mercury | 0.12 | U | V | .1 | B | JA | .07 | U | JA | 0.27 | | | 0.11 | U | R |
| Molybdenum | 0.77 | U | JA | 1.1 | U | JA | 2.3 | B | JA | 23.0 | U | | 22.6 | UJ | A |
| Nickel | 14.50 | | V | 13.8 | | JA | 20.7 | | JA | 17.8 | | | 16.1 | J | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1000.00 | BE | JA | 1880 | | JA | 1910 | | JA | 1570 | | | 1060 | | V |
| Selenium | 0.49 | U | V | .31 | B | | .72 | B | | 1.2 | U | | 0.38 | UJ | A |
| Silicon | | | | 258 | | JA | 1120 | | JA | | | | | | |
| Silver | 0.51 | U | V | 1.4 | | | 1.4 | | | 2.3 | U | | 1.1 | UJ | A |
| Sodium | 218.00 | BE | JA | 190 | B | JA | 221 | B | JA | 1150 | U | | 374 | | V |
| Strontium | 71.50 | | JA | 71.2 | | JA | 81.5 | | JA | 230 | U | | 226 | UJ | A |
| Thallium | 0.49 | B | V | .29 | B | JA | .25 | U | JA | 2.4 | U | | 0.59 | UJ | A |
| Tin | 4.30 | UN | JA | 24.5 | U | JA | 24 | U | JA | 23.0 | U | | 22.6 | UJ | A |
| Vanadium | 22.80 | | V | 37 | | JA | 45.3 | | JA | 44.8 | | | 35.6 | J | A |
| Zinc | 57.70 | E | JA | 55.4 | | JA | 66.8 | | JA | 50.3 | | | 47.6 | J | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B300190 (WCS)<br>Sample: B3001900610 (REAL)<br>Depth: 6.0 - 9.9 '<br>Date: 02/05/90 | | | Location: B300290 (COL)<br>Sample: B3002900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 02/05/90 | | | Location: B300290 (COL)<br>Sample: B3002900408 (REAL)<br>Depth: 4.0 - 7.5 '<br>Date: 02/05/90 | | | Location: B300390 (COL)<br>Sample: B3003900004 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900408 (REAL)<br>Depth: 4.0 - 6.3 '<br>Date: 02/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 4440 | | A | 16100 | | A | 5810 | | A | 12400 | | A | 15700 | | A |
| Antimony | 13.5 | U | A | 13.5 | U | A | 13.4 | U | A | 13.5 | U | A | 13.6 | U | A |
| Arsenic | 5.3 | | A | 4.2 | | A | 113 | U | A | 5.8 | | A | 3.9 | | A |
| Barium | 75.0 | | A | 239 | | A | 114 | | A | 481 | | A | 139 | | A |
| Beryllium | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A |
| Cadmium | 1.1 | U | A | 1.2 | | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A |
| Calcium | 9600 | | A | 51800 | | A | 14800 | | A | 59900 | | A | 22500 | | A |
| Cesium | 224 | U | A | 224 | U | A | 224 | U | A | 226 | U | A | 226 | U | A |
| Chromium | 4.7 | | A | 17.1 | | A | 5.8 | | A | 13.8 | | A | 17.5 | | A |
| Cobalt | 11.2 | U | A | 11.2 | U | A | 11.2 | U | A | 11.3 | U | A | 11.3 | U | A |
| Copper | 8.3 | | A | 11.6 | | A | 5.7 | | A | 13.3 | | A | 14.3 | | A |
| Iron | 10100 | | A | 14900 | | A | 7380 | | A | 13200 | | A | 16100 | | A |
| Lead | 15.4 | | A | 17.4 | | A | 15.7 | | A | 17.1 | | A | 13.7 | | A |
| Lithium | 22.4 | U | A | 22.4 | U | A | 22.4 | U | A | 22.6 | U | A | 22.6 | U | A |
| Magnesium | 4830 | | A | 3710 | | A | 4090 | | A | 3890 | | A | 4470 | | A |
| Manganese | 99.7 | | A | 226 | | A | 39.7 | | A | 179 | | A | 223 | | A |
| Mercury | 0.10 | U | A | 0.12 | | A | 0.11 | U | A | 0.11 | U | A | 0.11 | U | A |
| Molybdenum | 22.4 | U | A | 22.4 | U | A | 22.4 | U | A | 22.6 | U | A | 22.6 | U | A |
| Nickel | 9.0 | U | A | 16.1 | | A | 9.0 | U | A | 13.5 | | A | 18.2 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1120 | U | A | 1370 | | A | 1120 | U | A | 1130 | U | A | 1130 | U | A |
| Selenium | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.2 | U | A | 2.2 | U | A | 2.2 | U | A | 2.3 | U | A | 2.3 | U | A |
| Sodium | 1120 | U | A | 1120 | U | A | 1120 | U | A | 1130 | U | A | 1130 | U | A |
| Strontium | 224 | U | A | 224 | U | A | 224 | U | A | 226 | U | A | 226 | U | A |
| Thallium | 2.2 | U | A | 2.3 | U | A | 2.3 | U | A | 2.3 | U | A | 2.2 | U | A |
| Tin | 22.4 | U | A | 22.4 | U | A | 22.4 | U | A | 22.6 | U | A | 22.6 | U | A |
| Vanadium | 11.2 | U | A | 35.7 | | A | 12.0 | | A | 33.7 | | A | 40.8 | | A |
| Zinc | 49.8 | | A | 44.6 | | A | 35.4 | | A | 51.3 | | A | 59.7 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B300390 (COL)<br>Sample: B3003900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/07/90 | | | Location: B300490 (COL)<br>Sample: B3004900004 (REAL)<br>Depth: 0.0 - 3.8 '<br>Date: 02/09/90 | | | Location: B300490 (COL)<br>Sample: B3004900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 02/09/90 | | | Location: B300590 (COL)<br>Sample: B3005900005 (REAL)<br>Depth: 0.0 - 5.2 '<br>Date: 02/09/90 | | | Location: B300690 (COL)<br>Sample: B3006900003 (REAL)<br>Depth: 0.0 - 2.6 '<br>Date: 02/09/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12400 | | A | 27600 | | | 16000 | J | A | 8900 | J | A | 14500 | J | A |
| Antimony | 18.5 | | A | 24.5 | | | 57.0 | J | A | 6.1 | UJ | A | 16.1 | UJ | A |
| Arsenic | 4.8 | | A | 4.5 | | | 18.1 | J | A | 1.2 | J | A | 5.1 | J | A |
| Barium | 121 | | A | 479 | | | 137 | J | A | 45.9 | J | A | 147 | J | A |
| Beryllium | 1.3 | | A | 1.7 | | | 2.4 | | V | 0.86 | UJ | A | 1.0 | UJ | A |
| Cadmium | 1.2 | U | A | 0.74 | U | | 0.74 | U | R | 0.74 | UJ | A | 0.72 | UJ | A |
| Calcium | 71900 | | A | 34400 | | | 5460 | | V | 7010 | | V | 4220 | | V |
| Cesium | 234 | U | A | 232 | U | | 232 | U | V | 232 | U | V | 226 | U | V |
| Chromium | 14.1 | | A | 28.5 | | | 19.7 | J | A | 8.6 | J | A | 16.9 | J | A |
| Cobalt | 11.7 | U | A | 11.6 | B | | 5.5 | J | A | 2.1 | | V | 10.0 | | V |
| Copper | 20.5 | | A | 15.6 | | | 20.1 | | V | 13.2 | | V | 10.9 | | V |
| Iron | 24200 | | A | 15100 | | | 68900 | | V | 3060 | | V | 13300 | | V |
| Lead | 17.4 | | A | 19.0 | | | 21.6 | | V | 22.5 | | V | 12.8 | | V |
| Lithium | 23.4 | U | A | 23.2 | U | | 23.2 | UJ | A | 23.2 | UJ | A | 22.6 | UJ | A |
| Magnesium | 4090 | | A | 4230 | | | 4120 | | V | 1880 | | V | 2320 | | V |
| Manganese | 306 | | A | 103 | | | 851 | | V | 19.2 | | V | 302 | | V |
| Mercury | 0.12 | U | A | 0.11 | U | | 0.12 | UJ | A | 0.12 | UJ | A | 0.12 | UJ | A |
| Molybdenum | 23.4 | U | A | 23.2 | U | | 23.2 | UJ | A | 23.2 | UJ | A | 22.6 | UJ | A |
| Nickel | 19.3 | | A | 16.7 | | | 46.4 | | V | 6.6 | J | A | 14.9 | J | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1170 | U | A | 1140 | B | | 1050 | J | A | 226 | U | R | 960 | J | A |
| Selenium | 1.1 | U | A | 0.43 | B | | 0.42 | U | V | 0.42 | U | V | 0.40 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.3 | U | A | 1.1 | U | | 1.1 | U | R | 1.1 | UJ | A | 1.1 | UJ | A |
| Sodium | 1170 | U | A | 439 | B | | 660 | J | A | 739 | | V | 340 | | V |
| Strontium | 234 | U | A | 232 | U | | 232 | UJ | A | 232 | UJ | A | 226 | UJ | A |
| Thallium | 2.3 | U | A | 0.20 | U | | 0.88 | | V | 0.21 | U | V | 0.20 | U | R |
| Tin | 23.4 | U | A | 28.8 | | | 65.5 | J | A | 23.2 | UJ | A | 23.6 | J | A |
| Vanadium | 66.6 | | A | 71.7 | | | 69.0 | J | A | 18.9 | J | A | 37.9 | J | A |
| Zinc | 52.1 | | A | 161 | | | 123 | J | A | 50.4 | J | A | 55.0 | J | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B300790 (COL)<br>Sample: B3007900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | | Location: B300790 (COL)<br>Sample: B3007900004D (DUP)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | | Location: B300890 (COL)<br>Sample: B3008900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 21100 | J | A | 14800 | J | A | 19500 | | | 24200 | | A | 22100 | | A |
| Antimony | 19.5 | UJ | A | 12.7 | UJ | A | 32.2 | | | 35.0 | | A | 38.1 | | A |
| Arsenic | 4.6 | J | A | 3.8 | J | A | 4.9 | | | 4.6 | | A | 6.9 | | A |
| Barium | 228 | J | A | 316 | J | A | 225 | | | 291 | | A | 356 | | A |
| Beryllium | 1.7 | UJ | A | 1.3 | UJ | A | 1.8 | | | 1.7 | | A | 1.9 | | A |
| Cadmium | 0.73 | UJ | A | 0.69 | UJ | A | 1.5 | U | | 0.95 | U | A | 1.4 | U | A |
| Calcium | 36600 | | V | 23400 | | V | 25100 | | | 7120 | | A | 11300 | | A |
| Cesium | 230 | U | V | 217 | U | V | 298 | U | | 190 | U | A | 285 | U | A |
| Chromium | 21.0 | J | A | 14.8 | J | A | 21.9 | | | 25.5 | | A | 29.7 | | A |
| Cobalt | 3.8 | | V | 4.1 | | V | 14.9 | U | | 9.5 | U | A | 14.3 | U | A |
| Copper | 14.3 | | V | 12.7 | | V | 16.9 | | | 15.4 | | A | 22.9 | | A |
| Iron | 14300 | | V | 10600 | | V | 28100 | | | 31300 | | A | 31400 | | A |
| Lead | 16.5 | | V | 14.2 | | V | 21.8 | | | 16.4 | | A | 18.8 | | A |
| Lithium | 23.0 | UJ | A | 21.7 | UJ | A | 29.8 | U | | 19.0 | U | A | 28.5 | U | A |
| Magnesium | 4420 | | V | 3240 | | V | 3400 | | | 5560 | | A | 7610 | | A |
| Manganese | 113 | | V | 109 | | V | 432 | | | 412 | | A | 711 | | A |
| Mercury | 0.11 | UJ | A | 0.11 | UJ | A | 0.12 | | | 0.096 | U | A | 0.14 | U | A |
| Molybdenum | 23.0 | UJ | A | 21.7 | UJ | A | 29.8 | U | | 19.0 | U | A | 28.5 | U | A |
| Nickel | 17.2 | J | A | 14.1 | J | A | 21.0 | | | 24.2 | | A | 29.0 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 852 | J | A | 319 | J | A | 1870 | | | 2230 | | A | 2090 | | A |
| Selenium | 0.40 | UJ | A | 0.39 | UJ | A | 1.5 | U | | 0.99 | U | A | 1.4 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 1.1 | UJ | A | 1.1 | UJ | A | 3.0 | U | | 1.9 | U | A | 2.9 | U | A |
| Sodium | 2150 | | V | 1460 | | V | 2530 | | | 1140 | | A | 1590 | | A |
| Strontium | 230 | UJ | A | 217 | UJ | A | 298 | U | | 190 | U | A | 285 | U | A |
| Thallium | 0.20 | U | R | 0.20 | U | R | 3.0 | U | | 2.0 | U | A | 2.8 | U | A |
| Tin | 25.3 | J | A | 21.7 | UJ | A | 36.4 | | | 37.5 | | A | 45.8 | | A |
| Vanadium | 49.2 | J | A | 34.9 | J | A | 63.6 | | | 59.4 | | A | 56.9 | | A |
| Zinc | 81.2 | J | A | 74.1 | J | A | 96.7 | | | 108 | | A | 146 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B300990 (COL)<br>Sample: B3009900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900812 (REAL)<br>Depth: 8.0 - 11.0 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010900008 (REAL)<br>Depth: 0.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010900814 (REAL)<br>Depth: 8.0 - 13.6 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14600 | | A | 11500 | | A | 23300 | | A | 15300 | | A | 12800 | | A |
| Antimony | 18.4 | | A | 14.4 | | A | 28.6 | | A | 20.4 | | A | 17.5 | | A |
| Arsenic | 3.1 | | A | 5.8 | | A | 6.1 | | A | 2.2 | | A | 3.0 | | A |
| Barium | 318 | | A | 108 | | A | 207 | | A | 122 | | A | 114 | | A |
| Beryllium | 1.4 | | A | 1.3 | | A | 1.7 | | A | 1.2 | | A | 1.1 | U | A |
| Cadmium | 1.0 | U | A | 1.2 | U | A | 1.2 | U | A | 1.0 | U | A | 1.1 | U | A |
| Calcium | 52500 | | A | 75300 | | A | 44000 | | A | 3470 | | A | 3080 | | A |
| Cesium | 205 | U | A | 232 | U | A | 250 | U | A | 203 | U | A | 229 | U | A |
| Chromium | 15.7 | | A | 12.4 | | A | 25.8 | | A | 18.9 | | A | 17.2 | | A |
| Cobalt | 10.2 | U | A | 11.6 | U | A | 12.5 | U | A | 10.2 | U | A | 11.5 | U | A |
| Copper | 12.6 | | A | 14.8 | | A | 17.2 | | A | 10.7 | | A | 12.1 | | A |
| Iron | 11600 | | A | 10600 | | A | 21400 | | A | 13300 | | A | 15800 | | A |
| Lead | 15.5 | | A | 12.8 | | A | 12.6 | | A | 5.8 | | A | 9.0 | | A |
| Lithium | 20.5 | U | A | 23.2 | U | A | 25.0 | U | A | 20.3 | U | A | 22.9 | U | A |
| Magnesium | 3480 | | A | 4220 | | A | 6500 | | A | 2620 | | A | 3050 | | A |
| Manganese | 106 | | A | 124 | | A | 360 | | A | 222 | | A | 355 | | A |
| Mercury | 0.10 | U | A | 0.11 | | A | 0.13 | U | A | 0.10 | | A | 0.11 | U | A |
| Molybdenum | 20.5 | U | A | 23.2 | U | A | 25.0 | U | A | 20.3 | U | A | 22.9 | U | A |
| Nickel | 13.4 | | A | 16.0 | | A | 20.4 | | A | 13.4 | | A | 16.6 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1020 | U | A | 1160 | U | A | 2930 | | A | 1170 | | A | 1150 | U | A |
| Selenium | 0.99 | U | A | 1.2 | U | A | 1.2 | U | A | 0.98 | U | A | 1.1 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.0 | U | A | 2.3 | U | A | 2.5 | U | A | 2.0 | U | A | 2.3 | U | A |
| Sodium | 4910 | | A | 7060 | | A | 4390 | | A | 1020 | U | A | 1150 | U | A |
| Strontium | 205 | U | A | 232 | U | A | 250 | U | A | 203 | U | A | 229 | U | A |
| Thallium | 2.0 | U | A | 2.3 | U | A | 2.5 | U | A | 2.0 | U | A | 2.3 | U | A |
| Tin | 20.5 | U | A | 23.2 | U | A | 33.2 | | A | 20.3 | U | A | 22.9 | U | A |
| Vanadium | 42.4 | | A | 31.4 | | A | 55.1 | | A | 31.3 | | A | 34.7 | | A |
| Zinc | 62.5 | | A | 67.6 | | A | 88.4 | | A | 52.0 | | A | 51.9 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301090 (COL)<br>Sample: B3010901418 (REAL)<br>Depth: 14.0 - 18.0 '<br>Date: 02/16/90 | | | Location: B301090 (COL)<br>Sample: B3010901821 (REAL)<br>Depth: 18.0 - 21.0 '<br>Date: 02/16/90 | | | Location: B301190 (COL)<br>Sample: B3011900004 (REAL)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900004D (DUP)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6660 | | | 4590 | | | 14800 | | | 13400 | | A | 12500 | | A |
| Antimony | 13.6 | U | | 13.5 | U | | 13.6 | U | | 13.7 | U | A | 13.4 | U | A |
| Arsenic | 4.7 | | | 4.2 | | | 3.6 | | | 3.0 | | A | 3.9 | | A |
| Barium | 172 | | | 94.2 | | | 245 | | | 293 | | A | 195 | | A |
| Beryllium | 1.1 | U | | 1.1 | U | | 1.3 | | | 1.2 | | A | 1.1 | U | A |
| Cadmium | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | A | 1.1 | U | A |
| Calcium | 23700 | | | 54400 | | | 4800 | | | 4700 | | A | 10400 | | A |
| Cesium | 227 | U | | 226 | U | | 226 | U | | 229 | U | A | 224 | U | A |
| Chromium | 7.6 | | | 14.3 | | | 18.8 | | | 17.5 | | A | 16.2 | | A |
| Cobalt | 11.4 | U | | 11.3 | U | | 11.3 | U | | 11.5 | U | A | 11.2 | U | A |
| Copper | 16.3 | | | 12.0 | | | 17.0 | | | 13.8 | | A | 12.8 | | A |
| Iron | 9790 | | | 13300 | | | 17000 | | | 15100 | | A | 13800 | | A |
| Lead | 19.2 | | | 11.5 | | | 15.1 | | | 13.6 | | A | 11.7 | | A |
| Lithium | 22.7 | U | | 22.6 | U | | 22.6 | U | | 22.9 | U | A | 22.4 | U | A |
| Magnesium | 2430 | | | 3650 | | | 4480 | | | 4130 | | A | 3420 | | A |
| Manganese | 108 | | | 161 | | | 464 | | | 344 | | A | 297 | | A |
| Mercury | 0.17 | | | 0.11 | U | | 0.11 | U | | 0.12 | U | A | 0.11 | U | A |
| Molybdenum | 22.7 | U | | 22.6 | U | | 22.6 | U | | 22.9 | U | A | 22.4 | U | A |
| Nickel | 14.7 | | | 10.5 | | | 19.3 | | | 19.5 | | A | 16.3 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1140 | U | | 1130 | U | | 1130 | U | | 1150 | U | A | 1220 | | A |
| Selenium | 1.2 | U | | 1.1 | U | | 1.2 | U | | 1.1 | U | A | 1.1 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.3 | U | | 2.3 | U | | 2.3 | U | | 2.3 | U | A | 2.2 | U | A |
| Sodium | 1140 | U | | 1130 | U | | 1130 | U | | 1150 | U | A | 1120 | U | A |
| Strontium | 227 | U | | 226 | U | | 226 | U | | 229 | U | A | 224 | U | A |
| Thallium | 2.3 | U | | 2.3 | U | | 2.3 | U | | 2.2 | U | A | 2.2 | U | A |
| Tin | 22.7 | U | | 22.6 | U | | 22.6 | U | | 22.9 | U | A | 22.4 | U | A |
| Vanadium | 20.0 | | | 15.9 | | | 35.9 | | | 31.8 | | A | 31.9 | | A |
| Zinc | 58.1 | | | 43.1 | | | 52.0 | | | 47.8 | | A | 43.3 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301190 (COL)<br>Sample: B3011900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011901216 (REAL)<br>Depth: 12.0 - 15.1 '<br>Date: 02/22/90 | | | Location: B301190 (COL)<br>Sample: B3011901620 (REAL)<br>Depth: 16.0 - 18.6 '<br>Date: 02/22/90 | | | Location: B301290 (COL)<br>Sample: B3012900004 (REAL)<br>Depth: 0.0 - 3.6 '<br>Date: 02/26/90 | | | Location: B301290 (COL)<br>Sample: B3012900408 (REAL)<br>Depth: 4.0 - 4.6 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 11400 | | A | 10500 | | A | 7030 | | A | 14500 | | A | 12500 | | A |
| Antimony | 12.9 | U | A | 13.2 | U | A | 13.0 | U | A | 13.9 | | A | 13.7 | U | A |
| Arsenic | 4.3 | | A | 2.9 | | A | 2.2 | U | A | 2.8 | | A | 2.3 | U | A |
| Barium | 162 | | A | 145 | | A | 92.3 | | A | 281 | | A | 319 | | A |
| Beryllium | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A |
| Cadmium | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A |
| Calcium | 6740 | | A | 3330 | | A | 2610 | | A | 21300 | | A | 8800 | | A |
| Cesium | 215 | U | A | 220 | U | A | 217 | U | A | 223 | U | A | 229 | U | A |
| Chromium | 15.6 | | A | 15.7 | | A | 22.1 | | A | 17.3 | | A | 15.8 | | A |
| Cobalt | 10.8 | U | A | 11.0 | U | A | 14.0 | | A | 11.2 | U | A | 11.5 | U | A |
| Copper | 13.6 | | A | 14.9 | | A | 10.4 | | A | 19.4 | | A | 23.3 | | A |
| Iron | 13400 | | A | 13100 | | A | 11300 | | A | 15900 | | A | 12500 | | A |
| Lead | 10 | | A | 11.1 | | A | 6.0 | | A | 40.4 | | A | 38.3 | | A |
| Lithium | 21.5 | U | A | 22.0 | U | A | 21.7 | U | A | 22.3 | U | A | 22.9 | U | A |
| Magnesium | 3800 | | A | 3750 | | A | 2310 | | A | 3470 | | A | 3730 | | A |
| Manganese | 330 | | A | 377 | | A | 187 | | A | 166 | | A | 120 | | A |
| Mercury | 0.11 | U | A | 0.11 | U | A | 0.11 | U | A | 0.16 | | A | 0.14 | | A |
| Molybdenum | 21.5 | U | A | 22.0 | U | A | 21.7 | U | A | 22.3 | U | A | 22.9 | U | A |
| Nickel | 17.2 | | A | 18.0 | | A | 11.5 | | A | 16.0 | | A | 11.0 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1980 | | A | 2400 | | A | 1090 | U | A | 1250 | | A | 1150 | U | A |
| Selenium | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.1 | U | A | 1.2 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.2 | U | A | 2.2 | U | A | 2.2 | U | A | 2.2 | U | A | 2.3 | U | A |
| Sodium | 1080 | U | A | 1100 | U | A | 1090 | U | A | 1120 | U | A | 1150 | U | A |
| Strontium | 215 | U | A | 220 | U | A | 217 | U | A | 223 | U | A | 229 | U | A |
| Thallium | 2.2 | U | A | 2.2 | U | A | 2.2 | U | A | 2.2 | U | A | 2.3 | U | A |
| Tin | 21.5 | U | A | 22.0 | U | A | 21.7 | U | A | 22.3 | U | A | 22.9 | U | A |
| Vanadium | 28.8 | | A | 25.7 | | A | 20.4 | | A | 43.8 | | A | 30.4 | | A |
| Zinc | 43.2 | | A | 45.6 | | A | 26.9 | | A | 66.7 | | A | 50.9 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301390 (COL)<br>Sample: B3013900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900412 (REAL)<br>Depth: 4.0 - 11.5 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900004 (REAL)<br>Depth: 3.0 - 3.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 22700 | | | 19600 | | A | 17100 | | A | 18400 | | A | 9330 | | A |
| Antimony | 22.2 | | | 20.7 | | A | 17.2 | | A | 19.6 | | A | 14.5 | U | A |
| Arsenic | 4.1 | | | 4.5 | | A | 5.5 | | A | 4.0 | | A | 4.1 | | A |
| Barium | 158 | | | 81.7 | | A | 186 | | A | 134 | | A | 85.4 | | A |
| Beryllium | 1.3 | | | 1.2 | | A | 1.2 | U | A | 1.2 | | A | 1.2 | U | A |
| Cadmium | 1.3 | U | | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A |
| Calcium | 9930 | | | 7260 | | A | 3920 | | A | 9480 | | A | 12500 | | A |
| Cesium | 251 | U | | 241 | U | A | 244 | U | A | 238 | U | A | 241 | U | A |
| Chromium | 29.3 | | | 25.0 | | A | 21.3 | | A | 24.5 | | A | 10.6 | | A |
| Cobalt | 12.6 | U | | 12.1 | U | A | 12.2 | U | A | 11.9 | U | A | 12.0 | U | A |
| Copper | 17.6 | | | 16.3 | | A | 11.1 | | A | 15.5 | | A | 15.7 | | A |
| Iron | 23800 | | | 21100 | | A | 17700 | | A | 22600 | | A | 12700 | | A |
| Lead | 18.6 | | | 15.4 | | A | 20.5 | | A | 18.8 | | A | 14.6 | | A |
| Lithium | 25.1 | U | | 24.1 | U | A | 24.4 | U | A | 23.8 | U | A | 24.1 | U | A |
| Magnesium | 6960 | | | 5770 | | A | 4250 | | A | 5440 | | A | 3170 | | A |
| Manganese | 350 | | | 506 | | A | 144 | | A | 170 | | A | 114 | | A |
| Mercury | 0.18 | | | 0.12 | U | A | 0.12 | U | A | 0.12 | U | A | 0.12 | U | A |
| Molybdenum | 25.1 | U | | 24.1 | U | A | 24.4 | U | A | 23.8 | U | A | 24.1 | U | A |
| Nickel | 20.1 | | | 21.0 | | A | 14.5 | | A | 16.7 | | A | 13.5 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2980 | | | 2610 | | A | 1480 | | A | 1950 | | A | 1200 | U | A |
| Selenium | 1.3 | U | | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.5 | U | | 2.4 | U | A | 2.4 | U | A | 2.4 | U | A | 2.4 | U | A |
| Sodium | 1260 | U | | 1210 | U | A | 1220 | U | A | 1190 | U | A | 1200 | U | A |
| Strontium | 251 | U | | 241 | U | A | 244 | U | A | 238 | U | A | 241 | U | A |
| Thallium | 2.5 | U | | 2.4 | U | A | 2.4 | U | A | 2.4 | U | A | 2.4 | U | A |
| Tin | 25.1 | U | | 24.1 | U | A | 24.4 | U | A | 23.8 | U | A | 24.1 | U | A |
| Vanadium | 55.6 | | | 49.4 | | A | 40.1 | | A | 48.8 | | A | 25.7 | | A |
| Zinc | 69.2 | | | 62.5 | | A | 49.8 | | A | 66.0 | | A | 60.2 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - *Arapahoe/Laramie Formation*; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301490 (COL)<br>Sample: B3014900812D (DUP)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014901216 (REAL)<br>Depth: 12.0 - 15.6 '<br>Date: 02/26/90 | | | Location: B301590 (COL)<br>Sample: B3015900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015900812 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 9370 | | A | 12000 | | A | 8010 | | | 7560 | | A | 6110 | | A |
| Antimony | 14.7 | U | A | 14.4 | U | A | 14.8 | U | | 14.2 | U | A | 13.9 | U | A |
| Arsenic | 2.5 | U | A | 3.0 | | A | 4.8 | | | 3.0 | | A | 2.4 | U | A |
| Barium | 71.4 | | A | 96.4 | | A | 170 | | | 123 | | A | 63.0 | | A |
| Beryllium | 1.2 | U | A | 1.2 | U | A | 1.2 | U | | 1.2 | U | A | 1.2 | U | A |
| Cadmium | 1.2 | U | A | 1.2 | U | A | 1.2 | U | | 1.2 | U | A | 1.2 | U | A |
| Calcium | 13200 | | A | 15900 | | A | 7000 | | | 6360 | | A | 6780 | | A |
| Cesium | 245 | U | A | 240 | U | A | 247 | U | | 236 | U | A | 231 | U | A |
| Chromium | 11.7 | | A | 13.8 | | A | 10.9 | | | 10.5 | | A | 8.7 | | A |
| Cobalt | 12.3 | U | A | 12.0 | U | A | 12.3 | U | | 11.8 | U | A | 11.6 | U | A |
| Copper | 14.0 | | A | 11.6 | | A | 18.3 | | | 12.2 | | A | 6.5 | | A |
| Iron | 10100 | | A | 14200 | | A | 12500 | | | 10400 | | A | 7640 | | A |
| Lead | 16.9 | | A | 13.0 | | A | 17.5 | | | 15.9 | | A | 9.8 | | A |
| Lithium | 24.5 | U | A | 24.0 | U | A | 24.7 | U | | 23.6 | U | A | 23.1 | U | A |
| Magnesium | 3060 | | A | 3920 | | A | 2740 | | | 2380 | | A | 2060 | | A |
| Manganese | 84.2 | | A | 268 | | A | 222 | | | 144 | | A | 156 | | A |
| Mercury | 0.11 | U | A | 0.11 | U | A | 0.12 | U | | 0.11 | U | A | 0.12 | U | A |
| Molybdenum | 24.5 | U | A | 24.0 | U | A | 24.7 | U | | 23.6 | U | A | 23.1 | U | A |
| Nickel | 11.4 | | A | 15.6 | | A | 22.7 | | | 15.7 | | A | 10.4 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1230 | U | A | 1780 | | A | 1230 | U | | 1180 | U | A | 1160 | U | A |
| Selenium | 1.2 | U | A | 1.2 | U | A | 1.2 | U | | 1.2 | U | A | 1.2 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.5 | U | A | 2.4 | U | A | 2.5 | U | | 2.4 | U | A | 2.3 | U | A |
| Sodium | 1230 | U | A | 1200 | U | A | 1230 | U | | 1180 | U | A | 1160 | U | A |
| Strontium | 245 | U | A | 240 | U | A | 247 | U | | 236 | U | A | 231 | U | A |
| Thallium | 2.5 | U | A | 2.4 | U | A | 2.5 | U | | 2.4 | U | A | 2.4 | U | A |
| Tin | 24.5 | U | A | 24.0 | U | A | 24.7 | U | | 23.6 | U | A | 23.1 | U | A |
| Vanadium | 22.6 | | A | 30.9 | | A | 21.8 | | | 17.3 | | A | 16.5 | | A |
| Zinc | 49.0 | | A | 45.5 | | A | 91.6 | | | 53.9 | | A | 21.1 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301690 (COL)<br>Sample: B3016900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901216 (REAL)<br>Depth: 12.0 - 15.9 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901620 (REAL)<br>Depth: 16.9 - 19.9 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 10300 | | A | 15800 | | A | 5430 | | A | 11200 | | A | 8890 | | A |
| Antimony | 15.0 | U | A | 15.2 | | A | 14.6 | U | A | 13.7 | U | A | 13.7 | U | A |
| Arsenic | 4.1 | | A | 4.2 | | A | 2.4 | U | A | 2.3 | U | A | 2.3 | U | A |
| Barium | 159 | | A | 204 | | A | 60.4 | | A | 169 | | A | 45.6 | U | A |
| Beryllium | 1.2 | | A | 1.4 | | A | 1.2 | U | A | 1.1 | U | A | 1.3 | | A |
| Cadmium | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A | 1.1 | U | A | 1.1 | U | A |
| Calcium | 13700 | | A | 5550 | | A | 6630 | | A | 6630 | | A | 6730 | | A |
| Cesium | 250 | U | A | 244 | U | A | 244 | U | A | 228 | U | A | 228 | U | A |
| Chromium | 14.2 | | A | 23.8 | | A | 7.5 | | A | 18.0 | | A | 11.5 | | A |
| Cobalt | 12.5 | U | A | 12.2 | U | A | 12.2 | U | A | 11.4 | U | A | 11.4 | U | A |
| Copper | 17.1 | | A | 16.5 | | A | 6.1 | U | A | 12.2 | | A | 9.8 | | A |
| Iron | 15700 | | A | 20000 | | A | 5910 | | A | 12000 | | A | 10400 | | A |
| Lead | 19.1 | | A | 8.0 | | A | 8.0 | | A | 14.6 | | A | 10.6 | | A |
| Lithium | 25.0 | U | A | 24.4 | U | A | 24.4 | U | A | 22.8 | U | A | 22.8 | U | A |
| Magnesium | 3600 | | A | 5240 | | A | 1880 | | A | 3730 | | A | 2140 | | A |
| Manganese | 249 | | A | 594 | | A | 144 | | A | 137 | | A | 80.9 | | A |
| Mercury | 0.13 | U | A | 0.12 | U | A | 0.12 | U | A | 0.11 | U | A | 0.18 | | A |
| Molybdenum | 25.0 | U | A | 24.4 | U | A | 24.4 | U | A | 22.8 | U | A | 22.8 | U | A |
| Nickel | 17.6 | | A | 23.3 | | A | 9.8 | U | A | 15.6 | | A | 13.4 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1250 | U | A | 2070 | | A | 1220 | U | A | 1140 | U | A | 1140 | U | A |
| Selenium | 1.3 | U | A | 1.2 | U | A | 1.2 | U | A | 1.1 | U | A | 1.2 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.5 | U | A | 2.4 | U | A | 2.4 | U | A | 2.3 | U | A | 2.3 | U | A |
| Sodium | 1250 | U | A | 1220 | U | A | 1220 | U | A | 1140 | U | A | 1140 | U | A |
| Strontium | 250 | U | A | 244 | U | A | 244 | U | A | 228 | U | A | 228 | U | A |
| Thallium | 2.6 | U | A | 2.4 | U | A | 2.4 | U | A | 2.3 | U | A | 2.3 | U | A |
| Tin | 25.0 | U | A | 24.4 | U | A | 24.4 | U | A | 22.8 | U | A | 22.8 | U | A |
| Vanadium | 30.9 | | A | 42.7 | | A | 12.2 | | A | 25.8 | | A | 22.6 | | A |
| Zinc | 63.9 | | A | 66.5 | | A | 18.9 | | A | 33.2 | | A | 20.2 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301790 (COL)<br>Sample: B3017900004 (REAL)<br>Depth: 0.0 - 2.5 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900408D (DUP)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017901217 (REAL)<br>Depth: 12.0 - 17.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 8790 | | 19300 | | 19100 | | 18800 | | 17400 | |
| Antimony | 15.1 | U | 21.7 | | 22.8 | | 20.7 | | 15.6 | |
| Arsenic | 3.7 | | 7.5 | | 4.5 | | 4.2 | | 4.1 | |
| Barium | 106 | | 219 | | 165 | | 261 | | 88.6 | |
| Beryllium | 1.3 | U | 1.2 | | 1.3 | | 1.3 | U | 1.2 | U |
| Cadmium | 1.3 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U |
| Calcium | 7110 | | 5800 | | 6450 | | 19300 | | 11400 | |
| Cesium | 251 | U | 243 | U | 243 | U | 256 | U | 248 | U |
| Chromium | 10.1 | | 24.9 | | 25.3 | | 24.0 | | 19.6 | |
| Cobalt | 12.5 | U | 12.2 | U | 12.1 | U | 12.8 | U | 12.4 | U |
| Copper | 13.8 | | 19.7 | | 18.1 | | 17.5 | | 16.1 | |
| Iron | 11300 | | 24200 | | 24400 | | 22300 | | 17400 | |
| Lead | 18.3 | | 19.3 | | 18.5 | | 15.5 | | 17.9 | |
| Lithium | 25.1 | U | 24.3 | U | 24.3 | U | 25.6 | U | 24.8 | U |
| Magnesium | 2560 | | 6600 | | 6760 | | 6680 | | 4360 | |
| Manganese | 135 | | 451 | | 395 | | 458 | | 202 | |
| Mercury | 0.12 | U | 0.11 | U | 0.12 | U | 0.12 | U | 0.11 | U |
| Molybdenum | 25.1 | U | 24.3 | U | 24.3 | U | 25.6 | U | 24.8 | U |
| Nickel | 10.7 | | 19.5 | | 19.6 | | 17.7 | | 16.2 | |
| Phosphorus | | | | | | | | | | |
| Potassium | 1250 | U | 2540 | | 2460 | | 2600 | | 1500 | |
| Selenium | 1.3 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U |
| Silicon | | | | | | | | | | |
| Silver | 2.5 | U | 2.4 | U | 2.4 | U | 2.6 | U | 2.5 | U |
| Sodium | 1250 | U | 1220 | U | 1210 | U | 1280 | U | 1240 | U |
| Strontium | 251 | U | 243 | U | 243 | U | 256 | U | 248 | U |
| Thallium | 2.5 | U | 2.4 | U | 2.4 | U | 2.6 | U | 2.4 | U |
| Tin | 25.1 | U | 24.3 | U | 24.3 | U | 25.6 | U | 24.8 | U |
| Vanadium | 21.0 | | 56.2 | | 51.3 | | 48.4 | | 45.3 | |
| Zinc | 50.7 | | 73.8 | | 68.4 | | 64.5 | | 53.6 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301890 (COL)<br>Sample: B3018900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901616 (REAL)<br>Depth: 16.0 - 18.0 '<br>Date: 03/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14800 | | 18700 | | 16300 | | 13200 | | 11700 | |
| Antimony | 16.0 | | 19.5 | | 19.8 | | 15.2 | U | 14.7 | U |
| Arsenic | 4.3 | | 5.2 | | 4.9 | | 3.3 | | 3.9 | |
| Barium | 173 | | 286 | | 204 | | 252 | | 73.5 | |
| Beryllium | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U |
| Cadmium | 1.2 | U | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U |
| Calcium | 14400 | | 9060 | | 8050 | | 41000 | | 13800 | |
| Cesium | 244 | U | 239 | U | 243 | U | 254 | U | 244 | U |
| Chromium | 34.7 | | 23.9 | | 21.7 | | 13.6 | | 11.6 | |
| Cobalt | 12.2 | U | 12.0 | U | 12.2 | U | 12.7 | U | 12.2 | U |
| Copper | 26.7 | | 19.2 | | 16.6 | | 13.7 | | 10.9 | |
| Iron | 16300 | | 22300 | | 19900 | | 12700 | | 11000 | |
| Lead | 20.4 | | 18.0 | | 20.3 | | 16.6 | | 15.6 | |
| Lithium | 24.4 | U | 23.9 | U | 24.3 | U | 25.4 | U | 24.4 | U |
| Magnesium | 3920 | | 6620 | | 5950 | | 4090 | | 3320 | |
| Manganese | 310 | | 947 | | 617 | | 200 | | 113 | |
| Mercury | 0.11 | U | 0.12 | U | 0.12 | U | 0.12 | U | 0.11 | U |
| Molybdenum | 24.4 | U | 23.9 | U | 24.3 | U | 25.4 | U | 24.4 | U |
| Nickel | 16.2 | | 28.3 | | 18.1 | | 14.3 | | 15.0 | |
| Phosphorus | | | | | | | | | | |
| Potassium | 1760 | | 2220 | | 1840 | | 1270 | U | 1220 | U |
| Selenium | 1.2 | U | 1.2 | U | 1.3 | U | 1.2 | U | 1.2 | U |
| Silicon | | | | | | | | | | |
| Silver | 6.2 | | 2.4 | U | 2.4 | U | 2.5 | U | 2.4 | U |
| Sodium | 1220 | U | 1200 | U | 1220 | U | 1270 | U | 1220 | U |
| Strontium | 244 | U | 239 | U | 243 | U | 254 | U | 244 | U |
| Thallium | 2.5 | U | 2.4 | U | 2.5 | U | 2.5 | U | 2.5 | U |
| Tin | 24.4 | U | 23.9 | U | 24.3 | U | 25.4 | U | 24.4 | U |
| Vanadium | 36.5 | | 43.3 | | 42.3 | | 30.5 | | 22.1 | |
| Zinc | 91.4 | | 67.9 | | 62.0 | | 52.9 | | 50.3 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B301990 (COL)<br>Sample: B3019901420 (REAL)<br>Depth: 14.3 - 19.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900408 (REAL)<br>Depth: 4.0 - 7.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 13200 | | A | 7570 | | A | 9110 | | A | 7570 | | A | 7890 | | A |
| Antimony | 15.6 | U | A | 15.4 | | A | 14.1 | U | A | 14.5 | U | A | 14.1 | U | A |
| Arsenic | 3.5 | | A | 2.5 | U | A | 2.4 | U | A | 3.8 | | A | 2.4 | U | A |
| Barium | 172 | | A | 71.0 | | A | 98.1 | | A | 148 | | A | 175 | | A |
| Beryllium | 1.3 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A |
| Cadmium | 1.3 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A |
| Calcium | 4990 | | A | 3350 | | A | 4760 | | A | 6500 | | A | 5070 | | A |
| Cesium | 260 | U | A | 235 | U | A | 235 | U | A | 242 | U | A | 236 | U | A |
| Chromium | 20.3 | | A | 9.0 | | A | 10.4 | | A | 7.0 | | A | 8.6 | | A |
| Cobalt | 13.0 | U | A | 13.7 | | A | 11.8 | U | A | 13.5 | | A | 11.8 | U | A |
| Copper | 11.7 | | A | 21.9 | | A | 15.8 | | A | 14.4 | | A | 23.2 | | A |
| Iron | 14600 | | A | 20000 | | A | 12400 | | A | 6490 | | A | 5620 | | A |
| Lead | 10.9 | | A | 16.2 | | A | 12.5 | | A | 15.4 | | A | 17.8 | | A |
| Lithium | 26.0 | U | A | 23.5 | U | A | 23.5 | U | A | 24.2 | U | A | 23.6 | U | A |
| Magnesium | 4070 | | A | 3010 | | A | 3120 | | A | 2580 | | A | 2150 | | A |
| Manganese | 299 | | A | 201 | | A | 152 | | A | 290 | | A | 88.6 | | A |
| Mercury | 0.20 | U | A | 0.20 | U | A | 0.20 | U | A | 0.20 | U | A | 0.20 | U | A |
| Molybdenum | 26.0 | U | A | 23.5 | U | A | 23.5 | U | A | 24.2 | U | A | 23.6 | U | A |
| Nickel | 12.7 | | A | 29.3 | | A | 13.4 | | A | 11.4 | | A | 9.5 | | A |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1300 | U | A | 1180 | U | A | 1180 | U | A | 1210 | U | A | 1180 | U | A |
| Selenium | 1.3 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A | 1.2 | U | A |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.6 | U | A | 2.4 | U | A | 2.4 | U | A | 2.4 | U | A | 2.4 | U | A |
| Sodium | 1300 | U | A | 1180 | U | A | 1180 | U | A | 1210 | U | A | 1180 | U | A |
| Strontium | 260 | U | A | 235 | U | A | 235 | U | A | 242 | U | A | 236 | U | A |
| Thallium | 2.6 | U | A | 2.5 | U | A | 2.4 | U | A | 2.4 | U | A | 2.4 | U | A |
| Tin | 26.0 | U | A | 23.5 | U | A | 23.5 | U | A | 24.2 | U | A | 23.6 | U | A |
| Vanadium | 30.7 | | A | 24.3 | | A | 18.0 | | A | 12.1 | | A | 16.4 | | A |
| Zinc | 44.9 | | A | 107 | | A | 62.8 | | A | 38.8 | | A | 64.5 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B302090 (COL)<br>Sample: B3020901619 (REAL)<br>Depth: 16.0 - 19.0 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020901927 (REAL)<br>Depth: 19.0 - 26.9 '<br>Date: 03/22/90 | | | Location: B302190 (COL)<br>Sample: B3021900814 (REAL)<br>Depth: 8.35 - 14.35 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901418 (REAL)<br>Depth: 14.35 - 18.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901822 (REAL)<br>Depth: 18.30 - 22.30 '<br>Date: 06/25/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 15200 | | A | 5180 | | A | 7200 | | 6830 | | 7300 | |
| Antimony | 14.7 | U | A | 13.8 | U | A | 12.8 | U | 13.0 | U | 13.4 | U |
| Arsenic | 4.0 | | A | 8.6 | | A | 2.1 | U | 2.2 | U | 3.4 | |
| Barium | 207 | | A | 60.9 | | A | 126 | | 129 | | 163 | |
| Beryllium | 1.2 | U | A | 1.1 | U | A | 1.1 | U | 1.1 | U | 1.1 | U |
| Cadmium | 1.2 | U | A | 1.1 | U | A | 1.1 | U | 1.1 | U | 1.1 | U |
| Calcium | 4640 | | A | 4720 | | A | 14600 | | 5170 | | 5090 | |
| Cesium | 245 | U | A | 230 | U | A | 206 | U | 220 | U | 216 | U |
| Chromium | 18.3 | | A | 6.4 | | A | 8.1 | | 7.1 | | 9.4 | |
| Cobalt | 12.3 | U | A | 11.5 | U | A | 10.6 | U | 10.9 | U | 11.2 | U |
| Copper | 13.9 | | A | 16.8 | | A | 16.5 | | 10.9 | | 13.7 | |
| Iron | 15400 | | A | 11800 | | A | 11400 | | 4780 | | 16100 | |
| Lead | 25.9 | | A | 17.3 | | A | 13.9 | | 12.4 | | 15.1 | |
| Lithium | 24.5 | U | A | 23.0 | U | A | 21.3 | U | 21.7 | U | 22.3 | U |
| Magnesium | 4000 | | A | 2450 | | A | 2980 | | 2630 | | 2290 | |
| Manganese | 286 | | A | 167 | | A | 124 | | 58.6 | | 1290 | |
| Mercury | 0.20 | U | A | 0.20 | U | A | 0.11 | U | 0.10 | | 0.12 | |
| Molybdenum | 24.5 | U | A | 23.0 | U | A | 21.3 | U | 21.7 | U | 22.3 | U |
| Nickel | 12.7 | | A | 17.4 | | A | 8.5 | U | 8.7 | U | 12.7 | |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 1270 | | A | 1150 | U | A | 1060 | U | 1090 | U | 1120 | U |
| Selenium | 1.2 | U | A | 1.1 | U | A | 1.0 | U | 1.1 | U | 1.1 | U |
| Silicon | | | | | | | | | | | | |
| Silver | 2.5 | U | A | 2.3 | U | A | 2.1 | U | 2.2 | U | 2.2 | U |
| Sodium | 1230 | U | A | 1150 | U | A | 1060 | U | 1090 | U | 1120 | U |
| Strontium | 245 | U | A | 230 | U | A | 213 | U | 217 | U | 223 | U |
| Thallium | 2.4 | U | A | 2.3 | U | A | 2.1 | U | 2.2 | U | 2.2 | U |
| Tin | 24.5 | U | A | 23.0 | U | A | 21.3 | U | 21.7 | U | 22.3 | U |
| Vanadium | 30.9 | | A | 11.7 | | A | 21.5 | | 13.0 | | 26.6 | |
| Zinc | 45.1 | | A | 66.8 | | A | 91.1 | | 73.1 | | 44.0 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and ≥ Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021902227 (REAL)<br>Depth: 22.70 - 28.40 '<br>Date: 06/25/90 | | Location: B302290 (COL)<br>Sample: B3022900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900408 (REAL)<br>Depth: 4.00 - 8.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900814 (REAL)<br>Depth: 8.00 - 14.50 '<br>Date: 06/26/90 | | Location: B302990 (COL)<br>Sample: B3029900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/06/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 7600 | | 10600 | | 7560 | | 9480 | | 7560 | |
| Antimony | 13.3 | U | 17.3 | | 13.1 | U | 12.6 | U | 13.7 | U |
| Arsenic | 4.0 | | 3.4 | | 3.1 | | 2.2 | U | 2.3 | U |
| Barium | 223 | | 145 | | 55.7 | | 72.9 | | 102 | |
| Beryllium | 1.1 | U | 1.1 | | 1.1 | U | 1.1 | U | 1.1 | U |
| Cadmium | 1.3 | | 1.0 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| Calcium | 23000 | | 10900 | | 3530 | | 4280 | | 7890 | |
| Cesium | 220 | U | 203 | U | 211 | U | 217 | U | 230 | U |
| Chromium | 11.7 | | 12.4 | | 9.2 | | 10.9 | | 9.1 | |
| Cobalt | 13.0 | | 20.5 | | 11.0 | U | 10.5 | U | 11.4 | U |
| Copper | 19.3 | | 15.1 | | 15.4 | | 11.5 | | 10.1 | |
| Iron | 10800 | | 20400 | | 13100 | | 7510 | | 9000 | |
| Lead | 18.4 | | 13.5 | | 12.5 | | 14.2 | | 13.6 | |
| Lithium | 22.2 | U | 20.1 | U | 21.9 | U | 21.1 | U | 22.8 | U |
| Magnesium | 2780 | | 2630 | | 2860 | | 2810 | | 2110 | |
| Manganese | 249 | | 787 | | 90.6 | | 98.9 | | 154 | |
| Mercury | 0.10 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.14 | |
| Molybdenum | 22.2 | U | 20.1 | U | 21.9 | U | 21.1 | U | 22.8 | U |
| Nickel | 20.7 | | 27.3 | | 16.4 | | 11.2 | | 9.1 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 1110 | U | 1000 | U | 1100 | U | 1050 | U | 1140 | U |
| Selenium | 1.1 | U | 1.0 | U | 1.1 | U | 1.1 | U | 1.2 | U |
| Silicon | | | | | | | | | | |
| Silver | 2.2 | U | 2.0 | U | 2.2 | U | 2.1 | U | 2.3 | U |
| Sodium | 1110 | U | 1000 | U | 1100 | U | 1050 | U | 1140 | U |
| Strontium | 222 | U | 201 | U | 219 | U | 211 | U | 228 | U |
| Thallium | 2.2 | U | 2.0 | U | 2.1 | U | 2.2 | U | 2.3 | U |
| Tin | 22.2 | U | 20.1 | U | 21.9 | U | 21.1 | U | 22.8 | U |
| Vanadium | 22.7 | | 34.1 | | 19.5 | | 17.2 | | 21.6 | |
| Zinc | 87.2 | | 75.8 | | 102 | | 79.5 | | 41.0 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B303090 (COL)<br>Sample: B30309000004 (REAL)<br>Depth: 0.00 - 4.20 '<br>Date: 07/06/90 | | Location: B303190 (COL)<br>Sample: B30319000005 (REAL)<br>Depth: 0.00 - 5.00 '<br>Date: 07/09/90 | | Location: B303290 (COL)<br>Sample: B30329000004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/10/90 | | Location: B303390 (COL)<br>Sample: B30339000008 (REAL)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | | Location: B303390 (COL)<br>Sample: B30339000080 (DUP)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6600 | | 6560 | | 13300 | | 24700 | | 16000 | |
| Antimony | 13.1 | U | 13.5 | U | 15.7 | | 22.0 | | 25.1 | |
| Arsenic | 2.1 | U | 2.2 | U | 2.4 | | 5.1 | | 2.9 | |
| Barium | 87.4 | | 106 | | 150 | | 230 | | 81.8 | |
| Beryllium | 1.1 | U | 1.1 | U | 1.1 | U | 1.5 | | 1.7 | |
| Cadmium | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| Calcium | 6490 | | 4770 | | 14300 | | 7030 | | 17600 | |
| Cesium | 210 | U | 225 | U | 226 | U | 210 | U | 209 | U |
| Chromium | 8.3 | | 7.3 | | 16.1 | | 26.6 | | 19.1 | |
| Cobalt | 10.9 | U | 11.2 | U | 10.8 | U | 11.2 | | 22.0 | |
| Copper | 15.4 | | 17.0 | | 13.7 | | 15.6 | | 16.6 | |
| Iron | 13100 | | 7230 | | 15400 | | 21500 | | 31700 | |
| Lead | 14.6 | | 13.9 | | 13.4 | | 15.4 | | 12.8 | |
| Lithium | 21.8 | U | 22.5 | U | 21.7 | U | 22.0 | U | 21.5 | U |
| Magnesium | 1980 | | 2460 | | 3110 | | 4480 | | 4750 | |
| Manganese | 176 | | 141 | | 182 | | 244 | | 551 | |
| Mercury | 0.11 | U | 0.11 | U | 0.10 | | 2.2 | | 0.095 | U |
| Molybdenum | 21.8 | U | 22.5 | U | 21.7 | U | 22.0 | U | 21.5 | U |
| Nickel | 15.0 | | 9.0 | U | 15.9 | | 25.3 | | 53.5 | |
| Phosphorus | | | | | | | | | | |
| Potassium | 1090 | U | 1120 | U | 1440 | | 1710 | | 1070 | U |
| Selenium | 1.0 | U | 1.1 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| Silicon | | | | | | | | | | |
| Silver | 2.2 | U | 2.2 | U | 2.2 | U | 2.2 | U | 2.1 | U |
| Sodium | 1090 | U | 1120 | U | 1080 | U | 1100 | U | 1070 | U |
| Strontium | 218 | U | 225 | U | 217 | U | 220 | U | 215 | U |
| Thallium | 2.1 | U | 2.2 | U | 2.3 | U | 2.1 | U | 2.1 | U |
| Tin | 21.8 | U | 22.5 | U | 21.7 | U | 22.0 | U | 21.5 | U |
| Vanadium | 18.2 | | 14.7 | | 31.1 | | 61.7 | | 55.6 | |
| Zinc | 54.1 | | 47.0 | | 130 | | 116 | | 113 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

## Table C3-d

## Phase III Subsurface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: B303490 (COL)<br>Sample: B30349000008 (REAL)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303490 (COL)<br>Sample: B30349000008D (DUP)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000009 (REAL)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000009D (DUP)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 11800 | | 9990 | | 13600 | | 13900 | | | |
| Antimony | 13.9 | U | 14.1 | U | 13.1 | U | 13.1 | U | | |
| Arsenic | 3.0 | | 2.9 | | 4.5 | | 5.1 | | | |
| Barium | 136 | | 99.9 | | 215 | | 214 | | | |
| Beryllium | 1.4 | | 1.3 | | 1.3 | | 1.3 | | | |
| Cadmium | 1.2 | U | 1.2 | U | 1.1 | U | 1.1 | U | | |
| Calcium | 29900 | | 23700 | | 11100 | | 16000 | | | |
| Cesium | 233 | U | 236 | U | 222 | U | 218 | U | | |
| Chromium | 13.3 | | 10.7 | | 17.9 | | 18.2 | | | |
| Cobalt | 11.6 | U | 11.8 | U | 10.9 | U | 10.9 | U | | |
| Copper | 14.6 | | 13.6 | | 16.5 | | 15.3 | | | |
| Iron | 12700 | | 10600 | | 15900 | | 16500 | | | |
| Lead | 19.1 | | 16.6 | | 22.5 | | 24.2 | | | |
| Lithium | 31.0 | | 31.2 | | 31.2 | | 31.8 | | | |
| Magnesium | 2880 | | 2540 | | 3430 | | 3600 | | | |
| Manganese | 113 | | 126 | | 309 | | 325 | | | |
| Mercury | 0.11 | U | 0.11 | U | 0.097 | U | 0.11 | U | | |
| Molybdenum | 32.3 | | 32.4 | | 33.2 | | 32.8 | | | |
| Nickel | 18.1 | | 14.7 | | 15.2 | | 18.0 | | | |
| Phosphorus | | | | | | | | | | |
| Potassium | 1160 | U | 1180 | U | 1910 | | | | | |
| Selenium | 1.2 | U | 1.2 | U | 5.6 | U | 1.1 | U | | |
| Silicon | | | | | | | | | | |
| Silver | 2.3 | U | 2.4 | U | 2.2 | U | 2.2 | U | | |
| Sodium | 1160 | U | 1180 | U | 1090 | U | 1090 | U | | |
| Strontium | 231 | U | 236 | U | 218 | U | 218 | U | | |
| Thallium | 2.3 | U | 2.4 | U | 2.2 | U | 2.2 | U | | |
| Tin | 23.1 | U | 23.6 | U | 21.8 | U | 21.8 | U | | |
| Vanadium | 30.9 | | 27.4 | | 39.0 | | 38.6 | | | |
| Zinc | 64.0 | | 52.7 | | 68.9 | | 69.2 | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g)

| ANALYTE | Location: 0974 (COL)<br>Sample: BP00029IT (REAL)<br>Depth: 0.00 - 20.0 '<br>Date: 05/07/92 | | | Location: 1074 (COL)<br>Sample: BP00030IT (REAL)<br>Depth: 0.00 - 12.0 '<br>Date: 05/07/92 | | | Location: 30091 (VFA)<br>Sample: BH00001EBU1 (REAL)<br>Depth: 0.5 - 6.0 '<br>Date: 08/05/91 | | | Location: 30091 (WCS)<br>Sample: BH00002EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/05/91 | | | Location: 30091 (WCS)<br>Sample: BH00003EBU1 (REAL)<br>Depth: 11.9 - 13.9 '<br>Date: 08/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .008508 | J | A | .002875 | J | A | .008236 | J | | .003605 | J | | .002359 | J | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .007167 | J | A | .03162 | J | A | .07435 | J | R | .009285 | J | R | -.0302 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 14.2 | | A | 17.07 | | A | 3.58 | J | A | 6.138 | | A | 3.863 | J | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 26.29 | | A | 28.77 | | A | 12.76 | | A | 21.95 | | A | 21.95 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .0125 | J | A | .003765 | J | A | .02451 | J | | .001664 | J | | .007762 | J | |
| radium-226 | 1.112 | | R | 1.327 | | R | | | | | | | | | |
| radium-228 | 1.999 | | R | 2.555 | | R | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .07107 | J | A | .03658 | J | A | .0619 | J | | -.0144 | J | | -.0135 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | 59.21 | J | | 28.68 | J | | -98.1 | J | |
| uranium-233,-234 | 1.011 | | A | 1.117 | | A | .9693 | | | 1.201 | | | 1.369 | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .02005 | J | A | .02451 | J | A | .02061 | J | | .06727 | J | | .01659 | J | |
| uranium-238 | 1.106 | | A | 1.026 | | A | .9477 | | | 1.11 | | | 1.243 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 30191 (COL)<br>Sample: BH00004EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/07/91 | | | Location: 30191 (COL)<br>Sample: BH00005EBU1 (REAL)<br>Depth: 6.0 - 12.00 '<br>Date: 08/07/91 | | | Location: 30191 (WCS)<br>Sample: BH00006EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/07/91 | | | Location: 30191 (WCS)<br>Sample: BH00007EBU1 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 08/07/91 | | | Location: 30291 (COL)<br>Sample: BH00008EBU1 (REAL)<br>Depth: 0.0 - 5.9 '<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .003996 | J | | .004084 | J | | .002673 | J | | .001358 | J | | .0106 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.066 | J | R | | | | -.0559 | J | R | -.00633 | J | R | .06359 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 6.824 | | A | 12.86 | | A | 6.034 | | A | 4.328 | | A | 13.81 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 23.36 | | A | 22.87 | | A | 12.11 | | A | 21.39 | | A | 23.14 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .009578 | J | | .005172 | J | | .002981 | J | | 0 | J | | .02571 | J | A |
| radium-226 | | | | | | | | | | | | | 1.227 | | R |
| radium-228 | | | | | | | | | | | | | 2.314 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .07402 | J | | .5289 | J | | .05367 | J | | .05006 | J | | .09399 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 112.8 | J | | 64.75 | J | | 20.35 | J | | -50.9 | J | | -37.9 | J | V |
| uranium-233,-234 | 1.369 | | | 1.335 | | | .6027 | | | .858 | | | 1.197 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .0299 | J | | .0522 | J | | .01287 | J | | .02502 | J | | .0448 | J | A |
| uranium-238 | 1.463 | | | .9115 | | | .8224 | | | .9112 | | | .8567 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 30291 (COL)<br>Sample: BH00008EBU1D (REAL)<br>Depth: 0.0 - 5.9 '<br>Date: 08/08/91 | | | Location: 30291 (COL)<br>Sample: BH00009EBU1 (REAL)<br>Depth: 9.7 - 10.0 '<br>Date: 08/08/91 | | | Location: 30291 (WCS)<br>Sample: BH00010EBU1 (REAL)<br>Depth: 14.4 - 14.1 '<br>Date: 08/08/91 | | | Location: 30391 (COL)<br>Sample: BH00012EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00013EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .005914 | J | V | 0 | J | V | 0 | J | V | .002486 | J | V | .001301 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.00338 | J | R | .001549 | J | R | .02356 | J | R | .02139 | J | R | .02865 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | .7108 | J | | 10.76 | | | 11.71 | | | 7.326 | | | 9.077 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 19.84 | | | 23.22 | | | 13.95 | | | 18.67 | | | 17.93 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .02184 | J | A | .0007028 | J | A | -.000422 | J | A | .003894 | J | A | .003181 | J | A |
| radium-226 | .9915 | | R | .9307 | | R | .9156 | | R | 1.063 | | R | 1.291 | | R |
| radium-228 | 2.257 | | R | 2.264 | | R | 1.437 | | R | 1.959 | | R | 2.471 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .05366 | J | A | .2141 | J | A | .2833 | J | A | .005349 | J | A | .04878 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -61 | J | V | -49.9 | J | V | 39.77 | J | V | -49 | J | V | 60.11 | J | V |
| uranium-233,-234 | .699 | | A | .771 | | A | 1.378 | | A | .8466 | | A | 1.233 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .06219 | J | A | .0461 | J | A | .2465 | J | A | .0189 | J | A | .06445 | J | A |
| uranium-238 | 1.049 | | A | .9933 | | A | .7498 | | A | .8368 | | A | 1.198 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I interference, +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
FIA, Field Sample, DUP - Field Duplicate
RFA Rocky Flats Alluvium, COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 30391 (COL)<br>Sample: BH00014EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/09/91 | | | Location: 30391 (COL)<br>Sample: BH00015EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 08/09/91 | | | Location: 30491 (COL)<br>Sample: BH00041EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/13/91 | | | Location: 30491 (WCS)<br>Sample: BH00043EBU1 (REAL)<br>Depth: 30.0 - 32.0 '<br>Date: 08/13/91 | | | Location: 30591 (COL)<br>Sample: BH00044EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .01731 | J | A | .001577 | J | V | .004459 | J | V | 0 | J | V | .003801 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.0287 | J | R | .008598 | J | R | .004139 | J | R | -.0278 | J | R | .1759 | | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 6.931 | | | 6.572 | | | 10.3 | | A | 10.08 | | A | 13.75 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 18.58 | | | 15.99 | | | 26.89 | | A | 25.58 | | A | 25.99 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001493 | J | A | 0 | J | A | .006785 | J | R | 0 | J | V | .01556 | J | V |
| radium-226 | .9404 | | R | .7494 | | R | .6722 | | | .8095 | | | 1.217 | | |
| radium-228 | 1.935 | | R | 1.313 | | R | 1.11 | | | 1.37 | | | 2.51 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .03722 | J | A | .04332 | J | A | .09116 | J | | .08867 | J | | .1282 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 100.8 | J | V | 277.4 | J | V | 149.6 | J | V | -114 | J | V | -13.5 | J | V |
| uranium-233,-234 | .9683 | | A | .626 | | A | .9335 | | A | 1.289 | | A | .7113 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .07921 | J | A | 0 | J | A | .0563 | J | A | .06278 | J | A | .03421 | J | A |
| uranium-238 | 1.069 | | A | .4604 | | A | 1.173 | | A | 1.683 | | A | .9949 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 30591 (WCS)<br>Sample: BH00047EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/14/91 | | | Location: 30591 ()<br>Sample: BH00049EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/14/91 | | | Location: 30691 (VFA)<br>Sample: BH00052EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/15/91 | | | Location: 30691 (WCS)<br>Sample: BH00055EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/15/91 | | | Location: 30691 ()<br>Sample: BH00056EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .005465 | J | V | .002466 | J | A | .007838 | J | V | .004749 | J | V | .004064 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .01844 | J | R | -.0233 | J | R | .06793 | J | R | -.0223 | J | R | -.0114 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 11.66 | | A | 10.64 | | A | 6.32 | | A | 8.266 | | A | 9.724 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 21.19 | | A | 20.16 | | A | 25.1 | | A | 30.7 | | A | 24.49 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001422 | J | V | .012 | J | V | .01607 | J | V | .001409 | J | V | 0 | J | V |
| radium-226 | .7275 | | | 1.118 | | | .7699 | | | .9911 | | | .8945 | | |
| radium-228 | 1.578 | | | 2.076 | | | 1.468 | | | 1.538 | | | 1.209 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .1036 | J | | .05321 | J | | .08959 | J | | .03616 | J | | .04246 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 20.26 | J | V | -94.6 | J | V | 97.44 | J | V | -34.7 | J | V | -3.86 | J | V |
| uranium-233,-234 | .8764 | | A | 1.16 | | A | 1.148 | | A | 1.064 | | A | .8618 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .03852 | J | A | .02155 | J | A | .07621 | J | A | .01579 | J | A | .04809 | J | A |
| uranium-238 | .8427 | | A | .8561 | | A | .8832 | | A | 1.114 | | A | .7872 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
1-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 30791 (VFA)<br>Sample: BH00060EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/16/91 | | Location: 30791 (WCS)<br>Sample: BH00063EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/16/91 | | Location: 30791 ()<br>Sample: BH00064EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/16/91 | | Location: 30791 (WCS)<br>Sample: BH00065EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/16/91 | | Location: 30891 (WCS)<br>Sample: BH00070EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/19/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.010 | | 0.002 | | 0.003 | | 0.007 | | 0.009 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 23.2 | A | 40.4 | A | 28.4 | A | 19.1 | A | 29.0 | A |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 39.3 | A | 54.1 | A | 31.1 | A | 32.4 | A | 32.3 | A |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.011 | | 0.002 | | 0.002 | | 0.000 | | 0.002 | |
| radium-226 | 0.83 | A | 0.94 | A | 1.04 | A | 0.92 | A | 1.04 | A |
| radium-228 | 1.02 | A | 1.44 | A | 1.27 | A | 1.55 | A | 0.96 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.78 | | 0.60 | | 0.69 | | 0.56 | | 0.37 | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | -40 | V | 260 | V | 100 | V | -20 | V | 280 | V |
| uranium-233,-234 | 1.23 | | 4.26 | | 1.58 | | 1.49 | | 1.27 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.07 | | 0.45 | | 0.05 | | 0.06 | | 0.04 | |
| uranium-238 | 1.88 | | 26.63 | | 1.63 | | 1.84 | | 1.39 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I interference, +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium, COL - Colluvium, VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 30891 ()<br>Sample: BH00073EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/19/91 | | Location: 30891 (WCS)<br>Sample: BH00075EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/19/91 | | Location: 30891 (WCS)<br>Sample: BH00078EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/19/91 | | Location: 31091 (COL)<br>Sample: BH00080EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/20/91 | | Location: 31091 (COL)<br>Sample: BH00084EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/20/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | | 0.009 | | 0.001 | | 0.003 | | 0.011 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 22.7 | A | 21.9 | A | 19.5 | A | 31.5 | A | 33.1 | A |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 23.9 | A | 23.2 | A | 29.8 | A | 34.1 | A | 39.5 | A |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.002 | | 0.033 | | 0.010 | | 0.006 | | 0.004 | |
| radium-226 | 0.87 | A | 2.09 | A | 1.20 | A | 1.07 | A | 1.26 | A |
| radium-228 | 1.41 | A | 1.69 | A | 1.70 | A | 2.14 | A | 2.79 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.27 | | 0.38 | | 0.39 | | 0.41 | | 0.25 | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 80 | V | 270 | V | -40 | V | -555 | R | 420 | V |
| uranium-233,-234 | 0.79 | | 1.43 | | 1.36 | | 1.34 | | 1.43 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.03 | | 0.05 | | 0.07 | | 0.11 | | 0.11 | |
| uranium-238 | 1.11 | | 1.78 | | 1.54 | | 3.24 | | 2.92 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
*Inorganic qualifiers:* U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 31091 ()<br>Sample: BH00085EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/20/91 | | Location: 31091 (COL)<br>Sample: BH00087EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/20/91 | | Location: 31091 (COL)<br>Sample: BH00090EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 08/20/91 | | Location: 31291 (WCS)<br>Sample: BH00091EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/21/91 | | Location: 31291 ()<br>Sample: BH00094EBU1 (DUP)<br>Depth: 24.0 - 30.0 '<br>Date: 08/21/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.004 | | 0.007 | | 0.005 | | 0.005 | V | 0.003 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 42.1 | A | 15.9 | A | 21.7 | A | 25.5 | V | 27.1 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 51.7 | A | 33.4 | A | 35.4 | A | 16.6 | V | 21.8 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.002 | | 0.005 | | 0.011 | | 0.002 | | 0.000 | |
| radium-226 | 1.41 | A | 1.43 | A | 1.07 | A | 1.42 | A | 0.00 | A |
| radium-228 | 2.15 | A | 2.78 | A | 2.34 | A | 0.00 | A | 0.89 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.23 | | 0.16 | | 2.23 | | 0.48 | A | 0.40 | A |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 230 | V | 240 | V | -80 | V | 60 | V | -60 | V |
| uranium-233,-234 | 1.56 | | 1.44 | | 1.09 | | 0.89 | | 2.73 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.01 | | 0.05 | | 0.12 | | 0.07 | | 0.13 | |
| uranium-238 | 2.64 | | 1.82 | | 2.19 | | 1.06 | | 6.02 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 31291 (WCS)<br>Sample: BH00097EBU1 (REAL)<br>Depth: 30.0 - 36.0 '<br>Date: 08/22/91 | | Location: 31591 (COL)<br>Sample: BH00100EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 08/23/91 | | Location: 31591 (COL)<br>Sample: BH00103EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/23/91 | | Location: 31591 ()<br>Sample: BH00106EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 08/23/91 | | Location: 31591 (WCS)<br>Sample: BH00109EBU1 (REAL)<br>Depth: 12.0 - 16.30 '<br>Date: 08/23/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.012 | | 0.000 | V | -0.002 | V | 0.005 | V | 0.000 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 18.8 | A | 30.0 | V | 22.6 | V | 117.8 | V | 28.0 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 27.4 | A | 28.9 | V | 21.3 | V | 10.7 | V | 26.9 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.023 | | 0.024 | | 0.005 | | 0.010 | | 0.000 | |
| radium-226 | 1.31 | A | 0.93 | A | 0.90 | A | 0.82 | A | 1.32 | A |
| radium-228 | 1.57 | A | 1.39 | A | 0.00 | A | 0.00 | A | 0.00 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.27 | | 0.95 | A | 0.54 | A | 0.90 | A | 0.49 | A |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 180 | | 0 | | 180 | | 160 | | 160 | |
| uranium-233,-234 | 1.58 | | 0.73 | | 1.69 | | 1.10 | | 1.38 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.10 | | 0.12 | | 0.41 | | 0.15 | | 0.09 | |
| uranium-238 | 1.50 | | 0.88 | | 1.31 | | 0.79 | | 4.09 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 31691 (WCS)<br>Sample: BH00112EBU1 (REAL)<br>Depth: 24.0 - 30.0 '<br>Date: 08/26/91 | | Location: 31691 ()<br>Sample: BH00113EBU1 (DUP)<br>Depth: 24.0 - 30.0 '<br>Date: 08/26/91 | | Location: 31691 (WCS)<br>Sample: BH00114EBU1 (REAL)<br>Depth: 30.0 - 32.0 '<br>Date: 08/26/91 | | Location: 31891 (COL)<br>Sample: BH00122EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/27/91 | | Location: 31891 ()<br>Sample: BH00125EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/27/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -0.002 | V | 0.005 | V | -0.001 | V | 0.000 | V | 0.006 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | | | | |
| curium-244 | | | | | | | | | | |
| gross alpha | 125.7 | V | 30.4 | V | 108.1 | V | 34.3 | V | 39.4 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 22.1 | V | 33.9 | V | 13.7 | V | 23.2 | V | 35.4 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | -0.003 | | 0.001 | | 0.003 | | 0.012 | V | 0.003 | V |
| radium-226 | 1.00 | A | 0.81 | A | 1.25 | A | | | | |
| radium-228 | 1.55 | A | 1.55 | A | 1.27 | A | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.42 | A | 0.74 | A | 6.54 | A | 0.26 | V | 0.40 | V |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 110 | | 10 | | 90 | | 200 | V | 210 | V |
| uranium-233,-234 | 1.28 | | 1.76 | | 1.03 | | 1.19 | A | 0.90 | A |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.08 | | 0.17 | | 0.04 | | 0.04 | A | 0.04 | A |
| uranium-238 | 0.85 | | 2.68 | | 1.41 | | 1.15 | A | 1.01 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 31891 (COL)<br>Sample: BH00128EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/27/91 | | Location: 31891 (COL)<br>Sample: BH00131EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/27/91 | | Location: 31891 (WCS)<br>Sample: BH00132EBU1 (REAL)<br>Depth: 18.0 - 21.0 '<br>Date: 08/27/91 | | Location: 31991 (COL)<br>Sample: BH00137EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 08/28/91 | | Location: 31991 ()<br>Sample: BH00140EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 08/28/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.019 | V | 0.000 | V | 0.007 | V | 0.003 | V | 0.016 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | | | | | | | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 42.9 | V | 22.3 | V | 20.3 | V | 26.6 | V | 38.5 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 35.4 | V | 21.3 | V | 19.3 | V | 25.1 | V | 31.4 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.017 | V | 0.001 | V | 0.001 | V | 0.052 | | 0.036 | |
| radium-226 | | | | | | | 0.97 | A | 0.94 | A |
| radium-228 | | | | | | | 1.13 | A | 1.27 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.26 | V | 0.13 | V | 0.25 | V | 0.56 | A | 0.57 | A |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 90 | V | 90 | V | 170 | V | 120 | | 610 | |
| uranium-233,-234 | 1.03 | A | 0.90 | A | 1.10 | A | 1.58 | | 0.97 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.02 | A | 0.02 | A | 0.05 | A | 0.17 | | 0.07 | |
| uranium-238 | 1.64 | A | 2.09 | A | 1.47 | A | 1.32 | | 1.30 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 31991 (COL)<br>Sample: BH00143EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 08/28/91 | | Location: 31991 (WCS)<br>Sample: BH00146EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/28/91 | | Location: 32091 (COL)<br>Sample: BH00202EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 08/29/91 | | Location: 32091 (COL)<br>Sample: BH00205EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/29/91 | | Location: 32091 (COL)<br>Sample: BH00208EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 08/29/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -0.003 | V | 0.265 | V | 0.007 | A | 0.002 | V | 0.003 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | | | | | | |
| curium-244 | | | | | | | | | | |
| gross alpha | 38.7 | V | 25.5 | V | 40.7 | V | 37.75 | V | 68.1 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 34.8 | V | 35.5 | V | 48.6 | V | | | 30.7 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.001 | | 0.013 | | 0.002 | V | 0.004 | V | 0.006 | V |
| radium-226 | 1.26 | A | 1.06 | A | | | | | | |
| radium-228 | 0.00 | A | 1.25 | A | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.73 | A | 1.75 | A | 0.35 | V | 0.38 | V | 0.35 | V |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 270 | | -20 | | -40 | V | -70 | V | 50 | V |
| uranium-233,-234 | 1.50 | | 1.86 | | 2.26 | A | 2.51 | A | 2.48 | A |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.10 | | 0.14 | | 0.12 | A | 0.13 | A | 0.16 | A |
| uranium-238 | 1.17 | | 1.36 | | 1.81 | A | 2.14 | A | 2.14 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 32091 (COL)<br>Sample: BH00211EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 08/29/91 | | Location: 32091 (WCS)<br>Sample: BH00212EBU1 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 08/29/91 | | Location: 32391 (COL)<br>Sample: BH00229EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/03/91 | | Location: 32391 (WCS)<br>Sample: BH00231EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/03/91 | | Location: 32391 ()<br>Sample: BH00232EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 09/03/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.000 | V | 0.001 | V | 0.009 | V | 0.004 | V | -0.004 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | | | | | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 30.8 | V | 29.4 | V | 35.2 | V | 22.2 | V | 22.1 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 25.2 | V | 31.3 | V | 28.5 | V | 24.7 | V | 28.6 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.003 | A | 0.000 | V | 0.028 | V | -0.001 | V | 0.021 | V |
| radium-226 | | | | | 0.69 | A | 0.91 | A | 0.90 | A |
| radium-228 | | | | | 1.72 | A | 1.64 | A | 2.36 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.18 | V | 0.40 | V | .1 | V | .3 | V | .1 | V |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | -80 | V | 140 | V | 350 | R | 140 | R | 310 | R |
| uranium-233,-234 | 0.85 | A | 1.43 | A | 0.87 | A | 0.83 | A | 0.98 | A |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.03 | A | 0.20 | A | 0.04 | A | 0.04 | A | 0.07 | A |
| uranium-238 | 1.01 | A | 1.20 | A | 1.03 | A | 1.10 | A | 1.21 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I interference, + correlation coefficient for MSA < 0 995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL Field Sample, DUP - Field Duplicate
RFA Rocky Flats Alluvium, COL - Colluvium, VFA Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 32491 (COL)<br>Sample: BH00239EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/04/91 | | Location: 32491 ()<br>Sample: BH00240EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/04/91 | | Location: 32491 (WCS)<br>Sample: BH00242EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/04/91 | | Location: 32691 (COL)<br>Sample: BH00249EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/05/91 | | Location: 32691 ()<br>Sample: BH00250EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/05/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | V | 0.007 | V | 0.006 | V | 0.039 | V | 0.062 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 27.8 | V | 28.7 | V | 30.1 | V | 25.2 | V | 23.1 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 25.3 | V | 28.2 | V | 23.1 | V | 31.6 | V | 19.6 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.027 | V | 0.012 | V | 0.012 | V | 0.255 | V | 0.272 | V |
| radium-226 | 0.80 | A | 0.90 | A | 0.87 | A | 0.49 | A | 0.81 | A |
| radium-228 | 1.31 | A | 1.85 | A | 1.55 | A | 0.97 | A | 1.36 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | .2 | V | .2 | V | .4 | V | 0.20 | | 0.34 | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 320 | R | 340 | R | 270 | R | 490 | V | 220 | V |
| uranium-233,-234 | 1.18 | A | 0.90 | A | 0.81 | A | 0.72 | V | 1.08 | V |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.04 | A | 0.00 | A | 0.06 | A | 0.08 | V | 0.04 | V |
| uranium-238 | 1.25 | A | 0.82 | A | 1.10 | A | 0.87 | V | 0.99 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 32691 (WCS)<br>Sample: BH00251EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 09/05/91 | | Location: 32891 (COL)<br>Sample: BH00257EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/06/91 | | Location: 32891 ()<br>Sample: BH00258EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/06/91 | | Location: 32891 (WCS)<br>Sample: BH00259EBU1 (REAL)<br>Depth: 6.00 - 8.00 '<br>Date: 09/06/91 | | Location: 32991 (COL)<br>Sample: BH00264EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/06/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.002 | V | 0.012 | V | 0.008 | V | 0.007 | V | 0.058 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 29.8 | V | 31.6 | V | 32.2 | V | 30.7 | V | 29.1 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 29.9 | V | 25.0 | V | 57.4 | V | 25.0 | V | 35.0 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.002 | V | 0.039 | V | 0.112 | V | 0.002 | V | | |
| radium-226 | 1.29 | A | 1.01 | A | 0.0 | A | 0.8 | A | 0.0 | A |
| radium-228 | 0.00 | A | 1.44 | A | 1.41 | A | 0.0 | A | 1.19 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.16 | | 0.10 | | 0.27 | | 0.25 | | | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 290 | V | 600 | V | 540 | V | 530 | V | 310 | V |
| uranium-233,-234 | 1.31 | V | 1.55 | V | 1.21 | V | 1.04 | V | | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.09 | V | 0.07 | V | 0.04 | V | 0.05 | V | | |
| uranium-238 | 2.38 | V | 1.40 | V | 2.02 | V | 1.22 | V | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 33591 (COL)<br>Sample: BH00297EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/11/91 | | Location: 33591 (WCS)<br>Sample: BH00299EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 09/11/91 | | Location: 33791 (RFA)<br>Sample: BH00353EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/12/91 | | Location: 33791 (RFA)<br>Sample: BH00355EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/12/91 | | Location: 33791 ()<br>Sample: BH00356EBU1 (DUP)<br>Depth: 6.00 - 12.0 '<br>Date: 09/12/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.009 | | 0.000 | | 0.055 | A | 0.008 | V | 0.002 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 48.9 | V | 28.8 | V | 15.0 | V | 37.7 | V | 31.6 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 30.5 | V | 22.1 | V | 12.4 | V | 33.4 | V | 47.7 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.004 | V | 0.004 | V | 0.215 | V | 0.006 | V | 0.003 | V |
| radium-226 | 0.99 | A | 1.03 | A | 0.71 | A | 0.00 | A | 0.44 | A |
| radium-228 | 1.96 | A | 1.57 | A | 0.00 | A | 0.49 | A | 0.53 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.19 | V | 0.12 | V | 0.77 | JA | 0.25 | V | 0.21 | V |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | -100 | R | 50 | R | 250 | V | 260 | V | 210 | V |
| uranium-233,-234 | 1.03 | V | 0.93 | V | 0.63 | A | 0.40 | V | 0.45 | V |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.08 | V | 0.06 | V | 0.01 | A | 0.03 | V | 0.00 | V |
| uranium-238 | 1.14 | V | 1.07 | V | 0.64 | A | 0.79 | V | 0.65 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 33791 (WCS)<br>Sample: BH00359EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 09/12/91 | | Location: 33791 (WCS)<br>Sample: BH00360EBU1 (REAL)<br>Depth: 18.0 - 22.0 '<br>Date: 09/12/91 | | Location: 33991 (WCS)<br>Sample: BH00364EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/13/91 | | Location: 33991 ()<br>Sample: BH00365EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/13/91 | | Location: 33991 (WCS)<br>Sample: BH00367EBU1 (REAL)<br>Depth: 6.00 - 12.0 '<br>Date: 09/13/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.005 | V | 0.002 | V | 0.010 | | 0.028 | | 0.006 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.00 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | 25.4 | V | 37.1 | V | 29.8 | V | 33.8 | V | 19.3 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 26.4 | V | 30.8 | V | 22.9 | V | 22.3 | V | 22.6 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.013 | | 0.018 | V | 0.023 | V | 0.022 | V | 0.004 | V |
| radium-226 | 0.71 | A | 0.91 | A | 1.02 | A | 1.10 | A | 0.78 | A |
| radium-228 | 0.74 | A | 1.64 | A | 1.35 | A | 1.29 | A | 1.28 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.13 | V | 0.45 | V | 0.12 | V | 0.15 | V | 0.18 | V |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 410 | V | 240 | V | -140 | R | -10 | R | -60 | R |
| uranium-233,-234 | 0.63 | V | 1.16 | V | 0.96 | V | 1.11 | V | 0.59 | V |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.01 | V | 0.08 | V | 0.04 | V | 0.07 | V | 0.04 | V |
| uranium-238 | 1.06 | V | 1.25 | V | 1.05 | V | 0.80 | V | 0.77 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 34091 (COL)<br>Sample: BH00371EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/16/91 | | Location: 34091 ()<br>Sample: BH00372EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/16/91 | | Location: 34091 (WCS)<br>Sample: BH00374EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/16/91 | | Location: 34291 (COL)<br>Sample: BH00379EBU1 (REAL)<br>Depth: 0.00 - 6.0 '<br>Date: 09/16/91 | | Location: 34291 ()<br>Sample: BH00380EBU1 (DUP)<br>Depth: 0.00 - 6.0 '<br>Date: 09/16/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -0.002 | | 0.008 | | -0.003 | | 0.022 | V | 0.011 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | JA | 0.00 | JA | 0.00 | JA | 0.09 | R | 0.00 | R |
| curium-244 | | | | | | | | | | |
| gross alpha | 7.7 | V | 47.3 | V | 23.6 | V | 47.1 | V | 45.3 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 22.0 | V | 31.5 | V | 22.0 | V | 42.2 | V | 36.6 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.017 | V | 0.020 | V | 0.002 | V | 0.112 | V | 0.091 | V |
| radium-226 | 1.05 | A | 1.04 | A | 0.85 | A | 1.09 | A | 0.80 | A |
| radium-228 | 2.16 | A | 2.53 | A | 1.50 | A | 2.21 | A | 1.78 | A |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.21 | V | 0.14 | V | 0.21 | V | 0.08 | A | 0.21 | A |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 180 | R | -160 | R | 100 | R | 50 | A | 280 | A |
| uranium-233,-234 | 1.30 | V | 1.57 | V | 0.87 | V | 1.46 | V | 1.60 | V |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.07 | V | 0.07 | V | 0.02 | V | 0.07 | V | 0.11 | V |
| uranium-238 | 1.29 | V | 1.37 | V | 1.02 | V | 1.61 | V | 1.72 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 34291 (WCS)<br>Sample: BH00381EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 09/16/91 | | | Location: 34491 (WCS)<br>Sample: BH00385EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/17/91 | | | Location: 34491 ()<br>Sample: BH00386EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/17/91 | | | Location: 34691 (COL)<br>Sample: BH00391EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/18/91 | | | Location: 34691 ()<br>Sample: BH00392EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.008 | | V | .002239 | J | V | .0024 | J | V | .1718 | J | V | .1659 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 0.00 | | R | .0009913 | J | | .01847 | J | | .1998 | | | .2186 | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 27.7 | | V | 10.16 | | | 14.88 | | | 17.77 | | | 21.42 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 18.0 | | V | 21.33 | | | 21.98 | | | 29.42 | | | 28 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.002 | | V | 0 | J | V | .001196 | J | V | .7821 | | V | 1.117 | | V |
| radium-226 | 0.70 | | A | 1.131 | | R | 1.164 | | R | 1.365 | | R | 1.166 | | R |
| radium-228 | 1.39 | | A | 1.586 | | | 1.889 | | | 2.784 | | | 2.145 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.24 | | A | .1655 | J | A | .0741 | J | A | .1091 | J | A | .242 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 170 | | | 125.2 | J | V | 154.1 | J | V | 73.15 | J | V | 39.46 | J | V |
| uranium-233,-234 | 0.69 | | V | .8937 | | V | .9836 | | A | 2.109 | | V | 1.775 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.00 | | V | .05307 | J | V | .0575 | J | A | .09604 | J | V | .07395 | J | V |
| uranium-238 | 0.81 | | V | 1.061 | | V | 1.09 | | A | 1.475 | | V | 1.414 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 34691 (WCS)<br>Sample: BH00394EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/18/91 | | | Location: 34691 (WCS)<br>Sample: BH00396EBU1 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 09/18/91 | | | Location: 34891 (COL)<br>Sample: BH00403EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/19/91 | | | Location: 34891 ()<br>Sample: BH00405EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/19/91 | | | Location: 34891 (WCS)<br>Sample: BH00407EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .04268 | J | V | .0106 | J | V | .01976 | J | V | .01461 | J | V | .008782 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.0359 | J | | -.0101 | J | | -.0262 | J | | -.0406 | J | | -.0146 | J | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 16.78 | | | 13.09 | | | 12.84 | | | 9.934 | | | 16.01 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 26.18 | | | 20.55 | | | 28.78 | | | 27.57 | | | 22.13 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001118 | J | V | 0 | J | V | .002926 | J | V | .02066 | J | V | .002032 | J | V |
| radium-226 | 1.184 | | R | 1.263 | | R | 1.225 | | R | 1.396 | | R | 1.138 | | R |
| radium-228 | 1.698 | | | 1.912 | | | 2.52 | | | 2.892 | | | 2.1 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .05499 | J | A | .05525 | J | A | .08052 | J | A | .0615 | J | A | .06344 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 88.55 | J | V | 17.33 | J | V | 168.4 | J | V | 55.82 | J | V | 1.925 | J | V |
| uranium-233,-234 | 1.33 | | V | 1.087 | | V | 1.146 | | V | 1.178 | | V | 1.048 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .05258 | J | V | .08135 | J | V | .04051 | J | V | .04016 | J | V | .01371 | J | V |
| uranium-238 | 1.846 | | V | 1.056 | | V | 1.024 | | V | 1.157 | | V | 1.278 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 34891 (WCS)<br>Sample: BH00409EBU1 (REAL)<br>Depth: 12.0 - 14.0 '<br>Date: 09/19/91 | | | Location: 34991 (COL)<br>Sample: BH00413EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/20/91 | | | Location: 34991 ()<br>Sample: BH00414EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/20/91 | | | Location: 34991 (COL)<br>Sample: BH00415EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/20/91 | | | Location: 34991 (WCS)<br>Sample: BH00418EBU1 (REAL)<br>Depth: 10.0 - 16.3 '<br>Date: 09/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .04359 | J | V | .004972 | J | V | .002697 | J | V | .003961 | J | V | 0 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.0181 | J | | .05568 | J | | .01418 | J | | -.00337 | J | | -.0149 | J | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 9.199 | | | 16.16 | | | 13.29 | | | 8.924 | | | 11.94 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 17.87 | | | 30.63 | | | 24.97 | | | 22.75 | | | 20.81 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001396 | J | V | .01915 | J | V | .003844 | J | A | 0 | J | V | 0 | J | V |
| radium-226 | 1.093 | | R | 1.228 | | R | 1.124 | | R | .4725 | J | R | .7851 | | R |
| radium-228 | 1.644 | | | 2.319 | | | 2.319 | | | 1.382 | | | 1.79 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .04285 | J | A | .08078 | J | A | .0633 | J | A | .1457 | J | A | .1623 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 103.9 | J | V | 131.9 | J | V | 134.8 | J | V | -27 | J | V | 119.3 | J | V |
| uranium-233,-234 | 1.241 | | V | 1.061 | | V | 1.134 | | A | .805 | | V | 1.036 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .01141 | J | V | .06734 | J | V | .0261 | J | A | .0419 | J | V | .05009 | J | V |
| uranium-238 | 1.126 | | V | 1.441 | | V | 1.113 | | A | .835 | | V | 1.257 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+ interference, *-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REA - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium, COL - Colluvium, VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 35191 (WCS)<br>Sample: BH00340EBU1 (REAL)<br>Depth: 0.0 - 5.50 '<br>Date: 09/23/91 | | | Location: 35291 (COL)<br>Sample: BH00422EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/24/91 | | | Location: 35291 ()<br>Sample: BH00423EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/24/91 | | | Location: 35291 (WCS)<br>Sample: BH00425EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/24/91 | | | Location: 35391 (COL)<br>Sample: BH00344EBU1 (REAL)<br>Depth: 0.0 - 5.4 '<br>Date: 09/24/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .009118 | J | V | .005109 | J | V | .007614 | J | V | .003657 | J | V | .002549 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .006315 | J | | .04663 | J | | -.00849 | J | | -.0504 | J | | .02311 | J | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 12.28 | | | 13.19 | | | 10.48 | | | 10.78 | | | 11.82 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 25.01 | | | 27.56 | | | 26.08 | | | 21.72 | | | 29.42 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0 | J | V | .0369 | | V | .02224 | J | V | -.00139 | J | V | .0238 | J | V |
| radium-226 | 1.197 | | R | 1.165 | | R | 1.208 | | R | .8813 | | R | .8225 | | R |
| radium-228 | 1.308 | | | 2.466 | | | 2.236 | | | 1.955 | | | 1.957 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .05067 | J | A | .08613 | J | A | .06305 | J | A | .1174 | J | A | .06295 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 104.8 | J | V | 141.5 | J | V | 111.6 | J | V | 5.774 | J | V | 71.16 | J | V |
| uranium-233,-234 | 1.131 | | V | 1.313 | | V | .9983 | | V | .393 | | A | 1.04 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .06757 | J | V | .05723 | J | V | .05799 | J | V | .1084 | J | A | .08379 | J | V |
| uranium-238 | 1.188 | | V | 1.354 | | V | .9693 | | V | .7204 | | A | 1.179 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 35391 ()<br>Sample: BH00345EBU1 (DUP)<br>Depth: 0.0 - 5.4 '<br>Date: 09/24/91 | | | Location: 35391 (WCS)<br>Sample: BH00348EBU1 (REAL)<br>Depth: 5.40 - 9.20 '<br>Date: 09/24/91 | | | Location: 35491 (COL)<br>Sample: BH00429EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/24/91 | | | Location: 35491 (WCS)<br>Sample: BH00431EBU1 (REAL)<br>Depth: 6.0 - 10.0 '<br>Date: 09/24/91 | | | Location: 35491 ()<br>Sample: BH00432EBU1 (DUP)<br>Depth: 6.0 - 10.0 '<br>Date: 09/24/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .008104 | J | V | .004496 | J | V | .01091 | J | V | .001316 | J | V | .003938 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .03836 | J | | -.0238 | J | | .1975 | | | -.0326 | J | | -.0129 | J | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 15.8 | | | 9.007 | | | 10.5 | | | 12.27 | | | 14.37 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 25.65 | | | 18.52 | | | 19.15 | | | 23 | | | 22.25 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .01551 | J | V | .004374 | J | V | .03131 | | V | .001105 | J | V | .001056 | J | V |
| radium-226 | .8491 | | R | 1.324 | | R | .9005 | | R | 1.249 | | R | 1.169 | | R |
| radium-228 | 1.707 | | | 2.228 | | | 1.478 | | | 1.469 | | | 1.74 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .04885 | J | A | .04927 | J | A | .09994 | J | A | .03134 | J | A | .08623 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 124.1 | J | V | 78.85 | J | V | 101 | J | V | 113.5 | J | V | 175.1 | J | V |
| uranium-233,-234 | 1.018 | | V | 1.099 | | V | .6407 | | V | .8633 | | V | .9692 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .04723 | J | V | .1136 | J | V | .03251 | J | V | 0 | J | V | .03641 | J | V |
| uranium-238 | .7295 | | V | 1.099 | | V | .81 | | V | .9992 | | V | 1.016 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 35591 (WCS)<br>Sample: BH00436EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/26/91 | | | Location: 35591 ()<br>Sample: BH00437EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/26/91 | | | Location: 35791 (COL)<br>Sample: BH00441EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 09/27/91 | | | Location: 35791 ()<br>Sample: BH00442EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 09/27/91 | | | Location: 35791 (COL)<br>Sample: BH00444EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 09/27/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .01554 | J | A | .02158 | | A | .0528 | | A | .08168 | | A | .03329 | | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.0457 | J | R | .01815 | J | R | -.00442 | J | R | -.0442 | J | R | -.0553 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 9.72 | | | 10.73 | | | 13.06 | | | 15.87 | | | 12.61 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 19.64 | | | 17.26 | | | 28.23 | | | 28.56 | | | 28.82 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001462 | J | V | -.0018 | J | V | 0 | J | V | .01084 | J | V | .002671 | J | V |
| radium-226 | .8806 | | R | .7357 | | R | 1.085 | | R | 1.157 | | R | 1.146 | | R |
| radium-228 | 1.93 | | R | 1.671 | | R | 2.155 | | R | 2.559 | | R | 2.387 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .05106 | J | | .04257 | J | | .06907 | J | | .05888 | J | | .0331 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 161.8 | J | | 118.4 | J | | 324.5 | J | | 94.36 | J | | 182.9 | J | |
| uranium-233,-234 | .7293 | | A | .8989 | | A | .7689 | | A | .8777 | | A | 1.28 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .04965 | J | A | .06143 | J | A | .04523 | J | A | .03009 | J | A | .03088 | J | A |
| uranium-238 | .8596 | | A | 1.109 | | A | 1.422 | | A | .9861 | | A | 1.203 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+ interference, +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium, COL - Colluvium; VFA - Valley Fill Alluvium; PAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 35791 (WCS)<br>Sample: BH00446EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 09/27/91 | | | Location: 35891 (COL)<br>Sample: BH00450EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/01/91 | | | Location: 35891 ()<br>Sample: BH00451EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/01/91 | | | Location: 35891 (WCS)<br>Sample: BH00453EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/01/91 | | | Location: 36091 (COL)<br>Sample: BH00458EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/02/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 1.975 | | A | .003997 | J | A | .002751 | J | A | .001285 | J | A | 3.195 | | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .003585 | J | R | .003217 | J | R | -.0131 | J | R | -.0125 | J | R | .03854 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 11.63 | | | 12.18 | | | 15.34 | | | 11.96 | | | 16.58 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 25.05 | | | 25.92 | | | 25.09 | | | 21.59 | | | 29.88 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0 | J | V | 0 | J | V | .008995 | J | V | 0 | J | V | 31.61 | | V |
| radium-226 | 1.201 | | R | 1.012 | | R | .9777 | | R | .8031 | | R | .781 | | R |
| radium-228 | 1.78 | | R | 1.907 | | R | 1.783 | | R | 1.804 | | R | 2.309 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .03036 | J | | .06065 | J | | .03691 | J | | .126 | J | | .44 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -6.74 | J | | 87.57 | J | | 12.51 | J | | 53.89 | J | | -20.2 | J | |
| uranium-233,-234 | .8738 | | A | 1.11 | | A | 1.212 | | A | .7368 | | A | 1.458 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .08158 | J | A | .03931 | J | A | .02773 | J | A | .04719 | J | A | -.00406 | J | A |
| uranium-238 | .9654 | | A | 1.126 | | A | .7487 | | A | 1.368 | | A | 1.255 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
*Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;*
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36091 ()<br>Sample: BH00459EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/02/91 | | | Location: 36091 (COL)<br>Sample: BH00461EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/02/91 | | | Location: 36091 (WCS)<br>Sample: BH00464EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/02/91 | | | Location: 36291 (COL)<br>Sample: BH00468EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/03/91 | | | Location: 36291 (WCS)<br>Sample: BH00470EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/03/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 2.008 | | A | .004902 | J | A | .006437 | J | A | .0133 | J | A | .001252 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .02639 | J | R | -.0192 | J | R | .003954 | J | R | .09892 | J | R | .007945 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 18.13 | | | 8.978 | | | 11.52 | | | 13.82 | | | 12.98 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 34.22 | | | 19.86 | | | 18.22 | | | 20.48 | | | 22.67 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 19.47 | | V | .02664 | J | V | .01815 | J | V | .04796 | | V | .003507 | J | V |
| radium-226 | .9441 | | R | .6735 | | R | .7951 | | R | .7758 | | R | .8248 | | R |
| radium-228 | 2.487 | | R | 1.512 | | R | 1.719 | | R | 1.956 | | R | 1.463 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .3362 | J | | .07677 | J | | .08409 | J | | .2788 | J | | .5617 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 38.47 | J | | 148.1 | J | | 291.4 | J | | -90.4 | J | | 111.6 | J | |
| uranium-233,-234 | 1.473 | | A | 1.036 | | A | .591 | | A | 1.134 | | A | .7849 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .1133 | J | A | .05514 | J | A | .02024 | J | A | .08239 | J | A | .01427 | J | A |
| uranium-238 | 1.383 | | A | .9571 | | A | .7246 | | A | 1.104 | | A | .7492 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36291 ()<br>Sample: BH00471EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 10/03/91 | | | Location: 36291 (WCS)<br>Sample: BH00473EBU1 (REAL)<br>Depth: 12.0 - 13.9 '<br>Date: 10/03/91 | | | Location: 36391 (COL)<br>Sample: BH00523EBU1 (REAL)<br>Depth: 0.0 - 5.0 '<br>Date: 10/04/91 | | | Location: 36391 ()<br>Sample: BH00524EBU1 (DUP)<br>Depth: 0.0 - 5.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00526EBU1 (REAL)<br>Depth: 6.0 - 11.80 '<br>Date: 10/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .03233 | | A | .004046 | J | A | .04607 | | A | .03068 | | A | .03879 | | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.022 | J | R | -.0326 | J | R | .0374 | J | R | .015 | J | R | -.0218 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 11.45 | | | 10.07 | | | 14.77 | | | 11.13 | | | 16 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 21.6 | | | 22.39 | | | 27.03 | | | 24.31 | | | 22.71 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001142 | J | V | .00581 | J | V | .03612 | | V | .05794 | | V | .009946 | J | V |
| radium-226 | .7948 | | R | .7913 | | R | .6463 | | R | .6271 | | R | .7018 | | R |
| radium-228 | 1.729 | | R | 1.436 | | R | 1.458 | | R | 1.084 | | R | 1.321 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .2953 | J | | .3735 | J | | .1118 | J | | .05338 | J | | .05374 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 49.04 | J | | 50.97 | J | | 90.41 | J | | 178.9 | J | | 279.9 | J | |
| uranium-233,-234 | 1.185 | | A | .7776 | | A | 1.373 | | A | 1.111 | | A | .9435 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .05473 | J | A | .01471 | J | A | .06907 | J | A | .02987 | J | A | .01728 | J | A |
| uranium-238 | .9344 | | A | .8091 | | A | .9886 | | A | .9396 | | A | .7189 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36391 (COL)<br>Sample: BH00530EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/04/91 | | | Location: 36391 (COL)<br>Sample: BH00533EBU1 (REAL)<br>Depth: 18.2 - 23.95 '<br>Date: 10/07/91 | | | Location: 36391 (WCS)<br>Sample: BH00537EBU1 (REAL)<br>Depth: 23.9 - 29.70 '<br>Date: 10/07/91 | | | Location: 36491 (COL)<br>Sample: BH00477EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/04/91 | | | Location: 36491 ()<br>Sample: BH00478EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .01526 | J | A | .00749 | J | A | .005285 | J | A | .002932 | J | A | .00232 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .001036 | J | R | -.016 | J | R | -.00412 | J | R | .02266 | J | R | .01305 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 10.55 | | | 13.36 | | | 15.29 | | | 13.33 | | | 15.02 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 24.07 | | | 28.12 | | | 22.22 | | | 27.48 | | | 31.76 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .003424 | J | V | .00422 | J | V | .001676 | J | V | .001402 | J | V | .009394 | J | V |
| radium-226 | .9988 | | R | .6921 | | R | .7347 | | R | 1.053 | | R | 1.093 | | R |
| radium-228 | 1.819 | | R | 2.091 | | R | 1.799 | | R | 2.377 | | R | 2.722 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .02852 | J | | .8435 | J | | .2514 | J | | .7115 | J | | .4257 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 152 | J | | 176.8 | J | | 262.4 | J | | -58.7 | J | | -45.2 | J | |
| uranium-233,-234 | .8623 | | A | .8515 | | A | .7616 | | A | 1.222 | | A | .8789 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .01925 | J | A | .01088 | J | A | .004008 | J | A | .02828 | J | A | .08176 | J | A |
| uranium-238 | .7276 | | A | .9222 | | A | 1.162 | | A | 1.301 | | A | 1.182 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36491 (COL)<br>Sample: BH00480EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/04/91 | | | Location: 36491 (WCS)<br>Sample: BH00483EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/04/91 | | | Location: 36591 (COL)<br>Sample: BH00488EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/07/91 | | | Location: 36591 ()<br>Sample: BH00489EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/07/91 | | | Location: 36591 (COL)<br>Sample: BH00491EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0 | J | A | .002353 | J | A | .004308 | J | R | .005994 | J | R | .01294 | J | R |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.0168 | J | R | -.0278 | J | R | .1036 | | A | .1507 | | A | .002425 | J | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 17.55 | | | 8.92 | | | 8.196 | | A | 12.77 | | A | 5.703 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 28.98 | | | 20.79 | | | 21.5 | | A | 21.27 | | A | 18.48 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .002706 | J | V | .001087 | J | V | .03008 | | A | .03298 | | A | 0 | J | A |
| radium-226 | .8528 | | R | .7544 | | R | .8468 | | R | .7366 | | R | .4146 | J | R |
| radium-228 | 2.384 | | R | 1.377 | | R | 1.868 | | R | 1.465 | | R | 1.094 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .9685 | J | | .186 | J | | .1712 | J | A | .4116 | J | JA | .5411 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 76.92 | J | | 99.03 | J | | 34.37 | J | | 53.87 | J | | 242.4 | J | |
| uranium-233,-234 | .9815 | | A | .5476 | | A | 1.015 | | V | 1.078 | | V | .7106 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .05191 | J | A | .0101 | J | A | .06461 | J | V | .02231 | J | V | .03766 | J | V |
| uranium-238 | 1.015 | | A | .8265 | | A | 1.184 | | V | .7875 | | V | .6855 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36591 (WCS)<br>Sample: BH00493EBU1 (REAL)<br>Depth: 13.0 - 17.0 '<br>Date: 10/07/91 | | | Location: 36691 (COL)<br>Sample: BH00541EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00543EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/10/91 | | | Location: 36691 ()<br>Sample: BH00544EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 10/10/91 | | | Location: 36691 (COL)<br>Sample: BH00547EBU1 (REAL)<br>Depth: 12.0 - 17.40 '<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0 | J | R | .00357 | J | R | .002493 | J | R | -.000903 | J | R | .002331 | J | R |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.00325 | J | JA | .0002203 | J | JA | -.0206 | J | JA | .03436 | J | JA | .004241 | J | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 13.33 | | A | | | | | | | | | | | | |
| gross alpha | | | | 13.26 | | A | 15.5 | | A | 18.24 | | A | 17.38 | | A |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 22.46 | | A | | | | | | | | | | | | |
| gross beta | | | | 24.62 | | A | 28.03 | | A | 27.65 | | A | 27.94 | | A |
| gross beta particle activity: | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -.00147 | J | A | .001137 | J | A | .001839 | J | A | -.00176 | J | A | .002715 | J | A |
| radium-226 | .7935 | | R | 1.028 | | R | .9226 | | R | .9972 | | R | .8063 | | R |
| radium-228 | 1.538 | | R | 1.641 | | R | 2.268 | | R | 2.407 | | R | 2.016 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 1.42 | | JA | .1217 | J | A | .1476 | J | A | .06855 | J | A | .09248 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 201.5 | J | | 205.8 | J | V | 230.8 | J | V | 196.2 | J | V | 143.3 | J | V |
| uranium-233,-234 | .7691 | | V | .9324 | | R | .884 | | R | .8879 | | R | .8769 | | R |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .01225 | J | V | .04839 | J | R | .04764 | J | R | .04848 | J | R | -.00293 | J | R |
| uranium-238 | 1.002 | | V | .7388 | | R | 1.008 | | R | 1.028 | | R | 1.004 | | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36691 (COL) Sample: BH00550EBU1 (REAL) Depth: 18.0 - 24.0 ' Date: 10/10/91 | | | Location: 36691 (WCS) Sample: BH00554EBU1 (REAL) Depth: 24.0 - 28.0 ' Date: 10/11/91 | | | Location: 36791 (COL) Sample: BH00499EBU1 (REAL) Depth: 0.0 - 6.0 ' Date: 10/09/91 | | | Location: 36791 () Sample: BH00600EBU1 (DUP) Depth: 0.0 - 6.0 ' Date: 10/09/91 | | | Location: 36791 (COL) Sample: BH00602EBU1 (REAL) Depth: 6.0 - 12.0 ' Date: 10/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0 | J | R | 0 | J | R | .006252 | J | R | .003227 | J | R | 0 | J | R |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.00965 | J | JA | -.0317 | J | JA | .03034 | J | JA | .04486 | J | JA | -.0343 | J | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | 5.214 | | A | 9.732 | | A | 8.778 | | A | 14.85 | | A | 22.29 | | A |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | 15.49 | | A | 21.43 | | A | 24.73 | | A | 28.21 | | A | 29.15 | | A |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0 | J | A | -.0026 | J | A | .0262 | J | A | .01586 | J | A | .002021 | J | A |
| radium-226 | .6419 | | R | .7599 | | R | .9172 | | R | .9449 | | R | 1.223 | | R |
| radium-228 | 1.286 | | R | 1.597 | | R | 1.822 | | R | 1.853 | | R | 2.576 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .5157 | J | JA | .09185 | J | A | .2083 | J | JA | .1747 | J | A | .414 | J | JA |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -13.5 | J | V | 34.61 | J | V | 4.809 | J | V | 29.82 | J | V | 212.6 | J | V |
| uranium-233,-234 | 1.044 | | R | 1.097 | | R | 1.183 | | R | 1.378 | | R | 1.507 | | R |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .07364 | J | R | .02571 | J | R | .01281 | J | R | .09056 | J | R | .05757 | J | R |
| uranium-238 | .8936 | | R | 1.245 | | R | .9181 | | R | .83 | | R | 1.569 | | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I interference, +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium, COL - Colluvium, VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36791 (WCS)<br>Sample: BH00604EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 10/09/91 | | | Location: 36891 (COL)<br>Sample: BH00609EBU1 (REAL)<br>Depth: 0.0 - 5.80 '<br>Date: 10/10/91 | | | Location: 36891 ()<br>Sample: BH00610EBU1 (DUP)<br>Depth: 0.0 - 5.80 '<br>Date: 10/10/91 | | | Location: 36891 (WCS)<br>Sample: BH00612EBU1 (REAL)<br>Depth: 5.8 - 13.0 '<br>Date: 10/10/91 | | | Location: 36991 (COL)<br>Sample: BH00616EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .001087 | J | R | .003185 | J | R | .002591 | J | R | .02284 | | R | .0681 | | R |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .00652 | J | JA | .01361 | J | JA | .02293 | J | JA | .003825 | J | JA | .08413 | J | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | 4.094 | | A | 5.571 | | A | 8.157 | | A | 11.53 | | A |
| gross alpha | 12.25 | | A | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 20.52 | | A | 24.89 | | A | 20.5 | | A | 24.26 | | A |
| gross beta | 21.26 | | A | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0 | J | A | .01769 | J | A | .009475 | J | A | .00107 | J | A | .3406 | | A |
| radium-226 | .6802 | | R | .62 | | R | .6855 | | R | .7162 | | R | .7215 | | R |
| radium-228 | 1.679 | | R | 1.309 | | R | 1.006 | | R | 1.78 | | R | 1.516 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .1001 | J | A | .113 | J | JA | .1083 | J | JA | .2529 | J | A | .1711 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 167.4 | J | V | 103.1 | J | | 59.42 | J | | 260.9 | J | | 74.26 | J | |
| uranium-233,-234 | .9574 | | R | .6757 | | V | .9218 | | V | 1.453 | | V | .9474 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | -.00104 | J | R | .0104 | J | V | .02881 | J | V | .06003 | J | V | .03183 | J | V |
| uranium-238 | 1.034 | | R | .3951 | | V | .813 | | V | .951 | | V | 1.066 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36991 (WCS)<br>Sample: BH00618EBU1 (REAL)<br>Depth: 6.0 - 10.55 '<br>Date: 10/11/91 | | | Location: 37091 (COL)<br>Sample: BH00624EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/14/91 | | Location: 37091 ()<br>Sample: BH00625EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/14/91 | | Location: 37091 (WCS)<br>Sample: BH00627EBU1 (REAL)<br>Depth: 6.0 - 8.0 '<br>Date: 10/14/91 | | Location: 37191 (COL)<br>Sample: BH00558EBU1 (REAL)<br>Depth: 0.0 - 5.0 '<br>Date: 10/14/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .02896 | | R | 0.011 | R | 0.01 | R | 0.005 | R | 0.034 | R |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | 0 | R | 0 | R | 0 | R | 0 | R |
| cesium-137 | -.00577 | J | JA | 0 | R | 0 | R | 0 | R | 0 | R |
| curium-244 | | | | | | | | | | | |
| gross alpha | 10.75 | | A | 22 | | 53.5 | | 22.1 | | 50.3 | |
| gross alpha | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 22.62 | | A | 19.63 | | 16.69 | | 11.18 | | 17.41 | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | .001091 | J | A | 0.048 | R | 0.053 | R | 0.003 | R | 0.01 | R |
| radium-226 | 1.012 | | R | | | | | | | | |
| radium-228 | 2.35 | | R | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | .1781 | J | JA | 0.015 | A | 0.2229 | A | 0.082 | A | 0.1644 | A |
| strontium-90 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 72.4 | J | | | | | | | | | |
| uranium-233,-234 | .7977 | | V | 0.735 | R | 0.677 | R | 0.618 | R | 0.732 | R |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | .01148 | J | V | 0.064 | R | 0.029 | R | 0.038 | R | 0.03 | R |
| uranium-238 | .649 | | V | 0.614 | R | 0.641 | R | 0.618 | R | 0.598 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 37191 (COL)<br>Sample: BH00560EBU1 (REAL)<br>Depth: 6.00 - 12.00 '<br>Date: 10/14/91 | | Location: 37191 ()<br>Sample: BH00561EBU1 (DUP)<br>Depth: 6.00 - 12.00 '<br>Date: 10/14/91 | | Location: 37191 (COL)<br>Sample: BH00564EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/14/91 | | Location: 37291 (COL)<br>Sample: BH00632EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/15/91 | | Location: 37291 ()<br>Sample: BH00634EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/15/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.023 | R | 0.027 | R | 0.02 | R | -0.043 | R | 0.009 | R |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | 0 | R | 0 | R | 0 | R | 0 | R | 0 | R |
| cesium-137 | 0 | R | 0 | R | 0 | R | 0 | R | 0 | R |
| curium-244 | | | | | | | | | | |
| gross alpha | 36.7 | | 27.1 | | 31.9 | | 40.3 | | 20.4 | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 24.03 | | 19.11 | | 13.56 | | 15.81 | | 16.83 | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.003 | R | 0.011 | R | 0.004 | R | -0.001 | R | 0.009 | R |
| radium-226 | | | | | | | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.1444 | A | 0 | A | 0.1869 | A | 0.1016 | A | 0.0371 | A |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 0.539 | R | 0.586 | R | 0.539 | R | 0 | R | 0.954 | R |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.061 | R | 0.032 | R | 0.029 | R | -0.574 | R | 0.019 | R |
| uranium-238 | 0.634 | R | 0.332 | R | 0.433 | R | 0.215 | R | 0.701 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+ interference; * correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
QFA - Rocky Flats Alluvium, COL - Colluvium, VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 37291 (COL)<br>Sample: BH00636EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/15/91 | | Location: 37291 (COL)<br>Sample: BH00639EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/15/91 | | Location: 37291 (COL)<br>Sample: BH00642EBU1 (REAL)<br>Depth: 18.0 - 24.0 '<br>Date: 10/15/91 | | Location: 37291 (WCS)<br>Sample: BH00644EBU1 (REAL)<br>Depth: 24.0 - 28.0 '<br>Date: 10/15/91 | | Location: 37391 (COL)<br>Sample: BH00650EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.002 | R | 0.029 | R | 0.008 | R | 0.007 | R | 0.006 | R |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | 0 | R | 0 | R | 0 | R | 0 | R | 0 | R |
| cesium-137 | 0 | R | 0 | R | 0 | R | 0 | R | 0 | R |
| curium-244 | | | | | | | | | | |
| gross alpha | 8.85 | | 15.5 | | 32 | | 47 | | 53.4 | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 15.11 | | 14.37 | | 18.42 | | 6.32 | | 26.81 | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.001 | R | 0.003 | R | 0.007 | R | 0 | R | 0.029 | R |
| radium-226 | | | | | | | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.0995 | A | 0.2015 | A | 0.0907 | A | 0.1071 | A | 0.3242 | A |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 0.783 | R | 1.21 | R | 0.424 | R | 0.765 | R | 0.709 | R |
| uranium-234 | | | | | | | | | | |
| uranium-235 | -0.029 | R | 0.484 | R | 0.039 | R | 0.053 | R | 0.177 | R |
| uranium-238 | 0.522 | R | 1.21 | R | 0.502 | R | 0.475 | R | 0.531 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 37391 ()<br>Sample: BH00651EBU1 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | | Location: 37391 (COL)<br>Sample: BH00654EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/16/91 | | Location: 37391 (WCS)<br>Sample: BH00656EBU1 (REAL)<br>Depth: 12.0 - 18.0 '<br>Date: 10/16/91 | | Location: 37491 (COL)<br>Sample: BH00573EBU1 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 10/16/91 | | Location: 37491 (COL)<br>Sample: BH00576EBU1 (REAL)<br>Depth: 6.0 - 12.0 '<br>Date: 10/16/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.023 | R | 0.008 | R | 0.005 | R | 0.012 | R | 0.002 | R |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | 0 | R | 0 | R | 0 | R | 0 | R | 0 | R |
| cesium-137 | 0 | R | 0 | R | 0 | R | 0 | R | 0 | R |
| curium-244 | | | | | | | | | | |
| gross alpha | 28.7 | | 46.8 | | 46.7 | | 40.3 | | 22 | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 18.44 | | 15.57 | | 14.22 | | 22.54 | | 27.77 | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.024 | R | 0.005 | R | 0.004 | R | 0.005 | R | 0.001 | R |
| radium-226 | | | | | | | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.4276 | A | 0.4153 | A | .39 | A | 0.1789 | A | 0.1331 | A |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 0.789 | R | 0.732 | R | 0.755 | R | 0.959 | R | 0.345 | R |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.03 | R | -0.019 | R | 0.023 | R | 0.061 | R | 0.03 | R |
| uranium-238 | 0.668 | R | 0.526 | R | 0.458 | R | 0.692 | R | 0.498 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 37491 ()<br>Sample: BH00577EBU1 (DUP)<br>Depth: 6.0 - 12.0 '<br>Date: 10/16/91 | | Location: 37491 (WCS)<br>Sample: BH00582EBU1 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 10/16/91 | | Location: 39491 (COL)<br>Sample: BH00856EBU1 (REAL)<br>Depth: 0.0 - 3.0 '<br>Date: 11/19/91 | | | Location: 39491 (COL)<br>Sample: BH01034EBU1 (REAL)<br>Depth: 0.0 - 3.30 '<br>Date: 12/14/91 | | | Location: 39491 (COL)<br>Sample: BH01035EBU1 (REAL)<br>Depth: 0.0 - 3.30 '<br>Date: 12/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | R | 0.003 | R | 0.17 | U | | -0.017 | U | | -0.008 | U | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | 0 | R | 0 | R | | | | | | | | | |
| cesium-137 | 0 | R | 0 | R | 0.00 | | JA | | | JA | | | JA |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | 20.4 | | 10.6 | | 17 | | R | 19 | | V | 14 | X | V |
| gross alpha | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | 17.94 | | 12.69 | | 23 | | R | 19 | | V | 20 | X | V |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.001 | R | 0.002 | R | 0 | U | | 0.005 | J | V | 0.004 | J | V |
| radium-226 | | | | | 0.56 | | R | 0.79 | | A | 0.86 | | A |
| radium-228 | | | | | 0.79 | | A | 1.1 | | A | 1.7 | | A |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | 0.2177 | A | 0.2988 | A | 0.17 | U | | 0.19 | U | V | 0.070 | U | V |
| strontium-90 | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | -18 | U | V | 200 | U | V | 160 | U | V |
| uranium-233,-234 | 0.689 | R | 0.352 | R | 1.1 | B | | 0.90 | B | A | 1.0 | B | A |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | 0.027 | R | 0 | R | 0.035 | J | | 0.086 | J | A | 0.036 | J | A |
| uranium-238 | 0.57 | R | .032 | R | 0.90 | B | | 1.5 | B | A | 0.78 | B | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 39591 (COL)<br>Sample: BH00860EBU1 (REAL)<br>Depth: 0.0 - 3.0 '<br>Date: 11/20/91 | | | Location: 39591 ()<br>Sample: BH00861EBU1 (DUP)<br>Depth: 0.0 - 3.0 '<br>Date: 11/20/91 | | | Location: 39591 (COL)<br>Sample: BH01037EBU1 (REAL)<br>Depth: 0.00 - 2.70 '<br>Date: 12/14/91 | | | Location: 39591 (COL)<br>Sample: BH01038EBU1 (REAL)<br>Depth: 0.00 - 2.70 '<br>Date: 12/14/91 | | | Location: B300190 (COL)<br>Sample: B3001900006 (REAL)<br>Depth: 0.000 - 6.000 '<br>Date: 02/02/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.009 | U | | -0.007 | U | | 0.001 | U | | 0 | U | | 0.007 | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | 0.00 | | JA | 0.00 | | JA | | | JA | | | JA | 0.15 | V |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | 15 | | R | 17 | | R | 31 | | V | 30 | | V | | |
| gross alpha | | | | | | | | | | | | | 0.0 | V |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | 18 | | R | 27 | | R | 23 | | V | 27 | | V | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 0.2 | V |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | 0.054 | |
| plutonium-239,-240 | 0 | U | | 0.002 | U | | 0.008 | J | V | 0.019 | J | V | 0.012 | R |
| radium-226 | 0.92 | | R | 0.63 | | R | 0.89 | | A | 0.95 | | R | 1.3 | A |
| radium-228 | 1.7 | | A | 1.6 | | A | 1.4 | | A | 1.395 | | A | 2 | V |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.13 | U | | 0.23 | U | | 0.35 | J | V | 0.23 | U | V | | |
| strontium-90 | | | | | | | | | | | | | 0.25 | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 38 | U | V | 210 | U | V | -170 | U | V | 320 | U | V | 120 | |
| uranium-233,-234 | 1.4 | B | | 0.99 | B | | 1.2 | B | A | 0.86 | B | A | 0.25 | R |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | 0.087 | J | | 0.071 | J | | 0.039 | J | A | 0.080 | J | A | -0.08 | R |
| uranium-238 | 1.2 | B | | 0.94 | B | | 0.95 | B | A | 1.0 | B | A | -0.08 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B300190 ()<br>Sample: B30019000006D (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 02/02/90 | | Location: B300190 (WCS)<br>Sample: B3001900610 (REAL)<br>Depth: 6.0 - 9.9 '<br>Date: 02/05/90 | | Location: B300290 (COL)<br>Sample: B3002900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 02/05/90 | | Location: B300390 (COL)<br>Sample: B3003900004 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 02/07/90 | | Location: B300390 (COL)<br>Sample: B3003900408 (REAL)<br>Depth: 4.0 - 6.3 '<br>Date: 02/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.010 | | 0.005 | | 0.010 | | 0.011 | | 0.004 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0 | JA | 0 | JA | 0.1 | V | 0 | JA | 0 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | 22.2 | | 15.6 | | 38.9 | | 19.3 | | 28.6 | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 25.9 | | 26.3 | | 26.3 | | 20.6 | | 24.1 | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.022 | | 0.002 | | 0.030 | | 0.018 | | 0.007 | |
| plutonium-239,-240 | | | | | | | | | | |
| radium-226 | 1.3 | A | 1.2 | A | 1.2 | A | 1.2 | A | 1.3 | A |
| radium-228 | 2.1 | V | 1 | V | 2 | V | 1.4 | V | 2 | V |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | -0.09 | | 0.15 | | 0.14 | | 0.15 | | 0.27 | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 0.49 | | 0.69 | V | 0.8 | V | 0.70 | | 1.43 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.04 | | 0.03 | V | 0.05 | V | 0.07 | | 0.02 | |
| uranium-238 | 1.06 | | 0.71 | V | 0.83 | V | 1.00 | | 0.80 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B300390 (COL)<br>Sample: B3003900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/07/90 | | Location: B300490 (COL)<br>Sample: B3004900004 (REAL)<br>Depth: 0.0 - 3.8 '<br>Date: 02/09/90 | | Location: B300490 (COL)<br>Sample: B3004900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 02/09/90 | | Location: B300590 (COL)<br>Sample: B3005900005 (REAL)<br>Depth: 0.0 - 5.2 '<br>Date: 02/09/90 | | Location: B300690 (COL)<br>Sample: B3006900003 (REAL)<br>Depth: 0.0 - 2.6 '<br>Date: 02/09/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.008 | | 0.006 | | 0.007 | | 0.004 | | 0.025 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0 | JA | 0 | JA | 0.1 | V | 0 | JA | 0 | JA |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | 18.2 | | 22.6 | | 15.6 | | 26.5 | | 15.4 | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 19.9 | | 24.2 | | 25.9 | | 19.1 | | 21.6 | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.006 | | 0.070 | | 0.007 | | 0.009 | | 0.048 | |
| plutonium-239,-240 | | | | | | | | | | |
| radium-226 | 1.1 | A | 1.3 | A | 1.2 | A | 1.3 | A | 1 | A |
| radium-228 | 1.5 | V | 1.7 | V | 1.3 | V | 1.7 | V | 1.8 | V |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | 0.06 | | -0.10 | | 0.17 | | 0.06 | | 0.17 | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 1.32 | V | 1.22 | | 0.72 | | 0.99 | | 0.54 | V |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.09 | V | 0.06 | | 0.00 | | 0.03 | | 0.03 | V |
| uranium-238 | 1.06 | V | 1.15 | | 0.72 | | 0.92 | | 0.6 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B300790 (COL)<br>Sample: B3007900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | Location: B300790 ()<br>Sample: B3007900004D (DUP)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | Location: B300890 (COL)<br>Sample: B3008900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 02/12/90 | Location: B300890 (COL)<br>Sample: B3008900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | Location: B300890 (COL)<br>Sample: B3008900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/12/90 |
|---|---|---|---|---|---|---|---|
| americium-241 | 0.007 | | | | 0.013 | 0.002 | 0.008 |
| cesium - unknown isotope | | | | | | | |
| cesium-134 | | | | | | | |
| cesium-137 | 0 | JA | 0 | JA | 0 | 0 | 0 |
| curium-244 | | | | | | | |
| gross alpha | | | | | | | |
| gross alpha | | | | | 19.7 | 34.0 | 27.0 |
| gross alpha particle activity | | | | | | | |
| gross beta | | | | | | | |
| gross beta | | | | | | | |
| gross beta particle activity | | | | | 21.2 | 41.5 | 36.2 |
| neptunium-237 | | | | | | | |
| plutonium-236 | | | | | | | |
| plutonium-238 | | | | | | | |
| plutonium-239 | 0.008 | | | | 0.043 | 0.006 | 0.013 |
| plutonium-239,-240 | | | | | | | |
| radium-226 | 1.2 | A | 1.3 | A | 0.9 | 1.5 | 1.4 |
| radium-228 | 1.8 | V | 0.9 | V | 1.1 | 2.2 | 1.9 |
| strontium-89 | | | | | | | |
| strontium-89,-90 | | | | | | | |
| strontium-90 | 0.13 | | | | 0.17 | -0.11 | -0.01 |
| total radiocesium | | | | | | | |
| tritium (pCi/l) | | | | | 410 | 80 | 210 |
| uranium-233,-234 | 0.80 | | | | 0.68 | 0.87 | 0.84 |
| uranium-234 | | | | | | | |
| uranium-235 | 0.00 | | | | 0.03 | 0.04 | 0.13 |
| uranium-238 | 0.89 | | | | 0.62 | 1.05 | 0.97 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I interference, * correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
VFA - Rocks, Flats Alluvium, COL - Colluvium, VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B300990 (COL)<br>Sample: B3009900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/12/90 | Location: B300990 (COL)<br>Sample: B3009900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | Location: B300990 (COL)<br>Sample: B3009900812 (REAL)<br>Depth: 8.0 - 11.0 '<br>Date: 02/12/90 | Location: B301090 (COL)<br>Sample: B3010900008 (REAL)<br>Depth: 0.0 - 8.0 '<br>Date: 02/12/90 | Location: B301090 (COL)<br>Sample: B3010900814 (REAL)<br>Depth: 8.0 - 13.6 '<br>Date: 02/12/90 |
|---|---|---|---|---|---|
| americium-241 | 0.003 | 0.005 V | 0.008 | 0.006 | 0.010 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | 0 | 0 | 0 | 0 | 0 |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | 18.3 | 18.1 | 32.4 | 9.5 | 19.9 |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | 40.2 | 28.3 | 36.4 | 25.0 | 27.4 |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | 0.032 | 0.003 | 0.011 | 0.011 | 0.006 |
| plutonium-239,-240 | | | | | |
| radium-226 | 1.3 | 0.8 | 1.2 | 0.4 | 0.9 |
| radium-228 | 1.4 | 1.6 | 2.0 | 1.0 | 1.8 |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | 0.27 | -0.16 | -0.22 | 0.83 | -0.14 |
| total radiocesium | | | | | |
| tritium (pCi/l) | 140 | 140 | 20 | -1160 | 180 |
| uranium-233,-234 | 0.88 | 1.01 | 0.88 | 0.31 | 0.66 |
| uranium-234 | | | | | |
| uranium-235 | 0.04 | 0.00 | 0.11 | 0.02 | 0.06 |
| uranium-238 | 0.91 | 0.81 | 0.90 | 0.45 | 0.88 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301090 (COL)<br>Sample: B3010901418 (REAL)<br>Depth: 14.0 - 18.0 '<br>Date: 02/16/90 | Location: B301190 (COL)<br>Sample: B3011900004 (REAL)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | Location: B301190 (COL)<br>Sample: B3011900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/22/90 | Location: B301190 (COL)<br>Sample: B3011900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/22/90 | Location: B301190 (COL)<br>Sample: B3011901216 (REAL)<br>Depth: 12.0 - 15.1 '<br>Date: 02/22/90 |
|---|---|---|---|---|---|
| americium-241 | 0.013 | 0.006 | 0.010 | 0.010 | 0.010 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | 0 | 0 | 0 | 0 | 0 |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | 17.3 | 18.3 | 23.7 | 32.1 | 32.1 |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | 23.5 | 39.8 | 34.5 | 42.7 | 43.7 |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | 0.009 | 0.005 | 0.006 | 0.005 | 0.009 |
| plutonium-239,-240 | | | | | |
| radium-226 | 0.6 | 1.3 | 2.6 | 1.3 | 1.3 |
| radium-228 | 0.8 | 2.2 | 3.1 | 2.7 | 2.6 |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | -0.05 | -0.04 | 0.20 | 0.04 | 0.33 |
| total radiocesium | | | | | |
| tritium (pCi/l) | 210 | -830 | 200 | 30 | 540 |
| uranium-233,-234 | 0.60 | 1.10 | 0.54 | 0.84 | 0.64 |
| uranium-234 | | | | | |
| uranium-235 | 0.03 | 0.12 | 0.02 | 0.03 | 0.06 |
| uranium-238 | 0.61 | 1.05 | 0.78 | 0.83 | 0.84 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301190 (COL)<br>Sample: B3011901620 (REAL)<br>Depth: 16.0 - 18.6 '<br>Date: 02/22/90 | Location: B301290 (COL)<br>Sample: B3012900004 (REAL)<br>Depth: 0.0 - 3.6 '<br>Date: 02/26/90 | Location: B301290 (COL)<br>Sample: B3012900408 (REAL)<br>Depth: 4.0 - 4.6 '<br>Date: 02/26/90 | Location: B301390 (COL)<br>Sample: B3013900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 02/26/90 | Location: B301390 (COL)<br>Sample: B3013900412 (REAL)<br>Depth: 4.0 - 11.5 '<br>Date: 02/26/90 |
|---|---|---|---|---|---|
| americium-241 - | 0.002 | 0.004 | 0.011 | 0.020 | 0.007 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | 0 | 0 | 0.07 | 0 | 0 |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | 16.9 | 26.1 | 18.6 | 36.2 | 30.6 |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | 29.6 | 24.5 | 22.1 | 40.1 | 25.6 |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | 0.017 | 0.064 | 0.006 | 0.009 | 0.008 |
| plutonium-239,-240 | | | | | |
| radium-226 | 1.4 | 1.1 | 1.0 | 1.0 | 0.8 |
| radium-228 | 2.4 | 1.1 | 0.8 | 2.4 | 1.8 |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | 0.21 | 0.25 | 0.32 | 0.27 | 0.20 |
| total radiocesium | | | | | |
| tritium (pCi/l) | 140 | 240 | 160 | 110 | 200 |
| uranium-233,-234 | 0.92 | 1.24 | 0.87 | 1.28 | 0.93 |
| uranium-234 | | | | | |
| uranium-235 | 0.06 | 0.06 | 0.04 | 0.08 | 0.03 |
| uranium-238 | 0.78 | 1.41 | 0.85 | 1.41 | 0.90 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+ interference, +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
ALA - Alluvium, Plats Alluvium, COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301490 (COL)<br>Sample: B3014900004 (REAL)<br>Depth: 3.0 - 3.9 '<br>Date: 02/26/90 | | Location: B301490 (COL)<br>Sample: B3014900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/26/90 | | Location: B301490 (COL)<br>Sample: B3014900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | Location: B301490 (COL)<br>Sample: B3014901216 (REAL)<br>Depth: 12.0 - 15.6 '<br>Date: 02/26/90 | | Location: B301590 (COL)<br>Sample: B3015900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 03/19/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.023 | | 0.015 | | 0.008 | | 0.018 | | 0.011 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.21 | | 0 | | 0 | | 0.15 | | 0 | R |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | 25.9 | | 28.2 | | 38.3 | | 43.7 | | 43.2 | V |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 32.2 | | 33.7 | | 30.5 | | 31.3 | | 33.6 | V |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.032 | | 0.011 | | 0.011 | | 0.007 | | 0.020 | |
| plutonium-239,-240 | | | | | | | | | | |
| radium-226 | 1.1 | | 1.3 | | 0.7 | | 0.9 | | 0.7 | A |
| radium-228 | 2.2 | | 2.0 | | 0.9 | | 1.5 | | 1.5 | V |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | 0.21 | | 0.33 | | 0.41 | | -0.25 | | 0.38 | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 450 | | 40 | | 250 | | 130 | | -50 | |
| uranium-233,-234 | 0.97 | | 1.18 | | 1.17 | | 1.58 | | 0.87 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.04 | | 0.03 | | 0.06 | | 0.09 | | 0.05 | |
| uranium-238 | 0.96 | | 1.27 | | 1.03 | | 1.45 | | 1.06 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301590 (COL)<br>Sample: B3015900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 03/19/90 | | Location: B301590 (COL)<br>Sample: B3015900812 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 03/19/90 | | Location: B301690 (COL)<br>Sample: B3016900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/19/90 | | Location: B301690 (COL)<br>Sample: B3016900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/19/90 | | Location: B301690 (COL)<br>Sample: B3016900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/19/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.013 | | | | 0.011 | | 0.006 | | 0.008 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0 | R | 0 | R | 0 | R | 0 | R | 0 | R |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | 28.4 | V | 36.6 | V | 47.2 | V | 50.8 | V | 50.8 | V |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 31.6 | V | 32.0 | V | 36.6 | V | 44.2 | V | 37.4 | V |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.008 | | 0.003 | | 0.008 | | 0.007 | | 0.007 | |
| plutonium-239,-240 | | | | | | | | | | |
| radium-226 | 0.6 | A | 0.4 | A | 1.2 | A | 1.3 | A | 1.1 | A |
| radium-228 | 1.6 | V | 0.5 | V | 1.2 | V | 2.5 | V | 2.3 | V |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | 0.20 | | 0.12 | | -0.06 | | 0.04 | | 0.03 | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 100 | | -70 | | | | 290 | | 380 | |
| uranium-233,-234 | 0.96 | | 0.53 | | 0.84 | | 1.21 | | 1.15 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.04 | | 0.03 | | 0.07 | | 0.04 | | 0.08 | |
| uranium-238 | 0.96 | | 0.66 | | 0.91 | | 1.26 | | 1.18 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301690 (COL)<br>Sample: B3016901216 (REAL)<br>Depth: 12.0 - 15.9 '<br>Date: 03/19/90 | | Location: B301690 (COL)<br>Sample: B3016901620 (REAL)<br>Depth: 16.9 - 19.9 '<br>Date: 03/19/90 | | Location: B301790 (COL)<br>Sample: B3017900004 (REAL)<br>Depth: 0.0 - 2.5 '<br>Date: 03/20/90 | Location: B301790 (COL)<br>Sample: B3017900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | Location: B301790 ()<br>Sample: B3017900408D (DUP)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 |
|---|---|---|---|---|---|---|---|
| americium-241 | 0 | | | | 0.017 | 0.012 | 0.010 |
| cesium - unknown isotope | | | | | | | |
| cesium-134 | | | | | | | |
| cesium-137 | 0 | R | 0 | R | 0 | 0 | 0 |
| curium-244 | | | | | | | |
| gross alpha | | | | | | | |
| gross alpha | 36.8 | V | 32.6 | V | 30.7 | 37.2 | 35.6 |
| gross alpha particle activity | | | | | | | |
| gross beta | | | | | | | |
| gross beta | | | | | | | |
| gross beta particle activity | 28.4 | V | 21.4 | V | 34.9 | 30.2 | 42.4 |
| neptunium-237 | | | | | | | |
| plutonium-236 | | | | | | | |
| plutonium-238 | | | | | | | |
| plutonium-239 | 0.005 | | 0.002 | | 0.009 | 0.012 | 0.011 |
| plutonium-239,-240 | | | | | | | |
| radium-226 | 0.8 | A | 0.7 | A | 0.7 | 1.1 | 1.4 |
| radium-228 | 1.1 | V | 1.6 | V | 1.8 | 1.8 | 1.9 |
| strontium-89 | | | | | | | |
| strontium-89,-90 | | | | | | | |
| strontium-90 | 0.44 | | -0.03 | | 0.09 | 0.15 | 0.27 |
| total radiocesium | | | | | | | |
| tritium (pCi/l) | 420 | | 190 | | 10 | 420 | 160 |
| uranium-233,-234 | 0.85 | | 0.71 | | | | |
| uranium-234 | | | | | | | |
| uranium-235 | 0.07 | | 0.01 | | | | |
| uranium-238 | 1.16 | | 0.73 | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
*Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;*
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301790 (COL)<br>Sample: B3017900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | Location: B301790 (COL)<br>Sample: B3017901217 (REAL)<br>Depth: 12.0 - 17.0 '<br>Date: 03/20/90 | Location: B301890 (COL)<br>Sample: B3018900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/20/90 | Location: B301890 (COL)<br>Sample: B3018900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | Location: B301890 (COL)<br>Sample: B3018900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 |
|---|---|---|---|---|---|
| americium-241 | 0.008 | 0.016 | 0.007 | 0.004 | 0.028 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | 0 | 0 | 0 | 0 | 0 |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | 47.1 | 33.1 | 31.5 | 51.4 | 41.6 |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | 44.5 | 38.3 | 18.7 | 35.1 | 33.5 |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | 0.011 | 0.012 | 0.009 | | 0.011 |
| plutonium-239,-240 | | | | | |
| radium-226 | 1.4 | 1.1 | 1.2 | 1.3 | 1.1 |
| radium-228 | 2.1 | 2.2 | 2.4 | 1.7 | 2.0 |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | 0.18 | 0.18 | 0.17 | 0.18 | 0.28 |
| total radiocesium | | | | | |
| tritium (pCi/l) | 290 | 480 | 240 | 220 | -20 |
| uranium-233,-234 | | | | 1.06 V | |
| uranium-234 | | | | | |
| uranium-235 | | | | 0.05 V | |
| uranium-238 | | | | 1.27 V | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301890 (COL)<br>Sample: B3018901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/20/90 | Location: B301890 (COL)<br>Sample: B3018901618 (REAL)<br>Depth: 16.0 - 18.0 '<br>Date: 03/20/90 | | Location: B301890 (COL)<br>Sample: B3018901820 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 03/21/90 | Location: B301990 (COL)<br>Sample: B3019900006 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 | Location: B301990 ()<br>Sample: B30199000060 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 |
|---|---|---|---|---|---|---|
| americium-241 | 0.012 | 0.004 | | 0.003 | 0.011 | 0.011 |
| cesium - unknown isotope | | | | | | |
| cesium-134 | | | | | | |
| cesium-137 | 0 | 0 | | 0 | 0 | 0 |
| curium-244 | | | | | | |
| gross alpha | | | | | | |
| gross alpha | 22.0 | 34.2 | | 15.3 | 28.0 | 28.2 |
| gross alpha particle activity | | | | | | |
| gross beta | | | | | | |
| gross beta | | | | | | |
| gross beta particle activity | 23.6 | 17.5 | | 23.4 | 30.4 | 33.0 |
| neptunium-237 | | | | | | |
| plutonium-236 | | | | | | |
| plutonium-238 | | | | | | |
| plutonium-239 | 0.011 | | | 0.008 | | 0.009 |
| plutonium-239,-240 | | | | | | |
| radium-226 | 0.7 | 0.6 | | 1.1 | 1.0 | 1.1 |
| radium-228 | 1.3 | 1.3 | | 1.8 | 1.3 | 1.4 |
| strontium-89 | | | | | | |
| strontium-89,-90 | | | | | | |
| strontium-90 | 0.15 | -0.07 | | 0.09 | 0.20 | -0.08 |
| total radiocesium | | | | | | |
| tritium (pCi/l) | 140 | 30 | | 240 | 40 | 170 |
| uranium-233,-234 | | 0.94 | V | | | |
| uranium-234 | | | | | | |
| uranium-235 | | 0.15 | V | | | |
| uranium-238 | | 1.06 | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B301990 (COL)<br>Sample: B3019900614 (REAL)<br>Depth: 6.0 - 14.0 '<br>Date: 03/21/90 | | Location: B301990 (COL)<br>Sample: B3019901420 (REAL)<br>Depth: 14.3 - 19.6 '<br>Date: 03/22/90 | | Location: B302090 (COL)<br>Sample: B3020900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 03/22/90 | | Location: B302090 (COL)<br>Sample: B3020900408 (REAL)<br>Depth: 4.0 - 7.6 '<br>Date: 03/22/90 | | Location: B302090 (COL)<br>Sample: B3020900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 03/22/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.014 | | 0.014 | | 0.007 | | 0.004 | | 0.006 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0 | | 0 | R | 0 | R | 0 | R | 0.08 | R |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | 31.5 | | 32.2 | V | 39.6 | V | 35.7 | V | 39.7 | V |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 37.3 | | 28.6 | V | 27.3 | V | 33.7 | V | 33.0 | V |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.010 | | 0.004 | | 0.004 | | 0.006 | | 0.004 | |
| plutonium-239,-240 | | | | | | | | | | |
| radium-226 | 0.9 | | 0.7 | A | 0.9 | A | 1.3 | A | 0.9 | A |
| radium-228 | 2.1 | | 1.6 | V | 1.8 | V | 1.2 | V | 1.4 | V |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | 0.26 | | 0.14 | | 0.20 | | -0.30 | | 0.39 | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 140 | | -20 | | 5 | | -30 | | -40 | |
| uranium-233,-234 | | | 0.72 | | 0.85 | | 0.94 | | 0.58 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | | | 0.02 | | 0.07 | | 0.09 | | 0.00 | |
| uranium-238 | | | 0.60 | | 1.24 | | 0.99 | | 0.97 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B302090 (COL)<br>Sample: B3020901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/22/90 | | Location: B302090 (COL)<br>Sample: B3020901619 (REAL)<br>Depth: 16.0 - 19.0 '<br>Date: 03/22/90 | | Location: B302090 (COL)<br>Sample: B3020901927 (REAL)<br>Depth: 19.0 - 26.9 '<br>Date: 03/22/90 | | Location: B302190 (COL)<br>Sample: B3021900814 (REAL)<br>Depth: 8.35 - 14.35 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021901418 (REAL)<br>Depth: 14.35 - 18.30 '<br>Date: 06/25/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.010 | | 0.011 | | 0.013 | | 0.002 | | 0.020 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0 | R | 0 | R | 0 | R | 0.00 | | 0.00 | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | 27.4 | V | 26.3 | V |
| gross alpha | 33.6 | V | 48.4 | V | 43.0 | V | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | 26.3 | V | 25.6 | V |
| gross beta | | | | | | | | | | |
| gross beta particle activity | 30.9 | V | 37.7 | V | 29.0 | V | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.006 | | 0.009 | | 0.005 | | | | | |
| plutonium-239,-240 | | | | | | | -0.003 | | 0.001 | |
| radium-226 | 1.1 | A | 1.1 | A | 1 | A | 0.89 | | 1.02 | |
| radium-228 | 1.2 | V | 1.3 | V | 1.4 | V | 1.22 | | 1.28 | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | 0.17 | V | 0.26 | V |
| strontium-90 | 0.06 | | 0.25 | | -0.05 | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 70 | | | | -40 | | 230 | JA | 60 | JA |
| uranium-233,-234 | 0.91 | | 1.16 | | 0.84 | | 1.14 | | 1.48 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.04 | | 0.07 | | 0.03 | | 0.05 | | 0.00 | |
| uranium-238 | 1.00 | | 1.11 | | 0.52 | | 0.96 | | 1.36 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
FA: Field Sample, FD: Field Duplicate
RFA: Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021901822 (REAL)<br>Depth: 18.30 - 22.30 '<br>Date: 06/25/90 | | Location: B302190 (COL)<br>Sample: B3021902227 (REAL)<br>Depth: 22.70 - 28.40 '<br>Date: 06/25/90 | | Location: B302290 (COL)<br>Sample: B3022900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900408 (REAL)<br>Depth: 4.00 - 8.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900814 (REAL)<br>Depth: 8.00 - 14.50 '<br>Date: 06/26/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | | 0.002 | A | 0.004 | | -0.002 | | 0.002 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | | 0.00 | | 0.07 | | 0.00 | | 0.00 | |
| curium-244 | | | | | | | | | | |
| gross alpha | 28.7 | V | 29.4 | V | 28.5 | | 32.3 | | 27.0 | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 28.6 | V | 27.2 | V | 28.9 | | 35.2 | | 31.5 | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.003 | | 0.001 | | 0.009 | | 0.000 | | -0.003 | |
| radium-226 | 0.97 | | 0.96 | | 0.54 | | 0.95 | | 0.69 | |
| radium-228 | 1.27 | | 1.13 | | 0.69 | | 1.35 | | 1.39 | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.37 | V | 0.34 | V | 0.13 | V | 0.11 | V | 0.18 | V |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 170 | JA | 130 | JA | 410 | JA | 160 | JA | 360 | JA |
| uranium-233,-234 | 1.16 | | 1.45 | | 1.08 | | 1.37 | | 0.79 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.00 | | 0.24 | | 0.02 | | 0.05 | | 0.09 | |
| uranium-238 | 1.21 | | 1.21 | | 1.12 | | 0.96 | | 1.15 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; FAn - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B302990 (COL)<br>Sample: B3029900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/06/90 | | Location: B303090 (COL)<br>Sample: B3030900004 (REAL)<br>Depth: 0.00 - 4.20 '<br>Date: 07/06/90 | | Location: B303190 (COL)<br>Sample: B3031900005 (REAL)<br>Depth: 0.00 - 5.00 '<br>Date: 07/09/90 | | Location: B303290 (COL)<br>Sample: B3032900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/10/90 | | Location: B303390 (COL)<br>Sample: B3033900008 (REAL)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.008 | A | 0.007 | A | 0.003 | | 0.004 | | 0.014 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | | 0.00 | | 0.00 | | 0.09 | | 0.00 | |
| curium-244 | | | | | | | | | | |
| gross alpha | 28.7 | V | 22.7 | V | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 26.1 | A | 25.2 | A | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.015 | V | 0.018 | V | -0.008 | | 0.002 | | 0.016 | |
| radium-226 | 0.66 | | 0.77 | | 0.68 | | 0.88 | | 1.36 | |
| radium-228 | 1.06 | | 1.08 | | 1.01 | | 1.01 | | 1.78 | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.55 | | 0.50 | | 0.18 | V | 0.19 | V | 0.22 | V |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 230 | JA | 190 | JA | 190 | JA | 190 | JA | 290 | JA |
| uranium-233,-234 | 1.18 | R | 1.32 | R | 1.18 | | 1.26 | | 1.19 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.07 | R | 0.11 | R | 0.13 | | 0.03 | | 0.11 | |
| uranium-238 | 1.57 | R | 0.96 | R | 1.12 | | 1.29 | | 1.24 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B303390 ()<br>Sample: B30339000080 (DUP)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | | Location: B303490 (COL)<br>Sample: B30349000080 (REAL)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303490 ()<br>Sample: B30349000080 (DUP)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000090 (REAL)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: B303590 ()<br>Sample: B30359000090 (DUP)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.020 | | 0.011 | A | -0.012 | A | 0.008 | A | | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.09 | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | 30.4 | V | 22.1 | V | 49.0 | V | 38.8 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | 18.6 | A | 26.7 | A | 31.0 | A | 39.9 | A |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.059 | | 0.013 | V | 0.003 | V | 0.066 | V | 0.461 | V |
| radium-226 | 1.47 | | 0.62 | | 0.87 | | 1.00 | | 1.16 | |
| radium-228 | 1.89 | | 1.06 | | 1.19 | | 1.67 | | 1.55 | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.09 | V | 0.62 | | 0.47 | | 0.52 | | 0.37 | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 150 | JA | 140 | JA | 330 | JA | 390 | JA | 280 | JA |
| uranium-233,-234 | 1.02 | | 1.12 | R | 1.07 | R | 1.38 | R | 1.53 | R |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.09 | | 0.09 | R | 0.02 | R | 0.04 | R | 0.00 | R |
| uranium-238 | 1.44 | | 0.95 | R | 1.13 | R | 1.52 | R | 1.50 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+ interference, *-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
WFA - Rocky Flats Alluvium; COL - Colluvium, VFA - Valley Fill Alluvium; RAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B303690 (COL)<br>Sample: B3036900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303690 ()<br>Sample: B3036900006D (DUP)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303790 (COL)<br>Sample: B3037900004 (REAL)<br>Depth: 0.00 - 3.50 '<br>Date: 07/16/90 | | Location: B303890 (COL)<br>Sample: B3038900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303890 (COL)<br>Sample: B3038900610 (REAL)<br>Depth: 6.00 - 10.00 '<br>Date: 07/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | 0.011 | A | 0.025 | | 0.009 | A | 0.005 | A |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.18 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| curium-244 | | | | | | | | | | |
| gross alpha | 35.3 | V | 45.8 | V | | | 35.2 | V | 25.5 | V |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 44.9 | A | 39.6 | A | | | 33.2 | A | 25.9 | A |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.166 | V | 0.053 | V | 0.028 | | 0.252 | V | -0.014 | V |
| radium-226 | 0.66 | | 1.18 | | 0.77 | | 1.65 | | 1.42 | |
| radium-228 | 1.33 | | 1.78 | | 1.15 | | 1.46 | | 1.66 | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.38 | | 0.28 | | 0.29 | V | 0.55 | | 0.80 | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 150 | JA | 60 | JA | 160 | JA | 330 | JA | 40 | JA |
| uranium-233,-234 | 1.72 | R | 1.69 | R | 0.87 | | 1.56 | R | 1.33 | R |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.09 | R | 0.02 | R | 0.02 | | 0.05 | R | 0.00 | R |
| uranium-238 | 1.60 | R | 1.84 | R | 0.95 | | 1.15 | R | 1.51 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-e

## Phase III Subsurface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: B303990 (COL)<br>Sample: B3039900004 (REAL)<br>Depth: 0.00 - 3.70 '<br>Date: 07/17/90 | | Location: B304090 (COL)<br>Sample: B3040900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | | Location: B304190 (COL)<br>Sample: B3041900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | | Location: B304290 (COL)<br>Sample: B3042900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/19/90 | | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / |
|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.005 | | 0.002 | A | 0.009 | A | | | |
| cesium - unknown isotope | | | | | | | | | |
| cesium-134 | | | | | | | | | |
| cesium-137 | 0.00 | | 0.00 | | 0.00 | | 0.05 | | |
| curium-244 | | | | | | | | | |
| gross alpha | | | 25.5 | V | 42.2 | V | 31.5 | V | |
| gross alpha | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | |
| gross beta | | | 29.2 | A | 38.6 | A | 24.1 | A | |
| gross beta | | | | | | | | | |
| gross beta particle activity | | | | | | | | | |
| neptunium-237 | | | | | | | | | |
| plutonium-236 | | | | | | | | | |
| plutonium-238 | | | | | | | | | |
| plutonium-239 | | | | | | | | | |
| plutonium-239,-240 | 0.039 | V | 0.001 | V | 0.027 | V | 0.009 | V | |
| radium-226 | 0.97 | | 1.06 | | 0.94 | | 0.48 | | |
| radium-228 | 1.23 | | 1.37 | | 1.57 | | 1.20 | | |
| strontium-89 | | | | | | | | | |
| strontium-89,-90 | 0.15 | V | 0.18 | | 0.98 | | 0.24 | | |
| strontium-90 | | | | | | | | | |
| total radiocesium | | | | | | | | | |
| tritium (pCi/l) | 130 | JA | 170 | JA | 170 | JA | 280 | JA | |
| uranium-233,-234 | 1.09 | | 1.29 | R | 3.61 | R | 1.13 | R | |
| uranium-234 | | | | | | | | | |
| uranium-235 | 0.05 | | 0.02 | R | 0.13 | R | 0.08 | R | |
| uranium-238 | 0.73 | | 1.02 | R | 1.63 | R | 1.07 | R | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples

| ANALYTE | Location: B300190 (COL)<br>Sample: B3001900006 (REAL)<br>Depth: 6.0 - 0.0 '<br>Date: 02/02/90 | | | Location: B300190 (COL)<br>Sample: B3001900006D (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 02/02/90 | | | Location: B300190 (WCS)<br>Sample: B3001900610 (REAL)<br>Depth: 6.0 - 9.9 '<br>Date: 02/05/90 | | Location: B300290 (COL)<br>Sample: B3002900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 02/05/90 | | Location: B300290 (COL)<br>Sample: B3002900408 (REAL)<br>Depth: 4.0 - 7.5 '<br>Date: 02/05/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 86.2 | | | 85.9 | | | 87.6 | | 87.3 | | 87.8 | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.2 | U | V | 1.2 | U | V | 1.1 | U | 1.4 | | 1.1 | U |
| nitrite (mg/kg) | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | |
| pH (ph) | 8.1 | | | 8.3 | | | 8.3 | | 8.9 | | 8.5 | |
| sulfide (mg/kg) | 2 | U | V | 2 | U | V | 2 | U | 2 | U | 2 | U |
| total alkalinity (mg/kg) | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
*Validation Codes:* V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B300390 (COL)<br>Sample: B3003900004 (REAL)<br>Depth: 2.0 - 4.0 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900408 (REAL)<br>Depth: 4.0 - 6.3 '<br>Date: 02/07/90 | | | Location: B300390 (COL)<br>Sample: B3003900810 (REAL)<br>Depth: 8.0 - 10.0 '<br>Date: 02/07/90 | | | Location: B300490 (COL)<br>Sample: B3004900004 (REAL)<br>Depth: 0.0 - 3.8 '<br>Date: 02/09/90 | | | Location: B300490 (COL)<br>Sample: B3004900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 02/09/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 85.6 | | | 87.3 | | | 84.4 | | | 84.9 | | | 86.1 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.2 | U | V | 1.1 | U | V | 1.2 | U | V | 1.5 | | | 1.9 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.7 | | | 8.8 | | | 8.8 | | | 8.7 | | | 8.8 | | |
| sulfide (mg/kg) | 2 | U | V | 2 | U | V | 2 | U | V | 2 | U | | 2 | | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B300590 (COL)<br>Sample: B3005900005 (REAL)<br>Depth: 0.0 - 5.2 '<br>Date: 02/09/90 | | | Location: B300690 (COL)<br>Sample: B3006900003 (REAL)<br>Depth: 0.0 - 2.6 '<br>Date: 02/09/90 | | | Location: B300790 (COL)<br>Sample: B3007900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | | Location: B300790 (COL)<br>Sample: B3007900004D (DUP)<br>Depth: 0.0 - 3.7 '<br>Date: 02/09/90 | | | Location: B300890 (COL)<br>Sample: B3008900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 85.1 | | | 88.1 | | | 85.9 | | | 87.3 | | | 87.1 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.3 | | | 1.1 | U | V | 1.9 | U | V | 1.8 | U | V | 2.2 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.7 | | | 8.2 | | | 8.5 | | | 8.9 | | | 8.7 | | |
| sulfide (mg/kg) | 2 | U | | 2 | U | V | 2 | U | V | 2 | U | V | 2 | U | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B300890 (COL)<br>Sample: B3008900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300890 (COL)<br>Sample: B3008900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900004 (REAL)<br>Depth: 0.0 - 3.7 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B300990 (COL)<br>Sample: B3009900812 (REAL)<br>Depth: 8.0 - 11.0 '<br>Date: 02/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 86.3 | | | 84.6 | | | 86.9 | | | 85.1 | | | 86.7 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.9 | | V | 1.2 | U | V | 1.2 | U | V | 1.2 | U | V | 1.5 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.7 | | | 8.9 | | | 8.7 | | | 8.5 | | | 9.0 | | |
| sulfide (mg/kg) | 2 | | V | 2 | U | V | 8.7 | | | 2 | U | V | 2 | U | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301090 (COL)<br>Sample: B3010900008 (REAL)<br>Depth: 0.0 - 8.0 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010900814 (REAL)<br>Depth: 8.0 - 13.6 '<br>Date: 02/12/90 | | | Location: B301090 (COL)<br>Sample: B3010901416 (REAL)<br>Depth: 14.0 - 18.0 '<br>Date: 02/16/90 | | | Location: B301090 (COL)<br>Sample: B3010901821 (REAL)<br>Depth: 18.0 - 21.0 '<br>Date: 02/16/90 | | | Location: B301190 (COL)<br>Sample: B3011900004 (REAL)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 85.9 | | | 90.2 | | | 89.6 | | | 88.6 | | | 84.6 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 3.0 | | V | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V | 2.8 | | |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.3 | | | 8.6 | | | 7.6 | | | 7.6 | | | 7.6 | | |
| sulfide (mg/kg) | 2 | U | V | 2 | U | V | 2 | U | V | 2 | U | V | 2 | U | |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301190 (COL)<br>Sample: B30119000004D (DUP)<br>Depth: 0.0 - 3.5 '<br>Date: 02/22/90 | | Location: B301190 (COL)<br>Sample: B3011900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/22/90 | | Location: B301190 (COL)<br>Sample: B3011900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 02/22/90 | | Location: B301190 (COL)<br>Sample: B3011901216 (REAL)<br>Depth: 12.0 - 15.1 '<br>Date: 02/22/90 | | Location: B301190 (COL)<br>Sample: B3011901620 (REAL)<br>Depth: 16.0 - 18.6 '<br>Date: 02/22/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 87.7 | | 88.1 | | 88.4 | | 88.3 | | 92.3 | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 5.4 | | 1.1 | U | 1.1 | U | 1.5 | | 1.4 | |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | |
| pH (ph) | 7.9 | | 8.7 | | 8.8 | | 8.8 | | 9.0 | |
| sulfide (mg/kg) | 2 | U | 2 | U | 2 | U | 2 | U | 2 | U |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301290 (COL)<br>Sample: B3012900004 (REAL)<br>Depth: 0.0 - 3.6 '<br>Date: 02/26/90 | | | Location: B301290 (COL)<br>Sample: B3012900408 (REAL)<br>Depth: 4.0 - 4.6 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 02/26/90 | | | Location: B301390 (COL)<br>Sample: B3013900412 (REAL)<br>Depth: 4.0 - 11.5 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900004 (REAL)<br>Depth: 3.0 - 3.9 '<br>Date: 02/26/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 85.9 | | | 86.4 | | | 79.5 | | | 82.4 | | | 81.7 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.4 | | | 2.4 | | V | 4.3 | | V | 3.2 | | V | 1.6 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.7 | | | 8.8 | | | 8.7 | | | 8.6 | | | 8.2 | | |
| sulfide (mg/kg) | 2 | U | V | 2 | U | V | 3 | U | V | 2 | U | V | 2 | U | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301490 (COL)<br>Sample: B3014900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B30149008120 (DUP)<br>Depth: 8.0 - 11.9 '<br>Date: 02/26/90 | | | Location: B301490 (COL)<br>Sample: B3014901216 (REAL)<br>Depth: 12.0 - 15.6 '<br>Date: 02/26/90 | | | Location: B301590 (COL)<br>Sample: B3015900004 (REAL)<br>Depth: 0.0 - 3.1 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 83.1 | | | 80.9 | | | 81.4 | | | 87.7 | | | 81.0 | | V |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 2.4 | | V | 1.4 | | V | 1.6 | | V | 1.5 | | V | 1.2 | U | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.8 | | | 8.9 | | | 8.8 | | | 9.0 | | | 8.5 | | V |
| sulfide (mg/kg) | 2 | U | | 2 | U | V | 2 | U | V | 2 | U | V | 2 | U | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301590 (COL)<br>Sample: B3015900408 (REAL)<br>Depth: 4.0 - 7.7 '<br>Date: 03/19/90 | | | Location: B301590 (COL)<br>Sample: B3015900812 (REAL)<br>Depth: 10.0 - 12.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 84.3 | | | 89.2 | | | 80.4 | | | 80.5 | | | 83.1 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.2 | U | V | 1.1 | U | V | 1.7 | | V | 1.2 | U | V | 2.3 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.5 | | | 8.7 | | | 8.7 | | | 8.6 | | | 8.5 | | |
| sulfide (mg/kg) | 2 | U | V | 2 | | V | 2 | U | V | 2 | | V | 2 | U | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301690 (COL)<br>Sample: B3016901216 (REAL)<br>Depth: 12.0 - 15.9 '<br>Date: 03/19/90 | | | Location: B301690 (COL)<br>Sample: B3016901620 (REAL)<br>Depth: 16.9 - 19.9 '<br>Date: 03/19/90 | | | Location: B301790 (COL)<br>Sample: B3017900004 (REAL)<br>Depth: 0.0 - 2.5 '<br>Date: 03/20/90 | | | Location: B301790 (COL)<br>Sample: B3017900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | | Location: B301790 (COL)<br>Sample: B3017900408D (DUP)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 91.0 | | | 82.4 | | | 84.4 | | | 80.4 | | | 80.8 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.3 | | V | 1.2 | U | V | 1.2 | U | V | 1.7 | | V | 1.4 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.9 | | V | 9.0 | | V | 8.7 | | | 8.7 | | | 8.7 | | |
| sulfide (mg/kg) | 2 | U | V | 2 | | V | 2 | U | V | 2 | | V | 2 | | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301790 (COL)<br>Sample: B3017900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | | Location: B301790 (COL)<br>Sample: B3017901217 (REAL)<br>Depth: 12.0 - 17.0 '<br>Date: 03/20/90 | | | Location: B301890 (COL)<br>Sample: B3018900004 (REAL)<br>Depth: 0.0 - 4.0 '<br>Date: 03/20/90 | | | Location: B301890 (COL)<br>Sample: B3018900408 (REAL)<br>Depth: 4.0 - 8.0 '<br>Date: 03/20/90 | | | Location: B301890 (COL)<br>Sample: B3018900812 (REAL)<br>Depth: 8.0 - 12.0 '<br>Date: 03/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 77.4 | | 79.9 | | | 80.1 | | | 82.2 | | | 81.1 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.3 | V | 1.3 | U | V | 1.5 | | V | 1.2 | U | V | 1.2 | U | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | |
| pH (ph) | 8.6 | | 8.7 | | | 8.5 | | | 8.6 | | | 8.4 | | |
| sulfide (mg/kg) | 5 | V | 3 | U | V | 2 | U | V | 2 | | V | 5 | | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301890 (COL)<br>Sample: B3018901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/20/90 | | | Location: B301890 (COL)<br>Sample: B3018901618 (REAL)<br>Depth: 16.0 - 18.0 '<br>Date: 03/20/90 | | | Location: B301890 (COL)<br>Sample: B3018901820 (REAL)<br>Depth: 18.0 - 20.0 '<br>Date: 03/21/90 | | | Location: B301990 (COL)<br>Sample: B3019900006 (REAL)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 | | | Location: B301990 (COL)<br>Sample: B30199000060 (DUP)<br>Depth: 0.0 - 6.0 '<br>Date: 03/21/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 80.7 | | | 80.9 | | | 80.6 | | | 84.2 | | | 80.7 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.2 | U | V | 2.5 | | V | 3.2 | | V | 1.2 | U | V | 1.2 | U | |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.6 | | | 8.7 | | | 8.7 | | | 8.7 | | | 8.5 | | |
| sulfide (mg/kg) | 2 | | V | 5 | | V | 2 | U | V | 7 | | V | 2 | U | V |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B301990 (COL)<br>Sample: B3019900614 (REAL)<br>Depth: 6.0 - 14.0 '<br>Date: 03/21/90 | | | Location: B301990 (COL)<br>Sample: B3019901420 (REAL)<br>Depth: 14.3 - 19.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900004 (REAL)<br>Depth: 0.0 - 3.4 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900408 (REAL)<br>Depth: 4.0 - 7.6 '<br>Date: 03/22/90 | | | Location: B302090 (COL)<br>Sample: B3020900812 (REAL)<br>Depth: 8.0 - 11.9 '<br>Date: 03/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 90.8 | | | 80.8 | | | 81.0 | | | 82.1 | | | 82.9 | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.1 | U | V | 1.2 | U | | 2.6 | | | 1.2 | U | | 1.4 | | |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 7.3 | | | 8.7 | | | 7.0 | | | 8.9 | | | 8.8 | | |
| sulfide (mg/kg) | 2 | U | V | 2 | U | | 2 | U | | 2 | U | | 2 | U | |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B302090 (COL)<br>Sample: B3020901216 (REAL)<br>Depth: 12.0 - 16.0 '<br>Date: 03/22/90 | | Location: B302090 (COL)<br>Sample: B3020901619 (REAL)<br>Depth: 16.0 - 19.0 '<br>Date: 03/22/90 | | Location: B302090 (COL)<br>Sample: B3020901927 (REAL)<br>Depth: 19.0 - 26.9 '<br>Date: 03/22/90 | | Location: B302190 (COL)<br>Sample: B3021900814 (REAL)<br>Depth: 8.35 - 14.35 '<br>Date: 06/25/90 | | | Location: B302190 (COL)<br>Sample: B3021901418 (REAL)<br>Depth: 14.35 - 18.30 '<br>Date: 06/25/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 82.0 | | 91.0 | | 86.6 | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | 0.53 | U | | 2.8 | |
| nitrate/nitrite (mg/kg) | 1.5 | | 1.1 | U | 1.2 | U | 0.53 | U | JA | 2.8 | JA |
| nitrite (mg/kg) | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | |
| pH (ph) | 8.3 | | 7.1 | | 8.7 | | 5.7 | | | 5.0 | |
| sulfide (mg/kg) | 2 | U | 2 | U | 2 | U | 47.5 | | V | 22.7 | V |
| total alkalinity (mg/kg) | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B302190 (COL)<br>Sample: B3021901822 (REAL)<br>Depth: 18.30 - 22.30 '<br>Date: 06/25/90 | | | Location: B302190 (COL)<br>Sample: B3021902227 (REAL)<br>Depth: 22.70 - 28.40 '<br>Date: 06/25/90 | | | Location: B302290 (COL)<br>Sample: B3022900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 06/26/90 | | Location: B302290 (COL)<br>Sample: B3022900408 (REAL)<br>Depth: 4.00 - 8.00 '<br>Date: 06/26/90 | | Location: B302990 (COL)<br>Sample: B3029900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/06/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | |
| nitrate (mg/kg) | 0.50 | U | | 0.49 | U | | 0.58 | U | 0.55 | U | 0.54 | U |
| nitrate/nitrite (mg/kg) | 0.50 | U | JA | 0.49 | U | JA | | | | | | |
| nitrite (mg/kg) | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | |
| pH (ph) | 5.3 | | | 5.9 | | | 5.6 | | 5.7 | | 8.3 | |
| sulfide (mg/kg) | 17.5 | | V | 81.0 | | V | 2.0 | U | 2.4 | | 10.0 | U |
| total alkalinity (mg/kg) | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B303090 (COL)<br>Sample: B3030900004 (REAL)<br>Depth: 0.00 - 4.20 '<br>Date: 07/06/90 | | Location: B303190 (COL)<br>Sample: B3031900005 (REAL)<br>Depth: 0.00 - 5.00 '<br>Date: 07/09/90 | | Location: B303290 (COL)<br>Sample: B3032900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/10/90 | | Location: B303390 (COL)<br>Sample: B3033900008 (REAL)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 | Location: B303390 (COL)<br>Sample: B3033900008D (DUP)<br>Depth: 0.00 - 8.00 '<br>Date: 07/11/90 |
|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | |
| nitrate (mg/kg) | 0.52 | U | 0.56 | U | 0.56 | U | 0.76 | 2.0 |
| nitrate/nitrite (mg/kg) | | | | | | | | |
| nitrite (mg/kg) | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | |
| pH (ph) | 8.1 | | 8.2 | | 7.1 | | 7.0 | 6.9 |
| sulfide (mg/kg) | 10.0 | U | 10.0 | U | 62.5 | | 71.0 | 57.8 |
| total alkalinity (mg/kg) | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B303490 (COL)<br>Sample: B30349000008 (REAL)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303490 (COL)<br>Sample: B30349000008D (DUP)<br>Depth: 0.00 - 9.20 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000009 (REAL)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: B303590 (COL)<br>Sample: B30359000009D (DUP)<br>Depth: 0.00 - 9.70 '<br>Date: 07/12/90 | | Location: B303690 (COL)<br>Sample: B30369000006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | |
| nitrate (mg/kg) | 0.52 | U | 0.58 | U | 0.54 | U | 0.55 | U | 0.54 | U |
| nitrate/nitrite (mg/kg) | | | | | | | | | | |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | |
| pH (ph) | 7.4 | | 7.8 | | 7.7 | | 7.8 | | 7.9 | |
| sulfide (mg/kg) | 54.5 | | 58.5 | | 52.1 | | 52.6 | | 61.2 | |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B303690 (COL)<br>Sample: B30369000006D (DUP)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | | Location: B303790 (COL)<br>Sample: B30379000004 (REAL)<br>Depth: 0.00 - 3.50 '<br>Date: 07/16/90 | Location: B303890 (COL)<br>Sample: B30389000006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/13/90 | Location: B303890 (COL)<br>Sample: B30389000610 (REAL)<br>Depth: 6.00 - 10.00 '<br>Date: 07/13/90 | | Location: B303990 (COL)<br>Sample: B30399000004 (REAL)<br>Depth: 0.00 - 3.70 '<br>Date: 07/17/90 |
|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | |
| ammonia (mg/kg) | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | |
| carbonate (mg/kg) | | | | | | | |
| nitrate (mg/kg) | 0.47 | U | 2.1 | 2.6 | 1.1 | U | 2.1 |
| nitrate/nitrite (mg/kg) | | | | | | | |
| nitrite (mg/kg) | | | | | | | |
| oil & grease (mg/kg) | | | | | | | |
| pH (ph) | 8.0 | | 8.3 | 8.0 | 8.1 | | 7.5 |
| sulfide (mg/kg) | 55.6 | | 71.0 | 74.1 | 498 | | 95.9 |
| total alkalinity (mg/kg) | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-f

## Phase III Subsurface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: B304090 (COL)<br>Sample: B3040900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | Location: B304190 (COL)<br>Sample: B3041900004 (REAL)<br>Depth: 0.00 - 4.00 '<br>Date: 07/18/90 | Location: B304290 (COL)<br>Sample: B3042900006 (REAL)<br>Depth: 0.00 - 6.00 '<br>Date: 07/19/90 | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / | Location: ()<br>Sample: ()<br>Depth: '<br>Date: / / |
|---|---|---|---|---|---|
| % solids (%) | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | |
| ammonia (mg/kg) | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | |
| carbonate (mg/kg) | | | | | |
| nitrate (mg/kg) | 4.1 | 2.4 | 2.3 | | |
| nitrate/nitrite (mg/kg) | | | | | |
| nitrite (mg/kg) | | | | | |
| oil & grease (mg/kg) | | | | | |
| pH (ph) | 6.3 | 6.4 | 6.3 | | |
| sulfide (mg/kg) | 97.8 | 66.5 | 104 | | |
| total alkalinity (mg/kg) | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C3-g

## Phase III Subsurface Soil Total Organic Carbon

| Location | Sample Date | Result (%TOC) |
|---|---|---|
| 37091 | 10/14/91 | 0.90 X |
| 37291 | 10/15/91 | 0.07 X |
| 37291 | 10/15/91 | 0.08 X |
| 37391 | 10/16/91 | 0.30 X |
| 37391 | 10/16/91 | 1.10 X |
| 37491 | 10/16/91 | 0.05 U |
| 37491 | 10/16/91 | 0.05 U |
| 37591 | 10/17/91 | 1.30 X |
| 37591 | 10/18/91 | 0.05 U |
| 37891 | 11/06/91 | 0.05 U |
| 37891 | 11/07/91 | 0.06 X |
| 37991 | 10/23/91 | 0.05 U |
| 37991 | 10/23/91 | 0.05 U |
| 37991 | 10/29/91 | 1.1 X |
| 38091 | 10/25/91 | 0.40 X |
| 38591 | 11/05/91 | 0.10 X |
| 38991 | 11/11/91 | 2.3 X |
| 38991 | 11/12/91 | 1.8 X |
| 38991 | 11/21/91 | 0.05 U |
| 39191 | 11/14/91 | 0.38 X |
| 39191 | 11/14/91 | 0.05 U |
| 39191 | 11/20/91 | 0.05 U |

U - Undetected, analyzed for but not detected
X - Result by calculation-GRRASP

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Table C4-a

## Surface Soil Volatile Organic Samples (ug/kg)

| ANALYTE | Location: SS100193 (SS)<br>Sample: SS10002ST (REAL)<br>Date: 04/29/93 | | Location: SS100193 (SS)<br>Sample: SS10003ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10004ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10005ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10006ST (REAL)<br>Date: 04/29/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | |
| 2-hexanone | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |
| 4-methyl-2-pentanone | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |
| acetone | 33 | B | 58 | B | 33 | B | 45 | B | 50 | B |
| benzene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| bromoform | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| bromomethane | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |
| carbon disulfide | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| carbon tetrachloride | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| chlorobenzene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| chloroethane | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |
| chloroform | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| chloromethane | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 11 | B | 13 | B | 11 | B | 12 | B | 12 | B |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 1 | J | 5 | U | 6 | U | 6 | U |
| toluene | 5 | U | 100 | | 23 | | 54 | | 69 | |
| total xylenes | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| trichloroethene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |
| vinyl chloride | 11 | U | 12 | U | 11 | U | 12 | U | 12 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-a

## Surface Soil Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SS100393 (SS)<br>Sample: SS10007ST (REAL)<br>Date: 04/29/93 | | Location: SS100393 (SS)<br>Sample: SS10008ST (REAL)<br>Date: 04/29/93 | | Location: SS100493 (SS)<br>Sample: SS10009ST (REAL)<br>Date: 04/29/93 | | Location: SS100493 (SS)<br>Sample: SS10010ST (REAL)<br>Date: 04/29/93 | | Location: SS100493 (SS)<br>Sample: SS10011ST (REAL)<br>Date: 04/29/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1,2-trichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloroethene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,2-dichloroethene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,2-dichloropropane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | |
| 2-hexanone | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| 4-methyl-2-pentanone | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| acetone | 27 | B | 34 | B | 25 | B | 38 | B | 36 | B |
| benzene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| bromoform | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| bromomethane | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| carbon disulfide | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| carbon tetrachloride | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| chlorobenzene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| chloroethane | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| chloroform | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| chloromethane | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 13 | B | 9 | B | 10 | B | 5 | BJ | 5 | BJ |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 6 | U | 6 | | 170 | | 15 | |
| toluene | 13 | | 85 | | 3 | J | 120 | | 28 | |
| total xylenes | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| trichloroethene | 5 | U | 6 | U | 5 | U | 6 | U | 6 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |
| vinyl chloride | 10 | U | 12 | U | 11 | U | 12 | U | 11 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg)

| ANALYTE | Location: RA010 (SS)<br>Sample: SS03020WS (REAL)<br>Date: 03/02/92 | | | Location: RA011 (SS)<br>Sample: SS03021WS (REAL)<br>Date: 02/27/92 | | | Location: RA011 (SS)<br>Sample: SS03022WS (DUP)<br>Date: 02/27/92 | | | Location: RA012 (SS)<br>Sample: SS03027WS (REAL)<br>Date: 02/25/92 | | | Location: RA013 (SS)<br>Sample: SS03028WS (REAL)<br>Date: 03/05/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 1,2-dichlorobenzene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 1,3-dichlorobenzene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 1,4-dichlorobenzene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2,4,5-trichlorophenol | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| 2,4,6-trichlorophenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2,4-dichlorophenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2,4-dimethylphenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2,4-dinitrophenol | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| 2,4-dinitrotoluene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2,6-dinitrotoluene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2-chloronaphthalene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2-chlorophenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2-methylnaphthalene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2-methylphenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 2-nitroaniline | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| 2-nitrophenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 3,3'-dichlorobenzidine | 720 | U | V | 720 | U | JA | 720 | U | JA | 750 | U | JA | 900 | U | V |
| 3-nitroaniline | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| 4,6-dinitro-2-methylphenol | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| 4-bromophenyl phenyl ether | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 4-chloro-3-methylphenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 4-chloroaniline | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 4-chlorophenyl phenyl ether | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 4-methylphenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| 4-nitroaniline | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| 4-nitrophenol | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| acenaphthene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| acenaphthylene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| anthracene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 360 | U | V | 230 | J | A | 250 | J | A | 370 | U | JA | 310 | J | A |
| benzo(a)pyrene | 360 | U | V | 160 | J | A | 160 | J | A | 370 | U | JA | 390 | J | A |
| benzo(b)fluoranthene | 360 | U | V | 110 | J | A | 120 | J | A | 370 | U | JA | 310 | J | A |
| benzo(ghi)perylene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 230 | J | A |
| benzo(k)fluoranthene | 360 | U | V | 120 | J | A | 110 | J | A | 370 | U | JA | 410 | J | A |
| benzoic acid | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| benzyl alcohol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| bis(2-chloroethoxy)methane | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| bis(2-chloroethyl)ether | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| bis(2-chloroisopropyl)ether | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| bis(2-ethylhexyl)phthalate | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| butyl benzyl phthalate | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| chrysene | 360 | U | V | 210 | J | A | 220 | J | A | 370 | U | JA | 550 | | V |
| di-n-butyl phthalate | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| di-n-octyl phthalate | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| dibenzo(a,h)anthracene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| dibenzofuran | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| diethyl phthalate | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| dimethyl phthalate | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| fluoranthene | 360 | U | V | 600 | | JA | 620 | | JA | 370 | U | JA | 900 | | V |
| fluorene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| hexachlorobenzene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| hexachlorobutadiene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| hexachlorocyclopentadiene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| hexachloroethane | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| indeno(1,2,3-cd)pyrene | 360 | U | V | 110 | J | A | 360 | U | JA | 370 | U | JA | 240 | J | A |
| isophorone | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| n-nitroso-di-n-propylamine | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| naphthalene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| nitrobenzene | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| pentachlorophenol | 1700 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA | 2200 | U | V |
| phenanthrene | 360 | U | V | 380 | | JA | 420 | | JA | 370 | U | JA | 610 | | V |
| phenol | 360 | U | V | 360 | U | JA | 360 | U | JA | 370 | U | JA | 450 | U | V |
| pyrene | 360 | U | V | 550 | | JA | 580 | | JA | 370 | U | JA | 750 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: RA014 (SS)<br>Sample: SS03029WS (REAL)<br>Date: 02/28/92 | | | Location: RA015 (SS)<br>Sample: SS03030WS (REAL)<br>Date: 02/27/92 | | | Location: RA015 (SS)<br>Sample: SS03031WS (DUP)<br>Date: 02/27/92 | | | Location: RA016 (SS)<br>Sample: SS03035WS (REAL)<br>Date: 03/02/92 | | | Location: RA017 (SS)<br>Sample: SS03036WS (REAL)<br>Date: 02/27/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 1,2-dichlorobenzene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 1,3-dichlorobenzene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 1,4-dichlorobenzene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2,4,5-trichlorophenol | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| 2,4,6-trichlorophenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2,4-dichlorophenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2,4-dimethylphenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2,4-dinitrophenol | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| 2,4-dinitrotoluene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2,6-dinitrotoluene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2-chloronaphthalene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2-chlorophenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2-methylnaphthalene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2-methylphenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 2-nitroaniline | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| 2-nitrophenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 3,3'-dichlorobenzidine | 740 | U | JA | 710 | U | JA | 700 | U | JA | 710 | U | V | 730 | U | JA |
| 3-nitroaniline | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| 4,6-dinitro-2-methylphenol | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| 4-bromophenyl phenyl ether | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 4-chloro-3-methylphenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 4-chloroaniline | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 4-chlorophenyl phenyl ether | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 4-methylphenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| 4-nitroaniline | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| 4-nitrophenol | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| acenaphthene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | A | 360 | U | JA |
| acenaphthylene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 110 | J | V | 360 | U | JA |
| anthracene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 180 | J | A | 350 | U | JA | 350 | U | JA | 390 | | V | 360 | U | JA |
| benzo(a)pyrene | 130 | J | A | 350 | U | JA | 350 | U | JA | 310 | J | A | 120 | J | A |
| benzo(b)fluoranthene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 360 | | JA | 360 | U | JA |
| benzo(ghi)perylene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| benzo(k)fluoranthene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 170 | J | A | 360 | U | JA |
| benzoic acid | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| benzyl alcohol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| bis(2-chloroethoxy)methane | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| bis(2-chloroethyl)ether | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| bis(2-chloroisopropyl)ether | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| bis(2-ethylhexyl)phthalate | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| butyl benzyl phthalate | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| chrysene | 180 | J | A | 350 | U | JA | 350 | U | JA | 360 | | V | 180 | J | A |
| di-n-butyl phthalate | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| di-n-octyl phthalate | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| dibenzo(a,h)anthracene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| dibenzofuran | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| diethyl phthalate | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| dimethyl phthalate | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| fluoranthene | 470 | | JA | 350 | U | JA | 350 | U | JA | 1300 | | V | 500 | | JA |
| fluorene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| hexachlorobenzene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| hexachlorobutadiene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| hexachlorocyclopentadiene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| hexachloroethane | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| indeno(1,2,3-cd)pyrene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 190 | J | A | 360 | U | JA |
| isophorone | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| n-nitroso-di-n-propylamine | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| naphthalene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| nitrobenzene | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| pentachlorophenol | 1800 | U | JA | 1700 | U | JA | 1700 | U | JA | 1700 | U | V | 1800 | U | JA |
| phenanthrene | 370 | J | A | 350 | U | JA | 350 | U | JA | 830 | | V | 310 | J | A |
| phenol | 370 | U | JA | 350 | U | JA | 350 | U | JA | 350 | U | V | 360 | U | JA |
| pyrene | 400 | | JA | 350 | U | JA | 350 | U | JA | 1200 | | V | 470 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: RA018 (SS) Sample: SS03037WS (REAL) Date: 03/02/92 | | | Location: RA019 (SS) Sample: SS03038WS (REAL) Date: 02/26/92 | | | Location: RA020 (SS) Sample: SS03039WS (REAL) Date: 02/26/92 | | | Location: RA021 (SS) Sample: SS03040WS (REAL) Date: 02/27/92 | | | Location: RA022 (SS) Sample: SS03041WS (REAL) Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 1,2-dichlorobenzene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 1,3-dichlorobenzene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 1,4-dichlorobenzene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 2,4,5-trichlorophenol | 1800 | U | V | | | | | | | 1700 | U | JA | | | |
| 2,4,6-trichlorophenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 2,4-dichlorophenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 2,4-dimethylphenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 2,4-dinitrophenol | 1800 | U | V | | | | | | | 1700 | U | JA | | | |
| 2,4-dinitrotoluene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 2,6-dinitrotoluene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 2-chloronaphthalene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 2-chlorophenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 2-methylnaphthalene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 2-methylphenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 2-nitroaniline | 1800 | U | V | 1800 | U | V | 1800 | U | V | 1700 | U | JA | 1700 | U | V |
| 2-nitrophenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 3,3'-dichlorobenzidine | 730 | U | V | 720 | U | V | 730 | U | V | 700 | U | JA | 690 | U | V |
| 3-nitroaniline | 1800 | U | V | 1800 | U | V | 1800 | U | V | 1700 | U | JA | 1700 | U | V |
| 4,6-dinitro-2-methylphenol | 1800 | U | V | | | | | | | 1700 | U | JA | | | |
| 4-bromophenyl phenyl ether | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 4-chloro-3-methylphenpl | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 4-chloroaniline | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 4-chlorophenyl phenyl ether | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| 4-methylphenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| 4-nitroaniline | 1800 | U | V | 1800 | U | V | 1800 | U | V | 1700 | U | JA | 1700 | U | V |
| 4-nitrophenol | 1800 | U | V | | | | | | | 1700 | U | JA | | | |
| acenaphthene | 370 | U | V | 45 | J | A | 130 | J | A | 350 | U | JA | 76 | J | A |
| acenaphthylene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| anthracene | 370 | U | V | 47 | J | A | 190 | J | A | 350 | U | JA | 76 | J | A |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 140 | J | V | 150 | J | A | 590 | | V | 350 | U | JA | 270 | J | A |
| benzo(a)pyrene | 370 | U | V | 160 | J | A | 460 | | V | 350 | U | JA | 280 | J | A |
| benzo(b)fluoranthene | 370 | U | V | 180 | J | A | 480 | | V | 350 | U | JA | 340 | J | A |
| benzo(ghi)perylene | 370 | U | V | 100 | J | JA | 170 | J | A | 350 | U | JA | 350 | U | JA |
| benzo(k)fluoranthene | 370 | U | V | 120 | J | A | 510 | | V | 350 | U | JA | 240 | J | A |
| benzoic acid | 1800 | U | V | | | | | | | 1700 | U | JA | | | |
| benzyl alcohol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| bis(2-chloroethoxy)methane | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| bis(2-chloroethyl)ether | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| bis(2-chloroisopropyl)ether | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| bis(2-ethylhexyl)phthalate | 370 | U | V | 58 | JB | JA | 71 | JB | JA | 350 | U | JA | 100 | JB | JA |
| butyl benzyl phthalate | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| chrysene | 120 | J | V | 160 | J | A | 550 | | V | 350 | U | JA | 290 | J | A |
| di-n-butyl phthalate | 370 | U | V | 46 | JB | JA | 44 | JB | JA | 350 | U | JA | 49 | JB | JA |
| di-n-octyl phthalate | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | JA |
| dibenzo(a,h)anthracene | 370 | U | V | 360 | U | V | 77 | J | A | 350 | U | JA | 45 | J | A |
| dibenzofuran | 370 | U | V | 360 | U | V | 37 | J | A | 350 | U | JA | 350 | U | V |
| diethyl phthalate | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| dimethyl phthalate | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| fluoranthene | 420 | | V | 360 | | V | 1300 | | V | 350 | U | JA | 650 | | V |
| fluorene | 370 | U | V | 360 | U | V | 110 | J | A | 350 | U | JA | 54 | J | A |
| hexachlorobenzene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| hexachlorobutadiene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| hexachlorocyclopentadiene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| hexachloroethane | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| indeno(1,2,3-cd)pyrene | 370 | U | V | 96 | J | A | 180 | J | A | 350 | U | JA | 100 | J | A |
| isophorone | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| n-nitroso-di-n-propylamine | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| naphthalene | 370 | U | V | 360 | U | V | 360 | U | V | 350 | U | JA | 350 | U | V |
| nitrobenzene | 370 | U | V | | | | | | | 350 | U | JA | | | |
| pentachlorophenol | 1800 | U | V | | | | | | | 1700 | U | JA | | | |
| phenanthrene | 290 | J | A | 280 | J | A | 950 | | V | 350 | U | JA | 490 | | V |
| phenol | 370 | U | V | | | | | | | 350 | U | JA | | | |
| pyrene | 410 | | V | 340 | J | A | 1300 | | V | 350 | U | JA | 690 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: RA023 (SS)<br>Sample: SS03042WS (REAL)<br>Date: 02/26/92 | | | Location: RA024 (SS)<br>Sample: SS03043WS (REAL)<br>Date: 02/26/92 | | | Location: RA025 (SS)<br>Sample: SS03044WS (REAL)<br>Date: 02/28/92 | | | Location: RA026 (SS)<br>Sample: SS03045WS (REAL)<br>Date: 02/28/92 | | | Location: RA027 (SS)<br>Sample: SS03046WS (REAL)<br>Date: 02/28/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 1,2-dichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 1,3-dichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 1,4-dichlorobenzene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2,4,5-trichlorophenol | | | | | | | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| 2,4,6-trichlorophenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2,4-dichlorophenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2,4-dimethylphenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2,4-dinitrophenol | | | | | | | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| 2,4-dinitrotoluene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2,6-dinitrotoluene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2-chloronaphthalene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2-chlorophenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2-methylnaphthalene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2-methylphenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 2-nitroaniline | 1800 | U | V | 1800 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| 2-nitrophenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 3,3'-dichlorobenzidine | 710 | U | V | 700 | U | V | 690 | U | JA | 720 | U | JA | 740 | U | JA |
| 3-nitroaniline | 1800 | U | V | 1800 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| 4,6-dinitro-2-methylphenol | | | | | | | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| 4-bromophenyl phenyl ether | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 4-chloro-3-methylphenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 4-chloroaniline | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 4-chlorophenyl phenyl ether | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 4-methylphenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| 4-nitroaniline | 1800 | U | V | 1800 | U | V | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| 4-nitrophenol | | | | | | | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| acenaphthene | 240 | J | A | 84 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| acenaphthylene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| anthracene | 330 | J | A | 91 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 830 | | V | 220 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| benzo(a)pyrene | 750 | | V | 230 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| benzo(b)fluoranthene | 810 | | V | 220 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| benzo(ghi)perylene | 180 | J | A | 82 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| benzo(k)fluoranthene | 740 | | V | 230 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| benzoic acid | | | | | | | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| benzyl alcohol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| bis(2-chloroethoxy)methane | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| bis(2-chloroethyl)ether | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| bis(2-chloroisopropyl)ether | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| bis(2-ethylhexyl)phthalate | 150 | JB | JA | 46 | JB | JA | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| butyl benzyl phthalate | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| chrysene | 790 | | V | 230 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| di-n-butyl phthalate | 43 | JB | JA | 40 | JB | JA | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| di-n-octyl phthalate | 350 | U | V | 350 | U | JA | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| dibenzo(a,h)anthracene | 92 | J | A | 43 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| dibenzofuran | 86 | J | A | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| diethyl phthalate | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| dimethyl phthalate | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| fluoranthene | 1900 | | V | 530 | | V | 240 | J | A | 360 | U | JA | 370 | U | JA |
| fluorene | 230 | J | A | 77 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| hexachlorobenzene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| hexachlorobutadiene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| hexachlorocyclopentadiene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| hexachloroethane | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| indeno(1,2,3-cd)pyrene | 220 | J | A | 88 | J | A | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| isophorone | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| n-nitroso-di-n-propylamine | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| naphthalene | 350 | U | V | 350 | U | V | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| nitrobenzene | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| pentachlorophenol | | | | | | | 1700 | U | JA | 1700 | U | JA | 1800 | U | JA |
| phenanthrene | 1600 | | V | 500 | | V | 160 | J | A | 360 | U | JA | 370 | U | JA |
| phenol | | | | | | | 350 | U | JA | 360 | U | JA | 370 | U | JA |
| pyrene | 1800 | | V | 550 | | V | 220 | J | JA | 360 | U | JA | 370 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: RA028 (SS)<br>Sample: SS03047WS (REAL)<br>Date: 02/25/92 | | | Location: RA029 (SS)<br>Sample: SS03048WS (REAL)<br>Date: 02/28/92 | | | Location: RA030 (SS)<br>Sample: SS03049WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03050WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03051WS (DUP)<br>Date: 03/03/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 1,2-dichlorobenzene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 1,3-dichlorobenzene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 1,4-dichlorobenzene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2,4,5-trichlorophenol | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| 2,4,6-trichlorophenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2,4-dichlorophenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2,4-dimethylphenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2,4-dinitrophenol | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| 2,4-dinitrotoluene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2,6-dinitrotoluene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2-chloronaphthalene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2-chlorophenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2-methylnaphthalene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2-methylphenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 2-nitroaniline | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| 2-nitrophenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 3,3'-dichlorobenzidine | 770 | U | JA | 720 | U | JA | 670 | U | V | 690 | U | V | 690 | U | V |
| 3-nitroaniline | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| 4,6-dinitro-2-methylphenol | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| 4-bromophenyl phenyl ether | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 4-chloro-3-methylphenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 4-chloroaniline | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 4-chlorophenyl phenyl ether | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 4-methylphenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| 4-nitroaniline | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| 4-nitrophenol | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| acenaphthene | 380 | U | JA | 230 | J | A | 340 | U | V | 350 | U | V | 350 | U | V |
| acenaphthylene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| anthracene | 380 | U | JA | 220 | J | A | 340 | U | V | 350 | U | V | 350 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 380 | U | JA | 550 | | JA | 300 | J | A | 350 | U | V | 350 | U | V |
| benzo(a)pyrene | 380 | U | JA | 410 | | JA | 310 | J | A | 350 | U | V | 350 | U | V |
| benzo(b)fluoranthene | 380 | U | JA | 360 | J | A | 260 | J | A | 350 | U | V | 350 | U | V |
| benzo(ghi)perylene | 380 | U | JA | 350 | J | A | 240 | J | A | 350 | U | V | 350 | U | V |
| benzo(k)fluoranthene | 380 | U | JA | 230 | J | A | 330 | J | A | 350 | U | V | 350 | U | V |
| benzoic acid | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| benzyl alcohol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| bis(2-chloroethoxy)methane | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| bis(2-chloroethyl)ether | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| bis(2-chloroisopropyl)ether | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| bis(2-ethylhexyl)phthalate | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| butyl benzyl phthalate | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| chrysene | 380 | U | JA | 510 | | JA | 430 | | V | 350 | U | V | 350 | U | V |
| di-n-butyl phthalate | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| di-n-octyl phthalate | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| dibenzo(a,h)anthracene | 380 | U | JA | 360 | U | R | 340 | U | V | 350 | U | V | 350 | U | V |
| dibenzofuran | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| diethyl phthalate | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| dimethyl phthalate | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| fluoranthene | 380 | U | JA | 1500 | | JA | 720 | | V | 270 | J | A | 370 | | V |
| fluorene | 380 | U | JA | 140 | J | A | 340 | U | V | 350 | U | V | 350 | U | V |
| hexachlorobenzene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| hexachlorobutadiene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| hexachlorocyclopentadiene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| hexachloroethane | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| indeno(1,2,3-cd)pyrene | 380 | U | JA | 250 | J | A | 210 | J | A | 350 | U | V | 350 | U | V |
| isophorone | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| n-nitroso-di-n-propylamine | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| naphthalene | 380 | U | JA | 110 | J | A | 340 | U | V | 350 | U | V | 350 | U | V |
| nitrobenzene | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| pentachlorophenol | 1900 | U | JA | 1800 | U | JA | 1600 | U | V | 1700 | U | V | 1700 | U | V |
| phenanthrene | 380 | U | JA | 1200 | | JA | 420 | | V | 130 | J | V | 350 | U | V |
| phenol | 380 | U | JA | 360 | U | JA | 340 | U | V | 350 | U | V | 350 | U | V |
| pyrene | 380 | U | JA | 1300 | | JA | 530 | | V | 350 | U | V | 280 | J | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: RA032 (SS)<br>Sample: SS03055WS (REAL)<br>Date: 03/05/92 | | | Location: RA033 (SS)<br>Sample: SS03058WS (REAL)<br>Date: 03/05/92 | | | Location: RA034 (SS)<br>Sample: SS03061WS (REAL)<br>Date: 03/03/92 | | | Location: RA035 (SS)<br>Sample: SS03062WS (REAL)<br>Date: 03/03/92 | | | Location: RA036 (SS)<br>Sample: SS03063WS (REAL)<br>Date: 03/05/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 1,2-dichlorobenzene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 1,3-dichlorobenzene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 1,4-dichlorobenzene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2,4,5-trichlorophenol | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| 2,4,6-trichlorophenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2,4-dichlorophenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2,4-dimethylphenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2,4-dinitrophenol | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| 2,4-dinitrotoluene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2,6-dinitrotoluene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2-chloronaphthalene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2-chlorophenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2-methylnaphthalene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2-methylphenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 2-nitroaniline | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| 2-nitrophenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 3,3'-dichlorobenzidine | 930 | U | V | 920 | U | V | 690 | U | V | 690 | U | V | 940 | U | V |
| 3-nitroaniline | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| 4,6-dinitro-2-methylphenol | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| 4-bromophenyl phenyl ether | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 4-chloro-3-methylphenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 4-chloroaniline | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 4-chlorophenyl phenyl ether | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 4-methylphenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| 4-nitroaniline | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| 4-nitrophenol | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| acenaphthene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| acenaphthylene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| anthracene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 460 | U | V | 460 | U | V | 390 | | V | 350 | U | V | 470 | U | V |
| benzo(a)pyrene | 460 | U | V | 460 | U | V | 490 | | V | 300 | J | A | 470 | U | V |
| benzo(b)fluoranthene | 240 | J | A | 460 | U | V | 450 | | V | 280 | J | A | 470 | U | V |
| benzo(ghi)perylene | 180 | J | A | 460 | U | JA | 340 | U | JA | 350 | U | V | 470 | U | V |
| benzo(k)fluoranthene | 330 | J | A | 460 | U | V | 420 | | V | 350 | U | JA | 470 | U | V |
| benzoic acid | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| benzyl alcohol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| bis(2-chloroethoxy)methane | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| bis(2-chloroethyl)ether | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| bis(2-chloroisopropyl)ether | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| bis(2-ethylhexyl)phthalate | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| butyl benzyl phthalate | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| chrysene | 400 | J | V | 460 | U | V | 590 | | V | 370 | | V | 470 | U | V |
| di-n-butyl phthalate | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| di-n-octyl phthalate | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| dibenzo(a,h)anthracene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| dibenzofuran | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| diethyl phthalate | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| dimethyl phthalate | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| fluoranthene | 630 | | V | 450 | J | A | 1000 | | V | 690 | | V | 470 | U | V |
| fluorene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| hexachlorobenzene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| hexachlorobutadiene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| hexachlorocyclopentadiene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| hexachloroethane | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| indeno(1,2,3-cd)pyrene | 460 | U | V | 460 | U | V | 280 | J | A | 170 | J | A | 470 | U | V |
| isophorone | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| n-nitroso-di-n-propylamine | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| naphthalene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| nitrobenzene | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| pentachlorophenol | 2200 | U | V | 2200 | U | V | 1700 | U | V | 1700 | U | V | 2300 | U | V |
| phenanthrene | 460 | U | V | 460 | U | V | 610 | | V | 440 | | V | 470 | U | V |
| phenol | 460 | U | V | 460 | U | V | 340 | U | V | 350 | U | V | 470 | U | V |
| pyrene | 560 | | V | 460 | U | V | 870 | | V | 550 | | V | 470 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: RA037 (SS)<br>Sample: SS03064WS (REAL)<br>Date: 03/05/92 | | | Location: SS100193 (SS)<br>Sample: SS10002ST (REAL)<br>Date: 04/29/93 | | Location: SS100193 (SS)<br>Sample: SS10003ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10004ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10005ST (REAL)<br>Date: 04/29/93 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 1,2-dichlorobenzene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 1,3-dichlorobenzene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 1,4-dichlorobenzene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2,4,5-trichlorophenol | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| 2,4,6-trichlorophenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2,4-dichlorophenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2,4-dimethylphenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2,4-dinitrophenol | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| 2,4-dinitrotoluene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2,6-dinitrotoluene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2-chloronaphthalene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2-chlorophenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2-methylnaphthalene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2-methylphenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 2-nitroaniline | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| 2-nitrophenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 3,3'-dichlorobenzidine | 940 | U | V | 720 | U | 800 | U | 700 | U | 800 | U |
| 3-nitroaniline | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| 4,6-dinitro-2-methylphenol | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| 4-bromophenyl phenyl ether | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 4-chloro-3-methylphenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 4-chloroaniline | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 4-chlorophenyl phenyl ether | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 4-methylphenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| 4-nitroaniline | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| 4-nitrophenol | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| acenaphthene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| acenaphthylene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| anthracene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| benzenamine | | | | | | | | | | | |
| benzidine | | | | | | | | | | | |
| benzo(a)anthracene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| benzo(a)pyrene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| benzo(b)fluoranthene | 470 | U | V | 360 | U | 400 | U | 85 | J | 400 | U |
| benzo(ghi)perylene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| benzo(k)fluoranthene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| benzoic acid | 2300 | U | V | 140 | J | 260 | J | 190 | J | 190 | J |
| benzyl alcohol | 470 | U | A | 360 | U | 400 | U | 350 | U | 400 | U |
| bis(2-chloroethoxy)methane | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| bis(2-chloroethyl)ether | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| bis(2-chloroisopropyl)ether | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| bis(2-ethylhexyl)phthalate | 470 | U | V | 360 | U | 400 | U | 71 | J | 120 | J |
| butyl benzyl phthalate | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| chrysene | 470 | U | V | 360 | U | 400 | U | 72 | J | 400 | U |
| di-n-butyl phthalate | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| di-n-octyl phthalate | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| dibenzo(a,h)anthracene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| dibenzofuran | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| diethyl phthalate | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| dimethyl phthalate | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| fluoranthene | 470 | U | V | 60 | J | 83 | J | 160 | J | 400 | U |
| fluorene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| hexachlorobenzene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| hexachlorobutadiene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| hexachlorocyclopentadiene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| hexachloroethane | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| indeno(1,2,3-cd)pyrene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| isophorone | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| n-nitroso-di-n-propylamine | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| n-nitrosodimethylamine | | | | | | | | | | | |
| n-nitrosodiphenylamine | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| naphthalene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| nitrobenzene | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| pentachlorophenol | 2300 | U | V | 1700 | U | 1900 | U | 1700 | U | 1900 | U |
| phenanthrene | 470 | U | V | 360 | U | 59 | J | 350 | U | 400 | U |
| phenol | 470 | U | V | 360 | U | 400 | U | 350 | U | 400 | U |
| pyrene | 470 | U | V | 54 | J | 77 | J | 140 | J | 400 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-b

## Surface Soil Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SS100293 (SS)<br>Sample: SS10006ST (REAL)<br>Date: 04/29/93 | | Location: SS100393 (SS)<br>Sample: SS10007ST (REAL)<br>Date: 04/29/93 | | Location: SS100393 (SS)<br>Sample: SS10008ST (REAL)<br>Date: 04/29/93 | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 380 | U | 340 | U | 400 | U | | | | |
| 1,2-dichlorobenzene | 380 | U | 340 | U | 400 | U | | | | |
| 1,3-dichlorobenzene | 380 | U | 340 | U | 400 | U | | | | |
| 1,4-dichlorobenzene | 380 | U | 340 | U | 400 | U | | | | |
| 2,4,5-trichlorophenol | 1900 | U | 1700 | U | 2000 | U | | | | |
| 2,4,6-trichlorophenol | 380 | U | 340 | U | 400 | U | | | | |
| 2,4-dichlorophenol | 380 | U | 340 | U | 400 | U | | | | |
| 2,4-dimethylphenol | 380 | U | 340 | U | 400 | U | | | | |
| 2,4-dinitrophenol | 1900 | U | 1700 | U | 2000 | U | | | | |
| 2,4-dinitrotoluene | 380 | U | 340 | U | 400 | U | | | | |
| 2,6-dinitrotoluene | 380 | U | 340 | U | 400 | U | | | | |
| 2-chloronaphthalene | 380 | U | 340 | U | 400 | U | | | | |
| 2-chlorophenol | 380 | U | 340 | U | 400 | U | | | | |
| 2-methylnaphthalene | 380 | U | 340 | U | 400 | U | | | | |
| 2-methylphenol | 380 | U | 340 | U | 400 | U | | | | |
| 2-nitroaniline | 1900 | U | 1700 | U | 2000 | U | | | | |
| 2-nitrophenol | 380 | U | 340 | U | 400 | U | | | | |
| 3,3'-dichlorobenzidine | 760 | U | 690 | U | 810 | U | | | | |
| 3-nitroaniline | 1900 | U | 1700 | U | 2000 | U | | | | |
| 4,6-dinitro-2-methylphenol | 1900 | U | 1700 | U | 2000 | U | | | | |
| 4-bromophenyl phenyl ether | 380 | U | 340 | U | 400 | U | | | | |
| 4-chloro-3-methylphenol | 380 | U | 340 | U | 400 | U | | | | |
| 4-chloroaniline | 380 | U | 340 | U | 400 | U | | | | |
| 4-chlorophenyl phenyl ether | 380 | U | 340 | U | 400 | U | | | | |
| 4-methylphenol | 380 | U | 340 | U | 400 | U | | | | |
| 4-nitroaniline | 1900 | U | 1700 | U | 2000 | U | | | | |
| 4-nitrophenol | 1900 | U | 1700 | U | 2000 | U | | | | |
| acenaphthene | 380 | U | 64 | J | 400 | U | | | | |
| acenaphthylene | 380 | U | 340 | U | 400 | U | | | | |
| anthracene | 380 | U | 78 | J | 400 | U | | | | |
| benzenamine | | | | | | | | | | |
| benzidine | | | | | | | | | | |
| benzo(a)anthracene | 380 | U | 260 | J | 110 | J | | | | |
| benzo(a)pyrene | 380 | U | 310 | J | 400 | U | | | | |
| benzo(b)fluoranthene | 380 | U | 360 | | 140 | J | | | | |
| benzo(ghi)perylene | 380 | U | 340 | U | 400 | U | | | | |
| benzo(k)fluoranthene | 380 | U | 130 | J | 50 | J | | | | |
| benzoic acid | 150 | J | 130 | J | 260 | J | | | | |
| benzyl alcohol | 380 | U | 340 | U | 400 | U | | | | |
| bis(2-chloroethoxy)methane | 380 | U | 340 | U | 400 | U | | | | |
| bis(2-chloroethyl)ether | 380 | U | 340 | U | 400 | U | | | | |
| bis(2-chloroisopropyl)ether | 380 | U | 340 | U | 400 | U | | | | |
| bis(2-ethylhexyl)phthalate | 380 | U | 340 | U | 400 | U | | | | |
| butyl benzyl phthalate | 380 | U | 340 | U | 400 | U | | | | |
| chrysene | 380 | U | 310 | J | 110 | J | | | | |
| di-n-butyl phthalate | 380 | U | 340 | U | 400 | U | | | | |
| di-n-octyl phthalate | 380 | U | 340 | U | 400 | U | | | | |
| dibenzo(a,h)anthracene | 380 | U | 340 | U | 400 | U | | | | |
| dibenzofuran | 380 | U | 340 | U | 400 | U | | | | |
| diethyl phthalate | 380 | U | 340 | U | 400 | U | | | | |
| dimethyl phthalate | 380 | U | 340 | U | 400 | U | | | | |
| fluoranthene | 380 | U | 620 | | 260 | J | | | | |
| fluorene | 380 | U | 340 | U | 400 | U | | | | |
| hexachlorobenzene | 380 | U | 340 | U | 400 | U | | | | |
| hexachlorobutadiene | 380 | U | 340 | U | 400 | U | | | | |
| hexachlorocyclopentadiene | 380 | U | 340 | U | 400 | U | | | | |
| hexachloroethane | 380 | U | 340 | U | 400 | U | | | | |
| indeno(1,2,3-cd)pyrene | 380 | U | 250 | J | 89 | J | | | | |
| isophorone | 380 | U | 340 | U | 400 | U | | | | |
| n-nitroso-di-n-propylamine | 380 | U | 340 | U | 400 | U | | | | |
| n-nitrosodimethylamine | | | | | | | | | | |
| n-nitrosodiphenylamine | 380 | U | 340 | U | 400 | U | | | | |
| naphthalene | 380 | U | 340 | U | 400 | U | | | | |
| nitrobenzene | 380 | U | 340 | U | 400 | U | | | | |
| pentachlorophenol | 1900 | U | 1700 | U | 2000 | U | | | | |
| phenanthrene | 380 | U | 410 | | 180 | J | | | | |
| phenol | 380 | U | 340 | U | 400 | U | | | | |
| pyrene | 380 | U | 620 | | 240 | J | | | | |

Note: Data reporting order: result, qualifier, validation code.
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Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg)

| ANALYTE | Location: RA010 (SS)<br>Sample: SS03020WS (REAL)<br>Date: 03/02/92 | | | Location: RA011 (SS)<br>Sample: SS03021WS (REAL)<br>Date: 02/27/92 | | | Location: RA011 (SS)<br>Sample: SS03022WS (DUP)<br>Date: 02/27/92 | | | Location: RA012 (SS)<br>Sample: SS03027WS (REAL)<br>Date: 02/25/92 | | | Location: RA013 (SS)<br>Sample: SS03028WS (REAL)<br>Date: 03/05/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| 4,4'-dde | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| 4,4'-ddt | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| aldrin | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | JA |
| alpha-bhc | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | V |
| alpha-chlordane | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| aroclor-1016 | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| aroclor-1221 | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| aroclor-1232 | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| aroclor-1242 | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| aroclor-1248 | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| aroclor-1254 | 170 | U | V | 170 | U | JA | 170 | U | JA | 180 | U | JA | 210 | U | V |
| aroclor-1260 | 170 | U | V | 170 | U | JA | 170 | U | JA | 180 | U | JA | 210 | U | V |
| beta-bhc | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | V |
| delta-bhc | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | V |
| dieldrin | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| endosulfan I | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | V |
| endosulfan II | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| endosulfan sulfate | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| endrin | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| endrin ketone | 17 | U | V | 17 | U | JA | 17 | U | JA | 18 | U | JA | 21 | U | V |
| gamma-bhc (lindane) | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | V |
| gamma-chlordane | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| heptachlor | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | V |
| heptachlor epoxide | 8.7 | U | V | 8.7 | U | JA | 8.7 | U | JA | 9 | U | JA | 11 | U | V |
| methoxychlor | 87 | U | V | 87 | U | JA | 87 | U | JA | 90 | U | JA | 110 | U | V |
| toxaphene | 170 | U | V | 170 | U | JA | 170 | U | JA | 180 | U | JA | 210 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: RA014 (SS)<br>Sample: SS03029WS (REAL)<br>Date: 02/28/92 | | | Location: RA015 (SS)<br>Sample: SS03030WS (REAL)<br>Date: 02/27/92 | | | Location: RA015 (SS)<br>Sample: SS03031WS (DUP)<br>Date: 02/27/92 | | | Location: RA016 (SS)<br>Sample: SS03035WS (REAL)<br>Date: 03/02/92 | | | Location: RA017 (SS)<br>Sample: SS03036WS (REAL)<br>Date: 02/27/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| 4,4'-dde | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| 4,4'-ddt | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| aldrin | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| alpha-bhc | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| alpha-chlordane | 90 | U | JA | 86 | U | JA | 85 | U | JA | 86 | U | V | 87 | U | JA |
| aroclor-1016 | 90 | U | JA | 86 | U | JA | 85 | U | JA | 86 | U | V | 87 | U | JA |
| aroclor-1221 | 90 | U | JA | 86 | U | JA | 85 | U | JA | 86 | U | V | 87 | U | JA |
| aroclor-1232 | 90 | U | JA | 86 | U | JA | 85 | U | JA | 86 | U | V | 87 | U | JA |
| aroclor-1242 | 90 | U | JA | 86 | U | JA | 85 | U | JA | 86 | U | V | 87 | U | JA |
| aroclor-1248 | 90 | U | JA | 86 | U | JA | 85 | U | JA | 86 | U | V | 87 | U | JA |
| aroclor-1254 | 180 | U | JA | 170 | U | JA | 170 | U | JA | 170 | U | V | 170 | U | JA |
| aroclor-1260 | 180 | U | JA | 170 | U | JA | 170 | U | JA | 170 | U | V | 170 | U | JA |
| beta-bhc | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| delta-bhc | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| dieldrin | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| endosulfan I | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| endosulfan II | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| endosulfan sulfate | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| endrin | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| endrin ketone | 18 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | V | 17 | U | JA |
| gamma-bhc (lindane) | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| gamma-chlordane | 90 | U | JA | 86 | U | JA | 85 | U | JA | 170 | U | V | 87 | U | JA |
| heptachlor | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| heptachlor epoxide | 9 | U | JA | 8.6 | U | JA | 8.5 | U | JA | 8.6 | U | V | 8.7 | U | JA |
| methoxychlor | 90 | U | JA | 86 | U | JA | 85 | U | JA | 86 | U | V | 87 | U | JA |
| toxaphene | 180 | U | JA | 170 | U | JA | 170 | U | JA | 86 | U | V | 170 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
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Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: RA018 (SS)<br>Sample: SS03037WS (REAL)<br>Date: 03/02/92 | | | Location: RA019 (SS)<br>Sample: SS03038WS (REAL)<br>Date: 02/26/92 | | | Location: RA020 (SS)<br>Sample: SS03039WS (REAL)<br>Date: 02/26/92 | | | Location: RA021 (SS)<br>Sample: SS03040WS (REAL)<br>Date: 02/27/92 | | | Location: RA022 (SS)<br>Sample: SS03041WS (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| 4,4'-dde | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| 4,4'-ddt | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| aldrin | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| alpha-bhc | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| alpha-chlordane | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| aroclor-1016 | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| aroclor-1221 | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| aroclor-1232 | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| aroclor-1242 | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| aroclor-1248 | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| aroclor-1254 | 180 | U | V | 180 | U | JA | 180 | U | JA | 170 | U | JA | 170 | U | JA |
| aroclor-1260 | 180 | U | V | 180 | U | JA | 180 | U | JA | 170 | U | JA | 170 | U | JA |
| beta-bhc | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| delta-bhc | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| dieldrin | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| endosulfan I | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| endosulfan II | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| endosulfan sulfate | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| endrin | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| endrin ketone | 18 | U | V | 18 | U | JA | 18 | U | JA | 17 | U | JA | 17 | U | JA |
| gamma-bhc (lindane) | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| gamma-chlordane | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| heptachlor | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| heptachlor epoxide | 8.8 | U | V | 8.9 | U | JA | 8.8 | U | JA | 8.5 | U | JA | 8.6 | U | JA |
| methoxychlor | 88 | U | V | 89 | U | JA | 88 | U | JA | 85 | U | JA | 86 | U | JA |
| toxaphene | 180 | U | V | 180 | U | JA | 180 | U | JA | 170 | U | JA | 170 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: RA023 (SS)<br>Sample: SS03042WS (REAL)<br>Date: 02/26/92 | | | Location: RA024 (SS)<br>Sample: SS03043WS (REAL)<br>Date: 02/26/92 | | | Location: RA025 (SS)<br>Sample: SS03044WS (REAL)<br>Date: 02/28/92 | | | Location: RA026 (SS)<br>Sample: SS03045WS (REAL)<br>Date: 02/28/92 | | | Location: RA027 (SS)<br>Sample: SS03046WS (REAL)<br>Date: 02/28/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| 4,4'-dde | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| 4,4'-ddt | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| aldrin | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| alpha-bhc | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| alpha-chlordane | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| aroclor-1016 | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| aroclor-1221 | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| aroclor-1232 | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| aroclor-1242 | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| aroclor-1248 | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| aroclor-1254 | 170 | U | JA | 170 | U | JA | 170 | U | JA | 170 | U | JA | 180 | U | JA |
| aroclor-1260 | 170 | U | JA | 170 | U | JA | 170 | U | JA | 170 | U | JA | 180 | U | JA |
| beta-bhc | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| delta-bhc | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| dieldrin | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| endosulfan I | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| endosulfan II | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| endosulfan sulfate | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| endrin | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| endrin ketone | 17 | U | JA | 17 | U | JA | 17 | U | JA | 17 | U | JA | 18 | U | JA |
| gamma-bhc (lindane) | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| gamma-chlordane | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| heptachlor | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| heptachlor epoxide | 8.6 | U | JA | 8.7 | U | JA | 8.4 | U | JA | 8.6 | U | JA | 8.9 | U | JA |
| methoxychlor | 86 | U | JA | 87 | U | JA | 84 | U | JA | 86 | U | JA | 89 | U | JA |
| toxaphene | 170 | U | JA | 170 | U | JA | 170 | U | JA | 170 | U | JA | 180 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: RA028 (SS)<br>Sample: SS03047WS (REAL)<br>Date: 02/25/92 | | | Location: RA029 (SS)<br>Sample: SS03048WS (REAL)<br>Date: 02/28/92 | | | Location: RA030 (SS)<br>Sample: SS03049WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03050WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03051WS (DUP)<br>Date: 03/03/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| 4,4'-dde | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| 4,4'-ddt | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| aldrin | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| alpha-bhc | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| alpha-chlordane | 93 | U | JA | 88 | U | JA | 81 | U | V | 83 | U | V | 84 | U | V |
| aroclor-1016 | 93 | U | JA | 88 | U | JA | 81 | U | V | 83 | U | V | 84 | U | V |
| aroclor-1221 | 93 | U | JA | 88 | U | JA | 81 | U | V | 83 | U | V | 84 | U | V |
| aroclor-1232 | 93 | U | JA | 88 | U | JA | 81 | U | V | 83 | U | V | 84 | U | V |
| aroclor-1242 | 93 | U | JA | 88 | U | JA | 81 | U | V | 83 | U | V | 84 | U | V |
| aroclor-1248 | 93 | U | JA | 88 | U | JA | 670 | | V | 83 | U | V | 84 | U | V |
| aroclor-1254 | 190 | U | JA | 180 | U | JA | 540 | | V | 170 | U | V | 180 | | V |
| aroclor-1260 | 190 | U | JA | 180 | U | JA | 160 | U | V | 170 | U | V | 170 | U | V |
| beta-bhc | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| delta-bhc | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| dieldrin | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| endosulfan I | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| endosulfan II | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| endosulfan sulfate | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| endrin | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| endrin ketone | 19 | U | JA | 18 | U | JA | 16 | U | V | 17 | U | V | 17 | U | V |
| gamma-bhc (lindane) | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| gamma-chlordane | 93 | U | JA | 88 | U | JA | 81 | U | V | 83 | U | V | 84 | U | V |
| heptachlor | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| heptachlor epoxide | 9.3 | U | JA | 8.8 | U | JA | 8.1 | U | V | 8.3 | U | V | 8.4 | U | V |
| methoxychlor | 93 | U | JA | 88 | U | JA | 81 | U | V | 83 | U | V | 84 | U | V |
| toxaphene | 190 | U | JA | 180 | U | JA | 160 | U | V | 170 | U | V | 170 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: RA031 (SS)<br>Sample: SS03052WS (RNS)<br>Date: 03/03/92 | | | Location: RA032 (SS)<br>Sample: SS03055WS (REAL)<br>Date: 03/05/92 | | | Location: RA033 (SS)<br>Sample: SS03058WS (REAL)<br>Date: 03/05/92 | | | Location: RA034 (SS)<br>Sample: SS03061WS (REAL)<br>Date: 03/03/92 | | | Location: RA035 (SS)<br>Sample: SS03062WS (REAL)<br>Date: 03/03/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| 4,4'-dde | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| 4,4'-ddt | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| aldrin | .05 | U | V | 11 | U | JA | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| alpha-bhc | .05 | U | V | 11 | U | V | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| alpha-chlordane | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| aroclor-1016 | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| aroclor-1221 | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| aroclor-1232 | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| aroclor-1242 | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| aroclor-1248 | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| aroclor-1254 | 1 | U | V | 220 | U | V | 1200 | | V | 160 | U | V | 170 | U | V |
| aroclor-1260 | 1 | U | V | 220 | U | V | 220 | U | V | 160 | U | V | 170 | U | V |
| beta-bhc | .05 | U | V | 11 | U | V | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| delta-bhc | .05 | U | V | 11 | U | V | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| dieldrin | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| endosulfan I | .05 | U | V | 11 | U | V | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| endosulfan II | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| endosulfan sulfate | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| endrin | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| endrin ketone | .1 | U | V | 22 | U | V | 22 | U | V | 16 | U | V | 17 | U | V |
| gamma-bhc (lindane) | .05 | U | V | 11 | U | V | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| gamma-chlordane | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| heptachlor | .05 | U | V | 11 | U | V | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| heptachlor epoxide | .05 | U | V | 11 | U | V | 11 | U | V | 8.3 | U | V | 8.3 | U | V |
| methoxychlor | .5 | U | V | 110 | U | V | 110 | U | V | 83 | U | V | 83 | U | V |
| toxaphene | 1 | U | V | 220 | U | V | 220 | U | V | 160 | U | V | 170 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: RA036 (SS)<br>Sample: SS03063WS (REAL)<br>Date: 03/05/92 | | | Location: RA037 (SS)<br>Sample: SS03064WS (REAL)<br>Date: 03/05/92 | | | Location: SS100193 (SS)<br>Sample: SS10002ST (REAL)<br>Date: 04/29/93 | | Location: SS100193 (SS)<br>Sample: SS10003ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10004ST (REAL)<br>Date: 04/29/93 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| 4,4'-dde | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| 4,4'-ddt | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| aldrin | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| alpha-bhc | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| alpha-chlordane | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| aroclor-1016 | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| aroclor-1221 | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| aroclor-1232 | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| aroclor-1242 | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| aroclor-1248 | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| aroclor-1254 | 220 | U | V | 230 | U | V | 170 | U | 260 | U | 170 | U |
| aroclor-1260 | 220 | U | V | 230 | U | V | 170 | U | 190 | U | 170 | U |
| beta-bhc | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| delta-bhc | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| dieldrin | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| endosulfan I | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| endosulfan II | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| endosulfan sulfate | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| endrin | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| endrin ketone | 22 | U | V | 23 | U | V | 17 | U | 19 | U | 17 | U |
| gamma-bhc (lindane) | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| gamma-chlordane | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| heptachlor | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| heptachlor epoxide | 11 | U | V | 11 | U | V | 8.7 | U | 9.7 | U | 8.4 | U |
| methoxychlor | 110 | U | V | 110 | U | V | 87 | U | 97 | U | 84 | U |
| toxaphene | 220 | U | V | 230 | U | V | 170 | U | 190 | U | 170 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-c

## Surface Soil Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: SS100293 (SS)<br>Sample: SS10005ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10006ST (REAL)<br>Date: 04/29/93 | | Location: SS100393 (SS)<br>Sample: SS10007ST (REAL)<br>Date: 04/29/93 | | Location: SS100393 (SS)<br>Sample: SS10008ST (REAL)<br>Date: 04/29/93 | | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 19 | U | 18 | U | 19 | U | 19 | U | |
| 4,4'-dde | 19 | U | 18 | U | 19 | U | 19 | U | |
| 4,4'-ddt | 20 | UX | 18 | U | 19 | U | 19 | U | |
| aldrin | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| alpha-bhc | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| alpha-chlordane | 96 | U | 92 | U | 93 | U | 97 | U | |
| aroclor-1016 | 96 | U | 92 | U | 93 | U | 97 | U | |
| aroclor-1221 | 96 | U | 92 | U | 93 | U | 97 | U | |
| aroclor-1232 | 96 | U | 92 | U | 93 | U | 97 | U | |
| aroclor-1242 | 96 | U | 92 | U | 93 | U | 97 | U | |
| aroclor-1248 | 96 | U | 92 | U | 93 | U | 97 | U | |
| aroclor-1254 | 190 | U | 180 | U | 780 | U | 460 | | |
| aroclor-1260 | 190 | U | 180 | U | 190 | U | 190 | U | |
| beta-bhc | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| delta-bhc | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| dieldrin | 19 | U | 18 | U | 19 | U | 44 | UX | |
| endosulfan I | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| endosulfan II | 19 | U | 18 | U | 19 | U | 19 | U | |
| endosulfan sulfate | 19 | U | 18 | U | 19 | U | 19 | U | |
| endrin | 19 | U | 18 | U | 19 | U | 19 | U | |
| endrin ketone | 19 | U | 18 | U | 19 | U | 19 | U | |
| gamma-bhc (lindane) | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| gamma-chlordane | 96 | U | 92 | U | 93 | U | 97 | U | |
| heptachlor | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| heptachlor epoxide | 9.6 | U | 9.2 | U | 9.3 | U | 9.7 | U | |
| methoxychlor | 96 | U | 92 | U | 93 | U | 97 | U | |
| toxaphene | 190 | U | 180 | U | 190 | U | 190 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg)

| ANALYTE | Location: RA010 (SS)<br>Sample: SS03020WS (REAL)<br>Date: 03/02/92 | | | Location: RA011 (SS)<br>Sample: SS03021WS (REAL)<br>Date: 02/27/92 | | | Location: RA011 (SS)<br>Sample: SS03022WS (DUP)<br>Date: 02/27/92 | | | Location: RA011 (SS)<br>Sample: SS03024WS (REAL)<br>Date: 02/27/92 | | | Location: RA011 (SS)<br>Sample: SS03025WS (DUP)<br>Date: 02/27/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14500 | | V | 7910 | | V | 9420 | | V | 17800 | | JA | 17300 | | JA |
| Antimony | 9 | U | V | 9.2 | U | V | 9 | U | V | 8.4 | U | JA | 8.4 | U | JA |
| Arsenic | 5.5 | | JA | 3.7 | | JA | 3.4 | | JA | 7.2 | B | JA | 4.7 | B | JA |
| Barium | 171 | | V | 167 | | V | 183 | | V | 282 | | JA | 368 | | JA |
| Beryllium | .98 | B | V | .6 | B | V | .69 | B | V | .99 | B | JA | 1 | | JA |
| Cadmium | 1.3 | | V | .65 | U | V | .65 | U | V | .6 | U | JA | .6 | U | JA |
| Calcium | 20100 | | V | 12800 | | V | 12700 | | V | 13100 | | JA | 12700 | | JA |
| Cesium | 2.2 | B | JA | 2.8 | B | JA | 2.3 | B | JA | 3.1 | B | JA | 3.5 | B | JA |
| Chromium | 14.7 | | V | 8.7 | | V | 10.1 | | V | 177 | | JA | 19.7 | | JA |
| Cobalt | 8.4 | B | V | 8.1 | B | V | 9.1 | B | V | 10.1 | | JA | 8.2 | B | JA |
| Copper | 17.3 | | V | 14.5 | | V | 16.3 | | V | 81.7 | | JA | 16.8 | | JA |
| Iron | 17000 | | V | 14900 | | V | 12500 | | V | 16700 | | JA | 15400 | | JA |
| Lead | 27.8 | | V | 20.1 | | V | 20.3 | | V | 32.2 | | JA | 27.7 | | JA |
| Lithium | 13.4 | B | JA | 5.5 | B | JA | 6.3 | B | JA | 9.8 | B | JA | 10.3 | B | JA |
| Magnesium | 3430 | | V | 2650 | | V | 3000 | | V | 3760 | | JA | 3580 | | JA |
| Manganese | 256 | | V | 193 | | V | 174 | | V | 205 | | JA | 184 | | JA |
| Mercury | .06 | B | V | .06 | B | V | .07 | B | V | .07 | B | JA | .07 | B | JA |
| Molybdenum | 2.3 | B | JA | 1.5 | U | JA | 2.7 | B | JA | 5.2 | B | JA | 1.4 | U | JA |
| Nickel | 16.1 | | V | 13.4 | | V | 15.1 | | V | 92.7 | | JA | 17.1 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3000 | | JA | 1880 | | JA | 2460 | | JA | 2940 | | JA | 3100 | | JA |
| Selenium | .38 | B | JA | .21 | U | V | .33 | B | JA | .28 | B | JA | .2 | U | JA |
| Silicon | 117 | | JA | 289 | | JA | 292 | | JA | 160 | | JA | 48.6 | | JA |
| Silver | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V | 1 | U | JA | 1 | U | JA |
| Sodium | 159 | B | V | 105 | B | JA | 126 | B | V | 152 | B | JA | 162 | B | JA |
| Strontium | 51.9 | | JA | 60.3 | | JA | 66.6 | | JA | 72.9 | | JA | 71.9 | | JA |
| Thallium | .23 | B | V | .21 | U | V | .22 | U | V | .2 | B | JA | .27 | B | JA |
| Tin | 29.3 | U | JA | 40.6 | B | JA | 44.2 | | JA | 161 | | JA | 52.9 | | JA |
| Vanadium | 42.6 | | V | 26.4 | | V | 28.7 | | V | 45.5 | | JA | 38.9 | | JA |
| Zinc | 66.8 | | JA | 61.5 | | JA | 63.7 | | JA | 87.4 | | JA | 71.5 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA012 (SS)<br>Sample: SS03027WS (REAL)<br>Date: 02/25/92 | | | Location: RA013 (SS)<br>Sample: SS03028WS (REAL)<br>Date: 03/05/92 | | | Location: RA014 (SS)<br>Sample: SS03029WS (REAL)<br>Date: 02/28/92 | | | Location: RA015 (SS)<br>Sample: SS03030WS (REAL)<br>Date: 02/27/92 | | | Location: RA015 (SS)<br>Sample: SS03031WS (DUP)<br>Date: 02/27/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 11300 | | V | 13700 | | JA | 8410 | | V | 11100 | | V | 8560 | | V |
| Antimony | 9.5 | U | JA | 11.5 | U | JA | 9.3 | U | V | 8.8 | U | V | 8.9 | U | V |
| Arsenic | 5.9 | | | 4.6 | | JA | 3.6 | | JA | 3.6 | | JA | .21 | U | V |
| Barium | 136 | | V | 291 | | JA | 147 | | V | 142 | | V | 130 | | V |
| Beryllium | .78 | B | V | 1 | B | JA | .56 | B | V | .81 | B | V | .53 | B | V |
| Cadmium | .95 | B | JA | .82 | U | JA | .71 | B | V | .63 | U | R | .63 | U | V |
| Calcium | 4450 | | V | 18800 | | JA | 9360 | | V | 7360 | | V | 5670 | | V |
| Cesium | 2.5 | B | | 4.4 | B | JA | 2.8 | B | JA | 2.1 | B | JA | .95 | B | JA |
| Chromium | 14.6 | | V | 18.7 | | JA | 9.8 | | V | 14.2 | | V | 11.9 | | V |
| Cobalt | 9.1 | B | V | 9.1 | B | JA | 7.7 | B | V | 7.3 | B | JA | 6.5 | B | V |
| Copper | 16.8 | | V | 17.4 | | JA | 17 | | V | 16.1 | | V | 15 | | V |
| Iron | 15400 | | V | 15100 | | JA | 13400 | | V | 20600 | | V | 14000 | | V |
| Lead | 41.7 | | | 19.3 | | JA | 20.2 | | V | 22.1 | | V | 2.1 | U | V |
| Lithium | 10.8 | B | JA | 7.4 | B | JA | 4.8 | B | JA | 9.3 | B | JA | 8.7 | B | JA |
| Magnesium | 2650 | | V | 3610 | | JA | 2570 | | V | 2830 | | V | 2430 | | V |
| Manganese | 390 | | V | 207 | | JA | 199 | | V | 411 | | V | 310 | | V |
| Mercury | .07 | U | | .06 | U | JA | .07 | B | V | .06 | U | V | .06 | U | V |
| Molybdenum | 1.6 | U | JA | 2.6 | B | JA | 1.6 | B | JA | 2.3 | B | R | 2.2 | B | JA |
| Nickel | 16.6 | | V | 20.6 | | JA | 12.2 | | V | 13.8 | | V | 13.5 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2480 | | V | 2430 | | JA | 1840 | | JA | 3380 | | JA | 2630 | | JA |
| Selenium | .3 | B | | .27 | U | JA | .42 | B | JA | .44 | B | JA | .55 | B | JA |
| Silicon | 106 | | JA | 814 | | JA | 403 | | JA | 798 | | JA | 137 | | JA |
| Silver | 1.1 | U | V | 1.4 | U | JA | 1.1 | U | V | 1 | U | V | 1.1 | U | V |
| Sodium | 70.2 | B | V | 175 | B | JA | 151 | B | V | 116 | B | JA | 107 | B | JA |
| Strontium | 42.9 | B | JA | 85.9 | | JA | 50.8 | | JA | 44.2 | | JA | 35.6 | B | JA |
| Thallium | .49 | B | | .28 | B | JA | .23 | B | V | .21 | B | V | .21 | U | JA |
| Tin | 38.9 | B | JA | 37.1 | U | JA | 52 | | JA | 47.6 | | JA | 28.7 | U | JA |
| Vanadium | 35.6 | | V | 40.7 | | JA | 28.1 | | V | 44.6 | | V | 31.2 | | V |
| Zinc | 61.3 | | V | 73 | | JA | 182 | | JA | 59.6 | | JA | 55.5 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA015 (SS)<br>Sample: SS03032WS (REAL)<br>Date: 02/27/92 | | | Location: RA016 (SS)<br>Sample: SS03035WS (REAL)<br>Date: 03/02/92 | | | Location: RA017 (SS)<br>Sample: SS03036WS (REAL)<br>Date: 02/27/92 | | | Location: RA018 (SS)<br>Sample: SS03037WS (REAL)<br>Date: 03/02/92 | | | Location: RA019 (SS)<br>Sample: SS03038WS (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 16800 | | JA | 13100 | | V | 7540 | | V | 9470 | | V | 9490 | | V |
| Antimony | 8.4 | U | JA | 8.9 | U | V | 9.2 | U | V | 9.1 | U | V | 8.9 | U | JA |
| Arsenic | 5.4 | B | JA | 4.9 | | JA | 6.7 | B | JA | 5.6 | | JA | 4.8 | | |
| Barium | 184 | | JA | 226 | | V | 164 | | V | 99.7 | | V | 133 | | V |
| Beryllium | .9 | B | JA | .8 | B | V | .7 | B | V | .64 | B | V | .78 | B | V |
| Cadmium | .6 | U | R | .64 | U | V | .66 | U | V | .65 | U | V | .64 | U | V |
| Calcium | 7100 | | JA | 38200 | | V | 13200 | | V | 5130 | | V | 5070 | | V |
| Cesium | 3 | B | JA | 2.8 | B | JA | 3 | B | JA | 2.1 | B | JA | 2.2 | B | |
| Chromium | 23.3 | | JA | 13.4 | | V | 8.4 | | V | 64.2 | | V | 12.8 | | V |
| Cobalt | 11.7 | | JA | 7.2 | B | V | 6.9 | B | V | 5.2 | B | V | 7.8 | B | V |
| Copper | 20 | | JA | 14.2 | | V | 14.7 | | V | 16.4 | | V | 15.6 | | V |
| Iron | 19000 | | JA | 13300 | | V | 11600 | | V | 13100 | | V | 14400 | | V |
| Lead | 39.7 | | JA | 26.1 | | V | 24.4 | | V | 34.4 | | V | 36.2 | | |
| Lithium | 12.1 | B | JA | 9 | B | JA | 4.5 | B | JA | 7.8 | B | JA | 8.8 | B | JA |
| Magnesium | 3670 | | JA | 3450 | | V | 2610 | | V | 2560 | | V | 2590 | | V |
| Manganese | 476 | | JA | 213 | | V | 145 | | V | 219 | | V | 341 | | V |
| Mercury | .06 | U | JA | .05 | U | V | .06 | B | V | .06 | U | V | .06 | U | |
| Molybdenum | 2.8 | B | JA | 2.3 | B | JA | 2.6 | B | JA | 1.5 | U | JA | 2.5 | B | JA |
| Nickel | 15.6 | | JA | 15.1 | | V | 14.8 | | V | 56.1 | | V | 17.7 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4360 | | JA | 2870 | | JA | 1730 | | JA | 2800 | | JA | 2450 | | V |
| Selenium | .42 | B | JA | .21 | U | V | .22 | U | JA | .22 | U | V | .62 | B | |
| Silicon | 702 | | JA | 458 | | JA | 497 | | JA | 95.7 | | JA | 87.4 | | JA |
| Silver | 1 | U | JA | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V |
| Sodium | 126 | B | JA | 147 | B | V | 114 | B | JA | 164 | B | V | 72.1 | B | V |
| Strontium | 48.5 | | JA | 88.7 | | JA | 60 | | JA | 41.6 | B | JA | 34.5 | B | JA |
| Thallium | .24 | B | JA | .21 | U | V | .26 | B | V | .24 | B | V | .37 | B | |
| Tin | 43.3 | | JA | 37 | B | JA | 48.2 | | JA | 33.8 | B | JA | 36.3 | B | JA |
| Vanadium | 46.7 | | JA | 35.5 | | V | 26.6 | | V | 31.8 | | V | 32.9 | | V |
| Zinc | 72 | | JA | 60.6 | | JA | 64.6 | | JA | 55.3 | | JA | 55.9 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA020 (SS)<br>Sample: SS03039WS (REAL)<br>Date: 02/26/92 | | | Location: RA021 (SS)<br>Sample: SS03040WS (REAL)<br>Date: 02/27/92 | | | Location: RA022 (SS)<br>Sample: SS03041WS (REAL)<br>Date: 02/26/92 | | | Location: RA023 (SS)<br>Sample: SS03042WS (REAL)<br>Date: 02/26/92 | | | Location: RA024 (SS)<br>Sample: SS03043WS (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 15900 | | V | 11200 | | V | 13400 | | V | 11100 | | V | 10900 | | V |
| Antimony | 9 | U | JA | 8.9 | U | V | 8.9 | U | JA | 8.6 | U | JA | 9.2 | U | V |
| Arsenic | 5.6 | | | 4.8 | | JA | 5 | | | 4.2 | | | 4.4 | B | JA |
| Barium | 170 | | V | 127 | | V | 125 | | V | 128 | | V | 115 | | V |
| Beryllium | 1.1 | B | V | .78 | B | V | .77 | B | V | .66 | B | V | .59 | B | V |
| Cadmium | .64 | U | V | .63 | U | V | .64 | U | V | .86 | B | JA | .92 | B | V |
| Calcium | 11100 | | V | 4880 | | V | 4290 | | V | 4330 | | V | 4160 | | V |
| Cesium | 2.3 | B | | 2 | B | JA | 1.8 | B | | 1.8 | B | | 1.5 | B | JA |
| Chromium | 14.6 | | V | 13.6 | | V | 15.5 | | V | 14.9 | | V | 13.5 | | V |
| Cobalt | 7.7 | B | V | 7.4 | B | V | 6.1 | B | V | 7.1 | B | V | 6.6 | B | V |
| Copper | 17.3 | | JA | 14.4 | | V | 15.2 | | V | 15.4 | | V | 14.9 | | V |
| Iron | 16800 | | V | 16900 | | V | 14300 | | V | 13100 | | V | 13900 | | V |
| Lead | 32 | | | 24.2 | | V | 45.3 | | | 37.5 | | | 36.6 | | V |
| Lithium | 14.8 | B | JA | 9.1 | B | JA | 8.6 | B | JA | 9.4 | B | JA | 11.4 | B | JA |
| Magnesium | 3410 | | V | 2580 | | V | 2450 | | V | 2390 | | V | 2350 | | V |
| Manganese | 280 | | V | 378 | | V | 289 | | V | 328 | | V | 315 | | V |
| Mercury | .06 | U | | .06 | U | V | .07 | U | | .06 | U | | .08 | U | V |
| Molybdenum | 1.5 | U | JA | 2.1 | B | JA | 2.2 | B | JA | 3 | B | JA | 1.5 | U | JA |
| Nickel | 13.4 | | V | 10 | | V | 13.6 | | V | 11.8 | | V | 12.2 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3420 | | V | 2910 | | JA | 2670 | | V | 3510 | | V | 2760 | | JA |
| Selenium | .38 | B | | .21 | U | V | .26 | B | | .21 | U | | .21 | U | V |
| Silicon | 86.6 | | JA | 746 | | JA | 100 | | JA | 108 | | JA | 81 | | JA |
| Silver | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V | 1 | U | V | 1.1 | U | V |
| Sodium | 88.3 | B | V | 119 | B | JA | 79.9 | B | V | 78.4 | B | V | 96.7 | B | JA |
| Strontium | 47.6 | | JA | 38.3 | B | JA | 36.7 | B | JA | 33.4 | B | JA | 35.1 | B | JA |
| Thallium | .51 | B | | .21 | U | V | .31 | B | | .24 | B | | .43 | B | V |
| Tin | 52.3 | | JA | 39.5 | B | JA | 29 | U | JA | 31 | B | JA | 39.1 | B | JA |
| Vanadium | 32.2 | | V | 41.1 | | V | 38.7 | | V | 32.3 | | V | 32.5 | | V |
| Zinc | 66.1 | | V | 52.9 | | JA | 65.5 | | V | 56.1 | | V | 62.8 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA025 (SS)<br>Sample: SS03044WS (REAL)<br>Date: 02/28/92 | | | Location: RA026 (SS)<br>Sample: SS03045WS (REAL)<br>Date: 02/28/92 | | | Location: RA027 (SS)<br>Sample: SS03046WS (REAL)<br>Date: 02/28/92 | | | Location: RA028 (SS)<br>Sample: SS03047WS (REAL)<br>Date: 02/25/92 | | | Location: RA029 (SS)<br>Sample: SS03048WS (REAL)<br>Date: 02/28/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 8460 | | V | 11800 | | V | 15500 | | V | 14000 | | V | 7810 | | V |
| Antimony | 8.8 | U | V | 9.8 | B | V | 9.4 | U | V | 9.5 | U | JA | 9.2 | U | V |
| Arsenic | 4.4 | | JA | 4.9 | | JA | 4.6 | | JA | 5.5 | | | 5.2 | | JA |
| Barium | 115 | | V | 183 | | V | 199 | | V | 152 | | V | 141 | | V |
| Beryllium | .56 | B | V | .94 | B | V | .82 | B | V | .82 | B | V | .55 | B | V |
| Cadmium | .63 | U | V | .64 | U | R | .67 | U | V | .68 | U | V | .65 | U | V |
| Calcium | 4530 | | V | 19700 | | V | 12000 | | V | 4300 | | V | 8690 | | V |
| Cesium | 1.8 | B | JA | 2.7 | B | JA | 2.7 | B | JA | 2.5 | B | | 2.1 | B | JA |
| Chromium | 11.1 | | V | 13.5 | | V | 17.4 | | V | 17.3 | | V | 9.4 | | V |
| Cobalt | 6.4 | B | V | 7.3 | B | JA | 7.6 | B | V | 8.8 | B | V | 5.8 | B | V |
| Copper | 15.7 | | V | 16.1 | | V | 16.5 | | V | 16.2 | | V | 15.2 | | V |
| Iron | 13300 | | V | 29700 | | V | 18800 | | V | 17000 | | V | 12100 | | V |
| Lead | 33.8 | | V | 20.7 | | V | 30.7 | | V | 36.2 | | | 28.1 | | V |
| Lithium | 6.6 | B | JA | 11.2 | B | JA | 14.7 | B | JA | 12.2 | B | JA | 6 | B | JA |
| Magnesium | 2130 | | V | 3530 | | V | 3730 | | V | 3050 | | V | 2470 | | V |
| Manganese | 320 | | V | 291 | | V | 295 | | V | 422 | | V | 227 | | V |
| Mercury | .06 | U | V | .06 | U | V | .06 | U | V | .07 | U | | .06 | U | V |
| Molybdenum | 2 | B | JA | 3.9 | B | R | 2.1 | B | JA | 2.1 | B | JA | 2 | B | JA |
| Nickel | 11.3 | | V | 15.3 | | V | 16.9 | | V | 21.1 | | V | 12.6 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2730 | | JA | 3090 | | JA | 2840 | | JA | 3020 | | V | 2810 | | JA |
| Selenium | .21 | U | V | .31 | B | JA | .24 | B | JA | .75 | B | | .5 | U | V |
| Silicon | 407 | | JA | 425 | | JA | 115 | | JA | 90.5 | | JA | 319 | | JA |
| Silver | 1 | U | V | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V | 1.1 | U | V |
| Sodium | 136 | B | V | 120 | B | JA | 121 | B | JA | 80 | B | V | 148 | B | V |
| Strontium | 32.3 | B | JA | 75.2 | | JA | 45.3 | | JA | 41.7 | B | JA | 43.3 | B | JA |
| Thallium | .25 | B | V | .3 | B | V | .24 | B | V | .41 | B | | .22 | B | V |
| Tin | 37.8 | B | JA | 85.9 | | JA | 75.8 | | JA | 42.2 | B | JA | 60.8 | | JA |
| Vanadium | 33 | | V | 58.2 | | V | 44.5 | | V | 39.6 | | V | 28 | | V |
| Zinc | 58.2 | | JA | 64.4 | | JA | 61.5 | | JA | 58.5 | | V | 56.9 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA030 (SS)<br>Sample: SS03049WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03050WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03051WS (DUP)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03053WS (REAL)<br>Date: 03/03/92 | | | Location: RA032 (SS)<br>Sample: SS03055WS (REAL)<br>Date: 03/05/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6370 | | V | 10700 | | V | 6740 | | V | 19700 | | JA | 18300 | | JA |
| Antimony | 8.4 | U | V | 8.8 | U | V | 8.9 | U | V | 8.4 | U | JA | 11.6 | U | JA |
| Arsenic | 3 | | JA | 5 | | JA | 3.6 | | JA | 5.7 | B | JA | 6.5 | | JA |
| Barium | 64 | | V | 105 | | V | 99.5 | | V | 218 | | JA | 177 | | JA |
| Beryllium | .57 | B | V | .6 | B | V | .71 | B | V | 1.2 | | JA | 1.2 | B | JA |
| Cadmium | .6 | U | V | .63 | U | V | .63 | U | V | .6 | U | R | .83 | U | JA |
| Calcium | 5240 | | V | 4540 | | V | 4380 | | V | 8010 | | JA | 14800 | | JA |
| Cesium | 3.4 | B | JA | 2.1 | B | JA | 2 | B | JA | 3.5 | B | JA | 4.1 | B | JA |
| Chromium | 10 | | JA | 80.5 | | JA | 107 | | JA | 77 | | JA | 21.6 | | JA |
| Cobalt | 6.7 | B | V | 6.2 | B | V | 5.9 | B | V | 11 | | JA | 7.4 | B | JA |
| Copper | 23.6 | | V | 49.8 | | V | 28.3 | | V | 44.2 | | JA | 24 | | JA |
| Iron | 16900 | | V | 13800 | | V | 12700 | | V | 23600 | | JA | 17900 | | JA |
| Lead | 7.1 | | JA | 32.3 | | V | 34.1 | | V | 46.5 | | JA | 78.8 | | JA |
| Lithium | 6 | B | JA | 6.4 | B | JA | 2.8 | B | JA | 11.7 | B | JA | 12 | B | JA |
| Magnesium | 4110 | | V | 2520 | | V | 1990 | | V | 4310 | | JA | 4340 | | JA |
| Manganese | 368 | | V | 246 | | V | 236 | | V | 464 | | JA | 258 | | JA |
| Mercury | .05 | U | JA | .06 | B | JA | .06 | U | JA | .05 | U | JA | .07 | U | JA |
| Molybdenum | 3.4 | B | JA | 4.9 | B | JA | 4.6 | B | JA | 5.1 | B | JA | 1.9 | U | JA |
| Nickel | 12.1 | | V | 101 | | V | 58.5 | | V | 72.8 | | JA | 18.1 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2540 | | V | 2500 | | V | 2430 | | V | 4600 | | JA | 3230 | | JA |
| Selenium | .2 | U | JA | .21 | U | JA | .21 | U | JA | .2 | U | R | .28 | U | JA |
| Silicon | 961 | | JA | 1450 | | JA | 1540 | | JA | 472 | | JA | 1150 | | JA |
| Silver | 1 | U | V | 1.1 | U | V | 1.1 | U | V | 1 | U | JA | 1.4 | U | JA |
| Sodium | 329 | B | V | 232 | B | V | 223 | B | V | 341 | B | JA | 382 | B | JA |
| Strontium | 23.3 | B | JA | 27.8 | B | JA | 23.8 | B | JA | 52.5 | | JA | 104 | | JA |
| Thallium | .2 | U | V | .21 | U | V | .21 | U | V | .28 | B | JA | .28 | U | JA |
| Tin | 27.3 | U | JA | 49.6 | | JA | 28.7 | U | JA | 28.3 | B | JA | 37.5 | U | JA |
| Vanadium | 32 | | V | 28.9 | | V | 22.9 | | V | 51.1 | | JA | 52.2 | | JA |
| Zinc | 59.5 | | V | 93.9 | | V | 106 | | V | 165 | | JA | 81.4 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA032 (SS)<br>Sample: SS03056WS (REAL)<br>Date: 03/05/92 | | | Location: RA033 (SS)<br>Sample: SS03058WS (REAL)<br>Date: 03/05/92 | | | Location: RA033 (SS)<br>Sample: SS03059WS (REAL)<br>Date: 03/05/92 | | | Location: RA034 (SS)<br>Sample: SS03061WS (REAL)<br>Date: 03/03/92 | | | Location: RA035 (SS)<br>Sample: SS03062WS (REAL)<br>Date: 03/03/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 27600 | | JA | 13000 | | JA | 19600 | | JA | 9410 | | V | 11400 | | V |
| Antimony | 8.4 | U | JA | 11.7 | U | JA | 8.4 | U | JA | 8.8 | U | V | 8.7 | U | V |
| Arsenic | 8.5 | B | JA | 6.5 | | JA | 5.5 | B | JA | 5 | | V | 5.1 | | V |
| Barium | 219 | | JA | 153 | | JA | 206 | | JA | 172 | | V | 140 | | V |
| Beryllium | 6.2 | | JA | 1 | B | JA | 1.2 | | JA | .6 | B | V | .84 | B | V |
| Cadmium | .6 | U | R | .84 | U | JA | .6 | U | JA | .63 | U | V | .86 | B | V |
| Calcium | 14300 | | JA | 7780 | | JA | 9350 | | JA | 42100 | | V | 25800 | | V |
| Cesium | 2.4 | B | JA | 3.2 | B | JA | 3 | B | JA | 2.5 | B | JA | 2.6 | B | JA |
| Chromium | 27.3 | | JA | 15.7 | | JA | 22 | | JA | 10.7 | | JA | 15.9 | | JA |
| Cobalt | 10.7 | | JA | 6.7 | B | JA | 9.2 | B | JA | 5.2 | B | V | 6.2 | B | V |
| Copper | 181 | | JA | 20 | | JA | 34.1 | | JA | 13.2 | | V | 15.6 | | V |
| Iron | 22200 | | JA | 16500 | | JA | 18500 | | JA | 11800 | | V | 15100 | | V |
| Lead | 228 | | JA | 27 | | JA | 47.4 | | JA | 25.5 | | V | 23 | | JA |
| Lithium | 15 | B | JA | 9.6 | B | JA | 11.9 | B | JA | 6.6 | B | JA | 8.8 | B | JA |
| Magnesium | 5440 | | JA | 3060 | | JA | 3720 | | JA | 3080 | | V | 3200 | | V |
| Manganese | 276 | | JA | 241 | | JA | 300 | | JA | 188 | | V | 257 | | V |
| Mercury | .07 | U | JA | .07 | U | JA | .07 | U | JA | .06 | U | JA | .06 | U | JA |
| Molybdenum | 1.6 | B | JA | 3.9 | B | JA | 1.6 | B | JA | 2.8 | B | JA | 2.4 | B | JA |
| Nickel | 19.3 | | JA | 14.3 | | JA | 15.5 | | JA | 13.5 | | V | 16 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4280 | | JA | 3310 | | JA | 3420 | | JA | 2170 | | V | 2740 | | V |
| Selenium | .22 | B | JA | .39 | B | JA | .2 | B | JA | .21 | U | JA | .21 | U | JA |
| Silicon | 240 | | JA | 638 | | JA | 264 | | JA | 604 | | JA | 517 | | JA |
| Silver | 1 | U | JA | 1.4 | U | JA | 1 | U | JA | 1.1 | U | V | 1 | U | V |
| Sodium | 269 | B | JA | 156 | B | JA | 148 | B | JA | 133 | B | V | 135 | B | V |
| Strontium | 92.3 | | JA | 49.9 | B | JA | 61.8 | | JA | 93.4 | | JA | 68.3 | | JA |
| Thallium | .2 | U | JA | .28 | U | JA | .2 | U | JA | .29 | B | V | .24 | B | V |
| Tin | 56.5 | | JA | 58.3 | | JA | 35.1 | B | JA | 28.6 | U | JA | 28.3 | U | JA |
| Vanadium | 69.6 | | JA | 39.6 | | JA | 52.9 | | JA | 30.3 | | V | 36.9 | | V |
| Zinc | 96.2 | | JA | 66.2 | | JA | 82.4 | | JA | 51.4 | | V | 79.2 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: RA036 (SS)<br>Sample: SS03063WS (REAL)<br>Date: 03/05/92 | | | Location: RA037 (SS)<br>Sample: SS03064WS (REAL)<br>Date: 03/05/92 | | | Location: RA037 (SS)<br>Sample: SS03065WS (REAL)<br>Date: 03/05/92 | | | Location: SS100193 (SS)<br>Sample: SS10002ST (REAL)<br>Date: 04/29/93 | | Location: SS100193 (SS)<br>Sample: SS10003ST (REAL)<br>Date: 04/29/93 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12200 | | JA | 14200 | | JA | 19900 | | JA | 23300 | | 15100 | |
| Antimony | 11.8 | U | JA | 12 | U | JA | 8.4 | U | JA | 16.2 | | 14.4 | U |
| Arsenic | 4.6 | B | JA | 4.3 | | JA | 3.8 | B | JA | 5.5 | | 5.8 | |
| Barium | 155 | | JA | 165 | | JA | 207 | | JA | 274 | | 164 | |
| Beryllium | .79 | B | JA | 1 | B | JA | 1.2 | | JA | 1.4 | | 1.2 | B |
| Cadmium | .84 | U | JA | .86 | U | JA | .6 | U | R | 0.67 | U | 0.76 | U |
| Calcium | 8980 | | JA | 7090 | | JA | 8100 | | JA | 9030 | | 6670 | |
| Cesium | 4.3 | B | JA | 2.8 | B | JA | 3.3 | B | JA | 6.5 | U | 7.4 | U |
| Chromium | 16.6 | | JA | 16.9 | | JA | 21.6 | | JA | 24.4 | | 17.1 | |
| Cobalt | 8 | B | JA | 10.1 | B | JA | 9.3 | B | JA | 11.1 | | 9.7 | B |
| Copper | 24.2 | | JA | 19.7 | | JA | 20.3 | | JA | 17.5 | | 18.0 | |
| Iron | 19700 | | JA | 22500 | | JA | 20600 | | JA | 22200 | | 16400 | |
| Lead | 15.9 | | JA | 26.7 | | JA | 30.1 | | JA | 20.3 | | 29.0 | |
| Lithium | 9.1 | B | JA | 9.3 | B | JA | 12.7 | B | JA | 16.8 | B | 12.6 | B |
| Magnesium | 3670 | | JA | 3530 | | JA | 4080 | | JA | 5210 | | 3500 | |
| Manganese | 280 | | JA | 233 | | JA | 245 | | JA | 282 | | 278 | |
| Mercury | .07 | U | JA | .07 | U | JA | .08 | U | JA | 0.09 | B | 2.4 | |
| Molybdenum | 4.3 | B | JA | 3.8 | B | JA | 2.3 | B | JA | 1.5 | U | 1.6 | U |
| Nickel | 22.5 | | JA | 22.7 | | JA | 19.5 | | JA | 16.4 | | 11.4 | |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 2900 | | JA | 2930 | | JA | 3470 | | JA | 2220 | | 1330 | |
| Selenium | .35 | B | JA | .29 | U | JA | .35 | B | JA | 0.29 | B | 0.33 | B |
| Silicon | 187 | | JA | 1560 | | JA | 375 | | JA | | | | |
| Silver | 1.4 | U | JA | 1.4 | U | JA | 1 | U | JA | 0.76 | U | 0.86 | U |
| Sodium | 248 | B | JA | 167 | B | JA | 141 | B | JA | 145 | B | 146 | B |
| Strontium | 64.4 | | JA | 76.4 | | JA | 85.6 | | JA | 66.1 | | 49.7 | |
| Thallium | .28 | U | JA | .29 | U | JA | .26 | B | JA | 0.33 | B | 0.35 | B |
| Tin | 38.1 | U | JA | 55.3 | B | JA | 43.9 | | JA | 7.3 | U | 8.2 | U |
| Vanadium | 42.5 | | JA | 45.1 | | JA | 54.8 | | JA | 51.2 | | 39.3 | |
| Zinc | 130 | | JA | 95.8 | | JA | 96 | | JA | 64.2 | | 60.4 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: SS100293 (SS)<br>Sample: SS10004ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10005ST (REAL)<br>Date: 04/29/93 | | Location: SS100293 (SS)<br>Sample: SS10006ST (REAL)<br>Date: 04/29/93 | | Location: SS100393 (SS)<br>Sample: SS10007ST (REAL)<br>Date: 04/29/93 | | Location: SS100393 (SS)<br>Sample: SS10008ST (REAL)<br>Date: 04/29/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20300 | | 9780 | | 20400 | | 12000 | | 14200 | |
| Antimony | 12.5 | U | 14.1 | U | 13.7 | U | 12.3 | U | 14.3 | U |
| Arsenic | 5.9 | | 5.6 | | 6.2 | | 5.6 | | 6.0 | |
| Barium | 197 | | 124 | | 299 | | 132 | | 139 | |
| Beryllium | 1.2 | | 0.87 | B | 1.2 | | 0.75 | B | 0.82 | B |
| Cadmium | 0.66 | U | 0.75 | U | 0.72 | U | 0.65 | U | 0.75 | U |
| Calcium | 7730 | | 3970 | | 9960 | | 7590 | | 7210 | |
| Cesium | 6.4 | U | 7.2 | U | 7.0 | U | 6.3 | U | 7.3 | U |
| Chromium | 20.1 | | 10.1 | | 20.3 | | 11.6 | | 16.6 | |
| Cobalt | 10.4 | B | 10.1 | B | 12.9 | | 9.5 | B | 7.7 | B |
| Copper | 17.4 | | 15.5 | | 17.8 | | 27.1 | | 19.4 | |
| Iron | 21300 | | 14200 | | 22600 | | 17900 | | 15300 | |
| Lead | 21.2 | | 20.9 | | 18.6 | | 34.6 | | 27.8 | |
| Lithium | 13.7 | B | 6.2 | B | 12.1 | B | 5.4 | B | 6.3 | B |
| Magnesium | 4740 | | 2200 | | 5450 | | 4500 | | 3120 | |
| Manganese | 296 | | 410 | | 407 | | 428 | | 319 | |
| Mercury | 0.05 | U | 0.06 | U | 0.06 | U | 0.05 | U | 0.06 | U |
| Molybdenum | 1.4 | U | 1.6 | U | 1.6 | U | 1.4 | U | 1.6 | U |
| Nickel | 15.7 | | 13.0 | | 17.7 | | 13.8 | | 13.9 | |
| Phosphorus | | | | | | | | | | |
| Potassium | 2570 | | 1620 | | 2410 | | 2850 | | 2070 | |
| Selenium | 0.21 | U | 0.32 | B | 0.29 | B | 0.35 | B | 0.40 | B |
| Silicon | | | | | | | | | | |
| Silver | 0.75 | U | 0.84 | U | 0.82 | U | 0.73 | U | 0.85 | U |
| Sodium | 133 | B | 147 | B | 516 | B | 315 | B | 247 | B |
| Strontium | 60.4 | | 35.0 | B | 72.3 | | 32.1 | B | 32.7 | B |
| Thallium | 0.38 | B | 0.31 | B | 0.47 | B | 0.30 | B | 0.27 | B |
| Tin | 7.1 | U | 8.0 | U | 7.8 | U | 7.0 | U | 8.1 | U |
| Vanadium | 47.0 | | 37.2 | | 45.9 | | 33.8 | | 37.0 | |
| Zinc | 69.3 | | 49.3 | | 68.3 | | 82.5 | | 65.2 | |

Note: Data reporting order: result, qualifier, validation code.
*Validation Codes*: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-d

## Surface Soil Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: SS100493 (SS)<br>Sample: SS10001EG (UNKN)<br>Date: 01/14/93 | | Location: SS100493 (SS)<br>Sample: SS10002EG (UNKN)<br>Date: 01/15/93 | | Location: SS100493 (SS)<br>Sample: SS10003EG (UNKN)<br>Date: 01/15/93 | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6910 | | 7750 | | 7980 | | | | | |
| Antimony | 13.9 | U | 13.8 | U | 13.8 | U | | | | |
| Arsenic | 2.4 | | 2.5 | | 3.1 | | | | | |
| Barium | 144 | | 167 | | 129 | | | | | |
| Beryllium | 1.4 | | 2.9 | | 1 | B | | | | |
| Cadmium | 3.7 | | 2.9 | | 1 | B | | | | |
| Calcium | 8600 | | 9590 | | 6990 | | | | | |
| Cesium | 200 | B | 200 | B | 200 | B | | | | |
| Chromium | 16.3 | | 13.5 | | 10.6 | | | | | |
| Cobalt | 10 | B | 10 | B | 10 | B | | | | |
| Copper | 40.7 | | 334 | | 26.5 | | | | | |
| Iron | 9400 | | 14400 | | 11400 | | | | | |
| Lead | 176 | | 125 | | 66.9 | | | | | |
| Lithium | 20 | B | 20 | B | 20 | B | | | | |
| Magnesium | 2450 | | 2470 | | 2280 | | | | | |
| Manganese | 229 | | 253 | | 242 | | | | | |
| Mercury | 0.15 | | 0.16 | | 0.1 | B | | | | |
| Molybdenum | 40 | U | 40 | U | 40 | U | | | | |
| Nickel | 13.8 | | 12.2 | | 14.6 | | | | | |
| Phosphorus | | | | | | | | | | |
| Potassium | 1600 | | 1660 | | 1420 | | | | | |
| Selenium | 1.0 | U | 1.0 | U | 1.0 | U | | | | |
| Silicon | | | | | | | | | | |
| Silver | 3.7 | | 4.0 | | 2 | U | | | | |
| Sodium | 1000 | B | 1000 | B | 1000 | B | | | | |
| Strontium | 51.7 | | 61.7 | | 46.0 | B | | | | |
| Thallium | 2.0 | B | 2.0 | U | 2.0 | U | | | | |
| Tin | 40 | U | 40 | U | 40 | U | | | | |
| Vanadium | 26.8 | | 27.7 | | 30.4 | | | | | |
| Zinc | 125 | | 126 | | 74.1 | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g)

| ANALYTE | Location: 00 (SS)<br>Sample: 000U2RFI/RI (REAL)<br>Date: / / | Location: 01 (SS)<br>Sample: 010U2RFI/RI (REAL)<br>Date: / / | Location: 03 (SS)<br>Sample: 030U2RFI/RI (REAL)<br>Date: / / | Location: 04 (SS)<br>Sample: 040U2RFI/RI (REAL)<br>Date: / / | Location: 10 (SS)<br>Sample: 100U2RFI/RI (REAL)<br>Date: / / |
|---|---|---|---|---|---|
| americium-241 | 0.0913 | 0.0692 | 0.2569 | 0.1217 | 0.6183 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | | | | | |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | | | | | |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | | | | | |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | | | | | |
| plutonium-239,-240 | 0.4728 | 0.4682 | 1.31 | 0.7238 | 3.883 |
| radium-226 | | | | | |
| radium-228 | | | | | |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | | | | | |
| total radiocesium | | | | | |
| tritium (pCi/l) | | | | | |
| uranium-233,-234 | 1.024 | 1.37 | 1.338 | 1.138 | 1.098 |
| uranium-234 | | | | | |
| uranium-235 | 0.01284 | 0.06629 | 0.06396 | 0.02631 | 0.03217 |
| uranium-238 | 1.052 | 1.378 | 1.165 | 0.9698 | 1.23 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 11 (SS)<br>Sample: 110U2RFI/RI (REAL)<br>Date: / / | Location: 15 (SS)<br>Sample: 150U2RFI/RI (REAL)<br>Date: / / | Location: 16 (SS)<br>Sample: 160U2RFI/RI (REAL)<br>Date: / / | Location: 19 (SS)<br>Sample: 190U2RFI/RI (REAL)<br>Date: / / | Location: 20 (SS)<br>Sample: 200U2RFI/RI (REAL)<br>Date: / / |
|---|---|---|---|---|---|
| americium-241 | 0.0643 | 2.2550 | 6.0650 | 12.5100 | 35.3280 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | | | | | |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | | | | | |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | | | | | |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | | | | | |
| plutonium-239,-240 | 0.4517 | 29.6 | 46.717 | 81.65 | 118.855 |
| radium-226 | | | | | |
| radium-228 | | | | | |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | | | | | |
| total radiocesium | | | | | |
| tritium (pCi/l) | | | | | |
| uranium-233,-234 | 0.8288 | 1.414 | 2.09 | 1.223 | 2.99 |
| uranium-234 | | | | | |
| uranium-235 | 0.03557 | 0.05201 | 0.09 | 0.08018 | 0.28 |
| uranium-238 | 0.9932 | 1.412 | 7.74 | 1.622 | 3.3 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 21 (SS)<br>Sample: 210U2RFI/RI (REAL)<br>Date: / / | Location: 22 (SS)<br>Sample: 220U2RFI/RI (REAL)<br>Date: / / | Location: 27 (SS)<br>Sample: 270U2RFI/RI (REAL)<br>Date: / / | Location: 28 (SS)<br>Sample: 280U2RFI/RI (REAL)<br>Date: / / | Location: 29 (SS)<br>Sample: 290U2RFI/RI (REAL)<br>Date: / / |
|---|---|---|---|---|---|
| americium-241 | 19.3220 | 1.8550 | 9.3690 | 270.4000 | 89.5100 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | | | | | |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | | | | | |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | | | | | |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | | | | | |
| plutonium-239,-240 | 64.966 | 15.16 | 52.39 | 1453 | 507.6 |
| radium-226 | | | | | |
| radium-228 | | | | | |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | | | | | |
| total radiocesium | | | | | |
| tritium (pCi/l) | | | | | |
| uranium-233,-234 | 1.71 | 1.475 | 2.06 | 2.466 | 1.338 |
| uranium-234 | | | | | |
| uranium-235 | 0.13 | 0.05176 | 0.08 | 0.1794 | 0.09882 |
| uranium-238 | 2.14 | 1.334 | 3.93 | 7.255 | 1.983 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 30 (SS)<br>Sample: 300U2RFI/RI (REAL)<br>Date: / / | Location: 31 (SS)<br>Sample: 310U2RFI/RI (REAL)<br>Date: / / | Location: 33 (SS)<br>Sample: 330U2RFI/RI (REAL)<br>Date: / / | Location: 34 (SS)<br>Sample: 340U2RFI/RI (REAL)<br>Date: / / | Location: 35 (SS)<br>Sample: 350U2RFI/RI (REAL)<br>Date: / / |
|---|---|---|---|---|---|
| americium-241 | 27.6600 | 3.4140 | 15.8200 | 164.1000 | 66.3000 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | | | | | |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | | | | | |
| gross alpha particle activity | | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | | | | | |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | | | | | |
| plutonium-239,-240 | 167.1 | 37.4 | 138.833 | 961.6 | 296.6 |
| radium-226 | | | | | |
| radium-228 | | | | | |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | | | | | |
| total radiocesium | | | | | |
| tritium (pCi/l) | | | | | |
| uranium-233,-234 | 1.127 | 1.215 | 1.8 | 0.9941 | 1.442 |
| uranium-234 | | | | | |
| uranium-235 | 0.04321 | 0.07133 | 0.23 | 0.07283 | 0.06953 |
| uranium-238 | 1.587 | 1.237 | 1.94 | 2.232 | 1.831 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: 36 (SS)<br>Sample: 36OU2RFI/RI (REAL)<br>Date: / / | | Location: RA010 (SS)<br>Sample: SS03020WS (REAL)<br>Date: 03/02/92 | | | Location: RA011 (SS)<br>Sample: SS03021WS (REAL)<br>Date: 02/27/92 | | | Location: RA011 (SS)<br>Sample: SS03022WS (DUP)<br>Date: 02/27/92 | | | Location: RA011 (SS)<br>Sample: SS03024WS (REAL)<br>Date: 02/27/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 14.7360 | | .2295 | | | .251 | | R | .209 | | R | .2524 | | R |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | 15.57 | | | 12.07 | | R | 5.156 | | R | 9.544 | | R |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | 29.63 | | | 24.87 | | A | 24.64 | | A | 23.72 | | A |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | 95.833 | | 2.492 | | | 1.063 | | A | 1.064 | | A | 1.175 | | A |
| radium-226 | | | .8017 | | | 1.014 | | R | .8077 | | R | .9603 | | R |
| radium-228 | | | 1.708 | | | 1.492 | | R | 1.447 | | R | 1.248 | | R |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | |
| uranium-233,-234 | 2.26 | | 1.086 | | | .835 | | A | 1.026 | | A | .7814 | | A |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | 0.16 | | .07489 | | J | .01762 | J | A | .05937 | J | A | .05229 | J | A |
| uranium-238 | 1.55 | | 1.196 | | | .7136 | | A | 1.094 | | A | .9987 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA011 (SS)<br>Sample: SS03025WS (DUP)<br>Date: 02/27/92 | | | Location: RA012 (SS)<br>Sample: SS03027WS (REAL)<br>Date: 02/25/92 | | | Location: RA013 (SS)<br>Sample: SS03028WS (REAL)<br>Date: 03/05/92 | | | Location: RA014 (SS)<br>Sample: SS03029WS (REAL)<br>Date: 02/28/92 | | | Location: RA015 (SS)<br>Sample: SS03030WS (REAL)<br>Date: 02/27/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .2265 | | R | .01293 | J | A | .1244 | | | .03932 | | | .05975 | | R |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 13.57 | | R | 19.43 | | R | 7.012 | | | 10.22 | | | 17.36 | | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 25.14 | | A | 35.23 | | A | 26.11 | | | 26.32 | | | 37.44 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 1.541 | | A | .06769 | | A | .66 | | | .1053 | | | .2249 | | A |
| radium-226 | .8086 | | R | 1.086 | | R | .678 | | | .8125 | | | .9773 | | R |
| radium-228 | 1.535 | | R | 2.249 | | R | 1.471 | | | 1.732 | | | 1.966 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .8337 | | A | 1.148 | | A | .7366 | | | .9722 | | | 1.53 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .03945 | J | A | .05843 | J | A | .06091 | J | | .1036 | J | | .04063 | J | A |
| uranium-238 | .9947 | | A | 1.028 | | A | .9003 | | | .8502 | | | 1.568 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA015 (SS)<br>Sample: SS03031WS (DUP)<br>Date: 02/27/92 | | | Location: RA015 (SS)<br>Sample: SS03032WS (REAL)<br>Date: 02/27/92 | | | Location: RA016 (SS)<br>Sample: SS03035WS (REAL)<br>Date: 03/02/92 | | | Location: RA017 (SS)<br>Sample: SS03036WS (REAL)<br>Date: 02/27/92 | | | Location: RA018 (SS)<br>Sample: SS03037WS (REAL)<br>Date: 03/02/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .05531 | | R | .06087 | | R | .1435 | | | .1652 | | R | .4904 | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 17.36 | | R | 17.95 | | R | 10.17 | | | 6.312 | | R | 13.65 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 33.66 | | A | 30.69 | | A | 27.41 | | | 26.42 | | A | 30.13 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .2145 | | A | 1.309 | | A | .5832 | | | .5944 | | A | 3.002 | | |
| radium-226 | .9126 | | R | 1.259 | | R | .7478 | | | .9772 | | R | .9146 | | |
| radium-228 | 2.202 | | R | 1.928 | | R | 1.328 | | | 1.443 | | R | 1.945 | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 1.386 | | R | 1.262 | | A | .6781 | | | .7611 | | A | 1.25 | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .1008 | J | R | .07913 | J | A | .03261 | J | | .05699 | J | A | .05301 | J | |
| uranium-238 | 1.614 | | R | 1.365 | | A | .7637 | | | .8466 | | A | 1.183 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA019 (SS)<br>Sample: SS03038WS (REAL)<br>Date: 02/26/92 | | | Location: RA020 (SS)<br>Sample: SS03039WS (REAL)<br>Date: 02/26/92 | | | Location: RA021 (SS)<br>Sample: SS03040WS (REAL)<br>Date: 02/27/92 | | | Location: RA022 (SS)<br>Sample: SS03041WS (REAL)<br>Date: 02/26/92 | | | Location: RA023 (SS)<br>Sample: SS03042WS (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .2627 | | A | .1917 | | A | .09183 | | R | .2849 | | A | 1.148 | | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 19.99 | | R | 16.9 | | R | 14.86 | | R | 23.91 | | R | 22.9 | | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 31.47 | | A | 34.59 | | A | 37.5 | | A | 33.9 | | A | 37.16 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 1.553 | | A | .9275 | | A | .4165 | | A | 2.089 | | A | 7.084 | | A |
| radium-226 | 1.153 | | R | .9399 | | R | 1.065 | | R | .9219 | | R | 1.026 | | R |
| radium-228 | 2.125 | | R | 1.923 | | R | 2.565 | | R | 1.94 | | R | 2.13 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 1.16 | | A | .9581 | | A | 1.662 | | A | 1.287 | | A | 1.462 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .02426 | J | A | .07895 | J | A | .03401 | J | A | .09047 | J | A | .08075 | J | A |
| uranium-238 | 1.169 | | A | .9509 | | A | 1.769 | | A | 1.479 | | A | 1.571 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA024 (SS)<br>Sample: SS03043WS (REAL)<br>Date: 02/26/92 | | | Location: RA025 (SS)<br>Sample: SS03044WS (REAL)<br>Date: 02/28/92 | | | Location: RA026 (SS)<br>Sample: SS03045WS (REAL)<br>Date: 02/28/92 | | | Location: RA027 (SS)<br>Sample: SS03046WS (REAL)<br>Date: 02/28/92 | | | Location: RA028 (SS)<br>Sample: SS03047WS (REAL)<br>Date: 02/25/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 1.672 | | A | 1.944 | | | .1201 | | | .6635 | | | .01372 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 22.98 | | R | 23.4 | | | 10.8 | | | 10.6 | | | 16.44 | | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 44.83 | | A | 33.27 | | | 30.89 | | | 30.34 | | | 36.73 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 11.08 | | A | 12.99 | | | 1.043 | | | 9.695 | | | .09067 | | A |
| radium-226 | 1.053 | | R | 1.024 | | | .9854 | | | 1.04 | | | 1.193 | | R |
| radium-228 | 2.53 | | R | 2.068 | | | 2.156 | | | 1.926 | | | 2.014 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 1.602 | | A | 1.494 | | | 1.045 | | | 1.192 | | | 1.296 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .03897 | J | A | -.00581 | J | | .03379 | J | | .02854 | J | | .008597 | J | A |
| uranium-238 | 1.732 | | A | 1.448 | | | 1.319 | | | 1.18 | | | 1.502 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA029 (SS)<br>Sample: SS03048WS (REAL)<br>Date: 02/28/92 | Location: RA030 (SS)<br>Sample: SS03049WS (REAL)<br>Date: 03/03/92 | Location: RA031 (SS)<br>Sample: SS03050WS (REAL)<br>Date: 03/03/92 | Location: RA031 (SS)<br>Sample: SS03051WS (DUP)<br>Date: 03/03/92 | Location: RA031 (SS)<br>Sample: SS03053WS (REAL)<br>Date: 03/03/92 |
|---|---|---|---|---|---|
| americium-241 | .4424 | .2471 | .5372 | .5441 | .7163 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | | | | | |
| curium-244 | | | | | |
| gross alpha | 18.19 | 9.426 | 10.74 | 11.03 | 16.52 |
| gross alpha | | | | | |
| gross alpha particle activity | | | | | |
| gross beta | 28.59 | 35.7 | 31.09 | 31.23 | 31.75 |
| gross beta | | | | | |
| gross beta particle activity | | | | | |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | | | | | |
| plutonium-239,-240 | 2.385 | 1.003 | 3.044 | 2.411 | 5.859 |
| radium-226 | .7963 | .6471 | .708 | .7334 | .8236 |
| radium-228 | 1.617 | 1.562 | 1.897 | 1.504 | 1.755 |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | | | | | |
| total radiocesium | | | | | |
| tritium (pCi/l) | | | | | |
| uranium-233,-234 | 1.266 | 1.234 | 1.215 | .8434 | .9732 |
| uranium-234 | | | | | |
| uranium-235 | .05302 J | .0304 J | .05843 J | .02217 J | .08756 J |
| uranium-238 | 1.129 | .9403 | 1.58 | 1.079 | 1.418 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA032 (SS)<br>Sample: SS03055WS (REAL)<br>Date: 03/05/92 | | Location: RA032 (SS)<br>Sample: SS03056WS (REAL)<br>Date: 03/05/92 | | Location: RA033 (SS)<br>Sample: SS03058WS (REAL)<br>Date: 03/05/92 | | Location: RA033 (SS)<br>Sample: SS03059WS (REAL)<br>Date: 03/05/92 | | Location: RA034 (SS)<br>Sample: SS03061WS (REAL)<br>Date: 03/03/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .1281 | | .09526 | | .0972 | | .07742 | | .7137 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | | | | | | | | | | |
| curium-244 | | | | | | | | | | |
| gross alpha | 16.02 | | 11.69 | | 11.69 | | 16.02 | | 18.53 | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 24.58 | | 26.54 | | 26.08 | | 28.11 | | 32.01 | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | .7349 | | .5268 | | .6716 | | .3998 | | 1.342 | |
| radium-226 | .7693 | | 1.041 | | .8883 | | .9509 | | .8042 | |
| radium-228 | 1.596 | | 1.746 | | 2.089 | | 1.611 | | 1.925 | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 1.056 | | 1.254 | | 1.228 | | 1.044 | | 1.059 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | .03806 | J | .08375 | J | .122 | J | .08546 | J | .02644 | J |
| uranium-238 | 1.319 | | 1.289 | | 2.199 | | 1.51 | | 1.012 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: RA035 (SS)<br>Sample: SS03062WS (REAL)<br>Date: 03/03/92 | | Location: RA036 (SS)<br>Sample: SS03063WS (REAL)<br>Date: 03/05/92 | | Location: RA037 (SS)<br>Sample: SS03064WS (REAL)<br>Date: 03/05/92 | | Location: RA037 (SS)<br>Sample: SS03065WS (REAL)<br>Date: 03/05/92 | | Location: SS100193 (SS)<br>Sample: SS10002ST (REAL)<br>Date: 04/29/93 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .1544 | | .02264 | | .02964 | | .04904 | | .0294 | |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | | | | | | | | | | |
| curium-244 | | | | | | | | | | |
| gross alpha | 17.69 | | 12.165 | | 9.17 | | 11.37 | | | |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | 34.4 | |
| gross beta | 30.53 | | 27.205 | | 26.36 | | 28.03 | | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | 35.7 | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | .5953 | | .0976 | | .09549 | | .1147 | | .0735 | |
| radium-226 | .8561 | | .9814 | | 1.092 | | .9634 | | | |
| radium-228 | 1.879 | | 1.605 | | 2.293 | | 1.571 | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | |
| uranium-233,-234 | 1.223 | | .8822 | | .915 | | 1.261 | | 6.09 | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | .05256 | J | .06435 | J | .1173 | J | .06768 | J | .176 | |
| uranium-238 | 1.285 | | .6257 | | .9774 | | 1.176 | | 3.38 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: SS100193 (SS)<br>Sample: SS10003ST (REAL)<br>Date: 04/29/93 | Location: SS100293 (SS)<br>Sample: SS10004ST (REAL)<br>Date: 04/29/93 | Location: SS100293 (SS)<br>Sample: SS10005ST (REAL)<br>Date: 04/29/93 | Location: SS100293 (SS)<br>Sample: SS10006ST (REAL)<br>Date: 04/29/93 | Location: SS100393 (SS)<br>Sample: SS10007ST (REAL)<br>Date: 04/29/93 |
|---|---|---|---|---|---|
| americium-241 | .0493 | .153 | .192 | .0372 | 4.15 |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | | | | | |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | | | | | |
| gross alpha particle activity | 425 | 31.7 | 401 | 29.3 | 58.5 |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | 197 | 33.8 | 55.1 | 30 | 33.3 |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | | | | | |
| plutonium-239,-240 | .133 | .429 | .878 | .0539 | 22.7 |
| radium-226 | | | | | |
| radium-228 | | | | | |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | | | | | |
| total radiocesium | | | | | |
| tritium (pCi/l) | | | | | |
| uranium-233,-234 | 429 | 25.4 | 240 | 8.27 | 1.49 |
| uranium-234 | | | | | |
| uranium-235 | 14.6 | .843 | 6.23 | .301 | .107 |
| uranium-238 | 122 | 1.39 | 1.51 | .779 | .892 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-e

## Surface Soil Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: SS100393 (SS)<br>Sample: SS10008ST (REAL)<br>Date: 04/29/93 | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|
| americium-241 | 1.9 | | | | |
| cesium - unknown isotope | | | | | |
| cesium-134 | | | | | |
| cesium-137 | | | | | |
| curium-244 | | | | | |
| gross alpha | | | | | |
| gross alpha | | | | | |
| gross alpha particle activity | 27.3 | | | | |
| gross beta | | | | | |
| gross beta | | | | | |
| gross beta particle activity | 31.7 | | | | |
| neptunium-237 | | | | | |
| plutonium-236 | | | | | |
| plutonium-238 | | | | | |
| plutonium-239 | | | | | |
| plutonium-239,-240 | 14.7 | | | | |
| radium-226 | | | | | |
| radium-228 | | | | | |
| strontium-89 | | | | | |
| strontium-89,-90 | | | | | |
| strontium-90 | | | | | |
| total radiocesium | | | | | |
| tritium (pCi/l) | | | | | |
| uranium-233,-234 | .64 | | | | |
| uranium-234 | | | | | |
| uranium-235 | .0557 | | | | |
| uranium-238 | .75 | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-f

## Surface Soil Water Quality Parameter Samples

| ANALYTE | Location: RA010 (SS)<br>Sample: SS03020WS (REAL)<br>Date: 03/02/92 | | Location: RA011 (SS)<br>Sample: SS03021WS (REAL)<br>Date: 02/27/92 | | Location: RA011 (SS)<br>Sample: SS03022WS (DUP)<br>Date: 02/27/92 | | Location: RA012 (SS)<br>Sample: SS03027WS (REAL)<br>Date: 02/25/92 | | | Location: RA013 (SS)<br>Sample: SS03028WS (REAL)<br>Date: 03/05/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | 91.7 | | V | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | |
| ammonia (mg/kg) | 2.3 | JA | 2.82 | JA | 2.87 | JA | .338 | U | V | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | .656 | JA | .568 | JA | .575 | JA | 1.67 | | V | .265 | U | V |
| nitrite (mg/kg) | | | | | | | | | | | | |
| oil & grease (mg/kg) | .163 | V | .108 | V | .217 | V | .171 | | V | .148 | | V |
| pH (ph) | | | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-f

## Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA014 (SS)<br>Sample: SS03029WS (REAL)<br>Date: 02/28/92 | | Location: RA015 (SS)<br>Sample: SS03030WS (REAL)<br>Date: 02/27/92 | | Location: RA015 (SS)<br>Sample: SS03031WS (DUP)<br>Date: 02/27/92 | | Location: RA016 (SS)<br>Sample: SS03035WS (REAL)<br>Date: 03/02/92 | | Location: RA017 (SS)<br>Sample: SS03036WS (REAL)<br>Date: 02/27/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | .684 | JA | 4.06 | JA | 3.98 | JA | 2.57 | JA | 2.55 | JA |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 1.95 | JA | 3.15 | JA | 3.65 | JA | .389 | JA | .494 | JA |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | .212 | V | .183 | V | .276 | V | .141 | V | .381 | V |
| pH (ph) | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-f

## Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA018 (SS)<br>Sample: SS03037WS (REAL)<br>Date: 03/02/92 | | Location: RA019 (SS)<br>Sample: SS03038WS (REAL)<br>Date: 02/26/92 | | Location: RA020 (SS)<br>Sample: SS03039WS (REAL)<br>Date: 02/26/92 | | Location: RA021 (SS)<br>Sample: SS03040WS (REAL)<br>Date: 02/27/92 | | Location: RA022 (SS)<br>Sample: SS03041WS (REAL)<br>Date: 02/26/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | 91.4 | | 91.5 | | | | 96.1 | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | 1.11 | JA | 1.56 | V | 2.5 | V | 4.4 | JA | 2.46 | V |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 2.27 | JA | 3.5 | V | 1.6 | V | 1.62 | JA | 3.83 | V |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | .129 | V | .07 | V | .151 | V | .238 | V | .161 | V |
| pH (ph) | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-f

## Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA023 (SS)<br>Sample: SS03042WS (REAL)<br>Date: 02/26/92 | | Location: RA024 (SS)<br>Sample: SS03043WS (REAL)<br>Date: 02/26/92 | | Location: RA025 (SS)<br>Sample: SS03044WS (REAL)<br>Date: 02/28/92 | | Location: RA026 (SS)<br>Sample: SS03045WS (REAL)<br>Date: 02/28/92 | | Location: RA027 (SS)<br>Sample: SS03046WS (REAL)<br>Date: 02/28/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 94.2 | | 95.0 | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | 1.14 | JA | 1.09 | JA | 3.33 | JA | 2.05 | JA | 1.29 | JA |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 2.05 | JA | 2.64 | JA | 2.05 | JA | .8 | JA | 2.81 | JA |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | .182 | V | .196 | V | .124 | V | .1 | V | .151 | V |
| pH (ph) | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-f

## Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA028 (SS)<br>Sample: SS03047WS (REAL)<br>Date: 02/25/92 | | | Location: RA029 (SS)<br>Sample: SS03048WS (REAL)<br>Date: 02/28/92 | | | Location: RA030 (SS)<br>Sample: SS03049WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03050WS (REAL)<br>Date: 03/03/92 | | | Location: RA031 (SS)<br>Sample: SS03051WS (DUP)<br>Date: 03/03/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | 90.7 | | V | | | | | | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | .35 | U | V | 2.31 | JA | | 2.17 | | V | 3.11 | | V | 2.59 | | V |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 3.63 | | V | 1.11 | | JA | 2.08 | | V | 3.09 | | V | 2.39 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | .167 | | V | .134 | | V | .05 | | V | .052 | | V | .198 | | V |
| pH (ph) | | | | | | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-f

## Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA031 (SS)<br>Sample: SS03052WS (RNS)<br>Date: 03/03/92 | | | Location: RA032 (SS)<br>Sample: SS03055WS (REAL)<br>Date: 03/05/92 | | | Location: RA033 (SS)<br>Sample: SS03058WS (REAL)<br>Date: 03/05/92 | | | Location: RA034 (SS)<br>Sample: SS03061WS (REAL)<br>Date: 03/03/92 | | | Location: RA035 (SS)<br>Sample: SS03062WS (REAL)<br>Date: 03/03/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | | | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| ammonia (mg/kg) | 30 | U | V | | | | | | | 1.15 | | V | 1.22 | | V |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 326 | | V | .274 | U | V | .279 | U | V | 1.49 | | V | .984 | | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | 1 | U | V | .262 | | V | .262 | | V | .128 | | V | .054 | | V |
| pH (ph) | | | | | | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C4-f

## Surface Soil Water Quality Parameter Samples (continued)

| ANALYTE | Location: RA036 (SS)<br>Sample: SS03063WS (REAL)<br>Date: 03/05/92 | | Location: RA037 (SS)<br>Sample: SS03064WS (REAL)<br>Date: 03/05/92 | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | | | | |
| alkalinity as caco3 (mg/kg) | | | | | | | | | | |
| ammonia (mg/kg) | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | | | | |
| carbonate (mg/kg) | | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | .414 | V | 1.11 | V | | | | | | |
| nitrite (mg/kg) | | | | | | | | | | |
| oil & grease (mg/kg) | .178 | V | .071 | V | | | | | | |
| pH (ph) | | | | | | | | | | |
| sulfide (mg/kg) | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW02990001 (REAL)<br>Date: 01/16/90 | | | Location: SW029 (SW)<br>Sample: SW02990002 (REAL)<br>Date: 02/08/90 | | | Location: SW029 (SW)<br>Sample: SW029W041190A (REAL)<br>Date: 04/11/90 | | Location: SW029 (SW)<br>Sample: SW029W051090A (REAL)<br>Date: 05/10/90 | | Location: SW029 (SW)<br>Sample: SW00003WC (REAL)<br>Date: 06/06/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| 1,1,2-trichloroethane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| 1,1-dichloroethane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| 1,1-dichloroethene | 5 | U | V | 5 | U | R | 5 | U | 5 | U | | |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| 1,2-dichloroethene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| 1,2-dichloropropane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | UJ | A | 10 | U | 10 | U | | |
| 2-chloroethyl vinyl ether | | | | | | | 10 | U | 10 | U | | |
| 2-hexanone | 10 | U | V | 10 | UJ | A | 10 | U | 10 | U | | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | UJ | A | 10 | U | 10 | U | | |
| acetone | 10 | U | R | 10 | UJ | A | 10 | U | 10 | U | | |
| benzene | 5 | UJ | A | 5 | UJ | A | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| bromoform | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| bromomethane | 10 | U | V | 10 | UJ | A | 10 | U | 10 | U | | |
| carbon disulfide | 5 | U | V | 5 | UJ | A | 1 | J | 5 | U | | |
| carbon tetrachloride | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| chlorobenzene | 5 | UJ | A | 5 | UJ | A | 5 | U | 5 | U | | |
| chloroethane | 10 | U | V | 10 | UJ | A | 10 | U | 10 | U | | |
| chloroform | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| chloromethane | 10 | U | V | 10 | UJ | A | 10 | U | 10 | U | | |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | UJ | A | 5 | UJ | A | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | UJ | A | 3 | JB | 3 | JB | | |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | | | | | | | 5 | U | 5 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | UJ | A | 5 | UJ | A | 5 | U | 5 | U | | |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| toluene | 5 | UJ | A | 5 | UJ | A | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | UJ | A | 5 | UJ | A | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| trichloroethene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | U | | |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | R | 10 | UJ | A | 10 | U | 10 | U | | |
| vinyl chloride | 10 | U | V | 10 | UJ | A | 10 | U | 10 | U | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00233WC (REAL)<br>Date: 08/09/90 | | | Location: SW029 (SW)<br>Sample: SW00311WC (REAL)<br>Date: 09/12/90 | | | Location: SW029 (SW)<br>Sample: SW80042WC (DUP)<br>Date: 09/12/90 | | | Location: SW029 (SW)<br>Sample: SW00402WC (REAL)<br>Date: 10/03/90 | | | Location: SW029 (SW)<br>Sample: SW00503WC (REAL)<br>Date: 11/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | | 20 | B | | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | | 7 | BJ | | 10 | U | V |
| benzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| *bromoform* | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | R |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | B | | 5 | U | | 5 | U | | 4 | BJ | | 6 | B | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 1 | J | A |
| total xylenes | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00607WC (REAL)<br>Date: 12/05/90 | | | Location: SW029 (SW)<br>Sample: SW00709WC (REAL)<br>Date: 01/09/91 | | | Location: SW029 (SW)<br>Sample: SW00915WC (REAL)<br>Date: 03/18/91 | | | Location: SW029 (SW)<br>Sample: SW01124WC (REAL)<br>Date: 05/09/91 | | | Location: SW029 (SW)<br>Sample: SW01227WC (REAL)<br>Date: 06/13/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,1-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,1-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,2-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,2-dichloropropane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |
| acetone | 10 | U | | 12 | B | JA | 10 | U | R | 10 | U | R | 10 | U |
| benzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| bromoform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| bromomethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |
| carbon disulfide | 2 | J | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| carbon tetrachloride | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| chlorobenzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| chloroethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |
| chloroform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| chloromethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| cumene | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| dibromomethane | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| n-butylbenzene | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | | | |
| tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| toluene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| total xylenes | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| trichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |
| vinyl chloride | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01330WC (REAL)<br>Date: 07/11/91 | | | Location: SW029 (SW)<br>Sample: SW01436WC (REAL)<br>Date: 08/08/91 | | | Location: SW029 (SW)<br>Sample: SW01542WC (REAL)<br>Date: 09/26/91 | | | Location: SW029 (SW)<br>Sample: SW01648WC (REAL)<br>Date: 10/09/91 | | | Location: SW029 (SW)<br>Sample: SW01720WC (REAL)<br>Date: 11/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | | | | 10 | U | R | 10 | U | V | 180 | B | JA | 28 | B | JA |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | | | | 3 | JB | JA | 5 | U | V | 16 | B | JA | 6 | B | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01793WC (REAL)<br>Date: 01/09/92 | | | Location: SW029 (SW)<br>Sample: SW01875WC (REAL)<br>Date: 04/02/92 | | | Location: SW029 (SW)<br>Sample: SW80190WC (DUP)<br>Date: 04/02/92 | | | Location: SW031 (SW)<br>Sample: SW03190001 (REAL)<br>Date: 01/11/90 | | | Location: SW031 (SW)<br>Sample: SW03190002 (REAL)<br>Date: 02/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | UJ | A | 10 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | |
| acetone | 10 | U | V | 10 | U | R | 10 | U | R | 10 | UJ | A | 23 | B | |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U | |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 8 | | V | 3 | J | A | 5 | UJ | A | 5 | B | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U | |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interferance from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW03190003 (REAL)<br>Date: 03/14/90 | | | Location: SW031 (SW)<br>Sample: SW031W041890A (REAL)<br>Date: 04/18/90 | | Location: SW031 (SW)<br>Sample: SW031W051590A (REAL)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW031W051590D (DUP)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW00060WC (REAL)<br>Date: 06/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | 10 | U | | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-hexanone | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| benzene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | |
| methylene chloride | 5 | UJ | A | 5 | U | 3 | JB | 3 | JB | 1 | JB |
| n-butylbenzene | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | |
| o-xylene | 5 | U | | 5 | U | 5 | U | 5 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | |
| tetrachloroethene | 1 | J | A | 5 | U | 5 | U | 5 | U | 5 | U |
| toluene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW00199WC (REAL)<br>Date: 07/19/90 | | Location: SW031 (SW)<br>Sample: SW00409WC (REAL)<br>Date: 10/10/90 | | Location: SW031 (SW)<br>Sample: SW00510WC (REAL)<br>Date: 11/27/90 | | | Location: SW031 (SW)<br>Sample: SW00614WC (REAL)<br>Date: 12/11/90 | | | Location: SW031 (SW)<br>Sample: SW01029WC (REAL)<br>Date: 04/09/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| acetone | 1 | BJ | 9 | BJ | 10 | U | V | 10 | U | V | 10 | U |
| benzene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | R | 10 | U | V | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 4 | J | 2 | BJ | 5 | U | V | 5 | U | V | 5 | U |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| toluene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| trichloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW01443WC (REAL)<br>Date: 08/12/91 | | | Location: SW031 (SW)<br>Sample: SW01549WC (REAL)<br>Date: 09/26/91 | | | Location: SW031 (SW)<br>Sample: SW01655WC (REAL)<br>Date: 10/16/91 | | | Location: SW032 (SW)<br>Sample: SW03290001 (REAL)<br>Date: 01/16/90 | | | Location: SW032 (SW)<br>Sample: SW03290002 (REAL)<br>Date: 02/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| acetone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R | 4 | JB |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| cumene | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| dibromomethane | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | |
| methylene chloride | 2 | JB | JA | 5 | U | V | 5 | U | V | 9 | | V | 7 | B |
| n-butylbenzene | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW03290003 (REAL)<br>Date: 03/23/90 | | | Location: SW032 (SW)<br>Sample: SW032W041190A (UNKN)<br>Date: 04/11/90 | | Location: SW032 (SW)<br>Sample: SW032W041190T (UNKN)<br>Date: 04/11/90 | | Location: SW032 (SW)<br>Sample: SW032W051090A (REAL)<br>Date: 05/10/90 | | Location: SW032 (SW)<br>Sample: SW00005WC (DUP)<br>Date: 06/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | |
| 2-butanone | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | 10 | U | | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-hexanone | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | R | 10 | U | 5 | JB | 10 | U | 10 | U |
| benzene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | |
| ethylbenzene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 2 | JB | 2 | JB | 1 | JB | 5 | U |
| n-butylbenzene | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | |
| o-xylene | 5 | U | | 5 | U | 5 | U | 5 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | |
| styrene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| toluene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00136WC (REAL)<br>Date: 07/16/90 | | | Location: SW032 (SW)<br>Sample: SW00234WC (REAL)<br>Date: 08/09/90 | | | Location: SW032 (SW)<br>Sample: SW00403WC (REAL)<br>Date: 10/04/90 | | | Location: SW032 (SW)<br>Sample: SW00504WC (REAL)<br>Date: 11/07/90 | | | Location: SW032 (SW)<br>Sample: SW00608WC (REAL)<br>Date: 12/04/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | 10 | U | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 7 | BJ | JA |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | JB | | 4 | BJ | | 10 | B | JA | 2 | BJ | JA | 1 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 5 | U | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 1 | J | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00916WC (REAL)<br>Date: 03/13/91 | | Location: SW032 (SW)<br>Sample: SW01018WC (REAL)<br>Date: 04/04/91 | | Location: SW032 (SW)<br>Sample: SW01125WC (REAL)<br>Date: 05/09/91 | | | Location: SW032 (SW)<br>Sample: SW01228WC (REAL)<br>Date: 06/13/91 | | Location: SW032 (SW)<br>Sample: SW01331WC (REAL)<br>Date: 07/10/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |
| acetone | 10 | U | 10 | U | 10 | U | R | 10 | U | 10 | U |
| benzene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| cumene | | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | |
| methylene chloride | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| n-butylbenzene | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| toluene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| trichloroethene | 5 | U | 5 | U | 5 | U | JA | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | JA | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01437WC (REAL)<br>Date: 08/07/91 | | | Location: SW032 (SW)<br>Sample: SW01543WC (REAL)<br>Date: 09/26/91 | | | Location: SW032 (SW)<br>Sample: SW01649WC (REAL)<br>Date: 10/10/91 | | | Location: SW032 (SW)<br>Sample: SW01721WC (REAL)<br>Date: 11/13/91 | | | Location: SW032 (SW)<br>Sample: SW01794WC (REAL)<br>Date: 01/15/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 14 | | JA | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| acetone | 10 | U | R | 10 | U | V | 15 | B | JA | 33 | B | JA | 10 | U | V |
| benzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | R | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 5 | B | JA | 5 | U | JA | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | R | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01876WC (REAL)<br>Date: 04/02/92 | | | Location: SW033 (SW)<br>Sample: SW03390001 (REAL)<br>Date: 01/16/90 | | | Location: SW033 (SW)<br>Sample: SW03390002 (REAL)<br>Date: 02/20/90 | | Location: SW033 (SW)<br>Sample: SW03390003 (REAL)<br>Date: 03/23/90 | | | Location: SW033 (SW)<br>Sample: SW033W041190A (REAL)<br>Date: 04/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 3 | J |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | |
| 1,1-dichloropropene | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 3 | J |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 2 | J |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 3 | J |
| 1,3-dichlorobenzene | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | R | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | 10 | U | | 10 | U |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| acetone | 5 | J | A | 10 | U | R | 57 | B | 10 | U | R | 6 | J |
| benzene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | UJ | A | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | R | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 1 | J |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| chlorobenzene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | UJ | A | 5 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| cumene | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| dibromomethane | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | UJ | A | 1 | J |
| hexachlorobutadiene | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | |
| methylene chloride | 7 | | V | 5 | U | V | 5 | B | 5 | U | V | 4 | JB |
| n-butylbenzene | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | 5 | U | | 5 | U |
| p-chlorotoluene | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | UJ | A | 5 | U | 5 | UJ | A | 1 | J |
| tert-butylbenzene | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 2 | J |
| toluene | 5 | U | V | 5 | U | A | 5 | U | 5 | UJ | A | 2 | J |
| total xylenes | 5 | U | V | 5 | U | A | 5 | U | 5 | UJ | A | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 3 | J |
| trichlorofluoromethane | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | R | 10 | U | 10 | U | V | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW033WD51090A (REAL)<br>Date: 05/10/90 | | | Location: SW033 (SW)<br>Sample: SW00006WC (REAL)<br>Date: 06/07/90 | | | Location: SW033 (SW)<br>Sample: SW00128WC (REAL)<br>Date: 07/16/90 | | | Location: SW033 (SW)<br>Sample: SW00404WC (REAL)<br>Date: 10/04/90 | | | Location: SW033 (SW)<br>Sample: SW00505WC (REAL)<br>Date: 11/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | 10 | U | | 10 | U | | 10 | U | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 3 | JB | | 10 | U | | 10 | U | V | 10 | U | V |
| benzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | JB | | 5 | U | | 1 | JB | | 26 | B | V | 3 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 5 | U | | 5 | U | | 5 | U | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW00609WC (REAL)<br>Date: 12/04/90 | | | Location: SW033 (SW)<br>Sample: SW00917WC (REAL)<br>Date: 03/08/91 | | | Location: SW033 (SW)<br>Sample: SW01019WC (REAL)<br>Date: 04/04/91 | | | Location: SW033 (SW)<br>Sample: SW01126WC (REAL)<br>Date: 05/13/91 | | | Location: SW033 (SW)<br>Sample: SW01229WC (REAL)<br>Date: 06/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1-dichloropropane | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | R | 10 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| acetone | 8 | BJ | JA | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| benzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| bromoform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| chloroform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | BJ | JA | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| toluene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| total xylenes | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| trichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01332WC (REAL)<br>Date: 07/10/91 | | | Location: SW033 (SW)<br>Sample: SW01438WC (REAL)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW80145WC (DUP)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW01544WC (REAL)<br>Date: 09/26/91 | | | Location: SW033 (SW)<br>Sample: SW01650WC (REAL)<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 8 | JB | JA |
| benzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 7 | B | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01722WC (REAL)<br>Date: 11/13/91 | | | Location: SW033 (SW)<br>Sample: SW01795WC (REAL)<br>Date: 01/15/92 | | | Location: SW033 (SW)<br>Sample: SW01877WC (REAL)<br>Date: 04/06/92 | | | Location: SW034 (SW)<br>Sample: SW03490001 (REAL)<br>Date: 01/15/90 | | Location: SW034 (SW)<br>Sample: SW03490001D (DUP)<br>Date: 01/15/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,1-dichloropropene | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |
| acetone | 36 | B | JA | 10 | U | V | 10 | U | R | 10 | U | 10 | UJ | A |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |
| chloroform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| cumene | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| dibromomethane | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| hexachlorobutadiene | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| tert-butylbenzene | | | | | | | | | | | | | | |
| tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | UJ | A |
| trichlorofluoromethane | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW03490002 (REAL)<br>Date: 02/20/90 | | | Location: SW034 (SW)<br>Sample: SW03490003 (REAL)<br>Date: 03/23/90 | | | Location: SW034 (SW)<br>Sample: SW034W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW034 (SW)<br>Sample: SW034W051090A (REAL)<br>Date: 05/10/90 | | | Location: SW034 (SW)<br>Sample: SW00007WC (REAL)<br>Date: 06/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,1-dichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,1-dichloroethene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,2-dichloroethene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,2-dichloropropane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | R | 10 | U | | 10 | U | | 10 | U | |
| 2-chloroethyl vinyl ether | | | | 10 | U | | 10 | U | | 10 | U | | 10 | U | |
| 2-hexanone | 10 | U | | 10 | U | V | 10 | U | | 10 | U | | 10 | U | |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | V | 10 | U | | 10 | U | | 10 | U | |
| acetone | 48 | B | | 10 | U | R | 10 | U | | 10 | U | | 10 | U | |
| benzene | 5 | U | | 5 | UJ | A | 5 | U | | 5 | U | | 5 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| bromoform | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| bromomethane | 10 | U | | 10 | U | V | 10 | U | | 10 | U | | 10 | U | |
| carbon disulfide | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| carbon tetrachloride | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| chlorobenzene | 5 | U | | 5 | UJ | A | 5 | U | | 5 | U | | 5 | U | |
| chloroethane | 10 | U | | 10 | U | R | 10 | U | | 10 | U | | 10 | U | |
| chloroform | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| chloromethane | 10 | U | | 10 | U | V | 10 | U | | 10 | U | | 10 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | UJ | A | 5 | U | | 5 | U | | 5 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | B | | 5 | U | V | 2 | JB | | 1 | JB | | 5 | U | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | 5 | U | | 5 | U | | 5 | U | | 5 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | UJ | A | 5 | U | | 5 | U | | 5 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| toluene | 5 | U | | 5 | UJ | A | 5 | U | | 5 | U | | 5 | U | |
| total xylenes | 5 | U | | 5 | UJ | A | 5 | U | | 5 | U | | 5 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| trichloroethene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | V | 10 | U | | 10 | U | | 10 | U | |
| vinyl chloride | 10 | U | | 10 | U | V | 10 | U | | 10 | U | | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

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# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW00129WC (REAL)<br>Date: 07/16/90 | | | Location: SW034 (SW)<br>Sample: SW00405WC (REAL)<br>Date: 10/04/90 | | | Location: SW034 (SW)<br>Sample: SW00506WC (REAL)<br>Date: 11/07/90 | | | Location: SW034 (SW)<br>Sample: SW80065WC (DUP)<br>Date: 11/07/90 | | | Location: SW034 (SW)<br>Sample: SW00610WC (REAL)<br>Date: 12/04/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | 10 | U | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 2 | JB | | 10 | U | V | 10 | U | V | 10 | U | V | 5 | BJ | JA |
| benzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | V | | | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | JB | | 2 | BJ | JA | 1 | BJ | JA | 4 | BJ | JA | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 5 | U | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW80073WC (DUP)<br>Date: 12/04/90 | | | Location: SW034 (SW)<br>Sample: SW00918WC (REAL)<br>Date: 03/08/91 | | | Location: SW034 (SW)<br>Sample: SW01020WC (REAL)<br>Date: 04/04/91 | | | Location: SW034 (SW)<br>Sample: SW80107WC (DUP)<br>Date: 04/04/91 | | | Location: SW034 (SW)<br>Sample: SW01127WC (REAL)<br>Date: 05/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |
| acetone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | R |
| benzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| bromoform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |
| chloroform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | BJ | JA | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| toluene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| total xylenes | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| trichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01230WC (REAL)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW80131WC (DUP)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW01333WC (REAL)<br>Date: 07/10/91 | | | Location: SW034 (SW)<br>Sample: SW80139WC (DUP)<br>Date: 07/10/91 | | | Location: SW034 (SW)<br>Sample: SW01439WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | R |
| benzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 3 | JB | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01545WC (REAL)<br>Date: 09/26/91 | | | Location: SW034 (SW)<br>Sample: SW01651WC (REAL)<br>Date: 10/10/91 | | | Location: SW034 (SW)<br>Sample: SW01723WC (REAL)<br>Date: 11/18/91 | | | Location: SW034 (SW)<br>Sample: SW01878WC (REAL)<br>Date: 04/06/92 | | | Location: SW035 (SW)<br>Sample: SW03590001 (REAL)<br>Date: 01/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 3 | JB | A |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | V | 8 | JB | JA | 12 | B | JA | 10 | U | R | 4 | JB | A |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | A |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | A |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | A |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 7 | B | JA | 5 | U | JA | 5 | U | V | 4 | JB | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | A |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | A |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW03590002 (REAL)<br>Date: 02/08/90 | | | Location: SW035 (SW)<br>Sample: SW03590003 (REAL)<br>Date: 03/14/90 | | Location: SW035 (SW)<br>Sample: SW035W041290A (REAL)<br>Date: 04/12/90 | | Location: SW035 (SW)<br>Sample: SW035W051490A (REAL)<br>Date: 05/14/90 | | Location: SW035 (SW)<br>Sample: SW00061WC (REAL)<br>Date: 06/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | |
| 2-butanone | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | 10 | U | 10 | U | 10 | U |
| 2-hexanone | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| benzene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | |
| bromodichloromethane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | | |
| dibromochloromethane | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | |
| ethylbenzene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | |
| methylene chloride | 5 | U | R | 4 | JB | 4 | J | 2 | JB | 1 | JB |
| n-butylbenzene | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | |
| o-xylene | | | | | | 5 | U | 5 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | |
| styrene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | |
| tetrachloroethene | 5 | U | R | 1 | J | 5 | U | 5 | U | 5 | U |
| toluene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | R | 1 | J | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | |
| vinyl acetate | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | R | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00141WC (REAL)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW80016WC (DUP)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW00319WC (REAL)<br>Date: 09/17/90 | | Location: SW035 (SW)<br>Sample: SW00410WC (REAL)<br>Date: 10/03/90 | | Location: SW035 (SW)<br>Sample: SW80051WC (DUP)<br>Date: 10/03/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | 10 | U | 7 | BJ | 9 | BJ | 8 | BJ |
| benzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 1 | J | 1 | J | 5 | U | 4 | BJ | 4 | BJ |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| toluene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00511WC (REAL)<br>Date: 11/27/90 | | | Location: SW035 (SW)<br>Sample: SW00615WC (REAL)<br>Date: 12/11/90 | | | Location: SW035 (SW)<br>Sample: SW00923WC (REAL)<br>Date: 03/15/91 | | | Location: SW035 (SW)<br>Sample: SW01025WC (REAL)<br>Date: 04/08/91 | | Location: SW035 (SW)<br>Sample: SW80109WC (DUP)<br>Date: 04/08/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | U |
| acetone | 12 | | V | 10 | U | V | | | | 10 | U | 10 | U |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | R | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| chloromethane | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| cumene | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| n-butylbenzene | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 13 | | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01132WC (REAL)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW80123WC (DUP)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW01235WC (REAL)<br>Date: 06/25/91 | | | Location: SW035 (SW)<br>Sample: SW01338WC (REAL)<br>Date: 07/10/91 | | | Location: SW035 (SW)<br>Sample: SW01444WC (REAL)<br>Date: 08/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 5 | U | | 7 | B | JA | 5 | U | | 2 | JB | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01550WC (REAL)<br>Date: 09/05/91 | | | Location: SW035 (SW)<br>Sample: SW01656WC (REAL)<br>Date: 10/17/91 | | | Location: SW035 (SW)<br>Sample: SW01714WC (REAL)<br>Date: 11/06/91 | | | Location: SW035 (SW)<br>Sample: SW01869WC (REAL)<br>Date: 04/08/92 | | | Location: SW036 (SW)<br>Sample: SW03690001 (REAL)<br>Date: 01/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | JA | 12 | | JA | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | R | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | R | 10 | U | R |
| acetone | 10 | U | V | 17 | B | JA | 12 | B | JA | 10 | U | R | 15 | B | A |
| benzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | JA | 5 | U | R | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | B | JA | 6 | B | JA | 5 | U | V | 3 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | R |
| vinyl chloride | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; *D-dilution*; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW03690002 (REAL)<br>Date: 02/09/90 | | Location: SW036 (SW)<br>Sample: SW03690003 (REAL)<br>Date: 03/14/90 | | Location: SW036 (SW)<br>Sample: SW036W051490A (REAL)<br>Date: 05/14/90 | | Location: SW036 (SW)<br>Sample: SW00057WC (REAL)<br>Date: 06/07/90 | | Location: SW036 (SW)<br>Sample: SW70008WC (REAL)<br>Date: 08/08/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | 10 | U | 10 | U | 10 | U | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| benzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 2 | J | 1 | J | 2 | JB | 5 | U | 1 | BJ |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | | | 5 | U | 5 | U | 5 | U | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| toluene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 1 | J |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW00512WC (REAL)<br>Date: 11/20/90 | | | Location: SW036 (SW)<br>Sample: SW00548WC (REAL)<br>Date: 11/20/90 | | | Location: SW036 (SW)<br>Sample: SW00924WC (REAL)<br>Date: 03/15/91 | | | Location: SW036 (SW)<br>Sample: SW01026WC (REAL)<br>Date: 04/08/91 | | | Location: SW036 (SW)<br>Sample: SW01445WC (REAL)<br>Date: 08/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| acetone | 10 | U | V | 10 | U | V | | | | 10 | U | | 10 | U | V |
| benzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | R | 5 | U | | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 2 | BJ | JA | 5 | U | V | 5 | U | | 2 | JB | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| toluene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 8 | | | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interferance from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW01715WC (REAL)<br>Date: 11/07/91 | | | Location: SW036 (SW)<br>Sample: SW01870WC (REAL)<br>Date: 04/08/92 | | | Location: SW038 (SW)<br>Sample: SW00419WC (REAL)<br>Date: 10/15/90 | | | Location: SW038 (SW)<br>Sample: SW00520WC (REAL)<br>Date: 11/05/90 | | | Location: SW038 (SW)<br>Sample: SW00624WC (REAL)<br>Date: 12/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 5 | J | R | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 23 | B | JA | 10 | U | R | 3 | BJ | JA | 3 | BJ | JA | 6 | BJ | JA |
| benzene | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 2 | BJ | JA | 3 | BJ | JA | 1 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW80081WC (DUP)<br>Date: 12/11/90 | | | Location: SW038 (SW)<br>Sample: SW00932WC (REAL)<br>Date: 03/28/91 | | | Location: SW038 (SW)<br>Sample: SW01034WC (REAL)<br>Date: 04/09/91 | | Location: SW038 (SW)<br>Sample: SW01141WC (REAL)<br>Date: 05/16/91 | | | Location: SW038 (SW)<br>Sample: SW01244WC (REAL)<br>Date: 06/20/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| acetone | 6 | BJ | JA | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| benzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| cumene | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| dibromomethane | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | JA | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| n-butylbenzene | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| toluene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | 10 | U | V | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01347WC (REAL)<br>Date: 07/25/91 | | | Location: SW038 (SW)<br>Sample: SW01453WC (REAL)<br>Date: 08/28/91 | | | Location: SW038 (SW)<br>Sample: SW01559WC (REAL)<br>Date: 09/18/91 | | | Location: SW038 (SW)<br>Sample: SW01665WC (REAL)<br>Date: 10/23/91 | | | Location: SW038 (SW)<br>Sample: SW01716WC (REAL)<br>Date: 11/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | V | 12 | | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | V |
| acetone | 10 | U | | 9 | JB | JA | 2 | JB | R | 10 | U | R | 210 | | JA |
| benzene | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 4 | JB | | 20 | B | JA | 5 | B | | 2 | J | A | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01789WC (REAL)<br>Date: 01/20/92 | | | Location: SW038 (SW)<br>Sample: SW01871WC (REAL)<br>Date: 04/07/92 | | | Location: SW039 (SW)<br>Sample: SW03990001 (REAL)<br>Date: 01/17/90 | | Location: SW039 (SW)<br>Sample: SW03990002 (REAL)<br>Date: 02/08/90 | | Location: SW039 (SW)<br>Sample: SW03990003 (REAL)<br>Date: 03/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 11 | | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | R | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | R | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | R | 10 | U | V | 10 | U | 10 | U | 10 | U |
| benzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 6 | | 1 | JB | 5 | U |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| toluene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW039W041290A (UNKN)<br>Date: 04/12/90 | | Location: SW039 (SW)<br>Sample: SW039W041290T (UNKN)<br>Date: 04/12/90 | | Location: SW039 (SW)<br>Sample: SW039W050990A (UNKN)<br>Date: 05/09/90 | | Location: SW039 (SW)<br>Sample: SW00058WC (REAL)<br>Date: 06/07/90 | | Location: SW039 (SW)<br>Sample: SW00059WC (DUP)<br>Date: 06/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-hexanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 13 | B | 11 | B | 4 | JB | 10 | U | 4 | JB |
| benzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 16 | | 15 | | 3 | JB | 5 | U | 5 | U |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| toldene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00138WC (REAL)<br>Date: 07/16/90 | | Location: SW039 (SW)<br>Sample: SW00406WC (REAL)<br>Date: 10/02/90 | | Location: SW039 (SW)<br>Sample: SW00507WC (REAL)<br>Date: 11/08/90 | | | Location: SW039 (SW)<br>Sample: SW00611WC (REAL)<br>Date: 12/04/90 | | | Location: SW039 (SW)<br>Sample: SW00919WC (REAL)<br>Date: 03/28/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | V | 1 | BJ | JA | 10 | U |
| 2-chloroethyl vinyl ether | 10 | U | | | | | | | | | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| acetone | 2 | JB | 7 | BJ | 5 | BJ | JA | 9 | BJ | JA | 10 | U |
| benzene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 1 | JB | 2 | BJ | 6 | B | JA | 1 | BJ | JA | 5 | U |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | 5 | U | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| toluene | 5 | U | 5 | U | 1 | BJ | JA | 5 | U | V | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| trichloroethene | 5 | U | 5 | U | 5 | U | V | 5 | U | V | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | V | 10 | U | V | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01021WC (REAL)<br>Date: 04/01/91 | | Location: SW039 (SW)<br>Sample: SW01128WC (REAL)<br>Date: 05/03/91 | | | Location: SW039 (SW)<br>Sample: SW01231WC (REAL)<br>Date: 06/04/91 | | | Location: SW039 (SW)<br>Sample: SW01334WC (REAL)<br>Date: 07/08/91 | | | Location: SW039 (SW)<br>Sample: SW01440WC (REAL)<br>Date: 08/05/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| acetone | 10 | U | 37 | B | | 25 | B | JA | 10 | U | V | 10 | U |
| benzene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| bromoform | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| bromomethane | 10 | U | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| carbon disulfide | 5 | U | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| chlorobenzene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| chloroethane | 10 | U | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| chloroform | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| chloromethane | 10 | U | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| cumene | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| dibromomethane | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | |
| methylene chloride | 5 | U | 5 | U | V | 5 | B | JA | 5 | U | V | 5 | U |
| n-butylbenzene | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | |
| styrene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| toluene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| total xylenes | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| trichloroethene | 5 | U | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |
| vinyl chloride | 10 | U | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01546WC (REAL)<br>Date: 09/05/91 | | | Location: SW039 (SW)<br>Sample: SW01652WC (REAL)<br>Date: 10/02/91 | | | Location: SW039 (SW)<br>Sample: SW01726WC (REAL)<br>Date: 11/18/91 | | | Location: SW039 (SW)<br>Sample: SW01881WC (REAL)<br>Date: 04/15/92 | | | Location: SW066 (SW)<br>Sample: SW06690001 (REAL)<br>Date: 01/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | UJ | A |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | V |
| acetone | 10 | U | V | | | | 11 | B | JA | 10 | U | V | 10 | UJ | A |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | JB | JA | 9 | B | JA | 5 | B | JA | 5 | U | V | 5 | UJ | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | UJ | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW06690002 (REAL)<br>Date: 02/08/90 | | | Location: SW066 (SW)<br>Sample: SW06690003 (REAL)<br>Date: 03/14/90 | | Location: SW066 (SW)<br>Sample: SW066W041990A (REAL)<br>Date: 04/19/90 | | Location: SW066 (SW)<br>Sample: SW066W051590A (REAL)<br>Date: 05/15/90 | | Location: SW066 (SW)<br>Sample: SW00014WC (REAL)<br>Date: 06/12/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | R | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | |
| 2-butanone | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | 10 | U | 10 | U | 10 | U |
| 2-hexanone | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| benzene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | |
| bromodichloromethane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | | |
| dibromochloromethane | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | |
| ethylbenzene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | |
| methylene chloride | 5 | UJ | A | 4 | JB | 5 | U | 2 | JB | 5 | U |
| n-butylbenzene | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | |
| o-xylene | | | | | | 5 | U | 5 | U | 5 | U |
| p-chlorotoluene | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | |
| styrene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | |
| tetrachloroethene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| toluene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | UJ | A | 5 | U | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | |
| vinyl acetate | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | UJ | A | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW00146WC (REAL)<br>Date: 07/19/90 | | | Location: SW066 (SW)<br>Sample: SW00245WC (REAL)<br>Date: 08/21/90 | | | Location: SW066 (SW)<br>Sample: SW00414WC (REAL)<br>Date: 10/17/90 | | | Location: SW067 (SW)<br>Sample: SW06790001 (REAL)<br>Date: 01/11/90 | | | Location: SW067 (SW)<br>Sample: SW06790002 (REAL)<br>Date: 02/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 1 | J | A | 4 | J | A | 5 | U | |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | UJ | A | 10 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| acetone | 10 | U | | 10 | U | | 10 | U | V | 10 | UJ | A | 10 | U | |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | UJ | A | 5 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | UJ | A | 5 | U | |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | UJ | A | 5 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 2 | J | | 2 | BJ | JA | 5 | UJ | A | 5 | U | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | UJ | A | 5 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| toluene | 5 | U | | 5 | U | | 1 | J | A | 5 | UJ | A | 5 | U | |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | UJ | A | 5 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW06790003 (REAL)<br>Date: 03/15/90 | | Location: SW067 (SW)<br>Sample: SW067W041990A (REAL)<br>Date: 04/19/90 | | Location: SW067 (SW)<br>Sample: SW067W051690A (REAL)<br>Date: 05/16/90 | | Location: SW067 (SW)<br>Sample: SW00015WC (REAL)<br>Date: 06/12/90 | | Location: SW067 (SW)<br>Sample: SW00246WC (REAL)<br>Date: 08/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | 10 | U | 10 | U | 10 | U | 10 | U | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| benzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 12 | B | 5 | U | 2 | JB | 5 | U | 2 | J |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | 5 | U | 5 | U | 5 | U | 5 | U | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| toluene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW00415WC (REAL)<br>Date: 10/17/90 | | | Location: SW067 (SW)<br>Sample: SW00620WC (REAL)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW06890001 (REAL)<br>Date: 01/11/90 | | | Location: SW068 (SW)<br>Sample: SW06890003 (REAL)<br>Date: 03/15/90 | | | Location: SW068 (SW)<br>Sample: SW068W051690A (REAL)<br>Date: 05/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | | 10 | UJ | A | 10 | U | V | 10 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | 10 | U | | 10 | U | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| acetone | 10 | U | V | 10 | U | | 10 | UJ | A | 10 | U | V | 10 | U | |
| benzene | 5 | U | V | 5 | U | | 5 | UJ | A | 5 | U | V | 5 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| bromoform | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | UJ | A | 5 | U | V | 5 | U | |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| chloroform | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | R | 10 | U | R | 10 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 1 | BJ | JA | 5 | U | | 5 | UJ | A | 5 | U | V | 3 | JB | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | 5 | U | | 5 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | | 5 | UJ | A | 5 | U | V | 5 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | | 1 | J | A | 5 | U | V | 5 | U | |
| toluene | 5 | U | V | 5 | U | | 5 | UJ | A | 5 | U | V | 5 | U | |
| total xylenes | 5 | U | V | 5 | U | | 5 | UJ | A | 5 | U | V | 5 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | |
| trichloroethene | 5 | U | V | 5 | U | | 5 | UJ | A | 5 | U | V | 5 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |

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E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00017WC (REAL)<br>Date: 06/13/90 | | | Location: SW068 (SW)<br>Sample: SW00143WC (REAL)<br>Date: 07/19/90 | | | Location: SW068 (SW)<br>Sample: SW00247WC (REAL)<br>Date: 08/21/90 | | | Location: SW068 (SW)<br>Sample: SW00325WC (REAL)<br>Date: 09/18/90 | | | Location: SW068 (SW)<br>Sample: SW00416WC (REAL)<br>Date: 10/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | | 3 | BJ | JA | 4 | J | R |
| 2-chloroethyl vinyl ether | 10 | U | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| acetone | 4 | JB | | 3 | BJ | | 10 | U | | 7 | BJ | JA | 13 | B | JA |
| benzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| chloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | JB | | 5 | U | | 5 | U | | 12 | B | JA | 4 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | 5 | U | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | | 1 | BJ | JA | 5 | U | JA |
| total xylenes | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | JA | 3 | J | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | | 10 | U | JA | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00517WC (REAL)<br>Date: 11/19/90 | | | Location: SW068 (SW)<br>Sample: SW00621WC (REAL)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW80079WC (DUP)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW00929WC (REAL)<br>Date: 03/19/91 | | | Location: SW068 (SW)<br>Sample: SW80095WC (DUP)<br>Date: 03/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| acetone | 10 | U | R | 3 | BJ | | 10 | U | | 10 | U | V | 10 | U | V |
| benzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | | 5 | U | R | 5 | U | R |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| total xylenes | 5 | U | V | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | JA |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW01031WC (REAL)<br>Date: 04/04/91 | | Location: SW068 (SW)<br>Sample: SW01138WC (REAL)<br>Date: 05/13/91 | | | Location: SW068 (SW)<br>Sample: SW01241WC (REAL)<br>Date: 06/19/91 | | Location: SW068 (SW)<br>Sample: SW01344WC (REAL)<br>Date: 07/10/91 | | Location: SW068 (SW)<br>Sample: SW01450WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1-dichloroethane | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1-dichloroethene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,2-dichloroethene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| *1,2-dichloropropane* | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | R | 10 | U | 10 | U | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| acetone | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | R |
| benzene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| bromoform | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| bromomethane | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| carbon disulfide | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| carbon tetrachloride | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| chlorobenzene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| chloroethane | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| chloroform | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| chloromethane | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 5 | U | 5 | U | V | 5 | U | 5 | U | 3 | JB | JA |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| toluene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| total xylenes | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| trichloroethene | 5 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| vinyl chloride | 10 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |

*Note: Data reporting order: result, qualifier, validation code.*
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-a

## Surface Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW01556WC (REAL)<br>Date: 09/17/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | | | | | | | | | | | | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | | | | | | | | | | | | |
| 1,1,2-trichloroethane | 5 | U | V | | | | | | | | | | | | |
| 1,1-dichloroethane | 5 | U | V | | | | | | | | | | | | |
| 1,1-dichloroethene | 5 | U | V | | | | | | | | | | | | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | | | | | | | | | | | | |
| 1,2-dichloroethene | 5 | U | V | | | | | | | | | | | | |
| 1,2-dichloropropane | 5 | U | V | | | | | | | | | | | | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | | | | | | | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | | | | | | | | | | | | |
| 4-methyl-2-pentanone | 10 | U | V | | | | | | | | | | | | |
| acetone | 10 | U | V | | | | | | | | | | | | |
| benzene | 5 | U | V | | | | | | | | | | | | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | | | | | | | | | | | | |
| bromoform | 5 | U | V | | | | | | | | | | | | |
| bromomethane | 10 | U | V | | | | | | | | | | | | |
| carbon disulfide | 5 | U | V | | | | | | | | | | | | |
| carbon tetrachloride | 5 | U | V | | | | | | | | | | | | |
| chlorobenzene | 5 | U | V | | | | | | | | | | | | |
| chloroethane | 10 | U | V | | | | | | | | | | | | |
| chloroform | 5 | U | V | | | | | | | | | | | | |
| chloromethane | 10 | U | V | | | | | | | | | | | | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | | | | | | | | | | | | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | | | | | | | | | | | | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | | | | | | | | | | | | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 57 | B | JA | | | | | | | | | | | | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | | | | | | | | | | | | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | | | | | | | | | | | | |
| toluene | 5 | | JA | | | | | | | | | | | | |
| total xylenes | 5 | U | V | | | | | | | | | | | | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | | | | | | | | | | | | |
| trichloroethene | 5 | U | V | | | | | | | | | | | | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | | | | | | | | | | | | |
| vinyl chloride | 10 | U | V | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW029W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW029 (SW)<br>Sample: SW00402WC (REAL)<br>Date: 10/03/90 | | | Location: SW029 (SW)<br>Sample: SW0164BWC (REAL)<br>Date: 10/09/91 | | | Location: SW031 (SW)<br>Sample: SW031W041890A (REAL)<br>Date: 04/18/90 | | | Location: SW031 (SW)<br>Sample: SW00409WC (REAL)<br>Date: 10/10/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 1,2-dichlorobenzene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 1,3-dichlorobenzene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 1,4-dichlorobenzene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2,4,5-trichlorophenol | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| 2,4,6-trichlorophenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2,4-dichlorophenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2,4-dimethylphenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2,4-dinitrophenol | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| 2,4-dinitrotoluene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2,6-dinitrotoluene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2-chloronaphthalene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2-chlorophenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2-methylnaphthalene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2-methylphenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 2-nitroaniline | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| 2-nitrophenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 3,3'-dichlorobenzidine | 21 | U | | 20 | U | | 20 | U | V | 21 | U | | 20 | U | |
| 3-nitroaniline | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| 4,6-dinitro-2-methylphenol | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| 4-bromophenyl phenyl ether | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 4-chloro-3-methylphenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 4-chloroaniline | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 4-chlorophenyl phenyl ether | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 4-methylphenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| 4-nitroaniline | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| 4-nitrophenol | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| acenaphthene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| acenaphthylene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| anthracene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| benzenamine | 52 | U | | | | | | | | 52 | U | | | | |
| benzidine | 52 | U | | | | | | | | 52 | U | | | | |
| benzo(a)anthracene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| benzo(a)pyrene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| benzo(b)fluoranthene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| benzo(ghi)perylene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| benzo(k)fluoranthene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| benzoic acid | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| benzyl alcohol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| bis(2-chloroethoxy)methane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| bis(2-chloroethyl)ether | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| bis(2-chloroisopropyl)ether | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| bis(2-ethylhexyl)phthalate | 10 | U | | 10 | U | | 1 | J | A | 10 | U | | 10 | U | |
| butyl benzyl phthalate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| chrysene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| di-n-butyl phthalate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| di-n-octyl phthalate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| dibenzo(a,h)anthracene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| dibenzofuran | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| diethyl phthalate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| dimethyl phthalate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| fluoranthene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| fluorene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| hexachlorobenzene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| hexachlorobutadiene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| hexachlorocyclopentadiene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| hexachloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| indeno(1,2,3-cd)pyrene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| isophorone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| n-nitroso-di-n-propylamine | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| n-nitrosodimethylamine | 21 | U | | | | | | | | 21 | U | | | | |
| n-nitrosodiphenylamine | 1 | J | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| naphthalene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| nitrobenzene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| pentachlorophenol | 52 | U | | 50 | U | | 49 | U | V | 52 | U | | 50 | U | |
| phenanthrene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| phenol | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |
| pyrene | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW01029WC (REAL)<br>Date: 04/09/91 | | | Location: SW031 (SW)<br>Sample: SW01655WC (REAL)<br>Date: 10/16/91 | | | Location: SW032 (SW)<br>Sample: SW032W041190A (UNKN)<br>Date: 04/11/90 | | Location: SW032 (SW)<br>Sample: SW00403WC (REAL)<br>Date: 10/04/90 | | | Location: SW032 (SW)<br>Sample: SW01018WC (REAL)<br>Date: 04/04/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 1,2-dichlorobenzene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 1,3-dichlorobenzene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 1,4-dichlorobenzene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2,4,5-trichlorophenol | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| 2,4,6-trichlorophenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2,4-dichlorophenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2,4-dimethylphenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2,4-dinitrophenol | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| 2,4-dinitrotoluene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2,6-dinitrotoluene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2-chloronaphthalene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2-chlorophenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2-methylnaphthalene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2-methylphenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 2-nitroaniline | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| 2-nitrophenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 3,3'-dichlorobenzidine | 21 | U | | 21 | U | V | 21 | U | 20 | U | V | 27 | U |
| 3-nitroaniline | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| 4,6-dinitro-2-methylphenol | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| 4-bromophenyl phenyl ether | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 4-chloro-3-methylphenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 4-chloroaniline | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 4-chlorophenyl phenyl ether | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 4-methylphenol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| 4-nitroaniline | 52 | U | | 52 | U | R | 52 | U | 50 | U | V | 68 | U |
| 4-nitrophenol | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| acenaphthene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| acenaphthylene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| anthracene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| benzenamine | | | | | | | 52 | U | | | | | |
| benzidine | | | | | | | 52 | U | | | | | |
| benzo(a)anthracene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| benzo(a)pyrene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| benzo(b)fluoranthene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| benzo(ghi)perylene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| benzo(k)fluoranthene | 10 | U | | 10 | U | R | 10 | U | 10 | U | V | 14 | U |
| benzoic acid | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| benzyl alcohol | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| bis(2-chloroethoxy)methane | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| bis(2-chloroethyl)ether | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| bis(2-chloroisopropyl)ether | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| bis(2-ethylhexyl)phthalate | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| butyl benzyl phthalate | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| chrysene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| di-n-butyl phthalate | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| di-n-octyl phthalate | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| dibenzo(a,h)anthracene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| dibenzofuran | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| diethyl phthalate | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| dimethyl phthalate | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| fluoranthene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| fluorene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| hexachlorobenzene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| hexachlorobutadiene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| hexachlorocyclopentadiene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| hexachloroethane | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| indeno(1,2,3-cd)pyrene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| isophorone | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| n-nitroso-di-n-propylamine | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| n-nitrosodimethylamine | | | | | | | 21 | U | | | | | |
| n-nitrosodiphenylamine | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| naphthalene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| nitrobenzene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| pentachlorophenol | 52 | U | | 52 | U | V | 52 | U | 50 | U | V | 68 | U |
| phenanthrene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |
| phenol | 10 | U | | 10 | U | V | 10 | U | | | | 14 | U |
| pyrene | 10 | U | | 10 | U | V | 10 | U | 10 | U | V | 14 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW) Sample: SW01649WC (REAL) Date: 10/10/91 | | | Location: SW033 (SW) Sample: SW033W041190A (REAL) Date: 04/11/90 | | | Location: SW033 (SW) Sample: SW00404WC (REAL) Date: 10/04/90 | | | Location: SW033 (SW) Sample: SW01019WC (REAL) Date: 04/04/91 | | | Location: SW033 (SW) Sample: SW01650WC (REAL) Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 1,2-dichlorobenzene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 1,3-dichlorobenzene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 1,4-dichlorobenzene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4,5-trichlorophenol | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| 2,4,6-trichlorophenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dichlorophenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dimethylphenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dinitrophenol | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| 2,4-dinitrotoluene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2,6-dinitrotoluene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chloronaphthalene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chlorophenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2-methylnaphthalene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2-methylphenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 2-nitroaniline | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| 2-nitrophenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 3,3'-dichlorobenzidine | 31 | U | V | 22 | U | | 20 | U | V | 21 | U | | 20 | U | V |
| 3-nitroaniline | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| 4,6-dinitro-2-methylphenol | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| 4-bromophenyl phenyl ether | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chloro-3-methylphenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chloroaniline | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chlorophenyl phenyl ether | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 4-methylphenol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| 4-nitroaniline | 78 | U | R | 54 | U | | 50 | U | V | 52 | U | | 50 | U | R |
| 4-nitrophenol | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| acenaphthene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| acenaphthylene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| anthracene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| benzenamine | | | | 54 | U | | | | | | | | | | |
| benzidine | | | | 54 | U | | | | | | | | | | |
| benzo(a)anthracene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(a)pyrene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(b)fluoranthene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(ghi)perylene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(k)fluoranthene | 16 | U | R | 11 | U | | 10 | U | V | 10 | U | | 10 | U | R |
| benzoic acid | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| benzyl alcohol | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroethoxy)methane | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroethyl)ether | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroisopropyl)ether | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| butyl benzyl phthalate | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| chrysene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| di-n-butyl phthalate | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| di-n-octyl phthalate | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| dibenzo(a,h)anthracene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| dibenzofuran | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| diethyl phthalate | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| dimethyl phthalate | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| fluoranthene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| fluorene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorobenzene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorobutadiene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorocyclopentadiene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| hexachloroethane | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| isophorone | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| n-nitroso-di-n-propylamine | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| n-nitrosodimethylamine | | | | 22 | U | | | | | | | | | | |
| n-nitrosodiphenylamine | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| naphthalene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| nitrobenzene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| pentachlorophenol | 78 | U | V | 54 | U | | 50 | U | V | 52 | U | | 50 | U | V |
| phenanthrene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| phenol | 16 | U | V | 11 | U | | | | | 10 | U | | 10 | U | V |
| pyrene | 16 | U | V | 11 | U | | 10 | U | V | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW034W041190A (REAL)<br>Date: 04/11/90 | | Location: SW034 (SW)<br>Sample: SW00405WC (REAL)<br>Date: 10/04/90 | | | Location: SW034 (SW)<br>Sample: SW01020WC (REAL)<br>Date: 04/04/91 | | Location: SW034 (SW)<br>Sample: SW80107WC (DUP)<br>Date: 04/04/91 | | Location: SW034 (SW)<br>Sample: SW01651WC (REAL)<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 1,2-dichlorobenzene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 1,3-dichlorobenzene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 1,4-dichlorobenzene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2,4,5-trichlorophenol | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| 2,4,6-trichlorophenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2,4-dichlorophenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2,4-dimethylphenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2,4-dinitrophenol | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| 2,4-dinitrotoluene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2,6-dinitrotoluene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2-chloronaphthalene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2-chlorophenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2-methylnaphthalene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2-methylphenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 2-nitroaniline | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| 2-nitrophenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 3,3'-dichlorobenzidine | 22 | U | 20 | U | V | 20 | U | 20 | U | 21 | U | V |
| 3-nitroaniline | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| 4,6-dinitro-2-methylphenol | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| 4-bromophenyl phenyl ether | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 4-chloro-3-methylphenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 4-chloroaniline | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 4-chlorophenyl phenyl ether | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 4-methylphenol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| 4-nitroaniline | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | R |
| 4-nitrophenol | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| acenaphthene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| acenaphthylene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| anthracene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| benzenamine | 54 | U | | | | | | | | | | |
| benzidine | 54 | U | | | | | | | | | | |
| benzo(a)anthracene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| benzo(a)pyrene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| benzo(b)fluoranthene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| benzo(ghi)perylene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| benzo(k)fluoranthene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | R |
| benzoic acid | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| benzyl alcohol | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| bis(2-chloroethoxy)methane | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| bis(2-chloroethyl)ether | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| bis(2-chloroisopropyl)ether | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| butyl benzyl phthalate | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| chrysene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| di-n-butyl phthalate | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| di-n-octyl phthalate | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| dibenzo(a,h)anthracene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| dibenzofuran | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| diethyl phthalate | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| dimethyl phthalate | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| fluoranthene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| fluorene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| hexachlorobenzene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| hexachlorobutadiene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| hexachlorocyclopentadiene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| hexachloroethane | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| isophorone | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| n-nitroso-di-n-propylamine | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| n-nitrosodimethylamine | 22 | U | | | | | | | | | | |
| n-nitrosodiphenylamine | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| naphthalene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| nitrobenzene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| pentachlorophenol | 54 | U | 50 | U | V | 50 | U | 50 | U | 52 | U | V |
| phenanthrene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| phenol | 11 | U | | | | 10 | U | 10 | U | 10 | U | V |
| pyrene | 11 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW035W041290A (REAL)<br>Date: 04/12/90 | | | Location: SW035 (SW)<br>Sample: SW00410WC (REAL)<br>Date: 10/03/90 | | | Location: SW035 (SW)<br>Sample: SW80051WC (DUP)<br>Date: 10/03/90 | | | Location: SW035 (SW)<br>Sample: SW01025WC (REAL)<br>Date: 04/08/91 | | | Location: SW035 (SW)<br>Sample: SW80109WC (DUP)<br>Date: 04/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 1,2-dichlorobenzene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 1,3-dichlorobenzene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 1,4-dichlorobenzene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2,4,5-trichlorophenol | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| 2,4,6-trichlorophenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2,4-dichlorophenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2,4-dimethylphenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2,4-dinitrophenol | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| 2,4-dinitrotoluene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2,6-dinitrotoluene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-chloronaphthalene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-chlorophenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-methylnaphthalene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-methylphenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-nitroaniline | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| 2-nitrophenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 3,3'-dichlorobenzidine | 21 | U | | 20 | U | | 20 | U | | 21 | U | V | 21 | U | V |
| 3-nitroaniline | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| 4,6-dinitro-2-methylphenol | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| 4-bromophenyl phenyl ether | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-chloro-3-methylphenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-chloroaniline | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-chlorophenyl phenyl ether | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-methylphenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-nitroaniline | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| 4-nitrophenol | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| acenaphthene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| acenaphthylene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| anthracene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| benzenamine | 52 | U | | | | | | | | | | | | | |
| benzidine | 52 | U | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| benzo(a)pyrene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| benzo(b)fluoranthene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| benzo(ghi)perylene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| benzo(k)fluoranthene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| benzoic acid | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| benzyl alcohol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| bis(2-chloroethoxy)methane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| bis(2-chloroethyl)ether | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| bis(2-chloroisopropyl)ether | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 10 | U | | 10 | U | | 10 | U | | 2 | J | A | 3 | J | A |
| butyl benzyl phthalate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| chrysene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| di-n-butyl phthalate | 10 | U | | 2 | J | | 2 | J | | 10 | U | V | 10 | U | V |
| di-n-octyl phthalate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| dibenzo(a,h)anthracene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| dibenzofuran | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| diethyl phthalate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| dimethyl phthalate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| fluoranthene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| fluorene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| hexachlorobenzene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| hexachlorobutadiene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| hexachlorocyclopentadiene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| hexachloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| isophorone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| n-nitroso-di-n-propylamine | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| n-nitrosodimethylamine | 21 | U | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| naphthalene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| nitrobenzene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| pentachlorophenol | 52 | U | | 50 | U | | 50 | U | | 52 | U | V | 52 | U | V |
| phenanthrene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| phenol | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| pyrene | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01656WC (REAL)<br>Date: 10/17/91 | | | Location: SW036 (SW)<br>Sample: SW01026WC (REAL)<br>Date: 04/08/91 | | | Location: SW038 (SW)<br>Sample: SW00419WC (REAL)<br>Date: 10/15/90 | | | Location: SW038 (SW)<br>Sample: SW01034WC (REAL)<br>Date: 04/09/91 | | | Location: SW038 (SW)<br>Sample: SW01665WC (REAL)<br>Date: 10/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 1,2-dichlorobenzene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 1,3-dichlorobenzene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 1,4-dichlorobenzene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4,5-trichlorophenol | 52 | U | JA | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| 2,4,6-trichlorophenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dichlorophenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dimethylphenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dinitrophenol | 52 | U | R | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| 2,4-dinitrotoluene | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,6-dinitrotoluene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chloronaphthalene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chlorophenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-methylnaphthalene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-methylphenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-nitroaniline | 52 | U | JA | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| 2-nitrophenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 3,3'-dichlorobenzidine | 21 | U | JA | 20 | U | V | 20 | U | V | 21 | U | | 20 | U | V |
| 3-nitroaniline | 52 | U | JA | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| 4,6-dinitro-2-methylphenol | 52 | U | R | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| 4-bromophenyl phenyl ether | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chloro-3-methylphenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chloroaniline | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chlorophenyl phenyl ether | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-methylphenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-nitroaniline | 52 | U | R | 50 | U | V | 50 | U | R | 52 | U | | 50 | U | V |
| 4-nitrophenol | 52 | U | JA | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| acenaphthene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| acenaphthylene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| anthracene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(a)pyrene | 10 | U | JA | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(b)fluoranthene | 10 | U | JA | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(ghi)perylene | 10 | U | JA | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(k)fluoranthene | 10 | U | JA | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzoic acid | 52 | U | R | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| benzyl alcohol | 3 | J | A | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroethoxy)methane | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroethyl)ether | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroisopropyl)ether | 10 | U | JA | 10 | U | V | 10 | U | R | 10 | U | | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 2 | J | A | 2 | J | A | 10 | U | V | 10 | U | | 10 | U | V |
| butyl benzyl phthalate | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| chrysene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| di-n-butyl phthalate | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| di-n-octyl phthalate | 10 | U | JA | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| dibenzo(a,h)anthracene | 10 | U | JA | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| dibenzofuran | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| diethyl phthalate | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| dimethyl phthalate | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| fluoranthene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| fluorene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorobenzene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorobutadiene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorocyclopentadiene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| hexachloroethane | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 10 | U | JA | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| isophorone | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| n-nitroso-di-n-propylamine | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| naphthalene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| nitrobenzene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| pentachlorophenol | 52 | U | JA | 50 | U | V | 50 | U | V | 52 | U | | 50 | U | V |
| phenanthrene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| phenol | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| pyrene | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW039W041290A (UNKN)<br>Date: 04/12/90 | | | Location: SW039 (SW)<br>Sample: SW00406WC (REAL)<br>Date: 10/02/90 | | | Location: SW039 (SW)<br>Sample: SW01021WC (REAL)<br>Date: 04/01/91 | | | Location: SW039 (SW)<br>Sample: SW01652WC (REAL)<br>Date: 10/02/91 | | | Location: SW066 (SW)<br>Sample: SW066W041990A (REAL)<br>Date: 04/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 1,2-dichlorobenzene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 1,3-dichlorobenzene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 1,4-dichlorobenzene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2,4,5-trichlorophenol | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| 2,4,6-trichlorophenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2,4-dichlorophenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2,4-dimethylphenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2,4-dinitrophenol | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| 2,4-dinitrotoluene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2,6-dinitrotoluene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2-chloronaphthalene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2-chlorophenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2-methylnaphthalene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2-methylphenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 2-nitroaniline | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| 2-nitrophenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 3,3'-dichlorobenzidine | 22 | U | | 20 | U | | 20 | U | V | 20 | U | V | 22 | U | |
| 3-nitroaniline | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| 4,6-dinitro-2-methylphenol | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| 4-bromophenyl phenyl ether | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 4-chloro-3-methylphenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 4-chloroaniline | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 4-chlorophenyl phenyl ether | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 4-methylphenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| 4-nitroaniline | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| 4-nitrophenol | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| acenaphthene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| acenaphthylene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| anthracene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| benzenamine | 54 | U | | | | | | | | | | | 54 | U | |
| benzidine | 54 | U | | | | | | | | | | | 54 | U | |
| benzo(a)anthracene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| benzo(a)pyrene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| benzo(b)fluoranthene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| benzo(ghi)perylene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| benzo(k)fluoranthene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| benzoic acid | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| benzyl alcohol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| bis(2-chloroethoxy)methane | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| bis(2-chloroethyl)ether | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| bis(2-chloroisopropyl)ether | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| bis(2-ethylhexyl)phthalate | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| butyl benzyl phthalate | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| chrysene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| di-n-butyl phthalate | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| di-n-octyl phthalate | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| dibenzo(a,h)anthracene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| dibenzofuran | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| diethyl phthalate | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| dimethyl phthalate | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| fluoranthene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| fluorene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| hexachlorobenzene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| hexachlorobutadiene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| hexachlorocyclopentadiene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| hexachloroethane | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| indeno(1,2,3-cd)pyrene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| isophorone | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| n-nitroso-di-n-propylamine | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| n-nitrosodimethylamine | 22 | U | | | | | | | | | | | 22 | U | |
| n-nitrosodiphenylamine | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| naphthalene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| nitrobenzene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| pentachlorophenol | 54 | U | | 50 | U | | 50 | U | V | 51 | U | V | 54 | U | |
| phenanthrene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| phenol | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |
| pyrene | 11 | U | | 10 | U | | 10 | U | V | 10 | U | V | 11 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW00414WC (REAL)<br>Date: 10/17/90 | | | Location: SW067 (SW)<br>Sample: SW067W041990A (REAL)<br>Date: 04/19/90 | | | Location: SW067 (SW)<br>Sample: SW00415WC (REAL)<br>Date: 10/17/90 | | | Location: SW068 (SW)<br>Sample: SW00416WC (REAL)<br>Date: 10/16/90 | | | Location: SW068 (SW)<br>Sample: SW01031WC (REAL)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 1,2-dichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 1,3-dichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 1,4-dichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2,4,5-trichlorophenol | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | V | 50 | U | |
| 2,4,6-trichlorophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2,4-dichlorophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2,4-dimethylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2,4-dinitrophenol | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | V | 50 | U | |
| 2,4-dinitrotoluene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2,6-dinitrotoluene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2-chloronaphthalene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2-chlorophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2-methylnaphthalene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2-methylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 2-nitroaniline | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | V | 50 | U | |
| 2-nitrophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 3,3'-dichlorobenzidine | 20 | U | V | 21 | U | | 20 | U | V | 20 | U | V | 20 | U | |
| 3-nitroaniline | 50 | U | V | 52 | U | | 50 | U | R | 50 | U | V | 50 | U | |
| 4,6-dinitro-2-methylphenol | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | V | 50 | U | |
| 4-bromophenyl phenyl ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 4-chloro-3-methylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 4-chloroaniline | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 4-chlorophenyl phenyl ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 4-methylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| 4-nitroaniline | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | R | 50 | U | |
| 4-nitrophenol | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | V | 50 | U | |
| acenaphthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| acenaphthylene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| anthracene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| benzenamine | | | | 52 | U | | | | | | | | | | |
| benzidine | | | | 52 | U | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| benzo(a)pyrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| benzo(b)fluoranthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| benzo(ghi)perylene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| benzo(k)fluoranthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| benzoic acid | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | V | 50 | U | |
| benzyl alcohol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| bis(2-chloroethoxy)methane | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| bis(2-chloroethyl)ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| bis(2-chloroisopropyl)ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | |
| bis(2-ethylhexyl)phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| butyl benzyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| chrysene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| di-n-butyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| di-n-octyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| dibenzo(a,h)anthracene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| dibenzofuran | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| diethyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| dimethyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| fluoranthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| fluorene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| hexachlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| hexachlorobutadiene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| hexachlorocyclopentadiene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| hexachloroethane | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| indeno(1,2,3-cd)pyrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| isophorone | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| n-nitroso-di-n-propylamine | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| n-nitrosodimethylamine | | | | 21 | U | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| naphthalene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| nitrobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| pentachlorophenol | 50 | U | V | 52 | U | | 50 | U | V | 50 | U | V | 50 | U | |
| phenanthrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| phenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |
| pyrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-b

## Surface Water Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW01662WC (REAL)<br>Date: 10/10/91 | | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | | | | |
| 1,2-dichlorobenzene | | | | | | |
| 1,3-dichlorobenzene | 10 | U | | | | |
| 1,4-dichlorobenzene | 10 | U | | | | |
| 2,4,5-trichlorophenol | | | | | | |
| 2,4,6-trichlorophenol | | | | | | |
| 2,4-dichlorophenol | 10 | U | | | | |
| 2,4-dimethylphenol | 10 | U | | | | |
| 2,4-dinitrophenol | 51 | U | | | | |
| 2,4-dinitrotoluene | 10 | U | | | | |
| 2,6-dinitrotoluene | 10 | U | | | | |
| 2-chloronaphthalene | | | | | | |
| 2-chlorophenol | | | | | | |
| 2-methylnaphthalene | | | | | | |
| 2-methylphenol | | | | | | |
| 2-nitroaniline | | | | | | |
| 2-nitrophenol | | | | | | |
| 3,3'-dichlorobenzidine | | | | | | |
| 3-nitroaniline | | | | | | |
| 4,6-dinitro-2-methylphenol | 51 | U | | | | |
| 4-bromophenyl phenyl ether | 10 | U | | | | |
| 4-chloro-3-methylphenol | 10 | U | | | | |
| 4-chloroaniline | 10 | U | | | | |
| 4-chlorophenyl phenyl ether | 10 | U | | | | |
| 4-methylphenol | 10 | U | | | | |
| 4-nitroaniline | 51 | U | | | | |
| 4-nitrophenol | 51 | U | | | | |
| acenaphthene | 10 | U | | | | |
| acenaphthylene | 10 | U | | | | |
| anthracene | 10 | U | | | | |
| benzenamine | | | | | | |
| benzidine | | | | | | |
| benzo(a)anthracene | 10 | U | | | | |
| benzo(a)pyrene | 10 | U | | | | |
| benzo(b)fluoranthene | 10 | U | | | | |
| benzo(ghi)perylene | 10 | U | | | | |
| benzo(k)fluoranthene | 10 | U | | | | |
| benzoic acid | 51 | U | | | | |
| benzyl alcohol | 10 | U | | | | |
| bis(2-chloroethoxy)methane | 10 | U | | | | |
| bis(2-chloroethyl)ether | 10 | U | | | | |
| bis(2-chloroisopropyl)ether | 10 | U | | | | |
| bis(2-ethylhexyl)phthalate | 10 | U | | | | |
| butyl benzyl phthalate | 10 | U | | | | |
| chrysene | 10 | U | | | | |
| di-n-butyl phthalate | 10 | U | | | | |
| di-n-octyl phthalate | 10 | U | | | | |
| dibenzo(a,h)anthracene | 10 | U | | | | |
| dibenzofuran | 10 | U | | | | |
| diethyl phthalate | 10 | U | | | | |
| dimethyl phthalate | 10 | U | | | | |
| fluoranthene | 10 | U | | | | |
| fluorene | 10 | U | | | | |
| hexachlorobenzene | 10 | U | | | | |
| hexachlorobutadiene | 10 | U | | | | |
| hexachlorocyclopentadiene | 10 | U | | | | |
| hexachloroethane | 10 | U | | | | |
| indeno(1,2,3-cd)pyrene | 10 | U | | | | |
| isophorone | 10 | U | | | | |
| n-nitroso-di-n-propylamine | 10 | U | | | | |
| n-nitrosodimethylamine | | | | | | |
| n-nitrosodiphenylamine | 10 | U | | | | |
| naphthalene | | | | | | |
| nitrobenzene | | | | | | |
| pentachlorophenol | | | | | | |
| phenanthrene | 10 | U | | | | |
| phenol | 10 | U | | | | |
| pyrene | 10 | U | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-c

## Surface Water Pesticide/PCB Samples (ug/l)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW029W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW029 (SW)<br>Sample: SW00402WC (REAL)<br>Date: 10/03/90 | | | Location: SW031 (SW)<br>Sample: SW031W041890A (REAL)<br>Date: 04/18/90 | | | Location: SW031 (SW)<br>Sample: SW00409WC (REAL)<br>Date: 10/10/90 | | | Location: SW032 (SW)<br>Sample: SW032W041190A (UNKN)<br>Date: 04/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| 4,4'-dde | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| 4,4'-ddt | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| aldrin | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| alpha-bhc | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| alpha-chlordane | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| aroclor-1016 | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| aroclor-1221 | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| aroclor-1232 | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| aroclor-1242 | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| aroclor-1248 | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| aroclor-1254 | 1.1 | U | | 1.0 | U | V | 1.1 | U | | 1.0 | U | V | 1.1 | U | V |
| aroclor-1260 | 1.1 | U | | 1.0 | U | V | 1.1 | U | | 1.0 | U | V | 1.1 | U | V |
| beta-bhc | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| delta-bhc | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| dieldrin | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| endosulfan I | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| endosulfan II | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| endosulfan sulfate | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| endrin | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| endrin ketone | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | V |
| gamma-bhc (lindane) | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| gamma-chlordane | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| heptachlor | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| heptachlor epoxide | 0.054 | U | | 0.050 | U | V | 0.053 | U | | 0.050 | U | V | 0.053 | U | V |
| methoxychlor | 0.54 | U | | 0.50 | U | V | 0.53 | U | | 0.50 | U | V | 0.53 | U | V |
| toxaphene | 1.1 | U | | 1.0 | U | V | 1.1 | U | | 1.0 | U | V | 1.1 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-c

## Surface Water Pesticide/PCB Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW033W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW034 (SW)<br>Sample: SW034W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW035 (SW)<br>Sample: SW035W041290A (REAL)<br>Date: 04/12/90 | | Location: SW035 (SW)<br>Sample: SW00410WC (REAL)<br>Date: 10/03/90 | | | Location: SW035 (SW)<br>Sample: SW80051WC (DUP)<br>Date: 10/03/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| 4,4'-dde | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| 4,4'-ddt | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| aldrin | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| alpha-bhc | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| alpha-chlordane | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| aroclor-1016 | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| aroclor-1221 | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| aroclor-1232 | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| aroclor-1242 | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| aroclor-1248 | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| aroclor-1254 | 1.1 | U | V | 1.1 | U | V | 1.1 | U | 1.0 | U | V | 1.0 | U | V |
| aroclor-1260 | 1.1 | U | V | 1.1 | U | V | 1.1 | U | 1.0 | U | V | 1.0 | U | V |
| beta-bhc | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| delta-bhc | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| dieldrin | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| endosulfan I | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| endosulfan II | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| endosulfan sulfate | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| endrin | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| endrin ketone | 0.11 | U | V | 0.11 | U | V | 0.11 | U | 0.10 | U | V | 0.10 | U | V |
| gamma-bhc (lindane) | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| gamma-chlordane | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| heptachlor | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| heptachlor epoxide | 0.054 | U | V | 0.056 | U | V | 0.053 | U | 0.050 | U | V | 0.050 | U | V |
| methoxychlor | 0.54 | U | V | 0.56 | U | V | 0.53 | U | 0.50 | U | V | 0.50 | U | V |
| toxaphene | 1.1 | U | V | 1.1 | U | V | 1.1 | U | 1.0 | U | V | 1.0 | U | V |

Note: Data reporting order: result, *qualifier*, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-c

## Surface Water Pesticide/PCB Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW036W041290A (REAL)<br>Date: 04/12/90 | | | Location: SW038 (SW)<br>Sample: SW00419WC (REAL)<br>Date: 10/15/90 | | | Location: SW039 (SW)<br>Sample: SW039W041290A (UNKN)<br>Date: 04/12/90 | | | Location: SW039 (SW)<br>Sample: SW00406WC (REAL)<br>Date: 10/02/90 | | | Location: SW039 (SW)<br>Sample: SW01021WC (REAL)<br>Date: 04/01/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| 4,4'-dde | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| 4,4'-ddt | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| aldrin | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| alpha-bhc | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| alpha-chlordane | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| aroclor-1016 | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| aroclor-1221 | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| aroclor-1232 | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| aroclor-1242 | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| aroclor-1248 | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| aroclor-1254 | 1.1 | U | | 1.0 | U | V | 1.1 | U | | 1.0 | U | V | 1.0 | U | |
| aroclor-1260 | 1.1 | U | | 1.0 | U | V | 1.1 | U | | 1.0 | U | V | 1.0 | U | |
| beta-bhc | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| delta-bhc | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| dieldrin | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| endosulfan I | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| endosulfan II | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| endosulfan sulfate | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| endrin | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| endrin ketone | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.10 | U | |
| gamma-bhc (lindane) | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| gamma-chlordane | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| heptachlor | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| heptachlor epoxide | 0.57 | U | | 0.050 | U | V | 0.054 | U | | 0.050 | U | V | 0.050 | U | |
| methoxychlor | 0.57 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.50 | U | |
| toxaphene | 1.1 | U | | 1.0 | U | V | 1.1 | U | | 1.0 | U | V | 1.0 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-c

## Surface Water Pesticide/PCB Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01652WC (REAL)<br>Date: 10/02/91 | | | Location: SW066 (SW)<br>Sample: SW066W041990A (REAL)<br>Date: 04/19/90 | | | Location: SW066 (SW)<br>Sample: SW00414WC (REAL)<br>Date: 10/17/90 | | | Location: SW067 (SW)<br>Sample: SW067W041990A (REAL)<br>Date: 04/19/90 | | | Location: SW067 (SW)<br>Sample: SW00415WC (REAL)<br>Date: 10/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| 4,4'-dde | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| 4,4'-ddt | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| aldrin | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| alpha-bhc | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| alpha-chlordane | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| aroclor-1016 | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| aroclor-1221 | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| aroclor-1232 | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| aroclor-1242 | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| aroclor-1248 | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| aroclor-1254 | 1.0 | U | V | 1.1 | U | | 1.00 | U | V | 1.1 | U | | 1.00 | U | V |
| aroclor-1260 | 1.0 | U | V | 1.1 | U | | 1.00 | U | V | 1.1 | U | | 1.00 | U | V |
| beta-bhc | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| delta-bhc | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| dieldrin | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| endosulfan I | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| endosulfan II | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| endosulfan sulfate | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| endrin | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| endrin ketone | 0.10 | U | V | 0.11 | U | | 0.10 | U | V | 0.11 | U | | 0.10 | U | V |
| gamma-bhc (lindane) | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| gamma-chlordane | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| heptachlor | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| heptachlor epoxide | 0.050 | U | V | 0.054 | U | | 0.05 | U | V | 0.054 | U | | 0.05 | U | V |
| methoxychlor | 0.50 | U | V | 0.54 | U | | 0.50 | U | V | 0.54 | U | | 0.50 | U | V |
| toxaphene | 1.0 | U | V | 1.1 | U | | 1.00 | U | V | 1.1 | U | | 1.00 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-c

## Surface Water Pesticide/PCB Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00416WC (REAL)<br>Date: 10/16/90 | | | Location: SW069 (SW)<br>Sample: SW00417WC (REAL)<br>Date: 10/16/90 | | | Location: SW070 (SW)<br>Sample: SW070W041990A (REAL)<br>Date: 04/19/90 | | Location: SW070 (SW)<br>Sample: SW00418WC (REAL)<br>Date: 10/16/90 | | | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| 4,4'-dde | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| 4,4'-ddt | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| aldrin | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| alpha-bhc | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| alpha-chlordane | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| aroclor-1016 | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| aroclor-1221 | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| aroclor-1232 | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| aroclor-1242 | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| aroclor-1248 | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| aroclor-1254 | 1.0 | U | V | 1.0 | U | V | 1.1 | U | 1.0 | U | V | |
| aroclor-1260 | 1.0 | U | V | 1.0 | U | V | 1.1 | U | 1.0 | U | V | |
| beta-bhc | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| delta-bhc | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| dieldrin | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| endosulfan I | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| endosulfan II | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| endosulfan sulfate | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| endrin | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| endrin ketone | 0.10 | U | V | 0.10 | U | V | 0.11 | U | 0.10 | U | V | |
| gamma-bhc (lindane) | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| gamma-chlordane | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| heptachlor | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| heptachlor epoxide | 0.050 | U | V | 0.050 | U | V | 0.057 | U | 0.050 | U | V | |
| methoxychlor | 0.50 | U | V | 0.50 | U | V | 0.57 | U | 0.50 | U | V | |
| toxaphene | 1.0 | U | V | 1.0 | U | V | 1.1 | U | 1.0 | U | V | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW02990001 (REAL)<br>Date: 01/16/90 | | Location: SW029 (SW)<br>Sample: SW02990002 (REAL)<br>Date: 02/08/90 | | | Location: SW029 (SW)<br>Sample: SW029W041190A (REAL)<br>Date: 04/11/90 | | Location: SW029 (SW)<br>Sample: SW029W051090A (REAL)<br>Date: 05/10/90 | | Location: SW029 (SW)<br>Sample: SW00003WC (REAL)<br>Date: 06/06/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 215.0 | | 161 | J | A | 787 | | 606 | | 324 | |
| Antimony | 500.0 | U | 45.2 | UJ | A | 60.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | 2.0 | U | 1.3 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Barium | 73.3 | | 77.5 | | V | 200 | U | 200 | U | 200 | U |
| Beryllium | 2.0 | U | 0.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | 4.0 | U | 3.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Calcium | 42000.0 | | 42700 | E | | 29300 | | 45200 | | 42200 | |
| Cesium | 1000.0 | U | 1000 | U | V | 1000 | U | 1000 | U | 1000 | U |
| Chromium | 20.0 | U | 5.8 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Cobalt | 20.0 | U | 2.7 | U | V | 50.0 | U | 50.0 | U | 50.0 | U |
| Copper | 20.0 | U | 2.1 | U | V | 25.0 | U | 25.0 | U | 25.0 | U |
| Iron | 428.0 | | 187 | E | | 617 | | 645 | | 546 | |
| Lead | 2.0 | U | 1.4 | U | V | 5.0 | U | 5.0 | U | 3.0 | U |
| Lithium | 11.0 | | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Magnesium | 7770.0 | | 8210 | | V | 6020 | | 8780 | | 9540 | |
| Manganese | 88.7 | | 30.5 | | V | 22.4 | | 72.4 | | 87.4 | |
| Mercury | 0.2 | U | 0.20 | U | R | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 500.0 | U | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Nickel | 20.0 | U | 11.1 | U | V | 40.0 | U | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 1160.0 | | 972 | U | V | 5000 | U | 5000 | U | 5000 | U |
| Selenium | 2.0 | | 1.8 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | |
| Silver | 30.0 | U | 4.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Sodium | 19200.0 | | 18100 | | V | 18100 | | 20600 | | 23500 | |
| Strontium | 213.0 | | 1000 | UJ | A | 1000 | U | 1000 | U | 1000 | U |
| Thallium | 3.0 | U | 0.90 | U | R | 10.0 | U | 10.0 | U | 10.0 | U |
| Tin | 1000.0 | U | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Vanadium | 10.0 | U | 3.0 | U | V | 50.0 | U | 50.0 | U | 50.0 | U |
| Zinc | 118.0 | | 9.4 | UJ | A | 65.5 | | 29.0 | | 32.4 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00233WC (REAL)<br>Date: 08/09/90 | | Location: SW029 (SW)<br>Sample: SW00311WC (REAL)<br>Date: 09/12/90 | | Location: SW029 (SW)<br>Sample: SW80042WC (DUP)<br>Date: 09/12/90 | | Location: SW029 (SW)<br>Sample: SW00402WC (REAL)<br>Date: 10/03/90 | | Location: SW029 (SW)<br>Sample: SW00503WC (REAL)<br>Date: 11/08/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 595 | | 324.00 | * | 663.00 | * | 661.00 | | 267.00 | |
| Antimony | 12.0 | U | 10.50 | B | 7.50 | B | 12.30 | B | 25.00 | B |
| Arsenic | 2.3 | B | 1.00 | B | 1.00 | B | 1.00 | B | 2.00 | U |
| Barium | 83.3 | B | 91.00 | B | 86.70 | B | 91.50 | B | 71.90 | B |
| Beryllium | 2.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | 1.00 | U |
| Cadmium | 2.0 | U | 2.00 | U | 2.00 | U | 2.00 | U | 2.50 | B |
| Calcium | 38100 | | 38100.00 | | 38000.00 | | 43800.00 | | 45300.00 | E |
| Cesium | 55.0 | U | 92.00 | U | 92.00 | U | 92.00 | U | 100.00 | B |
| Chromium | 4.0 | U | 6.20 | B | 5.00 | U | 8.40 | B | 14.10 | |
| Cobalt | 4.0 | U | 3.00 | U | 3.00 | U | 3.00 | U | 5.90 | B |
| Copper | 3.0 | U | 2.20 | B | 2.00 | U | 6.30 | B | 6.70 | B |
| Iron | 972 | | 697.00 | * | 946.00 | * | 1020.00 | | 362.00 | |
| Lead | 2.0 | B | 1.60 | B | 1.40 | B | 1.00 | U | 1.20 | B |
| Lithium | 35.0 | U | 1.00 | U | 10.00 | B | 5.60 | B | 3.20 | B |
| Magnesium | 7620 | | 7560.00 | | 7670.00 | | 8560.00 | | 7870.00 | E |
| Manganese | 77.1 | | 70.00 | | 73.70 | | 75.50 | | 42.90 | |
| Mercury | 0.10 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 70.0 | U | 2.10 | B | 2.00 | U | 4.60 | B | 7.10 | B |
| Nickel | 10 | U | 4.00 | U | 4.00 | U | 4.00 | U | 7.50 | B |
| Phosphorus | 234 | B | | | | | | | | |
| Potassium | 1440 | B | 1580.00 | B | 1660.00 | B | 1700.00 | B | 1610.00 | B |
| Selenium | 1.0 | U | 1.00 | BW | 2.00 | B | 1.00 | U | 1.00 | B |
| Silicon | | | | | | | | | | |
| Silver | 2.0 | U | 3.00 | U | 3.00 | U | 3.00 | U | 5.30 | B |
| Sodium | 18000 | | 17200.00 | | 17000.00 | | 20500.00 | | 15200.00 | E |
| Strontium | 193 | B | 195.00 | B | 193.00 | B | 218.00 | | 211.00 | E |
| Thallium | 2.0 | U | 3.00 | U | 3.00 | U | 2.00 | U | 2.00 | UWN |
| Tin | 24.0 | U | 11.00 | B | 7.00 | U | 15.70 | B | 27.40 | B |
| Vanadium | 2.8 | B | 6.20 | B | 6.80 | B | 5.90 | B | 7.60 | B |
| Zinc | 57.7 | | 10.10 | B | 12.00 | B | 13.00 | B | 8.70 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
M-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00607WC (REAL)<br>Date: 12/05/90 | | | Location: SW029 (SW)<br>Sample: SW00709WC (REAL)<br>Date: 01/09/91 | | | Location: SW029 (SW)<br>Sample: SW00915WC (REAL)<br>Date: 03/18/91 | | | Location: SW029 (SW)<br>Sample: SW01124WC (REAL)<br>Date: 05/09/91 | | | Location: SW029 (SW)<br>Sample: SW01227WC (REAL)<br>Date: 06/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 86.4 | B | | 232.00 | | | 180 | | JA | 496 | | V | 350 | | V |
| Antimony | 30 | U | | 13.60 | B | | 18.2 | U | V | 25.6 | U | V | 11 | U | V |
| Arsenic | 2 | U | | 2.00 | UW | | 0.90 | U | V | 0.90 | U | JA | 4.0 | U | V |
| Barium | 81 | B | | 117.00 | B | | 58.9 | | V | 90.1 | | V | 51 | | V |
| Beryllium | 1 | U | | 1.00 | U | | 0.60 | U | V | 0.50 | U | V | 1.0 | U | V |
| Cadmium | 5 | U | | 2.00 | U | | 3.7 | | JA | 3.3 | U | JA | | | |
| Calcium | 47400 | | | 63100.00 | | | 44900 | | V | 44600 | | V | 36000 | | V |
| Cesium | 200 | UNW | | 5.90 | B | | 500 | U | V | 500 | U | V | 50 | U | JA |
| Chromium | | | | 10.40 | | | 6.9 | U | V | 4.1 | U | JA | 2.0 | U | V |
| Cobalt | 20 | U | | 3.00 | U | | 3.0 | U | V | 3.6 | U | V | 2.0 | U | V |
| Copper | 10 | U | | 11.60 | B | | 2.7 | | V | 5.8 | | V | 3.0 | U | V |
| Iron | 324 | | | 518.00 | | | 362 | | V | 886 | | V | 690 | | V |
| Lead | 2 | UWN | | 1.30 | BW | | 1.0 | U | V | 1.0 | U | V | 3.2 | | V |
| Lithium | 6.8 | | | 2.00 | U | | 6.2 | | V | 7.0 | | JA | 4.2 | | JA |
| Magnesium | 8330 | | | 12500.00 | | | 8980 | | V | 9100 | | V | 8400 | | V |
| Manganese | 47.7 | | | 71.60 | | | 43.3 | | V | 81.3 | | V | 82 | | V |
| Mercury | .2 | U | | 0.20 | U | | 0.20 | U | V | 0.20 | U | JA | | | |
| Molybdenum | 10 | U | | 6.50 | B | | 10.9 | U | V | 5.7 | U | V | 3.0 | U | JA |
| Nickel | 20 | U | | 5.00 | B | | 3.9 | U | V | 14.7 | U | V | 4.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1180 | B | | 1870.00 | B | | 1220 | | V | 2050 | U | V | 1200 | | V |
| Selenium | 2 | UW | | 3.00 | BW | | 1.1 | U | V | 1.1 | U | V | 4.0 | UI | JA |
| Silicon | 6590 | | | | | | 6030 | | JA | 6960 | | V | 6620000.0 | | JA |
| Silver | 5 | U | | 3.10 | B | | 3.8 | U | V | 5.0 | U | JA | 2.0 | U | V |
| Sodium | 20000 | | | 29500.00 | | | 21200 | | V | 24300 | | V | 22000 | | V |
| Strontium | 237 | | | 324.00 | | | 217 | | V | 255 | | V | 220 | | JA |
| Thallium | 2 | UW | | 1.00 | UWN | | 1.4 | U | JA | 1.4 | U | JA | 3.0 | UI | JA |
| Tin | 20 | U | | 23.20 | B | | 24.2 | U | V | 14.8 | U | V | 13 | U | JA |
| Vanadium | 10 | U | | 6.10 | B | | 2.1 | | V | 5.7 | U | V | 2.0 | U | V |
| Zinc | 41.2 | * | | 62.60 | E | | 4.7 | U | V | 25.2 | | JA | 8.6 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01330WC (REAL)<br>Date: 07/11/91 | | | Location: SW029 (SW)<br>Sample: SW01436WC (REAL)<br>Date: 08/08/91 | | | Location: SW029 (SW)<br>Sample: SW01542WC (REAL)<br>Date: 09/26/91 | | | Location: SW029 (SW)<br>Sample: SW01648WC (REAL)<br>Date: 10/09/91 | | | Location: SW029 (SW)<br>Sample: SW01720WC (REAL)<br>Date: 11/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 4970 | | V | 1200 | | V | 1900 | | V | 372 | | V |
| Antimony | | | | 42.2 | U | V | 14 | U | V | 14 | U | V | 13.8 | U | V |
| Arsenic | | | | 0.90 | | JA | 2.0 | U | V | 2.0 | U | V | 1.1 | U | V |
| Barium | | | | 95.2 | | V | 130 | | V | 130 | | V | 96.5 | | V |
| Beryllium | | | | 0.60 | U | V | 1.0 | U | V | 1.0 | U | V | 0.60 | | JA |
| Cadmium | | | | 4.6 | U | V | 1.0 | U | | 1.0 | U | V | 2.4 | U | V |
| Calcium | | | | 31800 | | V | 52000 | | V | 54000 | | V | 52600 | | V |
| Cesium | | | | 500 | U | V | 50 | U | V | 50 | U | V | 500 | U | V |
| Chromium | | | | 5.5 | U | V | 2.0 | U | JA | 2.0 | U | V | 2.6 | U | V |
| Cobalt | | | | 7.3 | U | V | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V |
| Copper | | | | 6.5 | | V | 3.8 | | JA | 2.6 | | V | 2.1 | U | V |
| Iron | | | | 5030 | | V | 1700 | | V | 950 | | V | 489 | | V |
| Lead | | | | 6.1 | | JA | 3.1 | | V | 2.4 | | V | 0.90 | U | R |
| Lithium | | | | 5.4 | U | V | 7.3 | | V | 9.6 | | JA | 7.1 | U | V |
| Magnesium | | | | 6260 | | V | 11000 | | V | 10000 | | V | 9530 | | V |
| Manganese | | | | 147 | | V | 350 | | V | 580 | | V | 64.3 | | V |
| Mercury | | | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V |
| Molybdenum | | | | 10.0 | U | V | 4.0 | U | V | 4.0 | U | V | 5.8 | U | V |
| Nickel | | | | 10.7 | U | V | 5.0 | U | V | 5.0 | U | V | 5.9 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | | | | 3050 | | | 2300 | | V | 2300 | | JA | 1510 | | V |
| Selenium | | | | 1.2 | U | V | 4.0 | U | JA | 4.0 | UI | JA | 1.5 | U | V |
| Silicon | 6240 | JA | | 15700 | | V | 7160 | | V | 7870 | | V | 8550 | | V |
| Silver | | | | 6.8 | U | V | 5.0 | U | V | 5.0 | U | V | 2.9 | U | V |
| Sodium | | | | 14400 | | JA | 27000 | | V | 24000 | | V | 21700 | | V |
| Strontium | | | | 167 | | V | 270 | | V | 280 | | V | 230 | | V |
| Thallium | | | | 1.6 | U | V | 1.0 | UI | JA | 1.0 | UI | JA | 1.9 | U | V |
| Tin | | | | 38.9 | U | V | 11 | U | JA | 11 | U | V | 10.4 | U | V |
| Vanadium | | | | 10.2 | | V | 4.6 | | V | 3.3 | | V | 2.3 | U | V |
| Zinc | | | | 13.8 | | V | 5.0 | U | R | 25 | | JA | 4.3 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01793WC (REAL)<br>Date: 01/09/92 | | | Location: SW029 (SW)<br>Sample: SW01875WC (REAL)<br>Date: 04/02/92 | | | Location: SW029 (SW)<br>Sample: SW80190WC (DUP)<br>Date: 04/02/92 | | | Location: SW031 (SW)<br>Sample: SW03190001 (REAL)<br>Date: 01/11/90 | | | Location: SW031 (SW)<br>Sample: SW03190003 (REAL)<br>Date: 03/14/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 209 | | V | 797 | | V | 626 | | V | 3390 | | V | 906 | J | A |
| Antimony | 13.5 | U | V | 19.8 | U | V | 19.8 | U | V | 44.6 | U | V | 15.8 | UJ | A |
| Arsenic | 1.3 | U | V | 1.7 | U | JA | 1.7 | U | V | 1.9 | U | R | 1.3 | U | R |
| Barium | 95.2 | | V | 70.3 | | V | 68.2 | | V | 155 | | V | 105 | | V |
| Beryllium | 0.80 | U | V | 0.70 | | JA | 0.70 | | JA | 0.8 | U | V | 0.2 | U | R |
| Cadmium | 2.8 | U | V | 2.3 | U | V | 2.3 | U | V | 2.3 | U | R | 3.2 | U | V |
| Calcium | 53300 | | V | 35000 | | V | 34700 | | V | 77600 | | V | 66300 | J | A |
| Cesium | 500 | U | V | 500 | U | V | 500 | U | V | 1000 | U | V | 1000 | U | V |
| Chromium | 5.7 | U | V | 2.0 | U | V | 2.0 | U | V | 8.7 | U | V | 5.8 | U | V |
| Cobalt | 3.4 | U | V | 2.7 | U | V | 2.7 | U | V | 2.2 | U | V | 2.7 | U | V |
| Copper | 3.1 | | V | 2.3 | U | V | 2.3 | U | V | 12.3 | UJ | A | 2.1 | U | V |
| Iron | 321 | | V | 650 | | V | 601 | | V | 3810 | | V | 394 | J | A |
| Lead | 1.6 | | JA | 1.2 | U | V | 1.2 | U | V | 5.2 | UJ | A | 1.4 | UJ | A |
| Lithium | 6.1 | | V | 2.0 | U | V | 3.9 | | JA | 20.0 | J | A | 100 | U | R |
| Magnesium | 9680 | | V | 7210 | | V | 7130 | | V | 15900 | | V | 13800 | J | A |
| Manganese | 82.8 | | V | 34.5 | | V | 35.1 | | V | 93.5 | | V | 13.1 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.2 | U | V | 0.2 | U | V |
| Molybdenum | 6.5 | U | V | 3.5 | U | V | 3.5 | U | V | 20.5 | UJ | A | 100 | UJ | A |
| Nickel | 9.9 | U | V | 11.2 | U | V | 11.2 | U | V | 5.7 | | V | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1080 | | V | 1430 | | JA | 813 | | JA | 4260 | | V | 3000 | | V |
| Selenium | 2.6 | | JA | 1.0 | U | V | 1.0 | U | V | 2.2 | U | V | 1.8 | U | V |
| Silicon | 7520 | | V | 7350 | | V | 6800 | | V | | | | | | |
| Silver | 2.5 | U | JA | 2.1 | U | V | 2.1 | U | V | 2.8 | U | V | 4.9 | UJ | A |
| Sodium | 21400 | | V | 19900 | | V | 19700 | | V | 30800 | | V | 34100 | J | A |
| Strontium | 274 | | V | 190 | | V | 189 | | V | 448 | J | A | 1000 | U | R |
| Thallium | 2.1 | U | V | 2.0 | U | V | 2.0 | U | V | 1.1 | U | R | 0.9 | U | V |
| Tin | 14.2 | U | V | 9.4 | U | V | 9.4 | U | V | 41.0 | UJ | A | 100 | UJ | A |
| Vanadium | 4.7 | U | V | 3.5 | U | V | 3.5 | U | V | 7.2 | | V | 3.0 | U | V |
| Zinc | 6.1 | | JA | 4.1 | | JA | 4.1 | | JA | 110 | | V | 89.8 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW031W041890A (REAL)<br>Date: 04/18/90 | | Location: SW031 (SW)<br>Sample: SW031W051590A (REAL)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW031W05190A (UNKN)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW00060WC (REAL)<br>Date: 06/11/90 | | Location: SW031 (SW)<br>Sample: SW00199WC (REAL)<br>Date: 07/19/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | 200 | U | 200 | U | 200 | U | 611.00 | E |
| Antimony | 60.0 | U | 60.0 | U | 60.0 | U | 60.0 | U | 26.30 | B |
| Arsenic | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 2.00 | U |
| Barium | 200 | U | 200 | U | 200 | U | 200 | U | 141.00 | BE |
| Beryllium | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 1.00 | U |
| Cadmium | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Calcium | 80900 | | 66200 | | 66200 | | 59300 | | 77300.00 | |
| Cesium | 1000 | U | 1000 | U | 1000 | U | 1000 | U | 147.00 | U |
| Chromium | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 6.00 | U |
| Cobalt | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U | 4.70 | B |
| Copper | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U | 10.70 | B |
| Iron | 100 | U | 104 | | 104 | | 207 | | 571.00 | |
| Lead | 5.0 | U | 3.0 | U | 3.0 | U | 3.0 | U | 1.50 | B |
| Lithium | 100 | U | 100 | U | 100 | U | 100 | U | 10.50 | B |
| Magnesium | 17900 | | 14900 | | 14900 | | 13000 | | 16500.00 | |
| Manganese | 15.0 | U | 15.0 | U | 15.0 | U | 21.5 | | 29.80 | E |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | 100 | U | 100 | U | 100 | U | 7.60 | B |
| Nickel | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 8.60 | B |
| Phosphorus | | | | | | | | | | |
| Potassium | 5000 | U | 5000 | U | 5000 | U | 5000 | U | 2260.00 | B |
| Selenium | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 1.00 | BW |
| Silicon | | | | | | | | | | |
| Silver | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 3.90 | B |
| Sodium | 39200 | | 30100 | | 30100 | | 24500 | | 32000.00 | |
| Strontium | 1000 | U | 1000 | U | 1000 | U | 1000 | U | 489.00 | |
| Thallium | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 3.00 | UW |
| Tin | 100 | U | 100 | U | 100 | U | 100 | U | 23.20 | B |
| Vanadium | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U | 10.40 | B |
| Zinc | 94.9 | | 198 | | 198 | | 54.8 | | 27.60 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW00318WC (REAL)<br>Date: 09/13/90 | | Location: SW031 (SW)<br>Sample: SW00409WC (REAL)<br>Date: 10/10/90 | | Location: SW031 (SW)<br>Sample: SW00510WC (REAL)<br>Date: 11/27/90 | | Location: SW031 (SW)<br>Sample: SW00614WC (REAL)<br>Date: 12/11/90 | | Location: SW031 (SW)<br>Sample: SW01029WC (REAL)<br>Date: 04/09/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 116.00 | B | 1680.00 | E | 1520.00 | | 1710.00 | E* | 152 | |
| Antimony | 18.60 | B | 7.00 | UN | 9.10 | B | 15.50 | B | 25.6 | U |
| Arsenic | 2.00 | UW | 2.00 | UN | 2.00 | U | 2.00 | U | 0.90 | U |
| Barium | 124.00 | B | 120.00 | B | 164.00 | B | 164.00 | BE | 89.9 | |
| Beryllium | 1.00 | U | 1.00 | U | 1.10 | B | 1.00 | U | 0.60 | |
| Cadmium | 2.00 | U | 2.00 | U | 2.00 | U | 2.00 | U | 2.7 | U |
| Calcium | 78000.00 | | 54400.00 | | 91800.00 | | 88200.00 | E | 50900 | |
| Cesium | 200.00 | B | 76.00 | U | 76.00 | U | 200.00 | B | 500 | U |
| Chromium | 15.80 | | 7.20 | B | 7.80 | B | 12.80 | | 4.1 | U |
| Cobalt | 3.00 | U | 3.50 | B | 3.50 | B | 3.00 | U | 3.6 | U |
| Copper | 2.00 | U | 12.30 | B | 11.40 | B | 15.50 | B | 4.7 | U |
| Iron | 111.00 | | 2050.00 | | 1400.00 | | 1470.00 | E | 204 | |
| Lead | 1.00 | U | 3.80 | | 2.60 | B | 2.00 | BW | 1.7 | |
| Lithium | 10.00 | B | 15.80 | B | 11.90 | B | 10.70 | B | 10.3 | |
| Magnesium | 17000.00 | | 11300.00 | | 17700.00 | | 17600.00 | E | 12000 | |
| Manganese | 14.00 | B | 91.70 | | 45.10 | | 31.90 | E | 25.1 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 5.20 | B | 4.20 | B | 17.50 | B | 7.40 | B | 5.7 | U |
| Nickel | 5.20 | B | 4.00 | U | 6.60 | B | 4.90 | B | 14.7 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 2270.00 | B | 3730.00 | BE | 2570.00 | B | 2810.00 | B | 2270 | |
| Selenium | 2.00 | U | 2.00 | UW | 1.00 | B | 2.00 | U | 1.1 | U |
| Silicon | | | | | | | | | 2230 | |
| Silver | 5.00 | B | 23.00 | | 3.00 | U | 3.00 | U | 5.0 | U |
| Sodium | 30000.00 | | 20500.00 | | 28800.00 | | 36200.00 | E | 30100 | |
| Strontium | 477.00 | | 353.00 | E | 510.00 | | 507.00 | E | 322 | |
| Thallium | 4.00 | U | 2.00 | U | 2.00 | UWN | 2.00 | U | 1.4 | U |
| Tin | 27.80 | B | 11.10 | B | 7.00 | U | 28.10 | B | 14.8 | U |
| Vanadium | 11.40 | B | 8.70 | B | 9.80 | B | 9.60 | B | 5.7 | U |
| Zinc | 16.70 | B | 91.20 | E | 93.30 | | 57.10 | E | 20.7 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW) Sample: SW01443WC (REAL) Date: 08/12/91 | | | Location: SW031 (SW) Sample: SW01549WC (REAL) Date: 09/26/91 | | | Location: SW031 (SW) Sample: SW01655WC (REAL) Date: 10/16/91 | | | Location: SW032 (SW) Sample: SW03290001 (REAL) Date: 01/16/90 | | | Location: SW032 (SW) Sample: SW03290003 (REAL) Date: 03/23/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 270 | | V | 270 | | V | 220 | | V | 203 | UJ | A | 1750 | J | A |
| Antimony | 11 | U | V | 14 | U | V | 14 | U | V | 44.6 | UJ | A | 14.5 | UJ | A |
| Arsenic | 4.0 | U | V | 2.0 | U | V | 2.0 | U | V | 1.9 | U | V | 1.3 | U | R |
| Barium | 130 | | V | 120 | | V | 120 | | V | 80.3 | J | A | 69.9 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 0.8 | U | V | 0.2 | U | R |
| Cadmium | 2.0 | U | V | | | | 1.0 | U | V | 2.3 | U | R | 3.2 | U | V |
| Calcium | 81000 | | V | 78000 | | V | 79000 | | V | 46400 | | V | 35600 | | V |
| Cesium | 50 | U | V | 110 | | V | 50 | U | V | 1000 | U | V | 1000 | U | V |
| Chromium | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 8.7 | U | V | 5.8 | U | V |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.2 | U | V | 2.7 | U | V |
| Copper | 3.1 | | V | 2.4 | | JA | 2.0 | U | V | 7.1 | UJ | A | 8.7 | UJ | A |
| Iron | 270 | | V | 340 | | V | 240 | | V | 220 | UJ | A | 1090 | | V |
| Lead | 5.0 | | V | 2.3 | | V | 2.0 | U | V | 1.4 | UJ | A | 1.4 | UJ | A |
| Lithium | 8.2 | | JA | 9.1 | | V | 9.8 | | JA | 11.0 | | V | 100 | U | V |
| Magnesium | 16000 | | V | 16000 | | V | 15000 | | V | 7880 | | V | 5780 | | V |
| Manganese | 18 | | V | 27 | | V | 20 | | V | 7.8 | | V | 10.0 | | V |
| Mercury | 0.53 | | JA | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.2 | UJ | A |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 4.0 | U | V | 20.5 | UJ | A | 100 | U | V |
| Nickel | 4.0 | U | R | 5.0 | U | V | 5.0 | U | V | 3.8 | U | V | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2400 | | V | 2000 | | V | 2000 | | JA | 1100 | UJ | A | 1770 | UJ | A |
| Selenium | 4.0 | UI | JA | 4.0 | U | JA | 4.0 | UI | JA | 2.2 | U | V | 1.8 | U | V |
| Silicon | 6320 | | | 6980 | | V | 7280 | | V | | | | | | |
| Silver | 2.0 | U | V | 5.0 | U | V | 5.0 | U | V | 2.8 | U | V | 9.1 | UJ | A |
| Sodium | 33000 | | V | 30000 | | V | 27000 | | V | 17600 | | V | 14900 | | V |
| Strontium | 480 | | JA | 440 | | V | 430 | | V | 221 | J | A | 1000 | U | R |
| Thallium | 5.0 | UI | JA | 1.0 | UI | JA | 5.0 | UI | JA | 1.1 | U | V | 0.9 | U | V |
| Tin | 13 | U | R | 11 | U | JA | 11 | U | V | 41.0 | UJ | A | 100 | U | V |
| Vanadium | 3.0 | U | V | 2.0 | U | V | 2.0 | U | V | 3.0 | U | V | 5.3 | UJ | A |
| Zinc | 19 | | V | 14 | | JA | 29 | | V | 18.3 | UJ | A | 53.4 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW032W041190A (UNKN)<br>Date: 04/11/90 | | Location: SW032 (SW)<br>Sample: SW032W051090A (REAL)<br>Date: 05/10/90 | | Location: SW032 (SW)<br>Sample: SW00005WC (DUP)<br>Date: 06/07/90 | | Location: SW032 (SW)<br>Sample: SW00234WC (REAL)<br>Date: 08/09/90 | | Location: SW032 (SW)<br>Sample: SW00312WC (REAL)<br>Date: 09/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 280 | | 200 | U | 200 | U | 85.4 | B | 80.30 | B |
| Antimony | 13.4 | U | 60.0 | U | 60.0 | U | 12.0 | U | 12.00 | B |
| Arsenic | 1.3 | UN | 10.0 | U | 10.0 | U | 1.8 | B | 2.00 | B |
| Barium | 61.4 | B | 200 | U | 200 | U | 57.0 | B | 65.00 | B |
| Beryllium | 0.20 | U | 5.0 | U | 5.0 | U | 2.0 | U | 1.00 | U |
| Cadmium | 3.2 | U | 5.0 | U | 5.0 | U | 2.0 | U | 2.00 | U |
| Calcium | 29200 | | 46300 | | 32900 | | 33500 | | 38400.00 | |
| Cesium | 1000 | U | 1000 | U | 1000 | U | 55.0 | U | 100.00 | B |
| Chromium | 5.8 | U | 10.0 | U | 10.0 | U | 4.0 | U | 9.70 | B |
| Cobalt | 2.7 | U | 50.0 | U | 50.0 | U | 4.0 | U | 3.00 | U |
| Copper | 2.3 | B | 25.0 | U | 25.0 | U | 3.0 | U | 2.00 | U |
| Iron | 155 | | 100 | U | 190 | | 349 | | 328.00 | |
| Lead | 1.4 | UN | 5.0 | U | 3.0 | U | 1.8 | B | 1.00 | U |
| Lithium | 100 | U | 100 | U | 100 | U | 35.0 | U | 1.00 | U |
| Magnesium | 6010 | | 8240 | | 7190 | | 6560 | | 7490.00 | |
| Manganese | 7.1 | B | 15.0 | U | 15.7 | | 26.2 | | 69.60 | |
| Mercury | 0.20 | U | 0.20 | U | 0.22 | | 0.10 | U | 0.20 | U |
| Molybdenum | 100 | U | 100 | U | 100 | U | 70.0 | U | 2.70 | B |
| Nickel | 11.1 | U | 40.0 | U | 40.0 | U | 10.4 | B | 4.00 | U |
| Phosphorus | | | | | | | 282 | B | | |
| Potassium | 1120 | B | 5000 | U | 5000 | U | 1350 | B | 1230.00 | B |
| Selenium | 1.8 | UN | 5.0 | U | 5.0 | U | 1.3 | B | 2.00 | UW |
| Silicon | | | | | | | | | | |
| Silver | 4.9 | UN | 10.0 | U | 10.0 | U | 2.0 | U | 3.00 | U |
| Sodium | 16400 | | 17900 | | 17600 | | 16000 | | 16600.00 | |
| Strontium | 1000 | U | 1000 | U | 1000 | U | 164 | B | 191.00 | B |
| Thallium | 0.90 | UW | 10.0 | U | 10.0 | U | 2.0 | U | 4.00 | U |
| Tin | 100 | U | 100 | U | 100 | U | 24.0 | U | 12.10 | B |
| Vanadium | 4.6 | B | 50.0 | U | 50.0 | U | 3.0 | B | 5.40 | B |
| Zinc | 7.3 | B* | 20.0 | U | 20.0 | U | 31.2 | | 12.50 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00403WC (REAL)<br>Date: 10/04/90 | | | Location: SW032 (SW)<br>Sample: SW00504WC (REAL)<br>Date: 11/07/90 | | | Location: SW032 (SW)<br>Sample: SW00608WC (REAL)<br>Date: 12/04/90 | | | Location: SW032 (SW)<br>Sample: SW00916WC (REAL)<br>Date: 03/13/91 | | | Location: SW032 (SW)<br>Sample: SW01018WC (REAL)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 116 | B | | 472 | | JA | 229 | | JA | 41.9 | | JA | 62.0 | | |
| Antimony | 55.9 | B | | 22.0 | U | V | 22.0 | U | JA | 7.5 | U | V | 18.2 | U | |
| Arsenic | 1.6 | U | | 1.0 | U | V | 1.0 | U | JA | 1.8 | U | V | 0.90 | U | |
| Barium | 67.7 | B | | 68.8 | | V | 91.8 | B | V | 82.4 | | V | 96.9 | | |
| Beryllium | 0.60 | U | | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.60 | U | |
| Cadmium | 2.9 | U | | 5.0 | U | V | 5.0 | U | V | 3.4 | U | V | 2.9 | | |
| Calcium | 41400 | | | 40500 | | JA | 48900 | | JA | 45000 | | V | 44300 | | |
| Cesium | 500 | U | | 500 | U | V | 500 | U | V | 1000 | U | V | 500 | U | |
| Chromium | 4.0 | U | | 4.0 | U | V | 4.0 | U | V | 6.3 | U | JA | 6.9 | U | |
| Cobalt | 4.0 | U | | 4.0 | U | V | 4.0 | U | V | 3.4 | U | V | 6.0 | | |
| Copper | 5.3 | B | | 5.0 | U | V | 7.4 | B | V | 4.5 | | V | 9.4 | | |
| Iron | 226 | | | 589 | | V | 242 | | V | 168 | | JA | 178 | | |
| Lead | 1.3 | B | | 2.0 | | JA | 1.7 | B | V | 1.3 | | JA | 1.5 | | |
| Lithium | 26.0 | U | | 10.0 | U | V | 10.0 | U | V | 5.3 | | V | 7.1 | | |
| Magnesium | 7320 | | | 7120 | | JA | 8620 | | JA | 7750 | | V | 8260 | | |
| Manganese | 31.0 | | | 43.0 | | JA | 36.5 | | V | 11.3 | | V | 18.6 | | |
| Mercury | 0.10 | U | | 0.10 | U | R | 0.10 | U | R | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 13.0 | U | | 9.0 | U | V | 9.0 | U | V | 9.4 | U | V | 10.9 | U | |
| Nickel | 12.0 | U | | 9.0 | U | JA | 9.0 | U | V | 3.6 | U | V | 10.1 | | |
| Phosphorus | 211 | B | | 115 | | JA | 223 | B | JA | | | | | | |
| Potassium | 1310 | B | | 1020 | | JA | 1180 | B | JA | 1140 | | V | 1490 | | |
| Selenium | 1.2 | U | | 2.0 | U | V | 2.0 | U | V | 2.7 | | JA | 2.8 | | |
| Silicon | | | | 4800 | | JA | | | | 7380 | | V | 6680 | | |
| Silver | 2.0 | U | | 3.4 | | JA | 3.7 | B | V | 2.9 | U | V | 3.8 | U | |
| Sodium | 16000 | | | 14900 | | JA | 17600 | | JA | 17300 | | V | 20200 | | |
| Strontium | 182 | B | | 178 | | V | 213 | | V | 221 | | V | 224 | | |
| Thallium | 2.9 | U | | 2.0 | U | V | 2.0 | U | V | 2.4 | U | JA | 1.4 | U | |
| Tin | 17.0 | U | | 30.0 | U | V | 30.0 | U | V | 20.7 | U | V | 24.2 | U | |
| Vanadium | 3.4 | B | | 3.0 | U | V | 4.5 | B | V | 2.6 | U | V | 4.9 | | |
| Zinc | 15.8 | B | | 13.5 | | V | 19.8 | B | V | 5.3 | | V | 95.4 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01125WC (REAL)<br>Date: 05/09/91 | | | Location: SW032 (SW)<br>Sample: SW01228WC (REAL)<br>Date: 06/13/91 | | | Location: SW032 (SW)<br>Sample: SW01331WC (REAL)<br>Date: 07/10/91 | | | Location: SW032 (SW)<br>Sample: SW01437WC (REAL)<br>Date: 08/07/91 | | | Location: SW032 (SW)<br>Sample: SW01543WC (REAL)<br>Date: 09/26/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | V | 87 | | V | 95 | | V | 397 | | JA | 720 | | V |
| Antimony | 25.6 | U | V | 11 | U | V | 11 | U | V | 42.2 | U | V | 14 | U | V |
| Arsenic | 0.90 | U | V | 4.0 | U | V | 4.0 | U | V | 0.70 | U | JA | 2.0 | U | V |
| Barium | 89.5 | | V | 74 | | V | 70 | | V | 65.9 | | | 91 | | V |
| Beryllium | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V | 0.60 | U | V | 1.0 | U | V |
| Cadmium | 3.3 | U | JA | | | | 1.0 | U | V | 4.6 | U | V | 1.0 | U | |
| Calcium | 45600 | | V | 38000 | | V | 38000 | | V | 29900 | | V | 52000 | | V |
| Cesium | 500 | U | V | 50 | U | JA | 50 | | V | 500 | U | V | 50 | U | V |
| Chromium | 4.1 | U | JA | 2.0 | U | V | 2.0 | U | V | 5.5 | U | V | 2.0 | U | V |
| Cobalt | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V | 7.3 | U | V | 2.0 | U | V |
| Copper | 4.7 | U | V | 3.0 | U | V | 3.0 | U | V | 5.4 | U | V | 2.0 | U | JA |
| Iron | 157 | | JA | 280 | | V | 320 | | V | 692 | | V | 760 | | V |
| Lead | 1.0 | U | V | 4.3 | | V | 3.0 | W | JA | 18.2 | | JA | 2.0 | | V |
| Lithium | 4.3 | U | V | 4.3 | | JA | 4.2 | | JA | 5.4 | U | V | 5.5 | | V |
| Magnesium | 8440 | | V | 7700 | | V | 7400 | | V | 5940 | | V | 8600 | | V |
| Manganese | 11.5 | | V | 28 | | V | 26 | | V | 35.1 | | | 29 | | V |
| Mercury | 0.20 | U | JA | | | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA | 10.0 | U | V | 4.0 | U | V |
| Nickel | 14.7 | U | V | 4.1 | | V | 4.0 | U | V | 10.7 | U | V | 5.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2180 | | V | 1200 | | V | 2100 | | V | 1560 | | V | 1200 | | V |
| Selenium | 1.1 | U | V | 4.0 | U | JA | 4.0 | UW | R | 1.2 | U | V | 4.0 | U | JA |
| Silicon | 6950 | | V | 6590000.0 | | JA | 6020 | | V | 6200 | | V | 10800 | | V |
| Silver | 5.0 | U | JA | 2.0 | U | V | 2.0 | U | V | 6.8 | U | V | 5.0 | U | V |
| Sodium | 20700 | | V | 20000 | | V | 18000 | | V | 16000 | | JA | 18000 | | V |
| Strontium | 239 | | V | 220 | | JA | 200 | | JA | 156 | | V | 240 | | V |
| Thallium | 1.4 | U | JA | 3.0 | UI | JA | 1.0 | U | JA | 1.6 | U | V | 1.0 | UI | JA |
| Tin | 14.8 | U | V | 13 | U | JA | 13 | U | R | 38.9 | U | V | 11 | U | V |
| Vanadium | 5.7 | U | V | 2.0 | U | V | 2.0 | U | V | 6.5 | U | V | 2.0 | U | V |
| Zinc | 7.5 | | JA | 4.4 | | JA | 6.1 | | V | 7.2 | U | V | 5.0 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01649WC (REAL)<br>Date: 10/10/91 | | | Location: SW032 (SW)<br>Sample: SW01721WC (REAL)<br>Date: 11/13/91 | | | Location: SW032 (SW)<br>Sample: SW01794WC (REAL)<br>Date: 01/15/92 | | | Location: SW032 (SW)<br>Sample: SW01876WC (REAL)<br>Date: 04/02/92 | | | Location: SW033 (SW)<br>Sample: SW03390001 (REAL)<br>Date: 01/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 92 | | V | 214 | | V | 172 | | JA | 301 | | V | 38.3 | UJ | A |
| Antimony | 14 | U | JA | 13.8 | U | V | 13.5 | U | V | 19.8 | U | V | 44.6 | UJ | A |
| Arsenic | 2.0 | U | V | 1.1 | U | V | 1.3 | U | V | 1.7 | U | V | 1.9 | U | V |
| Barium | 82 | | V | 89.2 | | V | 83.2 | | V | 67.3 | | V | 72.8 | J | A |
| Beryllium | 1.0 | U | V | 0.50 | U | V | 0.80 | U | V | 0.60 | U | V | 0.8 | U | V |
| Cadmium | 1.0 | U | V | 2.4 | U | V | 2.8 | U | JA | 2.3 | U | V | 6.8 | UJ | A |
| Calcium | 52000 | | V | 52000 | | V | 47000 | | JA | 33500 | | V | 40000 | | V |
| Cesium | 50 | U | V | 500 | U | V | 500 | U | V | 500 | U | V | 1000 | U | V |
| Chromium | 2.0 | U | V | 2.6 | U | V | 5.7 | U | V | 2.0 | U | V | 8.7 | U | V |
| Cobalt | 2.0 | U | V | 2.8 | U | V | 3.4 | U | V | 2.7 | U | V | 2.2 | U | V |
| Copper | 2.0 | U | V | 60.9 | | V | 2.5 | U | V | 2.3 | U | V | 8.4 | UJ | A |
| Iron | 210 | | V | 318 | | V | 198 | | V | 345 | | V | 198 | UJ | A |
| Lead | 2.0 | U | V | 0.90 | | JA | 2.4 | | JA | 1.2 | U | V | 1.4 | UJ | A |
| Lithium | 8.8 | | JA | 7.1 | U | V | 4.7 | | V | 5.0 | | JA | 9.0 | | V |
| Magnesium | 9700 | | V | 8810 | | V | 8380 | | JA | 6610 | | V | 8620 | | V |
| Manganese | 33 | | V | 23.6 | | JA | 24.7 | | V | 11.5 | | JA | 4.8 | | V |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.2 | U | V |
| Molybdenum | 4.0 | U | V | 5.8 | U | V | 6.5 | U | V | 3.5 | U | V | 20.5 | UJ | A |
| Nickel | 5.0 | U | V | 6.9 | | JA | 9.9 | U | V | 11.2 | U | V | 3.8 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1200 | | JA | 2000 | | V | 1010 | | V | 674 | U | R | 960 | UJ | A |
| Selenium | 4.0 | UI | JA | 1.5 | U | JA | 1.0 | U | JA | 1.0 | U | V | 2.8 | | V |
| Silicon | 9790 | | V | 9880 | | V | 7880 | | V | 6390 | | V | | | |
| Silver | 5.0 | U | V | 2.9 | U | V | 2.5 | U | V | 2.1 | U | V | 2.8 | U | V |
| Sodium | 20000 | | V | 19300 | | V | 18200 | | JA | 18500 | | V | 21100 | | V |
| Strontium | 260 | | V | 221 | | V | 240 | | V | 181 | | V | 226 | J | A |
| Thallium | 1.0 | UI | JA | 1.9 | U | V | 2.1 | U | V | 2.0 | U | V | 1.1 | U | V |
| Tin | 11 | U | V | 10.4 | U | V | 14.2 | U | V | 9.4 | U | V | 41.0 | UJ | A |
| Vanadium | 2.0 | U | V | 2.3 | U | V | 4.7 | U | V | 3.5 | U | V | 3.0 | U | V |
| Zinc | 5.0 | U | V | 16.5 | | V | 3.0 | | JA | 2.1 | | JA | 31.8 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW) Sample: SW03390003 (REAL) Date: 03/23/90 | | Location: SW033 (SW) Sample: SW033W041190A (REAL) Date: 04/11/90 | | Location: SW033 (SW) Sample: SW033W051090A (REAL) Date: 05/10/90 | | Location: SW033 (SW) Sample: SW00006WC (REAL) Date: 06/07/90 | | Location: SW033 (SW) Sample: SW00313WC (REAL) Date: 09/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 2710.0 | | 558 | | 200 | U | 200 | U | 40.60 | B |
| Antimony | 60.0 | U | 13.4 | U | 60.0 | U | 60.0 | U | 12.60 | B |
| Arsenic | 10.0 | U | 1.3 | UN | 10.0 | U | 10.0 | U | 2.00 | U |
| Barium | 200.0 | U | 55.4 | B | 200 | U | 200 | U | 58.90 | B |
| Beryllium | 5.0 | U | 0.20 | U | 5.0 | U | 5.0 | U | 1.00 | U |
| Cadmium | 5.0 | U | 3.2 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Calcium | 21000.0 | | 24200 | | 39400 | | 30900 | | 36400.00 | |
| Cesium | 1000.0 | U | 1000 | U | 1000 | U | 1000 | U | 300.00 | B |
| Chromium | 10.0 | U | 5.8 | U | 10.0 | U | 10.0 | U | 7.30 | B |
| Cobalt | 50.0 | U | 2.7 | U | 50.0 | U | 50.0 | U | 3.00 | U |
| Copper | 25.0 | U | 8.1 | B | 25.0 | U | 25.0 | U | 2.00 | U |
| Iron | 2070.0 | | 432 | | 100 | U | 174 | | 255.00 | |
| Lead | 5.0 | U | 1.4 | BN | 5.0 | U | 3.0 | U | 1.00 | U |
| Lithium | 100.0 | U | 100 | U | 100 | U | 100 | U | 1.00 | U |
| Magnesium | 5000.0 | U | 5510 | | 8560 | | 6830 | | 7500.00 | |
| Manganese | 39.4 | | 7.3 | B | 15.0 | U | 15.0 | U | 48.90 | |
| Mercury | 0.2 | U | 0.20 | U | 0.20 | U | 0.22 | | 0.20 | U |
| Molybdenum | 100.0 | U | 100 | U | 100 | U | 100 | U | 8.40 | B |
| Nickel | 40.0 | U | 11.1 | U | 40.0 | U | 40.0 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 5000.0 | U | 972 | U | 5000 | U | 5000 | U | 1320.00 | B |
| Selenium | 5.0 | U | 1.8 | UN | 5.0 | U | 5.0 | U | 2.00 | U |
| Silicon | | | | | | | | | | |
| Silver | 10.0 | U | 4.9 | UN | 10.0 | U | 10.0 | U | 3.00 | U |
| Sodium | 14600.0 | | 17200 | | 20500 | | 17600 | | 17100.00 | |
| Strontium | 1000.0 | U | 1000 | U | 1000 | U | 1000 | U | 186.00 | B |
| Thallium | 10.0 | U | 0.90 | UW | 10.0 | U | 10.0 | U | 4.00 | U |
| Tin | 100.0 | U | 100 | U | 100 | U | 100 | U | 11.40 | B |
| Vanadium | 50.0 | U | 3.0 | U | 50.0 | U | 50.0 | U | 5.10 | B |
| Zinc | 312.0 | | 92.3 | | 41.7 | | 26.3 | | 4.50 | B |

Note: Data reporting order: result, qualifier, validation code.
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N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW00404WC (REAL)<br>Date: 10/04/90 | | | Location: SW033 (SW)<br>Sample: SW00505WC (REAL)<br>Date: 11/07/90 | | | Location: SW033 (SW)<br>Sample: SW00609WC (REAL)<br>Date: 12/04/90 | | | Location: SW033 (SW)<br>Sample: SW00917WC (REAL)<br>Date: 03/08/91 | | | Location: SW033 (SW)<br>Sample: SW01019WC (REAL)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 124 | B | | 30.2 | | JA | 50.5 | B | JA | 70.9 | | JA | 17.7 | U | |
| Antimony | 26.0 | U | | 22.0 | U | V | 22.0 | U | JA | 7.5 | U | V | 18.2 | U | |
| Arsenic | 1.6 | U | | 1.0 | U | V | 1.2 | B | JA | 1.8 | U | V | 0.90 | U | |
| Barium | 57.4 | B | | 58.2 | | V | 76.8 | B | V | 73.4 | | V | 75.1 | | |
| Beryllium | 0.60 | U | | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.60 | U | |
| Cadmium | 2.9 | U | | 5.0 | U | V | 5.0 | U | V | 3.4 | U | JA | 2.7 | U | |
| Calcium | 37300 | | | 32800 | | JA | 44000 | | JA | 38500 | | V | 40500 | | |
| Cesium | 500 | U | | 500 | U | V | 500 | U | V | 500 | U | JA | 500 | U | |
| Chromium | 4.0 | U | | 4.0 | U | V | 4.0 | U | V | 6.3 | U | V | 6.9 | U | |
| Cobalt | 4.0 | U | | 4.0 | U | V | 4.0 | U | V | 3.4 | U | V | 3.0 | U | |
| Copper | 4.7 | B | | 5.0 | U | V | 8.9 | B | V | 2.9 | U | V | 2.5 | U | |
| Iron | 226 | | | 250 | | V | 138 | | V | 215 | | JA | 91.7 | | |
| Lead | 1.5 | B | | 1.0 | U | V | 1.0 | U | V | 1.6 | | V | 2.9 | | |
| Lithium | 26.0 | U | | 10.0 | U | V | 10.0 | U | V | 6.0 | | V | 6.2 | | |
| Magnesium | 7560 | | | 6710 | | JA | 9310 | | JA | 8350 | | V | 8730 | | |
| Manganese | 44.0 | | | 76.2 | | V | 54.6 | | V | 13.0 | | V | 16.6 | | |
| Mercury | 0.10 | U | | 0.10 | U | R | 0.10 | U | R | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 13.0 | U | | 9.0 | U | V | 9.0 | U | V | 9.4 | U | V | 10.9 | U | |
| Nickel | 12.0 | U | | 9.0 | U | JA | 9.0 | U | V | 3.6 | U | V | 3.9 | U | |
| Phosphorus | 141 | B | | 111 | | V | 218 | B | JA | | | | | | |
| Potassium | 1270 | B | | 455 | | JA | 943 | B | JA | 900 | | V | 856 | | |
| Selenium | 1.7 | B | | 2.0 | U | V | 3.2 | B | V | 1.9 | | V | 3.0 | | |
| Silicon | | | | 3360 | | JA | | | | 5520 | | V | 5450 | | |
| Silver | 2.0 | U | | 3.0 | U | V | 3.7 | B | V | 2.9 | U | V | 3.8 | U | |
| Sodium | 16900 | | | 14700 | | JA | 19700 | | JA | 20400 | | V | 21400 | | |
| Strontium | 181 | B | | 161 | | V | 223 | | V | 222 | | V | 218 | | |
| Thallium | 2.9 | U | | 2.0 | U | V | 2.0 | U | V | 2.4 | U | JA | 1.4 | U | |
| Tin | 17.0 | U | | 30.0 | U | V | 30.0 | U | V | 20.7 | U | V | 24.2 | U | |
| Vanadium | 3.0 | U | | 3.0 | U | V | 4.7 | B | V | 2.6 | U | V | 2.0 | U | |
| Zinc | 15.6 | B | | 19.3 | | V | 14.8 | B | V | 3.0 | | JA | 4.7 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01126WC (REAL)<br>Date: 05/13/91 | | | Location: SW033 (SW)<br>Sample: SW01229WC (REAL)<br>Date: 06/13/91 | | | Location: SW033 (SW)<br>Sample: SW01332WC (REAL)<br>Date: 07/10/91 | | | Location: SW033 (SW)<br>Sample: SW01438WC (REAL)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW80145WC (DUP)<br>Date: 08/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 127 | | V | 68 | | V | 36 | | V | 131 | | JA | 128 | | JA |
| Antimony | 44.5 | | JA | 11 | U | V | 11 | U | V | 42.2 | U | V | 42.2 | U | V |
| Arsenic | 0.90 | U | V | 4.0 | U | V | 4.0 | U | V | 0.70 | U | JA | 0.70 | U | JA |
| Barium | 108 | | V | 72 | | V | 66 | | V | 60.4 | | | 50.6 | | V |
| Beryllium | 0.50 | | V | 1.0 | U | V | 1.0 | U | V | 0.60 | U | V | 0.60 | U | V |
| Cadmium | 3.3 | U | R | | | | 1.0 | U | V | 4.6 | U | V | 4.6 | U | V |
| Calcium | 45400 | | V | 34000 | | V | 36000 | | V | 28800 | | V | 29600 | | V |
| Cesium | 500 | U | V | 50 | U | JA | 50 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 4.1 | U | JA | 2.0 | U | V | 2.0 | U | V | 5.5 | U | V | 5.5 | U | V |
| Cobalt | 3.6 | U | JA | 2.0 | U | V | 2.0 | U | V | 7.3 | U | V | 7.3 | U | V |
| Copper | 4.7 | U | V | 3.0 | U | V | 3.0 | U | V | 5.4 | U | V | 5.4 | U | V |
| Iron | 598 | | V | 260 | | V | 310 | | V | 577 | | V | 503 | | V |
| Lead | 1.0 | U | V | 2.5 | | V | 2.0 | U | R | 1.3 | U | V | 1.3 | U | V |
| Lithium | 6.5 | | JA | 5.4 | | JA | 5.6 | | JA | 5.4 | U | V | 5.4 | U | V |
| Magnesium | 9930 | | V | 7400 | | V | 7500 | | V | 6010 | | V | 6270 | | V |
| Manganese | 93.1 | | V | 26 | | V | 28 | | V | 33.0 | | | 27.5 | | V |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA | 10.0 | U | V | 10.0 | U | V |
| Nickel | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V | 10.7 | U | V | 10.7 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2050 | U | V | 1200 | | V | 1700 | | V | 2410 | | V | 1700 | | |
| Selenium | 3.5 | | V | 4.0 | U | JA | 4.0 | UW | R | 1.2 | U | V | 1.2 | U | V |
| Silicon | 6590 | | V | 5380000.0 | | JA | 5130 | | V | 5850 | | V | 6330 | | V |
| Silver | 5.0 | U | JA | 2.0 | U | V | 2.0 | U | V | 6.8 | U | V | 6.8 | U | V |
| Sodium | 26300 | | V | 20000 | | V | 19000 | | V | 16500 | | JA | 16500 | | JA |
| Strontium | 258 | | V | 210 | | JA | 190 | | JA | 155 | | V | 162 | | V |
| Thallium | 1.4 | U | JA | 3.0 | UI | JA | 1.0 | UW | JA | 1.6 | U | V | 1.6 | U | V |
| Tin | 14.8 | U | V | 13 | U | JA | 13 | U | R | 38.9 | U | V | 38.9 | U | V |
| Vanadium | 5.7 | U | V | 2.0 | U | V | 2.0 | U | V | 6.5 | U | V | 6.5 | U | V |
| Zinc | 8.4 | | JA | 6.3 | | JA | 3.0 | U | V | 7.2 | U | V | 7.2 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01544WC (REAL)<br>Date: 09/26/91 | | | Location: SW033 (SW)<br>Sample: SW01650WC (REAL)<br>Date: 10/10/91 | | | Location: SW033 (SW)<br>Sample: SW01722WC (REAL)<br>Date: 11/13/91 | | | Location: SW033 (SW)<br>Sample: SW01795WC (REAL)<br>Date: 01/15/92 | | | Location: SW033 (SW)<br>Sample: SW01877WC (REAL)<br>Date: 04/06/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 29 | | V | 720 | | V | 33.7 | | V | 33.0 | | JA | 195 | | JA |
| Antimony | 14 | U | V | 14 | U | JA | 13.8 | U | V | 13.5 | U | V | 19.8 | U | V |
| Arsenic | 2.0 | U | V | 2.0 | U | V | 1.1 | U | V | 1.3 | U | V | 1.7 | U | V |
| Barium | 77 | | V | 77 | | V | 83.3 | | V | 89.4 | | V | 67.8 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.60 | | JA | 0.90 | | JA | 0.60 | U | JA |
| Cadmium | 1.0 | | | 1.0 | U | V | 2.4 | U | V | 2.8 | U | JA | 2.3 | U | JA |
| Calcium | 48000 | | V | 49000 | | V | 47700 | | V | 49200 | | JA | 32500 | | V |
| Cesium | 50 | U | V | 50 | U | V | 500 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 2.0 | U | V | 2.0 | U | V | 2.6 | U | V | 5.7 | U | V | 2.0 | U | V |
| Cobalt | 2.0 | U | V | 2.2 | | V | 2.8 | U | V | 3.4 | U | V | 2.7 | U | V |
| Copper | 2.0 | U | JA | 2.0 | U | V | 2.4 | | V | 2.5 | U | V | 6.0 | | JA |
| Iron | 280 | | V | 270 | | V | 177 | | V | 71.5 | | V | 264 | | V |
| Lead | 2.1 | | V | 5.4 | | V | 0.90 | U | V | 2.4 | | JA | 0.80 | U | JA |
| Lithium | 7.7 | | V | 8.7 | | JA | 7.1 | U | V | 5.0 | | V | 4.1 | | JA |
| Magnesium | 11000 | | V | 10000 | | V | 10200 | | V | 10200 | | JA | 7330 | | V |
| Manganese | 39 | | V | 66 | | V | 30.8 | | V | 25.1 | | V | 15.7 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 4.0 | U | V | 4.0 | U | V | 5.8 | U | V | 6.5 | U | V | 3.5 | U | V |
| Nickel | 5.0 | U | V | 5.0 | U | V | 6.5 | | JA | 9.9 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1200 | | V | 1200 | | JA | 724 | | V | 1300 | | V | 1970 | | JA |
| Selenium | 10 | | JA | 4.0 | UI | JA | 2.5 | | JA | 1.1 | | JA | 1.4 | | JA |
| Silicon | 6960 | | V | 8280 | | V | 7360 | | V | 6570 | | V | 5220 | | V |
| Silver | 5.0 | U | V | 5.0 | U | V | 2.9 | U | V | 2.5 | U | V | 2.1 | U | V |
| Sodium | 25000 | | V | 22000 | | V | 23900 | | V | 23800 | | JA | 20900 | | V |
| Strontium | 270 | | V | 270 | | V | 231 | | V | 280 | | V | 191 | | V |
| Thallium | 1.0 | UI | JA | 1.0 | UI | JA | 1.9 | U | JA | 2.1 | U | V | 2.0 | U | R |
| Tin | 11 | U | JA | 11 | U | V | 10.4 | U | V | 14.2 | U | V | 9.4 | U | V |
| Vanadium | 2.0 | U | V | 2.0 | U | V | 2.3 | U | V | 4.7 | U | V | 3.5 | U | V |
| Zinc | 5.0 | U | V | 6.7 | | JA | 4.3 | U | V | 3.3 | | JA | 9.6 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW03490001 (REAL)<br>Date: 01/15/90 | | | Location: SW034 (SW)<br>Sample: SW03490001D (DUP)<br>Date: 01/15/90 | | | Location: SW034 (SW)<br>Sample: SW03490003 (REAL)<br>Date: 03/23/90 | | | Location: SW034 (SW)<br>Sample: SW034W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW034 (SW)<br>Sample: SW034W051090A (REAL)<br>Date: 05/10/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 183.0 | | | 186 | | V | 870 | J | A | 173 | B | | 200 | U | |
| Antimony | 500.0 | U | | 44.6 | U | V | 13.4 | U | V | 13.4 | U | | 60.0 | U | |
| Arsenic | 2.0 | U | | 1.9 | U | V | 1.3 | U | R | 1.3 | UN | | 10.0 | U | |
| Barium | 77.8 | | | 81.4 | | V | 81.9 | | V | 81.2 | B | | 200 | U | |
| Beryllium | 2.0 | U | | 0.80 | U | V | 0.2 | U | R | 0.20 | U | | 5.0 | U | |
| Cadmium | 4.0 | U | | 2.3 | U | V | 0.2 | U | R | 3.2 | U | | 5.0 | U | |
| Calcium | 48400.0 | | | 50200 | | V | 48100 | | V | 50000 | | | 57600 | | |
| Cesium | 1000.0 | U | | 1000 | U | V | 1000 | U | V | 1000 | U | | 1000 | U | |
| Chromium | 20.0 | U | | 8.7 | U | V | 5.8 | U | V | 5.8 | U | | 10.0 | U | |
| Cobalt | 20.0 | U | | 2.2 | U | R | 2.7 | UJ | A | 2.7 | U | | 50.0 | U | |
| Copper | 20.0 | U | | 5.6 | U | R | 3.6 | UJ | A | 6.7 | B | | 25.0 | U | |
| Iron | 180.0 | | | 199 | UJ | A | 484 | | V | 150 | | | 134 | | |
| Lead | 2.1 | | | 2.9 | UJ | A | 1.4 | UJ | A | 1.4 | UN | | 5.0 | U | |
| Lithium | 9.0 | | | 9.0 | J | A | 100 | U | V | 100 | U | | 100 | U | |
| Magnesium | 6480.0 | | | 6730 | | V | 6520 | | V | 6370 | | | 7220 | | |
| Manganese | 10.0 | U | | 7.1 | | V | 7.8 | | V | 7.0 | B | | 15.0 | U | |
| Mercury | 0.2 | U | | 0.20 | U | V | 0.2 | UJ | A | 0.20 | U | | 0.20 | U | |
| Molybdenum | 500.0 | U | | 20.5 | UJ | A | 100 | U | V | 100 | U | | 100 | U | |
| Nickel | 20.0 | U | | 3.8 | U | V | 11.1 | U | V | 11.1 | U | | 40.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1090.0 | | | 1170 | | V | 1190 | UJ | A | 1560 | B | | 5000 | U | |
| Selenium | 2.0 | U | | 2.2 | UJ | A | 1.8 | U | V | 1.8 | UN | | 5.0 | U | |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 30.0 | U | | 2.8 | U | V | 10.3 | UJ | A | 4.9 | UN | | 10.0 | U | |
| Sodium | 12200.0 | | | 12600 | | V | 13660 | | V | 14100 | | | 13600 | | |
| Strontium | 198.0 | | | 204 | J | A | 1000 | U | R | 1000 | U | | 1000 | U | |
| Thallium | 3.0 | U | | 1.1 | U | V | 0.9 | U | V | 0.90 | UW | | 10.0 | U | |
| Tin | 1000.0 | U | | 41.0 | UJ | A | 100 | U | V | 100 | U | | 100 | U | |
| Vanadium | 10.0 | U | | 3.0 | U | V | 3.0 | U | V | 5.8 | B | | 50.0 | U | |
| Zinc | 40.2 | | | 29.5 | UJ | A | 67.8 | J | A | 60.5 | | | 48.1 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW00007WC (REAL)<br>Date: 06/07/90 | | Location: SW034 (SW)<br>Sample: SW00314WC (REAL)<br>Date: 09/13/90 | | Location: SW034 (SW)<br>Sample: SW00405WC (REAL)<br>Date: 10/04/90 | | Location: SW034 (SW)<br>Sample: SW00506WC (REAL)<br>Date: 11/07/90 | | | Location: SW034 (SW)<br>Sample: SW80065WC (DUP)<br>Date: 11/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 213 | | 177.00 | B | 970 | | 5810 | | JA | 6860 | | JA |
| Antimony | 60.0 | U | 15.10 | B | 26.0 | U | 22.0 | U | V | 22.1 | | V |
| Arsenic | 10.0 | U | 2.00 | U | 1.9 | B | 1.1 | | V | 2.0 | | V |
| Barium | 200 | U | 85.60 | B | 96.6 | B | 139 | | V | 163 | | V |
| Beryllium | 5.0 | U | 1.00 | U | 0.60 | U | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 5.0 | U | 2.00 | U | 2.9 | U | 5.0 | U | V | 5.0 | U | V |
| Calcium | 47900 | | 44000.00 | | 53800 | | 61800 | | JA | 63300 | | JA |
| Cesium | 1000 | U | 200.00 | B | 500 | U | 500 | U | V | 500 | U | V |
| Chromium | 10.0 | U | 11.70 | | 4.2 | B | 7.8 | | V | 8.4 | | V |
| Cobalt | 50.0 | U | 3.00 | U | 4.0 | U | 4.0 | U | V | 8.9 | | V |
| Copper | 25.0 | U | 2.00 | U | 6.5 | B | 5.0 | U | V | 19.3 | | JA |
| Iron | 246 | | 132.00 | | 948 | | 4890 | | V | 5980 | | V |
| Lead | 3.0 | U | 1.00 | U | 1.8 | B | 3.6 | | JA | 6.4 | | V |
| Lithium | 100 | U | 1.00 | U | 26.0 | U | 10.0 | U | V | 10.0 | U | V |
| Magnesium | 6480 | | 5990.00 | | 6920 | | 7980 | | JA | 8310 | | JA |
| Manganese | 15.0 | U | 12.70 | B | 19.7 | | 59.6 | | V | 93.5 | | V |
| Mercury | 0.20 | U | 0.20 | U | 0.10 | U | 0.10 | U | R | 0.10 | U | R |
| Molybdenum | 100 | U | 2.20 | B | 13.0 | U | 9.0 | U | V | 9.0 | U | V |
| Nickel | 40.0 | U | 4.00 | U | 12.0 | U | 9.0 | U | V | 9.0 | U | V |
| Phosphorus | | | | | 193 | B | 148 | | JA | 80.0 | U | V |
| Potassium | 5000 | U | 625.00 | B | 955 | B | 2230 | | JA | 2520 | | JA |
| Selenium | 5.0 | U | 2.00 | U | 1.2 | U | 2.0 | U | JA | 2.0 | U | V |
| Silicon | | | | | | | 21900 | | V | 15600 | | V |
| Silver | 10.0 | U | 3.70 | B | 2.0 | U | 5.5 | | JA | 4.9 | | JA |
| Sodium | 13100 | | 10900.00 | | 13300 | | 13300 | | JA | 13300 | | JA |
| Strontium | 1000 | U | 182.00 | B | 198 | B | 215 | | V | 221 | | V |
| Thallium | 10.0 | U | 4.00 | U | 2.9 | U | 2.0 | U | V | 2.0 | U | V |
| Tin | 100 | U | 19.90 | B | 17.9 | B | 30.0 | U | V | 30.0 | U | V |
| Vanadium | 50.0 | U | 7.60 | B | 6.8 | B | 15.8 | | V | 18.8 | | V |
| Zinc | 20.0 | U | 7.60 | B | 18.9 | B | 33.2 | | V | 69.4 | | V |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW00610WC (REAL)<br>Date: 12/04/90 | | | Location: SW034 (SW)<br>Sample: SW80073WC (DUP)<br>Date: 12/04/90 | | | Location: SW034 (SW)<br>Sample: SW00918WC (REAL)<br>Date: 03/08/91 | | | Location: SW034 (SW)<br>Sample: SW01020WC (REAL)<br>Date: 04/04/91 | | | Location: SW034 (SW)<br>Sample: SW80107WC (DUP)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 1010 | | JA | 33.9 | B | JA | 215 | | JA | 143 | | | 341 | | |
| Antimony | 22.0 | U | JA | 22.0 | U | JA | 7.5 | U | V | 18.2 | U | | 18.2 | U | |
| Arsenic | 1.0 | U | JA | 1.0 | U | JA | 1.8 | U | V | 0.90 | U | | 0.90 | U | |
| Barium | 89.4 | B | V | 8.5 | B | JA | 88.7 | | V | 88.7 | | | 85.4 | | |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.60 | U | | 0.60 | U | |
| Cadmium | 5.0 | U | V | 5.0 | U | V | 3.4 | U | JA | 2.7 | U | | 3.4 | | |
| Calcium | 49000 | | JA | 219 | B | JA | 41100 | | V | 49700 | | | 47500 | | |
| Cesium | 500 | U | V | 500 | U | V | 500 | U | JA | 500 | U | | 500 | U | |
| Chromium | 4.0 | U | V | 4.0 | U | V | 6.3 | U | V | 6.9 | U | | 6.9 | U | |
| Cobalt | 4.0 | U | V | 4.0 | U | V | 3.4 | U | V | 3.0 | U | | 3.0 | U | |
| Copper | 5.5 | B | V | 5.4 | B | V | 17.7 | | JA | 2.5 | U | | 2.5 | U | |
| Iron | 1030 | | V | 36.0 | B | JA | 377 | | JA | 188 | | | 310 | | |
| Lead | 1.2 | B | V | 1.0 | U | V | 3.2 | | V | 3.5 | | | 6.0 | | |
| Lithium | 11.4 | B | JA | 10.0 | U | V | 6.5 | | V | 6.4 | | | 6.2 | | |
| Magnesium | 6700 | | JA | 46.2 | B | JA | 6720 | | V | 6440 | | | 6180 | | |
| Manganese | 34.6 | | V | 2.7 | B | JA | 36.6 | | V | 7.8 | | | 8.1 | | |
| Mercury | 0.10 | U | R | 0.10 | U | R | 0.20 | U | V | 0.20 | U | | 0.20 | U | |
| Molybdenum | 9.0 | U | V | 9.0 | U | V | 9.4 | U | V | 10.9 | U | | 10.9 | U | |
| Nickel | 9.0 | U | V | 9.0 | U | V | 3.6 | U | V | 3.9 | U | | 3.9 | U | |
| Phosphorus | 228 | B | JA | 80.0 | U | V | | | | | | | | | |
| Potassium | 1510 | B | JA | 430 | U | JA | 1340 | | V | 1120 | | | 1180 | | |
| Selenium | 2.0 | U | V | 2.0 | U | V | 1.3 | U | JA | 1.1 | U | | 1.1 | U | |
| Silicon | | | | | | | 9580 | | V | 8980 | | | 9160 | | |
| Silver | 3.2 | B | V | 3.0 | U | V | 2.9 | U | V | 3.8 | U | | 3.8 | U | |
| Sodium | 12400 | | JA | 244 | B | JA | 12700 | | V | 12800 | | | 12400 | | |
| Strontium | 173 | B | V | 1.8 | B | V | 201 | | V | 196 | | | 187 | | |
| Thallium | 2.0 | U | V | 2.0 | U | V | 2.4 | U | JA | 1.4 | U | | 1.4 | U | |
| Tin | 30.0 | U | V | 30.0 | U | V | 20.7 | U | V | 24.2 | U | | 24.2 | U | |
| Vanadium | 6.5 | B | V | 3.0 | U | V | 2.6 | U | V | 2.0 | U | | 2.0 | U | |
| Zinc | 13.6 | B | V | 4.3 | B | V | 8.3 | | JA | 4.7 | U | | 37.1 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01127WC (REAL)<br>Date: 05/09/91 | | | Location: SW034 (SW)<br>Sample: SW01230WC (REAL)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW80131WC (DUP)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW01333WC (REAL)<br>Date: 07/10/91 | | | Location: SW034 (SW)<br>Sample: SW80139WC (DUP)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 166 | | V | | | | 620 | | V | 218 | | V | | | |
| Antimony | 25.6 | U | V | | | | 11 | U | V | 11.0 | U | V | | | |
| Arsenic | 0.90 | U | JA | | | | 4.0 | U | V | 4.0 | U | V | | | |
| Barium | 90.6 | | V | | | | 93 | | V | 83.8 | | V | | | |
| Beryllium | 0.50 | U | V | | | | 1.0 | U | V | 1.0 | U | V | | | |
| Cadmium | 3.3 | U | R | | | | | | | 1.0 | | V | | | |
| Calcium | 52600 | | V | | | | 54000 | | V | 46500 | | V | | | |
| Cesium | 500 | U | V | | | | 50 | U | JA | 60.0 | | V | | | |
| Chromium | 4.1 | U | JA | | | | 2.0 | U | V | 3.0 | | V | | | |
| Cobalt | 3.6 | U | V | | | | 2.0 | U | V | 2.0 | U | V | | | |
| Copper | 4.7 | U | V | | | | 3.0 | U | V | 3.0 | U | V | | | |
| Iron | 192 | | V | | | | 500 | | V | 219 | | V | | | |
| Lead | 1.0 | U | V | | | | 2.3 | | V | 18.8 | | JA | | | |
| Lithium | 4.3 | U | V | | | | 6.6 | | JA | 6.3 | | JA | | | |
| Magnesium | 7080 | | V | | | | 7100 | | V | 6050 | | V | | | |
| Manganese | 4.5 | | JA | | | | 9.7 | | V | 6.1 | | V | | | |
| Mercury | 0.20 | U | JA | | | | 0.20 | U | V | 0.20 | U | V | | | |
| Molybdenum | 5.7 | U | V | | | | 3.0 | U | JA | 3.0 | U | JA | | | |
| Nickel | 14.7 | U | V | | | | 4.0 | U | V | 4.0 | U | V | | | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2050 | U | V | | | | 930 | | V | 1800 | | V | | | |
| Selenium | 1.1 | U | V | | | | 4.0 | UI | JA | 20.0 | U | R | | | |
| Silicon | 9470 | | V | 11500000.0 | | JA | 11900 | | JA | 11600 | | V | 10800 | | JA |
| Silver | 5.0 | U | JA | | | | 2.0 | U | V | 2.0 | U | V | | | |
| Sodium | 14500 | | V | | | | 13000 | | V | 11500 | | V | | | |
| Strontium | 222 | | V | | | | 240 | | JA | 195 | | JA | | | |
| Thallium | 1.4 | U | JA | | | | 3.0 | UI | JA | 1.0 | U | JA | | | |
| Tin | 14.8 | U | V | | | | 13 | U | JA | 13.0 | U | R | | | |
| Vanadium | 5.7 | U | V | | | | 2.7 | | V | 2.4 | | V | | | |
| Zinc | 25.0 | | JA | | | | 11 | | JA | 6.4 | | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01439WC (REAL)<br>Date: 08/08/91 | | | Location: SW034 (SW)<br>Sample: SW01545WC (REAL)<br>Date: 09/26/91 | | | Location: SW034 (SW)<br>Sample: SW01651WC (REAL)<br>Date: 10/10/91 | | | Location: SW034 (SW)<br>Sample: SW01723WC (REAL)<br>Date: 11/18/91 | | | Location: SW034 (SW)<br>Sample: SW01878WC (REAL)<br>Date: 04/06/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 950 | | V | 1000 | | V | 1600 | | V | 293 | | V | 138 | | JA |
| Antimony | 11 | U | V | 14 | U | V | 14 | U | R | 13.8 | U | V | 19.8 | U | V |
| Arsenic | 4.0 | U | V | 2.0 | U | V | 2.0 | U | V | 1.1 | U | V | 1.7 | U | V |
| Barium | 110 | | V | 100 | | V | 98 | | V | 93.8 | | V | 84.0 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 0.70 | | JA | 0.60 | U | JA |
| Cadmium | 2.0 | U | V | 1.4 | | JA | 1.0 | U | V | 2.4 | U | V | 2.3 | U | JA |
| Calcium | 61000 | | V | 54000 | | V | 56000 | | V | 60400 | | V | 52700 | | V |
| Cesium | 50 | U | V | 50 | U | V | 50 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.6 | U | V | 2.0 | U | V |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V | 2.7 | U | V |
| Copper | 5.6 | | V | 2.3 | | JA | 16 | | V | 3.6 | | V | 2.3 | U | V |
| Iron | 840 | | V | 990 | | V | 520 | | V | 237 | | V | 142 | | JA |
| Lead | 2.3 | | V | 2.3 | | V | 3.3 | | V | 0.90 | U | JA | 0.80 | U | V |
| Lithium | 7.1 | | JA | 7.0 | | V | 8.0 | | JA | 7.1 | U | V | 4.1 | | JA |
| Magnesium | 7600 | | V | 7100 | | V | 7300 | | V | 7520 | | V | 7180 | | V |
| Manganese | 15 | | V | 22 | | V | 58 | | V | 17.5 | | JA | 7.5 | | JA |
| Mercury | 0.27 | | JA | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 4.0 | U | V | 5.8 | U | V | 3.5 | U | V |
| Nickel | 4.0 | U | R | 5.0 | U | V | 5.0 | U | V | 5.9 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2300 | | V | 1200 | | V | 1300 | | JA | 2020 | | V | 2010 | | JA |
| Selenium | 20 | UI | JA | 4.0 | UI | JA | 4.0 | UI | JA | 1.5 | U | V | 0.80 | U | JA |
| Silicon | 13100 | | | 12700 | | V | 12800 | | V | 10700 | | V | 8390 | | V |
| Silver | 2.0 | U | V | 5.0 | U | V | 5.0 | U | V | 2.9 | U | V | 2.1 | U | V |
| Sodium | 14000 | | V | 14000 | | V | 13000 | | V | 14600 | | V | 15100 | | V |
| Strontium | 250 | | JA | 210 | | V | 220 | | V | 194 | | V | 228 | | V |
| Thallium | 1.0 | UI | JA | 1.0 | UI | JA | 1.0 | UI | JA | 1.9 | U | V | 2.0 | U | R |
| Tin | 13 | U | R | 11 | U | JA | 40 | | JA | 10.4 | U | V | 9.4 | U | V |
| Vanadium | 5.0 | | V | 3.7 | | V | 2.6 | | V | 2.3 | U | V | 3.5 | U | V |
| Zinc | 7.8 | | V | 5.0 | U | JA | 17 | | JA | 6.3 | | V | 4.2 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW03590001 (REAL)<br>Date: 01/11/90 | | | Location: SW035 (SW)<br>Sample: SW03590002 (REAL)<br>Date: 02/08/90 | | | Location: SW035 (SW)<br>Sample: SW03590003 (REAL)<br>Date: 03/14/90 | | Location: SW035 (SW)<br>Sample: SW035W041290A (REAL)<br>Date: 04/12/90 | | Location: SW035 (SW)<br>Sample: SW035W051490A (REAL)<br>Date: 05/14/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 722 | | V | 4280 | | V | 7770 | | 200 | U | 745 | |
| Antimony | 44.6 | U | V | 57.3 | UJ | A | 22.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | 1.9 | U | R | 1.3 | U | V | 2.0 | UN | 10.0 | U | 10.0 | U |
| Barium | 126 | | V | 161 | | V | 108 | B | 200 | U | 200 | U |
| Beryllium | 0.80 | U | V | 0.2 | U | R | 1.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | 2.3 | U | R | 3.2 | U | V | 3.0 | U | 5.0 | U | 5.0 | U |
| Calcium | 68500 | | V | 73500 | E | | 35000 | | 79900 | | 67000 | |
| Cesium | 1000 | U | V | 1000 | U | V | | | 1000 | U | 1000 | U |
| Chromium | 8.7 | U | V | 9.2 | | V | 11.2 | | 10.0 | U | 10.0 | U |
| Cobalt | 2.2 | U | V | 2.7 | U | V | 5.9 | B | 50.0 | U | 50.0 | U |
| Copper | 13.2 | UJ | A | 18.9 | | V | 19.4 | B | 25.0 | U | 25.0 | U |
| Iron | 843 | | V | 3380 | E | | 7540 | | 157 | | 919 | |
| Lead | 5.4 | UJ | A | 5.9 | | V | 118 | S | 5.0 | U | 5.0 | U |
| Lithium | 11.0 | J | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Magnesium | 12000 | | V | 13600 | | V | 7270 | | 16600 | | 12200 | |
| Manganese | 71.7 | | V | 70.5 | | V | 86.9 | | 15.0 | U | 81.5 | |
| Mercury | 0.2 | U | V | 0.46 | J | A | 0.20 | U | 0.23 | | 0.20 | U |
| Molybdenum | 20.5 | UJ | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Nickel | 3.8 | U | V | 18.5 | | V | 11.8 | B | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 3370 | | V | 2040 | UJ | A | 5900 | | 5000 | U | 5000 | U |
| Selenium | 2.2 | U | V | 1.8 | U | V | 2.0 | UNW | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | | |
| Silver | 2.8 | U | V | 4.9 | U | V | 3.0 | U | 10.0 | U | 10.0 | U |
| Sodium | 20100 | | V | 25500 | | V | 87300 | | 31300 | | 20900 | |
| Strontium | 358 | J | A | 1000 | UJ | A | | | 1000 | U | 1000 | U |
| Thallium | 1.1 | UJ | A | 0.90 | U | R | 4.0 | UNW | 10.0 | U | 10.0 | U |
| Tin | 41.0 | UJ | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Vanadium | 3.0 | U | V | 13.8 | | V | 26.3 | B | 50.0 | U | 50.0 | U |
| Zinc | 108 | | V | 250 | | V | 273 | | 143 | | 186 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA ≤ 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00061WC (REAL)<br>Date: 06/11/90 | | Location: SW035 (SW)<br>Sample: SW00141WC (REAL)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW80016WC (DUP)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW00319WC (REAL)<br>Date: 09/17/90 | | Location: SW035 (SW)<br>Sample: SW00410WC (REAL)<br>Date: 10/03/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 3940 | | 345.00 | E | 516.00 | E | 814.00 | | 3970.00 | |
| Antimony | 60.0 | U | 25.80 | B | 27.00 | B | 7.00 | U | 10.30 | B |
| Arsenic | 10.0 | U | 2.00 | U | 2.00 | U | 2.00 | U | 1.00 | B |
| Barium | 228 | | 151.00 | BE | 150.00 | BE | 482.00 | | 278.00 | |
| Beryllium | 5.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | 1.00 | U |
| Cadmium | 5.0 | U | 2.00 | U | 2.50 | B | 2.00 | U | 2.00 | U |
| Calcium | 83600 | | 74700.00 | | 74600.00 | | 80900.00 | | 61900.00 | |
| Cesium | 1000 | U | 147.00 | U | 147.00 | U | 92.00 | U | 92.00 | U |
| Chromium | 10.0 | U | 6.00 | U | 6.00 | U | 5.60 | B | 12.90 | |
| Cobalt | 50.0 | U | 5.00 | B | 6.00 | B | 3.00 | U | 3.00 | U |
| Copper | 25.0 | U | 13.30 | B | 13.80 | B | 12.40 | B | 24.90 | B |
| Iron | 3520 | | 760.00 | | 806.00 | | 1280.00 | | 3550.00 | |
| Lead | 5.5 | | 1.40 | B | 1.40 | B | 5.50 | | 7.60 | |
| Lithium | 100 | U | 7.90 | B | 8.20 | B | 10.00 | B | 6.10 | B |
| Magnesium | 13900 | | 12000.00 | | 12200.00 | | 13700.00 | | 9700.00 | |
| Manganese | 294 | | 191.00 | E | 188.00 | E | 203.00 | | 141.00 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | 6.60 | B | 6.60 | B | 2.00 | U | 5.70 | B |
| Nickel | 40.0 | U | 8.70 | B | 8.90 | B | 4.00 | U | 7.50 | B |
| Phosphorus | | | | | | | | | | |
| Potassium | 5000 | U | 2300.00 | B | 2350.00 | B | 2810.00 | BE | 2470.00 | B |
| Selenium | 5.0 | U | 1.00 | UW | 1.00 | U | 2.00 | U | 1.00 | U |
| Silicon | | | | | | | | | | |
| Silver | 10.0 | U | 3.60 | B | 4.10 | B | 3.00 | U | 3.20 | B |
| Sodium | 18500 | | 17600.00 | | 17600.00 | | 17300.00 | | 14300.00 | |
| Strontium | 1000 | U | 368.00 | | 365.00 | | 384.00 | | 277.00 | |
| Thallium | 10.0 | U | 3.00 | U | 3.00 | U | 3.00 | U | 2.00 | U |
| Tin | 100 | U | 23.70 | B | 13.30 | B | 31.20 | B | 22.20 | B |
| Vanadium | 50.0 | U | 9.00 | B | 10.60 | B | 8.80 | B | 14.30 | B |
| Zinc | 222 | | 37.40 | | 35.90 | | 73.80 | * | 203.00 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW80051WC (DUP)<br>Date: 10/03/90 | | Location: SW035 (SW)<br>Sample: SW00511WC (REAL)<br>Date: 11/27/90 | | Location: SW035 (SW)<br>Sample: SW00615WC (REAL)<br>Date: 12/11/90 | | Location: SW035 (SW)<br>Sample: SW00923WC (REAL)<br>Date: 03/15/91 | | | Location: SW035 (SW)<br>Sample: SW01025WC (REAL)<br>Date: 04/08/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 2320.00 | | 2390.00 | | 1930.00 | E* | 185 | | JA | 4960 | |
| Antimony | 7.60 | B | 7.00 | U | 18.20 | B | 18.2 | U | R | 25.6 | U |
| Arsenic | 1.00 | B | 2.00 | U | 2.00 | U | 0.80 | U | JA | 0.90 | U |
| Barium | 148.00 | B | 84.10 | B | 178.00 | BE | 122 | | V | 106 | |
| Beryllium | 1.00 | U | 3.10 | B | 1.00 | U | 0.60 | U | V | 0.50 | U |
| Cadmium | 2.00 | U | 2.00 | U | 2.00 | U | 2.7 | U | V | 2.7 | U |
| Calcium | 58500.00 | | 22700.00 | | 89700.00 | E | 74100 | | V | 27800 | |
| Cesium | 92.00 | U | 76.00 | U | 200.00 | B | 500 | U | V | 500 | U |
| Chromium | 7.10 | B | 5.00 | U | 14.30 | | 6.9 | U | V | 8.9 | |
| Cobalt | 3.00 | U | 3.00 | U | 3.00 | U | 3.0 | U | V | 3.7 | |
| Copper | 18.50 | B | 22.20 | B | 23.80 | B | 4.9 | | JA | 26.1 | |
| Iron | 2180.00 | | 3410.00 | | 2140.00 | E | 379 | | JA | 4700 | |
| Lead | 4.70 | | 26.00 | | 5.50 | | 2.5 | | V | 17.7 | |
| Lithium | 6.00 | B | 4.80 | B | 8.10 | B | 7.6 | | V | 7.5 | |
| Magnesium | 9170.00 | | 4150.00 | B | 15000.00 | E | 13400 | | V | 4970 | |
| Manganese | 127.00 | | 99.40 | | 100.00 | E | 38.4 | | V | 83.3 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | V | 0.20 | U |
| Molybdenum | 4.50 | B | 58.10 | B | 5.60 | B | 10.9 | U | V | 5.7 | U |
| Nickel | 4.00 | U | 11.80 | B | 7.00 | B | 3.9 | U | V | 14.7 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 1940.00 | B | 8950.00 | | 2390.00 | B | 1800 | | V | 2440 | |
| Selenium | 1.00 | U | 1.00 | B | 2.00 | UW | 1.1 | U | V | 1.1 | U |
| Silicon | | | | | | | 4320 | | V | 12200 | |
| Silver | 3.40 | B | 3.00 | U | 3.00 | U | 3.8 | U | V | 5.0 | U |
| Sodium | 13900.00 | | 81800.00 | | 22900.00 | E | 24500 | | V | 13000 | |
| Strontium | 267.00 | | 124.00 | B | 428.00 | E | 364 | | V | 137 | |
| Thallium | 2.00 | UW | 2.00 | UWN | 2.00 | U | 7.0 | U | JA | 1.4 | U |
| Tin | 23.00 | B | 7.00 | U | 27.30 | B | 24.2 | U | V | 14.8 | U |
| Vanadium | 9.00 | B | 11.40 | B | 10.50 | B | 2.0 | U | V | 14.2 | |
| Zinc | 144.00 | | 219.00 | | 153.00 | E | 62.6 | | V | 195 | |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW80109WC (DUP)<br>Date: 04/08/91 | | | Location: SW035 (SW)<br>Sample: SW01132WC (REAL)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW80123WC (DUP)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW01235WC (REAL)<br>Date: 06/25/91 | | | Location: SW035 (SW)<br>Sample: SW01338WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 3310 | | | 322 | | V | 776 | | V | 1200 | | V | 2200 | | V |
| Antimony | 25.6 | U | | 25.6 | U | JA | 25.6 | U | JA | 11 | U | V | 11 | U | V |
| Arsenic | 0.90 | U | | 0.90 | U | R | 0.90 | U | JA | 2.0 | U | V | 4.0 | U | V |
| Barium | 85.9 | | | 134 | | V | 141 | | V | 160 | | V | 110 | | V |
| Beryllium | 0.50 | U | | 0.50 | U | JA | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | | 3.3 | U | V | 3.3 | U | V | 1.0 | U | V | 1.7 | | V |
| Calcium | 26400 | | | 82300 | | V | 80600 | | V | 83000 | | V | 56000 | | V |
| Cesium | 500 | U | | 500 | U | V | 500 | U | V | 50 | | V | 50 | U | V |
| Chromium | 5.6 | | | 4.1 | U | JA | 4.1 | U | JA | 2.0 | U | V | 3.3 | | V |
| Cobalt | 3.6 | U | | 3.6 | U | V | 3.6 | U | V | 2.0 | U | V | 2.3 | | V |
| Copper | 19.2 | | | 51.9 | | V | 71.0 | | V | 5.7 | | V | 5.8 | | JA |
| Iron | 3300 | | | 531 | | V | 1010 | | V | 1200 | | V | 1800 | | V |
| Lead | 11.8 | | | 2.0 | | V | 1.7 | | JA | 3.4 | W | JA | 5.2 | W | JA |
| Lithium | 6.0 | | | 10.1 | | JA | 13.1 | | JA | 6.1 | | JA | 6.1 | | JA |
| Magnesium | 4710 | | | 16000 | | V | 17000 | | V | 13000 | | V | 8200 | | V |
| Manganese | 73.9 | | | 66.2 | | V | 98.5 | | V | 270 | | V | 81 | | V |
| Mercury | 0.20 | U | | 0.20 | U | JA | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | | 5.7 | U | V | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA |
| Nickel | 14.7 | U | | 14.7 | U | V | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2520 | | | 5580 | | V | 6110 | | V | 2900 | | V | 2200 | | V |
| Selenium | 1.1 | U | | 1.1 | U | JA | 1.1 | U | JA | 4.0 | UW | JA | 4.0 | UW | R |
| Silicon | 9180 | | | 5990 | | V | 7080 | | V | 5950 | | V | 6480 | | V |
| Silver | 5.0 | U | | 5.0 | U | R | 5.0 | U | V | 2.0 | U | V | 2.0 | U | V |
| Sodium | 12800 | | | 43700 | | V | 53900 | | V | 28000 | | V | 19000 | | V |
| Strontium | 133 | | | 433 | | V | 451 | | V | 400 | | JA | 270 | | JA |
| Thallium | 1.4 | U | | 1.4 | U | V | 1.4 | U | V | 1.0 | UW | JA | 1.0 | UW | JA |
| Tin | 14.8 | U | | 14.8 | U | R | 14.8 | U | V | 13 | U | JA | 13 | U | R |
| Vanadium | 9.7 | | | 31.6 | | V | 45.4 | | V | 2.9 | | V | 5.3 | | V |
| Zinc | 153 | | | 75.5 | | V | 91.4 | | V | 52 | | JA | 79 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01444WC (REAL)<br>Date: 08/13/91 | | | Location: SW035 (SW)<br>Sample: SW01550WC (REAL)<br>Date: 09/05/91 | | | Location: SW035 (SW)<br>Sample: SW01656WC (REAL)<br>Date: 10/17/91 | | | Location: SW035 (SW)<br>Sample: SW01714WC (REAL)<br>Date: 11/06/91 | | | Location: SW035 (SW)<br>Sample: SW01869WC (REAL)<br>Date: 04/08/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 1200 | | V | 2000 | | V | 11000 | | V | 2770 | | V | 504 | | JA |
| Antimony | 11 | U | V | 14 | U | V | 13.8 | U | V | 13.8 | U | V | 19.8 | U | V |
| Arsenic | 4.0 | U | V | 2.0 | U | V | 2.2 | | JA | 1.1 | U | V | 1.7 | U | V |
| Barium | 110 | | V | 410 | | V | 415 | | V | 148 | | V | 132 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.80 | | V | 0.50 | U | V | 0.60 | U | V |
| Cadmium | 2.0 | U | V | 1.0 | U | | 2.4 | U | JA | 2.4 | U | V | 2.3 | U | JA |
| Calcium | 59000 | | V | 70000 | | V | 87900 | | V | 54800 | | V | 81900 | | V |
| Cesium | 50 | U | V | 60 | | V | 500 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 2.0 | U | V | 66 | | V | 9.4 | | V | 2.6 | U | V | 2.0 | U | V |
| Cobalt | 2.0 | U | V | 2.9 | | V | 7.5 | | V | 2.8 | U | V | 2.7 | U | V |
| Copper | 7.3 | | V | 9.7 | | JA | 39.8 | | V | 11.9 | | V | 4.2 | | JA |
| Iron | 1100 | | V | 2100 | | V | 10700 | | V | 2250 | | V | 575 | | V |
| Lead | 4.5 | I | JA | 6.0 | | V | 24.1 | | V | 4.6 | | JA | 1.4 | | V |
| Lithium | 4.8 | | JA | 8.7 | | JA | 16.5 | | V | 7.1 | U | V | 7.1 | | JA |
| Magnesium | 8600 | | V | 14000 | | V | 16300 | | V | 8990 | | V | 17300 | | V |
| Manganese | 120 | | V | 210 | | V | 487 | | V | 95.5 | | V | 45.8 | | V |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 5.8 | U | V | 5.8 | U | V | 3.5 | U | V |
| Nickel | 4.0 | U | R | 50 | | JA | 14.1 | | V | 6.7 | | JA | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2100 | | V | 4300 | | V | 3670 | | JA | 2800 | | V | 2500 | | JA |
| Selenium | 4.0 | UI | JA | 4.0 | UI | JA | 1.5 | U | V | 1.5 | U | V | 0.80 | U | V |
| Silicon | 6040 | | | 11800 | | V | 29400 | | V | 10400 | | V | 3940 | | JA |
| Silver | 2.0 | U | V | 5.0 | U | V | 2.9 | U | V | 2.9 | U | V | 2.1 | U | V |
| Sodium | 13000 | | V | 22000 | | V | 20400 | | V | 17000 | | V | 33000 | | V |
| Strontium | 270 | | JA | 420 | | V | 445 | | V | 237 | | V | 485 | | V |
| Thallium | 1.0 | UI | JA | 4.0 | UI | JA | 1.9 | U | V | 1.9 | U | V | 2.0 | U | JA |
| Tin | 13 | U | R | 16 | | JA | 10.4 | U | V | 10.4 | U | V | 9.4 | U | V |
| Vanadium | 3.1 | | V | 7.8 | | V | 27.5 | | V | 5.7 | | V | 3.5 | U | V |
| Zinc | 120 | | V | 75 | | V | 362 | | V | 195 | | V | 36.1 | | V |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW03690001 (REAL)<br>Date: 01/12/90 | | | Location: SW036 (SW)<br>Sample: SW03690003 (REAL)<br>Date: 03/14/90 | | Location: SW036 (SW)<br>Sample: SW036W051490A (REAL)<br>Date: 05/14/90 | | Location: SW036 (SW)<br>Sample: SW00057WC (REAL)<br>Date: 06/07/90 | | Location: SW036 (SW)<br>Sample: SW70008WC (REAL)<br>Date: 08/08/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 18800 | | V | 200.0 | U | 287 | | 248 | | 115.00 | B |
| Antimony | 44.6 | U | V | 60.0 | U | 60.0 | U | 60.0 | U | 10.00 | U |
| Arsenic | 3.6 | J | A | 10.0 | U | 10.0 | U | 10.0 | U | 1.00 | U |
| Barium | 358 | | V | 200.0 | U | 200 | U | 200 | U | 162.00 | B |
| Beryllium | 0.8 | U | V | 5.0 | U | 5.0 | U | 5.0 | U | 1.00 | U |
| Cadmium | 2.3 | U | R | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Calcium | 10500 | | V | 112000.0 | | 77500 | | 67400 | | 81100.00 | |
| Cesium | 1000 | U | V | 1000.0 | U | 1000 | U | 1000 | U | 300.00 | B |
| Chromium | 23.7 | J | A | 10.0 | U | 10.0 | U | 10.0 | U | 8.50 | B |
| Cobalt | 2.2 | U | V | 50.0 | U | 50.0 | U | 50.0 | U | 4.00 | U |
| Copper | 28.1 | UJ | A | 25.0 | U | 25.0 | U | 25.0 | U | 3.00 | U |
| Iron | 21200 | | V | 100.0 | U | 215 | | 215 | | 99.20 | B |
| Lead | 21.1 | | V | 5.0 | U | 5.0 | U | 3.0 | U | 1.00 | U |
| Lithium | 25.0 | J | A | 100.0 | U | 100 | U | 100 | U | 12.20 | B |
| Magnesium | 23500 | | V | 24800.0 | | 23200 | | 24300 | | 16300.00 | |
| Manganese | 524 | | V | 15.0 | U | 15.0 | U | 18.1 | | 7.50 | B |
| Mercury | 0.2 | U | V | 0.2 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 20.5 | UJ | A | 100.0 | U | 100 | U | 100 | U | 3.80 | B |
| Nickel | 21.7 | | V | 40.0 | U | 40.0 | U | 40.0 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 5500 | | V | 5000.0 | U | 5000 | U | 5000 | U | 721.00 | B |
| Selenium | 2.2 | UJ | A | 5.0 | U | 5.0 | U | 5.0 | U | 1.00 | B |
| Silicon | | | | | | | | | | | |
| Silver | 2.8 | U | V | 10.0 | U | 10.0 | U | 10.0 | U | 2.00 | U |
| Sodium | 14600 | | V | 40200.0 | | 26800 | | 24900 | | 11300.00 | |
| Strontium | 541 | J | A | 1000.0 | U | 1000 | U | 1000 | U | 450.00 | |
| Thallium | 1.1 | U | R | 10.0 | U | 10.0 | U | 10.0 | U | 1.00 | UW |
| Tin | 41.0 | UJ | A | 100.0 | U | 100 | U | 100 | U | 36.90 | B |
| Vanadium | 43.0 | | V | 50.0 | U | 50.0 | U | 50.0 | U | 7.20 | B |
| Zinc | 108 | | V | 20.0 | U | 68.6 | | 44.7 | | 6.90 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW00512WC (REAL)<br>Date: 11/20/90 | | | Location: SW036 (SW)<br>Sample: SW00548WC (REAL)<br>Date: 11/20/90 | | | Location: SW036 (SW)<br>Sample: SW00924WC (REAL)<br>Date: 03/15/91 | | | Location: SW036 (SW)<br>Sample: SW01026WC (REAL)<br>Date: 04/08/91 | | | Location: SW036 (SW)<br>Sample: SW01133WC (REAL)<br>Date: 05/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 61.1 | | V | 191 | | V | 205 | | JA | 138 | | | 149 | | V |
| Antimony | 22.0 | U | V | 22.0 | U | V | 18.2 | U | R | 25.6 | U | | 25.6 | U | JA |
| Arsenic | 1.0 | U | V | 1.0 | U | V | 0.80 | U | V | 0.90 | U | | 0.90 | U | JA |
| Barium | 13.5 | | V | 132 | | V | 120 | | V | 138 | | | 114 | | JA |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.60 | U | V | 0.50 | U | | 0.50 | U | V |
| Cadmium | 5.0 | U | R | 5.0 | U | R | 2.7 | U | V | 2.7 | U | | 3.3 | U | V |
| Calcium | 77300 | | JA | 96200 | | JA | 74400 | | V | 63200 | | | 62500 | | V |
| Cesium | 500 | U | V | 500 | U | V | 500 | U | V | 500 | U | | 500 | U | V |
| Chromium | 4.0 | U | V | 4.0 | U | V | 6.9 | U | V | 4.1 | U | | 4.1 | U | JA |
| Cobalt | 4.0 | U | V | 4.0 | U | V | 3.0 | U | V | 3.6 | U | | 3.6 | U | V |
| Copper | 6.0 | | JA | 5.0 | U | V | 2.5 | U | V | 4.7 | U | | 4.7 | U | V |
| Iron | 92.8 | | JA | 302 | | JA | 267 | | JA | 258 | | | 264 | | V |
| Lead | 1.0 | U | JA | 1.0 | U | JA | 1.0 | U | V | 1.4 | U | | 1.4 | U | V |
| Lithium | 10.5 | | JA | 20.5 | | JA | 7.6 | | V | 12.7 | | | 6.5 | | JA |
| Magnesium | 19200 | | JA | 22600 | | JA | 21400 | | V | 22100 | | | 18500 | | V |
| Manganese | 3.6 | | JA | 74.9 | | V | 8.7 | | V | 10.8 | | | 76.6 | | V |
| Mercury | 0.10 | U | R | 0.10 | U | R | 0.20 | U | V | 0.20 | U | | 0.20 | U | JA |
| Molybdenum | 9.0 | U | V | 9.0 | U | V | 10.9 | U | V | 5.7 | U | | 5.7 | U | JA |
| Nickel | 9.5 | | V | 9.0 | U | V | 3.9 | U | V | 14.7 | U | | 14.7 | U | V |
| Phosphorus | 253 | | JA | 514 | | JA | | | | | | | | | |
| Potassium | 2830 | | JA | 3530 | | JA | 2790 | | V | 2570 | | | 4500 | | V |
| Selenium | 2.0 | U | JA | 2.1 | | V | 1.1 | U | V | 1.1 | U | | 1.1 | U | R |
| Silicon | | | | 5560 | | JA | 3330 | | V | 2210 | | | 3320 | | V |
| Silver | 5.3 | | V | 5.4 | | V | 3.8 | U | V | 5.0 | U | | 5.0 | U | V |
| Sodium | 12600 | | JA | 49300 | | JA | 17600 | | V | 19100 | | | 18200 | | V |
| Strontium | 440 | | V | 538 | | V | 472 | | V | 481 | | | 419 | | V |
| Thallium | 2.0 | U | V | 2.0 | U | V | 1.4 | U | JA | 1.4 | U | | 1.4 | U | V |
| Tin | 30.0 | U | V | 30.0 | U | V | 24.2 | U | V | 14.8 | U | | 14.8 | U | R |
| Vanadium | 4.5 | | V | 6.0 | | V | 2.0 | U | V | 5.7 | U | | 5.7 | U | V |
| Zinc | 7.0 | | V | 14.3 | | V | 4.7 | U | V | 6.3 | | | 1.8 | U | V |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW01445WC (REAL)<br>Date: 08/13/91 | | | Location: SW036 (SW)<br>Sample: SW01715WC (REAL)<br>Date: 11/07/91 | | | Location: SW036 (SW)<br>Sample: SW01870WC (REAL)<br>Date: 04/08/92 | | | Location: SW038 (SW)<br>Sample: SW00419WC (REAL)<br>Date: 10/15/90 | | | Location: SW038 (SW)<br>Sample: SW00520WC (REAL)<br>Date: 11/05/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 160 | | V | 210 | | V | 58.7 | | JA | 60 | U | | 96.5 | | JA |
| Antimony | 11 | U | V | 13.8 | U | V | 19.8 | U | JA | 30 | U | | 22.0 | U | V |
| Arsenic | 4.0 | U | V | 1.1 | U | JA | 1.7 | U | V | 2 | U | | 1.0 | U | V |
| Barium | 150 | | V | 116 | | V | 123 | | V | 143 | B | | 144 | | V |
| Beryllium | 1.0 | U | V | 0.60 | | V | 0.60 | U | V | 2 | U | | 1.0 | U | V |
| Cadmium | 2.0 | U | V | 2.4 | U | V | 2.3 | U | JA | 2 | U | | 5.0 | U | V |
| Calcium | 65000 | | V | 61000 | | V | 90700 | | V | 79600 | | | 78600 | | JA |
| Cesium | 50 | U | V | 500 | U | V | 500 | U | V | 2 | UWN | | 500 | U | V |
| Chromium | 2.0 | U | V | 2.6 | U | V | 2.0 | U | V | 10 | U | | 4.0 | U | V |
| Cobalt | 2.0 | U | V | 2.8 | U | V | 2.7 | U | V | 10 | U | | 4.0 | U | V |
| Copper | 5.4 | | V | 2.1 | U | V | 2.3 | U | V | 10 | U | | 5.0 | U | JA |
| Iron | 270 | | V | 191 | | V | 50.4 | | JA | 68.8 | B | | 168 | | JA |
| Lead | 2.4 | | V | 4.6 | | JA | 0.90 | | V | 2 | U | | 1.8 | | JA |
| Lithium | 6.5 | | JA | 7.1 | U | V | 5.4 | | JA | 50 | U | | 10.0 | U | V |
| Magnesium | 18000 | | V | 15300 | | V | 24700 | | V | 18200 | | | 16600 | | JA |
| Manganese | 170 | | V | 8.0 | | JA | 6.3 | | JA | 29.3 | | | 11.6 | | JA |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | .2 | U | | 0.10 | U | R |
| Molybdenum | 3.0 | U | JA | 5.8 | U | V | 3.5 | U | V | 10 | U | | 9.0 | U | V |
| Nickel | 4.0 | U | R | 5.9 | U | V | 11.2 | U | V | 20 | U | | 9.0 | U | V |
| Phosphorus | | | | | | | | | | | | | 349 | | JA |
| Potassium | 3500 | | V | 4440 | | V | 2870 | | JA | 774 | B | | 1120 | | JA |
| Selenium | 4.0 | UI | JA | 1.5 | U | V | 0.80 | U | V | 2 | UW | | 2.0 | U | V |
| Silicon | 9990 | | | 5800 | | V | 477 | | JA | 9920 | | | 5720 | | JA |
| Silver | 2.0 | U | V | 2.9 | U | V | 2.1 | U | V | 12.8 | | | 6.7 | | JA |
| Sodium | 17000 | | V | 11000 | | V | 36500 | | V | 14400 | | | 14400 | | JA |
| Strontium | 450 | | JA | 339 | | V | 611 | | V | 487 | | | 429 | | V |
| Thallium | 5.0 | UI | JA | 1.9 | U | V | 2.0 | U | JA | 2 | U | | 2.0 | U | V |
| Tin | 13 | U | R | 10.4 | U | V | 9.4 | U | V | 50 | U | | 30.0 | U | V |
| Vanadium | 3.0 | U | V | 2.3 | U | V | 3.5 | U | V | 10 | U | | 9.3 | | JA |
| Zinc | 6.7 | | V | 4.3 | U | V | 5.6 | | JA | 5 | U | | 59.2 | | V |

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# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW00624WC (REAL)<br>Date: 12/11/90 | | Location: SW038 (SW)<br>Sample: SW80081WC (DUP)<br>Date: 12/11/90 | | Location: SW038 (SW)<br>Sample: SW00932WC (REAL)<br>Date: 03/28/91 | | Location: SW038 (SW)<br>Sample: SW01034WC (REAL)<br>Date: 04/09/91 | | Location: SW038 (SW)<br>Sample: SW01141WC (REAL)<br>Date: 05/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 51.60 | B | 58.90 | B | 39.90 | B | 672 | | 108 | U | V |
| Antimony | 8.00 | U | 8.00 | U | 11.70 | B | 25.6 | U | 25.6 | U | JA |
| Arsenic | 2.00 | UW | 2.00 | UW | 2.00 | B | 0.90 | U | 0.90 | U | JA |
| Barium | 173.00 | B | 172.00 | B | 150.00 | B | 158 | | 141 | | V |
| Beryllium | 1.00 | U | 1.00 | U | 1.00 | U | 0.50 | U | 0.50 | U | V |
| Cadmium | 2.00 | U | 2.00 | U | 2.00 | U | 2.7 | U | 3.3 | U | V |
| Calcium | 104000.00 | | 104000.00 | | 89300.00 | | 81400 | | 66000 | | V |
| Cesium | 76.00 | U | 76.00 | U | 112.00 | U | 500 | U | 500 | U | V |
| Chromium | 6.60 | B | 9.60 | B | 3.30 | B | 4.1 | U | 4.1 | U | V |
| Cobalt | 3.00 | U | 3.00 | U | 3.00 | U | 3.6 | U | 3.6 | U | V |
| Copper | 2.00 | U | 3.30 | B | 11.00 | U | 4.7 | U | 4.7 | U | V |
| Iron | 80.10 | B | 74.00 | B | 12.60 | B | 514 | | 177 | | JA |
| Lead | 1.00 | U | 1.00 | U | 1.00 | U | 1.4 | U | 1.4 | U | V |
| Lithium | 9.70 | B | 9.70 | B | 2.00 | U | 8.9 | | 4.3 | U | V |
| Magnesium | 20700.00 | | 20600.00 | | 20900.00 | | 18700 | | 16200 | | V |
| Manganese | 8.60 | B | 8.60 | B | 15.70 | | 32.0 | | 21.2 | | V |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | JA |
| Molybdenum | 3.60 | B | 5.30 | B | 2.00 | U | 5.7 | U | 5.7 | U | V |
| Nickel | 4.00 | U | 4.00 | U | 3.00 | U | 14.7 | U | 14.7 | U | V |
| Phosphorus | | | | | | | | | | | |
| Potassium | 454.00 | B | 470.00 | B | 636.00 | B | 2050 | U | 2630 | | V |
| Selenium | 1.00 | U | 1.00 | U | 2.00 | B | 1.1 | U | 1.1 | U | V |
| Silicon | | | | | | | 7720 | | 6000 | | V |
| Silver | 3.00 | U | 3.00 | U | 2.00 | U | 5.0 | U | 5.0 | U | V |
| Sodium | 16900.00 | | 16600.00 | | 16600.00 | | 15600 | | 14000 | | V |
| Strontium | 543.00 | | 540.00 | | 540.00 | | 461 | | 415 | | V |
| Thallium | 3.00 | UWN | 3.00 | UWN | 3.00 | U | 1.4 | U | 2.1 | | JA |
| Tin | 15.20 | B | 18.50 | B | 15.60 | B | 14.8 | U | 14.8 | U | V |
| Vanadium | 4.10 | B | 4.70 | B | 3.40 | B | 5.7 | U | 5.7 | U | V |
| Zinc | 10.70 | B | 11.90 | B | 3.60 | B | 27.5 | | 1.8 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01244WC (REAL)<br>Date: 06/20/91 | | | Location: SW038 (SW)<br>Sample: SW01347WC (REAL)<br>Date: 07/25/91 | | | Location: SW038 (SW)<br>Sample: SW01453WC (REAL)<br>Date: 08/28/91 | | | Location: SW038 (SW)<br>Sample: SW01559WC (REAL)<br>Date: 09/18/91 | | | Location: SW038 (SW)<br>Sample: SW01665WC (REAL)<br>Date: 10/23/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 84.8 | | V | 36.8 | U | V | 105 | | JA | 65.5 | | JA | 86.00 | B | V |
| Antimony | 11.0 | U | V | 42.2 | U | V | 42.2 | U | V | 13.8 | U | V | 14.30 | B | V |
| Arsenic | 2.0 | U | V | 0.80 | U | R | 0.70 | U | JA | 0.70 | U | JA | 2.00 | U | V |
| Barium | 143 | | V | 174 | | V | 172 | | V | 158 | | V | 166.00 | B | V |
| Beryllium | 1.0 | U | V | 0.60 | U | V | 0.60 | U | V | 0.90 | | JA | 1.00 | U | V |
| Cadmium | 1.6 | | JA | 4.6 | U | V | 4.6 | U | V | 2.4 | U | V | 2.00 | U | V |
| Calcium | 78900 | | V | 82300 | | V | 82400 | | V | 78500 | | V | 87600.00 | | V |
| Cesium | 60.0 | | V | 500 | U | V | 500 | U | V | 500 | U | V | 50 | U | V |
| Chromium | 2.0 | U | V | 5.5 | U | V | 5.5 | U | V | 2.6 | U | V | 6.40 | B | V |
| Cobalt | 2.0 | U | V | 7.3 | U | V | 7.3 | U | V | 2.8 | U | V | 3.00 | U | V |
| Copper | 4.9 | | V | 5.4 | U | V | 5.4 | U | V | 4.6 | | JA | 3.00 | U | V |
| Iron | 190 | | V | 259 | | V | 145 | | V | 82.4 | | V | 132.00 | N* | V |
| Lead | 4.6 | U | JA | 2.4 | | V | 1.3 | U | V | 0.90 | U | JA | 1.00 | U | V |
| Lithium | 5.50 | | JA | 5.4 | U | V | 5.4 | U | V | 7.1 | U | V | 4.00 | B | V |
| Magnesium | 18700 | | V | 15900 | | V | 15700 | | V | 16400 | | V | 17200.00 | | V |
| Manganese | 20.2 | | V | 22.2 | | V | 15.1 | | V | 6.6 | | JA | 11.10 | B | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 3.0 | U | JA | 10.0 | U | V | 10.0 | U | V | 5.8 | U | V | 3.00 | U | V |
| Nickel | 4.0 | U | V | 10.7 | U | V | 10.7 | U | V | 5.9 | U | V | 17.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 834 | | V | 2020 | | JA | 1070 | U | V | 675 | U | V | 800.00 | B | V |
| Selenium | 20.0 | U | JA | 1.2 | U | JA | 1.2 | U | V | 1.2 | U | V | 2.00 | U | V |
| Silicon | 6820 | | V | 8450 | | V | 8820 | | JA | 9400 | | V | | | |
| Silver | 2.0 | U | V | 6.8 | U | JA | 6.8 | U | V | 2.9 | U | V | 2.00 | U | V |
| Sodium | 14600 | | V | 10600 | | V | 9920 | | V | 11400 | | V | 11100.00 | | V |
| Strontium | 482 | | JA | 440 | | V | 444 | | V | 428 | | V | 485.00 | | V |
| Thallium | 1.0 | U | JA | 1.6 | U | JA | 1.6 | U | JA | 2.4 | U | V | 1.00 | U | V |
| Tin | 13.0 | U | JA | 38.9 | U | V | 38.9 | U | V | 10.4 | U | V | 17.00 | U | V |
| Vanadium | 2.0 | U | V | 6.5 | U | V | 6.5 | U | V | 2.3 | U | V | 4.10 | B | V |
| Zinc | 9.0 | | V | 7.2 | U | V | 17.4 | | V | 8.7 | | JA | 2.40 | B* | JA |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01716WC (REAL)<br>Date: 11/07/91 | | | Location: SW038 (SW)<br>Sample: SW01789WC (REAL)<br>Date: 01/20/92 | | | Location: SW038 (SW)<br>Sample: SW01871WC (REAL)<br>Date: 04/07/92 | | | Location: SW039 (SW)<br>Sample: SW03990001 (REAL)<br>Date: 01/17/90 | | | Location: SW039 (SW)<br>Sample: SW03990002 (REAL)<br>Date: 02/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 25.1 | | V | 26.7 | | JA | 116 | | JA | 128 | UJ | A | 209 | J | A |
| Antimony | 13.8 | U | V | 13.5 | U | V | 19.8 | U | V | 44.6 | UJ | A | 54.3 | UJ | V |
| Arsenic | 1.1 | U | JA | 1.3 | U | V | 1.7 | U | V | 1.9 | U | V | 1.3 | U | V |
| Barium | 168 | | V | 186 | | V | 163 | | V | 52.0 | J | A | 46.8 | U | V |
| Beryllium | 0.50 | U | V | 0.80 | U | V | 0.60 | U | V | 0.8 | U | V | 0.2 | U | R |
| Cadmium | 2.4 | U | V | 2.8 | U | JA | 2.3 | U | JA | 2.3 | U | R | 3.2 | U | V |
| Calcium | 85800 | | V | 90700 | | V | 106000 | | V | 23300 | | V | 18400 | E | V |
| Cesium | 500 | U | V | 500 | U | V | 500 | U | V | 1000 | U | V | 1000 | U | V |
| Chromium | 2.6 | U | V | 5.7 | U | V | 2.0 | U | V | 8.7 | U | V | 5.8 | U | V |
| Cobalt | 2.8 | U | V | 3.4 | U | V | 2.7 | U | V | 2.2 | U | V | 2.7 | U | V |
| Copper | 2.1 | U | V | 2.5 | U | V | 2.3 | U | V | 5.6 | UJ | A | 2.4 | U | V |
| Iron | 40.3 | | JA | 22.6 | U | V | 124 | | JA | 278 | | V | 455 | E | V |
| Lead | 0.90 | U | JA | 1.2 | U | JA | 2.9 | | V | 16.0 | J | A | 1.4 | U | V |
| Lithium | 7.1 | U | V | 4.1 | | V | 2.6 | | JA | 7.0 | | V | 100 | UJ | A |
| Magnesium | 16000 | | V | 15800 | | V | 21600 | | V | 6120 | | V | 4880 | U | V |
| Manganese | 3.2 | | JA | 1.6 | U | V | 11.6 | | V | 46.8 | | V | 75.7 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.2 | U | V | 0.20 | U | R |
| Molybdenum | 5.8 | U | V | 6.5 | U | V | 3.5 | | JA | 20.5 | UJ | A | 100 | UJ | A |
| Nickel | 5.9 | U | V | 9.9 | U | V | 11.2 | U | V | 3.8 | U | V | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1200 | | V | 726 | U | V | 1400 | | JA | 964 | UJ | A | 972 | U | V |
| Selenium | 1.5 | U | V | 1.0 | U | V | 0.80 | U | JA | 2.2 | U | V | 1.8 | U | V |
| Silicon | 7640 | | V | 8100 | | V | 6080 | | JA | | | | | | |
| Silver | 2.9 | U | V | 2.5 | U | V | 2.1 | U | V | 2.8 | U | V | 4.9 | U | V |
| Sodium | 10100 | | V | 9250 | | V | 19600 | | V | 16300 | | V | 11400 | | V |
| Strontium | 396 | | V | 461 | | V | 590 | | V | 148 | J | A | 1000 | UJ | A |
| Thallium | 1.9 | U | V | 2.1 | U | V | 2.0 | U | R | 1.1 | U | V | 0.90 | U | V |
| Tin | 10.4 | U | V | 14.2 | U | V | 9.4 | U | V | 41.0 | UJ | A | 100 | UJ | A |
| Vanadium | 2.3 | U | V | 4.7 | U | V | 3.5 | U | V | 3.0 | U | V | 3.0 | U | V |
| Zinc | 4.3 | U | V | 2.2 | U | V | 8.4 | | JA | 11.8 | UJ | A | 8.5 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
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# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW03990003 (REAL)<br>Date: 03/21/90 | | Location: SW039 (SW)<br>Sample: SW039W041290A (UNKN)<br>Date: 04/12/90 | | Location: SW039 (SW)<br>Sample: SW039W050990A (UNKN)<br>Date: 05/09/90 | | Location: SW039 (SW)<br>Sample: SW00058WC (REAL)<br>Date: 06/07/90 | | Location: SW039 (SW)<br>Sample: SW00059WC (DUP)<br>Date: 06/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 531 | | 200 | U | 200 | U | 200 | U |
| Antimony | | | 60.0 | U | 60.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | | | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U |
| Barium | | | 200 | U | 200 | U | 200 | U | 200 | U |
| Beryllium | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U |
| Calcium | | | 18000 | | 23400 | | 25900 | | 26900 | |
| Cesium | | | 1000 | U | 1000 | U | 1000 | U | 1000 | U |
| Chromium | | | 10.0 | U | 10.0 | U | 10.0 | U | 13.8 | |
| Cobalt | | | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U |
| Copper | | | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U |
| Iron | | | 458 | | 137 | | 208 | | 353 | |
| Lead | | | 5.0 | U | 5.0 | U | 3.0 | U | 3.0 | U |
| Lithium | | | 100 | U | 100 | U | 100 | U | 100 | U |
| Magnesium | | | 5000 | U | 6190 | | 5380 | | 5630 | |
| Manganese | | | 15.0 | U | 15.0 | U | 15.9 | | 18.6 | |
| Mercury | 0.25 | | 0.30 | | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | | | 100 | U | 100 | U | 100 | U | 100 | U |
| Nickel | | | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | | | 5000 | U | 5000 | U | 5000 | U | 5000 | U |
| Selenium | | | 5.0 | U | 5.0 | U | 25.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | |
| Silver | | | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U |
| Sodium | | | 15700 | | 16300 | | 13700 | | 14700 | |
| Strontium | | | 1000 | U | 1000 | U | 1000 | U | 1000 | U |
| Thallium | | | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U |
| Tin | | | 100 | U | 100 | U | 100 | U | 100 | U |
| Vanadium | | | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U |
| Zinc | | | 75.8 | | 47.9 | | 25.1 | | 20.0 | U |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00315WC (REAL)<br>Date: 09/13/90 | | Location: SW039 (SW)<br>Sample: SW00406WC (REAL)<br>Date: 10/02/90 | | Location: SW039 (SW)<br>Sample: SW00507WC (REAL)<br>Date: 11/08/90 | | Location: SW039 (SW)<br>Sample: SW00611WC (REAL)<br>Date: 12/04/90 | | | Location: SW039 (SW)<br>Sample: SW00919WC (REAL)<br>Date: 03/28/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 44.10 | B | 24.80 | B | 62.80 | B | 2130 | | JA | 49.4 | |
| Antimony | 14.40 | B | 7.00 | U | 15.60 | B | 22.0 | U | JA | 18.2 | U |
| Arsenic | 2.00 | B | 2.00 | U | 2.00 | U | 1.8 | U | JA | 0.90 | U |
| Barium | 42.00 | B | 41.50 | B | 40.20 | B | 92.0 | B | V | 60.4 | |
| Beryllium | 1.00 | U | 1.00 | U | 1.00 | U | 1.0 | U | V | 0.60 | U |
| Cadmium | 2.00 | U | 2.00 | U | 2.00 | U | 5.0 | U | V | 2.7 | U |
| Calcium | 32600.00 | | 33200.00 | | 24600.00 | E | 32400 | | JA | 25200 | |
| Cesium | 200.00 | B | 92.00 | U | 100.00 | B | 500 | U | V | 500 | U |
| Chromium | 8.60 | B | 5.00 | U | 9.60 | B | 4.0 | U | V | 6.9 | U |
| Cobalt | 3.00 | U | 3.00 | U | 4.10 | B | 7.0 | U | V | 3.0 | U |
| Copper | 2.00 | U | 2.00 | U | 4.80 | B | 9.1 | B | V | 6.1 | |
| Iron | 226.00 | | 172.00 | | 126.00 | | 5390 | | V | 212 | |
| Lead | 1.00 | U | 1.00 | UW | 1.00 | U | 8.0 | B | V | 1.5 | U |
| Lithium | 1.00 | U | 2.00 | U | 2.00 | U | 10.0 | U | V | 2.8 | |
| Magnesium | 5510.00 | | 5530.00 | | 5230.00 | E | 7440 | | JA | 6700 | |
| Manganese | 27.20 | | 29.20 | | 21.60 | | 621 | | V | 42.7 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.10 | U | R | 0.20 | U |
| Molybdenum | 2.00 | U | 2.00 | U | 4.40 | B | 9.0 | U | V | 10.9 | U |
| Nickel | 4.00 | U | 4.00 | U | 5.20 | B | 9.0 | U | V | 3.9 | U |
| Phosphorus | | | | | | | 305 | B | JA | | |
| Potassium | 1510.00 | B | 1430.00 | B | 1530.00 | B | 2450 | B | JA | 1080 | |
| Selenium | 2.00 | U | 2.00 | U | 1.00 | U | 2.0 | U | V | 1.1 | |
| Silicon | | | | | | | | | | 4100 | |
| Silver | 3.00 | U | 3.00 | U | 3.20 | B | 4.0 | B | V | 3.8 | U |
| Sodium | 15000.00 | | 16000.00 | | 11000.00 | E | 16600 | | JA | 19300 | |
| Strontium | 129.00 | B | 128.00 | B | 123.00 | BE | 151 | | V | 151 | |
| Thallium | 4.00 | U | 2.00 | UWN | 2.00 | UWN | 2.0 | U | V | 1.4 | U |
| Tin | 14.90 | B | 7.00 | U | 14.80 | B | 30.0 | U | V | 24.2 | U |
| Vanadium | 5.10 | B | 2.00 | U | 4.50 | B | 10.1 | B | V | 2.0 | U |
| Zinc | 3.60 | B | 4.60 | B | 7.70 | B | 19.3 | B | V | 4.7 | U |

Note: Data reporting order: result, qualifier, validation code.
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01021WC (REAL)<br>Date: 04/01/91 | | | Location: SW039 (SW)<br>Sample: SW01128WC (REAL)<br>Date: 05/03/91 | | | Location: SW039 (SW)<br>Sample: SW01231WC (REAL)<br>Date: 06/04/91 | | | Location: SW039 (SW)<br>Sample: SW01334WC (REAL)<br>Date: 07/08/91 | | | Location: SW039 (SW)<br>Sample: SW01440WC (REAL)<br>Date: 08/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 50.9 | | | 108 | U | V | 560 | | JA | 160 | | V | 36.8 | U | R |
| Antimony | 18.2 | U | | 25.6 | U | V | 11 | U | V | 11 | U | V | 42.2 | U | V |
| Arsenic | 0.90 | U | | 0.90 | U | V | 4.0 | U | V | 4.0 | U | V | 0.70 | U | JA |
| Barium | 59.1 | | | 55.3 | | JA | 64 | | V | 46 | | V | 48.3 | | |
| Beryllium | 0.60 | U | | 0.50 | U | V | | | | 1.0 | U | V | 0.60 | U | V |
| Cadmium | 2.7 | U | | 3.3 | U | V | 1.0 | | JA | 1.0 | U | V | 4.6 | U | V |
| Calcium | 25400 | | | 24200 | | V | 28000 | | V | 32000 | | V | 28100 | | V |
| Cesium | 500 | U | | 500 | U | V | 50 | U | V | 50 | | V | 500 | U | V |
| Chromium | 6.9 | U | | 4.1 | U | V | 2.0 | U | JA | 2.0 | U | V | 5.5 | U | V |
| Cobalt | 3.0 | U | | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V | 7.3 | U | V |
| Copper | 3.5 | | | 4.7 | U | V | 3.0 | U | JA | 3.0 | U | V | 5.4 | U | V |
| Iron | 130 | | | 102 | | V | 840 | | V | 610 | | V | 734 | | V |
| Lead | 1.4 | U | | 1.4 | U | JA | 3.7 | | V | 7.3 | | JA | 12.6 | | JA |
| Lithium | 2.8 | | | 5.2 | | JA | 2.0 | U | JA | 2.9 | | JA | 5.4 | | |
| Magnesium | 6750 | | | 6570 | | V | 5900 | | V | 5700 | | V | 4820 | | V |
| Manganese | 24.9 | | | 11.0 | | JA | 32 | | V | 87 | | V | 76.5 | | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 10.9 | U | | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA | 10.0 | U | V |
| Nickel | 3.9 | U | | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V | 10.7 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 998 | | | 2050 | U | V | 1600 | | V | 1500 | | V | 2620 | | V |
| Selenium | 1.1 | | | 1.1 | U | V | 4.0 | UI | JA | 4.0 | UW | R | 1.2 | U | V |
| Silicon | 4190 | | | 4510 | | JA | 5020 | | V | 2490 | | V | 2840 | | V |
| Silver | 3.8 | U | | 5.0 | U | V | 2.0 | U | V | 2.0 | U | V | 6.8 | U | V |
| Sodium | 19300 | | | 19500 | | V | 16000 | | V | 16000 | | V | 14200 | | JA |
| Strontium | 152 | | | 152 | | V | 150 | | JA | 140 | | JA | 123 | | V |
| Thallium | 1.4 | U | | 1.4 | U | JA | 1.0 | UI | JA | 1.0 | UW | JA | 1.6 | U | V |
| Tin | 24.2 | U | | 14.8 | U | V | 13 | U | R | 13 | U | R | 38.9 | U | V |
| Vanadium | 2.0 | U | | 5.7 | U | V | 2.0 | U | V | 2.0 | U | V | 6.5 | U | V |
| Zinc | 4.7 | U | | 1.8 | U | V | 20 | | JA | 4.3 | | V | 7.2 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01546WC (REAL)<br>Date: 09/05/91 | | | Location: SW039 (SW)<br>Sample: SW01652WC (REAL)<br>Date: 10/02/91 | | | Location: SW039 (SW)<br>Sample: SW01726WC (REAL)<br>Date: 11/18/91 | | | Location: SW039 (SW)<br>Sample: SW01881WC (REAL)<br>Date: 04/15/92 | | | Location: SW066 (SW)<br>Sample: SW06890001 (REAL)<br>Date: 01/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 91 | | V | 50.1 | | JA | 73.3 | | V | 157 | | JA | 2640 | | V |
| Antimony | 14 | U | V | 13.8 | U | V | 13.8 | U | V | 19.8 | U | V | 44.6 | U | V |
| Arsenic | 2.0 | U | V | 1.0 | U | JA | 2.4 | | JA | 0.80 | U | JA | 1.9 | U | R |
| Barium | 48 | | V | 54.5 | | V | 56.0 | | V | 56.4 | | V | 153 | | V |
| Beryllium | 1.0 | U | V | 0.60 | | JA | 0.50 | U | V | 0.60 | U | V | 0.8 | U | V |
| Cadmium | | | | 2.4 | U | V | 2.4 | U | V | 2.3 | U | V | 2.3 | U | R |
| Calcium | 34000 | | V | 35000 | | V | 25600 | | V | 27100 | | V | 76400 | | V |
| Cesium | 50 | | V | 500 | U | V | 500 | U | V | 500 | U | V | 1000 | U | V |
| Chromium | 2.0 | U | V | 2.6 | U | V | 2.6 | U | V | 2.0 | U | V | 8.7 | U | V |
| Cobalt | 2.0 | U | V | 2.8 | U | V | 2.8 | U | V | 2.7 | U | V | 2.2 | | V |
| Copper | 2.0 | U | R | 2.1 | U | V | 2.1 | U | V | 2.3 | U | V | 9.8 | UJ | A |
| Iron | 560 | | V | 480 | | V | 178 | | V | 311 | | V | 2700 | | V |
| Lead | 2.0 | U | V | 0.90 | U | V | 0.90 | U | JA | 0.80 | U | V | 7.5 | | V |
| Lithium | 1.0 | U | V | 7.1 | U | V | 7.1 | U | V | 2.0 | U | V | 20.0 | J | A |
| Magnesium | 6300 | | V | 7400 | | V | 6790 | | V | 5800 | | V | 15400 | | V |
| Manganese | 71 | | V | 144 | | V | 33.9 | | V | 25.0 | | V | 95.1 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.2 | U | V |
| Molybdenum | 4.0 | U | V | 5.8 | U | V | 5.8 | U | V | 3.5 | U | R | 20.5 | UJ | A |
| Nickel | 5.0 | U | V | 5.9 | U | V | 7.8 | | V | 11.2 | U | V | 5.9 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1900 | | V | 1440 | | JA | 825 | | V | 1940 | | V | 4300 | | V |
| Selenium | 4.0 | UI | JA | 1.5 | U | V | 1.5 | U | V | 0.80 | U | V | 2.2 | J | A |
| Silicon | 3300 | | V | 4070 | | V | 4810 | | V | 3600 | | V | | | |
| Silver | 5.0 | U | V | 2.9 | U | V | 2.9 | U | V | 2.1 | U | V | 2.8 | U | V |
| Sodium | 17000 | | V | 18600 | | V | 17000 | | V | 16500 | | V | 30500 | | V |
| Strontium | 150 | | V | 169 | | V | 132 | | V | 140 | | V | 438 | J | A |
| Thallium | 4.0 | UI | JA | 1.9 | U | V | 1.9 | U | V | 2.0 | U | V | 1.1 | U | R |
| Tin | 14 | | JA | 10.4 | U | V | 10.4 | U | V | 9.4 | U | V | 41.0 | UJ | A |
| Vanadium | 2.0 | U | V | 2.3 | U | V | 2.3 | U | V | 3.5 | U | V | 4.6 | | V |
| Zinc | 5.0 | U | V | 14.2 | | JA | 4.3 | U | V | 1.7 | U | V | 88.0 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW06690002 (REAL)<br>Date: 02/08/90 | | | Location: SW066 (SW)<br>Sample: SW06690003 (REAL)<br>Date: 03/14/90 | | | Location: SW066 (SW)<br>Sample: SW066W041990A (REAL)<br>Date: 04/19/90 | | | Location: SW066 (SW)<br>Sample: SW066W051590A (REAL)<br>Date: 05/15/90 | | | Location: SW066 (SW)<br>Sample: SW00014WC (REAL)<br>Date: 06/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 8520 | | V | 587 | | | 200 | U | | 530 | | | 627 | | |
| Antimony | 64.0 | UJ | A | 22.0 | U | | 60.0 | U | | 60.0 | U | | 60.0 | U | |
| Arsenic | 4.3 | | V | 2.0 | UN | | 10.0 | U | | 10.0 | U | | 10.0 | U | |
| Barium | 318 | | V | 102 | B | | 200 | U | | 200 | U | | 200 | U | |
| Beryllium | 1.5 | J | A | 1.0 | U | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| Cadmium | 3.2 | U | V | 3.0 | U | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| Calcium | 117000 | E | | 52600 | | | 78800 | | | 69100 | | | 52400 | | |
| Cesium | 1000 | U | V | | | | 1000 | U | | 1000 | U | | 1000 | U | |
| Chromium | 12.3 | | V | 2.0 | U | | 10.0 | U | | 10.0 | U | | 10.0 | U | |
| Cobalt | 9.0 | | V | 4.0 | U | | 50.0 | U | | 50.0 | U | | 50.0 | U | |
| Copper | 37.8 | | V | 5.0 | U | | 25.0 | U | | 25.0 | U | | 25.0 | U | |
| Iron | 10300 | E | | 602 | | | 100 | U | | 542 | | | 837 | | |
| Lead | 30.4 | J | A | 3.0 | U | | 5.0 | U | | 3.0 | U | | 3.0 | U | |
| Lithium | 100 | UJ | A | | | | 100 | U | | 100 | U | | 100 | U | |
| Magnesium | 21300 | | V | 12400 | | | 17600 | | | 15400 | | | 11800 | | |
| Manganese | 438 | | V | 14.2 | B | | 15.0 | U | | 28.4 | | | 35.8 | | |
| Mercury | 0.46 | J | A | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | |
| Molybdenum | 100 | UJ | A | | | | 100 | U | | 100 | U | | 100 | U | |
| Nickel | 20.3 | | V | 7.0 | U | | 40.0 | U | | 40.0 | U | | 40.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3610 | UJ | A | 3900 | B | | 5000 | U | | 5000 | U | | 5000 | U | |
| Selenium | 1.8 | U | V | 2.0 | UNW | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 4.9 | U | V | 3.0 | U | | 10.0 | U | | 10.0 | U | | 10.0 | U | |
| Sodium | 46000 | | V | 551000 | | | 37500 | | | 31000 | | | 23000 | | |
| Strontium | 1000 | UJ | A | | | | 1000 | U | | 1000 | U | | 1000 | U | |
| Thallium | 0.90 | UJ | A | 4.0 | UNW | | 10.0 | U | | 10.0 | U | | 10.0 | U | |
| Tin | 100 | UJ | A | | | | 100 | U | | 100 | U | | 100 | U | |
| Vanadium | 41.7 | | V | 7.4 | B | | 50.0 | U | | 50.0 | U | | 50.0 | U | |
| Zinc | 587 | | V | 68.0 | | | 62.3 | | | 174 | | | 50.6 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW00146WC (REAL)<br>Date: 07/19/90 | | | Location: SW066 (SW)<br>Sample: SW00245WC (REAL)<br>Date: 08/21/90 | | | Location: SW066 (SW)<br>Sample: SW00414WC (REAL)<br>Date: 10/17/90 | | | Location: SW067 (SW)<br>Sample: SW06790001 (REAL)<br>Date: 01/11/90 | | | Location: SW067 (SW)<br>Sample: SW06790002 (REAL)<br>Date: 02/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 571.00 | E | V | 313.00 | | V | 227 | | V | 5760 | | V | 1660 | | V |
| Antimony | 22.30 | B | V | 10.00 | U | V | 26.0 | U | V | 44.6 | U | V | 47.4 | UJ | A |
| Arsenic | 2.00 | U | V | 1.00 | B | V | 1.1 | U | V | 2.0 | J | A | 1.3 | U | V |
| Barium | 140.00 | BE | V | 123.00 | B | V | 135 | B | V | 196 | | V | 146 | | V |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 0.60 | U | V | 0.80 | U | V | 0.2 | U | R |
| Cadmium | 2.00 | U | V | 2.00 | U | V | 2.9 | U | V | 2.3 | U | R | 3.2 | U | V |
| Calcium | 78100.00 | | V | 75300.00 | | V | 85300 | | V | 78300 | | V | 74600 | E | |
| Cesium | 147.00 | U | V | 147.00 | U | V | 500 | U | V | 1000 | U | V | 1000 | U | V |
| Chromium | 6.00 | U | V | 6.10 | B | V | 4.0 | U | V | 8.7 | U | V | 5.8 | U | V |
| Cobalt | 5.20 | B | V | 4.00 | U | V | 4.0 | U | V | 4.0 | | V | 2.7 | U | V |
| Copper | 7.10 | B | V | 3.00 | U | V | 4.1 | B | V | 22.8 | UJ | A | 9.2 | | V |
| Iron | 591.00 | | V | 266.00 | | V | 325 | | V | 7200 | | V | 1980 | E | |
| Lead | 1.30 | BW | V | 1.00 | UW | V | 2.6 | B | V | 14.3 | | V | 1.5 | | V |
| Lithium | 10.00 | B | V | 14.50 | B | V | 26.0 | U | V | 22.0 | J | A | 100 | UJ | A |
| Magnesium | 16100.00 | | V | 15400.00 | | V | 16400 | | V | 16200 | | V | 15400 | | V |
| Manganese | 21.20 | E | V | 10.80 | B | V | 11.5 | B | V | 150 | | V | 68.8 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.10 | U | V | 0.2 | U | V | 0.46 | J | A |
| Molybdenum | 9.30 | B | V | 3.30 | B | V | 13.0 | U | V | 20.5 | UJ | A | 100 | UJ | A |
| Nickel | 6.50 | B | V | 4.00 | U | V | 12.0 | U | V | 11.1 | | V | 11.1 | U | V |
| Phosphorus | | | | | | | 1400 | | | | | | | | |
| Potassium | 2030.00 | B | V | 2200.00 | B | V | 1410 | B | V | 4870 | | V | 2320 | UJ | A |
| Selenium | 1.00 | U | V | 2.00 | U | V | 1.2 | U | V | 2.2 | U | V | 1.8 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.10 | B | V | 2.30 | B | V | 2.9 | B | V | 2.8 | U | V | 4.9 | U | V |
| Sodium | 30800.00 | | V | 29500.00 | | V | 28900 | | V | 29900 | | V | 37100 | | V |
| Strontium | 486.00 | | V | 462.00 | | V | 467 | | V | 445 | J | A | 1000 | UJ | A |
| Thallium | 3.00 | U | V | 1.00 | B | V | 2.9 | U | V | 1.1 | U | R | 0.90 | U | R |
| Tin | 18.40 | B | V | 17.90 | B | V | 17.0 | U | V | 41.0 | UJ | A | 100 | UJ | A |
| Vanadium | 8.10 | B | V | 6.70 | B | V | 5.2 | B | V | 14.8 | | V | 6.1 | | V |
| Zinc | 23.60 | | V | 22.40 | | V | 39.8 | | V | 183 | | V | 106 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GARASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW06790003 (REAL)<br>Date: 03/15/90 | | | Location: SW067 (SW)<br>Sample: SW067W041990A (REAL)<br>Date: 04/19/90 | | Location: SW067 (SW)<br>Sample: SW067W051690A (REAL)<br>Date: 05/16/90 | | Location: SW067 (SW)<br>Sample: SW0015WC (REAL)<br>Date: 06/12/90 | | Location: SW067 (SW)<br>Sample: SW0246WC (REAL)<br>Date: 08/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 1420 | | V | 200 | U | 476 | | 1280 | | 1870.00 | |
| Antimony | 13.4 | U | V | 60.0 | U | 60.0 | U | 60.0 | U | 10.00 | U |
| Arsenic | 1.3 | U | R | 10.0 | U | 10.0 | U | 10.0 | U | 1.00 | B |
| Barium | 126 | | V | 200 | U | 200 | U | 200 | U | 136.00 | B |
| Beryllium | 0.2 | U | R | 5.0 | U | 5.0 | U | 5.0 | U | 1.00 | U |
| Cadmium | 3.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Calcium | 70900 | E | | 75700 | | 24700 | | 53800 | | 72400.00 | |
| Cesium | 1000 | U | V | 1000 | U | 1000 | U | 1000 | U | 147.00 | U |
| Chromium | 5.8 | U | V | 10.0 | U | 10.0 | U | 10.0 | U | 6.00 | U |
| Cobalt | 2.7 | U | V | 50.0 | U | 50.0 | U | 50.0 | U | 4.00 | U |
| Copper | 11.4 | UJ | A | 25.0 | U | 25.0 | U | 25.0 | U | 5.70 | B |
| Iron | 1270 | | V | 100 | U | 441 | | 1330 | | 1830.00 | |
| Lead | 1.4 | UJ | A | 5.0 | U | 5.0 | U | 3.0 | U | 2.70 | B |
| Lithium | 100 | U | V | 100 | U | 100 | U | 100 | U | 14.60 | B |
| Magnesium | 14600 | | V | 16700 | | 5020 | | 12200 | | 15100.00 | |
| Manganese | 29.2 | | V | 15.0 | U | 15.1 | | 45.7 | | 82.50 | |
| Mercury | 0.2 | U | V | 0.20 | U | 0.45 | | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | UJ | A | 100 | U | 100 | U | 100 | U | 2.00 | U |
| Nickel | 11.1 | U | V | 40.0 | U | 40.0 | U | 40.0 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 3120 | | V | 5000 | U | 5000 | U | 5000 | U | 2290.00 | B |
| Selenium | 1.8 | U | V | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Silicon | | | | | | | | | | | |
| Silver | 4.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U | 2.00 | U |
| Sodium | 41700 | E | | 36900 | | 10300 | | 24100 | | 28500.00 | |
| Strontium | 1000 | U | V | 1000 | U | 1000 | U | 1000 | U | 451.00 | |
| Thallium | 0.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U | 1.00 | U |
| Tin | 100 | UJ | A | 100 | U | 100 | U | 100 | U | 32.30 | B |
| Vanadium | 5.5 | | V | 50.0 | U | 50.0 | U | 50.0 | U | 8.60 | B |
| Zinc | 83.7 | | V | 68.4 | | 92.2 | | 67.0 | | 47.40 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW067 (SW) Sample: SW00415WC (REAL) Date: 10/17/90 | | | Location: SW067 (SW) Sample: SW00620WC (REAL) Date: 12/10/90 | | | Location: SW068 (SW) Sample: SW06890001 (REAL) Date: 01/11/90 | | | Location: SW068 (SW) Sample: SW0689002 (REAL) Date: 02/07/90 | | | Location: SW068 (SW) Sample: SW06890003 (REAL) Date: 03/15/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 6840 | | | 2030.00 | | | 316 | | V | 2470 | | V | 237 | UJ | A |
| Antimony | 26.0 | U | | 7.00 | U | | 44.6 | U | V | 51.5 | UJ | A | 13.4 | U | V |
| Arsenic | 1.8 | B | | 2.00 | U | | 1.9 | U | R | 1.5 | | V | 1.3 | U | R |
| Barium | 175 | B | | 178.00 | B | | 126 | | V | 228 | | V | 119 | | V |
| Beryllium | 0.60 | U | | 1.00 | U | | 0.80 | U | V | 0.2 | U | R | 0.2 | U | R |
| Cadmium | 4.3 | B | | 2.00 | U | | 2.3 | UJ | A | 3.2 | U | V | 3.2 | U | V |
| Calcium | 86800 | | | 85500.00 | | | 70100 | | V | 62100 | E | | 70900 | E | |
| Cesium | 500 | U | | 76.00 | U | | 1000 | U | V | 1000 | U | V | 1000 | U | V |
| Chromium | 7.1 | B | | 10.00 | B | | 8.7 | U | V | 5.8 | U | V | 5.8 | U | V |
| Cobalt | 4.1 | B | | 3.00 | U | | 2.2 | U | V | 2.7 | U | V | 2.7 | U | V |
| Copper | 15.1 | B | | 11.90 | B | | 5.6 | U | V | 11.8 | | V | 8.5 | UJ | A |
| Iron | 5180 | | | 2520.00 | | | 626 | UJ | A | 2730 | E | | 185 | UJ | A |
| Lead | 7.0 | | | 5.40 | | | 1.7 | UJ | A | 3.0 | | V | 1.4 | UJ | A |
| Lithium | 26.0 | U | | 9.00 | B | | 18.0 | J | A | 100 | UJ | A | 100 | U | V |
| Magnesium | 17500 | | | 17100.00 | | | 14000 | | V | 12600 | | V | 14500 | | V |
| Manganese | 148 | | | 185.00 | | | 30.5 | | V | 80.0 | | V | 6.4 | J | A |
| Mercury | | | | 0.20 | U | | 0.2 | U | V | 0.20 | U | R | 0.2 | U | V |
| Molybdenum | 13.0 | U | | 3.60 | B | | 20.5 | UJ | A | 100 | UJ | A | 100 | UJ | A |
| Nickel | 12.0 | U | | 4.00 | U | | 3.8 | U | V | 11.1 | U | V | 11.1 | U | V |
| Phosphorus | 255 | B | | | | | | | | | | | | | |
| Potassium | 2380 | B | | 3000.00 | BE | | 3950 | | V | 2980 | UJ | A | 3130 | | V |
| Selenium | 1.2 | U | | 1.00 | B | | 2.2 | U | V | 1.8 | U | V | 1.8 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 4.4 | B | | 3.00 | U | | 2.8 | U | V | 4.9 | U | V | 4.9 | U | V |
| Sodium | 28700 | | | 33500.00 | | | 29000 | | V | 35800 | | V | 42600 | E | |
| Strontium | 479 | | | 500.00 | | | 399 | J | A | 1000 | UJ | A | 1000 | U | V |
| Thallium | 2.9 | U | | 2.00 | U | | 1.1 | UJ | A | 0.9 | U | R | 0.9 | U | V |
| Tin | 18.4 | B | | 23.70 | B | | 41.0 | UJ | A | 100 | UJ | A | 100 | UJ | A |
| Vanadium | 18.9 | B | | 11.40 | B | | 3.0 | U | V | 8.3 | | V | 3.0 | U | V |
| Zinc | 113 | | | 116.00 | E | | 14.8 | UJ | A | 124 | | V | 60.2 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW068W051690A (REAL)<br>Date: 05/16/90 | | Location: SW068 (SW)<br>Sample: SW00017WC (REAL)<br>Date: 06/13/90 | | Location: SW068 (SW)<br>Sample: SW00143WC (REAL)<br>Date: 07/19/90 | | Location: SW068 (SW)<br>Sample: SW00247WC (REAL)<br>Date: 08/21/90 | | Location: SW068 (SW)<br>Sample: SW00325WC (REAL)<br>Date: 09/18/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 827 | | 487 | | 425.00 | E | 761.00 | | 248 | | V |
| Antimony | 60.0 | U | 60.0 | U | 22.30 | B | 10.00 | U | 30.0 | U | V |
| Arsenic | 10.0 | U | 10.0 | U | 2.00 | U | 1.00 | B | 2.1 | | V |
| Barium | 200 | U | 200 | U | 110.00 | BE | 112.00 | B | 150 | | V |
| Beryllium | 5.0 | U | 5.0 | U | 1.00 | U | 1.00 | U | 2.0 | U | V |
| Cadmium | 5.0 | U | 5.0 | U | 2.00 | U | 2.00 | U | 2.0 | U | V |
| Calcium | 27000 | | 48700 | | 73400.00 | | 59600.00 | | 68300 | | V |
| Cesium | 1000 | U | 1000 | U | 147.00 | U | 147.00 | U | 2.0 | U | JA |
| Chromium | 10.0 | U | 10.0 | U | 6.00 | U | 6.00 | U | 10.0 | U | V |
| Cobalt | 50.0 | U | 50.0 | U | 5.10 | B | 4.00 | U | 10.0 | U | V |
| Copper | 25.0 | U | 25.0 | U | 8.90 | B | 5.10 | B | 10.0 | U | V |
| Iron | 745 | | 548 | | 555.00 | | 975.00 | | 305 | | V |
| Lead | 5.0 | U | 3.0 | U | 1.00 | UW | 1.90 | B | 3.7 | | V |
| Lithium | 100 | U | 100 | U | 11.20 | B | 12.10 | B | 50.0 | U | JA |
| Magnesium | 5480 | | 11100 | | 16500.00 | | 14800.00 | | 15800 | | V |
| Manganese | 20.7 | | 85.6 | | 103.00 | E | 131.00 | | 43.0 | | V |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | R |
| Molybdenum | 100 | U | 100 | U | 7.30 | B | 2.00 | U | 10.0 | U | V |
| Nickel | 40.0 | U | 40.0 | U | 10.20 | B | 4.00 | U | 20.0 | U | V |
| Phosphorus | | | | | | | | | | | |
| Potassium | 5000 | U | 5000 | U | 2060.00 | B | 2060.00 | B | 2180 | | V |
| Selenium | 5.0 | U | 5.0 | U | 1.00 | U | 2.00 | U | 2.0 | | JA |
| Silicon | | | | | | | | | 6590 | | JA |
| Silver | 10.0 | U | 10.0 | U | 3.70 | B | 2.00 | U | 10.0 | U | V |
| Sodium | 11100 | | 22400 | | 29600.00 | | 28700.00 | | 28600 | | V |
| Strontium | 1000 | U | 1000 | U | 474.00 | | 409.00 | | 440 | | JA |
| Thallium | 10.0 | U | 10.0 | U | 3.00 | U | 1.00 | U | 2.0 | U | V |
| Tin | 100 | U | 100 | U | 12.40 | B | 19.30 | B | 50.0 | U | JA |
| Vanadium | 50.0 | U | 50.0 | U | 9.00 | B | 5.80 | B | 10.0 | U | V |
| Zinc | 91.1 | | 25.1 | | 20.30 | | 33.00 | | 13.8 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00416WC (REAL)<br>Date: 10/16/90 | | | Location: SW068 (SW)<br>Sample: SW00517WC (REAL)<br>Date: 11/19/90 | | | Location: SW068 (SW)<br>Sample: SW00621WC (REAL)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW80079WC (DUP)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW00929WC (REAL)<br>Date: 03/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 60 | U | | | | | 103.00 | B | | 106.00 | B | | 114 | | JA |
| Antimony | 30 | U | | 13.50 | B | | 7.00 | U | | 7.00 | U | | 22.6 | | JA |
| Arsenic | 2 | U | | 2.00 | U | | 2.00 | U | | 2.00 | U | | 0.90 | U | JA |
| Barium | 121 | B | | 134.00 | B | | 141.00 | B | | 143.00 | B | | 90.0 | | V |
| Beryllium | 2 | U | | 2.20 | B | | 1.00 | U | | 1.00 | U | | 0.60 | U | V |
| Cadmium | 2 | U | | 2.00 | U | | 2.00 | U | | 2.00 | U | | 2.7 | U | V |
| Calcium | 87600 | | | 88800.00 | | | 83700.00 | | | 86800.00 | | | 59600 | | V |
| Cesium | 2 | UWN | | 200.00 | B | | 76.00 | U | | 76.00 | U | | 500 | U | V |
| Chromium | 10 | U | | 16.90 | | | 5.80 | B | | 8.60 | B | | 6.9 | U | V |
| Cobalt | 10 | U | | 5.30 | B | | 3.00 | U | | 3.00 | U | | 3.0 | U | V |
| Copper | 13 | B | | 5.20 | B | | 3.70 | B | | 4.40 | B | | 2.9 | | V |
| Iron | 10 | U | | 134.00 | N* | | 170.00 | | | 131.00 | | | 248 | | V |
| Lead | 2 | U | | 1.00 | UW | | 1.00 | UW | | 1.00 | U | | 2.2 | | JA |
| Lithium | 50 | U | | 10.40 | B | | 7.30 | B | | 8.50 | B | | 7.6 | | V |
| Magnesium | 17700 | | | 17300.00 | | | 16800.00 | | | 17200.00 | | | 12900 | | V |
| Manganese | 31.2 | | | 25.60 | | | 6.30 | B | | 8.20 | B | | 23.4 | | V |
| Mercury | .2 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | V |
| Molybdenum | 10 | U | | 10.10 | B | | 2.50 | B | | 3.30 | B | | 10.9 | U | V |
| Nickel | 20 | U | | 7.10 | B | | 4.00 | U | | 4.00 | U | | 3.9 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2240 | B | | 2640.00 | BE | | 2690.00 | BE | | 2890.00 | BE | | 3330 | | V |
| Selenium | 2 | UW | | 1.00 | U | | 1.00 | B | | 1.00 | B | | 1.1 | | V |
| Silicon | 6180 | | | | | | | | | | | | 2940 | | V |
| Silver | 13 | | | 6.50 | B | | 3.00 | U | | 3.10 | B | | 3.8 | U | V |
| Sodium | 31200 | | | 30100.00 | | | 34600.00 | | | 35300.00 | | | 32800 | | V |
| Strontium | 529 | | | 507.00 | | | 490.00 | | | 495.00 | | | 349 | | V |
| Thallium | 2 | U | | 2.00 | U | | 2.00 | U | | 2.00 | U | | 1.4 | U | JA |
| Tin | 93 | | | 21.80 | B | | 16.10 | B | | 15.30 | B | | 24.2 | U | V |
| Vanadium | 10 | U | | 10.00 | B | | 4.40 | B | | 5.90 | B | | 2.4 | | V |
| Zinc | 5 | U | | 27.40 | | | 24.60 | E | | 22.50 | E | | 18.8 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW80095WC (DUP)<br>Date: 03/19/91 | | | Location: SW068 (SW)<br>Sample: SW01031WC (REAL)<br>Date: 04/04/91 | | | Location: SW068 (SW)<br>Sample: SW01138WC (REAL)<br>Date: 05/13/91 | | | Location: SW068 (SW)<br>Sample: SW01241WC (REAL)<br>Date: 06/19/91 | | | Location: SW068 (SW)<br>Sample: SW01344WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 81.5 | | JA | 518 | | V | 217 | | V | 15 | | JA | 1000 | | V |
| Antimony | 18.2 | U | JA | 18.2 | U | | 37.5 | | JA | 11 | U | JA | 11 | U | V |
| Arsenic | 0.90 | U | JA | 0.90 | U | | 0.90 | U | V | 2.0 | U | V | 4.0 | U | V |
| Barium | 86.5 | | V | 92.3 | | | 154 | | V | 120 | | V | 74 | | V |
| Beryllium | 0.60 | U | V | 0.60 | U | | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | V | 2.7 | U | | 3.3 | U | JA | 2.1 | | JA | 1.0 | U | V |
| Calcium | 58800 | | V | 46800 | | | 80900 | | V | 81000 | | V | 46000 | | V |
| Cesium | 500 | U | V | 500 | U | | 500 | U | V | 50 | | V | 50 | U | V |
| Chromium | 6.9 | U | V | 6.9 | U | | 4.1 | U | JA | 2.0 | U | V | 2.0 | U | V |
| Cobalt | 3.0 | U | V | 3.0 | U | | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V |
| Copper | 2.5 | U | V | 2.7 | | | 4.7 | U | V | 11 | | JA | 3.0 | U | JA |
| Iron | 246 | | V | 616 | | | 332 | | V | 33 | | JA | 1000 | | V |
| Lead | 1.5 | | JA | 2.4 | | | 8.5 | | V | 2.0 | UI | V | 5.1 | | JA |
| Lithium | 8.1 | | V | 10.4 | | | 12.4 | | JA | 9.4 | | JA | 5.7 | | JA |
| Magnesium | 12700 | | V | 13100 | | | 18500 | | V | 17000 | | V | 9200 | | V |
| Manganese | 22.3 | | V | 24.2 | | | 48.9 | | V | 14 | | V | 59 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.20 | U | JA | 0.20 | U | JA | 0.20 | U | V |
| Molybdenum | 10.9 | U | V | 10.9 | U | | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA |
| Nickel | 3.9 | U | V | 3.9 | U | | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3310 | | V | 2450 | | | 2660 | | V | 2400 | | V | 2300 | | V |
| Selenium | 1.1 | U | V | 1.1 | U | | 1.1 | U | V | 4.0 | U | JA | 4.0 | UW | R |
| Silicon | 3000 | | V | 2660 | | | 2710 | | V | 5130 | | | 4760 | | V |
| Silver | 3.8 | U | V | 3.8 | U | | 5.0 | U | JA | 2.0 | U | JA | 2.0 | U | V |
| Sodium | 32600 | | V | 34300 | | | 45400 | | V | 38000 | | V | 21000 | | V |
| Strontium | 347 | | V | 316 | | | 495 | | V | 500 | | JA | 270 | | JA |
| Thallium | 1.4 | U | JA | 1.4 | U | | 1.4 | U | JA | 1.0 | UI | JA | 1.0 | UW | JA |
| Tin | 24.2 | U | V | 24.2 | U | | 14.8 | U | V | 13 | U | JA | 13 | U | R |
| Vanadium | 2.0 | U | V | 3.3 | | | 5.7 | U | V | 2.5 | | V | 3.5 | | V |
| Zinc | 13.6 | | V | 4.7 | U | | 40.4 | | JA | 12 | | JA | 58 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; K-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW01450WC (REAL)<br>Date: 08/08/91 | | | Location: SW068 (SW)<br>Sample: SW01556WC (REAL)<br>Date: 09/17/91 | | | Location: SW068 (SW)<br>Sample: SW01662WC (REAL)<br>Date: 10/10/91 | | | Location: SW069 (SW)<br>Sample: SW06990001 (REAL)<br>Date: 01/11/90 | | | Location: SW069 (SW)<br>Sample: SW06990002 (REAL)<br>Date: 02/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 340 | | V | 308 | | V | 250 | | V | 334 | | V | 742 | | V |
| Antimony | 11 | U | V | 13.8 | U | V | 14 | U | V | 44.6 | U | V | 40.1 | UJ | A |
| Arsenic | 4.0 | U | V | 0.70 | U | JA | 2.0 | U | V | 1.9 | U | R | 1.3 | U | V |
| Barium | 100 | | V | 163 | | V | 120 | | V | 112 | | V | 129 | | V |
| Beryllium | 1.0 | U | V | 0.50 | U | V | 1.0 | U | V | 0.80 | U | V | 0.2 | U | R |
| Cadmium | 2.0 | U | V | 2.4 | U | V | 1.0 | U | V | 2.3 | UJ | A | 3.2 | U | V |
| Calcium | 65000 | | V | 70500 | | V | 85000 | | V | 63100 | | V | 69400 | E | |
| Cesium | 50 | U | V | 500 | U | V | 50 | U | V | 1000 | U | V | 1000 | U | V |
| Chromium | 2.0 | U | V | 2.6 | U | V | 2.0 | U | V | 8.7 | U | V | 5.8 | U | V |
| Cobalt | 2.0 | U | V | 3.1 | | JA | 2.0 | U | V | 2.2 | U | V | 2.7 | U | V |
| Copper | 3.4 | | V | 7.4 | | JA | 2.0 | U | V | 6.1 | UJ | A | 3.9 | | V |
| Iron | 400 | | V | 530 | | V | 360 | | V | 356 | UJ | A | 464 | E | |
| Lead | 2.6 | I | V | 3.2 | | JA | 2.2 | | V | 2.2 | UJ | A | 1.4 | U | V |
| Lithium | 7.0 | | JA | 10.3 | | JA | 9.9 | | JA | 17.0 | J | A | 100 | UJ | A |
| Magnesium | 14000 | | V | 15200 | | V | 15000 | | V | 12500 | | V | 14300 | | V |
| Manganese | 41 | | V | 159 | | JA | 79 | | V | 18.1 | | V | 12.2 | UJ | A |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA | 0.2 | U | V | 0.2 | U | R |
| Molybdenum | 3.0 | U | JA | 5.8 | U | V | 4.2 | | JA | 20.5 | UJ | A | 100 | UJ | A |
| Nickel | 4.0 | U | R | 8.7 | | JA | 5.0 | U | V | 3.8 | U | V | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2300 | | V | 2370 | | V | 2000 | | JA | 3670 | | V | 2720 | UJ | A |
| Selenium | 4.0 | UI | JA | 1.2 | U | V | 4.0 | UI | JA | 2.2 | U | V | 1.8 | U | V |
| Silicon | 5530 | | | 6860 | | V | 7120 | | V | | | | | | |
| Silver | 2.0 | U | V | 2.9 | U | V | 5.0 | U | V | 2.8 | U | V | 4.9 | U | V |
| Sodium | 30000 | | V | 30000 | | V | 29000 | | V | 26200 | | V | 36600 | | V |
| Strontium | 400 | | JA | 423 | | V | 450 | | V | 359 | J | A | 1000 | UJ | A |
| Thallium | 5.0 | UI | JA | 12.0 | U | V | 6.2 | I | JA | 1.1 | U | R | 0.9 | U | R |
| Tin | 13 | U | R | 10.4 | U | V | 11 | U | JA | 41.0 | UJ | A | 100 | UJ | A |
| Vanadium | 3.1 | | V | 3.1 | | JA | 2.0 | U | V | 3.0 | U | V | 5.5 | | V |
| Zinc | 11 | | V | 42.2 | | V | 9.8 | | JA | 16.0 | UJ | A | 38.7 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW06990003 (REAL)<br>Date: 03/15/90 | | | Location: SW069 (SW)<br>Sample: SW069W051690A (REAL)<br>Date: 05/16/90 | | Location: SW069 (SW)<br>Sample: SW00063WC (REAL)<br>Date: 06/12/90 | | Location: SW069 (SW)<br>Sample: SW00147WC (REAL)<br>Date: 07/19/90 | | Location: SW069 (SW)<br>Sample: SW00248WC (REAL)<br>Date: 08/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 320 | UJ | A | 515 | | 417 | | 338.00 | E | 309.00 | |
| Antimony | 13.4 | U | V | 60.0 | U | 60.0 | U | 17.20 | B | 10.00 | U |
| Arsenic | 1.3 | U | R | 10.0 | U | 10.0 | U | 2.00 | U | 1.00 | B |
| Barium | 118 | | V | 200 | U | 200 | U | 551.00 | E | 78.90 | BE |
| Beryllium | 0.2 | U | R | 5.0 | U | 5.0 | U | 1.00 | U | 1.00 | U |
| Cadmium | 3.2 | U | V | 5.0 | U | 5.0 | U | 2.00 | U | 2.00 | U |
| Calcium | 66100 | E | | 27900 | | 51300 | | 76400.00 | | 61900.00 | |
| Cesium | 1000 | U | V | 1000 | U | 1000 | U | 147.00 | U | 147.00 | U |
| Chromium | 5.8 | U | V | 10.0 | U | 10.0 | U | 6.00 | U | 6.00 | U |
| Cobalt | 2.7 | U | V | 50.0 | U | 50.0 | U | 4.40 | B | 4.00 | U |
| Copper | 7.6 | UJ | A | 25.0 | U | 25.0 | U | 5.20 | B | 3.00 | U |
| Iron | 268 | | V | 480 | | 648 | | 530.00 | | 386.00 | |
| Lead | 1.4 | UJ | A | 5.0 | U | 3.0 | U | 1.00 | UW | 1.00 | U |
| Lithium | 100 | U | V | 100 | U | 100 | U | 8.50 | B | 8.10 | B |
| Magnesium | 13500 | | V | 5830 | | 12600 | | 17300.00 | | 15600.00 | |
| Manganese | 4.9 | U | V | 15.0 | | 121 | | 114.00 | E | 25.40 | |
| Mercury | 0.2 | U | V | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | UJ | A | 100 | U | 100 | U | 14.90 | B | 2.00 | U |
| Nickel | 11.1 | U | V | 40.0 | U | 40.0 | U | 6.10 | B | 4.00 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 2860 | | V | 5000 | U | 5000 | U | 2320.00 | B | 1970.00 | B |
| Selenium | 1.8 | U | V | 5.0 | U | 5.0 | U | 1.00 | U | 2.00 | UW |
| Silicon | | | | | | | | | | | |
| Silver | 4.9 | U | V | 10.0 | U | 10.0 | U | 2.00 | U | 2.00 | U |
| Sodium | 45600 | E | | 12100 | | 26000 | | 30200.00 | | 28100.00 | |
| Strontium | 1000 | U | V | 1000 | U | 1000 | U | 505.00 | | 424.00 | |
| Thallium | 0.9 | U | V | 10.0 | U | 10.0 | U | 3.00 | U | 1.00 | UWN |
| Tin | 100 | UJ | A | 100 | U | 100 | U | 18.30 | B | 11.40 | B |
| Vanadium | 3.0 | U | V | 50.0 | U | 50.0 | U | 7.00 | B | 4.70 | B |
| Zinc | 63.7 | | V | 65.9 | | 130 | | 39.10 | | 28.60 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW80035WC (DUP)<br>Date: 08/20/90 | | Location: SW069 (SW)<br>Sample: SW00326WC (REAL)<br>Date: 09/19/90 | | Location: SW069 (SW)<br>Sample: SW00417WC (REAL)<br>Date: 10/16/90 | | Location: SW069 (SW)<br>Sample: SW00518WC (REAL)<br>Date: 11/19/90 | | Location: SW069 (SW)<br>Sample: SW00622WC (REAL)<br>Date: 12/10/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 427.00 | | 1030 | | 60 | U | 196.00 | B | 388.00 | |
| Antimony | 10.00 | U | 26.0 | U | 30 | U | 13.50 | B | 7.00 | U |
| Arsenic | 1.00 | B | 2.3 | B | 2 | U | 2.00 | U | 2.00 | U |
| Barium | 76.70 | BE | 100 | B | 129 | B | 145.00 | B | 394.00 | |
| Beryllium | 1.00 | U | 0.60 | U | 2 | U | 1.00 | U | 1.00 | U |
| Cadmium | 2.00 | U | 5.3 | | 2 | U | 2.10 | B | 2.00 | U |
| Calcium | 61300.00 | | 35600 | | 85400 | | 88900.00 | | 99800.00 | |
| Cesium | 147.00 | U | 500 | U | 2 | UWN | 300.00 | B | 76.00 | U |
| Chromium | 6.00 | U | 4.0 | U | 10 | U | 17.60 | | 7.30 | B |
| Cobalt | 4.00 | U | 5.9 | B | 10 | U | 4.40 | B | 3.00 | U |
| Copper | 3.00 | U | 226 | | 10.4 | B | 8.10 | B | 6.20 | B |
| Iron | 449.00 | | 955 | | 10 | U | 323.00 | N* | 491.00 | |
| Lead | 1.00 | U | 2.9 | B | 3.2 | | 1.00 | UW | 1.80 | B |
| Lithium | 8.00 | B | 26.0 | U | 50 | U | 10.40 | B | 8.20 | B |
| Magnesium | 15600.00 | | 6580 | | 17900 | | 17400.00 | | 17200.00 | |
| Manganese | 28.70 | | 39.1 | | 25.1 | | 31.70 | | 64.30 | |
| Mercury | 0.20 | U | 0.12 | B | .2 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 2.90 | B | 13.0 | U | 10 | U | 7.70 | B | 6.40 | B |
| Nickel | 4.00 | U | 12.0 | U | 20 | U | 8.00 | B | 4.00 | U |
| Phosphorus | | | 160 | B | | | | | | |
| Potassium | 2020.00 | B | 1790 | B | 2220 | B | 2670.00 | BE | 3530.00 | BE |
| Selenium | 2.00 | B | 1.2 | U | 2.1 | BW | 1.00 | U | 1.00 | B |
| Silicon | | | | | 6100 | | | | | |
| Silver | 2.00 | U | 3.8 | B | 13.2 | | 6.70 | B | 3.00 | U |
| Sodium | 27800.00 | | 13200 | | 31200 | | 30100.00 | | 36900.00 | |
| Strontium | 418.00 | | 188 | B | 529 | | 505.00 | | 520.00 | |
| Thallium | 1.00 | UWN | 0.90 | U | 2 | U | 2.00 | U | 2.00 | U |
| Tin | 19.70 | B | 17.0 | U | 50 | U | 25.90 | B | 19.60 | B |
| Vanadium | 5.80 | B | 9.0 | B | 10 | U | 9.70 | B | 5.20 | B |
| Zinc | 67.10 | | 105 | | 5 | U | 33.80 | | 65.70 | E |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW00930WC (REAL)<br>Date: 03/18/91 | | | Location: SW069 (SW)<br>Sample: SW01032WC (REAL)<br>Date: 04/04/91 | | | Location: SW069 (SW)<br>Sample: SW01139WC (REAL)<br>Date: 05/13/91 | | | Location: SW069 (SW)<br>Sample: SW01242WC (REAL)<br>Date: 06/19/91 | | | Location: SW069 (SW)<br>Sample: SW01345WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 176 | | JA | 1020 | | | 270 | | V | 29 | | JA | 630 | | V |
| Antimony | 18.2 | U | V | 18.2 | U | | 25.6 | U | V | 11 | U | JA | 11 | U | V |
| Arsenic | 0.90 | U | JA | 0.90 | U | | 0.90 | U | V | 2.0 | U | V | 4.0 | U | V |
| Barium | 123 | | V | 117 | | | 160 | | V | 100 | | V | 75 | | V |
| Beryllium | 0.60 | U | V | 0.60 | U | | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | V | 2.7 | U | | 3.3 | U | JA | 1.8 | | JA | 1.0 | U | V |
| Calcium | 57400 | | V | 55100 | | | 74800 | | V | 71000 | | V | 48000 | | V |
| Cesium | 500 | U | V | 500 | U | | 500 | U | V | 50 | | V | 50 | U | V |
| Chromium | 6.9 | U | V | 6.9 | U | | 4.1 | U | JA | 2.0 | U | V | 4.3 | | V |
| Cobalt | 3.0 | U | V | 3.0 | U | | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V |
| Copper | 3.6 | | V | 3.6 | | | 4.7 | U | V | 11 | | JA | 3.0 | U | JA |
| Iron | 273 | | V | 1120 | | | 378 | | V | 32 | | JA | 680 | | V |
| Lead | 2.2 | | V | 1.4 | U | | 1.3 | | V | 2.0 | U | V | 4.1 | | JA |
| Lithium | 8.1 | | V | 10.6 | | | 10.1 | | JA | 8.2 | | JA | 5.7 | | JA |
| Magnesium | 12100 | | V | 12700 | | | 18700 | | V | 16000 | | V | 9400 | | V |
| Manganese | 13.4 | | V | 61.5 | | | 91.4 | | V | 21 | | V | 30 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.20 | U | JA | 0.20 | U | JA | 0.20 | U | V |
| Molybdenum | 10.9 | U | V | 10.9 | U | | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA |
| Nickel | 3.9 | U | V | 3.9 | U | | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3930 | | V | 2670 | | | 2940 | | V | 2400 | | V | 2400 | | V |
| Selenium | 1.1 | U | JA | 1.1 | U | | 1.1 | U | V | 4.0 | U | JA | 4.0 | UW | R |
| Silicon | 3560 | | JA | 3590 | | | 2820 | | V | 4990 | | | 3860 | | V |
| Silver | 3.8 | U | V | 3.8 | U | | 5.0 | U | JA | 2.0 | U | JA | 2.0 | U | V |
| Sodium | 31300 | | V | 33300 | | | 47700 | | V | 34000 | | V | 21000 | | V |
| Strontium | 328 | | V | 330 | | | 487 | | V | 460 | | JA | 280 | | JA |
| Thallium | 1.4 | U | JA | 1.4 | U | | 1.4 | U | JA | 1.0 | UI | JA | 1.0 | UW | JA |
| Tin | 24.2 | U | V | 24.2 | U | | 14.8 | U | V | 13 | U | JA | 13 | U | R |
| Vanadium | 2.0 | U | V | 3.9 | | | 5.7 | U | V | 2.0 | U | V | 2.7 | | V |
| Zinc | 18.7 | | V | 6.5 | | | 23.4 | | JA | 12 | | JA | 12 | | V |

*Note: Data reporting order:* result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW01451WC (REAL)<br>Date: 08/08/91 | | | Location: SW069 (SW)<br>Sample: SW01557WC (REAL)<br>Date: 09/17/91 | | | Location: SW069 (SW)<br>Sample: SW01663WC (REAL)<br>Date: 10/10/91 | | | Location: SW070 (SW)<br>Sample: SW07090001 (REAL)<br>Date: 01/11/90 | | | Location: SW070 (SW)<br>Sample: SW07090002 (REAL)<br>Date: 02/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 400 | | V | 742 | | V | 970 | | V | 585.0 | | | 278 | J | A |
| Antimony | 11 | U | V | 13.8 | U | V | 14 | U | V | 500.0 | U | | 48.4 | UJ | A |
| Arsenic | 4.0 | U | V | 0.70 | | JA | 2.0 | U | V | 2.0 | U | | 1.3 | U | V |
| Barium | 100 | | V | 235 | | V | 450 | | V | 109.0 | | | 122 | | V |
| Beryllium | 1.0 | U | V | 0.50 | U | V | 1.0 | U | V | 2.0 | U | | 0.2 | U | R |
| Cadmium | 2.0 | U | V | 2.4 | U | V | 1.0 | U | V | 4.0 | U | | 3.2 | U | V |
| Calcium | 65000 | | V | 60500 | | V | 63000 | | V | 56100.0 | | | 62000 | E | |
| Cesium | 50 | U | V | 500 | U | V | 50 | U | V | 1000.0 | U | | 1000 | U | V |
| Chromium | 2.0 | U | V | 2.6 | U | V | 2.0 | U | V | 20.0 | U | | 5.8 | U | V |
| Cobalt | 2.0 | U | V | 2.8 | U | V | 2.4 | | V | 20.0 | U | | 2.7 | U | V |
| Copper | 3.4 | | V | 5.8 | | JA | 2.0 | U | V | 20.0 | U | | 3.4 | | V |
| Iron | 470 | | V | 913 | | V | 910 | | V | 615.0 | | | 234 | E | |
| Lead | 3.4 | | V | 3.0 | | JA | 2.0 | U | V | 5.6 | | | 1.4 | U | V |
| Lithium | 8.2 | | JA | 8.7 | | JA | 10 | | JA | 11.0 | | | 100 | UJ | A |
| Magnesium | 14000 | | V | 14600 | | V | 15000 | | V | 11800.0 | | | 13100 | | V |
| Manganese | 50 | | V | 97.0 | | JA | 160 | | V | 20.7 | | | 12.8 | UJ | A |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA | 0.2 | U | | 0.2 | U | R |
| Molybdenum | 3.0 | U | JA | 5.8 | U | V | 4.0 | U | V | 500.0 | U | | 100 | UJ | A |
| Nickel | 4.0 | U | R | 5.9 | U | V | 5.0 | U | V | 20.0 | U | | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2400 | | V | 2250 | | V | 3000 | | JA | 3510.0 | | | 1880 | UJ | A |
| Selenium | 4.0 | UI | JA | 1.7 | | V | 4.0 | UI | JA | 2.0 | U | | 1.8 | U | V |
| Silicon | 5680 | | | 7430 | | V | 7440 | | V | | | | | | |
| Silver | 2.0 | U | V | 2.9 | U | V | 5.0 | U | V | 30.0 | U | | 4.9 | U | V |
| Sodium | 30000 | | V | 29200 | | V | 29000 | | V | 27000.0 | | | 39400 | | V |
| Strontium | 400 | | JA | 389 | | V | 420 | | V | 351.0 | | | 1000 | UJ | A |
| Thallium | 5.0 | UI | JA | 12.0 | U | V | 5.0 | UI | JA | 3.0 | U | | 0.9 | UJ | A |
| Tin | 13 | U | R | 10.4 | U | V | 11 | U | V | 1000.0 | U | | 100 | UJ | A |
| Vanadium | 3.0 | U | V | 3.9 | | JA | 2.0 | U | V | 10.0 | U | | 3.0 | U | V |
| Zinc | 7.8 | | V | 28.8 | | JA | 19 | | JA | 17.7 | | | 121 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW07090003 (REAL)<br>Date: 03/15/90 | | | Location: SW070 (SW)<br>Sample: SW070W041990A (REAL)<br>Date: 04/19/90 | | Location: SW070 (SW)<br>Sample: SW070W051590A (REAL)<br>Date: 05/15/90 | | Location: SW070 (SW)<br>Sample: SW00065WC (REAL)<br>Date: 06/12/90 | | Location: SW070 (SW)<br>Sample: SW00142WC (REAL)<br>Date: 07/18/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 333 | UJ | A | 815 | | 200 | U | 200 | U | 495.00 | N |
| Antimony | 13.4 | U | V | 60.0 | U | 60.0 | U | 60.0 | U | 17.20 | B |
| Arsenic | 1.3 | U | R | 10.0 | U | 10.0 | U | 10.0 | U | 3.00 | BW |
| Barium | 109 | | V | 200 | U | 200 | U | 200 | U | 293.00 | |
| Beryllium | 0.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U | 1.00 | U |
| Cadmium | 3.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Calcium | 62500 | E | | 76800 | | 5000 | U | 49700 | | 56700.00 | |
| Cesium | 1000 | U | V | 1000 | U | 1000 | U | 1000 | U | 147.00 | U |
| Chromium | 5.8 | U | V | 10.0 | U | 10.0 | U | 10.0 | U | 6.00 | U |
| Cobalt | 2.7 | U | V | 50.0 | U | 50.0 | U | 50.0 | U | 4.00 | U |
| Copper | 8.5 | UJ | A | 25.0 | U | 25.0 | U | 25.0 | U | 3.10 | B |
| Iron | 294 | | V | 610 | | 100 | U | 394 | | 763.00 | |
| Lead | 1.4 | UJ | A | 5.0 | U | 3.0 | U | 3.0 | U | 1.90 | B |
| Lithium | 100 | U | V | 100 | U | 100 | U | 100 | U | 9.70 | BE |
| Magnesium | 12700 | | V | 17600 | | 5000 | U | 13900 | | 16300.00 | |
| Manganese | 3.6 | J | A | 15.0 | U | 15.0 | U | 40.0 | | 191.00 | |
| Mercury | 0.2 | U | V | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | UJ | A | 100 | U | 100 | U | 100 | U | 4.40 | B |
| Nickel | 11.1 | U | V | 40.0 | U | 40.0 | U | 40.0 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 2920 | | V | 5000 | U | 5000 | U | 5000 | U | 3130.00 | B |
| Selenium | 1.8 | UJ | A | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | UWN |
| Silicon | | | | | | | | | | | |
| Silver | 4.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U | 2.00 | U |
| Sodium | 45900 | E | | 39500 | | 5000 | U | 27100 | | 35000.00 | |
| Strontium | 1000 | U | V | 1000 | U | 1000 | U | 1000 | U | 428.00 | |
| Thallium | 0.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U | 3.00 | U |
| Tin | 100 | UJ | A | 100 | U | 100 | U | 100 | U | 20.50 | B |
| Vanadium | 3.0 | U | V | 50.0 | U | 50.0 | U | 50.0 | U | 5.00 | B |
| Zinc | 47.3 | J | A | 60.1 | | 43.3 | | 29.8 | | 29.10 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW00418WC (REAL)<br>Date: 10/16/90 | | | Location: SW070 (SW)<br>Sample: SW00519WC (REAL)<br>Date: 11/15/90 | | | Location: SW070 (SW)<br>Sample: SW00623WC (REAL)<br>Date: 12/10/90 | | Location: SW070 (SW)<br>Sample: SW00931WC (REAL)<br>Date: 03/18/91 | | | Location: SW070 (SW)<br>Sample: SW01033WC (REAL)<br>Date: 04/04/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 60 | U | | 20.0 | U | V | 760.00 | | 92.6 | | JA | 1110 | |
| Antimony | 30 | U | | 22.0 | U | V | 10.40 | B | 18.2 | U | V | 18.2 | U |
| Arsenic | 2 | U | | 1.0 | U | V | 2.00 | U | 0.90 | U | V | 0.90 | U |
| Barium | 150 | B | | 8.6 | | JA | 149.00 | B | 118 | | V | 116 | |
| Beryllium | 2 | U | | 1.0 | U | V | 1.00 | U | 0.60 | U | V | 0.60 | U |
| Cadmium | 2 | U | | 5.0 | U | R | 2.00 | U | 2.7 | U | V | 2.7 | U |
| Calcium | 76500 | | | 29.8 | | JA | 83900.00 | | 51600 | | V | 47300 | |
| Cesium | 2 | UWN | | 500 | U | V | 100.00 | B | 500 | U | V | 500 | U |
| Chromium | 10 | U | | 4.0 | U | V | 11.70 | | 6.9 | U | V | 6.9 | U |
| Cobalt | 10 | U | | 4.0 | U | V | 3.00 | U | 3.0 | U | V | 3.0 | U |
| Copper | 10 | U | | 5.0 | U | V | 7.30 | B | 2.7 | | V | 2.7 | |
| Iron | 10 | U | | 6.0 | | JA | 954.00 | | 180 | | JA | 1010 | |
| Lead | 2 | U | | 1.0 | U | JA | 2.00 | B | 1.1 | | V | 3.1 | |
| Lithium | 50 | U | | 10.0 | U | V | 8.40 | B | 7.4 | | V | 9.9 | |
| Magnesium | 17400 | | | 23.7 | | JA | 16800.00 | | 10800 | | V | 10700 | |
| Manganese | 45.4 | | | 1.0 | U | V | 28.40 | | 18.7 | | V | 68.4 | |
| Mercury | .2 | U | | 1.0 | U | R | 0.20 | U | 0.20 | U | V | 0.20 | U |
| Molybdenum | 10 | U | | 9.0 | U | V | 5.20 | B | 10.9 | U | V | 10.9 | U |
| Nickel | 20 | U | | 9.0 | U | V | 4.00 | U | 3.9 | U | V | 3.9 | U |
| Phosphorus | | | | 308 | | JA | | | | | | | |
| Potassium | 2390 | B | | 430 | U | JA | 2950.00 | BE | 3650 | | V | 2700 | |
| Selenium | 2 | U | | 2.0 | U | V | 1.00 | B | 1.1 | U | JA | 1.1 | U |
| Silicon | 5650 | | | | | | | | 2950 | | JA | 3460 | |
| Silver | 11.2 | | | 3.0 | U | V | 3.20 | B | 3.8 | U | V | 3.8 | U |
| Sodium | 31400 | | | 81.0 | U | JA | 36100.00 | | 29100 | | V | 30700 | |
| Strontium | 500 | | | 1.0 | U | V | 483.00 | | 298 | | V | 282 | |
| Thallium | 2 | U | | 2.0 | U | V | 2.00 | U | 1.4 | U | JA | 1.4 | U |
| Tin | 50 | U | | 30.0 | U | V | 19.10 | B | 24.2 | U | V | 24.2 | U |
| Vanadium | 10 | U | | 3.0 | U | V | 7.90 | B | 2.0 | U | V | 2.6 | |
| Zinc | 5 | U | | 2.0 | U | V | 26.80 | E | 10.9 | | V | 4.7 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW01140WC (REAL)<br>Date: 05/13/91 | | | Location: SW070 (SW)<br>Sample: SW01243WC (REAL)<br>Date: 06/19/91 | | | Location: SW070 (SW)<br>Sample: SW01346WC (REAL)<br>Date: 07/10/91 | | | Location: SW070 (SW)<br>Sample: SW01452WC (REAL)<br>Date: 08/08/91 | | | Location: SW070 (SW)<br>Sample: SW01558WC (REAL)<br>Date: 09/17/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 323 | | V | 23 | | JA | 600 | | V | 500 | | V | 557 | | V |
| Antimony | 25.6 | U | V | 11 | U | JA | 11 | U | V | 11 | U | V | 13.8 | U | V |
| Arsenic | 0.90 | U | JA | 2.0 | UI | V | 4.0 | U | V | 4.0 | U | V | 0.70 | U | V |
| Barium | 146 | | V | 99 | | V | 56 | | V | 110 | | V | 52.0 | | JA |
| Beryllium | 0.50 | | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V |
| Cadmium | 3.3 | U | JA | 1.2 | | JA | 1.0 | U | V | 2.0 | U | V | 2.4 | U | V |
| Calcium | 71700 | | V | 62000 | | V | 37000 | | V | 64000 | | V | 38000 | | V |
| Cesium | 500 | U | V | 50 | U | V | 50 | | V | 50 | U | V | 500 | U | V |
| Chromium | 4.1 | U | JA | 2.0 | U | V | 2.0 | | V | 2.0 | U | V | 2.6 | U | V |
| Cobalt | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V |
| Copper | 4.7 | U | V | 12 | | JA | 3.0 | U | JA | 4.9 | | V | 5.3 | | JA |
| Iron | 555 | | V | 51 | | JA | 610 | | V | 530 | | V | 850 | | V |
| Lead | 1.0 | U | V | 2.0 | UI | V | 2.4 | | JA | 2.3 | I | JA | 1.9 | | JA |
| Lithium | 5.9 | | JA | 8.7 | | JA | 5.0 | | JA | 7.7 | | JA | 9.2 | | JA |
| Magnesium | 18700 | | V | 16000 | | V | 7200 | | V | 13000 | | V | 11700 | | V |
| Manganese | 87.8 | | V | 60 | | V | 26 | | V | 70 | | V | 155 | | JA |
| Mercury | 0.20 | | JA | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V |
| Molybdenum | 6.1 | | V | 3.0 | U | JA | 3.0 | U | JA | 3.0 | U | JA | 5.8 | U | V |
| Nickel | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V | 4.0 | U | R | 5.9 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4060 | | V | 3100 | | V | 2400 | | V | 2700 | | V | 2210 | | V |
| Selenium | 1.1 | U | V | 4.0 | U | JA | 4.0 | UW | R | 4.0 | UI | JA | 1.2 | U | V |
| Silicon | 2570 | | V | 4960 | | | 3560 | | V | 5410 | | | 6550 | | V |
| Silver | 5.0 | U | JA | 2.0 | U | JA | 2.0 | U | V | 2.0 | U | V | 2.9 | U | V |
| Sodium | 51000 | | V | 36000 | | V | 14000 | | V | 28000 | | V | 25400 | | V |
| Strontium | 485 | | V | 420 | | JA | 220 | | JA | 380 | | JA | 275 | | V |
| Thallium | 1.4 | U | JA | 1.0 | UI | JA | 1.0 | UW | JA | 5.0 | UI | JA | 12.0 | U | V |
| Tin | 14.8 | U | V | 13 | U | JA | 13 | U | R | 13 | U | R | 10.4 | U | V |
| Vanadium | 5.7 | U | V | 2.5 | | V | 3.5 | | V | 3.4 | | V | 2.3 | | JA |
| Zinc | 15.3 | | JA | 9.2 | | JA | 13 | | V | 11 | | V | 29.7 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-d

## Surface Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW01664WC (REAL)<br>Date: 10/10/91 | | | Location: SW070 (SW)<br>Sample: SW01712WC (REAL)<br>Date: 11/05/91 | | | Location: SW070 (SW)<br>Sample: SW01867WC (REAL)<br>Date: 04/08/92 | | | Location: SW125 (SW)<br>Sample: SW00643WC (REAL)<br>Date: 12/18/90 | | | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Aluminum* | 610 | | V | 1790 | | V | 672 | | JA | 261 | | | |
| Antimony | 14 | U | V | 13.8 | U | V | 19.8 | U | V | 22.0 | U | | |
| Arsenic | 2.0 | U | V | 1.1 | U | V | 1.7 | U | V | 1.0 | U | | |
| Barium | 57 | | V | 72.0 | | V | 128 | | V | 73.0 | B | | |
| Beryllium | 1.0 | U | V | 0.50 | U | V | 0.60 | U | V | 1.0 | U | | |
| Cadmium | 1.0 | U | V | 2.4 | U | V | 2.3 | U | JA | 5.0 | U | | |
| Calcium | 46000 | | V | 30800 | | V | 77100 | | V | 38400 | | | |
| Cesium | 50 | U | V | 500 | U | V | 500 | U | V | 500 | U | | |
| Chromium | 2.0 | U | V | 2.6 | U | V | 2.0 | U | V | 4.0 | U | | |
| Cobalt | 2.0 | U | V | 2.8 | U | V | 2.7 | U | V | 4.0 | U | | |
| Copper | 2.0 | U | V | 5.4 | | V | 2.3 | U | V | 5.0 | U | | |
| Iron | 910 | | V | 1390 | | V | 584 | | V | 234 | | | |
| Lead | 3.9 | | V | 2.9 | | JA | 0.90 | | V | 1.1 | B | | |
| Lithium | 9.0 | | JA | 7.1 | U | V | 6.1 | | JA | 10.0 | U | | |
| Magnesium | 14000 | | V | 5760 | | V | 18200 | | V | 9620 | | | |
| Manganese | 110 | | V | 33.2 | | V | 18.6 | | V | 3.4 | B | | |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | | |
| Molybdenum | 4.0 | U | V | 5.8 | U | V | 3.5 | U | V | 9.0 | U | | |
| Nickel | 5.0 | U | V | 5.9 | U | V | 11.2 | U | V | 9.0 | U | | |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 2400 | | JA | 3160 | | V | 2590 | | JA | 2630 | B | | |
| Selenium | 4.0 | UI | JA | 1.5 | U | V | 0.80 | U | V | 2.0 | U | | |
| Silicon | 7480 | | V | 6190 | | V | 3500 | | JA | | | | |
| Silver | 5.0 | U | V | 2.9 | U | V | 2.1 | U | V | 3.0 | U | | |
| Sodium | 28000 | | V | 17900 | | V | 38300 | | V | 16900 | | | |
| Strontium | 320 | | V | 149 | | V | 512 | | V | 239 | | | |
| Thallium | 1.0 | UI | JA | 1.9 | U | JA | 2.0 | U | JA | 2.0 | U. | | |
| Tin | 11 | U | V | 10.4 | U | V | 9.4 | U | V | 30.0 | U | | |
| Vanadium | 2.0 | U | V | 4.7 | | V | 3.5 | U | V | 5.8 | B | | |
| Zinc | 11 | | JA | 19.9 | | V | 11.4 | | JA | 22.0 | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW02990001 (REAL)<br>Date: 01/16/90 | | Location: SW029 (SW)<br>Sample: SW02990002 (REAL)<br>Date: 02/08/90 | | | Location: SW029 (SW)<br>Sample: SW029W041190A (REAL)<br>Date: 04/11/90 | | Location: SW029 (SW)<br>Sample: SW029W051090A (REAL)<br>Date: 05/10/90 | | Location: SW029 (SW)<br>Sample: SW00003WC (REAL)<br>Date: 06/06/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 30.0 | U | 41.8 | U | V | 200 | U | 200 | U | 200 | U |
| Antimony | 500.0 | U | 61.4 | UJ | A | 60.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | 2.0 | U | 1.3 | | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Barium | 68.5 | | 72.3 | | V | 200 | U | 200 | U | 200 | U |
| Beryllium | 2.0 | U | 0.2 | U | R | 5.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | 4.0 | U | 3.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Calcium | 42300.0 | | 41600 | E | | 30300 | | 44700 | | 41800 | |
| Cesium | 1000.0 | U | 1000 | U | V | 1000 | U | 1000 | U | 1000 | U |
| Chromium | 20.0 | U | 5.8 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Cobalt | 20.0 | U | 2.7 | U | V | 50.0 | U | 50.0 | U | 50.0 | U |
| Copper | 20.0 | U | 4.5 | | V | 25.0 | U | 25.0 | U | 25.0 | U |
| Iron | 45.7 | | 11.5 | UJ | A | 100 | U | 100 | U | 100 | U |
| Lead | 4.4 | | 1.4 | UJ | A | 5.0 | U | 5.0 | U | 3.0 | U |
| Lithium | 11.0 | | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Magnesium | 7830.0 | | 7920 | | V | 6230 | | 8650 | | 9660 | |
| Manganese | 29.9 | | 29.3 | | V | 18.7 | | 42.1 | | 15.0 | U |
| Mercury | 0.2 | U | 0.22 | J | A | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 500.0 | U | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Nickel | 20.0 | U | 11.1 | U | V | 40.0 | U | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 1140.0 | | 972 | U | V | 5000 | U | 5000 | U | 5000 | U |
| Selenium | 2.0 | U | 1.8 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | |
| Silver | 30.0 | U | 4.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Sodium | 19800.0 | | 19200 | | V | 17900 | | 20400 | | 22600 | |
| Strontium | 216.0 | | 1000 | UJ | A | 1000 | U | 1000 | U | 1000 | U |
| Thallium | 3.0 | U | 0.90 | U | R | 10.0 | U | 10.0 | U | 10.0 | U |
| Tin | 1000.0 | U | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Vanadium | 10.0 | U | 3.0 | U | V | 50.0 | U | 50.0 | U | 50.0 | U |
| Zinc | 23.7 | | 12.0 | UJ | A | 20.0 | U | 43.4 | | 20.0 | U |

*Note:* Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00233WC (REAL)<br>Date: 08/09/90 | | Location: SW029 (SW)<br>Sample: SW00311WC (REAL)<br>Date: 09/12/90 | | Location: SW029 (SW)<br>Sample: SW80042WC (DUP)<br>Date: 09/12/90 | | Location: SW029 (SW)<br>Sample: SW00402WC (REAL)<br>Date: 10/03/90 | | Location: SW029 (SW)<br>Sample: SW00503WC (REAL)<br>Date: 11/08/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 197 | B | 41.80 | B | 44.30 | B | 27.60 | B | 31.10 | B |
| Antimony | 18.0 | B | 29.20 | B | 21.00 | B | 7.00 | U | 19.00 | B |
| Arsenic | 0.80 | U | 1.00 | B | 1.00 | B | 2.00 | U | 2.00 | U |
| Barium | 94.3 | B | 83.60 | B | 85.60 | B | 87.00 | B | 71.00 | B |
| Beryllium | 2.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | 1.00 | U |
| Cadmium | 2.0 | U | 2.00 | U | 2.30 | B | 2.00 | U | 2.00 | U |
| Calcium | 40800 | | 40300.00 | | 41200.00 | | 46200.00 | | 47000.00 | E |
| Cesium | 55.0 | U | 92.00 | U | 92.00 | U | 92.00 | U | 100.00 | B |
| Chromium | 4.0 | U | 8.80 | B | 11.60 | | 5.00 | U | 6.70 | B |
| Cobalt | 5.6 | B | 4.50 | B | 4.50 | B | 3.00 | U | 3.00 | U |
| Copper | 3.0 | U | 12.40 | B | 6.20 | B | 13.20 | B | 8.10 | B |
| Iron | 28.5 | B | 21.70 | B | 27.60 | B | 25.40 | B | 32.20 | B |
| Lead | 1.1 | B | 1.00 | U | 1.00 | U | 1.00 | U | 1.00 | U |
| Lithium | 35.0 | U | 1.00 | U | 1.00 | U | 5.00 | B | 3.60 | B |
| Magnesium | 7840 | | 8000.00 | | 7950.00 | | 9030.00 | | 8150.00 | E |
| Manganese | 41.7 | | 24.40 | | 24.90 | | 41.80 | | 35.70 | |
| Mercury | 0.10 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 70.0 | U | 6.30 | B | 6.10 | B | 2.00 | U | 3.80 | B |
| Nickel | 10 | U | 6.60 | B | 7.20 | B | 4.00 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 2710 | B | 1980.00 | B | 1660.00 | B | 1900.00 | B | 1650.00 | B |
| Selenium | 3.0 | U | 2.00 | B | 1.00 | BW | 1.00 | B | 1.00 | B |
| Silicon | 4430 | B | | | | | | | | |
| Silver | 9.6 | B | 4.70 | B | 5.70 | B | 3.00 | U | 3.00 | U |
| Sodium | 20000 | | 18900.00 | | 17000.00 | | 21400.00 | | 16500.00 | E |
| Strontium | 194 | B | 209.00 | | 206.00 | | 229.00 | | 218.00 | E |
| Thallium | 2.0 | U | 3.00 | U | 3.00 | U | 2.00 | UN | 2.00 | UWN |
| Tin | 58.3 | B | 19.20 | B | 23.30 | B | 14.30 | B | 20.70 | B |
| Vanadium | 32.4 | B | 5.50 | B | 7.40 | B | 2.70 | B | 4.20 | B |
| Zinc | 2.0 | U | 8.60 | B | 9.20 | B | 12.80 | B | 6.10 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00607WC (REAL)<br>Date: 12/05/90 | | | Location: SW029 (SW)<br>Sample: SW00709WC (REAL)<br>Date: 01/09/91 | | | Location: SW029 (SW)<br>Sample: SW00915WC (REAL)<br>Date: 03/18/91 | | | Location: SW029 (SW)<br>Sample: SW01124WC (REAL)<br>Date: 05/09/91 | | | Location: SW029 (SW)<br>Sample: SW01227WC (REAL)<br>Date: 06/13/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 40 | U | | 37.00 | B | | 17.7 | U | JA | 108 | U | V | 10 | U |
| Antimony | 30 | U | | 15.90 | B | | 18.2 | U | V | 25.6 | U | V | 28 | |
| Arsenic | 2 | U | | 2.00 | U | | 0.90 | U | V | 0.90 | U | JA | 4.0 | U |
| Barium | 76 | B | | 110.00 | B | | 56.3 | | V | 78.7 | | V | 48 | |
| Beryllium | 1 | U | | 1.40 | B | | 0.60 | U | V | 0.50 | U | V | | |
| Cadmium | 5 | U | | 3.30 | B | | 2.7 | U | V | 3.3 | U | JA | 1.0 | U |
| Calcium | 47700 | | | 61600.00 | | | 45600 | | V | 44300 | | V | 38000 | |
| Cesium | 200 | UNW | | 14.50 | B | | 500 | U | V | 500 | U | V | 50 | U |
| Chromium | 10 | U | | 9.10 | B | | 6.9 | U | V | 4.1 | U | V | 3.1 | |
| Cobalt | 20 | U | | 3.00 | U | | 3.0 | U | V | 3.6 | U | V | 2.0 | U |
| Copper | 11 | B | | 13.20 | B | | 2.5 | U | V | 6.3 | | V | 3.0 | U |
| Iron | 55.3 | B | | 32.90 | B | | 24.7 | | JA | 28.4 | | JA | 21 | |
| Lead | 4 | UWN | | 1.00 | UW | | 2.0 | | V | 1.4 | U | V | 2.1 | |
| Lithium | 6.5 | | | 2.20 | B | | 5.7 | | V | 7.4 | | V | 5.3 | |
| Magnesium | 8420 | | | 12500.00 | | | 9070 | | V | 8980 | | V | 8900 | |
| Manganese | 32.4 | | | 42.60 | | | 29.3 | | V | 54.0 | | V | 32 | |
| Mercury | .2 | U | | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U |
| Molybdenum | 10 | U | | 7.00 | B | | 10.9 | U | V | 5.7 | U | V | 3.0 | U |
| Nickel | 20 | U | | 4.00 | U | | 3.9 | U | V | 14.7 | U | V | 5.3 | |
| Phosphorus | | | | | | | | | | | | | | |
| Potassium | 1150 | B | | 1900.00 | B | | 1160 | | V | 2050 | U | V | 1300 | |
| Selenium | 2 | UW | | 4.00 | BW | | 1.5 | | JA | 1.2 | | V | 4.0 | UI |
| Silicon | 6470 | | | | | | 5650 | | JA | 6380 | | V | 6300 | |
| Silver | 5 | U | | 4.10 | B | | 3.8 | U | V | 5.0 | U | V | 2.0 | U |
| Sodium | 20200 | | | 30000.00 | | | 21400 | | V | 24200 | | V | 23000 | |
| Strontium | 239 | | | 326.00 | | | 220 | | V | 233 | | V | 230 | |
| Thallium | 2 | UW | | 1.00 | UWN | | 1.4 | U | JA | 1.4 | U | JA | 1.0 | UI |
| Tin | 20 | U | | 25.30 | B | | 24.2 | U | V | 14.8 | U | V | 13 | U |
| Vanadium | 10 | U | | 5.40 | B | | 2.0 | U | V | 5.7 | U | V | 2.0 | U |
| Zinc | 57.4 | * | | 11.00 | BE | | 4.7 | U | V | 1.8 | U | JA | 3.0 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01330WC (REAL)<br>Date: 07/11/91 | | | Location: SW029 (SW)<br>Sample: SW01436WC (REAL)<br>Date: 08/08/91 | | | Location: SW029 (SW)<br>Sample: SW01542WC (REAL)<br>Date: 09/26/91 | | | Location: SW029 (SW)<br>Sample: SW01648WC (REAL)<br>Date: 10/09/91 | | | Location: SW029 (SW)<br>Sample: SW01720WC (REAL)<br>Date: 11/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 65.3 | | JA | 29 | | V | 41 | | JA | 22.3 | U | V |
| Antimony | | | | 42.2 | U | V | 14 | U | V | 14 | U | V | 13.8 | U | V |
| Arsenic | | | | 0.70 | U | V | 2.0 | U | V | 2.0 | U | V | 2.3 | U | JA |
| Barium | | | | 66.6 | | V | 100 | | V | 110 | | V | 81.0 | | V |
| Beryllium | | | | 0.60 | U | V | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V |
| Cadmium | | | | 4.6 | U | V | 1.0 | U | | 1.0 | U | | 2.4 | U | JA |
| Calcium | | | | 30700 | | V | 49000 | | V | 54000 | | V | 48900 | | V |
| Cesium | | | | 500 | U | V | 70 | | V | 50 | | JA | 500 | U | V |
| Chromium | | | | 5.5 | U | V | 2.0 | U | V | 2.0 | U | JA | 2.6 | U | V |
| Cobalt | | | | 7.3 | U | V | 2.0 | U | JA | 2.0 | U | V | 2.8 | U | V |
| Copper | | | | 6.4 | | V | 2.0 | U | JA | 14 | | JA | 3.9 | | JA |
| Iron | | | | 338 | | V | 54 | | V | 42 | | JA | 28.8 | | JA |
| Lead | | | | 1.2 | | JA | 2.0 | U | V | 1.0 | UI | V | 1.7 | | JA |
| Lithium | | | | 4.4 | | V | 6.0 | | JA | 7.8 | | JA | 7.1 | U | V |
| Magnesium | | | | 5580 | | V | 10000 | | V | 11000 | | V | 8840 | | V |
| Manganese | | | | 77.0 | | V | 38 | | JA | 40 | | V | 46.5 | | V |
| Mercury | | | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V |
| Molybdenum | | | | 10.0 | U | V | 4.0 | U | V | 4.0 | U | V | 5.8 | U | V |
| Nickel | | | | 10.7 | U | V | 5.0 | U | V | 5.0 | U | V | 5.9 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | | | | 2730 | | V | 2000 | | V | 3900 | | V | 1260 | | V |
| Selenium | | | | 1.2 | U | JA | 4.0 | U | V | 4.0 | UI | JA | 1.5 | U | JA |
| Silicon | 5340 | | V | 5470 | | JA | 5140 | | V | 6300 | | V | 6940 | | V |
| Silver | | | | 6.8 | U | V | 5.0 | U | V | 5.0 | U | V | 2.9 | U | V |
| Sodium | | | | 14200 | | V | 26000 | | V | 26000 | | V | 19900 | | V |
| Strontium | | | | 152 | | V | 260 | | V | 280 | | V | 247 | | V |
| Thallium | | | | 1.6 | U | V | 4.0 | UI | JA | 1.0 | UI | JA | 1.9 | U | V |
| Tin | | | | 38.9 | U | V | 11 | U | V | 11 | U | V | 10.4 | U | V |
| Vanadium | | | | 6.5 | U | V | 2.0 | U | V | 2.0 | U | V | 2.3 | U | V |
| Zinc | | | | 7.2 | U | V | 5.0 | U | V | 5.0 | U | V | 4.3 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01793WC (REAL)<br>Date: 01/09/92 | | | Location: SW029 (SW)<br>Sample: SW01875WC (REAL)<br>Date: 04/02/92 | | | Location: SW029 (SW)<br>Sample: SW80190WC (DUP)<br>Date: 04/02/92 | | | Location: SW031 (SW)<br>Sample: SW03190001 (REAL)<br>Date: 01/11/90 | | | Location: SW031 (SW)<br>Sample: SW03190003 (REAL)<br>Date: 03/14/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 22.4 | U | V | 38.6 | | JA | 29.3 | | JA | 25.8 | U | V | 87.1 | UJ | A |
| Antimony | 13.5 | U | V | 19.8 | U | V | 22.0 | | JA | 44.6 | U | V | 16.9 | UJ | A |
| Arsenic | 1.3 | U | V | 1.7 | U | JA | 1.7 | U | JA | 1.9 | U | R | 1.3 | U | R |
| Barium | 84.1 | | V | 58.1 | | V | 58.9 | | V | 116 | | V | 101 | | V |
| Beryllium | 0.80 | U | V | 0.60 | U | V | 0.60 | U | V | 0.8 | U | V | 0.2 | U | R |
| Cadmium | 2.8 | U | V | 2.3 | U | JA | 2.3 | U | JA | 2.3 | UJ | A | 3.2 | U | V |
| Calcium | 52400 | | V | 32700 | | V | 33700 | | V | 73500 | | V | 65900 | J | A |
| Cesium | 500 | U | V | 500 | U | V | 500 | U | V | 1000 | U | V | 1000 | U | V |
| Chromium | 5.7 | U | V | 2.0 | U | V | 2.0 | U | V | 8.7 | U | V | 5.8 | U | V |
| Cobalt | 3.4 | U | V | 2.7 | U | V | 2.7 | U | V | 2.2 | U | V | 2.7 | U | V |
| Copper | 4.9 | | V | 2.3 | U | V | 2.3 | U | V | 30.6 | UJ | A | 3.1 | UJ | A |
| Iron | 22.6 | U | V | 94.1 | | JA | 91.3 | | JA | 90.5 | UJ | A | 11.3 | U | V |
| Lead | 1.2 | U | V | 1.2 | U | V | 1.2 | U | V | 1.2 | U | V | 1.4 | U | V |
| Lithium | 4.2 | | V | 2.6 | | JA | 2.1 | | JA | 19.0 | J | A | 100 | U | R |
| Magnesium | 9450 | | V | 6710 | | V | 6940 | | V | 15000 | | V | 13700 | | V |
| Manganese | 33.3 | | V | 25.5 | | V | 27.9 | | V | 11.1 | | V | 8.8 | J | A |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.2 | U | A | 0.2 | U | V |
| Molybdenum | 6.5 | U | JA | 3.5 | U | V | 3.5 | U | V | 20.5 | UJ | A | 100 | UJ | A |
| Nickel | 9.9 | U | V | 11.2 | U | V | 11.2 | U | V | 3.8 | U | V | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1700 | | V | 1750 | | JA | 1430 | | JA | 3740 | | V | 2340 | | V |
| Selenium | 1.7 | | V | 1.2 | | V | 1.5 | | JA | 2.2 | U | V | 1.8 | U | V |
| Silicon | 6460 | | V | 5640 | | V | 5670 | | V | | | | | | |
| Silver | 2.5 | U | V | 2.1 | U | V | 2.1 | U | V | 2.8 | U | V | 4.9 | UJ | A |
| Sodium | 21000 | | V | 18300 | | V | 18300 | | V | 30900 | | V | 33200 | J | A |
| Strontium | 273 | | V | 178 | | V | 180 | | V | 429 | J | A | 1000 | U | R |
| Thallium | 2.1 | U | JA | 2.0 | U | V | 2.0 | U | V | 1.1 | U | R | 1.1 | UJ | A |
| Tin | 14.2 | U | JA | 9.4 | U | V | 9.4 | U | V | 41.0 | UJ | A | 100 | UJ | A |
| Vanadium | 4.7 | U | V | 3.5 | U | V | 3.5 | U | V | 3.0 | U | V | 3.0 | U | V |
| Zinc | 3.0 | | JA | 2.3 | | JA | 2.6 | | JA | 30.4 | UJ | A | 54.7 | J | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW031W041890A (REAL)<br>Date: 04/18/90 | | Location: SW031 (SW)<br>Sample: SW031W051590A (REAL)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW031W051590D (DUP)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW0006OWC (REAL)<br>Date: 06/11/90 | | Location: SW031 (SW)<br>Sample: SW0019WC (REAL)<br>Date: 07/19/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | 200 | U | 200 | U | 200 | U | 49.30 | B |
| Antimony | 60.0 | U | 60.0 | U | 60.0 | U | 60.0 | U | 22.90 | B |
| Arsenic | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 2.00 | U |
| Barium | 200 | U | 200 | U | 200 | U | 200 | U | 139.00 | BE |
| Beryllium | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 4.20 | B |
| Cadmium | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Calcium | 24200 | | 69500 | | 69400 | | 60500 | | 79300.00 | |
| Cesium | 1000 | U | 1000 | U | 1000 | U | 1000 | U | 147.00 | U |
| Chromium | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 6.00 | U |
| Cobalt | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U | 4.00 | U |
| Copper | 25.0 | U | 25.0 | U | 25.0 | U | 25.0 | U | 8.90 | B |
| Iron | 100 | U | 100 | U | 100 | U | 100 | U | 13.00 | U |
| Lead | 5.0 | U | 3.0 | U | 3.0 | U | 3.0 | U | 1.00 | U |
| Lithium | 100 | U | 100 | U | 100 | U | 100 | U | 10.00 | B |
| Magnesium | 5000 | U | 15700 | | 15700 | | 13400 | | 17000.00 | |
| Manganese | 17.9 | | 15.0 | U | 15.0 | U | 16.6 | | 15.80 | |
| Mercury | 0.20 | U | 0.56 | | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | 100 | U | 100 | U | 100 | U | 5.20 | B |
| Nickel | 40.0 | U | 40.0 | U | 40.0 | U | 40.0 | U | 5.10 | B |
| Phosphorus | | | | | | | | | | |
| Potassium | 5000 | U | 5000 | U | 5000 | U | 5000 | U | 2260.00 | B |
| Selenium | 5.0 | U | 5.0 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Silicon | | | | | | | | | | |
| Silver | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 3.60 | B |
| Sodium | 7960 | | 29100 | | 29000 | | 24800 | | 33700.00 | |
| Strontium | 1000 | U | 1000 | U | 1000 | U | 1000 | U | 506.00 | |
| Thallium | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 3.00 | U |
| Tin | 100 | U | 100 | U | 100 | U | 100 | U | 27.30 | B |
| Vanadium | 50.0 | U | 50.0 | U | 50.0 | U | 50.0 | U | 9.50 | B |
| Zinc | 20.0 | U | 34.1 | | 50.4 | | 20.0 | U | 5.70 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW00318WC (REAL)<br>Date: 09/13/90 | | Location: SW031 (SW)<br>Sample: SW00409WC (REAL)<br>Date: 10/10/90 | | Location: SW031 (SW)<br>Sample: SW00510WC (REAL)<br>Date: 11/27/90 | | Location: SW031 (SW)<br>Sample: SW00614WC (REAL)<br>Date: 12/11/90 | | Location: SW031 (SW)<br>Sample: SW01029WC (REAL)<br>Date: 04/09/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 48.30 | B | 31.90 | B | 60.40 | B | 56.90 | B | 108 | U |
| Antimony | 27.90 | B | 10.10 | B | 17.00 | B | 17.70 | B | 25.6 | U |
| Arsenic | 2.00 | U | 2.00 | U | 2.00 | U | 2.00 | U | 0.90 | U |
| Barium | 122.00 | B | 100.00 | B | 149.00 | B | 143.00 | BE | 89.7 | |
| Beryllium | 1.00 | U | 1.00 | U | 1.00 | U | 1.00 | U | 0.60 | |
| Cadmium | 2.00 | U | 2.00 | U | 2.00 | U | 2.00 | U | 2.7 | U |
| Calcium | 79000.00 | | 55000.00 | | 97000.00 | | 88100.00 | E | 50900 | |
| Cesium | 92.00 | U | 100.00 | B | 76.00 | U | 200.00 | B | 500 | U |
| Chromium | 18.00 | | 9.00 | B | 10.60 | | 12.00 | | 4.1 | U |
| Cobalt | 3.00 | U | 3.00 | U | 3.00 | U | 3.00 | U | 3.6 | U |
| Copper | 2.00 | U | 7.50 | B | 3.30 | B | 14.60 | B | 4.7 | U |
| Iron | 21.70 | B | 14.00 | U | 14.00 | U | 39.10 | B | 22.7 | |
| Lead | 1.00 | U | 1.00 | B | 1.00 | UW | 1.00 | UW | 1.4 | U |
| Lithium | 10.00 | B | 11.30 | B | 10.60 | B | 9.70 | B | 9.9 | |
| Magnesium | 17100.00 | | 11300.00 | | 18300.00 | | 17500.00 | E | 11800 | |
| Manganese | 10.10 | B | 6.00 | B | 12.80 | B | 12.40 | BE | 20.2 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 5.80 | B | 6.60 | B | 5.90 | B | 8.20 | B | 5.7 | U |
| Nickel | 6.50 | B | 4.00 | U | 4.00 | U | 4.00 | U | 14.7 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 2530.00 | B | 2240.00 | B | 2680.00 | B | 2720.00 | BE | 2490 | |
| Selenium | 2.00 | U | 2.00 | U | 1.00 | BW | 1.00 | BW | 1.1 | U |
| Silicon | | | | | | | | | 1750 | |
| Silver | 3.60 | B | 10.00 | B | 4.10 | B | 3.00 | U | 5.0 | U |
| Sodium | 31900.00 | | 21100.00 | | 31100.00 | | 36400.00 | E | 29800 | |
| Strontium | 479.00 | | 357.00 | | 524.00 | | 509.00 | E | 322 | |
| Thallium | 4.00 | U | 2.00 | U | 20.00 | UW | 2.00 | UWN | 1.4 | U |
| Tin | 23.90 | B | 16.50 | B | 7.50 | B | 20.80 | B | 14.8 | U |
| Vanadium | 11.40 | B | 5.40 | B | 7.60 | B | 6.60 | B | 5.7 | U |
| Zinc | 4.40 | B | 13.20 | B | 8.50 | BE | 13.10 | B | 17.3 | |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW01443WC (REAL)<br>Date: 08/12/91 | | | Location: SW031 (SW)<br>Sample: SW01549WC (REAL)<br>Date: 09/26/91 | | | Location: SW031 (SW)<br>Sample: SW01655WC (REAL)<br>Date: 10/16/91 | | | Location: SW032 (SW)<br>Sample: SW03290001 (REAL)<br>Date: 01/16/90 | | | Location: SW032 (SW)<br>Sample: SW03290003 (REAL)<br>Date: 03/23/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 26 | | JA | 20 | | V | 60 | | JA | 37.7 | | | 267 | UJ | A |
| Antimony | 12 | | V | 14 | U | V | 14 | U | V | 500.0 | U | | 13.4 | U | V |
| Arsenic | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.0 | U | | 1.3 | U | R |
| Barium | 130 | | V | 110 | | V | 110 | | V | 76.5 | | | 58.3 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 2.0 | U | | 0.2 | J | A |
| Cadmium | 2.0 | U | V | 1.0 | U | | 1.4 | | JA | 4.0 | U | | 3.2 | U | V |
| Calcium | 84000 | | V | 72000 | | V | 78000 | | V | 47300.0 | | | 35300 | | V |
| Cesium | 50 | U | V | 50 | | V | 70 | | JA | 1000.0 | U | | 1000 | U | V |
| Chromium | 2.0 | U | V | 2.0 | U | V | 2.0 | U | JA | 20.0 | U | | 5.8 | U | V |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 20.0 | U | | 2.7 | U | V |
| Copper | 3.0 | U | V | 2.0 | U | R | 2.8 | | JA | 20.0 | U | | 4.6 | UJ | A |
| Iron | 7.0 | U | JA | 37 | | V | 68 | | JA | 133.0 | | | 143 | UJ | A |
| Lead | 1.0 | U | JA | 2.9 | | V | 2.4 | | V | 2.0 | U | | 1.4 | UJ | A |
| Lithium | 12 | | JA | 7.4 | | JA | 9.0 | | V | 11.0 | | | 100 | U | V |
| Magnesium | 17000 | | V | 15000 | | V | 15000 | | V | 8060.0 | | | 5640 | | V |
| Manganese | 13 | | V | 17 | | JA | 14 | | V | 36.1 | | | 2.3 | U | V |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA | 0.2 | U | | 0.2 | UJ | A |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 4.0 | U | V | 500.0 | U | | 100 | U | V |
| Nickel | 4.0 | U | JA | 5.0 | U | V | 5.0 | U | V | 20.0 | U | | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2700 | | V | 1900 | | V | 2000 | | V | 1130.0 | | | 972 | U | V |
| Selenium | 4.0 | U | V | 4.0 | U | V | 4.0 | U | V | 2.1 | | | 1.8 | U | V |
| Silicon | 6840 | | V | 7020 | | V | 7160 | | V | | | | | | |
| Silver | 2.0 | U | V | 5.0 | U | V | 5.0 | U | V | 30.0 | U | | 5.6 | UJ | A |
| Sodium | 34000 | | V | 29000 | | V | 27000 | | V | 18500.0 | | | 13800 | | V |
| Strontium | 500 | | JA | 420 | | V | 420 | | V | 225.0 | | | 1000 | U | R |
| Thallium | 15 | UI | JA | 4.0 | UI | JA | 5.0 | UI | JA | 3.0 | U | | 0.9 | U | V |
| Tin | 13 | U | R | 11 | U | V | 11 | U | V | 1000.0 | U | | 100 | U | V |
| Vanadium | 3.0 | U | V | 2.0 | U | V | 2.0 | U | V | 10.0 | U | | 3.1 | UJ | A |
| Zinc | 4.0 | | V | 36 | | V | 5.0 | U | V | 67.5 | | | 12.6 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW032W041190A (UNKN)<br>Date: 04/11/90 | | Location: SW032 (SW)<br>Sample: SW032W051090A (REAL)<br>Date: 05/10/90 | | Location: SW032 (SW)<br>Sample: SW00005WC (DUP)<br>Date: 06/07/90 | | Location: SW032 (SW)<br>Sample: SW00234WC (REAL)<br>Date: 08/09/90 | | Location: SW032 (SW)<br>Sample: SW00312WC (REAL)<br>Date: 09/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 41.8 | U | 200 | U | 200 | U | 179 | B | 36.70 | B |
| Antimony | 20.8 | B | 60.0 | U | 60.0 | U | 12.0 | U | 19.30 | B |
| Arsenic | 1.3 | UN | 10.0 | U | 10.0 | U | 1.0 | B | 2.00 | U |
| Barium | 58.7 | B | 200 | U | 200 | U | 73.2 | B | 59.70 | B |
| Beryllium | 0.20 | U | 5.0 | U | 5.0 | U | 2.0 | U | 1.00 | U |
| Cadmium | 3.2 | U | 5.0 | U | 5.0 | U | 2.0 | U | 2.00 | U |
| Calcium | 29000 | | 45600 | | 34400 | | 36300 | | 38000.00 | |
| Cesium | 1000 | U | 1000 | U | 1000 | U | 55.0 | U | 92.00 | U |
| Chromium | 5.8 | U | 10.0 | U | 10.0 | U | 4.0 | U | 9.60 | B |
| Cobalt | 2.7 | U | 50.0 | U | 50.0 | U | 4.0 | U | 3.00 | U |
| Copper | 4.3 | B | 25.0 | U | 25.0 | U | 3.0 | U | 2.00 | U |
| Iron | 63.3 | B | 100 | U | 100 | U | 102 | | 83.10 | B |
| Lead | 1.4 | UN | 5.0 | U | 3.0 | U | 1.4 | B | 1.00 | U |
| Lithium | 100 | U | 100 | U | 100 | U | 35.0 | U | 1.00 | U |
| Magnesium | 6080 | | 8170 | | 7630 | | 6870 | | 7450.00 | |
| Manganese | 4.0 | B | 15.0 | U | 15.0 | U | 28.2 | | 30.40 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.10 | U | 0.20 | U |
| Molybdenum | 100 | U | 100 | U | 100 | U | 70.0 | U | 2.90 | B |
| Nickel | 11.1 | U | 40.0 | U | 40.0 | U | 10 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 972 | U | 5000 | U | 5000 | U | 2560 | B | 1190.00 | B |
| Selenium | 1.8 | UN | 5.0 | U | 5.0 | U | 3.0 | U | 2.00 | U |
| Silicon | | | | | | | 4800 | B | | |
| Silver | 4.9 | UN | 10.0 | U | 10.0 | U | 2.0 | U | 3.00 | U |
| Sodium | 17000 | | 17800 | | 17800 | | 17800 | | 16200.00 | |
| Strontium | 1000 | U | 1000 | U | 1000 | U | 170 | B | 190.00 | B |
| Thallium | 0.90 | UW | 10.0 | U | 10.0 | U | 2.0 | U | 4.00 | U |
| Tin | 100 | U | 100 | U | 100 | U | 51.8 | B | 12.00 | B |
| Vanadium | 3.0 | U | 50.0 | U | 50.0 | U | 32.5 | B | 5.30 | B |
| Zinc | 2.8 | U* | 41.3 | | 20.0 | U | 2.0 | U | 9.50 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00403WC (REAL)<br>Date: 10/04/90 | | Location: SW032 (SW)<br>Sample: SW00504WC (REAL)<br>Date: 11/07/90 | | Location: SW032 (SW)<br>Sample: SW00608WC (REAL)<br>Date: 12/04/90 | | Location: SW032 (SW)<br>Sample: SW00916WC (REAL)<br>Date: 03/13/91 | | Location: SW032 (SW)<br>Sample: SW01018WC (REAL)<br>Date: 04/04/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 27.0 | U | 20.0 | V | 28.7 | B V | 17.8 | U JA | 19.8 | |
| Antimony | 26.0 | U | 22.0 | JA | 22.0 | U V | 11.0 | JA | 20.2 | |
| Arsenic | 1.6 | U | 1.0 | V | 1.0 | U V | 1.8 | U V | 0.90 | U |
| Barium | 73.2 | B | 62.7 | V | 96.3 | B V | 78.8 | V | 84.8 | |
| Beryllium | 0.60 | U | 1.0 | V | 1.0 | U V | 0.50 | U V | 0.60 | U |
| Cadmium | 2.9 | U | 5.0 | V | 5.0 | U JA | 3.4 | U V | 2.7 | U |
| Calcium | 45100 | | 45600 | V | 56800 | V | 44700 | V | 44700 | |
| Cesium | 55.0 | U | 500 | V | 500 | U V | 1000 | U V | 500 | U |
| Chromium | 4.0 | U | 4.0 | V | 4.0 | U V | 6.3 | U V | 5.9 | U |
| Cobalt | 4.0 | U | 4.0 | V | 4.0 | U V | 3.4 | U JA | 3.0 | U |
| Copper | 3.0 | U | 5.0 | V | 5.0 | U JA | 4.9 | V | 2.5 | U |
| Iron | 28.7 | B | 34.7 | V | 22.3 | B JA | 53.3 | V | 62.7 | |
| Lead | 0.40 | B | 1.0 | V | 1.0 | U V | 1.0 | JA | 1.4 | U |
| Lithium | 26.0 | U | 10.0 | V | 12.0 | B JA | 5.3 | JA | 6.7 | |
| Magnesium | 8320 | | 8060 | V | 10100 | V | 7680 | V | 7710 | |
| Manganese | 27.7 | | 28.8 | JA | 35.5 | V | 7.4 | V | 9.1 | |
| Mercury | 0.10 | U | 0.10 | U R | 0.10 | U R | 0.20 | U V | 0.20 | U |
| Molybdenum | 13.0 | U | 9.0 | V | 9.0 | U V | 9.4 | U V | 10.9 | U |
| Nickel | 12.0 | U | 9.0 | V | 9.0 | U V | 3.6 | U V | 3.9 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 662 | B | 2170 | V | 1130 | B V | 1060 | V | 1040 | |
| Selenium | 2.1 | B | 2.0 | V | 2.4 | B V | 2.1 | JA | 1.4 | |
| Silicon | 6750 | | 7960 | JA | | | 7230 | V | 6710 | |
| Silver | 2.0 | U | 4.3 | V | 5.5 | B V | 2.9 | U V | 3.8 | U |
| Sodium | 17000 | | 17200 | V | 20000 | V | 17200 | V | 18500 | |
| Strontium | 196 | B | 189 | V | 247 | V | 220 | V | 214 | |
| Thallium | 2.9 | U | 2.0 | V | 1.0 | U V | 12.0 | U JA | 1.4 | U |
| Tin | 47.8 | B | 30.0 | V | 52.2 | B V | 20.7 | U V | 24.2 | U |
| Vanadium | 3.0 | U | 6.4 | V | 5.3 | B JA | 2.6 | U V | 2.0 | U |
| Zinc | 2.0 | U | 3.6 | V | 2.5 | B V | 6.6 | V | 4.7 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
M-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; N-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01125WC (REAL)<br>Date: 05/09/91 | | | Location: SW032 (SW)<br>Sample: SW01228WC (REAL)<br>Date: 06/13/91 | | | Location: SW032 (SW)<br>Sample: SW01331WC (REAL)<br>Date: 07/10/91 | | | Location: SW032 (SW)<br>Sample: SW01437WC (REAL)<br>Date: 08/07/91 | | | Location: SW032 (SW)<br>Sample: SW01543WC (REAL)<br>Date: 09/26/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | V | 10 | U | | 35 | | JA | 37.1 | | V | 37 | | V |
| Antimony | 25.6 | U | V | 17 | | | 11 | U | V | 42.2 | U | V | 14 | U | V |
| Arsenic | 0.90 | U | JA | 4.0 | U | | 2.0 | U | V | 0.70 | U | V | 2.0 | UI | V |
| Barium | 84.7 | | V | 76 | | | 71 | | V | 62.9 | | V | 79 | | V |
| Beryllium | 0.50 | U | V | | | | 1.0 | U | V | 0.60 | U | V | 1.0 | U | V |
| Cadmium | 3.3 | U | JA | 1.0 | U | | 1.4 | | JA | 4.6 | U | V | 1.0 | U | |
| Calcium | 45900 | | V | 41000 | | | 38000 | | V | 33900 | | V | 50000 | | V |
| Cesium | 500 | U | V | 50 | U | | 50 | | JA | 500 | U | V | 80 | | V |
| Chromium | 4.1 | U | V | 3.1 | | | 2.0 | U | JA | 5.5 | U | V | 2.0 | U | V |
| Cobalt | 3.6 | U | V | 2.0 | U | | 2.0 | U | V | 7.3 | U | V | 2.0 | U | V |
| Copper | 6.6 | | V | 3.0 | U | | 23 | | V | 5.4 | U | V | 2.0 | U | R |
| Iron | 32.1 | | JA | 65 | | | 17 | | JA | 82.7 | | V | 79 | | V |
| Lead | 1.4 | U | V | 2.1 | | | 1.8 | | V | 1.0 | | JA | 2.0 | U | V |
| Lithium | 9.1 | | V | 3.6 | | | 5.0 | | JA | 3.7 | | V | 5.1 | | JA |
| Magnesium | 8350 | | V | 8200 | | | 7750 | | V | 6050 | | V | 8200 | | V |
| Manganese | 10.8 | | V | 24 | | | 23 | | V | 24.1 | | V | 15 | | JA |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | V | 3.0 | U | | 3.0 | U | JA | 10.0 | U | V | 4.0 | U | V |
| Nickel | 14.7 | U | V | 4.0 | U | | 4.0 | U | V | 10.7 | U | V | 5.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2050 | U | V | 1300 | | | 2800 | | V | 1960 | | V | 1100 | | V |
| Selenium | 1.1 | U | V | 4.0 | UI | | 4.0 | U | JA | 1.2 | U | JA | 4.0 | U | V |
| Silicon | 7900 | | V | 6100 | | | 5610 | | V | 6120 | | JA | 10400 | | V |
| Silver | 5.0 | U | V | 2.0 | U | | 2.0 | U | V | 6.8 | U | V | 5.0 | U | V |
| Sodium | 20400 | | V | 20000 | | | 19000 | | V | 14900 | | V | 18000 | | V |
| Strontium | 222 | | V | 230 | | | 210 | | JA | 165 | | V | 230 | | V |
| Thallium | 1.4 | U | V | 1.0 | UI | | 3.0 | UW | JA | 1.6 | U | JA | 4.0 | UI | JA |
| Tin | 14.8 | U | V | 13 | U | | 13 | U | R | 38.9 | U | V | 11 | U | V |
| Vanadium | 5.7 | U | V | 2.0 | U | | 2.0 | U | V | 6.5 | U | V | 2.2 | | V |
| Zinc | 1.8 | U | JA | 5.3 | | | 3.0 | U | V | 7.2 | U | V | 8.4 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01649WC (REAL)<br>Date: 10/10/91 | | | Location: SW032 (SW)<br>Sample: SW01721WC (REAL)<br>Date: 11/13/91 | | | Location: SW032 (SW)<br>Sample: SW01794WC (REAL)<br>Date: 01/15/92 | | | Location: SW032 (SW)<br>Sample: SW01876WC (REAL)<br>Date: 04/02/92 | | | Location: SW033 (SW)<br>Sample: SW03390001 (REAL)<br>Date: 01/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 17 | U | V | 22.3 | U | V | 22.6 | | JA | 31.5 | | JA | 74.3 | | |
| Antimony | 14 | U | V | 13.8 | U | V | 13.5 | U | V | 19.8 | U | V | 500.0 | U | |
| Arsenic | 2.0 | U | V | 2.3 | U | JA | 1.3 | U | V | 1.7 | U | JA | 2.0 | U | |
| Barium | 77 | | V | 76.2 | | V | 79.6 | | V | 62.0 | | V | 69.9 | | |
| Beryllium | 1.0 | U | V | 0.50 | U | V | 0.80 | U | V | 0.80 | | JA | 2.0 | U | |
| Cadmium | 1.0 | U | | 2.4 | U | JA | 2.8 | U | V | 2.3 | U | JA | 4.0 | U | |
| Calcium | 52000 | | V | 48000 | | V | 49000 | | V | 33700 | | V | 39200.0 | | |
| Cesium | 70 | | JA | 500 | U | V | 500 | U | V | 500 | U | V | 1000.0 | U | |
| Chromium | 2.3 | | JA | 2.6 | U | V | 5.7 | U | V | 2.0 | U | V | 20.0 | U | |
| Cobalt | 2.0 | U | V | 2.8 | U | V | 3.4 | U | V | 2.7 | U | V | 20.0 | U | |
| Copper | 2.0 | U | V | 3.2 | | JA | 6.6 | | JA | 2.9 | | JA | 20.0 | U | |
| Iron | 41 | | JA | 30.4 | | JA | 22.6 | U | V | 84.8 | | JA | 110.0 | | |
| Lead | 1.0 | | V | 0.90 | U | V | 1.2 | U | V | 1.2 | U | V | 2.0 | U | |
| Lithium | 7.7 | | JA | 7.1 | U | V | 4.0 | U | V | 2.0 | | JA | 10.0 | | |
| Magnesium | 9400 | | V | 7970 | | V | 8740 | | V | 6430 | | V | 8550.0 | | |
| Manganese | 28 | | V | 16.6 | | V | 19.6 | | V | 8.5 | | JA | 10.0 | U | |
| Mercury | 0.20 | | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.2 | U | |
| Molybdenum | 4.0 | U | V | 5.8 | U | V | 6.5 | U | V | 3.5 | U | V | 500.0 | U | |
| Nickel | 5.0 | U | V | 5.9 | U | V | 9.9 | U | V | 11.2 | U | V | 20.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1200 | | V | 984 | | V | 1360 | | V | 1420 | | JA | 1080.0 | | |
| Selenium | 4.0 | U | V | 1.5 | U | JA | 1.0 | U | V | 1.0 | U | V | 3.0 | | |
| Silicon | 9450 | | V | 8550 | | V | 6860 | | JA | 6070 | | V | | | |
| Silver | 5.0 | U | V | 2.9 | U | V | 2.5 | U | V | 2.1 | U | V | 30.0 | U | |
| Sodium | 19000 | | V | 17000 | | V | 19200 | | V | 16800 | | V | 21000.0 | | |
| Strontium | 250 | | V | 232 | | V | 253 | | V | 182 | | V | 223.0 | | |
| Thallium | 1.0 | UI | JA | 1.9 | U | V | 2.1 | U | JA | 2.0 | U | V | 3.0 | U | |
| Tin | 11 | U | V | 10.4 | U | V | 14.2 | U | V | 9.4 | U | V | 1000.0 | U | |
| Vanadium | 2.0 | U | V | 2.3 | U | V | 4.7 | U | V | 3.5 | U | V | 10.0 | U | |
| Zinc | 5.0 | U | V | 4.3 | U | V | 4.5 | | JA | 4.1 | | JA | 24.9 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW03390003 (REAL)<br>Date: 03/23/90 | | Location: SW033 (SW)<br>Sample: SW033W041190A (REAL)<br>Date: 04/11/90 | | Location: SW033 (SW)<br>Sample: SW033W051090A (REAL)<br>Date: 05/10/90 | | Location: SW033 (SW)<br>Sample: SW00006WC (REAL)<br>Date: 06/07/90 | | Location: SW033 (SW)<br>Sample: SW00313WC (REAL)<br>Date: 09/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 583.0 | | 124 | B | 200 | U | 200 | U | 21.90 | B |
| Antimony | 60.0 | U | 20.7 | B | 60.0 | U | 60.0 | U | 18.50 | B |
| Arsenic | 10.0 | U | 1.3 | UN | 10.0 | U | 10.0 | U | 2.00 | U |
| Barium | 200.0 | U | 52.4 | B | 200 | U | 200 | U | 58.90 | B |
| Beryllium | 5.0 | U | 0.20 | U | 5.0 | U | 5.0 | U | 1.00 | U |
| Cadmium | 5.0 | U | 3.2 | U | 5.0 | U | 5.0 | U | 2.00 | U |
| Calcium | 20100.0 | | 24600 | | 38800 | | 34300 | | 37800.00 | |
| Cesium | 1000.0 | U | 1000 | U | 1000 | U | 1000 | U | 92.00 | U |
| Chromium | 10.0 | U | 5.8 | U | 10.0 | U | 10.0 | U | 6.00 | B |
| Cobalt | 50.0 | U | 2.7 | U | 50.0 | U | 50.0 | U | 3.00 | U |
| Copper | 25.0 | U | 4.6 | B | 25.0 | U | 25.0 | U | 2.00 | U |
| Iron | 306.0 | | 107 | | 100 | U | 100 | U | 102.00 | |
| Lead | 5.0 | U | 1.4 | UN | 5.0 | U | 3.0 | U | 1.00 | U |
| Lithium | 100.0 | U | 100 | U | 100 | U | 100 | U | 1.00 | U |
| Magnesium | 5000.0 | U | 5760 | | 8400 | | 7530 | | 7780.00 | |
| Manganese | 15.0 | U | 4.1 | B | 15.0 | U | 15.0 | U | 47.50 | |
| Mercury | 0.2 | U | 0.23 | | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100.0 | U | 100 | U | 100 | U | 100 | U | 4.30 | B |
| Nickel | 40.0 | U | 11.1 | U | 40.0 | U | 40.0 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 5000.0 | U | 1190 | B | 5000 | U | 5000 | U | 1320.00 | B |
| Selenium | 5.0 | U | 1.8 | UN | 5.0 | U | 25.0 | U | 2.00 | U |
| Silicon | | | | | | | | | | |
| Silver | 10.3 | | 4.9 | UN | 10.0 | U | 10.0 | U | 3.00 | U |
| Sodium | 14000.0 | | 17000 | | 20200 | | 18400 | | 17600.00 | |
| Strontium | 1000.0 | U | 1000 | U | 1000 | U | 1000 | U | 195.00 | B |
| Thallium | 10.0 | U | 0.90 | UW | 10.0 | U | 10.0 | U | 4.00 | U |
| Tin | 100.0 | U | 100 | U | 100 | U | 100 | U | 13.20 | B |
| Vanadium | 50.0 | U | 3.3 | B | 50.0 | U | 50.0 | U | 3.90 | B |
| Zinc | 74.0 | | 2.8 | U* | 56.2 | | 20.0 | U | 4.10 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW00404WC (REAL)<br>Date: 10/04/90 | | | Location: SW033 (SW)<br>Sample: SW00505WC (REAL)<br>Date: 11/07/90 | | | Location: SW033 (SW)<br>Sample: SW00609WC (REAL)<br>Date: 12/04/90 | | | Location: SW033 (SW)<br>Sample: SW00917WC (REAL)<br>Date: 03/08/91 | | | Location: SW033 (SW)<br>Sample: SW01019WC (REAL)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 27.0 | U | | 20.0 | U | V | 30.3 | B | V | 17.8 | U | V | 17.7 | U | |
| Antimony | 26.0 | U | | 22.0 | U | JA | 22.0 | U | V | 7.5 | U | V | 18.2 | U | |
| Arsenic | 1.6 | U | | 1.0 | U | V | 1.0 | U | V | 1.8 | U | V | 0.90 | U | |
| Barium | 63.5 | B | | 56.9 | | V | 88.4 | B | V | 73.4 | | V | 72.5 | | |
| Beryllium | 0.60 | U | | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.60 | U | |
| Cadmium | 2.9 | U | | 5.0 | U | V | 5.0 | U | JA | 3.4 | U | JA | 2.7 | U | |
| Calcium | 40700 | | | 38800 | | V | 50500 | | V | 39100 | | V | 40100 | | |
| Cesium | 55.0 | U | | 500 | U | V | 500 | U | V | 500 | U | JA | 500 | U | |
| Chromium | 4.0 | U | | 4.0 | U | V | 4.0 | U | V | 6.3 | U | V | 6.9 | U | |
| Cobalt | 4.0 | U | | 4.0 | U | V | 4.0 | U | V | 3.4 | U | V | 3.0 | U | |
| Copper | 4.0 | B | | 7.9 | | V | 6.0 | B | JA | 20.1 | | JA | 2.5 | U | |
| Iron | 57.6 | B | | 54.2 | | V | 30.8 | B | JA | 58.3 | | JA | 32.7 | | |
| Lead | 0.40 | B | | 1.0 | U | V | 1.0 | U | V | 1.7 | | V | 4.5 | | |
| Lithium | 26.0 | U | | 10.0 | U | V | 10.0 | U | V | 6.0 | | V | 6.2 | | |
| Magnesium | 8720 | | | 7770 | | V | 10700 | | V | 8490 | | V | 8700 | | |
| Manganese | 47.1 | | | 34.7 | | JA | 56.6 | | V | 11.6 | | V | 13.3 | | |
| Mercury | 0.10 | U | | 0.10 | U | R | 0.10 | U | R | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 13.0 | U | | 9.0 | U | V | 9.0 | U | V | 9.4 | U | V | 10.9 | U | |
| Nickel | 12.0 | U | | 9.0 | U | V | 9.0 | U | V | 3.6 | U | V | 3.9 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 930 | B | | 1740 | | V | 962 | B | V | 932 | | V | 902 | | |
| Selenium | 3.3 | B | | 2.0 | U | V | 3.7 | B | V | 1.3 | U | V | 3.2 | | |
| Silicon | 5670 | | | 6160 | | JA | | | | 5210 | | V | 5390 | | |
| Silver | 2.0 | U | | 4.0 | | V | 4.5 | B | V | 2.9 | U | V | 3.8 | U | |
| Sodium | 18500 | | | 17100 | | V | 22200 | | V | 20800 | | V | 21300 | | |
| Strontium | 197 | B | | 174 | | V | 255 | | V | 224 | | V | 216 | | |
| Thallium | 2.9 | U | | 2.0 | U | V | 1.0 | U | V | 2.4 | U | JA | 1.4 | U | |
| Tin | 51.1 | B | | 30.0 | U | V | 55.7 | B | V | 20.7 | U | V | 24.2 | U | |
| Vanadium | 3.0 | U | | 5.2 | | V | 5.4 | B | JA | 2.6 | U | V | 2.0 | U | |
| Zinc | 2.0 | U | | 7.3 | | V | 2.2 | B | V | 3.6 | | JA | 4.7 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01126WC (REAL)<br>Date: 05/13/91 | | | Location: SW033 (SW)<br>Sample: SW01229WC (REAL)<br>Date: 06/13/91 | | | Location: SW033 (SW)<br>Sample: SW01332WC (REAL)<br>Date: 07/10/91 | | | Location: SW033 (SW)<br>Sample: SW01438WC (REAL)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW80145WC (DUP)<br>Date: 08/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | V | 10 | U | | 36 | | JA | 36.8 | U | V | 36.8 | U | V |
| Antimony | 25.6 | U | V | 24 | | | 11 | U | V | 42.2 | U | V | 42.2 | U | V |
| Arsenic | 0.90 | U | JA | 4.0 | U | | 2.0 | U | V | 0.70 | U | V | 0.70 | U | V |
| Barium | 98.4 | | V | 74 | | | 74 | | V | 60.4 | | V | 59.8 | | V |
| Beryllium | 0.50 | U | V | | | | 1.0 | U | V | 0.60 | U | V | 0.60 | U | V |
| Cadmium | 3.3 | U | JA | 1.0 | U | | 1.4 | | JA | 4.6 | U | V | 4.6 | U | V |
| Calcium | 45100 | | V | 39000 | | | 37000 | | V | 30100 | | V | 30800 | | V |
| Cesium | 500 | U | V | 50 | U | | 50 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 4.1 | U | V | 2.0 | U | | 2.0 | U | JA | 5.5 | U | V | 5.5 | U | V |
| Cobalt | 3.6 | U | V | 2.0 | U | | 2.0 | U | V | 7.3 | U | V | 7.3 | U | V |
| Copper | 9.8 | | V | 3.0 | U | | 3.0 | U | V | 6.8 | | V | 5.4 | U | V |
| Iron | 31.8 | | JA | 63 | | | 130 | | V | 95.9 | | JA | 75.2 | | JA |
| Lead | 1.5 | | V | 2.2 | | | 1.4 | | V | 0.80 | U | R | 0.90 | | JA |
| Lithium | 8.5 | | V | 3.8 | | | 8.0 | | JA | 4.4 | | V | 4.7 | | V |
| Magnesium | 9930 | | V | 8100 | | | 7800 | | V | 6380 | | V | 6490 | | V |
| Manganese | 18.4 | | V | 26 | | | 25 | | V | 26.8 | | V | 27.3 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | V | 3.0 | U | | 3.0 | U | JA | 10.0 | U | V | 10.0 | U | V |
| Nickel | 14.7 | U | V | 4.0 | U | | 4.0 | U | V | 10.7 | U | V | 10.7 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2050 | U | V | 1400 | | | 1900 | | V | 1550 | | V | 1440 | | V |
| Selenium | 3.0 | | V | 4.0 | UI | | 4.0 | UW | JA | 1.2 | U | JA | 1.2 | U | JA |
| Silicon | 6730 | | V | 5570 | | | 6450 | | V | 5240 | | JA | 5480 | | JA |
| Silver | 5.0 | U | V | 2.0 | U | | 2.0 | U | V | 6.8 | U | V | 6.8 | U | V |
| Sodium | 25800 | | V | 21000 | | | 20000 | | V | 16700 | | V | 16500 | | V |
| Strontium | 260 | | V | 220 | | | 220 | | JA | 162 | | V | 162 | | V |
| Thallium | 1.4 | U | V | 1.0 | UI | | 3.0 | UW | JA | 1.6 | U | JA | 1.6 | U | JA |
| Tin | 14.8 | U | V | 13 | U | | 13 | U | R | 38.9 | U | V | 38.9 | U | V |
| Vanadium | 5.7 | U | V | 2.0 | U | | 2.1 | | JA | 6.5 | U | V | 6.5 | U | V |
| Zinc | 1.8 | U | JA | 3.3 | | | 3.0 | U | V | 7.2 | U | V | 7.2 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01544WC (REAL)<br>Date: 09/26/91 | | | Location: SW033 (SW)<br>Sample: SW01650WC (REAL)<br>Date: 10/10/91 | | | Location: SW033 (SW)<br>Sample: SW01722WC (REAL)<br>Date: 11/13/91 | | | Location: SW033 (SW)<br>Sample: SW01795WC (REAL)<br>Date: 01/15/92 | | | Location: SW033 (SW)<br>Sample: SW01877WC (REAL)<br>Date: 04/06/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 27 | | V | 30 | | JA | 22.3 | U | V | 22.4 | U | V | 29.2 | U | V |
| Antimony | 14 | U | V | 14 | U | V | 13.8 | U | V | 14.3 | | V | 19.8 | U | V |
| Arsenic | 2.0 | U | V | 2.0 | U | V | 2.3 | U | JA | 1.3 | U | V | 1.7 | U | V |
| Barium | 75 | | V | 71 | | V | 74.5 | | V | 83.6 | | V | 60.4 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.80 | U | V | 0.80 | | JA |
| Cadmium | 1.0 | U | | 1.0 | U | | 2.4 | U | JA | 2.8 | U | V | 2.3 | U | JA |
| Calcium | 47000 | | V | 48000 | | V | 44000 | | V | 45600 | | V | 31900 | | V |
| Cesium | 50 | | V | 50 | | JA | 500 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 2.0 | U | V | 2.0 | U | JA | 2.6 | U | V | 5.7 | U | V | 2.0 | U | V |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V | 3.4 | U | V | 2.7 | U | V |
| Copper | 2.0 | U | R | 6.2 | | JA | 2.1 | U | V | 5.6 | | JA | 3.7 | | JA |
| Iron | 64 | | V | 67 | | JA | 44.6 | | JA | 27.8 | | V | 59.6 | | JA |
| Lead | 2.0 | U | V | 2.7 | | V | 1.2 | | JA | 1.8 | | V | 1.2 | | JA |
| Lithium | 6.2 | | JA | 6.5 | | JA | 7.1 | U | V | 4.0 | U | V | 2.0 | | JA |
| Magnesium | 11000 | | V | 10000 | | V | 9350 | | V | 9620 | | V | 7320 | | V |
| Manganese | 32 | | JA | 39 | | V | 24.5 | | V | 23.9 | | V | 14.8 | | JA |
| Mercury | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 4.0 | U | V | 4.0 | U | V | 5.8 | U | V | 6.5 | U | V | 3.7 | | JA |
| Nickel | 5.0 | U | V | 5.0 | U | V | 9.6 | | JA | 9.9 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1200 | | V | 1200 | | V | 675 | U | V | 1650 | | V | 1360 | | JA |
| Selenium | 13 | | V | 20 | U | R | 7.5 | U | V | 2.4 | | V | 1.3 | | V |
| Silicon | 7400 | | V | 8000 | | V | 7350 | | V | 6580 | | JA | 5480 | | V |
| Silver | 5.0 | U | V | 5.0 | U | V | 5.4 | | V | 2.5 | U | V | 2.1 | U | V |
| Sodium | 25000 | | V | 22000 | | V | 21300 | | V | 22100 | | V | 19300 | | V |
| Strontium | 280 | | V | 260 | | V | 259 | | V | 265 | | V | 177 | | JA |
| Thallium | 4.0 | UI | JA | 1.0 | UI | JA | 1.9 | U | V | 2.1 | U | JA | 2.0 | U | V |
| Tin | 11 | U | V | 11 | U | V | 10.4 | U | V | 14.2 | U | V | 9.4 | U | V |
| Vanadium | 2.0 | U | V | 2.0 | U | V | 2.3 | U | V | 4.7 | U | V | 3.5 | U | V |
| Zinc | 5.0 | U | V | 5.0 | U | V | 4.3 | U | V | 4.5 | | JA | 2.6 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW03490001 (REAL)<br>Date: 01/15/90 | | | Location: SW034 (SW)<br>Sample: SW034900010 (DUP)<br>Date: 01/15/90 | | | Location: SW034 (SW)<br>Sample: SW03490003 (REAL)<br>Date: 03/23/90 | | | Location: SW034 (SW)<br>Sample: SW034W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW034 (SW)<br>Sample: SW034W051090A (REAL)<br>Date: 05/10/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 30.0 | U | | 25.8 | U | V | 72.9 | UJ | A | 41.8 | U | | 200 | U | |
| Antimony | 500.0 | U | | 44.6 | U | V | 13.4 | U | V | 13.4 | U | | 60.0 | U | |
| Arsenic | 2.0 | U | | 1.9 | U | V | 1.3 | U | R | 1.4 | BN | | 10.0 | U | |
| Barium | 75.8 | | | 78.5 | | V | 72.0 | | V | 81.9 | B | | 200 | U | |
| Beryllium | 2.0 | U | | 0.80 | U | V | 0.2 | U | R | 0.20 | U | | 5.0 | U | |
| Cadmium | 4.0 | U | | 2.3 | U | V | 3.2 | U | V | 3.2 | U | | 5.0 | U | |
| Calcium | 49100.0 | | | 49900 | | V | 46800 | | V | 51700 | | | 57000 | | |
| Cesium | 1000.0 | U | | 1000 | U | V | 1000 | U | V | 1000 | U | | 1000 | U | |
| Chromium | 20.0 | U | | 8.7 | U | V | 5.8 | U | V | 5.8 | U | | 10.0 | U | |
| Cobalt | 20.0 | U | | 2.2 | U | R | 2.7 | U | V | 2.7 | U | | 50.0 | U | |
| Copper | 20.0 | U | | 7.3 | J | A | 3.9 | UJ | A | 2.1 | U | | 25.0 | U | |
| Iron | 42.0 | | | 44.8 | UJ | A | 38.5 | UJ | A | 11.3 | U | | 100 | U | |
| Lead | 4.1 | | | 3.9 | UJ | A | 1.4 | UJ | A | 1.4 | UN | | 5.0 | U | |
| Lithium | 9.0 | | | 9.0 | J | A | 100 | U | V | 100 | U | | 100 | U | |
| Magnesium | 6570.0 | | | 6720 | | V | 6310 | | V | 6830 | | | 7210 | | |
| Manganese | 10.0 | U | | 3.4 | | V | 3.7 | | V | 6.9 | B | | 15.0 | U | |
| Mercury | 0.2 | U | | 0.20 | U | V | 0.2 | UJ | A | 0.20 | U | | 0.20 | U | |
| Molybdenum | 500.0 | U | | 20.5 | UJ | A | 100 | U | V | 100 | U | | 100 | U | |
| Nickel | 20.0 | U | | 3.8 | U | V | 11.1 | U | V | 11.1 | U | | 40.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1170.0 | | | 1160 | | V | 972 | U | V | 2100 | B | | 5000 | U | |
| Selenium | 2.0 | U | | 2.2 | U | V | 1.8 | U | V | 1.8 | UN | | 5.0 | U | |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 30.0 | U | | 2.8 | U | V | 5.5 | UJ | A | 4.9 | UN | | 10.0 | U | |
| Sodium | 12400.0 | | | 12800 | | V | 13500 | | V | 14000 | | | 13500 | | |
| Strontium | 199.0 | | | 204 | J | A | 1000 | U | R | 1000 | U | | 1000 | U | |
| Thallium | 3.0 | U | | 1.1 | U | V | 0.9 | U | V | 0.90 | UW | | 10.0 | U | |
| Tin | 1000.0 | U | | 41.0 | UJ | A | 100 | U | V | 100 | U | | 100 | U | |
| Vanadium | 10.0 | U | | 3.0 | U | V | 3.0 | U | V | 5.2 | B | | 50.0 | U | |
| Zinc | 48.7 | | | 23.9 | UJ | A | 24.4 | UJ | A | 2.8 | U* | | 66.5 | | |

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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW00007WC (REAL)<br>Date: 06/07/90 | | | Location: SW034 (SW)<br>Sample: SW00314WC (REAL)<br>Date: 09/13/90 | | | Location: SW034 (SW)<br>Sample: SW00405WC (REAL)<br>Date: 10/04/90 | | | Location: SW034 (SW)<br>Sample: SW00506WC (REAL)<br>Date: 11/07/90 | | | Location: SW034 (SW)<br>Sample: SW80065WC (DUP)<br>Date: 11/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | | 31.70 | B | | 27.0 | U | | 29.5 | | V | 30.1 | | V |
| Antimony | 60.0 | U | | 21.30 | B | | 26.0 | U | | 22.0 | U | JA | 22.0 | U | JA |
| Arsenic | 10.0 | U | | 2.00 | U | | 1.6 | U | | 1.2 | | V | 1.0 | B | V |
| Barium | 200 | U | | 80.00 | B | | 97.2 | B | | 91.4 | | V | 95.0 | | V |
| Beryllium | 5.0 | U | | 1.00 | U | | 0.60 | U | | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 5.0 | U | | 2.00 | U | | 2.9 | U | | 5.0 | U | V | 5.0 | U | V |
| Calcium | 50600 | | | 45300.00 | | | 58100 | | | 67200 | | V | 67500 | | V |
| Cesium | 1000 | U | | 92.00 | U | | 55.0 | U | | 500 | U | V | 500 | U | V |
| Chromium | 10.0 | U | | 12.90 | | | 4.0 | U | | 4.0 | U | V | 4.0 | U | V |
| Cobalt | 50.0 | U | | 3.00 | U | | 4.0 | U | | 4.0 | U | V | 4.0 | U | V |
| Copper | 25.0 | U | | 2.00 | U | | 8.9 | B | | 8.6 | | V | 5.0 | U | V |
| Iron | 100 | U | | 27.40 | B | | 28.4 | B | | 9.4 | | JA | 6.7 | | JA |
| Lead | 3.0 | U | | 1.00 | U | | 0.50 | B | | 1.0 | U | V | 1.0 | U | V |
| Lithium | 100 | U | | 10.00 | B | | 26.0 | U | | 12.5 | | JA | 10.1 | | JA |
| Magnesium | 6750 | | | 6120.00 | | | 7770 | | | 8110 | | V | 8090 | | V |
| Manganese | 15.0 | U | | 1.70 | B | | 2.6 | B | | 9.6 | | JA | 9.6 | | JA |
| Mercury | 0.20 | U | | 0.20 | U | | 0.10 | U | | 0.10 | U | R | 0.10 | U | R |
| Molybdenum | 100 | U | | 2.00 | B | | 13.0 | U | | 9.0 | U | V | 9.0 | U | V |
| Nickel | 40.0 | U | | 4.00 | U | | 12.0 | U | | 9.0 | U | V | 9.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 5000 | U | | 589.00 | B | | 632 | B | | 2420 | | V | 2600 | | V |
| Selenium | 5.0 | U | | 2.00 | U | | 1.2 | U | | 2.0 | U | V | 2.0 | U | V |
| Silicon | | | | | | | 12300 | | | 11800 | | JA | 11400 | | JA |
| Silver | 10.0 | U | | 3.00 | U | | 2.0 | B | | 6.3 | | V | 6.6 | | V |
| Sodium | 13100 | | | 11800.00 | | | 14400 | | | 15400 | | V | 15000 | | V |
| Strontium | 1000 | U | | 188.00 | B | | 211 | | | 217 | | V | 218 | | V |
| Thallium | 10.0 | U | | 4.00 | U | | 29.0 | U | | 2.0 | U | V | 2.0 | U | V |
| Tin | 100 | U | | 18.20 | B | | 56.6 | B | | 30.0 | U | V | 30.0 | U | V |
| Vanadium | 50.0 | U | | 6.60 | B | | 3.0 | U | | 6.8 | | V | 6.8 | | V |
| Zinc | 20.0 | U | | 6.30 | B | | 8.0 | B | | 4.3 | | V | 2.0 | U | V |

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# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW00610WC (REAL)<br>Date: 12/04/90 | | | Location: SW034 (SW)<br>Sample: SW80073WC (DUP)<br>Date: 12/04/90 | | | Location: SW034 (SW)<br>Sample: SW00918WC (REAL)<br>Date: 03/08/91 | | | Location: SW034 (SW)<br>Sample: SW01020WC (REAL)<br>Date: 04/04/91 | | Location: SW034 (SW)<br>Sample: SW80107WC (DUP)<br>Date: 04/04/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 34.7 | B | V | 20.0 | U | V | 17.8 | U | V | 17.7 | U | 17.7 | U |
| Antimony | 22.0 | U | V | 22.0 | U | V | 7.5 | U | V | 33.1 | | 18.2 | U |
| Arsenic | 1.0 | U | V | 1.0 | U | V | 1.8 | U | V | 0.90 | U | 0.90 | U |
| Barium | 94.3 | B | V | 4.7 | B | JA | 73.7 | | V | 87.2 | | 84.1 | |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.60 | U | 0.60 | U |
| Cadmium | 5.0 | U | JA | 5.0 | U | JA | 3.4 | U | JA | 2.9 | | 2.7 | U |
| Calcium | 55300 | | V | 63.9 | B | V | 49600 | | V | 50100 | | 48600 | |
| Cesium | 500 | U | V | 500 | U | V | 500 | U | JA | 500 | U | 500 | U |
| Chromium | 4.0 | U | V | 4.0 | U | V | 6.3 | U | V | 6.9 | U | 6.9 | U |
| Cobalt | 4.0 | U | V | 4.0 | U | V | 3.4 | U | V | 3.0 | U | 3.0 | U |
| Copper | 5.0 | U | JA | 5.0 | U | V | 17.7 | | JA | 2.5 | U | 2.7 | |
| Iron | 14.8 | B | JA | 3.0 | U | V | 35.1 | | JA | 22.5 | | 29.8 | |
| Lead | 1.0 | U | V | 1.0 | U | V | 1.6 | | V | 1.4 | U | 13.2 | |
| Lithium | 10.0 | U | V | 10.0 | U | V | 6.0 | | V | 6.4 | | 6.2 | |
| Magnesium | 7360 | | V | 37.9 | B | V | 6600 | | V | 6490 | | 6260 | |
| Manganese | 7.8 | B | JA | 1.1 | B | JA | 4.7 | | JA | 2.9 | | 2.8 | |
| Mercury | 0.10 | U | R | 0.10 | U | R | 0.20 | U | V | 0.20 | U | 0.20 | U |
| Molybdenum | 9.0 | U | V | 9.0 | U | V | 9.4 | U | V | 10.9 | U | 10.9 | U |
| Nickel | 9.0 | U | V | 9.0 | U | V | 3.6 | U | V | 3.9 | U | 3.9 | U |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 1530 | B | V | 873 | B | V | 1210 | | V | 1180 | | 1140 | |
| Selenium | 1.0 | U | V | 1.0 | U | V | 1.3 | U | V | 1.1 | U | 1.1 | U |
| Silicon | | | | | | | 9160 | | V | 8780 | | 8640 | |
| Silver | 5.5 | B | V | 3.4 | B | V | 2.9 | U | V | 3.8 | U | 3.8 | U |
| Sodium | 13600 | | V | 229 | B | V | 12400 | | V | 12900 | | 12500 | |
| Strontium | 194 | B | V | 1.0 | U | V | 196 | | V | 197 | | 190 | |
| Thallium | 1.0 | U | V | 1.0 | U | V | 2.4 | U | JA | 1.4 | U | 1.4 | U |
| Tin | 56.0 | B | V | 30.0 | U | V | 20.7 | U | V | 24.2 | U | 24.2 | U |
| Vanadium | 6.8 | B | JA | 3.1 | B | V | 2.6 | U | V | 2.0 | U | 2.0 | U |
| Zinc | 2.0 | U | V | 2.0 | U | V | 2.7 | | V | 4.7 | U | 4.7 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable *with qualifications*; R-rejected; B-*found in blank*; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01127WC (REAL)<br>Date: 05/09/91 | | | Location: SW034 (SW)<br>Sample: SW01230WC (REAL)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW80131WC (DUP)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW01333WC (REAL)<br>Date: 07/10/91 | | | Location: SW034 (SW)<br>Sample: SW80139WC (DUP)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | V | | | | 26 | | | 45 | | JA | | | |
| Antimony | 25.6 | U | V | | | | 11 | | | 20 | | V | | | |
| Arsenic | 0.90 | U | R | | | | 4.0 | U | | 2.0 | U | V | | | |
| Barium | 87.5 | | V | | | | 91 | | | 92 | | V | | | |
| Beryllium | 0.50 | U | V | | | | | | | 1.0 | U | V | | | |
| Cadmium | 3.3 | U | JA | | | | 1.0 | U | | 2.3 | | JA | | | |
| Calcium | 53700 | | V | | | | 59000 | | | 46000 | | V | | | |
| Cesium | 500 | U | V | | | | 80 | | | 50 | U | V | | | |
| Chromium | 4.1 | U | V | | | | 2.0 | U | | 2.0 | U | JA | | | |
| Cobalt | 3.6 | U | V | | | | 2.0 | U | | 2.0 | U | V | | | |
| Copper | 6.6 | | V | | | | 3.0 | U | | 11 | | JA | | | |
| Iron | 32.6 | | JA | | | | 62 | | | 32 | | JA | | | |
| Lead | 1.4 | | V | | | | 2.0 | I | | 1.3 | | V | | | |
| Lithium | 4.3 | U | V | | | | 5.4 | | | 7.9 | | JA | | | |
| Magnesium | 7200 | | V | | | | 7600 | | | 6200 | | V | | | |
| Manganese | 2.5 | | JA | | | | 4.4 | | | 5.5 | | V | | | |
| Mercury | 0.20 | U | V | | | | 0.20 | U | | 0.20 | U | V | | | |
| Molybdenum | 5.7 | U | JA | | | | 3.0 | U | | 3.0 | U | JA | | | |
| Nickel | 14.7 | U | V | | | | 4.0 | U | | 4.0 | U | V | | | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2050 | U | V | | | | 850 | | | 1900 | | V | | | |
| Selenium | 1.1 | U | V | | | | 4.0 | UI | | 4.0 | U | JA | | | |
| Silicon | 10300 | | V | 10900 | | | 11100 | | | 11100 | | V | 10900 | | V |
| Silver | 5.0 | U | V | | | | 2.0 | U | | 2.0 | U | V | | | |
| Sodium | 14600 | | V | | | | 14000 | | | 12000 | | V | | | |
| Strontium | 214 | | V | | | | 250 | | | 210 | | JA | | | |
| Thallium | 1.4 | U | JA | | | | 1.0 | UI | | 3.0 | UW | JA | | | |
| Tin | 14.8 | U | JA | | | | 13 | U | | 13 | U | R | | | |
| Vanadium | 5.7 | U | V | | | | 2.0 | U | | 2.0 | U | V | | | |
| Zinc | 1.8 | U | JA | | | | 3.0 | U | | 4.7 | | JA | | | |

Note: Data reporting order: result, qualifier, validation code.
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N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01439WC (REAL)<br>Date: 08/08/91 | | | Location: SW034 (SW)<br>Sample: SW01545WC (REAL)<br>Date: 09/26/91 | | | Location: SW034 (SW)<br>Sample: SW01651WC (REAL)<br>Date: 10/10/91 | | | Location: SW034 (SW)<br>Sample: SW01723WC (REAL)<br>Date: 11/18/91 | | | Location: SW034 (SW)<br>Sample: SW01878WC (REAL)<br>Date: 04/06/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 19 | | JA | 26 | | V | 32 | | JA | 22.3 | U | V | 29.2 | U | V |
| Antimony | 11 | U | V | 14 | U | V | 14 | U | V | 13.8 | U | V | 19.8 | U | V |
| Arsenic | 3.5 | | V | 2.0 | U | V | 2.0 | U | V | 2.3 | U | JA | 1.7 | U | JA |
| Barium | 98 | | V | 83 | | V | 85 | | V | 77.1 | | V | 79.2 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.60 | U | V |
| Cadmium | 2.0 | U | V | 1.0 | U | | 1.1 | | JA | 2.4 | U | JA | 2.3 | U | JA |
| Calcium | 62000 | | V | 51000 | | V | 55000 | | V | 55100 | | V | 51800 | | V |
| Cesium | 50 | U | V | 50 | U | V | 60 | | JA | 500 | U | V | 500 | U | V |
| Chromium | 2.0 | U | V | 2.0 | U | V | 2.0 | U | JA | 2.6 | U | V | 2.0 | U | V |
| Cobalt | 2.0 | U | V | 2.0 | U | JA | 2.0 | U | V | 2.8 | U | V | 2.7 | U | V |
| Copper | 3.4 | | JA | 2.0 | U | R | 2.0 | U | V | 3.2 | | JA | 2.4 | | JA |
| Iron | 20 | | JA | 47 | | V | 48 | | JA | 21.7 | | JA | 41.3 | | JA |
| Lead | 1.1 | | JA | 2.0 | U | V | 2.3 | | V | 0.90 | U | V | 0.80 | U | V |
| Lithium | 9.0 | | JA | 5.1 | | JA | 6.5 | | JA | 7.1 | U | V | 2.0 | U | V |
| Magnesium | 7600 | | V | 6600 | | V | 7200 | | V | 6790 | | V | 7230 | | V |
| Manganese | 2.6 | | V | 2.0 | | JA | 6.9 | | V | 9.7 | | V | 6.5 | | JA |
| Mercury | 0.20 | U | JA | 0.40 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 4.0 | U | V | 5.8 | U | V | 5.4 | | JA |
| Nickel | 4.0 | U | JA | 5.0 | U | V | 5.0 | U | V | 5.9 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2300 | | V | 1000 | | V | 1200 | | V | 1520 | | V | 1520 | | JA |
| Selenium | 4.0 | UI | JA | 4.0 | UI | JA | 4.0 | UI | JA | 1.5 | U | JA | 0.80 | U | V |
| Silicon | 12200 | | V | 12300 | | V | 11800 | | V | 9930 | | V | 9010 | | V |
| Silver | 2.0 | U | V | 5.0 | U | V | 5.0 | U | V | 5.4 | | V | 2.1 | U | V |
| Sodium | 15000 | | V | 13000 | | V | 13000 | | V | 12800 | | V | 14000 | | V |
| Strontium | 250 | | JA | 210 | | V | 220 | | V | 215 | | V | 213 | | JA |
| Thallium | 3.0 | UI | JA | 4.0 | UI | JA | 1.0 | UI | JA | 1.9 | U | V | 2.0 | U | V |
| Tin | 13 | U | R | 11 | U | V | 11 | U | V | 10.4 | U | V | 9.4 | U | V |
| Vanadium | 4.0 | | V | 2.5 | | V | 2.7 | | V | 2.3 | U | V | 3.5 | U | V |
| Zinc | 5.0 | | V | 5.0 | U | V | 5.0 | U | JA | 4.3 | U | V | 2.9 | | JA |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
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# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW03590001 (REAL)<br>Date: 01/11/90 | | | Location: SW035 (SW)<br>Sample: SW03590002 (REAL)<br>Date: 02/08/90 | | | Location: SW035 (SW)<br>Sample: SW03590003 (REAL)<br>Date: 03/14/90 | | Location: SW035 (SW)<br>Sample: SW035W041290A (REAL)<br>Date: 04/12/90 | | Location: SW035 (SW)<br>Sample: SW035W051490A (REAL)<br>Date: 05/14/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 25.8 | U | V | 41.8 | U | V | 84.0 | U | 200 | U | 200 | U |
| Antimony | 44.6 | U | V | 45.6 | UJ | A | 22.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | 1.9 | U | R | 1.3 | U | V | 2.0 | UN | 10.0 | U | 10.0 | U |
| Barium | 103 | | V | 147 | | V | 68.5 | B | 200 | U | 200 | U |
| Beryllium | 0.80 | U | V | 0.2 | U | R | 1.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | 2.3 | U | V | 3.2 | U | V | 3.0 | U | 5.0 | U | 5.0 | U |
| Calcium | 63100 | | V | 84900 | E | | 36500 | | 80400 | | 65900 | |
| Cesium | 1000 | U | V | 1000 | U | V | | | 1000 | U | 1000 | U |
| Chromium | 8.7 | U | V | 5.8 | U | V | 2.0 | U | 10.0 | U | 10.0 | U |
| Cobalt | 2.2 | U | V | 2.7 | U | V | 4.0 | U | 50.0 | U | 50.0 | U |
| Copper | 5.6 | U | V | 2.6 | | V | 7.0 | B | 25.0 | U | 25.0 | U |
| Iron | 40.1 | UJ | A | 11.3 | U | V | 73.3 | B | 100 | U | 100 | U |
| Lead | 2.6 | UJ | A | 1.4 | UJ | A | 3.0 | U | 5.0 | U | 5.0 | U |
| Lithium | 9.0 | J | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Magnesium | 11100 | | V | 15800 | | V | 6350 | | 16900 | | 12500 | |
| Manganese | 53.0 | | V | 55.2 | | V | 27.5 | | 15.0 | U | 38.2 | |
| Mercury | 0.2 | U | V | 0.20 | U | R | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 20.5 | U | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Nickel | 4.0 | | V | 11.1 | U | V | 7.0 | U | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 3080 | | V | 1240 | UJ | A | 5310 | | 5000 | U | 5000 | U |
| Selenium | 2.2 | U | V | 1.8 | U | V | 4.0 | UNS | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | | |
| Silver | 2.8 | U | V | 4.9 | U | V | 3.0 | U | 10.0 | U | 10.0 | U |
| Sodium | 19100 | | V | 30500 | | V | 94500 | | 30600 | | 19700 | |
| Strontium | 333 | J | A | 1000 | UJ | A | | | 1000 | U | 1000 | U |
| Thallium | 1.1 | UJ | A | 0.90 | UJ | A | 4.0 | UMW | 10.0 | U | 10.0 | U |
| Tin | 41.0 | UJ | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Vanadium | 3.0 | U | V | 3.0 | U | V | 11.0 | B | 50.0 | U | 50.0 | U |
| Zinc | 24.8 | UJ | A | 79.7 | | V | 44.2 | | 20.0 | U | 68.8 | |

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N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00061WC (REAL)<br>Date: 06/11/90 | | Location: SW035 (SW)<br>Sample: SW00141WC (REAL)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW80016WC (DUP)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW00319WC (REAL)<br>Date: 09/17/90 | | Location: SW035 (SW)<br>Sample: SW00410WC (REAL)<br>Date: 10/03/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | 41.80 | B | 48.50 | B | 41.60 | B | 54.10 | B |
| Antimony | 60.0 | U | 14.50 | B | 12.30 | B | 7.00 | U | 7.00 | U |
| Arsenic | 10.0 | U | 2.00 | U | 2.00 | U | 2.00 | U | 2.00 | U |
| Barium | 202 | | 153.00 | BE | 154.00 | BE | 166.00 | B | 113.00 | B |
| Beryllium | 5.0 | U | 4.00 | B | 4.00 | B | 1.00 | U | 1.00 | U |
| Cadmium | 5.0 | U | 2.00 | U | 2.00 | U | 2.00 | U | 2.00 | U |
| Calcium | 82500 | | 75000.00 | | 76300.00 | | 85100.00 | | 58600.00 | |
| Cesium | 1000 | U | 147.00 | U | 147.00 | U | 92.00 | U | 92.00 | U |
| Chromium | 10.0 | U | 6.00 | U | 6.00 | U | 6.90 | B | 7.00 | B |
| Cobalt | 50.0 | U | 4.00 | U | 4.00 | U | 3.00 | U | 3.00 | U |
| Copper | 25.0 | U | 6.00 | B | 6.30 | B | 2.80 | B | 6.10 | B |
| Iron | 100 | U | 33.90 | B | 25.30 | B | 31.20 | B | 38.00 | B |
| Lead | 3.0 | U | 1.00 | U | 1.00 | U | 1.00 | U | 1.00 | U |
| Lithium | 100 | U | 7.30 | B | 5.70 | B | 10.00 | B | 5.20 | B |
| Magnesium | 13800 | | 11900.00 | | 12200.00 | | 14600.00 | | 8960.00 | |
| Manganese | 286 | | 182.00 | | 184.00 | | 143.00 | | 111.00 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | 5.50 | B | 3.60 | B | 2.80 | B | 3.20 | B |
| Nickel | 40.0 | U | 4.00 | U | 4.00 | U | 4.00 | U | 4.00 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 5000 | U | 2200.00 | B | 2230.00 | B | 2520.00 | B | 1640.00 | B |
| Selenium | 5.0 | U | 2.00 | U | 2.00 | UW | 2.00 | UW | 1.00 | U |
| Silicon | | | | | | | | | | |
| Silver | 10.0 | U | 2.00 | U | 2.10 | B | 3.00 | U | 5.90 | B |
| Sodium | 18300 | | 17900.00 | | 18000.00 | | 18200.00 | | 12600.00 | |
| Strontium | 1000 | U | 376.00 | | 380.00 | | 400.00 | | 263.00 | |
| Thallium | 10.0 | U | 3.00 | U | 3.00 | UW | 3.00 | U | 2.00 | UWN |
| Tin | 100 | U | 14.40 | B | 14.90 | B | 27.60 | B | 15.40 | B |
| Vanadium | 50.0 | U | 6.10 | B | 7.10 | B | 6.30 | B | 3.70 | B |
| Zinc | 20.0 | U | 11.70 | B | 17.10 | B | 2.60 | B | 49.30 | |

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# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW80051WC (DUP)<br>Date: 10/03/90 | | | Location: SW035 (SW)<br>Sample: SW00511WC (REAL)<br>Date: 11/27/90 | | | Location: SW035 (SW)<br>Sample: SW00615WC (REAL)<br>Date: 12/11/90 | | | Location: SW035 (SW)<br>Sample: SW00923WC (REAL)<br>Date: 03/15/91 | | | Location: SW035 (SW)<br>Sample: SW01025WC (REAL)<br>Date: 04/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 34.60 | B | | 72.90 | B | | 53.40 | B | | 17.7 | U | V | 108 | U | |
| Antimony | 7.00 | U | | 7.00 | U | | 23.50 | B | | 18.2 | U | R | 25.6 | U | |
| Arsenic | 2.00 | U | | 2.00 | U | | 2.00 | U | | 0.80 | U | V | 0.90 | U | |
| Barium | 113.00 | B | | 51.40 | B | | 152.00 | BE | | 116 | | V | 55.1 | | |
| Beryllium | 1.00 | U | | 1.00 | U | | 1.00 | U | | 0.60 | U | V | 0.60 | | |
| Cadmium | 2.00 | U | | 2.00 | U | | 2.00 | U | | 2.9 | | JA | 2.7 | U | |
| Calcium | 58300.00 | | | 23800.00 | | | 89600.00 | E | | 73300 | | V | 24600 | | |
| Cesium | 92.00 | U | | 76.00 | U | | 200.00 | B | | 500 | U | V | 500 | U | |
| Chromium | 7.10 | B | | 5.00 | U | | 14.30 | | | 6.9 | U | V | 4.1 | U | |
| Cobalt | 3.00 | U | | 3.00 | U | | 3.00 | U | | 3.0 | U | V | 3.6 | U | |
| Copper | 6.00 | B | | 7.50 | B | | 11.90 | B | | 2.5 | U | V | 4.7 | U | |
| Iron | 15.80 | B | | 56.60 | B | | 26.10 | B | | 31.6 | | JA | 49.1 | | |
| Lead | 1.00 | U | | 1.00 | UW | | 1.00 | UW | | 1.0 | U | V | 2.1 | | |
| Lithium | 3.50 | B | | 3.00 | B | | 6.60 | B | | 7.6 | | V | 3.2 | | |
| Magnesium | 8890.00 | | | 3650.00 | B | | 14700.00 | E | | 13400 | | V | 4020 | | |
| Manganese | 110.00 | | | 58.30 | | | 78.10 | E | | 34.0 | | V | 47.5 | | |
| Mercury | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 3.00 | B | | 2.10 | B | | 5.60 | B | | 10.9 | U | V | 5.7 | U | |
| Nickel | 4.00 | U | | 4.00 | U | | 5.10 | B | | 3.9 | U | V | 14.7 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1600.00 | B | | 9430.00 | | | 1990.00 | BE | | 1820 | | V | 2050 | U | |
| Selenium | 1.00 | U | | 1.00 | UW | | 1.00 | B | | 1.1 | U | V | 1.1 | U | |
| Silicon | | | | | | | | | | 3960 | | V | 1030 | | |
| Silver | 5.80 | B | | 3.00 | U | | 3.80 | B | | 3.8 | U | V | 5.0 | U | |
| Sodium | 13700.00 | | | 91600.00 | | | 22700.00 | E | | 24600 | | V | 12800 | | |
| Strontium | 262.00 | | | 117.00 | B | | 426.00 | E | | 363 | | V | 120 | | |
| Thallium | 2.00 | UWN | | 20.00 | UW | | 2.00 | UWN | | 1.4 | U | JA | 1.4 | U | |
| Tin | 16.40 | B | | 7.00 | U | | 19.40 | B | | 24.2 | U | V | 14.8 | U | |
| Vanadium | 3.30 | B | | 2.00 | U | | 6.80 | B | | 2.0 | U | V | 5.7 | U | |
| Zinc | 41.90 | | | 72.70 | E | | 31.60 | | | 47.0 | | V | 22.2 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW80109WC (DUP)<br>Date: 04/08/91 | | | Location: SW035 (SW)<br>Sample: SW01132WC (REAL)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW80123WC (DUP)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW01235WC (REAL)<br>Date: 06/25/91 | | | Location: SW035 (SW)<br>Sample: SW01338WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | V | 108 | U | V | 108 | U | V | 10 | U | R | 30 | | JA |
| Antimony | 25.6 | U | | 25.6 | U | JA | 25.6 | U | JA | 11 | U | V | 11 | U | V |
| Arsenic | 0.90 | U | | 0.90 | U | V | 0.90 | U | JA | 4.0 | U | JA | 2.0 | U | V |
| Barium | 52.2 | | | 128 | | JA | 123 | | JA | 160 | | V | 99 | | V |
| Beryllium | 0.50 | U | | 0.50 | U | V | 0.50 | U | JA | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | | 3.3 | U | V | 3.3 | U | V | 1.1 | | JA | 1.0 | U | V |
| Calcium | 24900 | | | 79800 | | V | 77400 | | V | 90000 | | V | 54000 | | V |
| Cesium | 500 | U | | 500 | U | V | 500 | U | V | 50 | U | V | 70 | | JA |
| Chromium | 4.1 | U | | 4.1 | U | V | 4.1 | U | V | 2.0 | U | JA | 2.0 | U | JA |
| Cobalt | 3.6 | U | | 3.6 | U | V | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V |
| Copper | 4.7 | U | | 26.0 | | V | 28.1 | | JA | 8.5 | | JA | 15 | | JA |
| Iron | 40.9 | | | 27.4 | | JA | 24.8 | | JA | 7.0 | U | R | 7.0 | U | R |
| Lead | 1.8 | | | 1.0 | U | JA | 1.0 | U | V | 2.6 | | JA | 1.4 | | V |
| Lithium | 3.2 | | | 4.3 | U | R | 4.3 | U | JA | 6.0 | | JA | 4.6 | | JA |
| Magnesium | 4020 | | | 16100 | | V | 15800 | | V | 14000 | | V | 8100 | | V |
| Manganese | 47.5 | | | 31.1 | | JA | 30.0 | | JA | 290 | | V | 60 | | V |
| Mercury | 0.20 | U | | 0.20 | U | JA | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | | 8.8 | | V | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA |
| Nickel | 14.7 | U | | 14.7 | U | V | 14.7 | U | R | 4.0 | U | JA | 4.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2050 | U | | 3260 | | V | 4700 | | V | 4700 | | V | 2800 | | V |
| Selenium | 1.1 | U | | 1.2 | | JA | 1.1 | U | JA | 4.0 | U | JA | 4.0 | U | JA |
| Silicon | 1020 | | | 6550 | | V | 6530 | | V | 4460 | | V | 3940 | | V |
| Silver | 5.0 | U | | 5.0 | U | JA | 5.0 | U | JA | 2.0 | U | V | 2.0 | U | V |
| Sodium | 12800 | | | 49200 | | V | 47200 | | V | 31000 | | V | 19000 | | V |
| Strontium | 122 | | | 440 | | V | 434 | | V | 420 | | JA | 290 | | JA |
| Thallium | 1.4 | U | | 1.4 | U | JA | 1.4 | U | JA | 3.0 | UW | R | 3.0 | UW | JA |
| Tin | 14.8 | U | | 14.8 | U | V | 14.8 | U | V | 13 | U | JA | 13 | U | R |
| Vanadium | 5.7 | U | | 32.0 | | V | 27.7 | | V | 4.1 | | JA | 2.0 | U | V |
| Zinc | 20.3 | | | 9.5 | | JA | 5.7 | | JA | 23 | | JA | 31 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01444WC (REAL)<br>Date: 08/13/91 | | | Location: SW035 (SW)<br>Sample: SW01550WC (REAL)<br>Date: 09/05/91 | | | Location: SW035 (SW)<br>Sample: SW01656WC (REAL)<br>Date: 10/17/91 | | | Location: SW035 (SW)<br>Sample: SW01714WC (REAL)<br>Date: 11/06/91 | | | Location: SW035 (SW)<br>Sample: SW01869WC (REAL)<br>Date: 04/08/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 27 | | JA | 17 | U | JA | 22.3 | U | V | 22.3 | U | V | 29.2 | U | V |
| Antimony | 11 | U | V | 14 | U | V | 13.8 | U | V | 13.8 | U | V | 19.8 | U | V |
| Arsenic | 2.0 | U | V | 2.0 | U | V | 1.1 | U | V | 2.3 | U | JA | 1.7 | U | V |
| Barium | 110 | | V | 36 | | V | 102 | | V | 86.0 | | V | 129 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 0.50 | U | V | 0.60 | U | V |
| Cadmium | 2.0 | U | V | 1.0 | U | | 2.4 | U | V | 2.4 | U | JA | 2.3 | U | JA |
| Calcium | 62000 | | V | 61000 | | V | 67000 | | V | 49500 | | V | 85000 | | V |
| Cesium | 50 | U | V | 70 | | JA | 500 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 2.0 | U | V | 2.0 | U | V | 2.6 | U | V | 2.6 | U | V | 2.0 | U | V |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V | 2.8 | U | V | 2.7 | U | V |
| Copper | 3.0 | U | V | 2.0 | U | V | 2.1 | U | V | 2.4 | | JA | 6.1 | | JA |
| Iron | 29 | | JA | 7.0 | U | R | 21.6 | | JA | 16.7 | U | V | 25.4 | | JA |
| Lead | 2.0 | | JA | 2.2 | | V | 2.9 | | JA | 0.90 | | JA | 0.70 | U | V |
| Lithium | 6.9 | | JA | 6.9 | | V | 9.2 | | V | 7.1 | U | V | 7.3 | | JA |
| Magnesium | 8900 | | V | 13000 | | V | 13200 | | V | 8060 | | V | 18700 | | V |
| Manganese | 120 | | V | 17 | | V | 141 | | V | 69.1 | | V | 41.3 | | V |
| Mercury | 1.0 | | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 5.8 | U | V | 5.8 | U | V | 3.5 | U | V |
| Nickel | 4.0 | U | JA | 5.0 | U | V | 5.9 | U | V | 5.9 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2200 | | V | 2300 | | V | 1060 | | JA | 1950 | | V | 2140 | | JA |
| Selenium | 4.0 | UI | JA | 4.0 | UI | JA | 1.5 | U | V | 1.5 | U | JA | 0.80 | U | V |
| Silicon | 5210 | | V | 8420 | | V | 7080 | | JA | 4710 | | V | 4000 | | V |
| Silver | 2.0 | U | V | 5.0 | U | V | 4.9 | | JA | 2.9 | U | V | 2.1 | U | V |
| Sodium | 14000 | | V | 21000 | | V | 19800 | | V | 16300 | | V | 29600 | | V |
| Strontium | 280 | | JA | 350 | | V | 359 | | V | 236 | | V | 483 | | JA |
| Thallium | 3.0 | UI | JA | 5.0 | UI | R | 1.9 | U | JA | 1.9 | U | V | 2.0 | U | JA |
| Tin | 13 | U | R | 11 | U | V | 10.4 | U | V | 10.4 | U | V | 9.4 | U | V |
| Vanadium | 3.0 | U | V | 3.7 | | V | 2.3 | | JA | 2.3 | U | V | 3.5 | U | V |
| Zinc | 20 | | V | 5.0 | U | V | 4.3 | U | V | 8.0 | | JA | 3.6 | | JA |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW03690001 (REAL)<br>Date: 01/12/90 | | | Location: SW036 (SW)<br>Sample: SW03690002 (REAL)<br>Date: 02/09/90 | | | Location: SW036 (SW)<br>Sample: SW03690003 (REAL)<br>Date: 03/14/90 | | | Location: SW036 (SW)<br>Sample: SW036W041290A (REAL)<br>Date: 04/12/90 | | | Location: SW036 (SW)<br>Sample: SW036W051490A (REAL)<br>Date: 05/14/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 60.0 | | V | 84.0 | U | | 70.7 | UJ | A | 200 | U | | 200 | U | |
| Antimony | 44.5 | U | V | 35.3 | B | | 13.4 | | V | 60.0 | U | | 60.0 | U | |
| Arsenic | 1.9 | U | A | 5.0 | B | | 1.3 | U | R | 10.0 | U | | 10.0 | U | |
| Barium | 115 | | V | 134 | B | | 122 | U | V | 200 | U | | 200 | U | |
| Beryllium | 0.8 | U | V | 1.0 | U | | 0.2 | U | V | 5.0 | U | | 5.0 | U | |
| Cadmium | 2.3 | UJ | A | 3.0 | U | | 3.2 | U | V | 5.0 | U | | 5.0 | U | |
| Calcium | 105000 | | V | 97900 | | | 117000 | J | A | 92700 | | | 76600 | | |
| Cesium | 1000 | U | V | | | | 1000 | U | V | 1000 | U | | 1000 | U | |
| Chromium | 8.7 | U | V | 2.0 | U | | 5.8 | U | V | 10.0 | U | | 10.0 | U | |
| Cobalt | 2.2 | U | V | 38.4 | B | | 2.7 | U | V | 50.0 | U | | 50.0 | U | |
| Copper | 6.5 | UJ | A | 5.0 | U | | 3.6 | J | A | 25.0 | U | | 25.0 | U | |
| Iron | 74.4 | UJ | A | 44.0 | U | | 11.3 | U | V | 100 | U | | 100 | U | |
| Lead | 2.3 | UJ | A | 3.0 | UN | | 1.4 | U | V | 5.0 | U | | 5.0 | U | |
| Lithium | 16.0 | J | A | | | | 100 | U | R | 100 | U | | 100 | U | |
| Magnesium | 18300 | | V | 41900 | | | 25300 | | V | 23700 | | | 23400 | | |
| Manganese | 6.9 | | V | | | | 2.3 | U | R | 15.0 | U | | 15.0 | U | |
| Mercury | 0.2 | U | V | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| Molybdenum | 20.5 | UJ | A | | | | 100 | UJ | A | 100 | U | | 100 | U | |
| Nickel | 3.8 | U | V | 7.0 | U | | 11.1 | U | V | 40.0 | U | | 40.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2890 | | V | 1950 | B | | 2600 | | V | 5000 | U | | 5000 | U | |
| Selenium | 2.2 | U | V | 2.0 | UN | | 1.8 | UJ | A | 5.0 | U | | 5.0 | U | |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.8 | U | V | 3.0 | U | | 4.9 | UJ | A | 10.0 | U | | 10.0 | U | |
| Sodium | 13500 | | V | 20100 | | | 39600 | J | A | 34900 | | | 25300 | | |
| Strontium | 442 | J | A | | | | 1000 | U | R | 1000 | U | | 1000 | U | |
| Thallium | 1.1 | U | R | 4.0 | UNW | | 0.9 | U | V | 10.0 | U | | 10.0 | U | |
| Tin | 41.0 | UJ | A | | | | 100 | UJ | A | 100 | U | | 100 | U | |
| Vanadium | 3.0 | U | V | 28.1 | B | | 3.0 | U | V | 50.0 | U | | 50.0 | U | |
| Zinc | 9.7 | UJ | A | 13.5 | B | | 10.4 | UJ | A | 20.0 | U | | 52.2 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW) Sample: SW00057WC (REAL) Date: 06/07/90 | | | Location: SW036 (SW) Sample: SW70008WC (REAL) Date: 08/08/90 | | | Location: SW036 (SW) Sample: SW00512WC (REAL) Date: 11/20/90 | | | Location: SW036 (SW) Sample: SW00548WC (REAL) Date: 11/20/90 | | | Location: SW036 (SW) Sample: SW00924WC (REAL) Date: 03/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | | 45.20 | B | | 26.3 | | V | 27.8 | | V | 17.7 | U | V |
| Antimony | 60.0 | U | | 13.60 | B | | 22.0 | U | V | 22.0 | U | V | 18.2 | U | R |
| Arsenic | 10.0 | U | | 1.00 | U | | 1.5 | | JA | 1.0 | U | V | 0.80 | U | V |
| Barium | 200 | U | | 159.00 | B | | 141 | | V | 137 | | V | 105 | | V |
| Beryllium | 5.0 | U | | 1.00 | U | | 1.0 | U | V | 1.0 | U | V | 0.60 | U | V |
| Cadmium | 5.0 | U | | 2.00 | U | | 5.0 | U | V | 5.0 | U | V | 2.7 | U | V |
| Calcium | 71500 | | | 80800.00 | E | | 85900 | | V | 106000 | | V | 72900 | | V |
| Cesium | 1000 | U | | 200.00 | B | | 500 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 12.7 | | | 9.50 | B | | 4.0 | U | JA | 4.0 | U | JA | 6.9 | U | V |
| Cobalt | 50.0 | U | | 4.00 | U | | 4.0 | U | V | 4.0 | U | V | 3.0 | U | V |
| Copper | 25.0 | U | | 3.00 | U | | 10.1 | | V | 5.0 | U | V | 2.5 | U | V |
| Iron | 100 | U | | 18.30 | B | | 3.0 | U | JA | 3.0 | U | R | 32.3 | | JA |
| Lead | 3.0 | U | | 1.00 | U | | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| Lithium | 100 | U | | 5.30 | B | | 11.3 | | JA | 19.0 | | JA | 7.6 | | V |
| Magnesium | 26000 | | | 16500.00 | E | | 21500 | | V | 25100 | | V | 21300 | | V |
| Manganese | 15.0 | U | | 4.80 | B | | 3.0 | | JA | 56.0 | | JA | 1.0 | U | V |
| Mercury | 0.20 | U | | 0.20 | U | | 0.10 | U | R | 0.10 | U | R | 0.20 | U | V |
| Molybdenum | 100 | U | | 5.10 | B | | 9.0 | U | V | 9.0 | U | V | 10.9 | U | V |
| Nickel | 40.0 | U | | 4.00 | U | | 9.0 | U | V | 9.0 | U | V | 3.9 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 5000 | U | | 750.00 | B | | 3090 | | V | 3870 | | V | 2830 | | V |
| Selenium | 5.0 | U | | 1.00 | B | | 2.0 | U | V | 2.0 | | V | 1.1 | U | JA |
| Silicon | | | | | | | 7050 | | JA | 6070 | | JA | 2910 | | V |
| Silver | 10.0 | U | | 2.20 | B | | 3.4 | | V | 4.7 | | V | 3.8 | U | V |
| Sodium | 26300 | | | 11600.00 | | | 14400 | | V | 56100 | | V | 17800 | | V |
| Strontium | 1000 | U | | 451.00 | | | 493 | | V | 593 | | V | 469 | | V |
| Thallium | 10.0 | U | | 1.00 | U | | 2.0 | U | V | 2.0 | U | V | 7.0 | U | JA |
| Tin | 100 | U | | 40.40 | B | | 34.7 | | V | 40.9 | | V | 24.2 | U | V |
| Vanadium | 50.0 | U | | 7.70 | B | | 6.0 | | V | 6.9 | | V | 2.0 | U | V |
| Zinc | 20.2 | | | 31.50 | * | | 3.0 | | V | 2.0 | U | V | 8.0 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW01026WC (REAL)<br>Date: 04/08/91 | | | Location: SW036 (SW)<br>Sample: SW01133WC (REAL)<br>Date: 05/16/91 | | | Location: SW036 (SW)<br>Sample: SW01445WC (REAL)<br>Date: 08/13/91 | | | Location: SW036 (SW)<br>Sample: SW01715WC (REAL)<br>Date: 11/07/91 | | | Location: SW036 (SW)<br>Sample: SW01870WC (REAL)<br>Date: 04/08/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | | 108 | U | V | 15 | | JA | 22.3 | U | V | 29.2 | U | V |
| Antimony | 25.6 | U | | 25.6 | U | JA | 11 | | V | 13.8 | U | V | 19.8 | U | V |
| Arsenic | 0.90 | U | | 0.90 | U | JA | 3.7 | | V | 2.3 | U | JA | 1.7 | U | V |
| Barium | 128 | | | 110 | | JA | 160 | | V | 99.9 | | V | 120 | | V |
| Beryllium | 0.60 | | | 0.50 | U | V | 1.0 | U | V | 0.50 | | JA | 0.60 | U | V |
| Cadmium | 3.6 | | | 3.3 | U | V | 2.0 | U | V | 2.4 | U | JA | 2.3 | U | JA |
| Calcium | 62200 | | | 58000 | | V | 73000 | | V | 55600 | | V | 93700 | | V |
| Cesium | 500 | U | | 500 | U | V | 60 | | V | 500 | U | V | 500 | U | V |
| Chromium | 4.1 | U | | 4.1 | U | V | 2.0 | U | V | 2.6 | U | V | 2.0 | U | V |
| Cobalt | 3.6 | U | | 3.6 | U | V | 2.0 | U | V | 2.8 | U | V | 2.7 | U | V |
| Copper | 4.7 | U | | 9.2 | | JA | 3.8 | | JA | 2.3 | | JA | 3.4 | | JA |
| Iron | 25.1 | | | 60.2 | | V | 7.0 | U | JA | 16.7 | U | V | 22.8 | | JA |
| Lead | 1.5 | | | 3.8 | | JA | 1.0 | U | JA | 1.0 | | JA | 0.80 | | JA |
| Lithium | 12.7 | | | 4.3 | U | V | 8.2 | | JA | 7.1 | U | V | 4.2 | | JA |
| Magnesium | 22100 | | | 17600 | | V | 20000 | | V | 14000 | | V | 27100 | | V |
| Manganese | 1.0 | U | | 71.9 | | JA | 40 | | V | 2.1 | | JA | 4.9 | | JA |
| Mercury | 0.20 | U | | 0.20 | U | JA | 1.0 | | JA | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | | 5.7 | U | V | 4.1 | | JA | 5.8 | U | V | 4.0 | | JA |
| Nickel | 14.7 | U | | 14.7 | U | V | 4.0 | U | JA | 5.9 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2770 | | | 3260 | | V | 3900 | | V | 4360 | | V | 2740 | | JA |
| Selenium | 1.1 | U | | 1.1 | U | V | 4.0 | UI | JA | 1.5 | U | JA | 0.80 | U | V |
| Silicon | 1870 | | | 3520 | | V | 9830 | | V | 5270 | | V | 629 | | V |
| Silver | 5.0 | U | | 5.0 | U | JA | 2.0 | U | V | 2.9 | U | V | 2.1 | U | V |
| Sodium | 19000 | | | 18200 | | V | 19000 | | V | 9770 | | V | 33100 | | V |
| Strontium | 475 | | | 408 | | V | 510 | | JA | 340 | | V | 614 | | JA |
| Thallium | 1.4 | U | | 1.4 | U | JA | 15 | UI | JA | 1.9 | U | V | 2.0 | U | JA |
| Tin | 14.8 | U | | 14.8 | U | V | 13 | U | R | 10.4 | U | V | 9.4 | U | V |
| Vanadium | 5.7 | U | | 5.7 | U | V | 3.0 | U | V | 2.6 | | JA | 3.5 | U | V |
| Zinc | 3.0 | | | 1.8 | U | R | 4.7 | | V | 4.3 | U | V | 4.1 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW00520WC (REAL)<br>Date: 11/05/90 | | | Location: SW038 (SW)<br>Sample: SW00624WC (REAL)<br>Date: 12/11/90 | | | Location: SW038 (SW)<br>Sample: SW80081WC (DUP)<br>Date: 12/11/90 | | | Location: SW038 (SW)<br>Sample: SW00932WC (REAL)<br>Date: 03/28/91 | | | Location: SW038 (SW)<br>Sample: SW01034WC (REAL)<br>Date: 04/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 43.6 | | JA | 60.00 | B | | 61.00 | B | | 92.70 | B | | 108 | U | |
| Antimony | 22.0 | U | V | 33.30 | B | | 30.30 | B | | 6.00 | U | | 25.6 | U | |
| Arsenic | 1.0 | U | V | 2.00 | UW | | 2.00 | UW | | 3.00 | B | | 0.90 | U | |
| Barium | 155 | | V | 161.00 | B | | 159.00 | B | | 152.00 | B | | 151 | | |
| Beryllium | 1.0 | U | V | 1.00 | U | | 1.00 | U | | 1.00 | U | | 0.50 | U | |
| Cadmium | 5.0 | U | V | 2.00 | U | | 2.10 | B | | 2.00 | U | | 2.7 | U | |
| Calcium | 85500 | | V | 101000.00 | | | 99200.00 | | | 89500.00 | | | 80600 | | |
| Cesium | 500 | U | V | 200.00 | B | | 200.00 | B | | 112.00 | U | | 500 | U | |
| Chromium | 4.0 | U | V | 5.00 | U | | 5.00 | U | | 3.00 | U | | 4.1 | U | |
| Cobalt | 4.0 | U | V | 3.70 | B | | 3.00 | U | | 3.00 | U | | 3.6 | U | |
| Copper | 5.0 | U | V | 6.80 | B | | 3.50 | B | | 11.00 | U | | 4.7 | U | |
| Iron | 3.0 | U | V | 14.00 | U | | 14.00 | U | | 137.00 | | | 22.1 | | |
| Lead | 1.0 | U | V | 1.00 | U | | 1.00 | U | | 1.00 | UW | | 1.4 | U | |
| Lithium | 10.0 | U | V | 7.00 | B | | 6.70 | B | | 2.00 | U | | 8.4 | | |
| Magnesium | 17700 | | V | 20400.00 | | | 20000.00 | | | 20900.00 | | | 18600 | | |
| Manganese | 7.0 | | JA | 11.70 | B | | 11.70 | B | | 17.60 | | | 27.3 | | |
| Mercury | 0.10 | U | R | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | |
| Molybdenum | 9.0 | U | V | 9.00 | B | | 9.80 | B | | 2.00 | U | | 5.7 | U | |
| Nickel | 9.0 | U | V | 6.70 | B | | 7.30 | B | | 3.00 | U | | 14.7 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1430 | | JA | 590.00 | B | | 540.00 | B | | 549.00 | B | | 2050 | U | |
| Selenium | 2.0 | U | V | 2.00 | U | | 2.00 | U | | 2.00 | UW | | 1.1 | U | |
| Silicon | 8740 | | V | | | | | | | | | | 6310 | | |
| Silver | 3.9 | | JA | 4.40 | B | | 5.10 | B | | 2.00 | U | | 5.0 | U | |
| Sodium | 14800 | | V | 16800.00 | | | 16200.00 | | | 16400.00 | | | 14800 | | |
| Strontium | 458 | | V | 527.00 | | | 517.00 | | | 540.00 | | | 460 | | |
| Thallium | 2.0 | U | V | 3.00 | UWN | | 3.00 | UWN | | 3.00 | U | | 1.4 | U | |
| Tin | 75.7 | | V | 37.00 | B | | 36.60 | B | | 18.60 | B | | 14.8 | U | |
| Vanadium | 7.5 | | JA | 7.50 | B | | 7.90 | B | | 2.90 | B | | 5.7 | U | |
| Zinc | 5.0 | | V | 10.80 | B | | 14.70 | B | | 13.30 | B | | 4.5 | | |

Note: Date reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01141WC (REAL)<br>Date: 05/16/91 | | | Location: SW038 (SW)<br>Sample: SW01244WC (REAL)<br>Date: 06/20/91 | | | Location: SW038 (SW)<br>Sample: SW01347WC (REAL)<br>Date: 07/25/91 | | | Location: SW038 (SW)<br>Sample: SW01453WC (REAL)<br>Date: 08/28/91 | | | Location: SW038 (SW)<br>Sample: SW01559WC (REAL)<br>Date: 09/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | V | 10.0 | U | JA | 36.8 | U | V | 37.5 | | V | 22.3 | U | V |
| Antimony | 25.6 | U | JA | 11.0 | U | V | 42.2 | U | V | 42.2 | U | V | 13.8 | U | V |
| Arsenic | 0.90 | U | JA | 4.0 | U | JA | 0.70 | U | R | 0.70 | U | V | 1.1 | U | V |
| Barium | 137 | | JA | 145 | | V | 153 | | V | 159 | | V | 147 | | JA |
| Beryllium | 0.50 | U | JA | 1.0 | U | V | 0.60 | U | V | 0.60 | U | V | 0.50 | U | V |
| Cadmium | 3.3 | U | V | 1.0 | U | V | 4.6 | U | V | 4.6 | U | V | 2.4 | U | V |
| Calcium | 62700 | | V | 87200 | | V | 75900 | | V | 73500 | | V | 77100 | | V |
| Cesium | 500 | U | V | 50.0 | | V | 500 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 4.1 | U | V | 2.0 | U | JA | 5.5 | U | V | 5.5 | U | V | 2.6 | U | V |
| Cobalt | 3.6 | U | V | 2.0 | U | V | 7.3 | U | V | 7.3 | U | V | 2.8 | U | JA |
| Copper | 4.7 | U | JA | 9.6 | | JA | 5.4 | U | V | 5.4 | U | V | 3.1 | | JA |
| Iron | 17.1 | | JA | 7.0 | U | R | 80.3 | | V | 22.6 | | JA | 16.7 | U | V |
| Lead | 1.0 | U | V | 6.5 | | JA | 1.3 | U | JA | 1.3 | U | V | 0.90 | U | V |
| Lithium | 4.3 | U | V | 5.6 | | JA | 5.4 | U | V | 5.8 | | V | 7.1 | U | V |
| Magnesium | 15700 | | V | 19700 | | V | 15600 | | V | 15200 | | V | 16300 | | V |
| Manganese | 18.8 | | JA | 13.8 | | V | 16.7 | | V | 5.4 | | V | 3.8 | | JA |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.7 | U | V | 3.0 | U | JA | 10.0 | U | V | 10.0 | U | V | 5.8 | U | V |
| Nickel | 14.7 | U | V | 4.0 | U | V | 10.7 | U | V | 10.7 | U | V | 5.9 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2050 | U | V | 1620 | | V | 1070 | U | V | 1070 | U | V | 675 | U | V |
| Selenium | 1.1 | U | V | 4.0 | U | JA | 1.2 | U | JA | 1.2 | U | V | 1.2 | U | JA |
| Silicon | 6730 | | V | 6700 | | V | 7720 | | V | 9150 | | JA | 8170 | | V |
| Silver | 5.0 | U | JA | 2.0 | U | V | 6.8 | U | V | 6.8 | U | V | 2.9 | U | V |
| Sodium | 14300 | | V | 14900 | | V | 10200 | | V | 9670 | | V | 11900 | | V |
| Strontium | 400 | | V | 510 | | JA | 421 | | V | 430 | | V | 418 | | V |
| Thallium | 1.4 | U | V | 3.0 | U | R | 1.6 | U | JA | 1.6 | U | V | 1.9 | U | JA |
| Tin | 14.8 | U | V | 29.4 | U | JA | 38.9 | U | V | 38.9 | U | V | 10.4 | U | V |
| Vanadium | 5.7 | U | V | 2.0 | U | V | 6.5 | U | V | 6.5 | U | V | 2.3 | U | R |
| Zinc | 1.8 | U | JA | 10.9 | | JA | 7.2 | U | V | 7.2 | U | V | 68.5 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01665WC (REAL)<br>Date: 10/23/91 | | | Location: SW038 (SW)<br>Sample: SW01716WC (REAL)<br>Date: 11/07/91 | | | Location: SW038 (SW)<br>Sample: SW01789WC (REAL)<br>Date: 01/20/92 | | | Location: SW038 (SW)<br>Sample: SW01871WC (REAL)<br>Date: 04/07/92 | | | Location: SW039 (SW)<br>Sample: SW03990001 (REAL)<br>Date: 01/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 36.00 | B | V | 22.3 | U | V | 22.4 | U | V | 29.2 | U | V | 30.0 | U | |
| Antimony | 19.30 | B | V | 13.8 | U | V | 13.5 | U | V | 24.5 | | JA | 500.0 | U | |
| Arsenic | 2.00 | U | V | 2.3 | U | JA | 1.3 | U | V | 1.7 | U | R | 2.0 | U | |
| Barium | 160.00 | B | V | 155 | | V | 170 | | V | 136 | | V | 50.0 | U | |
| Beryllium | 1.00 | U | V | 0.50 | U | V | 0.80 | U | V | 0.70 | | JA | 2.0 | U | |
| Cadmium | 2.00 | U | V | 2.4 | U | JA | 2.8 | U | JA | 2.5 | | JA | 4.0 | U | |
| Calcium | 85500.00 | | V | 80400 | | V | 88700 | | V | 105000 | | V | 23500.0 | | |
| Cesium | 50 | U | V | 500 | U | V | 500 | U | V | 500 | U | V | 1000.0 | U | |
| Chromium | 6.50 | B | V | 2.6 | U | V | 5.7 | U | V | 2.0 | U | V | 20.0 | U | |
| Cobalt | 3.00 | U | V | 2.8 | U | V | 3.4 | U | V | 2.7 | U | V | 20.0 | U | |
| Copper | 3.00 | U | V | 2.1 | U | V | 5.9 | | JA | 2.3 | U | V | 20.0 | U | |
| Iron | 14.80 | BN* | JA | 16.7 | U | V | 22.6 | U | V | 40.0 | | JA | 53.1 | | |
| Lead | 1.00 | U | V | 0.90 | | JA | 1.9 | | V | 0.70 | | JA | 2.0 | U | |
| Lithium | 4.50 | B | V | 7.1 | U | V | 4.6 | | V | 3.3 | | JA | 7.0 | | |
| Magnesium | 17200.00 | | V | 15100 | | V | 15800 | | V | 24400 | | V | 6150.0 | | |
| Manganese | 5.10 | B | V | 1.7 | | JA | 1.6 | U | V | 14.0 | | JA | 10.0 | U | |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.2 | U | |
| Molybdenum | 3.00 | U | V | 5.8 | U | V | 6.5 | U | V | 3.5 | U | V | 500.0 | U | |
| Nickel | 17.00 | U | V | 5.9 | U | V | 9.9 | U | V | 11.2 | U | V | 20.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 983.00 | B | V | 675 | U | V | 1120 | | JA | 1680 | | JA | 980.0 | | |
| Selenium | 2.00 | U | V | 1.5 | U | JA | 1.0 | U | V | 0.80 | U | V | 2.0 | U | |
| Silicon | | | | 7140 | | V | 7290 | | V | 5860 | | V | | | |
| Silver | 2.00 | U | V | 2.9 | U | V | 2.5 | U | V | 2.1 | U | V | 30.0 | U | |
| Sodium | 11100.00 | | V | 9550 | | V | 9580 | | V | 20100 | | V | 17000.0 | | |
| Strontium | 485.00 | | V | 418 | | V | 461 | | V | 596 | | JA | 149.0 | | |
| Thallium | 1.00 | U | V | 1.9 | U | V | 2.1 | U | JA | 2.0 | U | JA | 3.0 | U | |
| Tin | 17.00 | U | V | 10.4 | U | V | 14.2 | U | V | 9.4 | U | V | 1000.0 | U | |
| Vanadium | 3.70 | B | V | 2.3 | U | V | 4.7 | U | V | 3.5 | U | V | 10.0 | U | |
| Zinc | 5.40 | B* | JA | 4.9 | | JA | 4.3 | | JA | 5.7 | | JA | 10.1 | | |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW03990002 (REAL)<br>Date: 02/08/90 | | | Location: SW039 (SW)<br>Sample: SW03990003 (REAL)<br>Date: 03/21/90 | | Location: SW039 (SW)<br>Sample: SW039W041290A (UNKN)<br>Date: 04/12/90 | | Location: SW039 (SW)<br>Sample: SW039W050990A (UNKN)<br>Date: 05/09/90 | | Location: SW039 (SW)<br>Sample: SW00058WC (REAL)<br>Date: 06/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 41.8 | U | R | | | 238 | | 200 | U | 200 | U |
| Antimony | 57.1 | UJ | A | | | 60.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | 1.3 | U | V | | | 10.0 | U | 10.0 | U | 10.0 | U |
| Barium | 40.0 | U | V | | | 200 | U | 200 | U | 200 | U |
| Beryllium | 0.2 | U | R | | | 5.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | 3.2 | U | V | | | 5.0 | U | 5.0 | U | 5.0 | U |
| Calcium | 20200 | E | V | | | 18100 | | 23700 | | 27100 | |
| Cesium | 1000 | U | V | | | 1000 | U | 1000 | U | 1000 | U |
| Chromium | 5.8 | U | V | | | 10.0 | U | 10.0 | U | 10.0 | U |
| Cobalt | 2.7 | U | V | | | 50.0 | U | 50.0 | U | 50.0 | U |
| Copper | 2.4 | U | V | | | 25.0 | U | 25.0 | U | 25.0 | U |
| Iron | 32.2 | UJ | A | | | 145 | | 100 | U | 100 | U |
| Lead | 1.4 | U | V | | | 5.0 | U | 5.0 | U | 3.0 | U |
| Lithium | 100 | UJ | A | | | 100 | U | 100 | U | 100 | U |
| Magnesium | 5310 | | V | | | 5000 | U | 6280 | | 5670 | |
| Manganese | 6.2 | UJ | A | | | 15.0 | U | 15.0 | U | 15.0 | U |
| Mercury | 0.20 | U | R | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | UJ | A | | | 100 | U | 100 | U | 100 | U |
| Nickel | 11.1 | U | V | | | 40.0 | U | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 972 | U | V | | | 5000 | U | 5000 | U | 5000 | U |
| Selenium | 1.8 | U | V | | | 5.0 | U | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | |
| Silver | 4.9 | U | V | | | 10.0 | U | 10.0 | U | 10.0 | U |
| Sodium | 13000 | | V | | | 15300 | | 16700 | | 14000 | |
| Strontium | 1000 | UJ | A | | | 1000 | U | 1000 | U | 1000 | U |
| Thallium | 0.90 | U | V | | | 10.0 | U | 10.0 | U | 10.0 | U |
| Tin | 100 | UJ | A | | | 100 | U | 100 | U | 100 | U |
| Vanadium | 3.0 | U | V | | | 50.0 | U | 50.0 | U | 50.0 | U |
| Zinc | 25.0 | UJ | A | | | 20.0 | U | 36.1 | | 20.0 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00059WC (DUP)<br>Date: 06/07/90 | | | Location: SW039 (SW)<br>Sample: SW00315WC (REAL)<br>Date: 09/13/90 | | | Location: SW039 (SW)<br>Sample: SW00406WC (REAL)<br>Date: 10/02/90 | | | Location: SW039 (SW)<br>Sample: SW00507WC (REAL)<br>Date: 11/08/90 | | | Location: SW039 (SW)<br>Sample: SW00611WC (REAL)<br>Date: 12/04/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | | 20.10 | B | | 10.00 | U | | 24.20 | B | | 20.0 | U | V |
| Antimony | 60.0 | U | | 22.40 | B | | 7.00 | U | | 14.70 | B | | 22.0 | U | V |
| Arsenic | 10.0 | U | | 2.00 | B | | 2.00 | UW | | 2.00 | U | | 1.0 | U | V |
| Barium | 200 | U | | 39.80 | B | | 40.90 | B | | 38.80 | B | | 49.2 | B | V |
| Beryllium | 5.0 | U | | 1.00 | U | | 1.00 | U | | 1.00 | U | | 1.0 | U | V |
| Cadmium | 5.0 | U | | 2.00 | U | | 2.00 | U | | 2.00 | U | | 5.0 | U | JA |
| Calcium | 26900 | | | 32300.00 | | | 33500.00 | | | 24800.00 | E | | 35500 | | V |
| Cesium | 1000 | U | | 92.00 | U | | 92.00 | U | | 100.00 | B | | 500 | U | V |
| Chromium | 10.0 | U | | 8.60 | B | | 5.00 | U | | 5.10 | B | | 4.0 | U | V |
| Cobalt | 50.0 | U | | 3.00 | U | | 3.00 | U | | 3.00 | U | | 4.0 | U | V |
| Copper | 25.0 | U | | 2.00 | U | | 6.50 | B | | 11.60 | B | | 5.0 | U | JA |
| Iron | 100 | U | | 85.20 | B | | 57.80 | B | | 31.00 | B | | 32.4 | B | JA |
| Lead | 3.0 | U | | 1.00 | U | | 1.00 | U | | 1.00 | U | | 1.0 | U | V |
| Lithium | 100 | U | | 1.00 | U | | 2.00 | U | | 2.00 | U | | 10.0 | U | V |
| Magnesium | 5570 | | | 5420.00 | | | 5660.00 | | | 5380.00 | E | | 7830 | | V |
| Manganese | 15.0 | U | | 24.20 | | | 26.30 | | | 15.90 | | | 57.2 | | V |
| Mercury | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.10 | U | R |
| Molybdenum | 100 | U | | 2.00 | U | | 2.00 | U | | 4.20 | B | | 9.0 | U | V |
| Nickel | 40.0 | U | | 4.00 | U | | 4.00 | U | | 4.00 | U | | 9.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 5000 | U | | 1560.00 | B | | 1460.00 | B | | 1630.00 | B | | 2490 | B | V |
| Selenium | 5.0 | U | | 2.00 | UW | | 2.00 | U | | 1.00 | U | | 1.0 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 10.0 | U | | 3.00 | U | | 3.00 | U | | 3.00 | U | | 3.0 | U | V |
| Sodium | 13900 | | | 15100.00 | | | 16600.00 | | | 11800.00 | E | | 18700 | | V |
| Strontium | 1000 | U | | 129.00 | B | | 132.00 | B | | 127.00 | BE | | 166 | B | V |
| Thallium | 10.0 | U | | 4.00 | U | | 2.00 | UW | | 2.00 | UWN | | 1.0 | U | V |
| Tin | 100 | U | | 10.60 | B | | 7.00 | U | | 13.80 | B | | 30.0 | U | V |
| Vanadium | 50.0 | U | | 4.10 | B | | 2.00 | U | | 2.40 | B | | 3.0 | U | V |
| Zinc | 20.0 | U | | 3.50 | B | | 3.50 | B | | 15.10 | B | | 2.0 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00919WC (REAL)<br>Date: 03/28/91 | | | Location: SW039 (SW)<br>Sample: SW01021WC (REAL)<br>Date: 04/01/91 | | | Location: SW039 (SW)<br>Sample: SW01128WC (REAL)<br>Date: 05/03/91 | | | Location: SW039 (SW)<br>Sample: SW01231WC (REAL)<br>Date: 06/04/91 | | | Location: SW039 (SW)<br>Sample: SW01334WC (REAL)<br>Date: 07/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 52.3 | | | 67.8 | | | 108 | U | V | 52 | | JA | 22 | | JA |
| Antimony | 18.2 | U | | 18.2 | U | | 25.6 | U | V | 11 | U | V | 11 | U | V |
| Arsenic | 0.90 | U | | 0.90 | U | | 0.90 | U | JA | 2.0 | U | V | 2.0 | U | V |
| Barium | 58.4 | | | 56.7 | | | 55.3 | | JA | 58 | | V | 45 | | V |
| Beryllium | 0.60 | U | | 0.60 | U | | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | | 2.7 | U | | 3.3 | U | V | 1.1 | | JA | 1.1 | | JA |
| Calcium | 25300 | | | 24900 | | | 24400 | | V | 25000 | | V | 33000 | | V |
| Cesium | 500 | U | | 500 | U | | 500 | U | V | 50 | U | V | 50 | U | V |
| Chromium | 6.9 | U | | 6.9 | U | | 4.1 | U | V | 2.0 | U | V | 2.0 | U | JA |
| Cobalt | 3.0 | U | | 3.0 | U | | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V |
| Copper | 2.5 | U | | 2.6 | | | 10.6 | | V | 16 | | V | 3.0 | U | V |
| Iron | 75.0 | | | 78.0 | | | 37.5 | | JA | 68 | | JA | 120 | | V |
| Lead | 2.0 | | | 1.4 | U | | 1.4 | U | V | 1.0 | U | JA | 2.3 | | V |
| Lithium | 2.8 | | | 2.8 | | | 5.2 | | JA | 2.0 | U | JA | 2.1 | | JA |
| Magnesium | 6620 | | | 6690 | | | 6600 | | JA | 5800 | | V | 6000 | | V |
| Manganese | 30.1 | | | 22.3 | | | 6.5 | | JA | 22 | | V | 58 | | V |
| Mercury | 0.20 | U | | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 10.9 | U | | 10.9 | U | | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA |
| Nickel | 3.9 | U | | 3.9 | U | | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1020 | | | 1030 | | | 2050 | U | V | 3500 | | V | 1600 | | V |
| Selenium | 1.1 | U | | 1.1 | U | | 1.1 | U | V | 4.0 | U | JA | 4.0 | U | JA |
| Silicon | 4050 | | | 4080 | | | 4420 | | V | 4480 | | V | 2560 | | V |
| Silver | 3.8 | U | | 3.8 | U | | 5.0 | U | V | 2.0 | U | V | 2.0 | U | V |
| Sodium | 19100 | | | 19000 | | | 19600 | | JA | 18000 | | V | 18000 | | V |
| Strontium | 151 | | | 150 | | | 152 | | JA | 150 | | JA | 150 | | JA |
| Thallium | 1.4 | U | | 1.4 | U | | 1.4 | U | JA | 3.0 | UI | JA | 3.0 | UW | JA |
| Tin | 24.2 | U | | 24.2 | U | | 14.8 | U | V | 13 | U | JA | 13 | U | R |
| Vanadium | 2.0 | U | | 2.0 | U | | 5.7 | U | V | 2.0 | U | JA | 2.0 | U | V |
| Zinc | 4.7 | U | | 4.7 | U | | 3.9 | | JA | 22 | | JA | 3.0 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01440WC (REAL)<br>Date: 08/05/91 | | | Location: SW039 (SW)<br>Sample: SW01546WC (REAL)<br>Date: 09/05/91 | | | Location: SW039 (SW)<br>Sample: SW01652WC (REAL)<br>Date: 10/02/91 | | | Location: SW039 (SW)<br>Sample: SW01726WC (REAL)<br>Date: 11/18/91 | | | Location: SW039 (SW)<br>Sample: SW01881WC (REAL)<br>Date: 04/15/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 36.8 | U | V | 19 | | JA | 22.3 | U | R | 22.3 | U | V | 46.2 | | JA |
| Antimony | 42.2 | U | V | 14 | U | V | 13.8 | U | V | 13.8 | U | V | 19.8 | U | V |
| Arsenic | 0.70 | U | JA | 2.0 | U | V | 1.0 | U | JA | 2.3 | U | JA | 0.80 | U | JA |
| Barium | 40.9 | | V | 47 | | V | 20.9 | | JA | 46.3 | | V | 54.6 | | V |
| Beryllium | 0.60 | U | V | 1.0 | U | V | 0.50 | U | V | 0.50 | U | V | 1.0 | | JA |
| Cadmium | 4.6 | U | V | 1.0 | U | | 2.4 | U | JA | 2.4 | U | JA | 2.3 | U | V |
| Calcium | 28700 | | V | 34000 | | V | 33800 | | V | 23700 | | V | 27700 | | V |
| Cesium | 500 | U | V | 50 | U | V | 500 | U | V | 500 | U | V | 500 | U | V |
| Chromium | 5.5 | U | V | 2.0 | U | V | 2.6 | U | V | 2.6 | U | V | 2.0 | U | V |
| Cobalt | 7.3 | U | V | 2.0 | U | V | 2.8 | U | V | 2.8 | U | V | 3.7 | | JA |
| Copper | 5.4 | U | V | 12 | | V | 2.1 | U | JA | 3.6 | | JA | 9.6 | | JA |
| Iron | 202 | | JA | 12 | | JA | 92.9 | | JA | 51.6 | | JA | 62.1 | | JA |
| Lead | 1.1 | | JA | 1.6 | | V | 2.3 | | JA | 8.0 | | JA | 0.80 | U | V |
| Lithium | 2.2 | | V | 1.1 | | V | 7.1 | U | V | 7.1 | U | V | 3.4 | | JA |
| Magnesium | 5080 | | V | 6300 | | V | 7170 | | JA | 6210 | | V | 5870 | | V |
| Manganese | 38.9 | | V | 58 | | V | 82.4 | | V | 26.6 | | V | 14.6 | | JA |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 10.0 | U | V | 4.0 | U | V | 5.8 | U | V | 5.8 | U | V | 3.5 | U | V |
| Nickel | 10.7 | U | V | 5.0 | U | V | 5.9 | U | V | 5.9 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1370 | | V | 3000 | | V | 1950 | | JA | 698 | | V | 1440 | | JA |
| Selenium | 1.2 | U | JA | 4.0 | UI | JA | 1.5 | U | V | 1.5 | U | V | 0.80 | U | JA |
| Silicon | 2920 | | JA | 2880 | | V | 4040 | | V | 4450 | | V | 3810 | | JA |
| Silver | 6.8 | U | V | 5.0 | U | V | 2.9 | U | V | 2.9 | U | V | 2.7 | | JA |
| Sodium | 14600 | | V | 18000 | | V | 17900 | | V | 14900 | | V | 17100 | | V |
| Strontium | 124 | | V | 160 | | V | 163 | | JA | 146 | | V | 141 | | JA |
| Thallium | 1.6 | U | V | 1.0 | UI | R | 1.9 | U | V | 1.9 | U | V | 2.0 | U | V |
| Tin | 38.9 | U | V | 11 | U | V | 10.4 | U | JA | 10.4 | U | V | 9.4 | U | V |
| Vanadium | 6.5 | U | V | 2.0 | U | V | 2.3 | U | V | 2.3 | U | V | 3.5 | U | V |
| Zinc | 7.2 | U | V | 23 | | JA | 4.3 | U | JA | 4.3 | U | V | 1.7 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW06690001 (REAL)<br>Date: 01/11/90 | | | Location: SW066 (SW)<br>Sample: SW06690002 (REAL)<br>Date: 02/08/90 | | | Location: SW066 (SW)<br>Sample: SW06690003 (REAL)<br>Date: 03/14/90 | | Location: SW066 (SW)<br>Sample: SW066W041990A (REAL)<br>Date: 04/19/90 | | Location: SW066 (SW)<br>Sample: SW066W051590A (REAL)<br>Date: 05/15/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 25.8 | U | V | 41.8 | U | R | 84.0 | U | 200 | U | 200 | U |
| Antimony | 44.6 | U | V | 42.8 | UJ | A | 22.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | 1.9 | U | R | 1.5 | | V | 2.0 | UN | 10.0 | U | 10.0 | U |
| Barium | 120 | | V | 134 | | V | 115 | B | 200 | U | 200 | U |
| Beryllium | 0.8 | U | V | 0.2 | U | R | 1.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | 2.3 | UJ | A | 3.2 | U | V | 3.0 | U | 5.0 | U | 5.0 | U |
| Calcium | 75500 | | V | 82100 | E | | 65100 | | 76700 | | 70700 | |
| Cesium | 1000 | U | V | 1000 | U | V | | | 1000 | U | 1000 | U |
| Chromium | 8.7 | U | V | 5.8 | U | V | 2.0 | U | 10.0 | U | 10.0 | U |
| Cobalt | 2.2 | U | V | 2.7 | U | V | 4.0 | U | 50.0 | U | 50.0 | U |
| Copper | 5.6 | U | V | 3.7 | | V | 5.9 | B | 25.0 | U | 25.0 | U |
| Iron | 42.7 | UJ | A | 11.3 | U | V | 121 | | 100 | U | 100 | U |
| Lead | 2.3 | UJ | A | 1.4 | UJ | A | 3.0 | U | 5.0 | U | 3.0 | U |
| Lithium | 19.0 | J | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Magnesium | 15300 | | V | 17200 | | V | 14600 | | 17600 | | 16000 | |
| Manganese | 5.5 | UJ | A | 50.2 | | V | 5.2 | B | 15.0 | U | 15.0 | U |
| Mercury | 0.2 | U | V | 0.20 | U | R | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 20.5 | UJ | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Nickel | 3.8 | U | V | 11.1 | U | V | 7.0 | U | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 3990 | | V | 1440 | UJ | A | 3760 | B | 5000 | U | 5000 | U |
| Selenium | 2.2 | U | V | 1.8 | U | V | 3.1 | BN | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | | |
| Silver | 2.8 | U | V | 4.9 | U | V | 3.0 | U | 10.0 | U | 10.0 | U |
| Sodium | 31700 | | V | 42600 | | V | 69600 | | 37400 | | 29200 | |
| Strontium | 437 | | A | 1000 | UJ | A | | | 1000 | U | 1000 | U |
| Thallium | 1.1 | U | R | 0.90 | UJ | A | 4.0 | UNW | 10.0 | U | 10.0 | U |
| Tin | 41.0 | UJ | A | 100 | UJ | A | | | 100 | U | 100 | U |
| Vanadium | 3.0 | U | V | 3.0 | U | V | 8.6 | B | 50.0 | U | 50.0 | U |
| Zinc | 5.9 | UJ | A | 12.6 | UJ | A | 19.5 | B | 20.0 | U | 28.7 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery% out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW00014WC (REAL)<br>Date: 06/12/90 | | Location: SW066 (SW)<br>Sample: SW00146WC (REAL)<br>Date: 07/19/90 | | Location: SW066 (SW)<br>Sample: SW00245WC (REAL)<br>Date: 08/21/90 | | Location: SW066 (SW)<br>Sample: SW00414WC (REAL)<br>Date: 10/17/90 | | Location: SW067 (SW)<br>Sample: SW06790001 (REAL)<br>Date: 01/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | 42.50 | B | 28.40 | B | 29.2 | B | 25.8 | U | V |
| Antimony | 60.0 | U | 19.70 | B | 17.40 | B | 26.0 | U | 44.6 | U | V |
| Arsenic | 10.0 | U | 2.00 | U | 1.00 | B | 1.1 | U | 1.9 | U | R |
| Barium | 200 | U | 137.00 | BE | 123.00 | B | 145 | B | 117 | J | V |
| Beryllium | 5.0 | U | 4.00 | B | 1.00 | U | 0.60 | U | 0.80 | U | V |
| Cadmium | 5.0 | U | 2.00 | U | 2.00 | U | 2.9 | U | 2.3 | UJ | A |
| Calcium | 53600 | | 79300.00 | | 78700.00 | | 90400 | | 73100 | | V |
| Cesium | 1000 | U | 147.00 | U | 147.00 | U | 55.0 | U | 1000 | U | V |
| Chromium | 10.0 | U | 6.00 | U | 6.00 | U | 4.0 | U | 8.7 | U | V |
| Cobalt | 50.0 | U | 4.00 | U | 4.00 | U | 4.0 | U | 2.2 | U | V |
| Copper | 25.0 | U | 6.60 | B | 4.20 | B | 3.0 | U | 80.4 | UJ | V |
| Iron | 100 | U | 13.60 | B | 13.00 | U | 3.0 | U | 91.2 | UJ | A |
| Lead | 3.0 | U | 1.00 | U | 1.00 | U | 0.40 | U | 1.2 | U | V |
| Lithium | 100 | U | 10.00 | B | 10.60 | B | 26.0 | U | 18.0 | J | A |
| Magnesium | 12200 | | 16300.00 | | 15900.00 | | 17900 | | 14800 | | V |
| Manganese | 15.0 | U | 6.90 | B | 2.80 | B | 5.8 | B | 26.3 | | V |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.10 | U | 0.2 | U | V |
| Molybdenum | 100 | U | 5.20 | B | 5.40 | B | 13.0 | U | 20.5 | UJ | A |
| Nickel | 40.0 | U | 4.00 | U | 4.00 | U | 12.0 | U | 3.8 | U | V |
| Phosphorus | | | | | | | | | | | |
| Potassium | 5000 | U | 2030.00 | B | 2300.00 | B | 3280 | B | 4050 | UJ | V |
| Selenium | 5.0 | U | 2.00 | U | 2.00 | B | 1.2 | U | 2.2 | U | V |
| Silicon | | | | | | | 5930 | | | | |
| Silver | 10.0 | U | 2.00 | U | 2.00 | U | 5.5 | B | 2.8 | U | V |
| Sodium | 23300 | | 31800.00 | | 31400.00 | | 31700 | | 30900 | | V |
| Strontium | 1000 | U | 498.00 | | 483.00 | | 493 | | 420 | J | A |
| Thallium | 10.0 | U | 3.00 | U | 1.00 | UWN | 0.60 | U | 1.1 | U | R |
| Tin | 100 | U | 11.00 | U | 13.50 | B | 45.2 | B | 41.0 | UJ | A |
| Vanadium | 50.0 | U | 7.10 | B | 5.30 | B | 8.8 | B | 3.0 | U | V |
| Zinc | 20.0 | U | 5.10 | B | 4.10 | B | 3.8 | B | 18.4 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
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# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW06790002 (REAL)<br>Date: 02/08/90 | | | Location: SW067 (SW)<br>Sample: SW06790003 (REAL)<br>Date: 03/15/90 | | | Location: SW067 (SW)<br>Sample: SW067W041990A (REAL)<br>Date: 04/19/90 | | Location: SW067 (SW)<br>Sample: SW067W051690A (REAL)<br>Date: 05/16/90 | | Location: SW067 (SW)<br>Sample: SW00015WC (REAL)<br>Date: 06/12/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 41.8 | U | R | 100 | UJ | A | 200 | U | 200 | U | 200 | U |
| Antimony | 35.4 | UJ | A | 13.4 | U | V | 60.0 | U | 60.0 | U | 60.0 | U |
| Arsenic | 1.3 | U | V | 1.3 | U | R | 10.0 | U | 10.0 | U | 10.0 | U |
| Barium | 130 | | V | 114 | | V | 200 | U | 200 | U | 200 | U |
| Beryllium | 0.2 | U | R | 0.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Cadmium | 3.2 | U | V | 3.2 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Calcium | 86900 | E | | 71600 | E | | 83500 | | 24200 | | 53500 | |
| Cesium | 1000 | U | V | 1000 | U | V | 1000 | U | 1000 | U | 1000 | U |
| Chromium | 5.8 | U | V | 5.8 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Cobalt | 2.7 | U | V | 2.7 | U | V | 50.0 | U | 50.0 | U | 50.0 | U |
| Copper | 5.2 | | V | 2.2 | J | A | 25.0 | U | 25.0 | U | 25.0 | U |
| Iron | 11.3 | U | V | 11.3 | U | V | 100 | U | 100 | U | 100 | U |
| Lead | 1.4 | UJ | A | 1.4 | UJ | A | 5.0 | U | 5.0 | U | 3.0 | U |
| Lithium | 100 | UJ | A | 100 | U | V | 100 | U | 100 | U | 100 | U |
| Magnesium | 18200 | | V | 14800 | | V | 18600 | | 5000 | U | 12300 | |
| Manganese | 14.9 | UJ | A | 4.7 | J | A | 15.0 | U | 15.0 | U | 33.8 | |
| Mercury | 0.20 | U | R | 0.2 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |
| *Molybdenum* | 100 | UJ | A | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Nickel | 11.1 | U | V | 11.1 | U | V | 40.0 | U | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 1760 | UJ | A | 3340 | | V | 5000 | U | 5000 | U | 5000 | U |
| Selenium | 1.8 | U | V | 1.8 | U | V | 5.0 | U | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | | |
| Silver | 4.9 | U | V | 4.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Sodium | 44700 | | V | 42800.0 | | | 38600 | | 10400 | | 23300 | |
| Strontium | 1000 | UJ | A | 42800 | E | | 1000 | U | 1000 | U | 1000 | U |
| Thallium | 0.90 | U | R | 0.9 | U | V | 10.0 | U | 10.0 | U | 10.0 | U |
| Tin | 100 | UJ | A | 100 | UJ | A | 100 | U | 100 | U | 100 | U |
| Vanadium | 3.0 | U | V | 3.0 | U | V | 50.0 | U | 50.0 | U | 50.0 | U |
| Zinc | 19.3 | UJ | A | 24.1 | UJ | A | 20.0 | U | 108 | | 59.2 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW00246WC (REAL)<br>Date: 08/21/90 | | | Location: SW067 (SW)<br>Sample: SW00415WC (REAL)<br>Date: 10/17/90 | | | Location: SW067 (SW)<br>Sample: SW00620WC (REAL)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW06890001 (REAL)<br>Date: 01/11/90 | | | Location: SW068 (SW)<br>Sample: SW06890003 (REAL)<br>Date: 03/15/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 28.10 | B | | 34.5 | B | | 40.50 | B | | 25.8 | U | V | 88.5 | UJ | A |
| Antimony | 18.00 | B | | 26.0 | U | | 7.00 | U | | 44.6 | U | V | 13.4 | U | V |
| Arsenic | 1.00 | B | | 1.1 | U | | 2.00 | U | | 1.9 | U | R | 1.3 | U | R |
| Barium | 125.00 | B | | 141 | B | | 139.00 | B | | 77.4 | | V | 114 | | V |
| Beryllium | 1.00 | U | | 0.60 | U | | 1.00 | U | | 0.80 | U | V | 0.2 | U | V |
| Cadmium | 2.00 | U | | 2.9 | U | | 2.00 | U | | 2.3 | UJ | A | 3.2 | U | V |
| Calcium | 77400.00 | | | 92200 | | | 82500.00 | | | 34000 | | V | 72100 | E | |
| Cesium | 147.00 | U | | 55.0 | U | | 76.00 | U | | 1000 | U | V | 1000 | U | V |
| Chromium | 6.20 | B | | 4.0 | U | | 5.00 | U | | 12.1 | J | A | 5.8 | U | V |
| Cobalt | 4.00 | U | | 4.0 | U | | 3.00 | U | | 2.2 | U | V | 2.7 | U | V |
| Copper | 7.30 | B | | 11.1 | B | | 8.80 | B | | 5.9 | UJ | A | 2.2 | UJ | A |
| Iron | 13.00 | U | | 19.4 | B | | 64.10 | B | | 77.3 | UJ | A | 11.3 | U | V |
| Lead | 1.00 | U | | 0.40 | U | | 1.00 | UW | | 1.8 | UJ | A | 1.4 | U | V |
| Lithium | 12.50 | B | | 26.0 | U | | 6.40 | B | | 8.0 | J | A | 100 | U | V |
| Magnesium | 15600.00 | | | 18300 | | | 16700.00 | | | 6770 | | V | 14900 | | V |
| Manganese | 6.30 | B | | 10.4 | B | | 5.10 | B | | 32.3 | | V | 4.6 | J | A |
| Mercury | 0.20 | U | | 0.10 | U | | 0.20 | UN | | 0.2 | U | V | 0.2 | U | V |
| Molybdenum | 20.10 | B | | 13.0 | U | | 2.50 | B | | 20.5 | UJ | A | 100 | UJ | A |
| Nickel | 4.00 | U | | 12.0 | U | | 4.00 | U | | 3.8 | U | V | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2220.00 | B | | 3270 | B | | 2860.00 | B | | 2470 | | V | 3340 | | V |
| Selenium | 2.00 | B | | 1.3 | B | | 1.00 | B | | 2.2 | U | V | 1.8 | U | V |
| Silicon | | | | 5920 | | | | | | | | | | | |
| Silver | 2.40 | B | | 7.6 | B | | 3.00 | U | | 2.8 | U | V | 4.9 | U | V |
| Sodium | 30800.00 | | | 32100 | | | 35600.00 | | | 1490 | | V | 44600 | E | |
| Strontium | 479.00 | | | 498 | | | 485.00 | | | 201 | J | A | 1000 | U | V |
| Thallium | 1.00 | UWN | | 0.60 | U | | 2.00 | U | | 1.1 | U | R | 0.9 | U | V |
| Tin | 25.30 | B | | 42.9 | B | | 17.00 | B | | 41.0 | UJ | A | 100 | UJ | A |
| Vanadium | 6.00 | B | | 8.7 | B | | 4.10 | B | | 3.0 | U | V | 3.0 | U | V |
| Zinc | 5.10 | B | | 3.7 | B | | 12.20 | B | | 6.8 | UJ | A | 27.3 | UJ | A |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW068W051690A (REAL)<br>Date: 05/16/90 | | | Location: SW068 (SW)<br>Sample: SW00017WC (REAL)<br>Date: 06/13/90 | | | Location: SW068 (SW)<br>Sample: SW00143WC (REAL)<br>Date: 07/19/90 | | | Location: SW068 (SW)<br>Sample: SW00247WC (REAL)<br>Date: 08/21/90 | | | Location: SW068 (SW)<br>Sample: SW00325WC (REAL)<br>Date: 09/18/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | | 200 | U | | 38.40 | B | | 19.70 | B | | 60.0 | U | V |
| Antimony | 60.0 | U | | 60.0 | U | | 21.60 | B | | 17.50 | B | | 30.0 | U | V |
| Arsenic | 10.0 | U | | 10.0 | U | | 2.00 | U | | 1.00 | B | | 2.0 | U | V |
| Barium | 200 | U | | 200 | U | | 97.80 | BE | | 73.40 | B | | 88.7 | | V |
| Beryllium | 5.0 | U | | 5.0 | U | | 4.00 | B | | 1.00 | U | | 2.0 | U | V |
| Cadmium | 5.0 | U | | 5.0 | U | | 2.00 | U | | 2.00 | U | | 2.3 | | V |
| Calcium | 26400 | | | 52200 | | | 69500.00 | | | 54100.00 | | | 63800 | | V |
| Cesium | 1000 | U | | 1000 | U | | 147.00 | U | | 147.00 | U | | 2.0 | U | JA |
| Chromium | 10.0 | U | | 10.0 | U | | 6.00 | U | | 6.00 | U | | 10.1 | | V |
| Cobalt | 50.0 | U | | 50.0 | U | | 4.00 | U | | 4.00 | U | | 10.0 | U | V |
| Copper | 25.0 | U | | 25.0 | U | | 5.20 | B | | 6.20 | B | | 10.0 | U | V |
| Iron | 100 | U | | 100 | U | | 24.30 | B | | 13.00 | U | | 10.4 | | V |
| Lead | 5.0 | U | | 3.0 | U | | 1.00 | U | | 1.00 | U | | 2.0 | U | V |
| Lithium | 100 | U | | 100 | U | | 11.60 | B | | 9.80 | B | | 50.0 | U | JA |
| Magnesium | 5410 | | | 12700 | | | 17000.00 | | | 14900.00 | | | 16000 | | V |
| Manganese | 15.0 | U | | 16.0 | | | 47.30 | | | 14.50 | B | | 10.3 | | V |
| Mercury | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | R |
| Molybdenum | 100 | U | | 100 | U | | 3.70 | B | | 6.90 | B | | 10.0 | U | V |
| Nickel | 40.0 | U | | 40.0 | U | | 4.00 | U | | 4.00 | U | | 20.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 5000 | U | | 5000 | U | | 2150.00 | B | | 2070.00 | B | | 2120 | | V |
| Selenium | 5.0 | U | | 5.0 | U | | 2.00 | UW | | 2.00 | UW | | 2.0 | U | JA |
| Silicon | | | | | | | | | | | | | 6330 | | JA |
| Silver | 10.0 | U | | 10.0 | U | | 2.00 | U | | 2.00 | U | | 10.0 | U | V |
| Sodium | 11700 | | | 24600 | | | 31500.00 | | | 30100.00 | | | 29200 | | V |
| Strontium | 1000 | U | | 1000 | U | | 488.00 | | | 403.00 | | | 426 | | JA |
| Thallium | 10.0 | U | | 10.0 | U | | 3.00 | U | | 1.00 | UWN | | 2.0 | U | V |
| Tin | 100 | U | | 100 | U | | 12.80 | B | | 23.60 | B | | 50.0 | U | JA |
| Vanadium | 50.0 | U | | 50.0 | U | | 6.50 | B | | 5.00 | B | | 10.0 | U | V |
| Zinc | 55.0 | | | 20.0 | U | | 7.00 | B | | 4.10 | B | | 5.0 | U | JA |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
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# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00517WC (REAL)<br>Date: 11/19/90 | | Location: SW068 (SW)<br>Sample: SW00621WC (REAL)<br>Date: 12/10/90 | | Location: SW068 (SW)<br>Sample: SW80079WC (DUP)<br>Date: 12/10/90 | | Location: SW068 (SW)<br>Sample: SW00929WC (REAL)<br>Date: 03/19/91 | | | Location: SW068 (SW)<br>Sample: SW80095WC (DUP)<br>Date: 03/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 46.80 | B | 43.10 | B | 44.90 | B | 17.7 | U | V | 17.7 | U | JA |
| Antimony | 13.00 | B | 7.00 | U | 11.50 | B | 18.2 | U | JA | 22.8 | | JA |
| Arsenic | 2.00 | U | 2.00 | U | 2.00 | U | 0.90 | U | JA | 0.90 | U | V |
| Barium | 118.00 | B | 138.00 | B | 137.00 | B | 74.4 | | V | 78.8 | | V |
| Beryllium | 1.00 | U | 1.00 | U | 1.00 | U | 0.60 | U | V | 0.60 | U | V |
| Cadmium | 2.00 | U | 2.00 | U | 2.00 | U | 2.7 | U | V | 2.7 | U | V |
| Calcium | 82700.00 | | 84500.00 | | 84800.00 | | 53400 | | V | 51700 | | V |
| Cesium | 200.00 | B | 76.00 | U | 76.00 | U | 500 | U | V | 500 | U | V |
| Chromium | 8.50 | B | 8.70 | B | 12.60 | | 6.9 | U | V | 6.9 | U | V |
| Cobalt | 3.00 | U | 3.00 | U | 3.00 | U | 3.0 | U | V | 3.0 | U | V |
| Copper | 8.40 | B | 4.40 | B | 4.10 | B | 2.5 | U | V | 2.9 | | V |
| Iron | 16.40 | BN* | 19.20 | B | 39.20 | B | 34.2 | | JA | 49.9 | | JA |
| Lead | 1.00 | UW | 1.00 | U | 1.00 | U | 2.2 | | JA | 1.6 | | V |
| Lithium | 7.70 | B | 6.20 | B | 7.80 | B | 6.9 | | V | 6.6 | | V |
| Magnesium | 16900.00 | | 16700.00 | | 16600.00 | | 11500 | | V | 11200 | | V |
| Manganese | 12.10 | B | 3.90 | B | 4.00 | B | 17.0 | | V | 16.9 | | V |
| Mercury | 0.20 | U | 0.20 | UN | 0.20 | UN | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 4.40 | B | 4.00 | B | 4.00 | B | 10.9 | U | V | 10.9 | U | V |
| Nickel | 4.00 | U | 4.00 | U | 4.00 | U | 3.9 | U | V | 3.9 | U | V |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 2700.00 | B | 2680.00 | B | 2660.00 | B | 2910 | | V | 2930 | | V |
| Selenium | 1.00 | B | 1.00 | B | 1.00 | B | 1.1 | U | V | 1.2 | | V |
| Silicon | | | | | | | 2470 | | V | 2390 | | V |
| Silver | 3.00 | U | 3.00 | U | 3.50 | B | 3.8 | U | V | 3.8 | U | V |
| Sodium | 30800.00 | | 34500.00 | | 33800.00 | | 29400 | | V | 29000 | | V |
| Strontium | 491.00 | | 483.00 | | 483.00 | | 311 | | V | 303 | | V |
| Thallium | 2.00 | UW | 2.00 | U | 2.00 | U | 1.4 | U | JA | 1.4 | U | JA |
| Tin | 19.00 | B | 19.30 | B | 16.40 | B | 24.2 | U | V | 24.2 | U | V |
| Vanadium | 6.00 | B | 5.60 | B | 6.50 | B | 2.0 | U | V | 2.0 | U | V |
| Zinc | 12.70 | B | 6.50 | B | 7.70 | B | 10.3 | | V | 12.5 | | V |

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REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW01031WC (REAL)<br>Date: 04/04/91 | | | Location: SW068 (SW)<br>Sample: SW01138WC (REAL)<br>Date: 05/13/91 | | | Location: SW068 (SW)<br>Sample: SW01241WC (REAL)<br>Date: 06/19/91 | | | Location: SW068 (SW)<br>Sample: SW01344WC (REAL)<br>Date: 07/10/91 | | | Location: SW068 (SW)<br>Sample: SW01450WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 17.7 | U | | 108 | U | V | 430 | | V | 35 | | JA | 31 | | JA |
| Antimony | 18.2 | U | | 25.6 | U | V | 11 | U | JA | 11 | U | V | 11 | U | V |
| Arsenic | 0.90 | U | | 0.90 | U | JA | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V |
| Barium | 63.9 | | | 131 | | V | 140 | | V | 66 | | V | 100 | | V |
| Beryllium | 0.60 | U | | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | | 3.3 | U | JA | 1.0 | U | | 1.2 | | JA | 2.0 | U | V |
| Calcium | 39900 | | | 77800 | | V | 87000 | | V | 46000 | | V | 67000 | | V |
| Cesium | 500 | U | | 500 | U | V | 60 | | V | 50 | | JA | 50 | U | V |
| Chromium | 6.9 | U | | 4.1 | U | V | 2.0 | U | V | 2.0 | U | JA | 2.0 | U | V |
| Cobalt | 3.0 | U | | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V |
| Copper | 4.1 | | | 4.9 | | V | 3.0 | U | JA | 3.0 | U | V | 3.0 | U | V |
| Iron | 11.1 | | | 15.1 | | JA | 530 | | V | 7.0 | U | R | 14 | | JA |
| Lead | 1.4 | | | 3.4 | | V | 6.5 | | V | 2.0 | W | JA | 1.0 | U | JA |
| Lithium | 9.5 | | | 11.4 | | V | 9.0 | | JA | 6.7 | | JA | 11 | | JA |
| Magnesium | 12500 | | | 18700 | | V | 16000 | | V | 9300 | | V | 14000 | | V |
| Manganese | 8.7 | | | 22.4 | | V | 55 | | V | 14 | | V | 26 | | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA |
| Molybdenum | 10.9 | U | | 5.7 | U | JA | 3.0 | U | JA | 3.0 | U | JA | 3.0 | U | JA |
| Nickel | 3.9 | U | | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V | 4.0 | U | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2270 | | | 2850 | | V | 2000 | | V | 2100 | | V | 2400 | | V |
| Selenium | 1.1 | U | | 1.1 | U | V | 4.0 | U | JA | 4.0 | U | JA | 4.0 | U | V |
| Silicon | 1410 | | | 2390 | | V | 4360 | | V | 4070 | | V | 5930 | | V |
| Silver | 3.8 | U | | 5.0 | U | V | 2.0 | U | JA | 2.0 | U | V | 2.0 | U | V |
| Sodium | 33100 | | | 45300 | | V | 37000 | | V | 21000 | | V | 31000 | | V |
| Strontium | 291 | | | 483 | | V | 500 | | JA | 300 | | JA | 420 | | JA |
| Thallium | 1.4 | U | | 1.4 | U | V | 5.0 | UI | R | 3.0 | UW | JA | 15 | UI | JA |
| Tin | 24.2 | U | | 14.8 | U | V | 13 | U | R | 13 | U | R | 13 | U | R |
| Vanadium | 2.0 | U | | 5.7 | U | V | 4.1 | | V | 2.0 | U | V | 3.0 | U | V |
| Zinc | 4.7 | U | | 1.8 | U | R | 21 | | JA | 3.0 | U | V | 3.0 | U | V |

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RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW01556WC (REAL)<br>Date: 09/17/91 | | | Location: SW068 (SW)<br>Sample: SW01662WC (REAL)<br>Date: 10/10/91 | | | Location: SW069 (SW)<br>Sample: SW06990001 (REAL)<br>Date: 01/11/90 | | | Location: SW069 (SW)<br>Sample: SW06990002 (REAL)<br>Date: 02/07/90 | | | Location: SW069 (SW)<br>Sample: SW06990003 (REAL)<br>Date: 03/15/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 22.3 | U | V | 17 | U | V | 25.8 | U | V | 200.0 | U | | 90.5 | UJ | A |
| Antimony | 13.8 | U | V | 14 | U | V | 44.6 | U | V | 60.0 | U | | 15.2 | UJ | A |
| Arsenic | 1.1 | U | JA | 2.0 | U | V | 1.9 | U | R | 10.0 | U | | 1.3 | U | R |
| Barium | 38.2 | | JA | 120 | | V | 102 | | V | 200.0 | U | | 120 | | V |
| Beryllium | 0.50 | U | V | 1.0 | U | V | 0.80 | U | V | 5.0 | U | | 0.2 | U | R |
| Cadmium | 2.4 | U | V | 1.5 | | JA | 2.3 | UJ | A | 5.0 | U | | 3.2 | U | V |
| Calcium | 57300 | | V | 82000 | | V | 61600 | | V | 59400.0 | | | 70200 | E | |
| Cesium | 500 | U | V | 60 | | JA | 1000 | U | V | 1000.0 | U | | 1000 | U | V |
| Chromium | 2.6 | U | JA | 2.0 | U | JA | 8.7 | U | V | 10.0 | U | | 5.8 | U | V |
| Cobalt | 2.8 | U | V | 2.0 | U | V | 2.2 | U | V | 50.0 | U | | 2.7 | U | V |
| Copper | 2.1 | U | V | 2.0 | U | V | 6.2 | UJ | A | 25.0 | U | | 2.2 | UJ | A |
| Iron | 16.7 | U | V | 7.0 | U | V | 54.5 | UJ | A | 100.0 | U | | 11.3 | U | V |
| Lead | 0.90 | U | V | 1.0 | | V | 2.1 | UJ | A | 5.0 | U | | 1.4 | UJ | A |
| Lithium | 14.0 | | JA | 9.8 | | JA | 16.0 | J | A | 100.0 | U | | 100 | U | V |
| Magnesium | 15400 | | V | 16000 | | V | 12500 | | V | 12200.0 | | | 14500 | | V |
| Manganese | 8.7 | | JA | 28 | | V | 15.7 | | V | 15.0 | U | | 9.5 | J | A |
| Mercury | 0.20 | U | V | 0.20 | U | JA | 0.2 | U | V | 0.2 | | | 0.2 | U | V |
| Molybdenum | 5.8 | U | V | 4.0 | U | V | 20.5 | UJ | A | 100.0 | U | | 100 | UJ | A |
| Nickel | 5.9 | U | V | 5.0 | U | V | 3.8 | U | V | 40.0 | U | | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1760 | | V | 2200 | | V | 3780 | | V | 5000.0 | U | | 3620 | | V |
| Selenium | 1.2 | U | V | 4.0 | UI | V | 2.2 | U | V | 5.0 | U | | 1.8 | U | V |
| Silicon | 6760 | | V | 6720 | | V | | | | | | | | | |
| Silver | 2.9 | U | V | 5.0 | U | V | 2.8 | U | V | 10.0 | U | | 4.9 | U | V |
| Sodium | 30800 | | V | 30000 | | V | 28700 | | V | 33000.0 | | | 45100 | E | |
| Strontium | 389 | | V | 450 | | V | 354 | J | A | 1000.0 | U | | 1000 | U | V |
| Thallium | 1.9 | U | V | 5.0 | UI | JA | 1.1 | U | R | 10.0 | U | | 0.9 | U | V |
| Tin | 10.4 | U | V | 11 | U | V | 41.0 | UJ | A | 100.0 | U | | 100 | UJ | A |
| Vanadium | 2.3 | U | V | 2.0 | U | V | 3.0 | U | V | 50.0 | U | | 3.0 | U | V |
| Zinc | 4.3 | U | V | 5.0 | U | V | 15.5 | UJ | A | 73.1 | | | 15.3 | UJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW069W051690A (REAL)<br>Date: 05/16/90 | | Location: SW069 (SW)<br>Sample: SW00063WC (REAL)<br>Date: 06/12/90 | | Location: SW069 (SW)<br>Sample: SW00147WC (REAL)<br>Date: 07/19/90 | | Location: SW069 (SW)<br>Sample: SW00248WC (REAL)<br>Date: 08/20/90 | | Location: SW069 (SW)<br>Sample: SW80035WC (DUP)<br>Date: 08/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | 200 | U | 40.70 | B | 40.00 | B | 24.50 | B |
| Antimony | 60.0 | U | 60.0 | U | 22.50 | B | 10.00 | U | 10.00 | U |
| Arsenic | 10.0 | U | 10.0 | U | 2.00 | U | 1.00 | U | 1.00 | U |
| Barium | 200 | U | 200 | U | 89.90 | BE | 76.60 | B | 73.40 | B |
| Beryllium | 5.0 | U | 5.0 | U | 4.40 | B | 1.00 | U | 1.00 | U |
| Cadmium | 5.0 | U | 5.0 | U | 2.00 | U | 2.00 | U | 2.00 | U |
| Calcium | 26500 | | 43800 | | 73600.00 | | 61800.00 | | 59800.00 | |
| Cesium | 1000 | U | 1000 | U | 147.00 | U | 147.00 | U | 147.00 | U |
| Chromium | 10.0 | U | 10.0 | U | 6.00 | U | 13.00 | | 6.00 | U |
| Cobalt | 50.0 | U | 50.0 | U | 4.00 | U | 4.00 | U | 4.00 | U |
| Copper | 25.0 | U | 25.0 | U | 4.80 | B | 3.00 | U | 3.00 | U |
| Iron | 100 | U | 100 | U | 13.00 | U | 13.00 | U | 13.00 | U |
| Lead | 5.0 | U | 3.0 | U | 1.00 | B | 1.00 | U | 1.00 | U |
| Lithium | 100 | U | 100 | U | 9.40 | B | 8.00 | B | 9.60 | B |
| Magnesium | 5560 | | 12400 | | 17400.00 | | 15900.00 | | 15900.00 | |
| Manganese | 15.0 | U | 15.0 | U | 36.50 | | 15.70 | | 13.30 | B |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | 100 | U | 5.20 | B | 7.40 | B | 2.00 | U |
| Nickel | 40.0 | U | 40.0 | U | 4.00 | U | 4.10 | B | 4.00 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 5000 | U | 5000 | U | 2060.00 | B | 1880.00 | B | 1960.00 | B |
| Selenium | 5.0 | U | 5.0 | U | 2.00 | U | 2.00 | U | 2.00 | U |
| Silicon | | | | | | | | | | |
| Silver | 10.0 | U | 10.0 | U | 2.00 | U | 2.30 | B | 2.00 | U |
| Sodium | 11900 | | 25000 | | 31000.00 | | 27600.00 | | 27400.00 | |
| Strontium | 1000 | U | 1000 | U | 509.00 | | 411.00 | | 408.00 | |
| Thallium | 10.0 | U | 10.0 | U | 3.00 | U | 1.00 | BWN | 1.00 | UWN |
| Tin | 100 | U | 100 | U | 16.90 | B | 11.10 | B | 11.00 | U |
| Vanadium | 50.0 | U | 50.0 | U | 6.70 | B | 11.00 | B | 6.10 | B |
| Zinc | 74.1 | | 28.8 | | 8.30 | B | 2.00 | U | 2.00 | U |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW00518WC (REAL)<br>Date: 11/19/90 | | Location: SW069 (SW)<br>Sample: SW00622WC (REAL)<br>Date: 12/10/90 | | Location: SW069 (SW)<br>Sample: SW00930WC (REAL)<br>Date: 03/18/91 | | | Location: SW069 (SW)<br>Sample: SW01032WC (REAL)<br>Date: 04/04/91 | | Location: SW069 (SW)<br>Sample: SW01139WC (REAL)<br>Date: 05/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 98.00 | B | 34.70 | B | 66.0 | | JA | 17.7 | U | 108 | U | V |
| Antimony | 10.40 | B | 7.00 | U | 18.2 | U | V | 18.2 | U | 25.6 | U | V |
| Arsenic | 2.00 | U | 2.00 | U | 0.90 | U | JA | 0.90 | U | 0.90 | U | JA |
| Barium | 131.00 | B | 132.00 | B | 112 | | V | 89.2 | | 125 | | V |
| Beryllium | 1.00 | U | 1.00 | U | 0.60 | U | V | 0.60 | U | 0.50 | U | V |
| Cadmium | 2.00 | U | 2.00 | U | 2.7 | U | V | 2.7 | U | 3.3 | U | JA |
| Calcium | 85200.00 | | 81300.00 | | 53500 | | V | 48600 | | 69800 | | V |
| Cesium | 300.00 | B | 76.00 | U | 500 | U | V | 500 | U | 500 | U | V |
| Chromium | 8.20 | B | 7.90 | B | 6.9 | U | V | 6.9 | U | 4.1 | U | V |
| Cobalt | 3.00 | U | 3.00 | U | 3.0 | U | V | 3.0 | U | 3.6 | U | V |
| Copper | 7.30 | B | 6.80 | B | 7.2 | | V | 2.5 | U | 10.2 | | V |
| Iron | 44.80 | BN* | 14.80 | B | 235 | | JA | 16.0 | | 35.3 | | JA |
| Lead | 1.00 | U | 1.00 | U | 2.4 | | V | 1.4 | U | 2.0 | | V |
| Lithium | 8.40 | B | 8.40 | B | 7.6 | | V | 9.5 | | 13.7 | | V |
| Magnesium | 17700.00 | | 16600.00 | | 11400 | | V | 12000 | | 18300 | | V |
| Manganese | 14.80 | B | 3.50 | B | 10.4 | | V | 21.0 | | 6.7 | | JA |
| Mercury | 0.20 | U | 0.20 | UN | 0.20 | U | V | 0.20 | U | 0.20 | U | V |
| Molybdenum | 3.30 | B | 10.30 | B | 10.9 | U | V | 10.9 | U | 5.7 | U | V |
| Nickel | 4.00 | U | 4.00 | U | 3.9 | U | V | 3.9 | U | 14.7 | U | V |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 2920.00 | B | 2790.00 | B | 3770 | | V | 2560 | | 2160 | | V |
| Selenium | 1.00 | U | 1.00 | B | 1.1 | U | JA | 1.1 | U | 1.1 | U | V |
| Silicon | | | | | 3930 | | JA | 1540 | | 2770 | | V |
| Silver | 3.00 | U | 3.00 | U | 3.8 | U | V | 3.8 | U | 5.0 | U | V |
| Sodium | 32800.00 | | 36300.00 | | 29500 | | V | 32600 | | 46200 | | V |
| Strontium | 510.00 | | 477.00 | | 310 | | V | 306 | | 457 | | V |
| Thallium | 2.00 | UW | 2.00 | U | 1.4 | U | JA | 1.4 | U | 1.4 | U | V |
| Tin | 17.70 | B | 15.90 | B | 24.2 | U | V | 24.2 | U | 14.8 | U | V |
| Vanadium | 5.20 | B | 4.80 | B | 2.0 | U | V | 2.0 | U | 5.7 | U | V |
| Zinc | 13.70 | B | 10.60 | B | 8.8 | | V | 4.7 | U | 1.8 | U | R |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW01242WC (REAL)<br>Date: 06/19/91 | | | Location: SW069 (SW)<br>Sample: SW01345WC (REAL)<br>Date: 07/10/91 | | | Location: SW069 (SW)<br>Sample: SW01451WC (REAL)<br>Date: 08/08/91 | | | Location: SW069 (SW)<br>Sample: SW01557WC (REAL)<br>Date: 09/17/91 | | | Location: SW069 (SW)<br>Sample: SW01663WC (REAL)<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 510 | | V | 29 | | JA | 28 | | JA | 22.3 | U | V | 17 | U | V |
| Antimony | 11 | U | JA | 11 | U | V | 11 | U | V | 13.8 | U | V | 14 | U | V |
| Arsenic | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 1.1 | U | JA | 2.0 | U | V |
| Barium | 100 | | V | 78 | | V | 100 | | V | 34.3 | | JA | 69 | | V |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | 1.0 | U | V |
| Cadmium | 1.0 | U | | 1.7 | | JA | 2.0 | U | V | 2.4 | U | V | 1.2 | | JA |
| Calcium | 75000 | | V | 48000 | | V | 68000 | | V | 53300 | | V | 59000 | | V |
| Cesium | 60 | | V | 50 | | JA | 50 | U | V | 500 | U | V | 70 | | JA |
| Chromium | 2.0 | | JA | 2.0 | U | JA | 2.0 | U | V | 2.6 | U | JA | 2.0 | U | JA |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.8 | U | JA | 2.0 | U | V |
| Copper | 3.0 | U | JA | 3.0 | U | V | 3.0 | U | V | 2.1 | U | V | 2.0 | U | V |
| Iron | 530 | | V | 7.0 | U | R | 14 | | JA | 16.7 | U | V | 8.8 | | JA |
| Lead | 2.2 | | V | 1.3 | W | JA | 1.0 | U | R | 0.90 | U | V | 1.5 | | V |
| Lithium | 7.4 | | JA | 8.2 | | JA | 11 | | JA | 10.6 | | JA | 8.9 | | JA |
| Magnesium | 16000 | | V | 9600 | | V | 14000 | | V | 14400 | | V | 15000 | | V |
| Manganese | 70 | | V | 13 | | V | 37 | | V | 34.4 | | V | 25 | | V |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA |
| Molybdenum | 3.0 | U | JA | 3.0 | U | JA | 3.0 | U | JA | 5.8 | U | V | 4.0 | U | V |
| Nickel | 4.0 | U | V | 4.0 | U | V | 4.0 | U | JA | 5.9 | U | V | 5.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1900 | | V | 2500 | | V | 2500 | | V | 1820 | | V | 2500 | | V |
| Selenium | 4.0 | UI | JA | 4.0 | U | JA | 4.0 | U | V | 1.2 | U | V | 4.0 | U | V |
| Silicon | 4450 | | V | 3970 | | V | 5750 | | V | 6070 | | V | 6220 | | V |
| Silver | 2.0 | U | JA | 2.0 | U | V | 2.0 | U | V | 2.9 | U | V | 5.0 | U | V |
| Sodium | 34000 | | V | 22000 | | V | 31000 | | V | 29700 | | V | 30000 | | V |
| Strontium | 460 | | JA | 300 | | JA | 420 | | JA | 355 | | V | 380 | | V |
| Thallium | 5.0 | UI | R | 3.0 | UW | JA | 15 | UI | JA | 1.9 | U | JA | 5.0 | UI | JA |
| Tin | 13 | U | R | 13 | U | R | 13 | U | R | 10.4 | U | V | 11 | U | V |
| Vanadium | 2.5 | | V | 3.3 | | JA | 3.0 | U | V | 2.3 | U | V | 2.0 | U | V |
| Zinc | 15 | | JA | 3.0 | U | V | 9.0 | | V | 4.3 | U | V | 5.0 | U | V |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; K-detection limit high because of matrix interference; K-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW) Sample: SW07090001 (REAL) Date: 01/11/90 | | | Location: SW070 (SW) Sample: SW07090002 (REAL) Date: 02/07/90 | | | Location: SW070 (SW) Sample: SW07090003 (REAL) Date: 03/15/90 | | | Location: SW070 (SW) Sample: SW070W041990A (REAL) Date: 04/19/90 | | Location: SW070 (SW) Sample: SW070W051590A (REAL) Date: 05/15/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 25.8 | U | V | 41.8 | U | V | 42.3 | UJ | A | 200 | U | 254 | |
| Antimony | 44.6 | U | V | 45.4 | UJ | A | 25.4 | UJ | A | 60.0 | U | 60.0 | U |
| Arsenic | 1.9 | U | R | 1.3 | U | V | 1.3 | U | R | 10.0 | U | 10.0 | U |
| Barium | 103 | | V | 116 | | V | 108 | | V | 200 | U | 200 | U |
| Beryllium | 0.80 | U | V | 0.2 | U | R | 0.2 | U | R | 5.0 | U | 5.0 | U |
| Cadmium | 2.3 | U | R | 3.2 | U | V | 3.2 | U | V | 5.0 | U | 5.0 | U |
| Calcium | 57100 | | V | 61300 | E | | 63500 | E | | 79500 | | 64300 | |
| Cesium | 1000 | U | V | 1000 | U | V | 1000 | U | V | 1000 | U | 1000 | U |
| Chromium | 8.7 | U | V | 5.8 | U | V | 5.8 | U | V | 10.0 | U | 10.0 | U |
| Cobalt | 2.2 | U | V | 2.7 | U | V | 2.7 | U | V | 50.0 | U | 50.0 | U |
| Copper | 9.4 | UJ | A | 4.7 | | V | 4.5 | UJ | A | 25.0 | U | 25.0 | U |
| Iron | 35.9 | UJ | A | 11.3 | UE | | 11.3 | U | V | 100 | U | 197 | |
| Lead | 3.3 | UJ | A | 1.4 | UJ | A | 1.4 | UJ | A | 5.0 | U | 3.0 | |
| Lithium | 11.0 | J | A | 100 | UJ | A | 100 | U | V | 100 | U | 100 | U |
| Magnesium | 12100 | | V | 12900 | | V | 13100 | | V | 18200 | | 15600 | |
| Manganese | 14.7 | | V | 9.8 | UJ | A | 2.6 | J | A | 15.0 | U | 15.0 | U |
| Mercury | 0.2 | U | V | 0.22 | J | A | 0.2 | U | V | 0.20 | U | 0.20 | U |
| Molybdenum | 20.5 | U | A | 100 | UJ | A | 100 | UJ | A | 100 | U | 100 | U |
| Nickel | 3.8 | U | V | 11.1 | U | V | 11.1 | U | V | 40.0 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 3540 | | V | 2100 | UJ | A | 3420 | | V | 5000 | U | 5000 | U |
| Selenium | 2.2 | U | V | 1.8 | U | V | 1.8 | UJ | A | 5.0 | U | 5.0 | U |
| Silicon | | | | | | | | | | | | | |
| Silver | 2.8 | U | V | 4.9 | U | V | 4.9 | | V | 10.0 | U | 10.0 | U |
| Sodium | 27700 | | V | 40100 | | V | 44000 | E | | 38400 | | 31700 | |
| Strontium | 356 | J | A | 1000 | UJ | A | 1000 | U | V | 1000 | U | 1000 | U |
| Thallium | 1.1 | UJ | A | 0.9 | U | R | 0.9 | U | V | 10.0 | U | 10.0 | U |
| Tin | 41.0 | UJ | A | 100 | UJ | A | 100 | UJ | A | 100 | U | 100 | U |
| Vanadium | 3.0 | U | V | 3.0 | U | V | 3.0 | U | V | 50.0 | U | 50.0 | U |
| Zinc | 9.5 | UJ | A | 14.9 | UJ | A | 9.7 | UJ | A | 20.0 | U | 44.2 | |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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REAL - Field Sample; DUP - Field Duplicate
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# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW00065WC (REAL)<br>Date: 06/12/90 | | | Location: SW070 (SW)<br>Sample: SW00142WC (REAL)<br>Date: 07/18/90 | | | Location: SW070 (SW)<br>Sample: SW00519WC (REAL)<br>Date: 11/15/90 | | | Location: SW070 (SW)<br>Sample: SW00623WC (REAL)<br>Date: 12/10/90 | | | Location: SW070 (SW)<br>Sample: SW00931WC (REAL)<br>Date: 03/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | | 19.50 | B | | 27.1 | | V | 40.20 | B | | 17.7 | U | JA |
| Antimony | 60.0 | U | | 17.90 | B | | 22.0 | U | V | 7.00 | U | | 18.2 | U | V |
| Arsenic | 10.0 | U | | 2.00 | BWN | | 1.0 | U | V | 2.00 | U | | 0.90 | U | V |
| Barium | 200 | U | | 57.40 | B | | 144 | | V | 139.00 | B | | 112 | | V |
| Beryllium | 5.0 | U | | 1.00 | U | | 1.0 | U | V | 1.00 | U | | 0.60 | U | V |
| Cadmium | 5.0 | U | | 2.00 | U | | 5.0 | U | V | 2.00 | U | | 2.7 | U | V |
| Calcium | 50100 | | | 52800.00 | | | 90000 | | V | 82000.00 | | | 50500 | | V |
| Cesium | 1000 | U | | 147.00 | U | | 500 | U | V | 76.00 | U | | 500 | U | V |
| Chromium | 10.0 | U | | 6.00 | U | | 4.0 | U | JA | 7.10 | B | | 6.9 | U | V |
| Cobalt | 50.0 | U | | 4.00 | U | | 4.0 | U | V | 3.00 | U | | 3.0 | U | V |
| Copper | 25.0 | U | | 3.00 | U | | 5.0 | | V | 6.80 | B | | 4.5 | | V |
| Iron | 100 | U | | 14.70 | B | | 3.0 | U | V | 24.30 | B | | 29.0 | | JA |
| Lead | 3.0 | U | | 1.00 | UW | | 1.0 | U | JA | 1.00 | U | | 1.0 | | V |
| Lithium | 100 | U | | 8.00 | B | | 10.8 | | JA | 8.50 | B | | 7.6 | | V |
| Magnesium | 14400 | | | 15800.00 | | | 17800 | | V | 16800.00 | | | 10700 | | V |
| Manganese | 21.4 | | | 70.40 | | | 16.8 | | JA | 10.50 | B | | 14.9 | | V |
| Mercury | 0.20 | U | | 0.20 | U | | 0.10 | U | R | 0.20 | UN | | 0.20 | U | V |
| Molybdenum | 100 | U | | 3.10 | B | | 9.0 | U | V | 3.60 | B | | 10.9 | U | V |
| Nickel | 40.0 | U | | 4.00 | U | | 9.0 | U | V | 4.00 | U | | 3.9 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 5000 | U | | 2530.00 | B | | 3920 | | V | 3120.00 | B | | 3720 | | V |
| Selenium | 5.0 | U | | 2.00 | U | | 2.0 | U | V | 1.00 | B | | 1.1 | U | V |
| Silicon | | | | | | | 6020 | | JA | | | | 2770 | | JA |
| Silver | 10.0 | U | | 2.00 | U | | 4.5 | | V | 3.00 | U | | 3.8 | U | V |
| Sodium | 27300 | | | 33300.00 | | | 34700 | | V | 38500.00 | | | 28900 | | V |
| Strontium | 1000 | U | | 411.00 | | | 481 | | V | 484.00 | | | 294 | | V |
| Thallium | 10.0 | U | | 3.00 | U | | 2.0 | U | V | 2.00 | U | | 1.4 | U | JA |
| Tin | 100 | U | | 17.00 | B | | 30.0 | U | V | 13.50 | B | | 24.2 | U | V |
| Vanadium | 50.0 | U | | 3.30 | B | | 7.5 | | V | 4.60 | B | | 2.0 | U | V |
| Zinc | 20.0 | U | | 5.70 | B | | 2.0 | U | V | 11.50 | B | | 12.2 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW01033WC (REAL)<br>Date: 04/04/91 | | | Location: SW070 (SW)<br>Sample: SW01140WC (REAL)<br>Date: 05/13/91 | | | Location: SW070 (SW)<br>Sample: SW01243WC (REAL)<br>Date: 06/19/91 | | | Location: SW070 (SW)<br>Sample: SW01346WC (REAL)<br>Date: 07/10/91 | | | Location: SW070 (SW)<br>Sample: SW01452WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 17.7 | U | | 108 | U | V | 450 | | V | 42 | | JA | 26 | | JA |
| Antimony | 18.2 | U | | 25.6 | U | V | 11 | U | JA | 11 | U | V | 11 | U | V |
| Arsenic | 0.90 | U | | 0.90 | U | JA | 2.0 | UI | V | 2.0 | U | V | 2.0 | U | V |
| Barium | 102 | | | 131 | | V | 100 | | V | 51 | | V | 110 | | V |
| Beryllium | 0.60 | U | | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | | 3.3 | U | JA | 1.9 | | JA | 1.4 | | JA | 2.0 | U | V |
| Calcium | 43800 | | | 67900 | | V | 64000 | | V | 37000 | | V | 68000 | | V |
| Cesium | 500 | U | | 500 | U | V | 50 | | V | 50 | | JA | 50 | U | V |
| Chromium | 6.9 | U | | 4.1 | U | V | 2.0 | U | V | 2.0 | U | JA | 63 | | V |
| Cobalt | 3.0 | U | | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V |
| Copper | 7.6 | | | 7.8 | | V | 3.0 | U | JA | 3.0 | U | V | 3.0 | U | V |
| Iron | 32.5 | | | 12.2 | | JA | 540 | | V | 7.0 | U | R | 230 | | JA |
| Lead | 1.6 | | | 1.4 | U | V | 3.3 | | V | 1.5 | | V | 1.0 | U | JA |
| Lithium | 9.0 | | | 11.4 | | V | 8.7 | | JA | 7.1 | | JA | 8.8 | | JA |
| Magnesium | 10500 | | | 18300 | | V | 16000 | | V | 7200 | | V | 14000 | | V |
| Manganese | 34.3 | | | 16.3 | | V | 69 | | V | 7.9 | | V | 70 | | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | JA |
| Molybdenum | 10.9 | U | | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA | 3.0 | U | JA |
| Nickel | 8.0 | | | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V | 37 | | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2810 | | | 3190 | | V | 2100 | | V | 2600 | | V | 2800 | | V |
| Selenium | 1.1 | U | | 1.1 | U | V | 4.0 | UI | JA | 4.0 | U | JA | 4.0 | UI | JA |
| Silicon | 1420 | | | 2270 | | V | 4240 | | V | 3210 | | V | 5420 | | V |
| Silver | 3.8 | U | | 5.0 | U | V | 2.0 | U | JA | 2.0 | U | V | 2.0 | U | V |
| Sodium | 31100 | | | 49500 | | V | 34000 | | V | 15000 | | V | 30000 | | V |
| Strontium | 272 | | | 451 | | V | 420 | | JA | 230 | | JA | 410 | | JA |
| Thallium | 1.4 | U | | 1.4 | U | V | 5.0 | UI | R | 3.0 | UW | JA | 15 | UI | JA |
| Tin | 24.2 | U | | 14.8 | U | V | 13 | U | R | 13 | U | R | 13 | U | R |
| Vanadium | 2.0 | U | | 5.7 | U | V | 2.0 | U | V | 2.0 | U | V | 3.0 | U | V |
| Zinc | 109 | | | 1.8 | U | JA | 16 | | JA | 4.7 | | JA | 4.5 | | V |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-e

## Surface Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW01558WC (REAL)<br>Date: 09/17/91 | | | Location: SW070 (SW)<br>Sample: SW01664WC (REAL)<br>Date: 10/10/91 | | | Location: SW070 (SW)<br>Sample: SW01712WC (REAL)<br>Date: 11/05/91 | | | Location: SW070 (SW)<br>Sample: SW01867WC (REAL)<br>Date: 04/08/92 | | | Location: SW125 (SW)<br>Sample: SW00643WC (REAL)<br>Date: 12/18/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 22.3 | U | V | 40 | | JA | 23.4 | | JA | 29.2 | U | V | 37.6 | B | |
| Antimony | 13.8 | U | V | 14 | U | V | 13.8 | U | V | 19.8 | U | V | 22.0 | U | |
| Arsenic | 1.1 | U | JA | 2.0 | U | V | 2.3 | U | JA | 1.7 | U | JA | 1.0 | U | |
| Barium | 5.6 | U | JA | 30 | | V | 45.3 | | V | 123 | | V | 67.0 | B | |
| Beryllium | 0.50 | U | V | 1.0 | U | V | 0.50 | | JA | 1.5 | | JA | 1.0 | U | |
| Cadmium | 2.4 | U | V | 1.2 | | JA | 2.4 | U | JA | 2.3 | U | JA | 5.0 | U | |
| Calcium | 32700 | | V | 43000 | | V | 26500 | | V | 80800 | | V | 38400 | | |
| Cesium | 500 | U | V | 80 | | JA | 500 | U | V | 500 | U | V | 500 | U | |
| Chromium | 2.6 | U | V | 2.0 | U | JA | 2.6 | U | V | 2.0 | U | V | 4.0 | U | |
| Cobalt | 2.8 | U | V | 2.0 | U | V | 2.8 | U | V | 2.7 | U | V | 4.0 | U | |
| Copper | 2.1 | U | V | 2.2 | | JA | 4.5 | | JA | 4.5 | | JA | 13.9 | B | |
| Iron | 16.7 | U | V | 90 | | JA | 31.9 | | JA | 18.5 | | JA | 30.0 | B | |
| Lead | 0.90 | U | V | 2.6 | | V | 1.6 | | JA | 0.70 | U | V | 1.2 | | |
| Lithium | 8.4 | | JA | 8.0 | | JA | 7.1 | U | V | 8.5 | | JA | 10.0 | U | |
| Magnesium | 11400 | | V | 14000 | | V | 4840 | | V | 19600 | | V | 9660 | | |
| Manganese | 31.3 | | V | 47 | | V | 6.8 | | JA | 10.9 | | JA | 1.0 | U | |
| Mercury | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | .20 | U | |
| Molybdenum | 5.8 | U | V | 4.0 | U | V | 5.8 | U | V | 3.5 | U | V | 9.0 | U | |
| Nickel | 5.9 | U | V | 5.0 | U | V | 5.9 | U | V | 11.2 | U | V | 9.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2200 | | V | 2400 | | V | 2990 | | V | 2310 | | JA | 2980 | B | |
| Selenium | 1.2 | U | V | 4.0 | UI | JA | 1.5 | U | V | 0.90 | | JA | 2.0 | U | |
| Silicon | 5520 | | V | 5930 | | V | 2010 | | V | 2920 | | V | | | |
| Silver | 2.9 | U | V | 5.0 | U | V | 3.0 | | V | 2.1 | U | V | 3.0 | U | |
| Sodium | 25400 | | V | 29000 | | V | 16400 | | V | 35900 | | V | 17300 | | |
| Strontium | 246 | | V | 310 | | V | 145 | | V | 520 | | JA | 240 | | |
| Thallium | 1.9 | U | JA | 5.0 | UI | JA | 1.9 | U | V | 2.0 | U | JA | 2.0 | U | |
| Tin | 10.4 | U | V | 11 | U | V | 10.4 | U | V | 9.4 | U | V | 30.0 | U | |
| Vanadium | 2.3 | U | V | 2.0 | U | V | 2.3 | U | V | 3.5 | U | V | 4.4 | B | |
| Zinc | 4.3 | U | V | 5.0 | U | V | 8.5 | | JA | 3.6 | | JA | 7.4 | B | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW02990001 (REAL)<br>Date: 01/16/90 | | Location: SW029 (SW)<br>Sample: SW02990002 (REAL)<br>Date: 02/08/90 | Location: SW029 (SW)<br>Sample: SW029W051090A (REAL)<br>Date: 05/10/90 | Location: SW029 (SW)<br>Sample: SW00003WC (REAL)<br>Date: 06/06/90 | | Location: SW029 (SW)<br>Sample: SW00130WC (REAL)<br>Date: 07/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.047 | A | 0.008 | 0.010 | 0.000 | | .01119 | X | A |
| cesium - unknown isotope | | | | | | | | | |
| cesium-134 | | | | | | | | | |
| cesium-137 | -0.39 | | 0.15 | 0.31 | 0.31 | R | -.276 | J | A |
| curium-244 | | | | | | | | | |
| gross alpha | | | | 2.1 | 1.9 | A | | | |
| gross alpha | 0.4 | | 0.8 | | | | | | |
| gross alpha particle activity | | | | | | | | | |
| gross beta | | | | 2.3 | 5.1 | A | | | |
| gross beta | | | | | | | | | |
| gross beta particle activity | 1.7 | | 0.1 | | | | | | |
| neptunium-237 | | | | | | | | | |
| plutonium-236 | | | | | | | | | |
| plutonium-238 | | | | | | | 0 | J | V |
| plutonium-239 | 0.008 | | 0.006 | | | | | | |
| plutonium-239,-240 | 0.008 | R | | 0.010 | 0.011 | | .009149 | J | V |
| radium-226 | | | | | | | | | |
| radium-228 | | | | | | | | | |
| strontium-89 | | | | | | | | | |
| strontium-89,-90 | | | | 0.48 | 0.69 | A | | | |
| strontium-90 | 0.49 | | 0.30 | | | | | | |
| total radiocesium | | | | | | | | | |
| tritium (pCi/l) | -10 | | 220 | 340 | 370 | R | 10.7 | J | A |
| uranium-233,-234 | 1.11 | | 0.55 | 1.59 | 1.17 | | | | |
| uranium-234 | | | | | | | | | |
| uranium-235 | 0.11 | | 0.10 | 0.00 | 0.05 | | | | |
| uranium-238 | 0.86 | | 0.84 | 1.02 | 1.06 | | | | |

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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00233WC (REAL)<br>Date: 08/09/90 | | Location: SW029 (SW)<br>Sample: SW00311WC (REAL)<br>Date: 09/12/90 | | Location: SW029 (SW)<br>Sample: SW80042WC (DUP)<br>Date: 09/12/90 | | Location: SW029 (SW)<br>Sample: SW00402WC (REAL)<br>Date: 10/03/90 | | Location: SW029 (SW)<br>Sample: SW00503WC (REAL)<br>Date: 11/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.0 | V | .06723 | R | .01375 | V | .005 | R | | | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | .1175 | V | .09007 | V | -.009966 | V | .1127 | V | | | |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha | 1.5 | V | .2357 | V | 1.561 | V | 1.752 | V | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta | 3.333 | V | 2.918 | A | 3.575 | A | 2.762 | V | | | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | .01158 | A | .00587 | V | .02108 | V | .01067 | R | | | |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | |
| strontium-90 | .3162 | V | .7658 | V | .3553 | V | .419 | A | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 144.3136 | V | -86.8251 | R | 49.00906 | R | 74.9749 | R | 80. | U | V |
| uranium-233,-234 | .3713 | V | .5294 | A | .5449 | A | .5005 | R | | | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.0 | V | .01658 | A | .0668 | A | 0.0 | R | | | |
| uranium-238 | .1856 | V | .3834 | A | .3794 | A | .3185 | R | | | |

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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
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QFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00607WC (REAL)<br>Date: 12/05/90 | | | Location: SW029 (SW)<br>Sample: SW00709WC (REAL)<br>Date: 01/09/91 | | | Location: SW029 (SW)<br>Sample: SW00915WC (REAL)<br>Date: 03/18/91 | | | Location: SW029 (SW)<br>Sample: SW01124WC (REAL)<br>Date: 05/09/91 | | | Location: SW029 (SW)<br>Sample: SW01227WC (REAL)<br>Date: 06/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | -.010 | U | R | .0007503 | J | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | .07561 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| *neptunium-237* | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | .002 | U | A | | | |
| plutonium-239,-240 | | | | | | | | | | | | | 0 | J | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -20. | U | A | 90 | U | V | 150. | U | V | 43.00 | | V | 103.2 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

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Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference, +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01330WC (REAL)<br>Date: 07/11/91 | | | Location: SW029 (SW)<br>Sample: SW01436WC (REAL)<br>Date: 08/08/91 | | | Location: SW029 (SW)<br>Sample: SW01542WC (REAL)<br>Date: 09/26/91 | | | Location: SW029 (SW)<br>Sample: SW01648WC (REAL)<br>Date: 10/09/91 | | | Location: SW029 (SW)<br>Sample: SW01720WC (REAL)<br>Date: 11/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .003175 | J | V | .01583 | | V | 0.004 | J | A | 0.019 | | A | 0.006 | | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .1192 | J | A | .2285 | J | A | 2.2 | | | 0.59 | J | A | 0.25 | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 3.8 | | A | 4.7 | | A | 1.9 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | 4.0 | | A | 2.8 | J | A | 3.2 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .00325 | J | V | 0 | J | V | 0.009 | J | A | 0.029 | | A | 0.005 | | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | 0.67 | J | V | 0.61 | J | A | 0.73 | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 128.3 | J | V | 129.7 | J | V | 27 | U | A | -15 | U | V | 51 | | V |
| uranium-233,-234 | | | | | | | 1.0 | B | A | 0.95 | B | A | 0.66 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | 0.035 | U | A | 0 | U | A | 0 | | A |
| uranium-238 | | | | | | | 0.87 | | A | 0.57 | J | A | 0.53 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01793WC (REAL)<br>Date: 01/09/92 | | | Location: SW029 (SW)<br>Sample: SW01875WC (REAL)<br>Date: 04/02/92 | | | Location: SW029 (SW)<br>Sample: SW80190WC (DUP)<br>Date: 04/02/92 | | | Location: SW031 (SW)<br>Sample: SW03190001 (REAL)<br>Date: 01/11/90 | | | Location: SW031 (SW)<br>Sample: SW03190002 (REAL)<br>Date: 02/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.009 | J | A | | | | 0 | U | R | 0.012 | | | 0.001 | | V |
| cesium - unknown isotope | | | | | | | | | | | | | -0.3 | | V |
| cesium-134 | | | | | | | 2.08 | U | R | | | | | | |
| cesium-137 | 0.15 | U | | | | | 2.70 | U | R | -0.11 | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 1.5 | J | A | | | | 3.6 | | R | | | | | | |
| gross alpha | | | | | | | | | | 12.5 | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 1.4 | U | A | | | | 16.5 | | R | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | 8.2 | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | 0.013 | | R | | | | | | |
| plutonium-238 | | | | | | | 0 | U | R | | | | | | |
| plutonium-239 | | | | | | | | | | 0.004 | | | | | |
| plutonium-239,-240 | 0.007 | J | | | | | 0.195 | | R | | | | 0.003 | | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.45 | BJ | | | | | 5.334 | | R | | | | 0.2 | | V |
| strontium-90 | | | | | | | | | | 0.26 | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 450 | | | 0 | | R | 0 | U | R | 50 | | | | | |
| uranium-233,-234 | 0.83 | B | | | | | 0.552 | J | R | 1.74 | | | 3.3 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.087 | J | | | | | 0.029 | J | R | 0.15 | | | 0.1 | | V |
| uranium-238 | 0.74 | B | | | | | 0.273 | J | R | 3.08 | | | 3 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW03190003 (REAL)<br>Date: 03/14/90 | | Location: SW031 (SW)<br>Sample: SW031W041890A (REAL)<br>Date: 04/18/90 | | Location: SW031 (SW)<br>Sample: SW031W051590A (REAL)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW031W051590D (DUP)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW00060WC (REAL)<br>Date: 06/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.008 | A | 0.004 | JA | 0.027 | | 0.008 | | 0.008 | R |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | | | 0.09 | A | 0.15 | | 1.19 | R | 0.09 | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | 12.6 | A | 5.8 | | 5.7 | | 4.7 | A |
| gross alpha | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | 10.7 | A | 7.4 | | 7.3 | | 4.8 | A |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | 0.011 | A | 0.006 | A | 0.000 | | 0.003 | | 0.012 | A |
| radium-226 | | | 0.30 | A | | | 0.14 | R | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | 0.39 | A | 0.37 | | 0.14 | | 0.43 | |
| strontium-90 | | | | | | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | | | 410 | | 210 | | 380 | R | 421 | JA |
| uranium-233,-234 | 5.50 | A | 4.96 | R | 3.26 | | 3.49 | | 3.72 | A |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.35 | A | 0.14 | R | 0.39 | | 0.13 | | -0.01 | A |
| uranium-238 | 12.83 | A | 8.95 | R | 4.61 | | 4.10 | | 3.71 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW00199WC (REAL)<br>Date: 07/19/90 | | | Location: SW031 (SW)<br>Sample: SW00318WC (REAL)<br>Date: 09/13/90 | | Location: SW031 (SW)<br>Sample: SW00409WC (REAL)<br>Date: 10/10/90 | | Location: SW031 (SW)<br>Sample: SW00510WC (REAL)<br>Date: 11/27/90 | | | Location: SW031 (SW)<br>Sample: SW00614WC (REAL)<br>Date: 12/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .002571 | J | | .005991 | V | .003492 | V | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | .1598 | J | A | .1456 | V | -.08194 | | | | | | | |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha | | | | 3.446 | V | 4.851 | V | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta | | | | 5.296 | A | 7.735 | V | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | 0 | J | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | .003463 | J | | -.000832 | V | .006099 | V | | | | | | |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | |
| strontium-90 | | | | .3051 | V | -.007766 | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | 230.6 | J | A | 175.1006 | R | 132.5502 | R | 200.0 | U | V | 100. | U | V |
| uranium-233,-234 | | | | 2.661 | A | 2.666 | A | | | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | | | | .09762 | A | .1195 | A | | | | | | |
| uranium-238 | | | | 1.975 | A | 1.759 | A | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW01029WC (REAL)<br>Date: 04/09/91 | | | Location: SW031 (SW)<br>Sample: SW01443WC (REAL)<br>Date: 08/12/91 | | | Location: SW031 (SW)<br>Sample: SW01549WC (REAL)<br>Date: 09/26/91 | | | Location: SW031 (SW)<br>Sample: SW01655WC (REAL)<br>Date: 10/16/91 | | | Location: SW032 (SW)<br>Sample: SW03290001 (REAL)<br>Date: 01/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .012 | U | A | .0009313 | J | V | 0.004 | J | | 0 | U | A | 0.152 | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | .0137 | J | R | 0.30 | U | | -0.032 | U | V | 0.09 | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 4.9 | | A | 3.4 | | | | |
| gross alpha | | | | | | | | | | | | | 2.7 | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | 5.5 | | A | 3.8 | J | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 4.5 | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | .000 | U | A | | | | | | | | | | 0.034 | |
| plutonium-239,-240 | | | | .001186 | J | V | 0.012 | | | 0.001 | U | V | 0.034 | R |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | 0.050 | U | V | -0.044 | U | V | | |
| strontium-90 | | | | | | | | | | | | | 0.42 | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 200.0 | U | | 61.95 | J | V | -11 | U | A | 140 | U | V | 30 | |
| uranium-233,-234 | | | | | | | 2.3 | BJ | | 2.9 | | V | 1.06 | A |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | .18 | J | | 0.27 | U | V | 0.30 | A |
| uranium-238 | | | | | | | 2.1 | J | | 1.7 | | V | 0.76 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW032 (SW) Sample: SW03290002 (REAL) Date: 02/20/90 | | | Location: SW032 (SW) Sample: SW03290003 (REAL) Date: 03/23/90 | | | Location: SW032 (SW) Sample: SW032W051090A (REAL) Date: 05/10/90 | | | Location: SW032 (SW) Sample: SW00005WC (DUP) Date: 06/07/90 | | | Location: SW032 (SW) Sample: SW00136WC (REAL) Date: 07/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | V | | 0.000 | | | 0.002 | | | 0.009 | A | | .02445 | X | V |
| cesium - unknown isotope | 0.1 | V | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | -0.03 | A | | 0.32 | | | 1.06 | A | | .3119 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 1.9 | | | 1.4 | A | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | 2.3 | | | 3.6 | A | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | .001196 | J | A |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -0.001 | V | | | | | 0.002 | | | 0.001 | A | | .00179 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.3 | V | | 0.58 | A | | 0.15 | | | 1.21 | A | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | -40 | JA | | 220 | | | 400 | R | | 380.1 | J | A |
| uranium-233,-234 | 0.7 | V | | | | | 0.68 | | | 0.19 | A | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | -0.03 | V | | | | | 0.00 | | | -0.01 | A | | | | |
| uranium-238 | 0.3 | V | | | | | 0.48 | | | 0.15 | A | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00234WC (REAL)<br>Date: 08/09/90 | | Location: SW032 (SW)<br>Sample: SW00312WC (REAL)<br>Date: 09/13/90 | | Location: SW032 (SW)<br>Sample: SW00403WC (REAL)<br>Date: 10/04/90 | | Location: SW032 (SW)<br>Sample: SW00504WC (REAL)<br>Date: 11/07/90 | | | Location: SW032 (SW)<br>Sample: SW00608WC (REAL)<br>Date: 12/04/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .009663 | V | .006549 | V | .007 | V | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | |
| cesium-137 | .003471 | V | .01441 | V | .2019 | | | | | | | |
| curium-244 | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | |
| gross alpha | .6899 | V | -.4079 | V | 1.087 | V | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | |
| gross beta | 3.349 | V | 1.771 | A | 3.118 | V | | | | | | |
| gross beta particle activity | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | |
| plutonium-239,-240 | -.002683 | A | .002328 | V | .002131 | V | | | | | | |
| radium-226 | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | |
| strontium-90 | .278 | V | .3459 | V | .1977 | | | | | | | |
| total radiocesium | | | | | | | | | | | | |
| tritium (pCi/l) | 162.1238 | V | 105.963 | R | 36.87912 | R | -250. | U | V | 200.0 | U | V |
| uranium-233,-234 | .5026 | V | .2746 | A | .2932 | A | | | | | | |
| uranium-234 | | | | | | | | | | | | |
| uranium-235 | 0.0 | V | .0554 | A | 0.0 | A | | | | | | |
| uranium-238 | .4467 | V | .1831 | A | .05863 | A | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00916WC (REAL)<br>Date: 03/13/91 | | | Location: SW032 (SW)<br>Sample: SW01018WC (REAL)<br>Date: 04/04/91 | | | Location: SW032 (SW)<br>Sample: SW01125WC (REAL)<br>Date: 05/09/91 | | | Location: SW032 (SW)<br>Sample: SW01228WC (REAL)<br>Date: 06/13/91 | | | Location: SW032 (SW)<br>Sample: SW01331WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .021 | | A | .183 | U | JA | .006468 | J | | .005213 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | -.198 | J | A | .1978 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | .002 | U | A | -.005 | U | A | | | | | | |
| plutonium-239,-240 | | | | | | | | | | .004821 | J | | .0008451 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 40. | U | V | 200.0 | U | | 78.00 | | V | 107 | J | V | 134.2 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01437WC (REAL)<br>Date: 08/07/91 | | | Location: SW032 (SW)<br>Sample: SW01543WC (REAL)<br>Date: 09/26/91 | | | Location: SW032 (SW)<br>Sample: SW01649WC (REAL)<br>Date: 10/10/91 | | | Location: SW032 (SW)<br>Sample: SW01721WC (REAL)<br>Date: 11/13/91 | | | Location: SW032 (SW)<br>Sample: SW01794WC (REAL)<br>Date: 01/15/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .005605 | J | | 0.002 | U | A | 0.015 | | | 0.005 | | A | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.0705 | J | A | 0.83 | J | | 1.4 | | A | 0.06 | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | 1.1 | J | A | 0.34 | U | R | 2.2 | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 3.2 | U | A | 2.9 | J | A | 2.6 | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -.000628 | J | | 0.004 | J | A | 0.001 | J | A | 0.001 | | V | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | 0.34 | J | V | 0.62 | J | A | 0.43 | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 30.76 | J | V | 93 | U | A | 98 | U | V | 220 | | V | 240 | U | V |
| uranium-233,-234 | | | | 1.07 | BJ | A | 0.73 | B | A | 0.83 | | A | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | 0 | U | A | 0 | U | A | 0 | | A | | | |
| uranium-238 | | | | 0.07 | J | A | 0.31 | J | A | 0.36 | | A | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01876WC (REAL)<br>Date: 04/02/92 | | | Location: SW033 (SW)<br>Sample: SW03390001 (REAL)<br>Date: 01/16/90 | | Location: SW033 (SW)<br>Sample: SW03390002 (REAL)<br>Date: 02/20/90 | | Location: SW033 (SW)<br>Sample: SW03390003 (REAL)<br>Date: 03/23/90 | | Location: SW033 (SW)<br>Sample: SW033W051090A (REAL)<br>Date: 05/10/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | J | R | 0.062 | | 0.007 | V | 0.025 | | 0.004 | A |
| cesium - unknown isotope | | | | | | 0.2 | V | | | | |
| cesium-134 | 2.17 | U | R | | | | | | | | |
| cesium-137 | 2.59 | U | R | -0.10 | | | | 0.07 | A | 0.08 | A |
| curium-244 | | | | | | | | | | | |
| gross alpha | 4.01 | | R | | | | | | | 1.5 | A |
| gross alpha | | | | 1.1 | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 11.74 | | R | | | | | | | 2.2 | A |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | 1.3 | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | 0 | | R | | | | | | | | |
| plutonium-238 | 0 | U | R | | | | | | | | |
| plutonium-239 | | | | 0.074 | | | | | | | |
| plutonium-239,-240 | 0 | U | R | 0.074 | R | -0.001 | V | | | 0.001 | A |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 4.442 | | R | | | 0.5 | V | 0.54 | A | 0.55 | A |
| strontium-90 | | | | 0.26 | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 0 | U | R | 70 | | | | 10 | JA | 350 | JA |
| uranium-233,-234 | 0.359 | J | R | 0.88 | | 1 | V | | | 1.08 | R |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.011 | J | R | 0.09 | | 0.03 | V | | | 0.00 | R |
| uranium-238 | 0.215 | J | R | 0.70 | | 0.5 | V | | | 0.61 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW033 (SW) Sample: SW00006WC (REAL) Date: 06/07/90 | | | Location: SW033 (SW) Sample: SW00128WC (REAL) Date: 07/16/90 | | | Location: SW033 (SW) Sample: SW00313WC (REAL) Date: 09/13/90 | | | Location: SW033 (SW) Sample: SW00404WC (REAL) Date: 10/04/90 | | | Location: SW033 (SW) Sample: SW00505WC (REAL) Date: 11/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -0.004 | | A | .005576 | J | A | 0.0 | | V | .004 | | V | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 0.41 | | A | 0 | J | A | .1246 | | V | .3186 | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 1.1 | | A | | | | | | | | | | | | |
| gross alpha | | | | | | | .2783 | | V | -.3862 | | V | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 2.3 | | A | | | | | | | | | | | | |
| gross beta | | | | | | | 1.823 | | A | 2.592 | | V | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | -.000489 | J | V | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.002 | | A | .001221 | J | V | .004675 | | V | .003677 | | V | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 1.19 | | A | | | | | | | | | | | | |
| strontium-90 | | | | | | | .2836 | | V | .3236 | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 220 | | R | 254.7 | J | A | -27.3062 | | R | 34.00927 | | R | 50. | U | V |
| uranium-233,-234 | 1.87 | | A | | | | .4704 | | A | .1951 | | A | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.74 | | A | | | | .05694 | | A | 0.0 | | A | | | |
| uranium-238 | 0.55 | | A | | | | .04704 | | A | .1463 | | A | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW00609WC (REAL)<br>Date: 12/04/90 | | | Location: SW033 (SW)<br>Sample: SW00917WC (REAL)<br>Date: 03/08/91 | | | Location: SW033 (SW)<br>Sample: SW01019WC (REAL)<br>Date: 04/04/91 | | | Location: SW033 (SW)<br>Sample: SW01126WC (REAL)<br>Date: 05/13/91 | | | Location: SW033 (SW)<br>Sample: SW01229WC (REAL)<br>Date: 06/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .0360 | | A | .004 | U | A | .003 | U | R | .002079 | J | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | -.286 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | 1.79 | | V | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | 1.51 | | V | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | .0610 | | A | -.003 | U | A | .0870 | | A | | | |
| plutonium-239,-240 | | | | | | | | | | | | | .00123 | J | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 200.0 | U | V | 200.0 | U | | 200.0 | U | | 100.0 | | V | 152.4 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01332WC (REAL)<br>Date: 07/10/91 | | | Location: SW033 (SW)<br>Sample: SW01438WC (REAL)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW80145WC (DUP)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW01544WC (REAL)<br>Date: 09/26/91 | | | Location: SW033 (SW)<br>Sample: SW01650WC (REAL)<br>Date: 10/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .00266 | J | V | .01782 | | | .008811 | J | | 0.004 | U | A | 0 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .1576 | J | A | .3598 | J | A | -.151 | J | A | 1.2 | | | 0.52 | U | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | 1.7 | J | A | 1.2 | J | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | 2.3 | U | A | 1.7 | U | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -.000945 | J | V | .002141 | J | | -.000306 | J | | -0.001 | U | A | 0.002 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | 0.84 | J | V | 0.47 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 26.06 | J | V | 22.37 | J | V | 43.81 | J | V | -220 | U | A | 110 | U | V |
| uranium-233,-234 | | | | | | | | | | .91 | BJ | A | 0.79 | B | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | .06 | J | A | -0.010 | U | A |
| uranium-238 | | | | | | | | | | .62 | J | A | 0.65 | B | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01722WC (REAL)<br>Date: 11/13/91 | | Location: SW033 (SW)<br>Sample: SW01795WC (REAL)<br>Date: 01/15/92 | | | Location: SW033 (SW)<br>Sample: SW01877WC (REAL)<br>Date: 04/06/92 | | | Location: SW034 (SW)<br>Sample: SW03490001 (REAL)<br>Date: 01/15/90 | Location: SW034 (SW)<br>Sample: SW03490001D (DUP)<br>Date: 01/15/90 |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.007 | A | | | | 0 | U | R | 0.008 | 0.007 |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | 2.21 | U | R | | |
| cesium-137 | 0.23 | | | | | 2.27 | U | R | 0.02 | -0.04 |
| curium-244 | | | | | | | | | | |
| gross alpha | 1.7 | | | | | 4.7 | | R | | |
| gross alpha | | | | | | | | | 0.6 | 0.4 |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 4.0 | | | | | 16.05 | | R | | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | 4.4 | 4.2 |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | 0.049 | | R | | |
| plutonium-238 | | | | | | 0.028 | | R | | |
| plutonium-239 | | | | | | | | | 0.008 | 0.004 |
| plutonium-239,-240 | 0.001 | V | | | | 0.037 | | R | | |
| radium-226 | | | | | | | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.46 | | | | | 5.319 | | R | | |
| strontium-90 | | | | | | | | | 0.52 | 0.23 |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 173 | V | 270 | U | V | 0 | U | R | 70 | -50 |
| uranium-233,-234 | 0.42 | A | | | | 0.546 | J | R | 0.26 | 0.30 |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.04 | A | | | | 0.045 | J | R | 0.09 | 0.08 |
| uranium-238 | 0.7 | A | | | | 0.385 | J | R | 0.08 | 0.39 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW03490002 (REAL)<br>Date: 02/20/90 | | Location: SW034 (SW)<br>Sample: SW03490003 (REAL)<br>Date: 03/23/90 | | Location: SW034 (SW)<br>Sample: SW034W051090A (REAL)<br>Date: 05/10/90 | | Location: SW034 (SW)<br>Sample: SW00007WC (REAL)<br>Date: 06/07/90 | | Location: SW034 (SW)<br>Sample: SW00129WC (REAL)<br>Date: 07/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.007 | V | 0.010 | | 0.006 | A | 0.003 | R | .008698 | J | A |
| cesium - unknown isotope | 0 | V | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | -0.39 | A | 0.21 | A | 0.54 | A | .04367 | J | A |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | 1.3 | A | 0.4 | A | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | 2.3 | A | 0.7 | A | | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | -.000245 | J | V |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | -0.001 | V | | | 0.001 | A | 0.001 | A | 0 | J | V |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 0.5 | V | 0.63 | A | 0.47 | A | 1.07 | A | | | |
| strontium-90 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | | | 210 | JA | 260 | JA | 340 | R | 138.1 | J | A |
| uranium-233,-234 | 0.4 | V | | | 0.69 | R | 0.40 | A | | | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0 | V | | | 0.00 | R | 0.04 | A | | | |
| uranium-238 | 0.2 | V | | | 0.17 | R | 0.23 | A | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW00236WC (REAL)<br>Date: 08/13/90 | | Location: SW034 (SW)<br>Sample: SW80029WC (DUP)<br>Date: 08/13/90 | | Location: SW034 (SW)<br>Sample: SW00314WC (REAL)<br>Date: 09/13/90 | | Location: SW034 (SW)<br>Sample: SW00405WC (REAL)<br>Date: 10/04/90 | | Location: SW034 (SW)<br>Sample: SW00506WC (REAL)<br>Date: 11/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .001424 | | .003497 | | .0008599 | V | .007 | V | | | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | .2649 | | -.0256 | | .03427 | V | -.06843 | | | | |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha | .3553 | | 1.195 | | .5143 | V | 1.156 | V | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta | 3.25 | | 1.778 | | 1.757 | A | 1.78 | V | | | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.0 | | .005487 | | -.002364 | V | .005883 | V | | | |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | |
| strontium-90 | .222 | | .1641 | | .0008326 | V | .2765 | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | -30.2948 | JA | -29.9069 | JA | 100.1879 | R | 115.2026 | R | 80. | U | V |
| uranium-233,-234 | .1443 | | .04732 | | .09236 | A | .2601 | A | | | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.0 | | .1146 | | 0.0 | A | 0.0 | A | | | |
| uranium-238 | .1443 | | .04732 | | 0.0 | A | .3121 | A | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW80065WC (DUP)<br>Date: 11/07/90 | | | Location: SW034 (SW)<br>Sample: SW00610WC (REAL)<br>Date: 12/04/90 | | | Location: SW034 (SW)<br>Sample: SW80073WC (DUP)<br>Date: 12/04/90 | | | Location: SW034 (SW)<br>Sample: SW00918WC (REAL)<br>Date: 03/08/91 | | | Location: SW034 (SW)<br>Sample: SW01020WC (REAL)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | .2400 | | A | -.005 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | 2.445 | | V | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | 2.825 | | V | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | .108 | U | A | .000 | U | A |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 100. | U | V | 190.0 | | V | 200.0 | U | V | 200.0 | U | | 150.0 | | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW80107WC (DUP)<br>Date: 04/04/91 | | | Location: SW034 (SW)<br>Sample: SW01127WC (REAL)<br>Date: 05/09/91 | | | Location: SW034 (SW)<br>Sample: SW01230WC (REAL)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW80131WC (DUP)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW01333WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .003 | U | A | .558 | U | JA | .001465 | J | | .00276 | J | | 0.0059 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | .03959 | J | A | .2825 | J | A | .1311 | J | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .000 | U | A | -.036 | U | A | | | | | | | | | |
| plutonium-239,-240 | | | | | | | 0 | J | | .003301 | J | | 0.001 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 150.0 | | | 33.00 | | V | 112.8 | J | V | 258.4 | J | V | -11.6 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW) Sample: SW80139WC (DUP) Date: 07/10/91 | | | Location: SW034 (SW) Sample: SW01439WC (REAL) Date: 08/08/91 | | | Location: SW034 (SW) Sample: SW01545WC (REAL) Date: 09/26/91 | | | Location: SW034 (SW) Sample: SW01651WC (REAL) Date: 10/10/91 | | | Location: SW034 (SW) Sample: SW01723WC (REAL) Date: 11/18/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .002268 | J | V | .009984 | J | V | 0.002 | U | A | 0.003 | U | A | 0.001 | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | .4363 | J | A | -.1 | J | A | 0.69 | J | | 0.65 | U | A | 0.12 | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 1.0 | J | A | -0.060 | U | R | 0.7 | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | 1.7 | U | A | 0.59 | U | A | 3.9 | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001543 | J | V | .001119 | J | V | 0.001 | U | A | 0.002 | U | A | 0.009 | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | 0.45 | J | V | 0.64 | J | A | 0.67 | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 39.57 | J | V | 18.4 | J | V | 56 | U | A | -94 | U | V | 190 | |
| uranium-233,-234 | | | | | | | .66 | BJ | A | 0.44 | BJ | A | 0.40 | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | 0 | U | A | 0.064 | J | A | 0.05 | |
| uranium-238 | | | | | | | .53 | J | | 0.12 | J | A | 0.20 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL Field Sample, DUP - Field Duplicate
RFA Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01878WC (REAL)<br>Date: 04/06/92 | | | Location: SW035 (SW)<br>Sample: SW03590001 (REAL)<br>Date: 01/11/90 | | Location: SW035 (SW)<br>Sample: SW03590002 (REAL)<br>Date: 02/08/90 | | Location: SW035 (SW)<br>Sample: SW03590003 (REAL)<br>Date: 03/14/90 | | Location: SW035 (SW)<br>Sample: SW00061WC (REAL)<br>Date: 06/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0 | U | R | 0.009 | | 0.017 | | 0.031 | A | 0.005 | R |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | 2.23 | U | R | | | | | | | | |
| cesium-137 | 2.67 | U | R | 0.30 | | 0.17 | | | | 0.11 | |
| curium-244 | | | | | | | | | | | |
| gross alpha | 4.18 | | R | | | | | | | 4.4 | A |
| gross alpha | | | | 4.4 | | 2.9 | | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 9.7 | | R | | | | | | | 4.9 | A |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | 6.0 | | 6.5 | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | 0 | | R | | | | | | | | |
| plutonium-238 | 0 | U | R | | | | | | | | |
| plutonium-239 | | | | 0.017 | | 0.017 | | | | | |
| plutonium-239,-240 | 0 | U | R | | | | | 0.025 | A | 0.012 | A |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 5.54 | | R | | | | | | | 0.86 | |
| strontium-90 | | | | 0.54 | | 1.53 | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 0 | U | R | 100 | | 320 | | | | 436 | JA |
| uranium-233,-234 | 2.898 | | R | 1.62 | | 2.04 | | 2.63 | A | 1.60 | A |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.200 | J | R | 0.14 | | 0.15 | | 0.21 | A | -0.01 | A |
| uranium-238 | 2.142 | | R | 2.71 | | 3.41 | | 8.18 | A | 2.79 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00141WC (REAL)<br>Date: 07/19/90 | | | Location: SW035 (SW)<br>Sample: SW00241WC (REAL)<br>Date: 08/16/90 | | Location: SW035 (SW)<br>Sample: SW00319WC (REAL)<br>Date: 09/17/90 | | Location: SW035 (SW)<br>Sample: SW00410WC (REAL)<br>Date: 10/03/90 | | Location: SW035 (SW)<br>Sample: SW80051WC (DUP)<br>Date: 10/03/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .003835 | J | | .0007235 | V | .007744 | V | .004 | R | .019 | R |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | -.187 | J | A | -.008478 | V | .01972 | V | -.1673 | V | .08098 | V |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha | | | | 3.015 | V | 2.961 | V | 2.063 | V | 3.021 | V |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta | | | | 5.743 | V | 4.568 | A | 5.631 | V | 6.048 | V |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | 0 | J | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | .003619 | J | | .01612 | R | .003593 | V | .00827 | R | .02538 | R |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | |
| strontium-90 | | | | .3581 | V | -.09233 | V | -.01769 | A | .03496 | A |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 211.2 | J | A | -90.6604 | JA | 56.34105 | R | 156.9978 | R | 34.47415 | R |
| uranium-233,-234 | | | | 1.113 | R | 1.445 | A | 1.098 | R | .8523 | R |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | | .07094 | R | .1544 | A | 0.0 | R | .09827 | R |
| uranium-238 | | | | 1.26 | R | 2.381 | A | 1.713 | R | .7305 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00511WC (REAL)<br>Date: 11/27/90 | | | Location: SW035 (SW)<br>Sample: SW00615WC (REAL)<br>Date: 12/11/90 | | | Location: SW035 (SW)<br>Sample: SW00923WC (REAL)<br>Date: 03/15/91 | | Location: SW035 (SW)<br>Sample: SW01025WC (REAL)<br>Date: 04/08/91 | | | Location: SW035 (SW)<br>Sample: SW80109WC (DUP)<br>Date: 04/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | .004 | U | A | .011 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | .002 | U | A | -.002 | U | A |
| plutonium-239,-240 | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 200.0 | U | V | 0 | U | V | 200.0 | V | 200.0 | U | | 200.0 | U | |
| uranium-233,-234 | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01132WC (REAL)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW80123WC (DUP)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW01235WC (REAL)<br>Date: 06/25/91 | | | Location: SW035 (SW)<br>Sample: SW01338WC (REAL)<br>Date: 07/10/91 | | | Location: SW035 (SW)<br>Sample: SW01444WC (REAL)<br>Date: 08/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .052 | U | R | .202 | U | R | .0007529 | J | V | .004979 | J | V | .002419 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | -.129 | J | A | .5024 | J | R | .3288 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .004 | U | A | -.003 | U | A | | | | | | | | | |
| plutonium-239,-240 | | | | | | | .001103 | J | V | .003228 | J | V | .006561 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 82.00 | | V | 130.0 | | V | 138 | J | V | 73.42 | J | V | 95.81 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01550WC (REAL)<br>Date: 09/05/91 | | | Location: SW035 (SW)<br>Sample: SW01656WC (REAL)<br>Date: 10/17/91 | | | Location: SW035 (SW)<br>Sample: SW01714WC (REAL)<br>Date: 11/06/91 | | | Location: SW035 (SW)<br>Sample: SW01869WC (REAL)<br>Date: 04/08/92 | | | Location: SW036 (SW)<br>Sample: SW03690001 (REAL)<br>Date: 01/12/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.008 | J | A | 0.002 | U | A | | | | 0.004 | J | R | 0.092 |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | 2.26 | U | R | |
| cesium-137 | 0.76 | J | | -0.002 | U | V | -0.12 | U | A | 2.23 | U | R | -0.16 |
| curium-244 | -0.043 | U | | | | | | | | | | | |
| gross alpha | 4.5 | | A | 3.0 | | | 1.1 | U | R | 8.35 | | R | |
| gross alpha | | | | | | | | | | | | | 31.3 |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | 5.6 | U | A | 9.1 | | | 3.2 | BJ | V | 0 | U | R | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 25.8 |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | 0.016 | | R | |
| plutonium-238 | | | | | | | | | | 0 | J | R | |
| plutonium-239 | | | | | | | | | | | | | 0.380 |
| plutonium-239,-240 | 0.010 | | A | 0.005 | J | V | 0.014 | | V | 0 | J | R | |
| radium-226 | 1.4 | | R | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | 0.16 | U | | 0.27 | U | V | 0.076 | U | A | 6.653 | | R | |
| strontium-90 | | | | | | | | | | | | | 0.37 |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | -63 | U | V | 150 | U | V | 250 | J | V | 153.60 | J | R | 130 |
| uranium-233,-234 | 1.5 | B | A | 1.0 | | V | 1.3 | | V | 2.588 | | R | 4.84 |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | 0.097 | BJ | A | 0.054 | U | V | 0.13 | U | V | 0.167 | J | R | 0.45 |
| uranium-238 | 1.7 | B | A | 1.4 | | V | 1.4 | | V | 7.8872 | | R | 11.41 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW03690002 (REAL)<br>Date: 02/09/90 | | Location: SW036 (SW)<br>Sample: SW03690003 (REAL)<br>Date: 03/14/90 | | Location: SW036 (SW)<br>Sample: SW00057WC (REAL)<br>Date: 06/07/90 | | Location: SW036 (SW)<br>Sample: SW70008WC (REAL)<br>Date: 08/08/90 | | | Location: SW036 (SW)<br>Sample: SW00512WC (REAL)<br>Date: 11/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.936 | A | 0.022 | A | 0.001 | A | .0006266 | J | A | | | |
| cesium - unknown isotope | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | |
| cesium-137 | -0.02 | | | | 0.23 | A | -.349 | J | A | | | |
| curium-244 | | | | | | | | | | | | |
| gross alpha | | | | | 15.6 | A | | | | | | |
| gross alpha | 7.6 | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | |
| gross beta | | | | | 23.8 | A | | | | | | |
| gross beta | | | | | | | | | | | | |
| gross beta particle activity | 8.8 | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | |
| plutonium-238 | | | | | | | .002181 | J | | | | |
| plutonium-239 | 0.037 | | | | | | | | | | | |
| plutonium-239,-240 | | | 0.049 | A | 0.008 | A | .001452 | J | R | | | |
| radium-226 | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | |
| strontium-89,-90 | | | | | 1.11 | A | | | | | | |
| strontium-90 | 0.38 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | |
| tritium (pCi/l) | 490 | | | | 580 | R | 274.5 | J | | 0 | U | V |
| uranium-233,-234 | 5.00 | | 13.77 | A | 4.63 | A | | | | | | |
| uranium-234 | | | | | | | | | | | | |
| uranium-235 | 0.35 | | 1.03 | A | 0.13 | A | | | | | | |
| uranium-238 | 11.48 | | 74.00 | A | 14.31 | A | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
*Inorganic qualifiers: U-analyzed/not* detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW00548WC (REAL)<br>Date: 11/20/90 | | | Location: SW036 (SW)<br>Sample: SW00924WC (REAL)<br>Date: 03/15/91 | | | Location: SW036 (SW)<br>Sample: SW01026WC (REAL)<br>Date: 04/08/91 | | | Location: SW036 (SW)<br>Sample: SW01133WC (REAL)<br>Date: 05/16/91 | | | Location: SW036 (SW)<br>Sample: SW01445WC (REAL)<br>Date: 08/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | -.006 | U | A | .022 | U | R | .01288 | | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | .3242 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | .006 | U | A | .006 | U | A | | | |
| plutonium-239,-240 | | | | | | | | | | | | | .005315 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 0 | U | V | 160. | U | V | 160.0 | | | 110.0 | | V | 134.5 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW01715WC (REAL)<br>Date: 11/07/91 | | | Location: SW036 (SW)<br>Sample: SW01870WC (REAL)<br>Date: 04/08/92 | | | Location: SW038 (SW)<br>Sample: SW00419WC (REAL)<br>Date: 10/15/90 | | Location: SW038 (SW)<br>Sample: SW00520WC (REAL)<br>Date: 11/05/90 | | | Location: SW038 (SW)<br>Sample: SW00624WC (REAL)<br>Date: 12/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | 0 | U | R | .009436 | V | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | 2.08 | U | R | | | | | | | | |
| cesium-137 | -0.014 | U | A | 2.67 | U | R | .004428 | | | | | | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | 3.2 | | R | 11.71 | | R | | | | | | | | |
| gross alpha | | | | | | | .4312 | V | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | 9.0 | B | V | 6.5 | | R | | | | | | | | |
| gross beta | | | | | | | 1.224 | V | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | 0 | | R | | | | | | | | |
| plutonium-238 | | | | 0 | U | R | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.004 | J | V | 0.338 | | R | .008716 | V | | | | | | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.14 | U | A | 6.482 | | R | | | | | | | | |
| strontium-90 | | | | | | | .141 | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 83 | U | V | 339 | J | R | 158.5499 | R | 100 | U | V | 0 | U | V |
| uranium-233,-234 | 2.7 | | V | 14.534 | | R | 1.182 | A | | | | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | 0.10 | U | V | 0.235 | J | R | 0.0 | A | | | | | | |
| uranium-238 | 7.1 | | V | 54.580 | | R | .6222 | A | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW80081WC (DUP)<br>Date: 12/11/90 | | Location: SW038 (SW)<br>Sample: SW00932WC (REAL)<br>Date: 03/28/91 | | Location: SW038 (SW)<br>Sample: SW01034WC (REAL)<br>Date: 04/09/91 | | | Location: SW038 (SW)<br>Sample: SW01141WC (REAL)<br>Date: 05/16/91 | | | Location: SW038 (SW)<br>Sample: SW01244WC (REAL)<br>Date: 06/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | .005 | U | A | .118 | U | R | .006123 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | .1189 | J | A |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | .000 | U | A | .0120 | | A | | | |
| plutonium-239,-240 | | | | | | | | | | | .001197 | J | A |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | -50. | V | 190.0 | V | 200.0 | U | | 90.00 | | V | 83.59 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01347WC (REAL)<br>Date: 07/25/91 | | | Location: SW038 (SW)<br>Sample: SW01453WC (REAL)<br>Date: 08/28/91 | | | Location: SW038 (SW)<br>Sample: SW01559WC (REAL)<br>Date: 09/18/91 | | | Location: SW038 (SW)<br>Sample: SW01665WC (REAL)<br>Date: 10/23/91 | | | Location: SW038 (SW)<br>Sample: SW01716WC (REAL)<br>Date: 11/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .003108 | J | R | 0.001 | U | V | 0.004 | J | V | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.095 | J | A | 0.26 | U | V | | | | -0.019 | U | A | 0.11 | U | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | 2.7 | | R | 3.1 | | | 1.9 | U | R | 1.7 | U | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 3.0 | J | R | 0.080 | U | | 1.0 | BJ | V | 2.4 | BJ | V |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001146 | J | V | 0.002 | U | A | 0.007 | J | A | 0.005 | U | V | 0.001 | U | V |
| radium-226 | | | | | | | 0.63 | B | R | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | 0.062 | U | R | 0.37 | U | R | 0.11 | U | A | 0.040 | U | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | 0.19 | U | A | | | | | | |
| tritium (pCi/l) | 16.47 | J | V | 82 | U | A | 470 | B | V | 78 | U | V | 270 | J | V |
| uranium-233,-234 | | | | 2.0 | | A | 2.3 | B | R | 1.5 | | V | 1.5 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | 0.051 | U | A | 0.30 | BJ | R | 0 | U | V | 0 | U | V |
| uranium-238 | | | | 1.2 | | A | 1.3 | B | R | 1.2 | | V | 1.4 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01789WC (REAL)<br>Date: 01/20/92 | | | Location: SW038 (SW)<br>Sample: SW01871WC (REAL)<br>Date: 04/07/92 | | | Location: SW039 (SW)<br>Sample: SW03990001 (REAL)<br>Date: 01/17/90 | | Location: SW039 (SW)<br>Sample: SW03990002 (REAL)<br>Date: 02/08/90 | Location: SW039 (SW)<br>Sample: SW03990003 (REAL)<br>Date: 03/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.002 | U | A | 0 | U | R | 0.162 | A | 0.013 | .003078 | |
| cesium - unknown isotope | | | | | | | | | | -0.21 | R |
| cesium-134 | | | | 2.23 | U | R | | | | | |
| cesium-137 | 0.39 | U | | 2.45 | U | R | 0.21 | | 0.09 | -.2133 | |
| curium-244 | | | | | | | | | | | |
| gross alpha | 3.5 | | R | 8.5 | | R | | | | | |
| gross alpha | | | | | | | 4.2 | | 0.5 | .7813 | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 5.3 | | V | 0 | U | R | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | 5.9 | | 0.7 | 4.449 | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | 0.019 | | R | | | | | |
| plutonium-238 | | | | 0.034 | | R | | | | | |
| plutonium-239 | | | | | | | 0.037 | | 0.009 | | |
| plutonium-239,-240 | -0.001 | U | V | 0 | U | R | 0.037 | R | | .00726 | |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 0.050 | U | | | | | | | | 0.45 | V |
| strontium-90 | | | | | | | 0.48 | | 0.24 | .4482 | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 700 | | V | 0 | U | R | 10 | | 180 | | |
| uranium-233,-234 | 2.3 | B | A | 3.982 | | R | 1.08 | A | 0.36 | 1.175 | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.13 | J | A | 0.153 | J | R | 0.43 | A | 0.01 | .158 | |
| uranium-238 | 1.2 | B | A | 2.712 | | R | 0.87 | A | 0.39 | .3916 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00058WC (REAL)<br>Date: 06/07/90 | | Location: SW039 (SW)<br>Sample: SW00059WC (DUP)<br>Date: 06/07/90 | | Location: SW039 (SW)<br>Sample: SW00138WC (REAL)<br>Date: 07/16/90 | | | Location: SW039 (SW)<br>Sample: SW00235WC (REAL)<br>Date: 08/15/90 | | Location: SW039 (SW)<br>Sample: SW00237WC (REAL)<br>Date: 08/15/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.006 | A | 0.007 | A | 0 | J | V | -.002098 | | .002184 | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | 0.74 | A | 0.59 | A | -.145 | J | A | -.06754 | | -.2624 | |
| curium-244 | | | | | | | | | | | |
| gross alpha | 0.9 | A | 0.9 | A | | | | | | | |
| gross alpha | | | | | | | | -.03296 | | .6606 | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 3.4 | A | 1.1 | A | | | | | | | |
| gross beta | | | | | | | | 1.996 | | 3.178 | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | 0 | J | V | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.000 | A | 0.001 | A | .0001562 | J | V | .001629 | | -.000657 | |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 1.09 | A | 1.20 | A | | | | | | | |
| strontium-90 | | | | | | | | .5637 | | .7765 | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 320 | R | 250 | R | 49.58 | J | A | -76.5009 | JA | -22.3001 | JA |
| uranium-233,-234 | 0.26 | A | 0.18 | A | | | | .1321 | | .4272 | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.05 | A | 0.04 | A | | | | 0.0 | | .04701 | |
| uranium-238 | 0.16 | A | 0.49 | A | | | | .4625 | | .1942 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00315WC (REAL)<br>Date: 09/13/90 | | Location: SW039 (SW)<br>Sample: SW00406WC (REAL)<br>Date: 10/02/90 | | Location: SW039 (SW)<br>Sample: SW00507WC (REAL)<br>Date: 11/08/90 | | | Location: SW039 (SW)<br>Sample: SW00611WC (REAL)<br>Date: 12/04/90 | | | Location: SW039 (SW)<br>Sample: SW00919WC (REAL)<br>Date: 03/28/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -.000732 | V | .017 | R | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | .03245 | V | -.07896 | V | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha | .2841 | V | .3398 | V | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta | 2.126 | A | 2.164 | V | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | .002156 | V | .003763 | R | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | |
| strontium-90 | .4192 | V | .4747 | A | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | 51.65825 | R | 132.299 | R | 30. | U | V | 110. | U | V | 200.0 | U | |
| uranium-233,-234 | .08574 | A | .1079 | R | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | .0519 | A | .03267 | R | | | | | | | | | |
| uranium-238 | .1286 | A | .02699 | R | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW039 (SW) Sample: SW01021WC (REAL) Date: 04/01/91 | | | Location: SW039 (SW) Sample: SW01128WC (REAL) Date: 05/03/91 | | | Location: SW039 (SW) Sample: SW01231WC (REAL) Date: 06/04/91 | | | Location: SW039 (SW) Sample: SW01334WC (REAL) Date: 07/08/91 | | | Location: SW039 (SW) Sample: SW01546WC (REAL) Date: 09/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .000 | U | JA | .001246 | J | V | .001641 | J | V | 0.003 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | .3611 | J | A | -.366 | J | R | 0.39 | U | |
| curium-244 | | | | | | | | | | | | | 0.006 | U | |
| gross alpha | | | | | | | | | | | | | 0.23 | U | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | 1.2 | U | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | -.005 | U | A | | | | | | | | | |
| plutonium-239,-240 | | | | | | | 0 | J | V | .01447 | | V | 0 | U | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | 0.60 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 200.0 | U | | 63.00 | | V | 18.57 | J | V | -23.2 | J | V | -2.3 | U | V |
| uranium-233,-234 | | | | | | | | | | | | | 0.58 | BJ | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | -0.009 | U | A |
| uranium-238 | | | | | | | | | | | | | 0.32 | BJ | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01652WC (REAL)<br>Date: 10/02/91 | | | Location: SW039 (SW)<br>Sample: SW01726WC (REAL)<br>Date: 11/18/91 | | Location: SW039 (SW)<br>Sample: SW01881WC (REAL)<br>Date: 04/15/92 | | Location: SW066 (SW)<br>Sample: SW06690001 (REAL)<br>Date: 01/11/90 | | Location: SW066 (SW)<br>Sample: SW06690002 (REAL)<br>Date: 02/08/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.006 | J | A | 0.002 | A | -.0032 | U | 0.022 | | 0.108 | A |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | 1.12 | U | | | | |
| cesium-137 | 0.53 | J | V | 0.43 | | 1.37 | U | -0.11 | | 0.27 | |
| curium-244 | | | | | | | | | | | |
| gross alpha | 0.39 | U | R | 0.1 | | 2.75 | | | | | |
| gross alpha | | | | | | | | 19.5 | | 13.0 | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 4.0 | | A | 2.3 | | 13.32 | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | 11.2 | | 21.9 | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | -.0044 | | | | | |
| plutonium-238 | | | | | | -0.016 | J | | | | |
| plutonium-239 | | | | | | | | 0.015 | | *0.006* | |
| plutonium-239,-240 | 0.007 | J | A | 0.001 | | 0.012 | | | | | |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 0.73 | J | V | 0.48 | | 5.496 | | | | | |
| strontium-90 | | | | | | | | 0.26 | | 0.40 | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | -37 | U | A | 160 | | 134.69 | J | -100 | | 190 | |
| uranium-233,-234 | 0.42 | BJ | A | 0.45 | | 0.548 | J | 2.08 | | 4.64 | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.071 | BJ | A | 0.05 | | 0.335 | J | 0.16 | | 0.11 | |
| uranium-238 | 0.27 | BJ | A | 0.27 | | 0.018 | J | 3.50 | | 4.85 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW06690003 (REAL)<br>Date: 03/14/90 | | Location: SW066 (SW)<br>Sample: SW066W041990A (REAL)<br>Date: 04/19/90 | | Location: SW066 (SW)<br>Sample: SW066W051590A (REAL)<br>Date: 05/15/90 | | Location: SW066 (SW)<br>Sample: SW00014WC (REAL)<br>Date: 06/12/90 | | Location: SW066 (SW)<br>Sample: SW00146WC (REAL)<br>Date: 07/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.010 | A | 0.006 | JA | 0.013 | | 0.004 | A | .009832 | J | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | 0.24 | A | 1.26 | | | | .3416 | J | A |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | 6.8 | A | 9.3 | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | 9.9 | A | 9.9 | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | .003792 | J | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.010 | A | -0.005 | A | 0.006 | | 0.021 | A | .003783 | J | |
| radium-226 | | | 0.19 | A | | | 0.11 | A | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | 0.32 | A | 0.50 | | 0.31 | A | | | |
| strontium-90 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | | | 370 | | 390 | | 345 | JA | 261.8 | J | A |
| uranium-233,-234 | 6.13 | A | 4.15 | R | 4.29 | | 1.86 | A | | | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.45 | A | 0.14 | R | 0.33 | | 0.07 | A | | | |
| uranium-238 | 13.03 | A | 7.56 | R | 4.07 | | 2.49 | A | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW00245WC (REAL)<br>Date: 08/21/90 | | Location: SW066 (SW)<br>Sample: SW00414WC (REAL)<br>Date: 10/17/90 | | Location: SW067 (SW)<br>Sample: SW06790001 (REAL)<br>Date: 01/11/90 | | Location: SW067 (SW)<br>Sample: SW06790002 (REAL)<br>Date: 02/08/90 | | Location: SW067 (SW)<br>Sample: SW06790003 (REAL)<br>Date: 03/15/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -.00175 | V | .006 | V | 0.036 | | 0.029 | A | 0.010 | JA |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | .01314 | V | -.01425 | | -0.05 | | -0.08 | | | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | 3.609 | V | 2.791 | V | 11.0 | | 3.8 | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | 6.343 | V | 6.896 | A | | | | | | |
| gross beta particle activity | | | | | 5.0 | | 6.8 | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | | | | | 0.020 | | 0.016 | | | |
| plutonium-239,-240 | .005781 | R | .0113 | V | | | | | 0.014 | A |
| radium-226 | | | | | | | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | |
| strontium-90 | .3198 | V | .3818 | | 0.14 | | 0.46 | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | -83.4769 | JA | 267.3899 | V | 100 | | 270 | | | |
| uranium-233,-234 | 3.507 | R | 2.524 | V | 3.83 | | 3.03 | | | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | .1832 | R | .1072 | V | 0.05 | | 0.13 | | | |
| uranium-238 | 2.851 | R | 2.037 | V | 4.58 | | 4.45 | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW067W041990A (REAL)<br>Date: 04/19/90 | | Location: SW067 (SW)<br>Sample: SW067W051690A (REAL)<br>Date: 05/16/90 | | Location: SW067 (SW)<br>Sample: SW00015WC (REAL)<br>Date: 06/12/90 | | Location: SW067 (SW)<br>Sample: SW00246WC (REAL)<br>Date: 08/21/90 | | Location: SW067 (SW)<br>Sample: SW00415WC (REAL)<br>Date: 10/17/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.001 | JA | 0.005 | | 0.003 | A | .003901 | V | .04401 | V |
| cesium - unknown isotope | | | | | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.30 | A | 2.00 | | .2442 J | A | .2328 | V | -.002996 | |
| curium-244 | | | | | | | | | | |
| gross alpha | 6.5 | A | 2.9 | | | | | | | |
| gross alpha | | | | | | | 2.975 | V | 1.331 | V |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | 9.4 | A | 3.7 | | | | | | | |
| gross beta | | | | | | | 4.567 | V | 5.689 | A |
| gross beta particle activity | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | .003514 J | | | | | |
| plutonium-239 | | | | | | | | | | |
| plutonium-239,-240 | -0.005 | A | 0.013 | | 0.029 | A | .004285 | R | .0261 | V |
| radium-226 | 0.15 | A | | | 0.23 | A | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | 0.46 | A | 0.25 | | 0.37 | A | | | | |
| strontium-90 | | | | | | | .2079 | V | .433 | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 320 | | 220 | | 294 | JA | -121.99 | JA | 237.7933 | V |
| uranium-233,-234 | 3.16 | R | 0.86 | | 2.18 | A | 3.174 | R | 3.302 | V |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.24 | R | 0.00 | | 0.10 | A | .05569 | R | .1689 | V |
| uranium-238 | 6.07 | R | 0.86 | | 2.35 | A | 2.392 | R | 3.116 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW00620WC (REAL)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW06890001 (REAL)<br>Date: 01/11/90 | | Location: SW068 (SW)<br>Sample: SW06890003 (REAL)<br>Date: 03/15/90 | | Location: SW068 (SW)<br>Sample: SW068W041990 (REAL)<br>Date: 04/19/90 | | Location: SW068 (SW)<br>Sample: SW068W051690A (REAL)<br>Date: 05/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | 0.012 | | 0.014 | JA | 0.004 | A | 0.015 | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | | 0.38 | | | | 0.21 | A | 0.78 | R |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | 12.7 | A | 3.2 | |
| gross alpha | | | | 10.6 | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | 10.0 | A | 3.8 | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | 7.4 | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | 0.007 | | | | | | | |
| plutonium-239,-240 | | | | | | 0.006 | A | 0.022 | | 0.003 | |
| radium-226 | | | | | | | | 0.16 | A | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | 0.61 | A | 0.45 | |
| strontium-90 | | | | 0.26 | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 80. | U | V | 40 | | | | 240 | JA | 150 | R |
| uranium-233,-234 | | | | 3.50 | | | | 5.18 | R | 0.74 | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | | 0.22 | | | | 0.29 | R | 0.04 | |
| uranium-238 | | | | 3.71 | | | | 8.55 | R | 0.86 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00017WC (REAL)<br>Date: 06/13/90 | | Location: SW068 (SW)<br>Sample: SW00143WC (REAL)<br>Date: 07/19/90 | | | Location: SW068 (SW)<br>Sample: SW00247WC (REAL)<br>Date: 08/21/90 | | Location: SW068 (SW)<br>Sample: SW00325WC (REAL)<br>Date: 09/18/90 | | Location: SW068 (SW)<br>Sample: SW00416WC (REAL)<br>Date: 10/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.006 | A | 0 | J | | .007219 | V | .002004 | V | -.003678 | V |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | -.361 | J | A | -.07329 | V | .06867 | V | -.07685 | |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha | | | | | | 2.468 | V | 3.009 | V | 4.955 | V |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta | | | | | | 3.623 | V | 3.889 | A | 4.349 | V |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | .0005601 | J | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.017 | A | .001304 | J | | .004384 | R | .004484 | V | .002872 | V |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 0.42 | A | | | | | | | | | |
| strontium-90 | | | | | | .09496 | V | -.07309 | V | .122 | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 416 | JA | 216 | J | A | -25.4033 | R | 129.3747 | R | 52.53258 | R |
| uranium-233,-234 | 1.66 | A | | | | 2.376 | R | 2.521 | A | 3.463 | A |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.15 | A | | | | .1269 | R | .08523 | A | .1283 | A |
| uranium-238 | 2.15 | A | | | | 2.341 | R | 2.028 | A | 2.297 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00517WC (REAL)<br>Date: 11/19/90 | | | Location: SW068 (SW)<br>Sample: SW00621WC (REAL)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW80079WC (DUP)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW00929WC (REAL)<br>Date: 03/19/91 | | | Location: SW068 (SW)<br>Sample: SW80095WC (DUP)<br>Date: 03/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -60 | U | V | 0 | U | V | -100. | U | V | 110. | U | V | 100. | U | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW01031WC (REAL)<br>Date: 04/04/91 | | | Location: SW068 (SW)<br>Sample: SW01138WC (REAL)<br>Date: 05/13/91 | | | Location: SW068 (SW)<br>Sample: SW01241WC (REAL)<br>Date: 06/19/91 | | | Location: SW068 (SW)<br>Sample: SW01344WC (REAL)<br>Date: 07/10/91 | | | Location: SW068 (SW)<br>Sample: SW01450WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .144 | U | A | .1100 | R | | .0008195 | J | V | .0058 | J | V | .002526 | J | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | -.0197 | J | A | .2687 | J | R | .01298 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .003 | U | A | .0048 | A | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | .003828 | J | V | .0007934 | J | V | .001119 | J | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 170.0 | | | 140.0 | V | | 75.32 | J | V | 100.4 | J | V | 319.6 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW068 (SW) Sample: SW01556WC (REAL) Date: 09/17/91 | | | Location: SW068 (SW) Sample: SW01662WC (REAL) Date: 10/10/91 | | | Location: SW069 (SW) Sample: SW06990001 (REAL) Date: 01/11/90 | Location: SW069 (SW) Sample: SW06990002 (REAL) Date: 02/07/90 | | Location: SW069 (SW) Sample: SW06990003 (REAL) Date: 03/15/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | U | A | 0.009 | J | A | 0.005 | 0.013 | A | 0.007 | JA |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | 0.35 | U | A | 0.41 | U | | 0.15 | -0.04 | | | |
| curium-244 | | | | | | | | | | | |
| gross alpha | 7.0 | | A | 5.4 | | A | | | | | |
| gross alpha | | | | | | | 8.4 | 8.5 | V | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 6.2 | | A | 4.0 | | A | | | | | |
| gross beta | | | | | | | | 12.2 | R | | |
| gross beta particle activity | | | | | | | 7.0 | 12.2 | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | 0.013 | 0.012 | | | |
| plutonium-239,-240 | 0.005 | J | A | 0.003 | J | A | | 0.012 | A | 0.006 | A |
| radium-226 | | | | 0.69 | B | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 0.50 | J | A | 0.33 | J | A | | | | | |
| strontium-90 | | | | | | | 0.44 | 0.35 | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | -150 | U | A | 130 | U | JA | 310 | 210 | | | |
| uranium-233,-234 | 2.4 | | A | 2.4 | B | A | 2.28 | 3.25 | | | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.15 | J | A | 0.098 | BJ | A | 0.14 | 0.09 | | | |
| uranium-238 | 1.7 | | A | 2.9 | B | A | 3.41 | 3.73 | A | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW069W041990 (REAL)<br>Date: 04/19/90 | | Location: SW069 (SW)<br>Sample: SW069W051690A (REAL)<br>Date: 05/16/90 | | Location: SW069 (SW)<br>Sample: SW00063WC (REAL)<br>Date: 06/12/90 | | Location: SW069 (SW)<br>Sample: SW00147WC (REAL)<br>Date: 07/19/90 | | | Location: SW069 (SW)<br>Sample: SW00248WC (REAL)<br>Date: 08/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.002 | A | 0.008 | | | | .0031 | J | | -.002696 | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | 0.44 | A | 0.87 | | 0.25 | | -.0468 | J | A | -.01621 | |
| curium-244 | | | | | | | | | | | |
| gross alpha | 14.8 | A | 2.7 | | 4.7 | A | | | | | |
| gross alpha | | | | | | | | | | 1.398 | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 11.1 | A | 8.3 | | 6.2 | A | | | | | |
| gross beta | | | | | | | | | | 4.659 | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | .001242 | J | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.013 | | 0.010 | | 0.011 | A | .003717 | J | | .002008 | |
| radium-226 | 0.21 | A | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 0.42 | A | 0.41 | | 3.08 | | | | | | |
| strontium-90 | | | | | | | | | | .2462 | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 700 | JA | 200 | | 428 | JA | 268.6 | J | A | -44.304 | JA |
| uranium-233,-234 | 3.69 | R | | | 2.04 | A | | | | 2.328 | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.16 | R | | | 0.14 | A | | | | .06128 | |
| uranium-238 | 6.20 | R | | | 3.16 | A | | | | 2.531 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW80035WC (DUP)<br>Date: 08/20/90 | | Location: SW069 (SW)<br>Sample: SW00326WC (REAL)<br>Date: 09/19/90 | | Location: SW069 (SW)<br>Sample: SW00417WC (REAL)<br>Date: 10/16/90 | | Location: SW069 (SW)<br>Sample: SW00518WC (REAL)<br>Date: 11/19/90 | | | Location: SW069 (SW)<br>Sample: SW00622WC (REAL)<br>Date: 12/10/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .006977 | | .02176 | R | .009635 | V | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | |
| cesium-137 | -.001307 | | .1278 | V | -.004621 | | | | | | | |
| curium-244 | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | |
| gross alpha | 2.745 | | 2.356 | V | 8.591 | V | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | |
| gross beta | 4.837 | | 4.156 | V | 5.287 | V | | | | | | |
| gross beta particle activity | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | |
| plutonium-239,-240 | .004117 | | .02703 | R | .00196 | V | | | | | | |
| radium-226 | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | |
| strontium-90 | -.007927 | | .3344 | A | .07012 | | | | | | | |
| total radiocesium | | | | | | | | | | | | |
| tritium (pCi/l) | -81.7494 | JA | 90.92226 | R | 53.01173 | R | -60 | U | V | 30. | U | V |
| uranium-233,-234 | 2.952 | | 2.004 | R | 2.581 | A | | | | | | |
| uranium-234 | | | | | | | | | | | | |
| uranium-235 | .3299 | | .1548 | R | .3289 | A | | | | | | |
| uranium-238 | 2.725 | | .8527 | R | 3.215 | A | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW00930WC (REAL)<br>Date: 03/18/91 | | | Location: SW069 (SW)<br>Sample: SW01032WC (REAL)<br>Date: 04/04/91 | | | Location: SW069 (SW)<br>Sample: SW01139WC (REAL)<br>Date: 05/13/91 | | | Location: SW069 (SW)<br>Sample: SW01242WC (REAL)<br>Date: 06/19/91 | | | Location: SW069 (SW)<br>Sample: SW01345WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .007 | U | A | .022 | U | R | .002216 | J | V | .002397 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | .2673 | J | A | -.229 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | .004 | U | A | .002 | U | A | | | | | | |
| plutonium-239,-240 | | | | | | | | | | .001383 | J | V | .0006158 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 130. | U | V | 200.0 | | | 160.0 | | V | 237.6 | J | V | -94.8 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW01451WC (REAL)<br>Date: 08/08/91 | | | Location: SW069 (SW)<br>Sample: SW01557WC (REAL)<br>Date: 09/17/91 | | | Location: SW069 (SW)<br>Sample: SW01663WC (REAL)<br>Date: 10/10/91 | | | Location: SW070 (SW)<br>Sample: SW07090001 (REAL)<br>Date: 01/11/90 | Location: SW070 (SW)<br>Sample: SW07090002 (REAL)<br>Date: 02/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .01677 | | | 0.007 | J | A | 0.006 | J | A | 0.005 | 0.013 | A |
| cesium - unknown isotope | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | |
| cesium-137 | -.0398 | J | A | 0.99 | J | A | 0.24 | U | | 0.26 | -0.09 | |
| curium-244 | | | | | | | | | | | | |
| gross alpha | | | | 5.4 | | A | 12 | | A | | | |
| gross alpha | | | | | | | | | | 6.6 | 5.9 | V |
| gross alpha particle activity | | | | | | | | | | | | |
| gross beta | | | | 5.5 | | A | 9.5 | | A | | | |
| gross beta | | | | | | | | | | | 9.1 | R |
| gross beta particle activity | | | | | | | | | | 8.1 | 9.1 | |
| neptunium-237 | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | 0 | 0.018 | |
| plutonium-239,-240 | .09227 | | | 0.015 | | A | 0.013 | | A | | 0.018 | A |
| radium-226 | | | | | | | 1.3 | B | | | | |
| radium-228 | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | |
| strontium-89,-90 | | | | 0.37 | J | A | 0.22 | U | A | | | |
| strontium-90 | | | | | | | | | | 0.31 | 0.21 | |
| total radiocesium | | | | | | | | | | | | |
| tritium (pCi/l) | 329.8 | J | V | 140 | U | A | 170 | U | JA | 60 | 160 | |
| uranium-233,-234 | | | | 3.9 | | A | 2.0 | B | A | 2.39 | 3.34 | |
| uranium-234 | | | | | | | | | | | | |
| uranium-235 | | | | 0.057 | U | A | 0.21 | BJ | A | 0.05 | 0.12 | |
| uranium-238 | | | | 3.1 | | A | 1.8 | B | A | 2.65 | 3.81 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW07090003 (REAL)<br>Date: 03/15/90 | | Location: SW070 (SW)<br>Sample: SW070W041990A (REAL)<br>Date: 04/19/90 | | Location: SW070 (SW)<br>Sample: SW00065WC (REAL)<br>Date: 06/12/90 | | Location: SW070 (SW)<br>Sample: SW0014ZWC (REAL)<br>Date: 07/18/90 | | | Location: SW070 (SW)<br>Sample: SW00244WC (REAL)<br>Date: 08/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | JA | 0.009 | A | | | 0 | J | A | .002571 | V |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | 0.50 | A | 0.18 | | .04296 | J | A | .08771 | V |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | 14.3 | A | 4.3 | A | | | | | |
| gross alpha | | | | | | | | | | 3.024 | V |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | 13.3 | A | 5.7 | A | | | | | |
| gross beta | | | | | | | | | | 6.15 | V |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | .000643 | J | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.006 | A | 0.016 | | 0.001 | A | .003848 | J | A | .003846 | R |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | 0.27 | A | 0.45 | | | | | | |
| strontium-90 | | | | | | | | | | .2715 | V |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | | | 150 | JA | | | 247.1 | J | A | -65.9568 | JA |
| uranium-233,-234 | | | 4.30 | R | 2.17 | A | | | | 2.274 | R |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | 0.31 | R | 0.44 | A | | | | .2647 | R |
| uranium-238 | | | 7.63 | R | 2.35 | A | | | | 1.968 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW00418WC (REAL)<br>Date: 10/16/90 | | | Location: SW070 (SW)<br>Sample: SW00519WC (REAL)<br>Date: 11/15/90 | | | Location: SW070 (SW)<br>Sample: SW00623WC (REAL)<br>Date: 12/10/90 | | | Location: SW070 (SW)<br>Sample: SW00931WC (REAL)<br>Date: 03/18/91 | | | Location: SW070 (SW)<br>Sample: SW01033WC (REAL)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .001422 | V | | | | | | | | | | | -.003 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.01437 | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | 3.094 | V | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | 6.957 | V | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | .012 | U | A |
| plutonium-239,-240 | .006 | V | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | .05712 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 114.7908 | R | | -30 | U | V | -30. | U | V | 80. | U | V | 200.0 | U | |
| uranium-233,-234 | 2.931 | A | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .09337 | A | | | | | | | | | | | | | |
| uranium-238 | 3.162 | A | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW01140WC (REAL)<br>Date: 05/13/91 | | | Location: SW070 (SW)<br>Sample: SW01243WC (REAL)<br>Date: 06/19/91 | | | Location: SW070 (SW)<br>Sample: SW01346WC (REAL)<br>Date: 07/10/91 | | | Location: SW070 (SW)<br>Sample: SW01452WC (REAL)<br>Date: 08/08/91 | | | Location: SW070 (SW)<br>Sample: SW01558WC (REAL)<br>Date: 09/17/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .083 | U | R | .006226 | J | V | .002355 | J | V | .002487 | J | | 0.007 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.306 | J | A | .1144 | J | A | -.016 | J | R | -.287 | J | A | 0.34 | U | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | 3.7 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | 6.6 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .002 | U | A | | | | | | | | | | | | |
| plutonium-239,-240 | .00112 | J | | .001737 | J | V | .001506 | J | V | .003697 | J | | 0.002 | U | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | 0.27 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 130.0 | | V | 10.62 | J | V | -36.2 | J | V | 221.7 | J | V | -54 | U | A |
| uranium-233,-234 | | | | | | | | | | | | | 2.2 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | 0.15 | J | A |
| uranium-238 | | | | | | | | | | | | | 2.0 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rock, Flats Alluvium; COL - Colluvium, VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-f

## Surface Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW01664WC (REAL)<br>Date: 10/10/91 | | | Location: SW070 (SW)<br>Sample: SW01712WC (REAL)<br>Date: 11/05/91 | | | Location: SW070 (SW)<br>Sample: SW01867WC (REAL)<br>Date: 04/08/92 | | | Location: SW125 (SW)<br>Sample: SW00643WC (REAL)<br>Date: 12/18/90 | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.007 | J | A | | | | 5.52 | | R | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | 2.10 | U | R | | | | | | |
| cesium-137 | 0.12 | U | | 0.19 | U | A | 2.45 | U | R | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 7.0 | | A | 0.66 | U | R | 12.85 | | R | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 4.7 | | A | 3.4 | BJ | A | 0 | U | R | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | 0.009 | | R | | | | | | |
| plutonium-238 | | | | | | | -0.011 | J | R | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.023 | | A | 0.005 | U | V | 0.009 | J | R | | | | | | |
| radium-226 | 0.060 | U | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.33 | J | A | -0.012 | U | A | 5.977 | | R | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 320 | BJ | JA | 97 | U | V | 131.53 | J | R | 200.0 | U | V | | | |
| uranium-233,-234 | 2.1 | B | A | 1.1 | | V | 0 | U | R | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.073 | U | A | 0.058 | U | V | 5.686 | | R | | | | | | |
| uranium-238 | 2.0 | B | A | 1.2 | | V | 7.929 | | R | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# ble C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW029W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW029 (SW)<br>Sample: SW00130WC (REAL)<br>Date: 07/17/90 | | | Location: SW029 (SW)<br>Sample: SW00503WC (REAL)<br>Date: 11/08/90 | | | Location: SW029 (SW)<br>Sample: SW00607WC (REAL)<br>Date: 12/05/90 | | | Location: SW029 (SW)<br>Sample: SW00709WC (REAL)<br>Date: 01/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | .132 | U | JA | .133 | U | R | .048 | U | R |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 0.3 | R | | | | | .7000 | U | JA | .8000 | U | JA | .7000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | .6051 | J | A | | | | | | | | | |
| gross alpha | -0.21 | R | | | | | 0.52 | U | V | 1.02 | U | V | 1.3 | U | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 3.269 | J | A | | | | | | | | | |
| gross beta | 6.98 | R | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | 2.800 | | V | 2.600 | | V | 4.700 | | R |
| neptunium-237 | | | | | | | 1.000 | U | JA | 1.000 | U | JA | 1.000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | .112 | U | JA | 6.15 | | JA | .000 | U | R |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | .20 | U | A | | | | | | |
| radium-228 | | | | | | | .7000 | U | V | | | | | | |
| strontium-89 | 98 | R | | | | | .6 | U | V | -.1 | U | V | 1.000 | U | |
| strontium-89,-90 | | | | .6676 | J | | | | | | | | | | |
| strontium-90 | 1 | R | | | | | .3 | U | V | .2 | U | V | .3000 | U | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | .5943 | J | A | | | | | | | | | |
| uranium-234 | | | | | | | .321 | U | R | .6600 | | R | 1.100 | | R |
| uranium-235 | | | | .05123 | J | A | 0.00 | U | R | 0.00 | U | R | .027 | U | R |
| uranium-238 | | | | .3996 | J | A | .193 | U | R | .4400 | | R | .9600 | | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00915WC (REAL)<br>Date: 03/18/91 | | Location: SW029 (SW)<br>Sample: SW01124WC (REAL)<br>Date: 05/09/91 | | | Location: SW029 (SW)<br>Sample: SW01227WC (REAL)<br>Date: 06/13/91 | | | Location: SW029 (SW)<br>Sample: SW01330WC (REAL)<br>Date: 07/11/91 | | | Location: SW029 (SW)<br>Sample: SW01436WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .0500 | U | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | .0000 | U | .0940 | | JA | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | 1.707 | J | A | .2033 | J | | 2.064 | | A |
| gross alpha | 2.200 | | 5.500 | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | 2.015 | J | A | 3.462 | J | | 8.009 | | A |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | 3.000 | U | 2.800 | | | | | | | | | | | |
| neptunium-237 | -.011 | U | .2100 | | R | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | .0200 | U | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | 2.000 | U | .2400 | | V | | | | | | | | | |
| strontium-89,-90 | | | | | | .7096 | J | A | .6819 | J | A | .7333 | J | A |
| strontium-90 | .6000 | U | .5300 | | V | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | .4194 | J | | .7263 | | A | .3601 | J | V |
| uranium-234 | .8800 | | .9900 | | A | | | | | | | | | |
| uranium-235 | .1000 | U | .046 | U | A | .03581 | J | | .1062 | J | A | -.00261 | J | V |
| uranium-238 | .6600 | | .278 | U | A | .4228 | J | | .3631 | J | A | .4096 | J | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW01875WC (REAL)<br>Date: 04/02/92 | | | Location: SW031 (SW)<br>Sample: SW00199WC (REAL)<br>Date: 07/19/90 | | | Location: SW031 (SW)<br>Sample: SW00510WC (REAL)<br>Date: 11/27/90 | | | Location: SW031 (SW)<br>Sample: SW00614WC (REAL)<br>Date: 12/11/90 | | | Location: SW031 (SW)<br>Sample: SW01029WC (REAL)<br>Date: 04/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.001 | J | R | | | | .0100 | U | | .000 | U | A | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | 2.30 | U | R | | | | | | | | | | | | |
| cesium-137 | 2.53 | U | R | | | | .7000 | U | JA | .7000 | U | JA | .2900 | | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 0 | | R | 3.554 | X | A | | | | | | | | | |
| gross alpha | | | | | | | 4.700 | | V | 3.400 | | V | 2.0 | U | R |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 0 | | R | 3.793 | J | A | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | 5.900 | | V | 7.000 | | V | 3.800 | | V |
| neptunium-237 | | | | | | | 1.000 | U | JA | 1.000 | U | JA | .0000 | | |
| plutonium-236 | 0.003 | J | R | | | | | | | | | | | | |
| plutonium-238 | 0 | | R | | | | | | | | | | | | |
| plutonium-239 | | | | | | | 1.000 | U | | .012 | U | A | | | |
| plutonium-239,-240 | 0.001 | J | R | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | .3 | U | V | .6 | U | V | 1.000 | U | |
| strontium-89,-90 | 1.32 | | R | 1.037 | X | A | | | | | | | | | |
| strontium-90 | | | | | | | -.2 | U | V | .1 | U | V | .6000 | U | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 0.227 | | R | 2.837 | X | | | | | | | | | | |
| uranium-234 | | | | | | | 2.300 | | | 2.900 | | A | 2.900 | | A |
| uranium-235 | 0.034 | J | R | .07955 | J | | .5000 | U | | .151 | U | A | .037 | U | A |
| uranium-238 | 0.130 | J | R | 2.608 | X | | 2.700 | | | 3.500 | | A | 2.400 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW01443WC (REAL)<br>Date: 08/12/91 | | | Location: SW032 (SW)<br>Sample: SW032W041190A (UNKN)<br>Date: 04/11/90 | | | Location: SW032 (SW)<br>Sample: SW00136WC (REAL)<br>Date: 07/16/90 | | | Location: SW032 (SW)<br>Sample: SW00504WC (REAL)<br>Date: 11/07/90 | | | Location: SW032 (SW)<br>Sample: SW00608WC (REAL)<br>Date: 12/04/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | .006 | U | A | .2000 | U | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | 0.6 | R | | | | | .5000 | U | JA | .7000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 3.517 | | A | | | | .2523 | J | A | | | | | | |
| gross alpha | | | | -0.1 | R | | | | | 0.40 | U | V | 2.000 | U | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 5.241 | | A | | | | 2.705 | J | A | | | | | | |
| gross beta | | | | 1.75 | R | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | 1.12 | U | V | 3.200 | | V |
| neptunium-237 | | | | | | | | | | .8000 | U | JA | 1.000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | .104 | U | JA | .0300 | U | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | .01 | U | A | | | |
| radium-228 | | | | | | | | | | 1.300 | | V | | | |
| strontium-89 | | | | 138 | R | | | | | -.1 | U | V | -.3 | U | V |
| strontium-89,-90 | .366 | J | A | | | | .8405 | J | | | | | | | |
| strontium-90 | | | | 1 | R | | | | | .1 | U | V | 1.1 | U | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 2.31 | | V | 1.7 | A | | .3137 | J | V | | | | | | |
| uranium-234 | | | | | | | | | | 0.00 | U | R | .6000 | | |
| uranium-235 | .09605 | J | V | 0.426 | A | | 0 | J | V | 0.00 | U | R | .3000 | U | |
| uranium-238 | 1.97 | | V | 2.13 | A | | .1515 | J | V | .098 | U | R | .4700 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00916WC (REAL)<br>Date: 03/13/91 | | | Location: SW032 (SW)<br>Sample: SW01018WC (REAL)<br>Date: 04/04/91 | | | Location: SW032 (SW)<br>Sample: SW01125WC (REAL)<br>Date: 05/09/91 | | | Location: SW032 (SW)<br>Sample: SW01228WC (REAL)<br>Date: 06/13/91 | | | Location: SW032 (SW)<br>Sample: SW01331WC (REAL)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .0270 | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .0910 | U | | .1100 | | JA | .0970 | | JA | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | .5612 | J | A | .09533 | J | R |
| gross alpha | 2.000 | | | .95 | U | A | .0000 | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | 2.385 | J | A | 2.488 | J | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 3.000 | U | | 2.700 | | V | 3.900 | | | | | | | | |
| neptunium-237 | .3300 | U | | .3900 | | | .2200 | | R | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .0100 | U | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | 2.000 | U | | 1.000 | U | | .6100 | | V | | | | | | |
| strontium-89,-90 | | | | | | | | | | .7593 | J | A | .8023 | J | A |
| strontium-90 | .6000 | U | | .5000 | U | | .6500 | | V | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | .6774 | | | .2868 | J | V |
| uranium-234 | 1.000 | | | .4400 | | A | .5400 | | A | | | | | | |
| uranium-235 | .2000 | U | | .089 | U | A | .046 | U | A | .04342 | J | | .04457 | J | V |
| uranium-238 | .4000 | U | | .5900 | | A | .3800 | | A | .7313 | | | .2868 | J | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW01437WC (REAL)<br>Date: 08/07/91 | | | Location: SW032 (SW)<br>Sample: SW01794WC (REAL)<br>Date: 01/15/92 | | | Location: SW033 (SW)<br>Sample: SW033W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW033 (SW)<br>Sample: SW00128WC (REAL)<br>Date: 07/16/90 | | | Location: SW033 (SW)<br>Sample: SW00505WC (REAL)<br>Date: 11/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | 0.007 | J | R | | | | | | | .0300 | | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | 0.14 | U | | 1 | R | | | | | .5000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | .4954 | J | A | 0.70 | J | V | | | | .7316 | J | A | | | |
| gross alpha | | | | | | | 2.27 | R | | | | | 0.59 | U | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 2.641 | J | A | 7.9 | | A | | | | 2.206 | J | A | | | |
| gross beta | | | | | | | 1.8 | R | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 0.71 | U | V |
| neptunium-237 | | | | | | | | | | | | | 1.000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | 0.00 | U | A |
| plutonium-239,-240 | | | | 0 | U | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | -.01 | U | A |
| radium-228 | | | | | | | | | | | | | 1.000 | U | V |
| strontium-89 | | | | | | | 87 | R | | | | | .5 | U | V |
| strontium-89,-90 | .5167 | J | A | 1.5 | B | | | | | .8831 | J | | | | |
| strontium-90 | | | | | | | 1 | R | | | | | .2 | U | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .3394 | J | | 0.81 | B | | 5.72 | A | | .235 | J | V | | | |
| uranium-234 | | | | | | | | | | | | | .2500 | | R |
| uranium-235 | -.00452 | J | | 0.063 | J | | 0 | A | | .0094 | J | V | 0.00 | U | R |
| uranium-238 | .1561 | J | | 0.71 | B | | 4.81 | A | | .1974 | J | V | .127 | U | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW033 (SW) Sample: SW00609WC (REAL) Date: 12/04/90 | | | Location: SW033 (SW) Sample: SW00917WC (REAL) Date: 03/08/91 | | | Location: SW033 (SW) Sample: SW01019WC (REAL) Date: 04/04/91 | | | Location: SW033 (SW) Sample: SW01126WC (REAL) Date: 05/13/91 | | | Location: SW033 (SW) Sample: SW01229WC (REAL) Date: 06/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .4400 | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .8000 | U | JA | .3000 | | | .1100 | | JA | .0910 | | JA | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | .4717 | J | A |
| gross alpha | 2.000 | U | V | 1.800 | | V | .58 | U | A | 3.200 | | V | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | 1.89 | J | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 3.000 | | V | 3.000 | U | | 2.900 | | V | 1.500 | | V | | | |
| neptunium-237 | 1.000 | U | JA | .2200 | | | .4000 | | | .1800 | | R | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .0200 | U | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | .4 | U | V | 1.000 | U | | .7000 | U | | .3900 | | V | | | |
| strontium-89,-90 | | | | | | | | | | | | | .8742 | J | A |
| strontium-90 | -.2 | U | V | .6000 | U | | .7000 | U | | -0.02 | | V | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | .4622 | J | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | .5800 | | | .8300 | | R | .849 | | A | .7500 | | A | | | |
| uranium-235 | .2000 | U | | .083 | U | R | .000 | U | A | .045 | U | A | -.00354 | J | |
| uranium-238 | .4900 | | | .584 | U | R | 1.051 | | A | .6800 | | A | .2585 | J | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01332WC (REAL)<br>Date: 07/10/91 | | | Location: SW033 (SW)<br>Sample: SW01438WC (REAL)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW80145WC (DUP)<br>Date: 08/07/91 | | | Location: SW033 (SW)<br>Sample: SW01795WC (REAL)<br>Date: 01/15/92 | | | Location: SW034 (SW)<br>Sample: SW034W041190A (REAL)<br>Date: 04/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | -0.006 | U | R | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | 0.35 | U | | 3.7 | R |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | .3207 | J | R | -.205 | J | A | .02643 | J | A | 1.4 | J | V | | |
| gross alpha | | | | | | | | | | | | | 0 | R |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | 3.46 | J | A | 2.36 | J | A | 2.218 | J | A | 2.3 | U | A | | |
| gross beta | | | | | | | | | | | | | 0.89 | R |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | -0.001 | U | | | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | 86 | R |
| strontium-89,-90 | .743 | J | A | .8046 | J | A | .7512 | J | A | 0.49 | BJ | | | |
| strontium-90 | | | | | | | | | | | | | 1 | R |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | |
| uranium-233,-234 | .3791 | J | A | 0.4125 | J | | .3005 | J | | 1.2 | B | | 7.98 | A |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | 0 | J | A | -0.002 | J | | 0 | J | | 0.10 | J | | 0.09 | A |
| uranium-238 | .124 | J | A | 0.3411 | J | | .3106 | J | | 0.81 | B | | 7.08 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW00129WC (REAL)<br>Date: 07/16/90 | | | Location: SW034 (SW)<br>Sample: SW00236WC (REAL)<br>Date: 08/13/90 | | | Location: SW034 (SW)<br>Sample: SW80029WC (DUP)<br>Date: 08/13/90 | | | Location: SW034 (SW)<br>Sample: SW00506WC (REAL)<br>Date: 11/07/90 | | | Location: SW034 (SW)<br>Sample: SW80065WC (DUP)<br>Date: 11/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | 0.00 | U | R | 0.00 | U | JA |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | -.03 | | A | .04 | | A | .5000 | U | JA | .8000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 1.704 | J | A | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | 1.60 | U | V | 0.32 | U | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 36.79 | X | A | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | 3.400 | | V | 2.800 | | V |
| neptunium-237 | | | | | | | | | | .7000 | U | JA | 1.000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | .110 | U | JA | 0.00 | U | JA |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | .19 | U | A | .32 | U | A |
| radium-228 | | | | | | | | | | .8600 | | V | 2.200 | | V |
| strontium-89 | | | | | | | | | | -.1 | U | V | 1.2 | U | V |
| strontium-89,-90 | .1096 | J | | .16 | | A | .06 | | A | | | | | | |
| strontium-90 | | | | | | | | | | .2 | U | V | .6 | U | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .143 | J | V | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | .201 | U | R | .123 | U | R |
| uranium-235 | .01907 | J | V | | | | | | | 0.00 | U | R | 0.00 | U | R |
| uranium-238 | .03814 | J | V | | | | | | | .201 | U | R | .9800 | | R |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW) Sample: SW00610WC (REAL) Date: 12/04/90 | | | Location: SW034 (SW) Sample: SW80073WC (DUP) Date: 12/04/90 | | | Location: SW034 (SW) Sample: SW00918WC (REAL) Date: 03/08/91 | | | Location: SW034 (SW) Sample: SW01020WC (REAL) Date: 04/04/91 | | | Location: SW034 (SW) Sample: SW80107WC (DUP) Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .2000 | U | | .0200 | U | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .8000 | U | JA | .9000 | U | JA | 0.315 | | | .1200 | | JA | -0.14 | | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | 2.000 | U | V | 1.000 | U | V | 2.500 | | V | .70 | U | A | .48 | U | A |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 2.000 | U | V | 2.000 | U | V | 3.200 | | V | 2.600 | | V | 2.600 | | V |
| neptunium-237 | 1.000 | U | JA | 1.000 | U | JA | 0.235 | | | .4200 | | | .2100 | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .9000 | U | | .8000 | U | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | -.1 | U | V | .4 | U | V | 1.000 | U | | 1.000 | U | | 1.000 | U | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | .8 | U | V | 0 | U | V | .7000 | U | | .4000 | U | | .5000 | U | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | .8000 | U | | .6000 | U | | 2.300 | | R | .4100 | | A | .3500 | | A |
| uranium-235 | .6000 | U | | .6000 | U | | .169 | U | R | .036 | U | A | .035 | U | A |
| uranium-238 | .6000 | U | | .6000 | U | | .5100 | | R | .072 | U | A | .3000 | | A |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01127WC (REAL)<br>Date: 05/09/91 | | | Location: SW034 (SW)<br>Sample: SW01230WC (REAL)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW80131WC (DUP)<br>Date: 06/13/91 | | | Location: SW034 (SW)<br>Sample: SW01333WC (REAL)<br>Date: 07/10/91 | | | Location: SW034 (SW)<br>Sample: SW80139WC (DUP)<br>Date: 07/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .1000 | | JA | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | .472 | J | A | -.269 | J | A | .1439 | J | R | .4628 | J | R |
| gross alpha | 2.500 | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 2.752 | J | A | 1.196 | J | A | 1.728 | J | A | 2.712 | J | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 5.900 | | | | | | | | | | | | | | |
| neptunium-237 | .2300 | | R | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | 1.200 | | V | | | | | | | | | | | | |
| strontium-89,-90 | | | | .3324 | J | A | .6285 | J | A | 0.4168 | J | A | .7488 | J | A |
| strontium-90 | .8000 | | V | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | .1127 | J | | -.0171 | J | | .1647 | J | V | .07039 | J | A |
| uranium-234 | .4500 | | A | | | | | | | | | | | | |
| uranium-235 | .047 | U | A | .0817 | J | | .08978 | J | | .04381 | J | V | -.00782 | J | A |
| uranium-238 | .047 | U | A | .1193 | J | | .09833 | J | | 0.038 | J | A | .08994 | J | A |

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Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW01439WC (REAL)<br>Date: 08/08/91 | | | Location: SW035 (SW)<br>Sample: SW035W041290A (REAL)<br>Date: 04/12/90 | | Location: SW035 (SW)<br>Sample: SW035W051490A (REAL)<br>Date: 05/14/90 | | Location: SW035 (SW)<br>Sample: SW00141WC (REAL)<br>Date: 07/19/90 | | | Location: SW035 (SW)<br>Sample: SW80016WC (DUP)<br>Date: 07/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | | 0.7 | R | 3 | R | | | | | | |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | .3352 | J | A | | | | | 4.233 | X | A | 2.098 | X | A |
| gross alpha | | | | 12.56 | R | 5.49 | R | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | 3.487 | J | A | | | | | 4.306 | X | A | 3.027 | J | A |
| gross beta | | | | 14.83 | R | 3.45 | R | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | 107 | R | 78 | R | | | | | | |
| strontium-89,-90 | .7833 | J | A | | | | | .3728 | J | A | .5881 | J | A |
| strontium-90 | | | | 1 | R | 1 | R | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | |
| uranium-233,-234 | .4233 | J | V | 18.8 | A | 4.9 | R | 1.325 | X | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | -.00432 | J | V | 0 | A | 0 | R | .0541 | J | | | | |
| uranium-238 | .0864 | J | V | 11.2 | A | 4.74 | R | 1.488 | X | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00511WC (REAL)<br>Date: 11/27/90 | | | Location: SW035 (SW)<br>Sample: SW00615WC (REAL)<br>Date: 12/11/90 | | | Location: SW035 (SW)<br>Sample: SW00923WC (REAL)<br>Date: 03/15/91 | | Location: SW035 (SW)<br>Sample: SW01025WC (REAL)<br>Date: 04/08/91 | | | Location: SW035 (SW)<br>Sample: SW80109WC (DUP)<br>Date: 04/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .2000 | U | | .000 | U | R | .0800 | U | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | .7000 | U | JA | .7000 | U | JA | .2900 | U | -0.16 | | JA | .0000 | | JA |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | 2.000 | U | V | 3.300 | | V | 4.400 | | 6.000 | | A | 6.500 | | A |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | 13.00 | | V | 5.300 | | V | 8.900 | | 10.00 | | V | 11.00 | | V |
| neptunium-237 | 1.000 | U | JA | 1.000 | U | JA | .3500 | U | .2500 | | | -0.04 | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | .0100 | U | | .000 | U | A | .0070 | U | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | .1 | U | V | -.1 | U | V | 2.000 | U | 1.000 | U | | 1.000 | U | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | 0 | U | V | .2 | U | V | .5000 | U | .4000 | U | | .4000 | U | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | | | | | |
| uranium-234 | .5000 | U | | 1.300 | | A | 2.300 | | .5900 | | A | .6100 | | A |
| uranium-235 | .5000 | U | | .000 | U | A | .1000 | U | .045 | U | A | .041 | U | A |
| uranium-238 | .7900 | | | 1.900 | | A | 2.600 | | .8600 | | A | .8600 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW01132WC (REAL)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW80123WC (DUP)<br>Date: 05/14/91 | | | Location: SW035 (SW)<br>Sample: SW01235WC (REAL)<br>Date: 06/25/91 | | | Location: SW035 (SW)<br>Sample: SW01338WC (REAL)<br>Date: 07/10/91 | | | Location: SW035 (SW)<br>Sample: SW01444WC (REAL)<br>Date: 08/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .1100 | | JA | .2500 | | JA | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 2.879 | | A | 2.279 | | A | 3.168 | | A |
| gross alpha | 7.200 | | V | .3900 | | V | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | 2.623 | J | A | 2.714 | J | A | 4.331 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 14 | | V | 6.600 | | V | | | | | | | | | |
| neptunium-237 | .2200 | | R | .1400 | | R | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | .3600 | | V | -0.25 | | V | | | | | | | | | |
| strontium-89,-90 | | | | | | | .7596 | J | A | .4737 | J | A | .5303 | J | A |
| strontium-90 | .1400 | | V | .1600 | | V | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | 1.422 | | V | 1.649 | | V | 1.01 | | V |
| uranium-234 | 2.800 | | A | 3.300 | | A | | | | | | | | | |
| uranium-235 | .053 | U | A | .023 | U | A | .08498 | J | V | .04668 | J | V | .07147 | J | V |
| uranium-238 | 2.500 | | A | 2.600 | | A | 1.903 | | V | 1.658 | | V | 1.613 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW036W041290A (REAL)<br>Date: 04/12/90 | | | Location: SW036 (SW)<br>Sample: SW036W051490A (REAL)<br>Date: 05/14/90 | | | Location: SW036 (SW)<br>Sample: SW70008WC (REAL)<br>Date: 08/08/90 | | | Location: SW036 (SW)<br>Sample: SW00512WC (REAL)<br>Date: 11/20/90 | | | Location: SW036 (SW)<br>Sample: SW00548WC (REAL)<br>Date: 11/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | .008 | U | R | .945 | U | R |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 2.7 | R | | 0.3 | R | | | | | .5000 | U | JA | .5000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 5.031 | | | | | | | | |
| gross alpha | 36.72 | R | | 17.3 | R | | | | | 4.4 | | V | 4.05 | | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | 3.073 | J | | | | | | | |
| gross beta | 52.46 | R | | 13.96 | R | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 8.95 | | V |
| neptunium-237 | | | | | | | | | | .8000 | U | JA | .8000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | R | .000 | U | R |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | .2034 | J | A | -.03 | U | A | | | |
| radium-228 | | | | | | | | | | 1.000 | U | V | | | |
| strontium-89 | 81 | R | | 39 | R | | | | | .3 | U | V | -.4 | U | V |
| strontium-89,-90 | | | | | | | .2027 | J | A | | | | | | |
| strontium-90 | 1 | R | | 1 | R | | | | | .2 | U | V | .6 | U | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 11.8 | A | | | | | 1.353 | | V | | | | | | |
| uranium-234 | | | | | | | | | | | | | 3.75 | | A |
| uranium-235 | 0.31 | A | | | | | .09018 | J | V | .137 | U | A | .000 | U | A |
| uranium-238 | 25.9 | A | | | | | 1.109 | | V | | | | 7.2295 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW00924WC (REAL)<br>Date: 03/15/91 | | | Location: SW036 (SW)<br>Sample: SW01026WC (REAL)<br>Date: 04/08/91 | | | Location: SW036 (SW)<br>Sample: SW01133WC (REAL)<br>Date: 05/16/91 | | | Location: SW036 (SW)<br>Sample: SW01445WC (REAL)<br>Date: 08/13/91 | | | Location: SW038 (SW)<br>Sample: SW00520WC (REAL)<br>Date: 11/05/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .0300 | U | | | | | | | | | | | -.003 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .3000 | U | | .0000 | | JA | -0.14 | | JA | | | | .7000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | 9.92 | | A | | | |
| gross alpha | 8.200 | | | 3.900 | | A | 9.0 | | V | | | | 1.55 | U | R |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | 16.12 | | A | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 13.00 | | | 11.00 | | V | 15.00 | | V | | | | -1.41 | U | R |
| neptunium-237 | .3700 | U | | -0.04 | | | .2500 | | R | | | | 1.000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .0200 | U | | | | | | | | | | | .211 | U | R |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | .06921 | J | | .42 | U | A |
| radium-228 | | | | | | | | | | | | | .8000 | U | V |
| strontium-89 | 1.000 | U | | .9000 | U | | -0.25 | | V | | | | .9000 | U | |
| strontium-89,-90 | | | | | | | | | | .4098 | J | A | 0 | U | V |
| strontium-90 | .6000 | U | | .4000 | U | | .0570 | | V | | | | .3000 | U | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | 4.291 | | V | 1.100 | | A |
| uranium-234 | 3.800 | | | 3.800 | | A | 3.300 | | A | | | | | | |
| uranium-235 | .2000 | | | .100 | U | A | .2400 | | A | .306 | J | V | 0.00 | U | A |
| uranium-238 | 7.700 | | | 8.800 | | A | 9.700 | | A | 13.95 | | V | .6300 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW038 (SW) Sample: SW00624WC (REAL) Date: 12/11/90 | | | Location: SW038 (SW) Sample: SW80081WC (DUP) Date: 12/11/90 | | | Location: SW038 (SW) Sample: SW00932WC (REAL) Date: 03/28/91 | | | Location: SW038 (SW) Sample: SW01034WC (REAL) Date: 04/09/91 | | | Location: SW038 (SW) Sample: SW01141WC (REAL) Date: 05/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .0370 | | A | .135 | U | A | 0.006 | U | A | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .8000 | U | JA | .8000 | U | JA | .7900 | | | .3000 | | R | -0.39 | | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | 2.500 | | V | 0.7 | U | V | 1.700 | | | .47 | | R | 3.200 | | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 2.600 | | V | 2.05 | U | V | 3.000 | U | | 2.0 | U | V | 1.500 | | V |
| neptunium-237 | 1.000 | U | JA | 1.000 | U | JA | -0.32 | | | .0000 | | | .2400 | | R |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .000 | U | A | .002 | U | A | -0.002 | U | A | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | .5 | U | V | -.3 | U | V | .8000 | U | | .9000 | U | | -0.04 | | V |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | .1 | U | V | .2 | U | V | .9000 | U | | .3000 | U | | .1000 | | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | 1.200 | | A | 1.600 | | A | 4.500 | | R | .5500 | | A | 1.763 | | A |
| uranium-235 | .051 | U | A | .000 | U | A | 0.147 | U | R | .041 | U | A | .038 | U | A |
| uranium-238 | .3000 | | A | 1.000 | | A | 3.000 | | R | .9900 | | A | .939 | | A |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW038 (SW) Sample: SW01244WC (REAL) Date: 06/20/91 | | | Location: SW038 (SW) Sample: SW01347WC (REAL) Date: 07/25/91 | | | Location: SW039 (SW) Sample: SW039W041290A (UNKN) Date: 04/12/90 | | Location: SW039 (SW) Sample: SW039W050990A (UNKN) Date: 05/09/90 | | Location: SW039 (SW) Sample: SW039W050990D (DUP) Date: 05/09/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | |
| cesium-137 | | | | | | | 2.1 | R | 6.2 | R | 2.1 | R |
| curium-244 | | | | | | | | | | | | |
| gross alpha | 5.741 | | | 2.276 | | R | | | | | | |
| gross alpha | | | | | | | 0.96 | R | 1.84 | R | 2.14 | R |
| gross alpha particle activity | | | | | | | | | | | | |
| gross beta | 1.947 | J | | 2.644 | J | A | | | | | | |
| gross beta | | | | | | | 6.32 | R | -1.6 | R | 0.82 | R |
| gross beta particle activity | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | |
| radium-226 | .1598 | J | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | |
| strontium-89 | | | | | | | 123 | R | 96 | R | 99 | R |
| strontium-89,-90 | .5306 | J | A | .5417 | J | A | | | | | | |
| strontium-90 | | | | | | | 1 | R | 1 | R | 1 | R |
| total radiocesium | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | |
| uranium-233,-234 | 1.719 | | V | 1.901 | | V | 2.28 | A | 0.307 | R | 4.3 | R |
| uranium-234 | | | | | | | | | | | | |
| uranium-235 | .06613 | J | V | .2228 | J | V | 0 | A | 0 | R | 0 | R |
| uranium-238 | .8514 | | V | .6043 | | V | 1.44 | A | 0.154 | R | 3.54 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00138WC (REAL)<br>Date: 07/16/90 | | | Location: SW039 (SW)<br>Sample: SW00237WC (REAL)<br>Date: 08/15/90 | | Location: SW039 (SW)<br>Sample: SW00507WC (REAL)<br>Date: 11/08/90 | | | Location: SW039 (SW)<br>Sample: SW00611WC (REAL)<br>Date: 12/04/90 | | | Location: SW039 (SW)<br>Sample: SW00919WC (REAL)<br>Date: 03/28/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | .0110 | | A | .2000 | U | | 0.00 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | -0.165 | A | .6000 | U | JA | .8000 | U | JA | .7600 | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | .4436 | J | A | | | | | | | | | | | |
| gross alpha | | | | | | 0.09 | U | V | 2.000 | U | V | 1.000 | U | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | 23.69 | X | A | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | 3.000 | | V | 5.200 | | V | 3.000 | U | |
| neptunium-237 | | | | | | 1.000 | U | JA | 1.000 | U | JA | -0.31 | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | .227 | U | JA | .2000 | U | | -0.002 | U | A |
| plutonium-239,-240 | | | | | | | | | | | | | | |
| radium-226 | | | | | | .22 | U | A | | | | | | |
| radium-228 | | | | | | 1.000 | U | V | | | | | | |
| strontium-89 | | | | | | .1 | U | V | .8 | U | JA | 1.000 | U | |
| strontium-89,-90 | .6753 | J | | 0.66 | A | | | | | | | | | |
| strontium-90 | | | | | | .4 | U | V | .2 | U | V | .6000 | U | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | |
| uranium-233,-234 | .2211 | J | V | | | | | | | | | | | |
| uranium-234 | | | | | | .186 | U | R | 1.000 | | | .6300 | | R |
| uranium-235 | .01922 | J | V | | | 0.00 | U | R | .3000 | U | | 0.046 | U | R |
| uranium-238 | .1538 | J | V | | | .124 | U | R | .3000 | U | | .6000 | | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01021WC (REAL)<br>Date: 04/01/91 | | | Location: SW039 (SW)<br>Sample: SW01128WC (REAL)<br>Date: 05/03/91 | | | Location: SW039 (SW)<br>Sample: SW01231WC (REAL)<br>Date: 06/04/91 | | | Location: SW039 (SW)<br>Sample: SW01334WC (REAL)<br>Date: 07/08/91 | | | Location: SW066 (SW)<br>Sample: SW00146WC (REAL)<br>Date: 07/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.299 | U | A | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -0.07 | | | .2100 | | A | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | .09857 | J | A | .4756 | J | A | 11.65 | X | A |
| gross alpha | 1.800 | | | 2.200 | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | 2.743 | J | A | 1.562 | J | A | 2.973 | J | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 2.600 | | | 3.500 | | | | | | | | | | | |
| neptunium-237 | .3300 | | | .4600 | | R | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | 0.006 | U | A | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | .1654 | J | A |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | 1.000 | U | | -0.39 | | V | | | | | | | | | |
| strontium-89,-90 | | | | | | | .7212 | J | A | .9304 | J | A | .488 | J | A |
| strontium-90 | .5000 | U | | .4400 | | V | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | .2355 | J | A | .233 | J | V | 2.428 | X | |
| uranium-234 | .4400 | | R | .3700 | | A | | | | | | | | | |
| uranium-235 | 0.032 | U | R | -.040 | U | A | .04089 | J | A | .04894 | J | V | .0567 | J | |
| uranium-238 | .4700 | | R | .1900 | | A | .3648 | J | A | .04894 | J | V | 2.57 | X | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW00015WC (REAL)<br>Date: 06/12/90 | | | Location: SW067 (SW)<br>Sample: SW00620WC (REAL)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW00143WC (REAL)<br>Date: 07/19/90 | | | Location: SW068 (SW)<br>Sample: SW00517WC (REAL)<br>Date: 11/19/90 | | | Location: SW068 (SW)<br>Sample: SW00621WC (REAL)<br>Date: 12/10/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .146 | U | A | | | | .000 | U | R | .115 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | .9000 | U | JA | | | | .7000 | U | JA | .9000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | -.144 | J | | | | | 5.926 | X | A | | | | | | |
| gross alpha | | | | 6.000 | | V | | | | 4.900 | | V | 4.400 | | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 1.046 | J | | | | | 2.61 | J | A | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 10.00 | | V | | | | 5.700 | | V | 11.00 | | V |
| neptunium-237 | | | | 1.000 | U | JA | | | | 1.000 | U | JA | 1.000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | .000 | U | A | | | | .0.008 | U | A | .006 | U | A |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | .5000 | U | | .1303 | J | A | | | | | | |
| radium-228 | | | | .6700 | | V | | | | | | | | | |
| strontium-89 | | | | .5 | U | V | | | | 0 | U | V | 0 | U | V |
| strontium-89,-90 | .05459 | J | | | | | .9366 | J | A | | | | | | |
| strontium-90 | | | | .1 | U | V | | | | .1 | U | V | .1 | U | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .03706 | J | | | | | 2.615 | X | | | | | | | |
| uranium-234 | | | | 2.500 | | R | | | | 2.400 | | A | 3.500 | | A |
| uranium-235 | .01853 | J | | .000 | U | R | .121 | J | | .059 | U | A | .073 | U | A |
| uranium-238 | .01853 | J | | 2.700 | | R | 2.642 | X | | 3.800 | | A | 3.200 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW80079WC (DUP)<br>Date: 12/10/90 | | | Location: SW068 (SW)<br>Sample: SW00929WC (REAL)<br>Date: 03/19/91 | | Location: SW068 (SW)<br>Sample: SW80095WC (DUP)<br>Date: 03/19/91 | | Location: SW068 (SW)<br>Sample: SW01031WC (REAL)<br>Date: 04/04/91 | | | Location: SW068 (SW)<br>Sample: SW01138WC (REAL)<br>Date: 05/13/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .000 | U | A | .1000 | U | .0076 | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | |
| cesium-137 | .7000 | U | JA | .1000 | U | .1300 | U | -0.14 | | JA | .1000 | JA |
| curium-244 | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | |
| gross alpha | 3.700 | | V | 4.300 | | 2.000 | U | 2.2 | U | A | 5.3 | V |
| gross alpha particle activity | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | |
| gross beta particle activity | 6.900 | | V | 7.800 | | 5.500 | | 6.100 | | V | -10 | V |
| neptunium-237 | 1.000 | U | JA | .3700 | U | .0057 | U | .2200 | | | .2000 | R |
| plutonium-236 | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | |
| plutonium-239 | .005 | U | A | .0076 | | .0040 | U | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | |
| strontium-89 | .4 | U | V | 1.000 | U | 1.000 | U | 1.000 | U | | .2700 | V |
| strontium-89,-90 | | | | | | | | | | | | |
| strontium-90 | .1 | U | V | .5000 | U | .4000 | U | .7000 | U | | .1500 | V |
| total radiocesium | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | | | |
| uranium-234 | 2.600 | | A | 1.800 | | 2.400 | | 2.200 | | A | 2.800 | A |
| uranium-235 | .000 | U | A | .2000 | U | .0900 | U | .035 | U | A | .1500 | A |
| uranium-238 | 3.200 | | A | 2.500 | | 2.700 | | 2.600 | | A | 2.800 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW068 (SW) Sample: SW01241WC (REAL) Date: 06/19/91 | | | Location: SW068 (SW) Sample: SW01344WC (REAL) Date: 07/10/91 | | | Location: SW068 (SW) Sample: SW01450WC (REAL) Date: 08/08/91 | | | Location: SW069 (SW) Sample: SW00147WC (REAL) Date: 07/19/90 | | | Location: SW069 (SW) Sample: SW00248WC (REAL) Date: 08/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | -.02 | JA |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | 5.84 | | A | .9258 | J | A | 2.146 | | A | 2.96 | J | A | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | 1.798 | J | A | 2.656 | J | A | 7.12 | | A | 3.164 | J | A | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | |
| radium-226 | .1872 | J | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | .6255 | J | A | .6796 | J | A | .7457 | J | A | .7014 | J | A | .25 | A |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | |
| uranium-233,-234 | 2.751 | | V | 2.021 | | V | 3.023 | | | 2.41 | X | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | .1157 | J | V | .04873 | J | V | .1081 | J | | .08184 | J | | | |
| uranium-238 | 3 | | V | 1.504 | | V | 2.338 | | | 2.555 | X | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW80035WC (DUP)<br>Date: 08/20/90 | | | Location: SW069 (SW)<br>Sample: SW00518WC (REAL)<br>Date: 11/19/90 | | | Location: SW069 (SW)<br>Sample: SW00622WC (REAL)<br>Date: 12/10/90 | | | Location: SW069 (SW)<br>Sample: SW00930WC (REAL)<br>Date: 03/18/91 | | | Location: SW069 (SW)<br>Sample: SW01032WC (REAL)<br>Date: 04/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | 1.339 | U | R | .139 | U | A | .5000 | U | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 0 | | A | .7000 | U | JA | .9000 | U | JA | .0000 | U | | -0.15 | | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | 5.200 | | V | 1.97 | U | V | 2.900 | | | 3.900 | | A |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 6.200 | | V | 7.300 | | V | 4.200 | | | 8.600 | | V |
| neptunium-237 | | | | 1.000 | U | JA | 1.000 | U | JA | -.012 | U | | .2300 | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | .007 | U | A | .043 | U | A | .0100 | U | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | .41 | U | A | | | | | | | | | |
| radium-228 | | | | .7000 | U | V | | | | | | | | | |
| strontium-89 | | | | 0 | U | V | .1 | U | V | 1.000 | U | | 1.000 | U | |
| strontium-89,-90 | 0 | | A | | | | | | | | | | | | |
| strontium-90 | | | | .1 | U | V | .1 | U | V | .5000 | U | | .5000 | U | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | 3.200 | | A | 3.200 | | A | 1.700 | | | 2.700 | | A |
| uranium-235 | | | | .122 | U | A | .101 | U | A | .2000 | U | | .084 | U | A |
| uranium-238 | | | | 3.200 | | A | 2.900 | | A | 2.300 | | | 2.800 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW01139WC (REAL)<br>Date: 05/13/91 | | | Location: SW069 (SW)<br>Sample: SW01242WC (REAL)<br>Date: 06/19/91 | | | Location: SW069 (SW)<br>Sample: SW01345WC (REAL)<br>Date: 07/10/91 | | | Location: SW069 (SW)<br>Sample: SW01451WC (REAL)<br>Date: 08/08/91 | | | Location: SW070 (SW)<br>Sample: SW00142WC (REAL)<br>Date: 07/18/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .0980 | | JA | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | 3.787 | | A | 1.64 | J | A | 3.771 | | A | 2.823 | X | A |
| gross alpha | 6.000 | | V | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 2.678 | J | A | 2.571 | J | A | 8.794 | | A | 3.126 | J | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 7.100 | | V | | | | | | | | | | | | |
| neptunium-237 | .1900 | | R | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | .3300 | | V | | | | | | | | | | | | |
| strontium-89,-90 | | | | .6064 | J | A | .5083 | J | A | .3316 | J | A | .3965 | J | A |
| strontium-90 | .1300 | | V | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | 2.477 | | V | 1.813 | | V | 2.695 | | | 3.27 | X | V |
| uranium-234 | 3.600 | | A | | | | | | | | | | | | |
| uranium-235 | .060 | U | A | .0821 | J | V | -.0158 | J | V | .05188 | J | | 0 | J | V |
| uranium-238 | 3.300 | | A | 3.004 | | V | 1.661 | | V | 2.709 | | | 2.749 | X | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-g

## Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW00519WC (REAL)<br>Date: 11/15/90 | | | Location: SW070 (SW)<br>Sample: SW00623WC (REAL)<br>Date: 12/10/90 | | | Location: SW070 (SW)<br>Sample: SW00931WC (REAL)<br>Date: 03/18/91 | | Location: SW070 (SW)<br>Sample: SW01033WC (REAL)<br>Date: 04/04/91 | | | Location: SW070 (SW)<br>Sample: SW01140WC (REAL)<br>Date: 05/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .558 | U | R | .000 | U | R | .1000 | U | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | 1.000 | U | JA | 1.000 | U | JA | .0000 | U | -0.15 | | JA | .0940 | | JA |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | -.0487 | J | A |
| gross alpha | 3.900 | | V | 4.000 | | V | 3.400 | | 3.400 | | A | 6.400 | | V |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | 2.316 | J | A |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | 6.200 | | V | 6.800 | | V | 6.600 | | 6.900 | | V | 8.300 | | V |
| neptunium-237 | 1.000 | U | JA | 1.000 | U | JA | -.012 | U | .2400 | | | .1900 | | R |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | .2000 | | A | .002 | U | A | .0100 | U | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | 0 | U | V | .2 | U | V | 1.000 | U | 1.000 | U | | .9600 | | V |
| strontium-89,-90 | | | | | | | | | | | | .6113 | J | A |
| strontium-90 | .2 | U | V | .2 | U | V | .5000 | U | .5000 | U | | .0810 | | V |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | | | .238 | J | |
| uranium-234 | 2.400 | | A | 2.300 | | A | 2.600 | | 1.500 | | A | 3.000 | | A |
| uranium-235 | .000 | U | A | .4900 | | A | .1000 | U | .109 | U | A | .1200 | | A |
| uranium-238 | 2.900 | | A | 2.800 | | A | 2.200 | | 2.600 | | A | 2.900 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW070 (SW) Sample: SW01243WC (REAL) Date: 06/19/91 | | | Location: SW070 (SW) Sample: SW01346WC (REAL) Date: 07/10/91 | | | Location: SW070 (SW) Sample: SW01452WC (REAL) Date: 08/08/91 | | | Location: SW125 (SW) Sample: SW00643WC (REAL) Date: 12/18/90 | | | Location: () Sample: () Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | .4000 | U | A | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | .7000 | U | JA | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | .1327 | J | A | 1.036 | J | A | 3.345 | | A | | | | | | |
| gross alpha | | | | | | | | | | 4.300 | | V | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 3.283 | J | A | 2.512 | J | A | 4.923 | | A | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | 1.000 | U | JA | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | .0700 | U | A | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | .8000 | U | | | | |
| strontium-89,-90 | .6499 | J | A | .3387 | J | A | .6011 | J | A | | | | | | |
| strontium-90 | | | | | | | | | | 1.000 | U | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 2.086 | | V | .7832 | | V | 3.672 | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .06249 | J | V | .1145 | J | V | .1473 | J | | | | | | | |
| uranium-238 | 2.875 | | V | .9069 | | V | 2.641 | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples

| ANALYTE | Location: SW029 (SW)<br>Sample: SW02990001 (REAL)<br>Date: 01/16/90 | | | Location: SW029 (SW)<br>Sample: SW02990002 (REAL)<br>Date: 02/08/90 | | | Location: SW029 (SW)<br>Sample: SW029W041190A (REAL)<br>Date: 04/11/90 | | | Location: SW029 (SW)<br>Sample: SW029W051090A (REAL)<br>Date: 05/10/90 | | | Location: SW029 (SW)<br>Sample: SW00003WC (REAL)<br>Date: 06/06/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 168 | | V | 160 | | | 120 | | | 180 | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | | | | 160 | | V |
| carbonate (mg/l) | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | | | |
| carbonate as caco3 (mg/l) | | | | | | | | | | | | | 10 | U | V |
| chloride (mg/l) | 19 | | V | 19 | | | 15 | | | 17 | | | 16.3 | | V |
| cyanide (ug/l) | 0.0100 | U | | 0.0100 | U | | 10.0 | U | | 10.0 | U | | 10.0 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | | | | 0.54 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.10 | | V | 0.10 | | | 0.07 | | | 0.05 | U | | 0.10 | U | V |
| nitrite (mg/l) | | | | | | | | | | | | | 0.02 | U | V |
| oil and grease (mg/l) | 1 | | V | 1 | | | 1 | U | | 1 | U | | 5 | U | V |
| orthophosphate (mg/l) | | | | | | | | | | | | | 0.05 | U | V |
| pH (ph) | 7.8 | | | 7.9 | | | 7.8 | | | 8.1 | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | 0.05 | U | V |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 33 | | V | 30 | | | 26 | | | 28 | | | 20.9 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 210 | | A | 220 | | | 190 | | | 250 | | | 398 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 12 | | A | 5 | U | | 8 | | | 5 | U | | 17 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW00130WC (REAL)<br>Date: 07/17/90 | Location: SW029 (SW)<br>Sample: SW00233WC (REAL)<br>Date: 08/09/90 | Location: SW029 (SW)<br>Sample: SW00311WC (REAL)<br>Date: 09/12/90 | Location: SW029 (SW)<br>Sample: SW80042WC (DUP)<br>Date: 09/12/90 | Location: SW029 (SW)<br>Sample: SW00402WC (REAL)<br>Date: 10/03/90 |
|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | |
| bicarbonate (mg/l) | | | | | |
| bicarbonate as caco3 (mg/l) | | 130 | 130 | 130 | 20 |
| carbonate (mg/l) | | 1 U | | | |
| carbonate as caco3 (mg/l) | | | 0 | 0 | 0 |
| chloride (mg/l) | | 25 | 32 | 32 | 31 |
| cyanide (ug/l) | 10.0 U | | | | |
| cyanide, amenable (mg/l) | | | | | |
| cyanides (s. salts) (mg/l) | | 0.02 U | | | |
| diss. organic carbon (mg/l) | | | | | |
| fluoride (mg/l) | | 0.4 | 0.5 | 0.4 | 0.4 |
| hydrocyanic acid (mg/l) | | | | | |
| nitrate (mg/l) | | 0.1 U | | | |
| nitrate/nitrite (mg/l) | | | 0.02 U | 0.02 U | 0.02 U |
| nitrite (mg/l) | | 1 U | 0.02 U | 0.02 U | 0.02 U |
| oil and grease (mg/l) | | 5 U | 0.4 | 0.4 | 0.3 |
| orthophosphate (mg/l) | | | 0.01 | 0.01 U | 0.01 U |
| pH (ph) | | | | | |
| phosphate (mg/l) | | 0.2 U | 0.05 | 0.04 | 0.03 |
| phosphorus (mg/l) | | 0.018 | | | |
| silica, dissolved (mg/l) | | | 6.0 | 5.9 | 6.8 |
| silicon (mg/l) | | 10 | | | |
| sodium fluoride (mg/l) | | | | | |
| sodium sulfate (mg/l) | | | | | |
| solids, nonvol/susp (mg/l) | | | | | |
| sulfate (mg/l) | | 11 | 14 | 13 | 18 |
| sulfide (mg/l) | | | | | |
| total diss. solids (mg/l) | | 230 | 200 | 190 | 210 |
| tot. org. carbon (mg/l) | | | | | |
| total solids (mg/l) | | | | | |
| total susp. solids (mg/l) | | 18 | 16 | 17 | 13 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW029 (SW) Sample: SW00503WC (REAL) Date: 11/08/90 | | | Location: SW029 (SW) Sample: SW00607WC (REAL) Date: 12/05/90 | | | Location: SW029 (SW) Sample: SW01793WC (REAL) Date: 01/09/92 | | | Location: SW029 (SW) Sample: SW01875WC (REAL) Date: 04/02/92 | | | Location: SW029 (SW) Sample: SW80189WC (RNS) Date: 04/02/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 130 | | | 160 | | | 164 | | V | 115 | | V | 10.0 | U | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 0 | | | 1 | U | | 10.0 | U | V | 10.0 | U | V | 10.0 | U | V |
| chloride (mg/l) | 29 | | | 24 | | | 19.7 | | V | 18.1 | | V | 4.5 | | V |
| cyanide (ug/l) | | | | 10 | U | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | 10.0 | U | V | 20.0 | U | V | 10.0 | U | V |
| diss. organic carbon (mg/l) | | | | | | | 3 | | | 5 | | | 1 | U | |
| fluoride (mg/l) | 0.4 | | | .5 | U | | 0.44 | | V | 0.46 | | V | 0.10 | U | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.10 | | | .09 | | | 0.16 | | V | 0.10 | U | JA | 0.10 | U | JA |
| nitrite (mg/l) | 0.02 | U | | .01 | U | | 0.020 | U | V | 0.020 | U | V | 0.020 | U | V |
| oil and grease (mg/l) | 0.7 | | | 6 | | | 7.4 | U | V | 6.9 | U | V | 7.5 | U | V |
| orthophosphate (mg/l) | 0.01 | U | | | | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | 0.02 | | | .03 | | | | | | | | | | | |
| phosphorus (mg/l) | | | | .03 | | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| silica, dissolved (mg/l) | 7.2 | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 21 | | | 24 | | | 29.0 | | V | 19.5 | | V | 5.0 | U | V |
| sulfide (mg/l) | 4 | | | .2 | U | | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| total diss. solids (mg/l) | 240 | | | 390 | | | 284 | | V | 202 | | V | 10.0 | | V |
| tot. org. carbon (mg/l) | | | | | | | 3 | | | 5 | | | 1 | U | |
| total solids (mg/l) | | | | | | | 5.0 | U | V | 8.0 | | V | 5.0 | U | V |
| total susp. solids (mg/l) | 4 | U | | 2 | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW029 (SW)<br>Sample: SW80190WC (DUP)<br>Date: 04/02/92 | | | Location: SW031 (SW)<br>Sample: SW03190001 (REAL)<br>Date: 01/11/90 | | | Location: SW031 (SW)<br>Sample: SW03190002 (REAL)<br>Date: 02/20/90 | | | Location: SW031 (SW)<br>Sample: SW03190003 (REAL)<br>Date: 03/14/90 | | | Location: SW031 (SW)<br>Sample: SW031W041890A (REAL)<br>Date: 04/18/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | 228 | | V | 200 | | | 200 | | V | 250 | | |
| bicarbonate as caco3 (mg/l) | 118 | | V | | | | | | | | | | | | |
| carbonate (mg/l) | | | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | |
| carbonate as caco3 (mg/l) | 10.0 | U | V | | | | | | | | | | | | |
| chloride (mg/l) | 17.6 | | V | 60 | | V | 170 | | | 140 | | V | 66 | | |
| cyanide (ug/l) | | | | 0.0100 | U | | | | | | | | 10.0 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 10.0 | U | V | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | 5 | | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.45 | | V | | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.10 | U | JA | 3.8 | | V | 4.1 | | | 2.6 | | V | 5.3 | | |
| nitrite (mg/l) | 0.020 | U | V | | | | | | | | | | | | |
| oil and grease (mg/l) | 9.5 | U | V | 1 | U | V | 1 | U | | 2 | | | 1 | U | |
| orthophosphate (mg/l) | 0.050 | U | V | | | | | | | | | | | | |
| pH (ph) | | | | 7.8 | | | 8.0 | | | 8.0 | | | 8.2 | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | 0.050 | U | V | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 24.0 | | V | 48 | | V | 48 | | | 68 | | | 74 | | |
| sulfide (mg/l) | 1.0 | U | V | | | | | | | | | | | | |
| total diss. solids (mg/l) | 216 | | V | 380 | | A | 550 | | | 390 | | V | 420 | | |
| tot. org. carbon (mg/l) | 6 | | | | | | | | | | | | | | |
| total solids (mg/l) | 8.5 | | V | | | | | | | | | | | | |
| total susp. solids (mg/l) | | | | 160 | | A | 19 | | | 6 | | V | 5 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW031W051590A (REAL)<br>Date: 05/15/90 | | Location: SW031 (SW)<br>Sample: SW00060WC (REAL)<br>Date: 06/11/90 | | Location: SW031 (SW)<br>Sample: SW00199WC (REAL)<br>Date: 07/19/90 | | Location: SW031 (SW)<br>Sample: SW00409WC (REAL)<br>Date: 10/10/90 | | Location: SW031 (SW)<br>Sample: SW00510WC (REAL)<br>Date: 11/27/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | 220 | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | 163 | | 190 | | 140 | | 210 | |
| carbonate (mg/l) | 5 | U | | | | | | | | |
| carbonate as caco3 (mg/l) | | | | | 0 | | 0 | | 0 | |
| chloride (mg/l) | 56 | | | | 65 | | 46 | | 74 | |
| cyanide (ug/l) | 10.0 | U | 39.5 | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | | | | | 0.8 | | 0.6 | | 0.7 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 3.5 | | 2.3 | | 2.6 | | 2.6 | | 4.4 | |
| nitrite (mg/l) | | | | | 0.02 | U | 0.02 | U | 0.02 | U |
| oil and grease (mg/l) | 1 | U | 9.2 | | 0.9 | | 1.3 | | 0.2 | U |
| orthophosphate (mg/l) | | | | | 0.01 | U | 0.01 | U | 0.01 | U |
| pH (ph) | 8.2 | | | | | | | | | |
| phosphate (mg/l) | | | | | 0.04 | | 0.06 | | 0.06 | |
| phosphorus (mg/l) | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | 6.2 | | 4.7 | | 6.5 | |
| silicon (mg/l) | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 51 | | | | 47 | | 30 | | 44 | |
| sulfide (mg/l) | | | | | | | | | 2 | |
| total diss. solids (mg/l) | 370 | | 280 | | 410 | | 270 | | 410 | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 5 | U | 8 | | 19 | | 150 | | 41 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW031 (SW)<br>Sample: SW00614WC (REAL)<br>Date: 12/11/90 | | Location: SW032 (SW)<br>Sample: SW03290001 (REAL)<br>Date: 01/16/90 | | | Location: SW032 (SW)<br>Sample: SW03290002 (REAL)<br>Date: 02/20/90 | | Location: SW032 (SW)<br>Sample: SW03290003 (REAL)<br>Date: 03/23/90 | | | Location: SW032 (SW)<br>Sample: SW032W041190A (UNKN)<br>Date: 04/11/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | 180 | | V | 170 | | 120 | | V | 110 | |
| bicarbonate as caco3 (mg/l) | 200 | | | | | | | | | | | |
| carbonate (mg/l) | | | 5 | U | V | 5 | U | 5 | U | V | 5 | U |
| carbonate as caco3 (mg/l) | 4 | | | | | | | | | | | |
| chloride (mg/l) | 78 | | 18 | | V | 15 | | 13 | | V | 14 | |
| cyanide (ug/l) | | | 0.0100 | U | | | | | | | 10.0 | U |
| cyanide, amenable (mg/l) | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | |
| fluoride (mg/l) | 0.7 | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 4.9 | | 0.30 | | V | 0.19 | | 0.13 | | V | 0.05 | U |
| nitrite (mg/l) | 0.02 | U | | | | | | | | | | |
| oil and grease (mg/l) | 0.3 | | 1 | | V | 1 | U | 1 | U | V | 1 | U |
| orthophosphate (mg/l) | 0.01 | U | | | | | | | | | | |
| pH (ph) | | | 7.8 | | | 8.0 | | 8.0 | | | 7.6 | |
| phosphate (mg/l) | 0.04 | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 5.9 | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | |
| sulfate (mg/l) | 42 | | 31 | | V | 28 | | 28 | | V | 25 | |
| sulfide (mg/l) | 1 | U | | | | | | | | | | |
| total diss. solids (mg/l) | 420 | | 210 | | A | 230 | | 180 | | V | 170 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | |
| total susp. solids (mg/l) | 52 | | 10 | | A | 5 | U | 5 | U | V | 5 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW032W051090A (REAL)<br>Date: 05/10/90 | | Location: SW032 (SW)<br>Sample: SW00005WC (DUP)<br>Date: 06/07/90 | | Location: SW032 (SW)<br>Sample: SW00136WC (REAL)<br>Date: 07/16/90 | | Location: SW032 (SW)<br>Sample: SW00234WC (REAL)<br>Date: 08/09/90 | | Location: SW032 (SW)<br>Sample: SW00403WC (REAL)<br>Date: 10/04/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | 180 | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | 110 | | | | 32 | | 130 | |
| carbonate (mg/l) | 5 | U | | | | | 1 | U | 1 | U |
| carbonate as caco3 (mg/l) | | | | | | | | | | |
| chloride (mg/l) | 14 | | | | | | 28 | | 25 | |
| cyanide (ug/l) | 10.0 | U | 10.0 | U | 10.0 | U | | | 0.02 | U |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | 0.02 | U | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | 0.4 | | 0.4 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | 0.1 | U | .1 | U |
| nitrate/nitrite (mg/l) | 0.05 | | 0.1 | U | | | | | | |
| nitrite (mg/l) | | | | | | | 1 | U | .1 | U |
| oil and grease (mg/l) | 1 | U | 5 | U | | | 5 | U | | |
| orthophosphate (mg/l) | | | | | | | | | | |
| pH (ph) | 8.1 | | | | | | | | | |
| phosphate (mg/l) | | | | | | | 0.2 | U | 0.2 | U |
| phosphorus (mg/l) | | | | | | | 0.020 | | 0.013 | |
| silica, dissolved (mg/l) | | | | | | | | | | |
| silicon (mg/l) | | | | | | | 12 | | 19 | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 22 | | | | | | 10 | | 13 | |
| sulfide (mg/l) | | | | | | | | | | |
| total diss. solids (mg/l) | 230 | | 170 | | | | 210 | | 230 | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 5 | U | 85 | U | | | 4 | U | 4 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW032 (SW)<br>Sample: SW00504WC (REAL)<br>Date: 11/07/90 | | | Location: SW032 (SW)<br>Sample: SW00608WC (REAL)<br>Date: 12/04/90 | | | Location: SW032 (SW)<br>Sample: SW01794WC (REAL)<br>Date: 01/15/92 | | | Location: SW032 (SW)<br>Sample: SW01876WC (REAL)<br>Date: 04/02/92 | | | Location: SW033 (SW)<br>Sample: SW03390001 (REAL)<br>Date: 01/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | 156 | | V |
| bicarbonate as caco3 (mg/l) | 120 | | | 150 | | | 157 | | V | 116 | | V | | | |
| carbonate (mg/l) | | | | | | | | | | | | | 5 | U | V |
| carbonate as caco3 (mg/l) | 1 | U | | 0 | | | 10.0 | U | V | 10.0 | U | V | | | |
| chloride (mg/l) | 18 | | | 25 | | | 18.0 | | V | 17.1 | | V | 18 | | V |
| cyanide (ug/l) | | | | 0.02 | U | JA | | | | | | | 0.0100 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 0.02 | U | | 0.02 | U | | 10.0 | U | V | 10.0 | U | V | | | |
| diss. organic carbon (mg/l) | | | | | | | 3 | | | 4 | | | | | |
| fluoride (mg/l) | .5 | U | | 0.4 | | | 0.51 | | V | 0.46 | | V | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | .28 | | | 0.4 | | | 0.24 | | V | 0.10 | U | JA | 0.16 | | V |
| nitrite (mg/l) | .01 | U | | 0.02 | U | | 0.020 | U | V | 0.020 | U | V | | | |
| oil and grease (mg/l) | 5 | U | | 5 | U | V | 5.1 | U | V | 7.6 | U | V | 2 | | V |
| orthophosphate (mg/l) | | | | 0.01 | U | | 0.050 | U | V | 0.050 | U | V | | | |
| pH (ph) | | | | | | | | | | | | | 7.7 | | |
| phosphate (mg/l) | .03 | | | 0.01 | U | | | | | | | | | | |
| phosphorus (mg/l) | .03 | | | | | | 0.050 | U | V | 0.050 | U | V | | | |
| silica, dissolved (mg/l) | 60 | | | 8.1 | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 19 | | | 23 | | | 31.2 | | V | 22.6 | | V | 32 | | V |
| sulfide (mg/l) | 10 | U | | 10 | U | V | 1.0 | U | V | 1.0 | U | V | | | |
| total diss. solids (mg/l) | 402 | | | 230 | | | 272 | | V | 192 | | V | 180 | | A |
| tot. org. carbon (mg/l) | | | | | | | 9 | | | 7 | | | | | |
| total solids (mg/l) | | | | | | | 8.0 | | V | 5.0 | U | V | | | |
| total susp. solids (mg/l) | 26 | | | 4 | | | | | | | | | 5 | U | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW03390002 (REAL)<br>Date: 02/20/90 | | Location: SW033 (SW)<br>Sample: SW03390003 (REAL)<br>Date: 03/23/90 | | | Location: SW033 (SW)<br>Sample: SW033W041190A (REAL)<br>Date: 04/11/90 | | Location: SW033 (SW)<br>Sample: SW033W051090A (REAL)<br>Date: 05/10/90 | | Location: SW033 (SW)<br>Sample: SW00006WC (REAL)<br>Date: 06/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | |
| bicarbonate (mg/l) | 150 | | 80 | | V | 93 | | 170 | | | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | 99.8 | |
| carbonate (mg/l) | 5 | U | 5 | U | V | 5 | U | 5 | U | | |
| carbonate as caco3 (mg/l) | | | | | | | | | | | |
| chloride (mg/l) | 14 | | 14 | | V | 14 | | 14 | | | |
| cyanide (ug/l) | | | | | | 10.0 | U | 10.0 | U | 10.0 | U |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.16 | | 0.13 | | V | 0.05 | U | 0.05 | | 0.12 | |
| nitrite (mg/l) | | | | | | | | | | | |
| oil and grease (mg/l) | 1 | U | 1 | U | V | 1 | U | 1 | U | 5 | U |
| orthophosphate (mg/l) | | | | | | | | | | | |
| pH (ph) | 7.9 | | 7.8 | | | 7.5 | | 8.0 | | | |
| phosphate (mg/l) | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | 28 | | 29 | | V | 26 | | 26 | | | |
| sulfide (mg/l) | | | | | | | | | | | |
| total diss. solids (mg/l) | 210 | | 160 | | V | 170 | | 230 | | 150 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | 8 | | 5 | U | V | 5 | U | 5 | U | 5 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW00128WC (REAL)<br>Date: 07/16/90 | | | Location: SW033 (SW)<br>Sample: SW00404WC (REAL)<br>Date: 10/04/90 | | | Location: SW033 (SW)<br>Sample: SW00505WC (REAL)<br>Date: 11/07/90 | | | Location: SW033 (SW)<br>Sample: SW00609WC (REAL)<br>Date: 12/04/90 | | | Location: SW033 (SW)<br>Sample: SW01795WC (REAL)<br>Date: 01/15/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | 89 | | | 100 | | | 140 | | | 153 | | V |
| carbonate (mg/l) | | | | 1 | U | | | | | | | | | | |
| carbonate as caco3 (mg/l) | | | | | | | 1 | U | | 0 | | | 10.0 | U | V |
| chloride (mg/l) | | | | 26 | | | 19 | | | 24 | | | 19.1 | | V |
| cyanide (ug/l) | 10.0 | U | | 0.02 | U | | | | | 0.02 | U | JA | | | |
| cyanide, amenable (mg/l) | | | | | | | 0.02 | U | | 0.02 | U | | 20.0 | U | V |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | 3 | | |
| diss. organic carbon (mg/l) | | | | 0.4 | | | .5 | U | | 0.4 | | | 0.49 | | V |
| fluoride (mg/l) | | | | | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | .1 | U | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | .05 | U | | 0.3 | | | 0.22 | | V |
| nitrate/nitrite (mg/l) | | | | .1 | U | | .01 | U | | 0.02 | U | | 0.020 | U | V |
| nitrite (mg/l) | | | | 5 | U | | 5 | U | | 5 | U | V | 5.1 | U | V |
| oil and grease (mg/l) | | | | | | | | | | 0.01 | U | | 0.050 | U | V |
| orthophosphate (mg/l) | | | | | | | | | | | | | | | |
| pH (ph) | | | | 0.2 | U | | .03 | | | 0.01 | U | | | | |
| phosphate (mg/l) | | | | 0.012 | | | .13 | | | | | | 0.050 | U | V |
| phosphorus (mg/l) | | | | | | | 56 | | | 6.4 | | | | | |
| silica, dissolved (mg/l) | | | | 15 | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | 12 | | | 18 | | | 24 | | | 34.2 | | V |
| sulfate (mg/l) | | | | | | | 10 | U | | 10 | U | V | 1.0 | U | V |
| sulfide (mg/l) | | | | 230 | | | 217 | | | 220 | | | 244 | | V |
| total diss. solids (mg/l) | | | | | | | | | | | | | 4 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | 5.0 | U | V |
| total solids (mg/l) | | | | 4 | U | | 2 | | | 4 | U | | | | |
| total susp. solids (mg/l) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW033 (SW)<br>Sample: SW01877WC (REAL)<br>Date: 04/06/92 | | | Location: SW034 (SW)<br>Sample: SW03490001 (REAL)<br>Date: 01/15/90 | | Location: SW034 (SW)<br>Sample: SW03490001D (DUP)<br>Date: 01/15/90 | | Location: SW034 (SW)<br>Sample: SW03490002 (REAL)<br>Date: 02/20/90 | | Location: SW034 (SW)<br>Sample: SW03490003 (REAL)<br>Date: 03/23/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | 150 | | 150 | | 200 | | 170 | | V |
| bicarbonate as caco3 (mg/l) | 117 | | V | | | | | | | | | |
| carbonate (mg/l) | | | | 5 | U | 5 | U | 5 | U | 5 | U | V |
| carbonate as caco3 (mg/l) | 10.0 | U | V | | | | | | | | | |
| chloride (mg/l) | 15.1 | | V | 16 | | 17 | | 18 | | 13 | | V |
| cyanide (ug/l) | | | | 0.0200 | U | 0.0100 | U | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 10.0 | U | V | | | | | | | | | |
| diss. organic carbon (mg/l) | 5 | | | | | | | | | | | |
| fluoride (mg/l) | 0.46 | | V | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.10 | U | V | 0.43 | | 0.45 | | 0.38 | | 0.13 | | V |
| nitrite (mg/l) | 0.020 | U | V | | | | | | | | | |
| oil and grease (mg/l) | 6.2 | U | JA | 1 | U | 1 | | 1 | U | 1 | U | V |
| orthophosphate (mg/l) | 0.050 | U | V | | | | | | | | | |
| pH (ph) | | | | 8.0 | | 8.0 | | 8.0 | | 8.0 | | |
| phosphate (mg/l) | | | | | | | | | | | | |
| phosphorus (mg/l) | 0.050 | U | V | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | |
| sulfate (mg/l) | 27.8 | | JA | 27 | | 27 | | 25 | | 26 | | V |
| sulfide (mg/l) | 1.0 | U | V | | | | | | | | | |
| total diss. solids (mg/l) | 190 | | V | 240 | | 240 | | 270 | | 220 | | |
| tot. org. carbon (mg/l) | 5 | | | | | | | | | | | |
| total solids (mg/l) | 5.0 | U | V | | | | | | | | | |
| total susp. solids (mg/l) | | | | 5 | U | 5 | U | 12 | | 6 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW034 (SW)<br>Sample: SW034W041190A (REAL)<br>Date: 04/11/90 | | Location: SW034 (SW)<br>Sample: SW034W051090A (REAL)<br>Date: 05/10/90 | | Location: SW034 (SW)<br>Sample: SW00007WC (REAL)<br>Date: 06/07/90 | | Location: SW034 (SW)<br>Sample: SW00129WC (REAL)<br>Date: 07/16/90 | | Location: SW034 (SW)<br>Sample: SW00405WC (REAL)<br>Date: 10/04/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | 190 | | 190 | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | 147 | | | | 140 | |
| carbonate (mg/l) | 5 | U | 5 | U | | | | | 1 | U |
| carbonate as caco3 (mg/l) | | | | | | | | | | |
| chloride (mg/l) | 14 | | 15 | | | | | | 21 | |
| cyanide (ug/l) | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | | |
| cyanide, amenable (mg/l) | | | | | | | | | 0.02 | U |
| cyanides (s. salts) (mg/l) | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | 0.3 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | .1 | U |
| nitrate/nitrite (mg/l) | 0.05 | U | 0.05 | U | 0.13 | | | | | |
| nitrite (mg/l) | | | | | | | | | .1 | U |
| oil and grease (mg/l) | 1 | U | 1 | U | 5 | U | | | 5 | U |
| orthophosphate (mg/l) | | | | | | | | | | |
| pH (ph) | 8.2 | | 8.3 | | | | | | | |
| phosphate (mg/l) | | | | | | | | | 0.2 | U |
| phosphorus (mg/l) | | | | | | | | | 0.017 | |
| silica, dissolved (mg/l) | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | 15 | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 25 | | 22 | | | | | | 16 | |
| sulfide (mg/l) | | | | | | | | | | |
| total diss. solids (mg/l) | 230 | | 250 | | 230 | | | | 260 | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 5 | U | 10 | | 11 | | | | 25 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW034 (SW) Sample: SW00506WC (REAL) Date: 11/07/90 | | | Location: SW034 (SW) Sample: SW80065WC (DUP) Date: 11/07/90 | | | Location: SW034 (SW) Sample: SW00610WC (REAL) Date: 12/04/90 | | | Location: SW034 (SW) Sample: SW80073WC (DUP) Date: 12/04/90 | | | Location: SW034 (SW) Sample: SW01878WC (REAL) Date: 04/06/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 160 | | | 160 | | | 130 | | | 4 | | | 163 | | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 1 | U | | 1 | U | | 0 | | | 0 | | | 10.0 | U | V |
| chloride (mg/l) | 17 | | | 17 | | | 20 | | | 0.5 | | | 13.1 | | V |
| cyanide (ug/l) | | | | | | | 0.02 | U | JA | 0.02 | U | JA | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 0.02 | U | | 0.03 | U | | 0.02 | U | | 0.02 | U | | 10.0 | U | V |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | 4 | | |
| fluoride (mg/l) | .5 | U | | .5 | U | | 0.4 | | | 0.1 | U | | 0.52 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 1.6 | | | 1.5 | | | 0.6 | | | 0.02 | U | | 0.10 | U | V |
| nitrite (mg/l) | .01 | U | | .01 | U | | 0.02 | U | | 0.02 | U | | 0.020 | U | V |
| oil and grease (mg/l) | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 9.3 | | JA |
| orthophosphate (mg/l) | | | | | | | 0.01 | | | 0.01 | U | | 0.050 | U | V |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | .31 | | | .22 | | | 0.06 | | | 0.01 | U | | | | |
| phosphorus (mg/l) | .06 | | | .09 | | | | | | | | | 0.050 | U | V |
| silica, dissolved (mg/l) | 27 | | | 37 | | | 9.3 | | | 0.4 | U | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 24 | | | 23 | | | 21 | | | 2 | U | | 17.9 | | JA |
| sulfide (mg/l) | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 1.0 | U | V |
| total diss. solids (mg/l) | 382 | | | 472 | | | 200 | | | 10 | U | | 222 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | 5 | | |
| total solids (mg/l) | | | | | | | | | | | | | 5.0 | U | V |
| total susp. solids (mg/l) | 140 | | | 141 | U | | 41 | | | 4 | U | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW03590001 (REAL)<br>Date: 01/11/90 | | | Location: SW035 (SW)<br>Sample: SW03590002 (REAL)<br>Date: 02/08/90 | | | Location: SW035 (SW)<br>Sample: SW03590003 (REAL)<br>Date: 03/14/90 | | | Location: SW035 (SW)<br>Sample: SW035W041290A (REAL)<br>Date: 04/12/90 | | | Location: SW035 (SW)<br>Sample: SW035W051490A (REAL)<br>Date: 05/14/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 192 | | V | 230 | | | 91 | | V | 200 | | | 190 | | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| carbonate (mg/l) | 5 | U | V | 5 | U | | 5 | | V | 5 | U | | 5 | U | |
| carbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| chloride (mg/l) | 43 | | V | 59 | | | 180 | | V | 54 | | | 39 | | |
| cyanide (ug/l) | 0.0100 | U | | 0.0100 | U | | | | | 10.0 | U | | 10.0 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 3.0 | | V | 4.0 | | | 3.0 | | V | 4.1 | | | 2.4 | | |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | 1 | | V | 1 | U | | 1 | U | V | 1 | U | | 1 | | |
| orthophosphate (mg/l) | | | | | | | | | | | | | | | |
| pH (ph) | 7.7 | | | 7.7 | | | 7.5 | | | 8.2 | | | 7.9 | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 39 | | V | 44 | | | 44 | | V | 78 | | | 53 | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 240 | | A | 380 | | | 590 | | V | 400 | | | 310 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 34 | | A | 34 | | | 90 | | V | 34 | | | 51 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00061WC (REAL)<br>Date: 06/11/90 | | Location: SW035 (SW)<br>Sample: SW00141WC (REAL)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW80016WC (DUP)<br>Date: 07/19/90 | | Location: SW035 (SW)<br>Sample: SW00241WC (REAL)<br>Date: 08/16/90 | | Location: SW035 (SW)<br>Sample: SW00319WC (REAL)<br>Date: 09/17/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 200 | | 180 | | 180 | | 140 | | 210 | |
| carbonate (mg/l) | | | | | | | | | | |
| carbonate as caco3 (mg/l) | | | 0 | | 0 | | 1 | U | 0 | |
| chloride (mg/l) | | | 44 | | 43 | | 7.8 | | 55 | |
| cyanide (ug/l) | 10.0 | U | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | | | 0.6 | | 0.6 | | .5 | U | 0.6 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 2 | | 1.6 | | 1.6 | | 1.6 | | 2.9 | |
| nitrite (mg/l) | | | 0.08 | | 0.08 | | .01 | | 0.02 | U |
| oil and grease (mg/l) | 6.9 | U | 0.5 | | 0.8 | | 2 | | 0.5 | |
| orthophosphate (mg/l) | | | 0.01 | U | 0.01 | U | | | 0.01 | U |
| pH (ph) | | | | | | | | | | |
| phosphate (mg/l) | | | 0.05 | | 0.06 | | .03 | | 0.23 | |
| phosphorus (mg/l) | | | | | | | .05 | | | |
| silica, dissolved (mg/l) | | | 7.7 | | 7.8 | | | | 8.4 | |
| silicon (mg/l) | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | | | 40 | | 38 | | 21 | | 33 | |
| sulfide (mg/l) | | | | | | | | | | |
| total diss. solids (mg/l) | 330 | | 350 | | 360 | | 270 | | 340 | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 120 | | 12 | | 13 | | 82 | | 200 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW035 (SW)<br>Sample: SW00410WC (REAL)<br>Date: 10/03/90 | | | Location: SW035 (SW)<br>Sample: SW80051WC (DUP)<br>Date: 10/03/90 | | | Location: SW035 (SW)<br>Sample: SW00511WC (REAL)<br>Date: 11/27/90 | | | Location: SW035 (SW)<br>Sample: SW00615WC (REAL)<br>Date: 12/11/90 | | | Location: SW035 (SW)<br>Sample: SW01869WC (REAL)<br>Date: 04/08/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 140 | | | 140 | | | 40 | | | 200 | | | 182 | | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 0 | | | 0 | | | 0 | | | 0 | | | 10.0 | U | V |
| chloride (mg/l) | 31 | | | 32 | | | 170 | | | 61 | - | | 55.4 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | 10.0 | U | V |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | 4 | | |
| fluoride (mg/l) | 0.4 | | | 0.5 | | | 0.2 | | | 0.5 | | | 0.59 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 2.1 | | | 2.1 | | | 1.3 | | | 4.5 | | | 3.7 | | V |
| nitrite (mg/l) | 0.02 | U | | 0.02 | U | | 0.02 | U | | 0.02 | | | 0.029 | | V |
| oil and grease (mg/l) | 0.5 | | | 0.6 | | | 0.5 | | | 0.8 | | | 6.4 | U | V |
| orthophosphate (mg/l) | 0.01 | | | 0.01 | | | 0.01 | U | | 0.02 | | | 0.050 | U | V |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | 0.08 | | | 0.10 | | | 0.12 | | | 0.07 | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | 0.050 | U | V |
| silica, dissolved (mg/l) | 6.1 | | | 6.3 | | | 1.5 | | | 6.7 | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 27 | | | 28 | | | 11 | | | 34 | | | 71.6 | | V |
| sulfide (mg/l) | | | | | | | 3 | | | 1 | U | | 1.1 | | JA |
| total diss. solids (mg/l) | 250 | | | 250 | | | 370 | | | 400 | | | 366 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | 5 | | |
| total solids (mg/l) | | | | | | | | | | | | | 7.5 | | V |
| total susp. solids (mg/l) | 74 | | | 68 | | | 77 | | | 130 | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW036 (SW) Sample: SW03690001 (REAL) Date: 01/12/90 | | | Location: SW036 (SW) Sample: SW03690002 (REAL) Date: 02/09/90 | | | Location: SW036 (SW) Sample: SW03690003 (REAL) Date: 03/14/90 | | | Location: SW036 (SW) Sample: SW036W041290A (REAL) Date: 04/12/90 | | Location: SW036 (SW) Sample: SW036W051490A (REAL) Date: 05/14/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 252 | | V | 330 | | | 260 | | V | 250 | | 250 | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | | | | |
| carbonate (mg/l) | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | 5 | U |
| carbonate as caco3 (mg/l) | | | | | | | | | | | | | |
| chloride (mg/l) | 31 | | V | 57 | | V | 51 | | V | 46 | | 46 | |
| cyanide (ug/l) | 0.0100 | U | | | | | | | | | | 10.0 | U |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.05 | U | V | 0.20 | | V | 1.3 | | V | 0.38 | | 0.05 | U |
| nitrite (mg/l) | | | | | | | | | | | | | |
| oil and grease (mg/l) | 1 | U | V | 1 | U | V | 1 | U | V | 1 | U | 4 | |
| orthophosphate (mg/l) | | | | | | | | | | | | | |
| pH (ph) | 7.5 | | | 7.2 | | | 7.9 | | V | 8.1 | | 8.1 | |
| phosphate (mg/l) | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | |
| sulfate (mg/l) | 47 | | V | 47 | | V | 200 | | V | 170 | | 82 | |
| sulfide (mg/l) | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 240 | | A | 430 | | V | 610 | U | V | 510 | | 430 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 490 | | A | 3900 | | V | 5 | U | V | 30 | | 18 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW036 (SW)<br>Sample: SW00057WC (REAL)<br>Date: 06/07/90 | | Location: SW036 (SW)<br>Sample: SW70008WC (REAL)<br>Date: 08/08/90 | | Location: SW036 (SW)<br>Sample: SW00512WC (REAL)<br>Date: 11/20/90 | | Location: SW036 (SW)<br>Sample: SW00548WC (REAL)<br>Date: 11/20/90 | | Location: SW036 (SW)<br>Sample: SW01870WC (REAL)<br>Date: 04/08/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | 200 | | 220 | | 310 | | 215 | | V |
| carbonate (mg/l) | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | | | 0 | | 0 | | 0 | | 10.0 | U | V |
| chloride (mg/l) | | | 39 | | 46 | | 58 | | 53.4 | | V |
| cyanide (ug/l) | 10.0 | U | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | 0.02 | U | 0.02 | U | 10.0 | U | V |
| diss. organic carbon (mg/l) | | | | | | | | | 6 | | |
| fluoride (mg/l) | | | 0.5 | | 0.6 | | 0.5 | | 0.66 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | | | 1.2 | | 0.02 | U | 7.0 | | 0.10 | U | V |
| nitrite (mg/l) | | | 0.02 | U | 0.02 | U | 0.02 | U | 0.020 | U | V |
| oil and grease (mg/l) | | | 1.4 | | 5 | U | 5 | U | 6.0 | U | V |
| orthophosphate (mg/l) | | | 0.01 | U | 0.01 | U | 0.01 | U | 0.050 | U | V |
| pH (ph) | | | | | | | | | | | |
| phosphate (mg/l) | | | 0.01 | U | 0.01 | U | 0.01 | | | | |
| phosphorus (mg/l) | | | | | | | | | 0.050 | U | V |
| silica, dissolved (mg/l) | | | 8.2 | | 6.5 | | 5.9 | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | | | 28 | | 35 | | 53 | | 117 | | V |
| sulfide (mg/l) | | | | | 1 | U | 10 | U | 1.0 | U | JA |
| total diss. solids (mg/l) | | | 330 | | 350 | | 520 | | 448 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | 7 | | |
| total solids (mg/l) | | | | | | | | | 5.0 | U | V |
| total susp. solids (mg/l) | | | 7 | | 4 | U | 6 | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated; N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits; I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW00419WC (REAL)<br>Date: 10/15/90 | | Location: SW038 (SW)<br>Sample: SW00520WC (REAL)<br>Date: 11/05/90 | | Location: SW038 (SW)<br>Sample: SW00624WC (REAL)<br>Date: 12/11/90 | | Location: SW038 (SW)<br>Sample: SW80081WC (DUP)<br>Date: 12/11/90 | | Location: SW038 (SW)<br>Sample: SW01789WC (REAL)<br>Date: 01/20/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | 214.56 | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | 220 | | 270 | | 270 | | 237 | | V |
| carbonate (mg/l) | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | | | 1 | U | 0 | | 0 | | 10.0 | U | V |
| chloride (mg/l) | 39 | | 42 | | 51 | | 53 | | 41.9 | | V |
| cyanide (ug/l) | 2 | U | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | 0.02 | U | | | | | 10.0 | U | V |
| diss. organic carbon (mg/l) | | | | | | | | | 3 | | |
| fluoride (mg/l) | .76 | | .5 | U | 0.7 | | 0.6 | | 0.56 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | .77 | | | | | | | | | | |
| nitrate/nitrite (mg/l) | | | 1.2 | | 0.8 | | 0.8 | | 2.3 | | V |
| nitrite (mg/l) | | | .01 | U | 0.02 | U | 0.02 | U | 0.020 | U | V |
| oil and grease (mg/l) | 1.43 | | 5 | U | 0.4 | | 0.4 | | 6.4 | U | V |
| orthophosphate (mg/l) | | | | | 0.01 | U | 0.01 | U | 0.050 | U | V |
| pH (ph) | | | | | | | | | | | |
| phosphate (mg/l) | | | .02 | | 0.01 | U | 0.01 | U | | | |
| phosphorus (mg/l) | .05 | | .01 | | | | | | 0.050 | U | V |
| silica, dissolved (mg/l) | | | 38 | | 7.1 | | 7.2 | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | | | 27 | | 25 | | 24 | | 23.4 | | V |
| sulfide (mg/l) | | | 10 | U | 1 | U | 1 | U | 1.0 | U | V |
| total diss. solids (mg/l) | 277 | | 412 | | 380 | | 370 | | 456 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | 2 | | |
| total solids (mg/l) | | | | | | | | | 9.0 | | V |
| total susp. solids (mg/l) | 7 | | 3 | | 4 | U | 4 | U | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW038 (SW)<br>Sample: SW01871WC (REAL)<br>Date: 04/07/92 | | | Location: SW039 (SW)<br>Sample: SW03990001 (REAL)<br>Date: 01/17/90 | | | Location: SW039 (SW)<br>Sample: SW03990002 (REAL)<br>Date: 02/08/90 | | | Location: SW039 (SW)<br>Sample: SW03990003 (REAL)<br>Date: 03/21/90 | | | Location: SW039 (SW)<br>Sample: SW039W041290A (UNKN)<br>Date: 04/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | 91 | | V | 68 | | | 37 | | | 74 | | |
| bicarbonate as caco3 (mg/l) | 230 | | V | | | | | | | | | | | | |
| carbonate (mg/l) | | | | 5 | U | V | 5 | U | | 5 | U | | 5 | U | |
| carbonate as caco3 (mg/l) | 10.0 | U | V | | | | | | | | | | | | |
| chloride (mg/l) | 49.3 | | V | 17 | | V | 13 | | | 7 | | | 15 | | |
| cyanide (ug/l) | | | | 0.0200 | U | | 0.0100 | U | | 10.0 | U | | 10.0 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 10.0 | U | V | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | 4 | | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.62 | | V | | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.81 | | V | 0.27 | | V | 0.05 | U | | 0.08 | | | 0.05 | U | |
| nitrite (mg/l) | 0.020 | U | V | | | | | | | | | | | | |
| oil and grease (mg/l) | 5.6 | U | V | 1 | U | V | 1 | | | 1 | U | | 1 | U | |
| orthophosphate (mg/l) | 0.050 | U | V | | | | | | | | | | | | |
| pH (ph) | | | | 7.4 | | | 7.6 | | | 6.8 | | | 7.7 | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | 0.050 | U | V | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 150 | | V | 24 | | V | 16 | | | 24 | | | 25 | | |
| sulfide (mg/l) | 1.0 | U | JA | | | | | | | | | | | | |
| total diss. solids (mg/l) | 428 | | V | 100 | | V | 110 | | | 110 | | | 150 | | |
| tot. org. carbon (mg/l) | 4 | | | | | | | | | | | | | | |
| total solids (mg/l) | 5.0 | U | V | | | | | | | | | | | | |
| total susp. solids (mg/l) | | | | 5 | U | V | 5 | U | | 18 | | | 5 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW039W050990A (UNKN)<br>Date: 05/09/90 | | Location: SW039 (SW)<br>Sample: SW00058WC (REAL)<br>Date: 06/07/90 | | Location: SW039 (SW)<br>Sample: SW00059WC (DUP)<br>Date: 06/07/90 | | Location: SW039 (SW)<br>Sample: SW00138WC (REAL)<br>Date: 07/16/90 | | Location: SW039 (SW)<br>Sample: SW00315WC (REAL)<br>Date: 09/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | 100 | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | |
| carbonate (mg/l) | 5 | U | | | | | | | | |
| carbonate as caco3 (mg/l) | | | | | | | | | | |
| chloride (mg/l) | 13 | | | | | | | | | |
| cyanide (ug/l) | 10.0 | U | 10.0 | U | 10.0 | U | 10.0 | U | 2.00 | U |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.05 | U | | | | | | | | |
| nitrite (mg/l) | | | | | | | | | | |
| oil and grease (mg/l) | 1 | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | | |
| pH (ph) | 7.7 | | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 16 | | | | | | | | | |
| sulfide (mg/l) | | | | | | | | | | |
| total diss. solids (mg/l) | 150 | | | | | | | | | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 5 | U | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW00406WC (REAL)<br>Date: 10/02/90 | | | Location: SW039 (SW)<br>Sample: SW00507WC (REAL)<br>Date: 11/08/90 | | | Location: SW039 (SW)<br>Sample: SW00611WC (REAL)<br>Date: 12/04/90 | | | Location: SW039 (SW)<br>Sample: SW00919WC (REAL)<br>Date: 03/28/91 | | | Location: SW039 (SW)<br>Sample: SW01021WC (REAL)<br>Date: 04/01/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 90 | | | 68 | | | 84 | | | 96.6 | | V | 91.0 | | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 0 | | | 0 | | | 0 | | | 10.0 | U | V | 10.0 | U | V |
| chloride (mg/l) | 32 | | | 21 | | | 32 | | | 19.4 | | V | 17.9 | | V |
| cyanide (ug/l) | 1.50 | U | | 2.00 | U | | 0.02 | U | JA | 10.0 | U | V | 20.0 | U | V |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | 0.02 | U | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | 4.1 | | V | 4.2 | | V |
| fluoride (mg/l) | 0.4 | | | 0.3 | | | 0.3 | | | 0.35 | | V | 0.35 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.02 | U | | 0.08 | | | 0.04 | | | 0.10 | | V | 0.10 | U | V |
| nitrite (mg/l) | 0.02 | U | | 0.02 | U | | 0.02 | U | | 0.020 | U | V | 0.020 | U | V |
| oil and grease (mg/l) | 0.3 | | | 0.2 | U | | 5 | U | V | 5.3 | U | V | 5.6 | U | V |
| orthophosphate (mg/l) | 0.01 | U | | 0.01 | U | | 0.01 | U | | 0.050 | U | | 0.050 | U | |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | 0.01 | U | | 0.01 | | | 0.05 | | | 0.050 | U | V | 0.050 | U | V |
| phosphorus (mg/l) | | | | | | | 0.080 | U | V | 0.050 | U | V | 0.050 | U | V |
| silica, dissolved (mg/l) | 3.4 | | | 4.2 | | | 3.9 | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | 5.0 | U | V | 5.0 | U | V |
| sulfate (mg/l) | 13 | | | 17 | | | 70 | | | 24.9 | | V | 25.7 | | V |
| sulfide (mg/l) | | | | 3 | | | 10 | U | V | 1.0 | U | V | 1.0 | U | JA |
| total diss. solids (mg/l) | 170 | | | 150 | | | 170 | | | 168 | | V | 242 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | 2.9 | | V | 3.4 | | V |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 4 | U | | 4 | U | | 30 | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW039 (SW) Sample: SW01128WC (REAL) Date: 05/03/91 | | | Location: SW039 (SW) Sample: SW01231WC (REAL) Date: 06/04/91 | | | Location: SW039 (SW) Sample: SW01334WC (REAL) Date: 07/08/91 | | | Location: SW039 (SW) Sample: SW01440WC (REAL) Date: 08/05/91 | | | Location: SW039 (SW) Sample: SW01546WC (REAL) Date: 09/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 82.9 | | V | 78.6 | | V | 96.9 | | V | 103 | | V | 118 | | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 10.0 | U | V | 10.0 | U | V | 10.0 | U | V | 10.0 | U | V | 10.0 | U | V |
| chloride (mg/l) | 29.0 | | V | 17.4 | | V | 33.5 | | V | 24.6 | | V | 24.6 | | V |
| cyanide (ug/l) | 10.0 | U | | 10.0 | U | V | 10.0 | U | V | 10.0 | U | V | 10.0 | U | V |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 10.0 | U | V | 10.0 | U | | | | | 10.0 | U | | 10.0 | U | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | 5 | | |
| fluoride (mg/l) | 0.32 | | V | 0.34 | | V | 0.32 | | V | 0.32 | | V | 0.40 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| nitrite (mg/l) | 0.020 | U | V | 0.020 | U | V | 0.020 | U | V | 0.020 | U | V | 0.020 | U | V |
| oil and grease (mg/l) | 6.7 | U | V | 10.2 | U | V | 5.4 | U | V | 11.1 | | V | 8.2 | | JA |
| orthophosphate (mg/l) | 0.050 | U | V | 0.050 | U | | 0.050 | U | | 0.050 | U | | 0.050 | U | |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | | | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| phosphorus (mg/l) | 0.050 | U | V | 0.10 | | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | 5.0 | U | | 6.0 | | V | 5.0 | U | V | 5.0 | U | V | 6.0 | | V |
| sulfate (mg/l) | 20.7 | | V | 14.9 | | V | 8.4 | | V | 8.2 | | V | 15.6 | | V |
| sulfide (mg/l) | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| total diss. solids (mg/l) | 174 | | V | 158 | | V | 166 | | V | 132 | | V | 166 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | 4 | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 5.0 | U | V | 6.0 | | | | | | 5.0 | U | | 6.0 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW039 (SW)<br>Sample: SW01652WC (REAL)<br>Date: 10/02/91 | | | Location: SW039 (SW)<br>Sample: SW01726WC (REAL)<br>Date: 11/18/91 | | | Location: SW039 (SW)<br>Sample: SW01881WC (REAL)<br>Date: 04/15/92 | | | Location: SW066 (SW)<br>Sample: SW06690001 (REAL)<br>Date: 01/11/90 | | | Location: SW066 (SW)<br>Sample: SW06690002 (REAL)<br>Date: 02/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | 228 | | V | 290 | | |
| bicarbonate as caco3 (mg/l) | 108 | | V | 73.1 | | V | 93.1 | | V | | | | | | |
| carbonate (mg/l) | | | | | | | | | | 5 | U | V | 5 | U | |
| carbonate as caco3 (mg/l) | 10.0 | U | V | 10.0 | U | V | 10.0 | U | V | | | | | | |
| chloride (mg/l) | 36.9 | | V | 23.9 | | V | 26.8 | | JA | 59 | | V | 68 | | |
| cyanide (ug/l) | 10.0 | U | V | 0.020 | U | V | | | | 0.0200 | U | | 0.0100 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | 20.0 | U | | 10.0 | U | V | | | | | | |
| diss. organic carbon (mg/l) | | | | 4 | | | 5 | | | | | | | | |
| fluoride (mg/l) | 0.40 | | V | 0.33 | | | 0.32 | | V | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.10 | U | V | 0.38 | | V | 0.10 | U | V | 3.7 | | V | 4.0 | | |
| nitrite (mg/l) | 0.020 | U | V | 0.020 | U | V | 0.05 | U | | | | | | | |
| oil and grease (mg/l) | 7.0 | | V | 5.3 | U | V | 6.1 | U | V | 1 | U | V | 1 | U | |
| orthophosphate (mg/l) | | | | 0.050 | U | V | 0.02 | U | | | | | | | |
| pH (ph) | | | | | | | | | | 7.8 | | | 7.7 | | |
| phosphate (mg/l) | 0.050 | U | V | 0.050 | U | V | | | | | | | | | |
| phosphorus (mg/l) | 0.050 | U | V | 0.050 | U | | 0.050 | U | V | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | 0.33 | | V | | | | | | | | | |
| sodium sulfate (mg/l) | | | | 24.1 | | V | | | | | | | | | |
| solids, nonvol/susp (mg/l) | 5.0 | U | V | | | | | | | | | | | | |
| sulfate (mg/l) | 10.9 | | V | 24.1 | | | 23.0 | | V | 49 | | V | 30 | | |
| sulfide (mg/l) | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | | | | | | |
| total diss. solids (mg/l) | 178 | | V | 158 | | V | 152 | | V | 310 | | A | 400 | | |
| tot. org. carbon (mg/l) | | | | 4 | | | 6 | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | | | | 5.0 | U | V | 5.0 | U | V | 220 | | A | 1800 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW06690003 (REAL)<br>Date: 03/14/90 | | | Location: SW066 (SW)<br>Sample: SW066W041990A (REAL)<br>Date: 04/19/90 | | | Location: SW066 (SW)<br>Sample: SW066W051590A (REAL)<br>Date: 05/15/90 | | | Location: SW066 (SW)<br>Sample: SW00014WC (REAL)<br>Date: 06/12/90 | | | Location: SW066 (SW)<br>Sample: SW00146WC (REAL)<br>Date: 07/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 180 | | V | 250 | | | 200 | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | 142 | | | 200 | | |
| carbonate (mg/l) | 5 | U | V | 5 | U | | 5 | U | | | | | | | |
| carbonate as caco3 (mg/l) | | | | | | | | | | | | | 0 | | |
| chloride (mg/l) | 120 | | V | 65 | | | 56 | | | | | | 63 | | |
| cyanide (ug/l) | | | | 10.0 | U | | 10.0 | U | | 40.0 | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | | | | 0.8 | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 4.1 | | V | 3.4 | | | 3.4 | | | 2.4 | | | 2.2 | | |
| nitrite (mg/l) | | | | | | | | | | | | | 0.02 | U | |
| oil and grease (mg/l) | 1 | U | V | 1 | U | | 1 | U | | 6.6 | U | | 0.6 | | |
| orthophosphate (mg/l) | | | | | | | | | | | | | 0.01 | U | |
| pH (ph) | 8.0 | | | 8.2 | | | 7.9 | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | 0.04 | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | 6.4 | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 63 | | V | 73 | | | 52 | | | | | | 47 | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 470 | | V | 410 | | | 380 | | | 330 | | | 400 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 30 | | V | 12 | | | 66 | | | 36 | | | 21 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW066 (SW)<br>Sample: SW00245WC (REAL)<br>Date: 08/21/90 | | Location: SW066 (SW)<br>Sample: SW00414WC (REAL)<br>Date: 10/17/90 | | Location: SW067 (SW)<br>Sample: SW06790001 (REAL)<br>Date: 01/11/90 | | | Location: SW067 (SW)<br>Sample: SW06790002 (REAL)<br>Date: 02/08/90 | | Location: SW067 (SW)<br>Sample: SW06790003 (REAL)<br>Date: 03/15/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | 216 | | V | 250 | | 210 | |
| bicarbonate as caco3 (mg/l) | 190 | | 180 | | | | | | | | |
| carbonate (mg/l) | | | 1 | U | 5 | U | V | 5 | U | 5 | U |
| carbonate as caco3 (mg/l) | 0 | | | | | | | | | | |
| chloride (mg/l) | 65 | | 65 | | 56 | | V | 77 | | 85 | |
| cyanide (ug/l) | | | | | 0.0200 | U | | 0.0100 | U | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | 0.02 | U | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | |
| fluoride (mg/l) | 0.6 | | 0.8 | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | 3.51 | | | | | | | | |
| nitrate/nitrite (mg/l) | 2.1 | | | | 3.4 | | V | 4.2 | | 3.7 | |
| nitrite (mg/l) | 0.02 | U | .1 | U | | | | | | | |
| oil and grease (mg/l) | 1.3 | | 5 | U | 1 | U | V | 1 | U | 1 | U |
| orthophosphate (mg/l) | 0.01 | | | | | | | | | | |
| pH (ph) | | | | | 7.8 | | | 7.9 | | 8.0 | |
| phosphate (mg/l) | 0.02 | | 0.2 | U | | | | | | | |
| phosphorus (mg/l) | | | 0.019 | | | | | | | | |
| silica, dissolved (mg/l) | 6.4 | | 28 | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | 33 | | 44 | | 52 | | V | 55 | | 69 | |
| sulfide (mg/l) | | | | | | | | | | | |
| total diss. solids (mg/l) | 370 | | 530 | | 380 | | A | 440 | | 460 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | 9 | | 15 | | 250 | | A | 51 | | 45 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW067W041990A (REAL)<br>Date: 04/19/90 | | Location: SW067 (SW)<br>Sample: SW067W051690A (REAL)<br>Date: 05/16/90 | | Location: SW067 (SW)<br>Sample: SW00015WC (REAL)<br>Date: 06/12/90 | | Location: SW067 (SW)<br>Sample: SW00246WC (REAL)<br>Date: 08/21/90 | | Location: SW067 (SW)<br>Sample: SW00415WC (REAL)<br>Date: 10/17/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | 250 | | 76 | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | 147 | | 190 | | 180 | |
| carbonate (mg/l) | 5 | U | 5 | U | | | | | 1 | U |
| carbonate as caco3 (mg/l) | | | | | | | 0 | | | |
| chloride (mg/l) | 61 | | 14 | | | | 63 | | 63 | |
| cyanide (ug/l) | 10.0 | U | 10.0 | U | 37.8 | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | 0.02 | U |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | 0.6 | | 0.7 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | 3.11 | |
| nitrate/nitrite (mg/l) | 3.4 | | 1.2 | | 1.9 | | 1.8 | | | |
| nitrite (mg/l) | | | | | | | 0.02 | U | .1 | U |
| oil and grease (mg/l) | 1 | U | 1 | U | 6.1 | U | 1.0 | U | 5 | U |
| orthophosphate (mg/l) | | | | | | | 0.02 | | | |
| pH (ph) | 8.1 | | 7.6 | | | | | | | |
| phosphate (mg/l) | | | | | | | 0.07 | | 0.2 | U |
| phosphorus (mg/l) | | | | | | | | | 0.21 | |
| silica, dissolved (mg/l) | | | | | | | 6.4 | | 27 | |
| silicon (mg/l) | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 69 | | 18 | | | | 31 | | 45 | |
| sulfide (mg/l) | | | | | | | | | | |
| total diss. solids (mg/l) | 400 | | 140 | | 360 | | 380 | | 440 | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 24 | | 16 | | 49 | | 110 | | 270 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW067 (SW)<br>Sample: SW00620WC (REAL)<br>Date: 12/10/90 | | Location: SW068 (SW)<br>Sample: SW06890001 (REAL)<br>Date: 01/11/90 | | | Location: SW068 (SW)<br>Sample: SW0689002 (REAL)<br>Date: 02/07/90 | | Location: SW068 (SW)<br>Sample: SW06890003 (REAL)<br>Date: 03/15/90 | | Location: SW068 (SW)<br>Sample: SW068W051690A (REAL)<br>Date: 05/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | |
| bicarbonate (mg/l) | | | 216 | | V | 170 | | 200 | | 81 | |
| bicarbonate as caco3 (mg/l) | 200 | | | | | | | | | | |
| carbonate (mg/l) | | | 5 | U | V | 5 | U | 5 | U | 5 | U |
| carbonate as caco3 (mg/l) | 0 | | | | | | | | | | |
| chloride (mg/l) | 73 | | 52 | | V | 65 | | 83 | | 16 | |
| cyanide (ug/l) | | | 0.0100 | U | | 0.0100 | U | | | 10.0 | U |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | |
| fluoride (mg/l) | 0.7 | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 4.3 | | 7.8 | | V | 2.9 | | 3.8 | | 1.2 | |
| nitrite (mg/l) | 0.02 | U | | | | | | | | | |
| oil and grease (mg/l) | 0.9 | | 1 | U | V | 1 | U | 1 | U | 1 | U |
| orthophosphate (mg/l) | 0.01 | | | | | | | | | | |
| pH (ph) | | | 8.0 | | | 7.6 | | 8.0 | | 7.7 | |
| phosphate (mg/l) | 0.09 | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | |
| silica, dissolved (mg/l) | 5.7 | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | 45 | | 45 | | V | 36 | | 71 | | 20 | |
| sulfide (mg/l) | 1 | U | | | | | | | | | |
| total diss. solids (mg/l) | 440 | | 280 | | A | 380 | | 460 | | 160 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | 69 | | 40 | | A | 180 | | 5 | U | 44 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00017WC (REAL)<br>Date: 06/13/90 | Location: SW068 (SW)<br>Sample: SW00143WC (REAL)<br>Date: 07/19/90 | Location: SW068 (SW)<br>Sample: SW00247WC (REAL)<br>Date: 08/21/90 | Location: SW068 (SW)<br>Sample: SW00325WC (REAL)<br>Date: 09/18/90 | Location: SW068 (SW)<br>Sample: SW00416WC (REAL)<br>Date: 10/16/90 |
|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | 160.4 | 209.45 |
| bicarbonate (mg/l) | | | | | |
| bicarbonate as caco3 (mg/l) | | 170 | 94 | | |
| carbonate (mg/l) | | | | | |
| carbonate as caco3 (mg/l) | | 0 | 0 | | |
| chloride (mg/l) | | 65 | 64 | 57.19 | 64.8 |
| cyanide (ug/l) | 17.0 U | | | | 2 U |
| cyanide, amenable (mg/l) | | | | | |
| cyanides (s. salts) (mg/l) | | | | | |
| diss. organic carbon (mg/l) | | | | | |
| fluoride (mg/l) | | 0.7 | 0.6 | | .82 |
| hydrocyanic acid (mg/l) | | | | | |
| nitrate (mg/l) | | | | 1.85 | 2.82 |
| nitrate/nitrite (mg/l) | | 1.2 | 1.2 | | |
| nitrite (mg/l) | | 0.02 U | 0.02 U | .1 U | |
| oil and grease (mg/l) | | 0.7 | 0.8 | .947 | 2.74 |
| orthophosphate (mg/l) | | 0.01 U | 0.01 | | |
| pH (ph) | | | | | |
| phosphate (mg/l) | | 0.07 | 0.07 | | |
| phosphorus (mg/l) | | | | .079 | .06 |
| silica, dissolved (mg/l) | | 6.0 | 6.3 | | |
| silicon (mg/l) | | | | | |
| sodium fluoride (mg/l) | | | | | |
| sodium sulfate (mg/l) | | | | | |
| solids, nonvol/susp (mg/l) | | | | | |
| sulfate (mg/l) | | 38 | 83 | | |
| sulfide (mg/l) | | | | | |
| total diss. solids (mg/l) | | 360 | 360 | 343 | 361 |
| tot. org. carbon (mg/l) | | | | | |
| total solids (mg/l) | | | | | |
| total susp. solids (mg/l) | | 23 | 29 | 7 | 30 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW068 (SW)<br>Sample: SW00517WC (REAL)<br>Date: 11/19/90 | | Location: SW068 (SW)<br>Sample: SW00621WC (REAL)<br>Date: 12/10/90 | | Location: SW068 (SW)<br>Sample: SW80079WC (DUP)<br>Date: 12/10/90 | | Location: SW069 (SW)<br>Sample: SW06990001 (REAL)<br>Date: 01/11/90 | | | Location: SW069 (SW)<br>Sample: SW06990002 (REAL)<br>Date: 02/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | 192 | | V | 190 | | |
| bicarbonate as caco3 (mg/l) | 170 | | 200 | | 200 | | | | | | | |
| carbonate (mg/l) | | | | | | | 5 | U | V | 5 | U | |
| carbonate as caco3 (mg/l) | 0 | | 0 | | 0 | | | | | | | |
| chloride (mg/l) | 79 | | 75 | | 76 | | 48 | | V | 71 | | |
| cyanide (ug/l) | | | | | | | 0.0100 | U | | 0.0100 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | |
| fluoride (mg/l) | 0.7 | | 0.7 | | 0.7 | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 3.7 | | 4.2 | | 4.2 | | 1.0 | | V | 3.9 | | |
| nitrite (mg/l) | 0.02 | U | 0.02 | U | 0.02 | U | | | | | | |
| oil and grease (mg/l) | 0.2 | U | 0.6 | | 0.7 | | 1 | U | V | 2 | | |
| orthophosphate (mg/l) | 0.01 | U | 0.01 | U | 0.01 | U | | | | | | |
| pH (ph) | | | | | | | 7.9 | | | 8.0 | | |
| phosphate (mg/l) | 0.02 | | 0.02 | | 0.01 | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 5.9 | | 5.8 | | 5.7 | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | |
| sulfate (mg/l) | 40 | | 45 | | 45 | | 42 | | V | 44 | | |
| sulfide (mg/l) | 1 | U | 1 | U | 1 | U | | | | | | |
| total diss. solids (mg/l) | 440 | | 430 | | 460 | | 330 | | A | 370 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | |
| total susp. solids (mg/l) | 30 | | 4 | U | 4 | U | 20 | | A | 17 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW06990003 (REAL)<br>Date: 03/15/90 | | Location: SW069 (SW)<br>Sample: SW069W051690A (REAL)<br>Date: 05/16/90 | | Location: SW069 (SW)<br>Sample: SW00063WC (REAL)<br>Date: 06/12/90 | | Location: SW069 (SW)<br>Sample: SW00147WC (REAL)<br>Date: 07/19/90 | | Location: SW069 (SW)<br>Sample: SW00248WC (REAL)<br>Date: 08/20/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | 190 | | 81 | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | 116 | | 170 | | 120 | |
| carbonate (mg/l) | 5 | U | 5 | U | | | | | | |
| carbonate as caco3 (mg/l) | | | | | | | 0 | | 4 | |
| chloride (mg/l) | 83 | | 15 | | | | 66 | | 65 | |
| cyanide (ug/l) | | | 10.0 | U | 10.0 | U | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | 0.7 | | 0.6 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 3.4 | | 1.3 | | 1.7 | | 0.94 | | 1.2 | |
| nitrite (mg/l) | | | | | | | 0.02 | U | 0.02 | U |
| oil and grease (mg/l) | 1 | U | 1 | U | 7.2 | | 0.8 | | 0.7 | |
| orthophosphate (mg/l) | | | | | | | 0.01 | U | 0.01 | |
| pH (ph) | 8.0 | | 7.6 | | | | | | | |
| phosphate (mg/l) | | | | | | | 0.06 | | 0.09 | |
| phosphorus (mg/l) | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | 5.9 | | 6.4 | |
| silicon (mg/l) | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 73 | | 24 | | | | 37 | | 32 | |
| sulfide (mg/l) | | | | | | | | | | |
| total diss. solids (mg/l) | 260 | | 150 | | 310 | | 360 | | 290 | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 6 | | 18 | | 70 | | 51 | | 18 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW069 (SW)<br>Sample: SW80035WC (DUP)<br>Date: 08/20/90 | | Location: SW069 (SW)<br>Sample: SW00417WC (REAL)<br>Date: 10/16/90 | | Location: SW069 (SW)<br>Sample: SW00518WC (REAL)<br>Date: 11/19/90 | | Location: SW069 (SW)<br>Sample: SW00622WC (REAL)<br>Date: 12/10/90 | | Location: SW070 (SW)<br>Sample: SW07090001 (REAL)<br>Date: 01/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | 242.65 | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | 180 | | V |
| bicarbonate as caco3 (mg/l) | 98 | | | | 180 | | 190 | | | | |
| carbonate (mg/l) | | | | | | | | | 5 | U | V |
| carbonate as caco3 (mg/l) | 32 | | | | 0 | | 0 | | | | |
| chloride (mg/l) | 73 | | 65.7 | | 80 | | 97 | | 40 | | V |
| cyanide (ug/l) | | | 2 | U | | | | | 0.0100 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | |
| fluoride (mg/l) | 0.6 | | 1.13 | | 0.7 | | 0.7 | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | 2.36 | | | | | | | | |
| nitrate/nitrite (mg/l) | 1.2 | | | | 3.3 | | 4.0 | | 2.2 | | V |
| nitrite (mg/l) | 0.02 | U | | | 0.02 | U | 0.02 | U | | | |
| oil and grease (mg/l) | 1.2 | | .81 | | 0.3 | | 0.4 | | 1 | U | V |
| orthophosphate (mg/l) | 0.01 | | | | 0.01 | U | 0.01 | U | | | |
| pH (ph) | | | | | | | | | 7.9 | | |
| phosphate (mg/l) | 0.03 | | | | 0.02 | | 0.10 | | | | |
| phosphorus (mg/l) | | | .05 | | | | | | | | |
| silica, dissolved (mg/l) | 6.4 | | | | 5.8 | | 5.4 | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | 30 | | | | 45 | | 47 | | 38 | | V |
| sulfide (mg/l) | | | | | 1 | U | 39 | | | | |
| total diss. solids (mg/l) | 290 | | 378 | | 440 | | 460 | | 270 | | A |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | 16 | | 10 | | 20 | | 90 | | 32 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW070 (SW) Sample: SW07090002 (REAL) Date: 02/07/90 | | Location: SW070 (SW) Sample: SW07090003 (REAL) Date: 03/15/90 | | Location: SW070 (SW) Sample: SW070W041990A (REAL) Date: 04/19/90 | | Location: SW070 (SW) Sample: SW070W051590A (REAL) Date: 05/15/90 | | Location: SW070 (SW) Sample: SW00065WC (REAL) Date: 06/12/90 |
|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | |
| bicarbonate (mg/l) | 190 | | 180 | | 240 | | 180 | | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | 142 |
| carbonate (mg/l) | 5 | U | 5 | U | 5 | U | 5 | U | |
| carbonate as caco3 (mg/l) | | | | | | | | | |
| chloride (mg/l) | 74 | | 87 | | 69 | | 54 | | |
| cyanide (ug/l) | 0.0111 | U | | | 10.0 | U | 10.0 | U | 36.6 |
| cyanide, amenable (mg/l) | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | |
| nitrate/nitrite (mg/l) | 3.1 | | 3.2 | | 2.5 | | 2.0 | | 0.87 |
| nitrite (mg/l) | | | | | | | | | |
| oil and grease (mg/l) | 1 | | 1 | U | 1 | U | 1 | U | 6 |
| orthophosphate (mg/l) | | | | | | | | | |
| pH (ph) | 7.7 | | 8.0 | | 8.3 | | 8.2 | | |
| phosphate (mg/l) | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | |
| sulfate (mg/l) | 40 | | 67 | | 77 | | 48 | | |
| sulfide (mg/l) | | | | | | | | | |
| total diss. solids (mg/l) | 370 | | 420 | | 400 | | 340 | | 360 |
| tot. org. carbon (mg/l) | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | |
| total susp. solids (mg/l) | 5 | U | 5 | U | 38 | | 8 | | 26 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C5-h

## Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW00142WC (REAL)<br>Date: 07/18/90 | | Location: SW070 (SW)<br>Sample: SW00244WC (REAL)<br>Date: 08/16/90 | | Location: SW070 (SW)<br>Sample: SW00418WC (REAL)<br>Date: 10/16/90 | | Location: SW070 (SW)<br>Sample: SW00519WC (REAL)<br>Date: 11/15/90 | | Location: SW070 (SW)<br>Sample: SW00623WC (REAL)<br>Date: 12/10/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | 189.01 | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 140 | | 120 | | | | 190 | | 190 | |
| carbonate (mg/l) | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 0 | | 1 | U | | | 0 | | 0 | |
| chloride (mg/l) | 75 | | 102 | | 65.8 | | 77 | | 83 | |
| cyanide (ug/l) | | | | | 2 | U | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | 0.02 | U | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | 0.7 | | .5 | U | .8 | | 0.7 | | 0.7 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | 1.61 | | | | | |
| nitrate/nitrite (mg/l) | 0.21 | | .63 | | | | 3.3 | | 3.7 | |
| nitrite (mg/l) | 0.02 | U | .01 | U | | | 0.02 | U | 0.02 | U |
| oil and grease (mg/l) | 0.8 | | 1 | U | 1.81 | | 5 | U | 0.3 | U |
| orthophosphate (mg/l) | 0.01 | U | | | | | 0.01 | U | 0.01 | U |
| pH (ph) | | | | | | | | | | |
| phosphate (mg/l) | 0.05 | | .04 | | | | 0.01 | U | 0.04 | |
| phosphorus (mg/l) | | | .06 | | .04 | | | | | |
| silica, dissolved (mg/l) | 5.2 | | | | | | 5.5 | | 5.4 | |
| silicon (mg/l) | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 45 | | 31 | | | | 42 | | 47 | |
| sulfide (mg/l) | | | | | | | 10 | U | 1 | |
| total diss. solids (mg/l) | 370 | | 250 | | 373 | | 450 | | 450 | |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 28 | | 40 | | 17 | | 4 | U | 31 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Surface Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW070 (SW)<br>Sample: SW01867WC (REAL)<br>Date: 04/08/92 | | | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | |
| bicarbonate (mg/l) | | | | | | | |
| bicarbonate as caco3 (mg/l) | 188 | | V | | | | |
| carbonate (mg/l) | | | | | | | |
| carbonate as caco3 (mg/l) | 10.0 | U | V | | | | |
| chloride (mg/l) | 59.9 | | V | | | | |
| cyanide (ug/l) | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | |
| cyanides (s. salts) (mg/l) | 10.0 | U | V | | | | |
| diss. organic carbon (mg/l) | 5 | | | | | | |
| fluoride (mg/l) | 0.71 | | V | | | | |
| hydrocyanic acid (mg/l) | | | | | | | |
| nitrate (mg/l) | | | | | | | |
| nitrate/nitrite (mg/l) | 1.3 | | V | | | | |
| nitrite (mg/l) | 0.020 | U | V | | | | |
| oil and grease (mg/l) | 6.8 | U | V | | | | |
| orthophosphate (mg/l) | 0.050 | U | V | | | | |
| pH (ph) | | | | | | | |
| phosphate (mg/l) | | | | | | | |
| phosphorus (mg/l) | 0.050 | U | V | | | | |
| silica, dissolved (mg/l) | | | | | | | |
| silicon (mg/l) | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | |
| sulfate (mg/l) | 72.6 | | V | | | | |
| sulfide (mg/l) | 1.0 | U | JA | | | | |
| total diss. solids (mg/l) | 372 | | V | | | | |
| tot. org. carbon (mg/l) | 6 | | | | | | |
| total solids (mg/l) | 14.5 | | V | | | | |
| total susp. solids (mg/l) | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW04490001 (REAL)<br>Date: 01/17/90 | | | Location: SW044 (SEP)<br>Sample: SW04490002 (REAL)<br>Date: 02/19/90 | | Location: SW044 (SEP)<br>Sample: SW04490003 (REAL)<br>Date: 03/17/90 | | | Location: SW044 (SEP)<br>Sample: SW044W052290A (REAL)<br>Date: 05/22/90 | | Location: SW044 (SEP)<br>Sample: SW0006SWC (REAL)<br>Date: 06/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | 24 | | R | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | 10 | U | | | | 10 | U |
| 2-hexanone | 10 | U | V | 10 | U | 10 | U | R | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | 10 | U | R | 10 | U | 10 | U |
| acetone | 10 | U | R | 10 | U | 1 | | R | 10 | U | 1 | JB |
| benzene | 5 | UJ | A | 5 | U | 5 | U | R | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| bromomethane | 10 | U | R | 10 | U | 10 | U | R | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| chlorobenzene | 5 | UJ | A | 5 | U | 5 | U | R | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | 10 | U | R | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| chloromethane | 10 | U | V | 10 | U | 10 | U | R | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | UJ | A | 5 | U | 5 | U | R | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 10 | | V | 4 | JB | 5 | | R | 6 | B | 1 | JB |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | | | | | | 5 | U | | | | 5 | U |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| seç-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | UJ | A | 5 | U | 5 | U | R | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| toluene | 5 | UJ | A | 5 | U | 5 | U | R | 5 | U | 5 | U |
| total xylenes | 5 | UJ | A | 5 | U | 5 | U | R | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | 5 | U | R | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | 7 | | R | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | R | 10 | U | 10 | U | R | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | 10 | U | R | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW044 (SEP) Sample: SW00169WC (REAL) Date: 07/19/90 | | | Location: SW044 (SEP) Sample: SW00250WC (REAL) Date: 08/21/90 | | | Location: SW044 (SEP) Sample: SW00328WC (REAL) Date: 09/17/90 | | | Location: SW044 (SEP) Sample: SW00523WC (REAL) Date: 11/28/90 | | | Location: SW044 (SEP) Sample: SW00627WC (REAL) Date: 12/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | | 17 | B | JA | 10 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| acetone | 10 | U | | 5 | J | | 10 | U | | 10 | U | V | 9 | J | |
| benzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| bromoform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| bromomethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| chloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| chloroform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| chloromethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 2 | J | | 5 | U | | 1 | J | A | 2 | BJ | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| toluene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| total xylenes | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW01037WC (REAL)<br>Date: 04/08/91 | | | Location: SW044 (SEP)<br>Sample: SW01144WC (REAL)<br>Date: 05/14/91 | | | Location: SW044 (SEP)<br>Sample: SW01247WC (REAL)<br>Date: 06/25/91 | | | Location: SW044 (SEP)<br>Sample: SW01350WC (REAL)<br>Date: 07/09/91 | | | Location: SW045 (SEP)<br>Sample: SW04590001 (REAL)<br>Date: 01/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | UJ | A |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | UJ | A |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | UJ | A |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 5 | U | | 6 | B | JA | 5 | U | V | 10 | | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | UJ | A |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | UJ | A |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | UJ | A |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 7 | | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW04590002 (REAL)<br>Date: 02/19/90 | | Location: SW045 (SEP)<br>Sample: SW04590003 (REAL)<br>Date: 03/17/90 | | Location: SW045 (SEP)<br>Sample: SW045W052290A (REAL)<br>Date: 05/22/90 | | Location: SW045 (SEP)<br>Sample: SW00066WC (REAL)<br>Date: 06/13/90 | | Location: SW045 (SEP)<br>Sample: SW00175WC (REAL)<br>Date: 07/19/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | 10 | U | | | 10 | U | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | 10 | U | 10 | U | 10 | U | 3 | BJ |
| benzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | |
| bromobenzene | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | |
| m-xylene | | | | | | | | | | |
| methylene chloride | 5 | B | 1 | JB | 11 | B | 2 | JB | 2 | J |
| n-butylbenzene | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | |
| naphthalene | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | |
| o-xylene | | | 5 | U | | | 5 | U | | |
| p-chlorotoluene | | | | | | | | | | |
| p-cymene | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | |
| tetrachloroethene | 2 | J | 23 | | 4 | J | 4 | J | 6 | |
| toluene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | 2 | J | 1 | J | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW00249WC (REAL)<br>Date: 08/21/90 | | | Location: SW045 (SEP)<br>Sample: SW00327WC (REAL)<br>Date: 09/18/90 | | | Location: SW046 (SEP)<br>Sample: SW04690001 (REAL)<br>Date: 01/16/90 | | | Location: SW046 (SEP)<br>Sample: SW04690002 (REAL)<br>Date: 02/19/90 | | | Location: SW046 (SEP)<br>Sample: SW04690003 (REAL)<br>Date: 03/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,1-dichloroethane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,1-dichloroethene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,2-dichloroethene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,2-dichloropropane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | R | 10 | U | | 10 | U | | 13 | | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | 10 | U | |
| 2-hexanone | 10 | U | | 10 | U | JA | 10 | U | | 10 | U | | 10 | U | R |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | JA | 10 | U | | 10 | U | | 10 | U | R |
| acetone | 4 | J | | 4 | BJ | JA | 10 | U | | 10 | U | | 10 | U | R |
| benzene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| bromoform | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| bromomethane | 10 | U | | 10 | U | JA | 10 | U | | 10 | U | | 10 | U | R |
| carbon disulfide | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| carbon tetrachloride | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| chlorobenzene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| chloroethane | 10 | U | | 10 | U | JA | 10 | U | | 10 | U | | 10 | U | R |
| chloroform | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| chloromethane | 10 | U | | 10 | U | JA | 10 | U | | 10 | U | | 10 | U | R |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | J | | 14 | B | JA | 8 | | | 4 | JB | | 6 | | R |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | 5 | U | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 2 | J | | 5 | | JA | 5 | U | | 5 | U | | 16 | | R |
| toluene | 5 | U | | 1 | BJ | JA | 5 | U | | 5 | U | | 5 | U | R |
| total xylenes | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 5 | U | R |
| trichloroethene | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | | 10 | | R |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | JA | 10 | U | | 10 | U | | 10 | U | R |
| vinyl chloride | 10 | U | | 10 | U | JA | 10 | U | | 10 | U | | 10 | U | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP) Sample: SW00329WC (REAL) Date: 09/19/90 | | | Location: SW046 (SEP) Sample: SW00423WC (REAL) Date: 10/16/90 | | | Location: SW046 (SEP) Sample: SW00524WC (REAL) Date: 11/28/90 | | | Location: SW046 (SEP) Sample: SW00628WC (REAL) Date: 12/07/90 | | | Location: SW046 (SEP) Sample: SW00730WC (REAL) Date: 01/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| acetone | 14 | | JA | 10 | U | V | 10 | U | V | 10 | U | | 9 | BJ | JA |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| carbon disulfide | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 1 | BJ | JA | 5 | U | V | 2 | BJ | | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | | V | 5 | U | V | 1 | J | A | 5 | U | | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW00936WC (REAL)<br>Date: 03/28/91 | | | Location: SW046 (SEP)<br>Sample: SW01038WC (REAL)<br>Date: 04/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01248WC (REAL)<br>Date: 06/25/91 | | | Location: SW046 (SEP)<br>Sample: SW01351WC (REAL)<br>Date: 07/09/91 | | | Location: SW046 (SEP)<br>Sample: SW01457WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 29 | | | 5 | U | | 5 | U | V | 5 | U | V | 3 | JB | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 6 | | V |
| toluene | 4 | J | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 7 | | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-a

## Seep/Spring Water Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW80147WC (DUP)<br>Date: 08/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01563WC (REAL)<br>Date: 09/05/91 | | | Location: SW046 (SEP)<br>Sample: SW01669WC (REAL)<br>Date: 10/17/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |
| acetone | 10 | B | JA | 10 | U | V | 130 | B | JA | | | | | | |
| benzene | 5 | U | JA | 5 | U | V | 5 | U | V | | | | | | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| chlorobenzene | 5 | U | JA | 5 | U | V | 5 | U | V | | | | | | |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | JA | 5 | U | V | 5 | U | V | | | | | | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 3 | JB | JA | 5 | U | V | 11 | B | JA | | | | | | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | JA | 5 | U | V | 5 | U | V | | | | | | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 9 | | V | 4 | J | A | 5 | U | V | | | | | | |
| toluene | 5 | U | JA | 5 | U | V | 5 | U | V | | | | | | |
| total xylenes | 5 | U | JA | 5 | U | V | 5 | U | V | | | | | | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | | | | | | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-b

## Seep/Spring Water Semivolatile Organic Samples (ug/l)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW01037WC (REAL)<br>Date: 04/08/91 | | | Location: SW046 (SEP)<br>Sample: SW00423WC (REAL)<br>Date: 10/16/90 | | | Location: SW046 (SEP)<br>Sample: SW01038WC (REAL)<br>Date: 04/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01669WC (REAL)<br>Date: 10/17/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 1,2-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 1,3-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 1,4-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2,4,5-trichlorophenol | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | JA | | | |
| 2,4,6-trichlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2,4-dichlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2,4-dimethylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2,4-dinitrophenol | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | R | | | |
| 2,4-dinitrotoluene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R | | | |
| 2,6-dinitrotoluene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2-chloronaphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2-chlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2-methylnaphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 2-nitroaniline | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | JA | | | |
| 2-nitrophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 3,3'-dichlorobenzidine | 21 | U | V | 20 | U | V | 20 | U | V | 20 | U | JA | | | |
| 3-nitroaniline | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | JA | | | |
| 4,6-dinitro-2-methylphenol | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | R | | | |
| 4-bromophenyl phenyl ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 4-chloro-3-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 4-chloroaniline | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 4-chlorophenyl phenyl ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 4-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| 4-nitroaniline | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | R | | | |
| 4-nitrophenol | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | JA | | | |
| acenaphthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| acenaphthylene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| benzo(a)pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| benzo(b)fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| benzo(ghi)perylene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| benzo(k)fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| benzoic acid | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | R | | | |
| benzyl alcohol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| bis(2-chloroethoxy)methane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| bis(2-chloroethyl)ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| bis(2-chloroisopropyl)ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| bis(2-ethylhexyl)phthalate | 2 | J | A | 10 | U | V | 2 | J | A | 10 | U | JA | | | |
| butyl benzyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| chrysene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| di-n-butyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| di-n-octyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| dibenzo(a,h)anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| dibenzofuran | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| diethyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| dimethyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| fluorene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| hexachlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| hexachlorobutadiene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| hexachlorocyclopentadiene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| hexachloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| indeno(1,2,3-cd)pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| isophorone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| n-nitroso-di-n-propylamine | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| naphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| nitrobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| pentachlorophenol | 52 | U | V | 50 | U | V | 51 | U | V | 51 | U | JA | | | |
| phenanthrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| phenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |
| pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-c

## Seep/Spring Water Pesticide/PCB Samples (ug/l)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW00423WC (REAL)<br>Date: 10/16/90 | | | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.10 | U | V | | | | |
| 4,4'-dde | 0.10 | U | V | | | | |
| 4,4'-ddt | 0.10 | U | V | | | | |
| aldrin | 0.05 | U | V | | | | |
| alpha-bhc | 0.05 | U | V | | | | |
| alpha-chlordane | 0.50 | U | V | | | | |
| aroclor-1016 | 0.50 | U | V | | | | |
| aroclor-1221 | 0.50 | U | V | | | | |
| aroclor-1232 | 0.50 | U | V | | | | |
| aroclor-1242 | 0.50 | U | V | | | | |
| aroclor-1248 | 0.50 | U | V | | | | |
| aroclor-1254 | 1.00 | U | V | | | | |
| aroclor-1260 | 1.00 | U | V | | | | |
| beta-bhc | 0.05 | U | V | | | | |
| delta-bhc | 0.05 | U | V | | | | |
| dieldrin | 0.10 | U | V | | | | |
| endosulfan I | 0.05 | U | V | | | | |
| endosulfan II | 0.10 | U | V | | | | |
| endosulfan sulfate | 0.10 | U | V | | | | |
| endrin | 0.10 | U | V | | | | |
| endrin ketone | 0.10 | U | V | | | | |
| gamma-bhc (lindane) | 0.05 | U | V | | | | |
| gamma-chlordane | 0.50 | U | V | | | | |
| heptachlor | 0.05 | U | V | | | | |
| heptachlor epoxide | 0.05 | U | V | | | | |
| methoxychlor | 0.50 | U | V | | | | |
| toxaphene | 1.00 | U | V | | | | |

*Note: Data reporting order: result, qualifier, validation code.*
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW04490002 (REAL)<br>Date: 02/19/90 | | | Location: SW044 (SEP)<br>Sample: SW04490003 (REAL)<br>Date: 03/17/90 | | | Location: SW044 (SEP)<br>Sample: SW044W052290A (REAL)<br>Date: 05/22/90 | | Location: SW044 (SEP)<br>Sample: SW00069WC (REAL)<br>Date: 06/13/90 | | Location: SW044 (SEP)<br>Sample: SW00169WC (REAL)<br>Date: 07/19/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 389 | | | 231 | UJ | A | 539 | | 308 | | 1970.00 | E |
| Antimony | 60.0 | U | | 13.4 | U | V | 60 | U | 60.0 | U | 27.40 | B |
| Arsenic | 10.0 | U | | 1.3 | U | V | 10 | U | 10.0 | U | 2.00 | U |
| Barium | 200 | U | | 120 | J | A | 200 | U | 200 | U | 148.00 | BE |
| Beryllium | 5.0 | U | | 0.20 | U | R | 5 | U | 5.0 | U | 1.00 | U |
| Cadmium | 5.0 | U | | 3.2 | U | V | 5 | U | 5.0 | U | 2.10 | B |
| Calcium | 68800 | | | 80000 | J | A | 72400 | | 67600 | | 78400.00 | |
| Cesium | 2500 | U | | 1000 | U | V | 2500 | U | 1000 | U | 147.00 | U |
| Chromium | 10.0 | U | | 5.8 | U | V | 10 | U | 10.0 | U | 6.00 | U |
| Cobalt | 50.0 | U | | 2.7 | U | V | 50 | U | 50.0 | U | 4.90 | B |
| Copper | 25.0 | U | | 12.9 | | V | 25 | U | 25.0 | U | 7.10 | B |
| Iron | 362 | | | 227 | | V | 707 | | 244 | | 1360.00 | |
| Lead | 3.0 | U | | 1.4 | J | A | 7.2 | | 3.0 | U | 1.90 | B |
| Lithium | 100 | U | | 100 | U | V | 100 | U | 100 | U | 15.20 | B |
| Magnesium | 13400 | | | 16100 | | V | 16200 | | 20900 | | 22100.00 | |
| Manganese | 24.0 | | | 18.0 | | V | 41.1 | | 21.6 | | 23.10 | E |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.2 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | | 100 | U | V | 100 | U | 100 | U | 8.20 | B |
| Nickel | 40.0 | U | | 11.1 | U | V | 40 | U | 40.0 | U | 8.60 | B |
| Phosphorus | | | | | | | | | | | | |
| Potassium | 5000 | U | | 1850 | | V | 5000 | U | 5000 | U | 3190.00 | B |
| Selenium | 5.0 | U | | 1.8 | UJ | A | 10.6 | | 5.0 | U | 2.00 | B |
| Silicon | | | | | | | | | | | | |
| Silver | 10.0 | U | | 4.9 | UJ | A | 10 | U | 10.0 | U | 3.50 | B |
| Sodium | 103000 | | | 39200 | J | A | 29200 | | 34400 | | 46100.00 | |
| Strontium | 390 | | | 1000 | U | V | 450 | | 1000 | U | 637.00 | |
| Thallium | 10.0 | U | | 1.0 | UJ | A | 10 | U | 10.0 | U | 3.00 | U |
| Tin | 100 | U | | 100 | U | V | 100 | U | 100 | U | 28.10 | B |
| Vanadium | 50.0 | U | | 3.0 | U | V | 50 | U | 50.0 | U | 12.10 | B |
| Zinc | 84.6 | | | 76.0 | | V | 67.9 | | 30.3 | | 32.30 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW00250WC (REAL)<br>Date: 08/21/90 | | Location: SW044 (SEP)<br>Sample: SW00328WC (REAL)<br>Date: 09/17/90 | | Location: SW044 (SEP)<br>Sample: SW00523WC (REAL)<br>Date: 11/28/90 | | Location: SW044 (SEP)<br>Sample: SW00627WC (REAL)<br>Date: 12/07/90 | | | Location: SW044 (SEP)<br>Sample: SW01037WC (REAL)<br>Date: 04/08/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 515.00 | | 421.00 | | 291.00 | | 730 | | JA | 275 | |
| Antimony | 10.00 | U | 7.00 | U | 7.00 | U | 22.0 | U | JA | 25.6 | U |
| Arsenic | 1.00 | U | 2.00 | U | 2.00 | U | 1.0 | U | JA | 0.90 | U |
| Barium | 113.00 | B | 134.00 | B | 142.00 | B | 143 | B | V | 65.4 | |
| Beryllium | 1.00 | U | 1.00 | U | 1.00 | U | 1.0 | U | V | 0.60 | |
| Cadmium | 2.00 | U | 2.00 | U | 2.00 | U | 5.0 | U | V | 2.7 | U |
| Calcium | 70200.00 | | 82900.00 | | 90200.00 | | 71200 | | JA | 30900 | |
| Cesium | 147.00 | U | 92.00 | U | 76.00 | U | 500 | U | V | 500 | U |
| Chromium | 8.60 | B | 6.10 | B | 8.80 | B | 4.0 | U | V | 4.1 | U |
| Cobalt | 4.00 | U | 3.00 | U | 3.00 | U | 4.0 | U | V | 3.6 | U |
| Copper | 12.30 | B | 9.20 | B | 2.00 | U | 5.9 | B | V | 6.8 | |
| Iron | 576.00 | | 584.00 | | 279.00 | | 704 | | V | 381 | |
| Lead | 1.30 | B | 3.30 | | 1.20 | B | 2.3 | B | V | 2.6 | |
| Lithium | 6.50 | B | 10.00 | B | 15.00 | B | 13.9 | B | JA | 5.1 | |
| Magnesium | 11100.00 | | 14500.00 | | 21400.00 | | 14100 | | JA | 5710 | |
| Manganese | 35.10 | | 56.10 | | 16.00 | | 23.3 | | JA | 65.2 | |
| Mercury | 0.20 | U | 0.20 | U | 0.20 | UN | 0.10 | U | R | 0.20 | U |
| Molybdenum | 4.40 | B | 12.60 | B | 2.10 | B | 9.0 | U | V | 5.7 | U |
| Nickel | 4.00 | U | 4.10 | B | 4.00 | U | 9.0 | U | V | 14.7 | U |
| Phosphorus | | | | | | | 204 | B | JA | | |
| Potassium | 1670.00 | B | 2050.00 | BE | 3470.00 | BE | 3930 | B | JA | 2240 | |
| Selenium | 2.00 | U | 2.00 | U | 3.00 | BWN | 2.4 | B | V | 1.1 | U |
| Silicon | | | | | | | | | | 2000 | |
| Silver | 3.70 | B | 3.00 | U | 3.00 | U | 4.5 | B | V | 5.0 | U |
| Sodium | 17900.00 | | 20900.00 | | 44500.00 | | 47100 | | JA | 17800 | |
| Strontium | 346.00 | | 402.00 | | 629.00 | | 401 | | V | 164 | |
| Thallium | 1.00 | UW | 3.00 | U | 2.00 | UWN | 2.0 | U | V | 1.4 | U |
| Tin | 14.90 | B | 26.60 | B | 23.30 | B | 30.0 | U | V | 14.8 | U |
| Vanadium | 7.90 | B | 8.40 | B | 6.40 | B | 9.1 | B | V | 5.7 | U |
| Zinc | 38.50 | | 37.80 | * | 29.90 | | 78.0 | | V | 43.7 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW01144WC (REAL)<br>Date: 05/14/91 | | | Location: SW044 (SEP)<br>Sample: SW01247WC (REAL)<br>Date: 06/25/91 | | | Location: SW044 (SEP)<br>Sample: SW01350WC (REAL)<br>Date: 07/09/91 | | | Location: SW045 (SEP)<br>Sample: SW04590001 (REAL)<br>Date: 01/16/90 | | | Location: SW045 (SEP)<br>Sample: SW04590002 (REAL)<br>Date: 02/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 693 | | V | 1200 | | V | 810 | | V | 8750 | | V | 283 | | |
| Antimony | 25.6 | U | JA | 11 | U | V | 11 | U | V | 44.6 | UJ | A | 60.0 | U | |
| Arsenic | 0.90 | U | JA | 2.0 | UW | V | 4.0 | U | V | 1.9 | U | V | 10.0 | U | |
| Barium | 125 | | V | 140 | | V | 120 | | V | 250 | J | A | 200 | U | |
| Beryllium | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V | 0.8 | U | V | 5.0 | U | |
| Cadmium | 3.3 | U | V | 1.0 | U | V | 1.0 | U | V | 2.3 | U | R | 5.0 | U | |
| Calcium | 69200 | | V | 79000 | | V | 75000 | | V | 108000 | | V | 104000 | | |
| Cesium | 500 | U | V | 50 | | V | 50 | U | V | 1000 | U | V | 2500 | U | |
| Chromium | 4.1 | U | JA | 2.0 | U | V | 2.0 | U | V | 13.0 | | V | 10.0 | U | |
| Cobalt | 3.6 | U | V | 2.0 | U | V | 2.1 | | V | 7.9 | UJ | A | 50.0 | U | |
| Copper | 9.5 | | V | 3.4 | | V | 3.0 | U | JA | 16.0 | UJ | A | 25.0 | U | |
| Iron | 860 | | V | 1300 | | V | 820 | | V | 8910 | | V | 333 | | |
| Lead | 2.4 | | V | 4.6 | | JA | 9.2 | | JA | 14.4 | J | A | 3.0 | U | |
| Lithium | 6.5 | | JA | 5.1 | | JA | 7.2 | | JA | 31.0 | | V | 100 | U | |
| Magnesium | 14700 | | V | 14000 | | V | 13000 | | V | 23800 | | V | 25400 | | |
| Manganese | 71.2 | | V | 80 | | V | 59 | | V | 162 | | V | 15.0 | U | |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.2 | U | V | 0.20 | U | |
| Molybdenum | 5.7 | U | V | 3.0 | U | JA | 3.0 | U | JA | 20.5 | UJ | A | 100 | U | |
| Nickel | 14.7 | U | V | 4.0 | U | V | 4.0 | U | V | 12.2 | | V | 40.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4890 | | V | 1900 | | V | 1900 | | V | 4560 | J | A | 5000 | U | |
| Selenium | 1.1 | U | JA | 4.0 | UW | JA | 4.0 | UW | R | 7.1 | | V | 5.0 | U | |
| Silicon | 2540 | | V | 4760 | | V | 5650 | | V | | | | | | |
| Silver | 5.0 | U | R | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V | 10.0 | U | |
| Sodium | 31900 | | V | 33000 | | V | 33000 | | V | 44500 | | V | 45500 | | |
| Strontium | 406 | | V | 410 | | JA | 400 | | JA | 748 | | V | 762 | | |
| Thallium | 1.4 | U | V | 1.0 | UW | JA | 1.0 | UW | JA | 1.1 | U | V | 10.0 | U | |
| Tin | 14.8 | U | JA | 13 | U | JA | 13 | U | R | 41.0 | UJ | A | 100 | U | |
| Vanadium | 6.3 | | V | 2.9 | | V | 3.2 | | V | 24.5 | | V | 50.0 | U | |
| Zinc | 47.5 | | V | 37 | | JA | 32 | | V | 277 | J | A | 53.7 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW04590003 (REAL)<br>Date: 03/17/90 | | | Location: SW045 (SEP)<br>Sample: SW04SW052290A (REAL)<br>Date: 05/22/90 | | Location: SW045 (SEP)<br>Sample: SW00066WC (REAL)<br>Date: 06/13/90 | | Location: SW045 (SEP)<br>Sample: SW00175WC (REAL)<br>Date: 07/19/90 | | Location: SW045 (SEP)<br>Sample: SW00249WC (REAL)<br>Date: 08/21/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 273 | | V | 200 | U | 200 | U | 122.00 | BE | 66.40 | B |
| Antimony | 13.4 | U | V | 60 | U | 60.0 | U | 24.40 | B | 10.00 | U |
| Arsenic | 1.3 | U | V | 10 | U | 10.0 | U | 2.00 | U | 1.00 | B |
| Barium | 130 | J | A | 200 | U | 200 | U | 151.00 | BE | 146.00 | B |
| Beryllium | 0.20 | U | R | 5 | U | 5.0 | U | 1.00 | U | 1.00 | U |
| Cadmium | 3.2 | U | V | 5 | U | 5.0 | U | 2.80 | B | 2.00 | U |
| Calcium | 87700 | J | A | 101000 | | 76000 | | 96800.00 | | 91600.00 | |
| Cesium | 1000 | U | V | 2500 | U | 1000 | U | 147.00 | U | 147.00 | U |
| Chromium | 5.8 | U | V | 10 | U | 10.0 | U | 6.00 | U | 7.50 | B |
| Cobalt | 2.7 | U | V | 50 | U | 50.0 | U | 6.50 | B | 4.00 | U |
| Copper | 8.4 | | V | 25 | U | 25.0 | U | 8.30 | B | 5.10 | B |
| Iron | 150 | UJ | A | 100 | U | 100 | U | 104.00 | | 78.60 | B |
| Lead | 1.4 | UJ | A | 6 | U | 3.0 | U | 1.30 | B | 1.00 | U |
| Lithium | 100 | U | V | 100 | U | 100 | U | 12.70 | B | 18.00 | B |
| Magnesium | 21100 | | V | 23800 | | 18900 | | 22900.00 | | 21900.00 | |
| Manganese | 3.9 | | V | 15 | U | 15.0 | U | 3.30 | BE | 1.00 | U |
| Mercury | 0.20 | U | V | 0.2 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | V | 100 | U | 100 | U | 9.90 | B | 2.80 | B |
| Nickel | 11.1 | U | V | 40 | U | 40.0 | U | 10.70 | B | 4.00 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 2360 | | V | 5000 | U | 5000 | U | 3170.00 | B | 2940.00 | B |
| Selenium | 4.2 | J | A | 5 | U | 5.0 | U | 3.00 | B | 2.00 | B |
| Silicon | | | | | | | | | | | |
| Silver | 4.9 | UJ | A | 10 | U | 10.0 | U | 4.10 | B | 2.30 | B |
| Sodium | 45800 | J | A | 49600 | | 38600 | | 48100.00 | | 45400.00 | |
| Strontium | 1000 | U | V | 711 | | 1000 | U | 697.00 | | 661.00 | |
| Thallium | 0.90 | U | V | 10 | U | 10.0 | U | 3.00 | U | 1.00 | UW |
| Tin | 100 | U | V | 100 | U | 100 | U | 28.10 | B | 31.10 | B |
| Vanadium | 3.1 | UJ | A | 50 | U | 50.0 | U | 10.00 | B | 6.90 | B |
| Zinc | 116 | | V | 80 | | 39.7 | | 58.00 | | 56.70 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW00327WC (REAL)<br>Date: 09/18/90 | | | Location: SW046 (SEP)<br>Sample: SW04690001 (REAL)<br>Date: 01/16/90 | | | Location: SW046 (SEP)<br>Sample: SW04690002 (REAL)<br>Date: 02/19/90 | | | Location: SW046 (SEP)<br>Sample: SW04690003 (REAL)<br>Date: 03/17/90 | | | Location: SW046 (SEP)<br>Sample: SW00329WC (REAL)<br>Date: 09/19/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 60.0 | U | V | 55.9 | | | 492 | | | 166 | UJ | A | 58.7 | B | |
| Antimony | 30.0 | U | V | 500.0 | U | | 60.0 | U | | 13.4 | U | V | 26.0 | U | |
| Arsenic | 2.0 | U | V | 2.0 | U | | 10.0 | U | | 1.3 | U | V | 1.1 | U | |
| Barium | 156 | | V | 148.0 | | | 200 | U | | 131 | J | A | 120 | B | |
| Beryllium | 2.0 | U | V | 2.0 | U | | 5.0 | U | | 0.20 | U | R | 0.60 | U | |
| Cadmium | 2.8 | | V | 4.0 | U | | 5.0 | U | | 3.2 | | V | 2.9 | U | |
| Calcium | 52000 | V | V | 91700.0 | | | 80100 | | | 88000 | J | A | 74300 | | |
| Cesium | 2.0 | U | JA | 1000.0 | U | | 2500 | U | | 1000 | U | V | 500 | U | |
| Chromium | 14.6 | | V | 20.0 | U | | 10.0 | U | | 5.8 | U | V | 4.0 | U | |
| Cobalt | 10.0 | U | V | 20.0 | U | | 50.0 | U | | 2.7 | U | V | 4.0 | U | |
| Copper | 10.0 | U | V | 20.0 | U | | 25.0 | U | | 2.1 | | V | 8.3 | B | |
| Iron | 12.6 | | V | 125.0 | | | 567 | | | 40.7 | | A | 66.1 | B | |
| Lead | 2.0 | U | V | 2.0 | U | | 3.0 | U | | 2.8 | UJ | V | 1.0 | B | |
| Lithium | 50.0 | U | JA | 22.0 | | | 100 | U | | 100 | U | V | 26.0 | U | |
| Magnesium | 23400 | | V | 22400.0 | | | 22000 | | | 21700 | | V | 18400 | | |
| Manganese | 3.8 | | V | 10.0 | U | | 15.0 | U | | 2.3 | U | V | 4.2 | B | |
| Mercury | 0.20 | U | R | 0.2 | U | | 0.20 | U | | 0.20 | U | V | 0.10 | U | |
| Molybdenum | 10.0 | U | V | 500.0 | U | | 100 | U | | 100 | U | V | 13.0 | U | |
| Nickel | 20.0 | U | V | 20.0 | U | | 40.0 | U | | 11.1 | U | V | 12.0 | U | |
| Phosphorus | | | | | | | | | | | | | 120 | B | |
| Potassium | 3120 | | V | 3140.0 | | | 5000 | U | | 1830 | | V | 2840 | B | |
| Selenium | 2.9 | | JA | 4.0 | | | 5.0 | U | | 4.9 | | V | 2.4 | B | |
| Silicon | 7130 | | JA | | | | | | | | | | | | |
| Silver | 10.7 | | V | 30.0 | U | | 10.0 | U | | 4.9 | UJ | A | 3.0 | B | |
| Sodium | 45900 | | V | 44300.0 | | | 44200 | | | 46400 | J | A | 36400 | | |
| Strontium | 706 | | JA | 678.0 | | | 629 | | | 1000 | U | V | 522 | | |
| Thallium | 2.0 | U | V | 3.0 | U | | 10.0 | U | | 0.90 | U | V | 0.90 | U | |
| Tin | 50.0 | U | JA | 1000.0 | U | | 100 | U | | 100 | U | V | 17.0 | U | |
| Vanadium | 10.0 | U | V | 10.0 | U | | 50.0 | U | | 4.0 | UJ | A | 4.8 | B | |
| Zinc | 53.4 | | JA | 31.3 | | | 33.7 | | | 31.1 | J | A | 53.3 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: *U-analyzed/not* detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike *out of control limits;*
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW00423WC (REAL)<br>Date: 10/16/90 | | Location: SW046 (SEP)<br>Sample: SW00524WC (REAL)<br>Date: 11/28/90 | | Location: SW046 (SEP)<br>Sample: SW00628WC (REAL)<br>Date: 12/07/90 | | Location: SW046 (SEP)<br>Sample: SW00730WC (REAL)<br>Date: 01/10/91 | | Location: SW046 (SEP)<br>Sample: SW00936WC (REAL)<br>Date: 03/28/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 46.5 | B | 81.00 | B | 90.4 | B | 595.00 | | 43.9 | |
| Antimony | 26.0 | U | 7.60 | B | 22.0 | U | 16.50 | B | 18.2 | U |
| Arsenic | 1.1 | U | 2.00 | U | 1.0 | U | 2.00 | U | 0.90 | U |
| Barium | 125 | B | 134.00 | B | 150 | B | 148.00 | B | 99.9 | |
| Beryllium | 0.60 | U | 1.00 | U | 1.0 | U | 1.00 | U | 0.60 | U |
| Cadmium | 3.3 | B | 2.00 | U | 5.0 | U | 2.00 | U | 2.7 | U |
| Calcium | 82200 | | 97200.00 | | 95000 | | 94100.00 | | 65900 | |
| Cesium | 500 | U | 76.00 | U | 500 | U | 14.50 | B | 500 | U |
| Chromium | 4.0 | U | 8.40 | B | 4.0 | U | 10.60 | | 6.9 | U |
| Cobalt | 4.0 | U | 3.00 | U | 4.0 | U | 3.00 | U | 3.0 | U |
| Copper | 3.0 | U | 2.00 | U | 5.0 | U | 9.20 | B | 11.3 | |
| Iron | 226 | | 902.00 | | 53.4 | B | 604.00 | | 23.5 | |
| Lead | 2.2 | B | 1.00 | UW | 1.0 | U | 1.20 | B | 1.5 | U |
| Lithium | 26.0 | U | 13.30 | B | 17.8 | B | 10.90 | B | 15.2 | |
| Magnesium | 22700 | | 22300.00 | | 22400 | | 22500.00 | | 20300 | |
| Manganese | 42.4 | | 851.00 | | 3.7 | B | 9.80 | B | 3.3 | |
| Mercury | 0.10 | U | 0.20 | UN | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 13.0 | U | 7.80 | B | 9.0 | U | 9.30 | B | 10.9 | U |
| Nickel | 12.0 | U | 4.00 | U | 9.0 | U | 4.00 | U | 3.9 | U |
| Phosphorus | 664 | B | | | | | | | | |
| Potassium | 1350 | B | 3800.00 | BE | 3140 | B | 3310.00 | B | 2700 | |
| Selenium | 3.0 | B | 1.00 | BWN | 2.0 | U | 4.00 | B | 2.3 | |
| Silicon | | | | | | | | | 2480 | |
| Silver | 5.1 | B | 5.00 | B | 4.5 | B | 3.00 | U | 3.8 | U |
| Sodium | 52600 | | 49200.00 | | 44700 | | 46900.00 | | 43800 | |
| Strontium | 586 | | 557.00 | | 634 | | 674.00 | | 508 | |
| Thallium | 2.9 | U | 2.00 | UWN | 2.0 | U | 1.00 | UWN | 1.4 | U |
| Tin | 17.0 | U | 21.60 | B | 30.0 | U | 32.80 | B | 24.2 | U |
| Vanadium | 4.9 | B | 6.10 | B | 5.4 | B | 8.30 | B | 2.0 | U |
| Zinc | 36.2 | | 41.60 | | 35.6 | | 62.40 | E | 4.7 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
M-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW01038WC (REAL)<br>Date: 04/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01145WC (REAL)<br>Date: 05/22/91 | | | Location: SW046 (SEP)<br>Sample: SW01248WC (REAL)<br>Date: 06/25/91 | | | Location: SW046 (SEP)<br>Sample: SW01351WC (REAL)<br>Date: 07/09/91 | | | Location: SW046 (SEP)<br>Sample: SW01457WC (REAL)<br>Date: 08/08/91 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | | 120 | | V | 440 | | JA | 210 | | V | |
| Antimony | 25.6 | U | | 17 | U | V | 11 | U | V | 11 | U | V | |
| Arsenic | 0.90 | U | | 2.0 | U | V | 2.0 | U | V | 4.0 | U | V | |
| Barium | 99.0 | | | 130 | | V | 150 | | V | 160 | | V | |
| Beryllium | 0.50 | U | | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | |
| Cadmium | 2.7 | U | | 3.0 | U | V | 1.0 | U | V | 1.7 | | V | |
| Calcium | 66900 | | | 81000 | | V | 86000 | | V | 94000 | | V | |
| Cesium | 500 | U | | 80 | | JA | 50 | | V | 50 | U | V | |
| Chromium | 4.1 | U | | 3.0 | U | V | 2.0 | U | V | 2.0 | U | V | |
| Cobalt | 3.6 | U | | 4.0 | U | V | 2.0 | U | V | 2.0 | U | V | |
| Copper | 4.7 | U | | 4.0 | U | V | 3.0 | U | V | 3.0 | U | JA | |
| Iron | 78.2 | | | 110 | | V | 390 | | V | 200 | | V | |
| Lead | 1.4 | U | | 1.0 | U | JA | 3.5 | W | JA | 8.5 | W | JA | |
| Lithium | 17.5 | | | 14 | | JA | 15 | | JA | 16 | | JA | |
| Magnesium | 18000 | | | 20000 | | V | 22000 | | V | 23000 | | V | |
| Manganese | 13.6 | | | 4.1 | | V | 17 | | V | 23 | | V | |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | |
| Molybdenum | 5.7 | U | | 26 | U | JA | 3.1 | | JA | 3.0 | U | JA | |
| Nickel | 14.7 | U | | 5.0 | U | V | 4.0 | U | V | 4.0 | U | V | |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 2550 | | | 2600 | | V | 2900 | | V | 3500 | | V | |
| Selenium | 2.2 | | | 3.3 | I | JA | 4.0 | U | V | 4.0 | U | R | |
| Silicon | 2980 | | | 5200 | | V | 4930 | | V | 3660 | | V | 5620 |
| Silver | 5.0 | U | | 5.0 | U | V | 2.0 | U | V | 2.0 | U | V | |
| Sodium | 36500 | | | 45000 | | V | 50000 | | V | 51000 | | V | |
| Strontium | 480 | | | 600 | | JA | 630 | | JA | 660 | | JA | |
| Thallium | 1.4 | U | | 10 | UI | JA | 5.0 | UW | JA | 1.0 | UW | JA | |
| Tin | 14.8 | U | | 16 | U | JA | 13 | U | JA | 13 | U | R | |
| Vanadium | 5.7 | U | | 4.4 | | V | 2.0 | U | V | 2.0 | U | V | |
| Zinc | 16.8 | | | 55 | | JA | 18 | | JA | 45 | | V | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-d

## Seep/Spring Water Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW80147WC (DUP)<br>Date: 08/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01563WC (REAL)<br>Date: 09/05/91 | | | Location: SW046 (SEP)<br>Sample: SW01669WC (REAL)<br>Date: 10/17/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 57 | | V | 440 | | V | 57.1 | | | | | | |
| Antimony | 11 | U | V | 14 | U | V | 13.8 | U | V | | | | |
| Arsenic | 4.0 | U | V | 2.0 | U | V | 1.1 | U | V | | | | |
| Barium | 130 | | V | 160 | | V | 157 | | V | | | | |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | | | | |
| Cadmium | 2.0 | U | V | | | | 2.4 | U | JA | | | | |
| Calcium | 80000 | | V | 94000 | | V | 92700 | | V | | | | |
| Cesium | 60 | | V | 60 | | V | 500 | U | V | | | | |
| Chromium | 2.0 | U | V | 2.7 | | JA | 2.6 | U | V | | | | |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V | | | | |
| Copper | 3.4 | | V | 2.0 | U | R | 2.1 | U | V | | | | |
| Iron | 60 | | V | 87 | | JA | 53.5 | | | | | | |
| Lead | 2.0 | U | V | 2.0 | | V | 4.5 | | V | | | | |
| Lithium | 13 | | JA | 18 | | V | 13.2 | | V | | | | |
| Magnesium | 19000 | | V | 22000 | | V | 21400 | | V | | | | |
| Manganese | 2.6 | | V | 25 | | V | 4.8 | | | | | | |
| Mercury | 0.70 | | JA | 0.20 | U | V | 0.20 | U | V | | | | |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 5.8 | U | V | | | | |
| Nickel | 4.0 | U | R | 5.0 | U | V | 5.9 | U | V | | | | |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 2900 | | V | 3100 | | V | 2890 | | JA | | | | |
| Selenium | 4.0 | U | V | 4.0 | UI | JA | 3.5 | | V | | | | |
| Silicon | 6060 | | | 7980 | | V | 7840 | | V | | | | |
| Silver | 2.0 | U | V | 5.0 | U | V | 2.9 | U | V | | | | |
| Sodium | 40000 | | V | 46000 | | V | 44100 | | V | | | | |
| Strontium | 550 | | JA | 640 | | V | 617 | | V | | | | |
| Thallium | 5.0 | UI | JA | 4.0 | UI | JA | 1.9 | U | V | | | | |
| Tin | 13 | U | R | 11 | U | JA | 10.4 | U | V | | | | |
| Vanadium | 3.0 | U | V | 2.5 | | V | 2.3 | U | V | | | | |
| Zinc | 41 | | V | 57 | | JA | 162 | | V | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW04490001 (REAL)<br>Date: 01/17/90 | | Location: SW044 (SEP)<br>Sample: SW04490002 (REAL)<br>Date: 02/19/90 | | Location: SW044 (SEP)<br>Sample: SW04490003 (REAL)<br>Date: 03/17/90 | | | Location: SW044 (SEP)<br>Sample: SW044W052290A (REAL)<br>Date: 05/22/90 | | Location: SW044 (SEP)<br>Sample: SW00069WC (REAL)<br>Date: 06/13/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 41.7 | | 200 | U | 41.8 | U | V | 200 | U | 200 | U |
| Antimony | 500.0 | U | 60.0 | U | 13.4 | U | V | 60 | U | 60.0 | U |
| Arsenic | 2.0 | U | 10.0 | U | 1.3 | UJ | A | 10 | U | 10.0 | U |
| Barium | 157.0 | | 200 | U | 119 | | V | 200 | U | 200 | U |
| Beryllium | 2.0 | U | 5.0 | U | 0.20 | U | R | 5 | U | 5.0 | U |
| Cadmium | 4.0 | U | 5.0 | U | 3.2 | U | V | 5 | U | 5.0 | U |
| Calcium | 89300.0 | | 69500 | | 81300 | J | A | 83500 | | 67800 | |
| Cesium | 1000.0 | U | 2500 | U | 1000 | U | V | 2500 | U | 1000 | U |
| Chromium | 20.0 | U | 10.0 | U | 5.8 | U | V | 10 | U | 10.0 | U |
| Cobalt | 20.0 | U | 50.0 | U | 2.7 | U | V | 50 | U | 50.0 | U |
| Copper | 20.0 | U | 25.0 | U | 4.4 | | V | 25 | U | 25.0 | U |
| Iron | 65.6 | | 100 | U | 11.3 | U | R | 100 | U | 100 | U |
| Lead | 2.0 | U | 3.0 | U | 1.4 | UJ | A | 3 | U | 3.0 | U |
| Lithium | 24.0 | | 100 | U | 100 | U | V | 100 | U | 100 | U |
| Magnesium | 19200.0 | | 13200 | | 16600 | J | A | 20500 | | 17100 | |
| Manganese | 102.0 | | 16.4 | | 8.7 | | V | 15 | U | 22.5 | |
| Mercury | 0.2 | U | 0.20 | U | 0.20 | U | V | 0.2 | U | 0.20 | U |
| Molybdenum | 500.0 | U | 100 | U | 100 | U | V | 100 | U | 100 | U |
| Nickel | 20.0 | U | 40.0 | U | 11.1 | U | V | 40 | U | 40.0 | U |
| Phosphorus | | | | | | | | | | | |
| Potassium | 3200.0 | | 5000 | U | 1740 | | V | 5000 | U | 5000 | U |
| Selenium | 2.1 | | 5.0 | U | 1.8 | U | V | 5 | U | 5.0 | U |
| Silicon | | | | | | | | | | | |
| Silver | 30.0 | U | 10.0 | U | 4.9 | UJ | A | 10 | U | 10.0 | U |
| Sodium | 39900.0 | | 100000 | | 39200 | J | A | 40800 | | 32700 | |
| Strontium | 576.0 | | 383 | | 1000 | U | V | 588 | | 1000 | U |
| Thallium | 3.0 | U | 10.0 | U | 0.90 | U | V | 10 | U | 10.0 | U |
| Tin | 1000.0 | U | 100 | U | 100 | U | V | 100 | U | 100 | U |
| Vanadium | 10.0 | U | 50.0 | U | 3.0 | U | V | 50 | U | 50.0 | U |
| Zinc | 15.4 | | 20.0 | U | 2.8 | U | R | 58.8 | | 20.0 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW00169WC (REAL)<br>Date: 07/19/90 | | | Location: SW044 (SEP)<br>Sample: SW00250WC (REAL)<br>Date: 08/21/90 | | | Location: SW044 (SEP)<br>Sample: SW00328WC (REAL)<br>Date: 09/17/90 | | | Location: SW044 (SEP)<br>Sample: SW00523WC (REAL)<br>Date: 11/28/90 | | | Location: SW044 (SEP)<br>Sample: SW00627WC (REAL)<br>Date: 12/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 60.20 | B | V | 30.00 | B | V | 37.50 | B | V | 42.70 | B | V | 22.5 | B | V |
| Antimony | 23.90 | B | V | 13.90 | B | V | 7.00 | U | V | 7.40 | B | V | 22.0 | U | V |
| Arsenic | 2.00 | U | V | 1.00 | B | V | 2.00 | B | V | 2.00 | U | V | 1.0 | U | V |
| Barium | 140.00 | BE | V | 115.00 | B | V | 130.00 | B | V | 137.00 | B | V | 119 | B | V |
| Beryllium | 4.20 | B | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.0 | U | V |
| Cadmium | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 5.0 | U | JA |
| Calcium | 81200.00 | | V | 75500.00 | | V | 86100.00 | | V | 88200.00 | | V | 66600 | | V |
| Cesium | 147.00 | U | V | 147.00 | U | V | 92.00 | U | V | 76.00 | U | V | 500 | U | V |
| Chromium | 6.00 | U | V | 6.00 | U | V | 5.00 | U | V | 7.60 | B | V | 4.0 | U | V |
| Cobalt | 4.00 | U | V | 4.00 | U | V | 3.00 | U | V | 3.00 | U | V | 4.0 | U | V |
| Copper | 7.40 | B | V | 3.50 | B | V | 3.30 | B | V | 2.00 | U | V | 5.0 | U | JA |
| Iron | 13.00 | U | V | 13.00 | U | V | 35.80 | B | V | 14.00 | U | V | 3.0 | U | V |
| Lead | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | UW | V | 1.0 | U | V |
| Lithium | 13.80 | B | V | 6.50 | B | V | 20.00 | B | V | 14.40 | B | V | 10.0 | U | V |
| Magnesium | 22500.00 | | V | 11800.00 | | V | 14900.00 | | V | 20000.00 | | V | 11900 | | V |
| Manganese | 7.50 | B | V | 33.50 | | V | 41.70 | | V | 5.10 | BE | V | 9.8 | B | JA |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.10 | U | R |
| Molybdenum | 7.10 | B | V | 2.30 | B | V | 9.50 | B | V | 4.00 | B | V | 9.0 | U | V |
| Nickel | 4.00 | U | V | 4.00 | U | V | 4.00 | U | V | 4.00 | U | V | 9.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3200.00 | B | V | 1700.00 | B | V | 2090.00 | B | V | 3840.00 | BE | V | 4890 | B | V |
| Selenium | 3.00 | B | V | 2.00 | U | V | 2.00 | U | V | 2.00 | B | V | 1.0 | U | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 3.00 | B | V | 2.20 | B | V | 3.00 | U | V | 3.00 | U | V | 6.2 | B | V |
| Sodium | 48400.00 | | V | 19900.00 | | V | 21200.00 | | V | 54700.00 | E | V | 56300 | | V |
| Strontium | 661.00 | | V | 369.00 | | V | 413.00 | | V | 592.00 | E | V | 346 | | V |
| Thallium | 3.00 | U | V | 1.00 | UWN | V | 3.00 | U | V | 2.00 | U | V | 1.0 | U | V |
| Tin | 24.90 | B | V | 16.80 | B | V | 24.20 | B | V | 18.50 | B | V | 30.0 | U | V |
| Vanadium | 9.10 | B | V | 4.80 | B | V | 7.00 | B | V | 5.90 | B | V | 6.0 | B | V |
| Zinc | 8.40 | B | V | 5.50 | B | V | 3.50 | B | V | 12.30 | B | V | 2.2 | B | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW01037WC (REAL)<br>Date: 04/08/91 | | | Location: SW044 (SEP)<br>Sample: SW01144WC (REAL)<br>Date: 05/14/91 | | | Location: SW044 (SEP)<br>Sample: SW01247WC (REAL)<br>Date: 06/25/91 | | | Location: SW044 (SEP)<br>Sample: SW01350WC (REAL)<br>Date: 07/09/91 | | | Location: SW045 (SEP)<br>Sample: SW04590001 (REAL)<br>Date: 01/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 117 | | | 108 | U | V | 10 | U | R | 36 | | JA | 30.0 | U | |
| Antimony | 25.6 | U | | 25.6 | U | JA | 11 | U | V | 11 | U | V | 500.0 | U | |
| Arsenic | 0.90 | U | | 0.90 | U | JA | 4.0 | U | JA | 2.0 | U | V | 2.0 | U | |
| Barium | 64.4 | | | 107 | | JA | 130 | | V | 120 | | V | 143.0 | | |
| Beryllium | 0.60 | | | 0.50 | U | V | 1.0 | U | V | 1.0 | U | V | 2.0 | U | |
| Cadmium | 2.7 | U | | 3.3 | U | V | 1.0 | U | V | 1.3 | | JA | 4.0 | U | |
| Calcium | 33600 | | | 63200 | | V | 75000 | | V | 79000 | | V | 93700.0 | | |
| Cesium | 500 | U | | 500 | U | V | 50 | U | V | 60 | | JA | 1000.0 | U | |
| Chromium | 4.1 | U | | 4.1 | U | V | 2.0 | U | JA | 2.0 | U | JA | 20.0 | U | |
| Cobalt | 3.6 | U | | 3.6 | U | V | 2.0 | U | V | 2.0 | U | V | 20.0 | U | |
| Copper | 5.4 | | | 4.7 | U | V | 12 | | JA | 3.0 | U | V | 20.0 | U | |
| Iron | 155 | | | 210 | | V | 7.0 | U | R | 22 | | JA | 30.0 | U | |
| Lead | 1.4 | U | | 1.3 | | JA | 1.1 | | JA | 2.5 | | V | 2.0 | U | |
| Lithium | 5.6 | | | 4.3 | U | JA | 7.0 | | JA | 7.4 | | JA | 28.0 | | |
| Magnesium | 6330 | | | 13600 | | V | 13000 | | V | 14000 | | V | 21000.0 | | |
| Manganese | 49.5 | | | 25.3 | | JA | 36 | | V | 34 | | V | 57.9 | | |
| Mercury | 0.20 | U | | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.2 | U | |
| Molybdenum | 5.7 | U | | 9.4 | | V | 3.7 | | JA | 3.6 | | JA | 500.0 | U | |
| Nickel | 14.7 | U | | 14.7 | U | V | 4.0 | U | JA | 4.0 | U | V | 20.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2580 | | | 2150 | | V | 3300 | | V | 1900 | | V | 3010.0 | | |
| Selenium | 1.1 | U | | 1.1 | U | V | 4.0 | U | JA | 4.0 | U | JA | 2.0 | U | |
| Silicon | 1620 | | | 1640 | | V | 3700 | | V | 4890 | | V | | | |
| Silver | 5.0 | U | | 5.0 | U | JA | 2.0 | U | V | 2.0 | U | V | 30.0 | U | |
| Sodium | 19300 | | | 31300 | | V | 34000 | | V | 35000 | | V | 43000.0 | | |
| Strontium | 182 | | | 379 | | V | 400 | | JA | 440 | | JA | 652.0 | | |
| Thallium | 1.4 | U | | 1.4 | U | V | 15 | UW | R | 3.0 | UW | JA | 3.0 | U | |
| Tin | 14.8 | U | | 14.8 | U | V | 13 | U | JA | 13 | U | R | 1000.0 | U | |
| Vanadium | 5.7 | U | | 5.7 | U | V | 2.0 | | JA | 2.0 | U | V | 10.0 | U | |
| Zinc | 25.9 | | | 18.3 | | JA | 7.3 | | JA | 3.0 | U | V | 10.0 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW04590002 (REAL)<br>Date: 02/19/90 | | Location: SW045 (SEP)<br>Sample: SW04590003 (REAL)<br>Date: 03/17/90 | | | Location: SW045 (SEP)<br>Sample: SW045W052290A (REAL)<br>Date: 05/22/90 | | Location: SW045 (SEP)<br>Sample: SW00066WC (REAL)<br>Date: 06/13/90 | | Location: SW045 (SEP)<br>Sample: SW00175WC (REAL)<br>Date: 07/19/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | U | 41.8 | U | V | 200 | U | 200 | U | 54.30 | B |
| Antimony | 60.0 | U | 13.4 | U | V | 60 | U | 60.0 | U | 29.80 | B |
| Arsenic | 10.0 | U | 1.3 | U | V | 10 | U | 10.0 | U | 2.00 | U |
| Barium | 200 | U | 130 | | V | 200 | U | 200 | U | 149.00 | BE |
| Beryllium | 5.0 | U | 0.20 | U | R | 5 | U | 5.0 | U | 4.20 | B |
| Cadmium | 5.0 | U | 3.2 | U | V | 5 | U | 5.0 | U | 2.00 | U |
| Calcium | 5000 | U | 89600 | J | A | 96500 | | 74000 | | 96800.00 | |
| Cesium | 2500 | U | 1000 | U | V | 2500 | U | 1000 | U | 147.00 | U |
| Chromium | 10.0 | U | 5.8 | U | V | 10 | U | 10.0 | U | 6.00 | U |
| Cobalt | 50.0 | U | 2.7 | U | V | 50 | U | 50.0 | U | 4.00 | B |
| Copper | 25.0 | U | 3.2 | | V | 25 | U | 25.0 | U | 7.00 | B |
| Iron | 100 | U | 11.3 | U | R | 100 | U | 100 | U | 13.00 | U |
| Lead | 3.0 | U | 14 | UJ | A | 3 | U | 3.0 | U | 1.30 | B |
| Lithium | 100 | U | 100 | U | V | 100 | U | 100 | U | 14.90 | B |
| Magnesium | 5000 | U | 22000 | J | A | 22800 | | 18300 | | 23000.00 | |
| Manganese | 15.0 | U | 2.3 | U | V | 15 | U | 15.0 | U | 3.10 | B |
| Mercury | 0.20 | U | 0.20 | U | V | 0.2 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 100 | U | 100 | U | V | 100 | U | 100 | U | 7.20 | B |
| Nickel | 40.0 | U | 11.1 | U | V | 40 | U | 40.0 | U | 4.50 | B |
| Phosphorus | | | | | | | | | | | |
| Potassium | 5000 | U | 1960 | | V | 5000 | U | 5000 | U | 3270.00 | B |
| Selenium | 5.0 | U | 6.3 | | V | 5 | U | 5.0 | | 3.00 | B |
| Silicon | | | | | | | | | | | |
| Silver | 10.0 | U | 4.9 | UJ | A | 10 | U | 10.0 | U | 3.70 | B |
| Sodium | 5000 | U | 47100 | J | A | 48200 | | 38000 | | 48800.00 | |
| Strontium | 100 | U | 1000 | U | V | 689 | | 1000 | U | 701.00 | |
| Thallium | 10.0 | U | 0.90 | UJ | A | 10 | U | 10.0 | U | 3.00 | U |
| Tin | 100 | U | 100 | U | V | 100 | U | 100 | U | 27.60 | B |
| Vanadium | 50.0 | U | 3.0 | U | V | 50 | U | 50.0 | U | 10.00 | B |
| Zinc | 20.0 | U | 2.8 | U | R | 47.5 | | 20.0 | U | 29.10 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW00249WC (REAL)<br>Date: 08/21/90 | | | Location: SW045 (SEP)<br>Sample: SW00327WC (REAL)<br>Date: 09/18/90 | | | Location: SW046 (SEP)<br>Sample: SW04690001 (REAL)<br>Date: 01/16/90 | | | Location: SW046 (SEP)<br>Sample: SW04690002 (REAL)<br>Date: 02/19/90 | | | Location: SW046 (SEP)<br>Sample: SW04690003 (REAL)<br>Date: 03/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 45.60 | B | | 60.0 | U | V | 30.0 | U | | 200 | U | | 41.8 | U | V |
| Antimony | 18.80 | B | | 30.0 | U | V | 500.0 | U | | 60.0 | U | | 13.4 | U | V |
| Arsenic | 1.00 | U | | 2.0 | U | V | 2.0 | U | | 10.0 | U | | 1.3 | UJ | A |
| Barium | 155.00 | B | | 164 | | V | 142.0 | | | 200 | U | | 128 | | V |
| Beryllium | 1.00 | U | | 2.0 | U | V | 2.0 | U | | 5.0 | U | | 0.20 | U | R |
| Cadmium | 2.00 | U | | 2.8 | | V | 4.0 | U | | 5.0 | U | | 3.2 | U | V |
| Calcium | 99800.00 | | | 100000 | | V | 91300.0 | | | 85000 | | | 88400 | J | A |
| Cesium | 147.00 | U | | 2.0 | U | JA | 1000.0 | U | | 2500 | U | | 1000 | U | V |
| Chromium | 10.80 | | | 15.0 | | V | 20.0 | U | | 10.0 | U | | 5.8 | U | V |
| Cobalt | 4.00 | U | | 10.0 | U | V | 20.0 | U | | 50.0 | U | | 2.7 | U | V |
| Copper | 4.00 | B | | 11.0 | | V | 20.0 | U | | 25.0 | U | | 3.0 | | V |
| Iron | 13.00 | U | | 10.0 | U | V | 43.3 | | | 100 | U | | 11.3 | U | R |
| Lead | 1.00 | U | | 2.0 | U | V | 3.1 | | | 3.0 | U | | 1.4 | UJ | A |
| Lithium | 18.90 | B | | 50.0 | U | JA | 22.0 | | | 100 | U | | 100 | U | V |
| Magnesium | 23400.00 | | | 24900 | | V | 22400.0 | | | 23500 | | | 21800 | J | A |
| Manganese | 1.00 | U | | 3.7 | | V | 10.0 | U | | 15.0 | U | | 2.3 | U | V |
| Mercury | 0.20 | U | | 0.20 | U | R | 0.2 | U | | 0.20 | U | | 0.20 | U | V |
| Molybdenum | 6.60 | B | | 10.0 | U | V | 500.0 | U | | 100 | U | | 100 | | V |
| Nickel | 4.00 | U | | 20.0 | U | V | 20.0 | U | | 40.0 | U | | 11.1 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3240.00 | B | | 3290 | | V | 3130.0 | | | 5000 | U | | 2270 | | V |
| Selenium | 4.00 | B | | 2.1 | | JA | 3.1 | | | 5.0 | U | | 5.1 | | V |
| Silicon | | | | 7530 | | JA | | | | | | | | | |
| Silver | 3.50 | B | | 11.3 | | V | 30.0 | U | | 10.0 | U | | 4.9 | UJ | A |
| Sodium | 49400.00 | | | 49200 | | V | 44400.0 | | | 47400 | | | 46300 | J | A |
| Strontium | 712.00 | | | 735 | | JA | 676.0 | | | 665 | | | 1000 | U | V |
| Thallium | 1.00 | UWN | | 2.0 | U | V | 3.0 | U | | 10.0 | U | | 1.2 | UJ | A |
| Tin | 36.80 | B | | 50.0 | U | JA | 1000.0 | U | | 100 | U | | 100 | U | V |
| Vanadium | 8.30 | B | | 10.0 | U | V | 10.0 | U | | 50.0 | U | | 3.0 | U | V |
| Zinc | 6.80 | B | | 5.0 | U | JA | 20.1 | | | 20.0 | U | | 2.8 | U | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW00423WC (REAL)<br>Date: 10/16/90 | | Location: SW046 (SEP)<br>Sample: SW00524WC (REAL)<br>Date: 11/28/90 | | Location: SW046 (SEP)<br>Sample: SW00628WC (REAL)<br>Date: 12/07/90 | | Location: SW046 (SEP)<br>Sample: SW00730WC (REAL)<br>Date: 01/10/91 | | Location: SW046 (SEP)<br>Sample: SW00936WC (REAL)<br>Date: 03/28/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 37.3 | B | 31.00 | B | 49.9 | B | 49.20 | B | 70.8 | |
| Antimony | 26.0 | U | 7.00 | U | 22.0 | U | 20.50 | B | 18.2 | U |
| Arsenic | 1.1 | U | 2.00 | U | 1.0 | U | 2.00 | U | 0.90 | U |
| Barium | 132 | B | 145.00 | B | 156 | B | 142.00 | B | 104 | |
| Beryllium | 0.60 | U | 1.00 | U | 1.0 | U | 1.00 | U | 0.60 | U |
| Cadmium | 2.9 | U | 2.00 | U | 5.0 | U | 2.00 | U | 2.7 | U |
| Calcium | 89900 | | 96800.00 | | 106000 | | 93800.00 | | 67700 | |
| Cesium | 55.0 | U | 76.00 | U | 500 | U | 17.30 | B | 500 | U |
| Chromium | 4.0 | U | 5.00 | U | 4.0 | U | 11.40 | | 6.9 | U |
| Cobalt | 4.0 | U | 3.00 | U | 4.2 | B | 3.00 | U | 3.0 | U |
| Copper | 9.8 | B | 2.00 | U | 5.0 | U | 12.50 | B | 7.4 | |
| Iron | 3.0 | U | 14.00 | U | 3.0 | B | 16.50 | B | 81.8 | |
| Lead | 0.40 | U | 1.00 | U | 1.0 | U | 1.00 | UW | 1.5 | U |
| Lithium | 26.0 | U | 16.80 | B | 28.7 | B | 10.90 | B | 15.2 | |
| Magnesium | 25600 | | 23000.00 | | 25300 | | 22600.00 | | 20400 | |
| Manganese | 43.2 | | 1.00 | UE | 1.3 | B | 5.80 | B | 5.9 | |
| Mercury | 0.10 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| Molybdenum | 13.0 | U | 9.50 | B | 9.0 | U | 14.50 | B | 10.9 | U |
| Nickel | 12.0 | U | 4.00 | U | 9.0 | U | 4.00 | U | 3.9 | U |
| Phosphorus | | | | | | | | | | |
| Potassium | 4380 | B | 2960.00 | BE | 4300 | B | 3270.00 | B | 2670 | |
| Selenium | 2.4 | | 3.00 | BW | 3.6 | B | 4.00 | BW | 2.4 | |
| Silicon | 4770 | B | | | | | | | 2550 | |
| Silver | 6.0 | B | 3.00 | U | 3.0 | U | 3.00 | U | 3.8 | U |
| Sodium | 61000 | | 44700.00 | E | 48900 | | 48400.00 | | 43200 | |
| Strontium | 635 | | 696.00 | E | 603 | | 680.00 | | 517 | |
| Thallium | 0.60 | U | 2.00 | U | 1.0 | U | 1.00 | UWN | 1.4 | U |
| Tin | 17.0 | U | 11.40 | B | 30.0 | U | 35.70 | B | 24.2 | U |
| Vanadium | 8.4 | B | 4.70 | B | 10.3 | B | 7.40 | B | 2.0 | U |
| Zinc | 5.4 | B | 5.50 | B | 6.0 | B | 13.60 | BE | 5.3 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW01038WC (REAL)<br>Date: 04/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01145WC (REAL)<br>Date: 05/22/91 | | | Location: SW046 (SEP)<br>Sample: SW01248WC (REAL)<br>Date: 06/25/91 | | | Location: SW046 (SEP)<br>Sample: SW01351WC (REAL)<br>Date: 07/09/91 | | | Location: SW046 (SEP)<br>Sample: SW01457WC (REAL)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 108 | U | | 27 | | V | 29 | | JA | 53 | | JA | 38.9 | | JA |
| Antimony | 25.6 | U | | 17 | U | V | 11 | U | V | 18 | | V | 11.2 | | V |
| Arsenic | 0.90 | U | | 2.0 | U | V | 4.0 | U | JA | 2.0 | U | V | 2.0 | U | V |
| Barium | 108 | | | 130 | | V | 150 | | V | 160 | | V | 133 | | V |
| Beryllium | 0.50 | U | | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| Cadmium | 2.7 | U | | 3.0 | U | V | 1.0 | U | V | 2.0 | | JA | 2.0 | U | V |
| Calcium | 72800 | | | 84000 | | V | 82000 | | V | 91000 | | V | 82600 | | V |
| Cesium | 500 | U | | 50 | U | JA | 50 | | V | 50 | U | V | 50.0 | | V |
| Chromium | 4.1 | U | | 3.0 | U | V | 5.9 | | JA | 2.0 | U | JA | 2.0 | U | V |
| Cobalt | 3.6 | U | | 4.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V |
| Copper | 4.7 | U | | 4.0 | U | V | 5.5 | | JA | 3.0 | U | V | 3.0 | U | V |
| Iron | 39.3 | | | 35 | | JA | 35 | | JA | 7.0 | U | R | 10.1 | | JA |
| Lead | 2.7 | | | 1.8 | | V | 3.4 | | JA | 1.6 | | V | 1.0 | U | R |
| Lithium | 18.9 | | | 15 | | JA | 15 | | JA | 19 | | JA | 15.0 | | JA |
| Magnesium | 19600 | | | 20000 | | V | 22000 | | V | 24000 | | V | 19300 | | V |
| Manganese | 15.2 | | | 3.2 | | V | 7.6 | | V | 6.0 | | V | 2.1 | | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.21 | | JA |
| Molybdenum | 5.7 | U | | 26 | U | JA | 4.0 | | JA | 3.0 | U | JA | 3.4 | | JA |
| Nickel | 14.7 | U | | 5.0 | U | V | 4.0 | U | JA | 4.0 | U | V | 4.0 | U | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2820 | | | 2800 | I | V | 4100 | | V | 3300 | | V | 3050 | | V |
| Selenium | 2.6 | | | 5.5 | | JA | 4.0 | UW | JA | 4.0 | U | JA | 4.0 | U | V |
| Silicon | 3220 | | | | | | 4320 | | V | 4240 | | V | 5850 | | V |
| Silver | 5.0 | U | | 5.0 | U | V | 2.0 | U | V | 2.0 | U | V | 2.0 | U | V |
| Sodium | 40700 | | | 48000 | | V | 54000 | | V | 54000 | | V | 41700 | | V |
| Strontium | 527 | | | 610 | | V | 640 | | V | 700 | | V | 578 | | JA |
| Thallium | 1.4 | U | | 15 | UI | JA | 15 | UW | R | 15 | UW | JA | 15.0 | U | JA |
| Tin | 14.8 | U | | 16 | U | R | 13 | U | JA | 13 | U | R | 13.0 | U | R |
| Vanadium | 5.7 | U | | 3.0 | U | V | 3.1 | | JA | 2.0 | U | V | 3.0 | U | V |
| Zinc | 43.9 | | | 41 | | JA | 13 | | JA | 3.0 | U | V | 3.0 | U | V |

Note: Data reporting order: result, qualifier, validation code.
*Validation Codes*: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-e

## Seep/Spring Water Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW80147WC (DUP)<br>Date: 08/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01563WC (REAL)<br>Date: 09/05/91 | | | Location: SW046 (SEP)<br>Sample: SW01669WC (REAL)<br>Date: 10/17/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | Location: ()<br>Sample: ()<br>Date: / / | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 21 | | JA | 17 | U | JA | 22.3 | U | V | | | | |
| Antimony | 11 | U | V | 14 | U | V | 13.8 | U | V | | | | |
| Arsenic | 2.0 | U | V | 2.0 | U | V | 1.1 | U | V | | | | |
| Barium | 130 | | V | 150 | | V | 145 | | V | | | | |
| Beryllium | 1.0 | U | V | 1.0 | U | V | 0.50 | U | V | | | | |
| Cadmium | 2.0 | U | V | 1.9 | | V | 2.4 | U | V | | | | |
| Calcium | 79000 | | V | 94000 | | V | 86700 | | V | | | | |
| Cesium | 50 | U | V | 70 | | JA | 500 | U | V | | | | |
| Chromium | 2.0 | U | V | 2.0 | U | V | 2.6 | U | V | | | | |
| Cobalt | 2.0 | U | V | 2.0 | U | V | 2.8 | U | V | | | | |
| Copper | 3.0 | U | V | 2.0 | U | V | 2.1 | U | V | | | | |
| Iron | 7.0 | U | JA | 7.0 | U | R | 16.7 | U | V | | | | |
| Lead | 1.0 | U | JA | 2.2 | | V | 0.90 | U | JA | | | | |
| Lithium | 15 | | JA | 15 | | V | 15.5 | | V | | | | |
| Magnesium | 19000 | | V | 22000 | | V | 20300 | | V | | | | |
| Manganese | 2.7 | | V | 5.7 | | V | 3.1 | | JA | | | | |
| Mercury | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | | | | |
| Molybdenum | 3.0 | U | JA | 4.0 | U | V | 5.8 | U | V | | | | |
| Nickel | 4.0 | U | JA | 5.0 | U | V | 5.9 | U | V | | | | |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 3200 | | V | 3000 | | V | 2230 | | JA | | | | |
| Selenium | 6.0 | | V | 4.0 | UI | JA | 3.1 | | V | | | | |
| Silicon | 5950 | | V | 6670 | | V | 6580 | | JA | | | | |
| Silver | 2.0 | U | V | 5.0 | U | V | 6.3 | | JA | | | | |
| Sodium | 40000 | | V | 47000 | | V | 44200 | | V | | | | |
| Strontium | 550 | | JA | 660 | | V | 584 | | V | | | | |
| Thallium | 15 | UI | JA | 5.0 | UI | R | 1.9 | U | JA | | | | |
| Tin | 13 | U | R | 11 | U | V | 10.4 | U | V | | | | |
| Vanadium | 3.0 | U | V | 2.0 | U | V | 2.3 | U | V | | | | |
| Zinc | 3.0 | U | V | 5.0 | U | V | 13.7 | | JA | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW04490001 (REAL)<br>Date: 01/17/90 | | Location: SW044 (SEP)<br>Sample: SW04490002 (REAL)<br>Date: 02/19/90 | | Location: SW044 (SEP)<br>Sample: SW04490003 (REAL)<br>Date: 03/17/90 | | Location: SW044 (SEP)<br>Sample: SW044W042390 (REAL)<br>Date: 04/23/90 | | Location: SW044 (SEP)<br>Sample: SW044W052290A (REAL)<br>Date: 05/22/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.055 | A | 0.008 | A | 0.024 | | 0.012 | A | 0.012 | |
| cesium - unknown isotope | | | -0.1 | V | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | 0.36 | | | | -0.19 | | -0.17 | A | | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | 15.0 | A | 8.8 | |
| gross alpha | | | | | 41.4 | | | | | |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | 10.3 | A | 13.0 | |
| gross beta | | | | | | | | | | |
| gross beta particle activity | | | | | 32.9 | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.032 | | | | 0.011 | | | | | |
| plutonium-239,-240 | 0.032 | R | 0.004 | A | | | 0.019 | | 0.003 | |
| radium-226 | | | | | | | 0.38 | A | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | 0 | V | | | 0.40 | A | 0.11 | |
| strontium-90 | 0.48 | | | | 0.15 | | | | | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 60 | | | | 140 | | 110 | JA | 320 | |
| uranium-233,-234 | 4.01 | | 2.1 | A | 6.16 | | 5.26 | R | | |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 0.08 | | 0.3 | A | 0.45 | | 0.11 | R | | |
| uranium-238 | 1.63 | | 3.1 | A | 21.82 | | 4.91 | R | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW00069WC (REAL)<br>Date: 06/13/90 | | Location: SW044 (SEP)<br>Sample: SW00169WC (REAL)<br>Date: 07/19/90 | | | Location: SW044 (SEP)<br>Sample: SW00250WC (REAL)<br>Date: 08/21/90 | | Location: SW044 (SEP)<br>Sample: SW00328WC (REAL)<br>Date: 09/17/90 | | Location: SW044 (SEP)<br>Sample: SW00523WC (REAL)<br>Date: 11/28/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.006 | A | .005099 | J | | .001765 | V | -.002924 | V | | | |
| cesium - unknown isotope | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | |
| cesium-137 | | | -.0598 | J | A | -.1132 | V | -.1107 | V | | | |
| curium-244 | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | |
| gross alpha | | | | | | .7768 | V | 2.384 | V | | | |
| gross alpha particle activity | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | |
| gross beta | | | | | | 4.213 | V | 3.243 | A | | | |
| gross beta particle activity | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | |
| plutonium-238 | | | .0005556 | J | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | |
| plutonium-239,-240 | 0.006 | A | .004434 | J | | .001145 | R | .002747 | V | | | |
| radium-226 | 0.21 | A | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | |
| strontium-89,-90 | 0.11 | A | | | | | | | | | | |
| strontium-90 | | | | | | .1273 | V | .1815 | V | | | |
| total radiocesium | | | | | | | | | | | | |
| tritium (pCi/l) | 206 | JA | -9.73 | J | A | 76.16453 | JA | 211.2148 | R | 200.0 | U | V |
| uranium-233,-234 | 3.22 | A | | | | 1.271 | R | 1.349 | A | | | |
| uranium-234 | | | | | | | | | | | | |
| uranium-235 | 0.14 | A | | | | .1099 | R | .05442 | A | | | |
| uranium-238 | 2.93 | A | | | | 1.301 | R | 1.573 | A | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW00627WC (REAL)<br>Date: 12/07/90 | | | Location: SW044 (SEP)<br>Sample: SW01037WC (REAL)<br>Date: 04/08/91 | | | Location: SW044 (SEP)<br>Sample: SW01144WC (REAL)<br>Date: 05/14/91 | | | Location: SW044 (SEP)<br>Sample: SW01247WC (REAL)<br>Date: 06/25/91 | | | Location: SW044 (SEP)<br>Sample: SW01350WC (REAL)<br>Date: 07/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .123 | U | A | .050 | U | R | .0007534 | J | V | .002454 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | -.172 | J | A | .2318 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | .004 | U | A | .003 | U | A | | | | | | |
| plutonium-239,-240 | | | | | | | | | | .0009645 | J | V | .001986 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 30. | U | V | 200.0 | U | | 58.00 | | V | 96.48 | J | V | 123.6 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW04590001 (REAL)<br>Date: 01/16/90 | | Location: SW045 (SEP)<br>Sample: SW04590002 (REAL)<br>Date: 02/19/90 | | Location: SW045 (SEP)<br>Sample: SW045900002D (DUP)<br>Date: 02/19/90 | | Location: SW045 (SEP)<br>Sample: SW04590003 (REAL)<br>Date: 03/17/90 | Location: SW045 (SEP)<br>Sample: SW045W042390 (REAL)<br>Date: 04/23/90 | |
|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.286 | A | 0.004 | A | 0.001 | A | 0.009 | 0.010 | A |
| cesium - unknown isotope | | | | | -0.2 | V | | | |
| cesium-134 | | | | | | | | | |
| cesium-137 | 0.06 | | | | | | -0.32 | 0.12 | A |
| curium-244 | | | | | | | | | |
| gross alpha | | | | | | | | 11.3 | A |
| gross alpha | 14.0 | | | | | | 20.4 | | |
| gross alpha particle activity | | | | | | | | | |
| gross beta | | | | | | | | 8.6 | A |
| gross beta | | | | | | | | | |
| gross beta particle activity | 7.5 | | | | | | 12.6 | | |
| neptunium-237 | | | | | | | | | |
| plutonium-236 | | | | | | | | | |
| plutonium-238 | | | | | | | | | |
| plutonium-239 | 0.016 | | | | | | 0.009 | | |
| plutonium-239,-240 | 0.016 | R | 0.004 | A | 0 | A | | 0.011 | |
| radium-226 | | | | | | | | 0.27 | A |
| radium-228 | | | | | | | | | |
| strontium-89 | | | | | | | | | |
| strontium-89,-90 | | | | | 0.05 | V | | 0.01 | A |
| strontium-90 | 0.47 | | | | | | 0.40 | | |
| total radiocesium | | | | | | | | | |
| tritium (pCi/l) | 80 | | | | | | 140 | 240 | JA |
| uranium-233,-234 | 3.88 | A | 3.8 | A | 4.6 | A | 7.05 | 6.18 | R |
| uranium-234 | | | | | | | | | |
| uranium-235 | 0.80 | A | 0.2 | A | 0.2 | A | 0.21 | 0.21 | R |
| uranium-238 | 2.05 | A | 3 | A | 3.2 | A | 3.96 | 5.33 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
+-interference; *-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW045 (SEP) Sample: SW045W052290A (REAL) Date: 05/22/90 | | Location: SW045 (SEP) Sample: SW00066WC (REAL) Date: 06/13/90 | | Location: SW045 (SEP) Sample: SW00175WC (REAL) Date: 07/19/90 | | | Location: SW045 (SEP) Sample: SW00249WC (REAL) Date: 08/21/90 | | Location: SW045 (SEP) Sample: SW00327WC (REAL) Date: 09/18/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | A | 0.004 | A | .004219 | J | | -.001334 | V | .006792 | V |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | | | .1012 | J | A | .4315 | V | .0381 | V |
| curium-244 | | | | | | | | | | | |
| gross alpha | 15.6 | A | | | | | | | | | |
| gross alpha | | | | | | | | 4.256 | V | 1.739 | V |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | 12.7 | A | | | | | | | | | |
| gross beta | | | | | | | | 5.757 | V | 7.515 | A |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | .0004157 | J | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.016 | R | 0.003 | A | .006635 | J | | .003001 | R | .0006805 | V |
| radium-226 | | | 0.33 | A | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | 0.47 | A | | | | | | | |
| strontium-90 | | | | | | | | 3.611 | V | -.1301 | V |
| total radiocesium | .5 | A | | | | | | | | | |
| tritium (pCi/l) | 450 | R | 329 | JA | 200.5 | J | A | 281.6697 | JA | 194.6772 | R |
| uranium-233,-234 | | | 6.15 | A | | | | 5.521 | R | 2.345 | A |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | 0.09 | A | | | | .5071 | R | .2103 | A |
| uranium-238 | | | 3.39 | A | | | | 3.617 | R | 1.303 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW04690001 (REAL)<br>Date: 01/16/90 | | Location: SW046 (SEP)<br>Sample: SW04690002 (REAL)<br>Date: 02/19/90 | | Location: SW046 (SEP)<br>Sample: SW04690003 (REAL)<br>Date: 03/17/90 | | Location: SW046 (SEP)<br>Sample: SW00329WC (REAL)<br>Date: 09/19/90 | | Location: SW046 (SEP)<br>Sample: SW00423WC (REAL)<br>Date: 10/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.047 | A | 0 | A | 0.016 | | | | .009337 | V |
| cesium - unknown isotope | | | 0.03 | V | | | | | | |
| cesium-134 | | | | | | | | | | |
| cesium-137 | -0.69 | | | | -0.09 | | | | .0167 | |
| curium-244 | | | | | | | | | | |
| gross alpha | | | | | | | | | | |
| gross alpha | 11.8 | | | | 18.6 | | | | 4.545 | V |
| gross alpha particle activity | | | | | | | | | | |
| gross beta | | | | | | | | | | |
| gross beta | | | | | | | | | 6.571 | A |
| gross beta particle activity | 6.6 | | | | 10.7 | | | | | |
| neptunium-237 | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | |
| plutonium-239 | 0.034 | | | | 0.017 | | | | | |
| plutonium-239,-240 | 0.034 | R | 0 | A | | | | | .009261 | V |
| radium-226 | | | | | | | | | | |
| radium-228 | | | | | | | | | | |
| strontium-89 | | | | | | | | | | |
| strontium-89,-90 | | | 0.2 | V | | | | | | |
| strontium-90 | 0.09 | | | | 0.41 | | | | .1821 | |
| total radiocesium | | | | | | | | | | |
| tritium (pCi/l) | 130 | | | | 210 | | 217.7343 | R | 265.594 | V |
| uranium-233,-234 | 6.49 | A | 4.6 | A | 6.22 | | | | 4.098 | V |
| uranium-234 | | | | | | | | | | |
| uranium-235 | 1.58 | A | 0.2 | A | 0.18 | | | | .1023 | V |
| uranium-238 | 2.81 | A | 3.7 | A | 4.52 | | | | 4.394 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interferance; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW00524WC (REAL)<br>Date: 11/28/90 | | | Location: SW046 (SEP)<br>Sample: SW00628WC (REAL)<br>Date: 12/07/90 | | | Location: SW046 (SEP)<br>Sample: SW00730WC (REAL)<br>Date: 01/10/91 | | | Location: SW046 (SEP)<br>Sample: SW00936WC (REAL)<br>Date: 03/28/91 | | | Location: SW046 (SEP)<br>Sample: SW01038WC (REAL)<br>Date: 04/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | .000 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | -.002 | U | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 200.0 | U | V | 0 | U | V | 180.0 | | V | 200.0 | U | | 200.0 | | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW01145WC (REAL)<br>Date: 05/22/91 | | | Location: SW046 (SEP)<br>Sample: SW01248WC (REAL)<br>Date: 06/25/91 | | | Location: SW046 (SEP)<br>Sample: SW01351WC (REAL)<br>Date: 07/09/91 | | | Location: SW046 (SEP)<br>Sample: SW01457WC (REAL)<br>Date: 08/08/91 | | | Location: SW046 (SEP)<br>Sample: SW80147WC (DUP)<br>Date: 08/08/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .008687 | J | V | .00159 | J | V | .008332 | J | V | 0.0046 | J | | .003214 | J | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.33 | J | R | .09706 | J | A | .1334 | J | A | -.106 | J | A | -.016 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .009012 | J | A | .003517 | J | A | .006851 | J | V | -0.0001 | J | | -.00062 | J | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 81.25 | J | V | 114.8 | J | V | 214.3 | J | V | 328 | J | V | 156.5 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-f

## Seep/Spring Water Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW01563WC (REAL)<br>Date: 09/05/91 | | | Location: SW046 (SEP)<br>Sample: SW01669WC (REAL)<br>Date: 10/17/91 | | | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.003 | U | A | 0.003 | U | A | | | |
| cesium - unknown isotope | | | | | | | | | |
| cesium-134 | | | | | | | | | |
| cesium-137 | 0.90 | J | | 0.010 | U | V | | | |
| curium-244 | -0.086 | U | | | | | | | |
| gross alpha | 8.0 | | A | 4.4 | | | | | |
| gross alpha | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | |
| gross beta | 6.6 | | A | 7.5 | B | | | | |
| gross beta | | | | | | | | | |
| gross beta particle activity | | | | | | | | | |
| neptunium-237 | | | | | | | | | |
| plutonium-236 | | | | | | | | | |
| plutonium-238 | | | | | | | | | |
| plutonium-239 | | | | | | | | | |
| plutonium-239,-240 | -0.001 | U | A | 0 | U | V | | | |
| radium-226 | 0.99 | | R | | | | | | |
| radium-228 | | | | | | | | | |
| strontium-89 | | | | | | | | | |
| strontium-89,-90 | 0.37 | J | | 0.45 | U | V | | | |
| strontium-90 | | | | | | | | | |
| total radiocesium | | | | | | | | | |
| tritium (pCi/l) | 170 | U | V | 170 | U | V | | | |
| uranium-233,-234 | 3.9 | B | A | 4.4 | | V | | | |
| uranium-234 | | | | | | | | | |
| uranium-235 | 0.071 | BJ | A | 0.36 | J | V | | | |
| uranium-238 | 3.1 | B | A | 2.5 | | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-g

## Seep/Spring Water Filtered Radiochemistry Samples (pCi/l)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW00169WC (REAL)<br>Date: 07/19/90 | | | Location: SW044 (SEP)<br>Sample: SW00523WC (REAL)<br>Date: 11/28/90 | | | Location: SW044 (SEP)<br>Sample: SW00627WC (REAL)<br>Date: 12/07/90 | | | Location: SW044 (SEP)<br>Sample: SW01037WC (REAL)<br>Date: 04/08/91 | | | Location: SW044 (SEP)<br>Sample: SW01144WC (REAL)<br>Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .1000 | U | | .011 | U | A | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | .7000 | U | JA | .8000 | U | JA | .1100 | | R | .1100 | | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 10 | X | A | | | | | | | | | | | | |
| gross alpha | | | | 2.600 | | V | 1.91 | U | V | 2.200 | | A | 6.200 | | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 4.741 | X | A | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 7.400 | | V | 4.200 | | V | 3.500 | | V | 6.500 | | V |
| neptunium-237 | | | | 1.000 | U | JA | 1.000 | U | JA | -0.01 | | | .2100 | | R |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | .7000 | U | | .006 | U | A | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .3753 | J | A | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | .1 | U | V | 0 | U | V | .6000 | U | | -0.14 | | V |
| strontium-89,-90 | .9649 | J | A | | | | | | | | | | | | |
| strontium-90 | | | | .2 | U | V | .2 | U | V | .6000 | U | | .2900 | | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 5.058 | X | | | | | | | | | | | | | |
| uranium-234 | | | | 4.900 | | | 2.400 | | A | .7600 | | A | 1.900 | | A |
| uranium-235 | .09972 | J | | .6000 | U | | .068 | U | A | .000 | U | A | .040 | U | A |
| uranium-238 | 3.418 | X | | 3.400 | | | 2.000 | U | A | .7600 | | A | 2.300 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-g

## Seep/Spring Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW01247WC (REAL)<br>Date: 06/25/91 | | | Location: SW044 (SEP)<br>Sample: SW01350WC (REAL)<br>Date: 07/09/91 | | | Location: SW045 (SEP)<br>Sample: SW00175WC (REAL)<br>Date: 07/19/90 | | | Location: SW046 (SEP)<br>Sample: SW00524WC (REAL)<br>Date: 11/28/90 | | | Location: SW046 (SEP)<br>Sample: SW00628WC (REAL)<br>Date: 12/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | .6000 | U | | .000 | U | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | .6000 | U | JA | .8000 | U | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 2.892 | | A | 1.416 | J | R | 6.181 | X | A | | | | | | |
| gross alpha | | | | | | | | | | 3.000 | | V | 4.200 | | V |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 3.76 | J | A | 4.273 | | A | 5.944 | X | A | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | 5.900 | | V | 9.600 | | V |
| neptunium-237 | | | | | | | | | | 1.000 | U | JA | 1.000 | U | JA |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | 9.000 | U | | .002 | U | A |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | .3669 | J | A | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | -.2 | U | V | .2 | U | V |
| strontium-89,-90 | .5878 | J | A | .5181 | J | A | .8189 | J | A | | | | | | |
| strontium-90 | | | | | | | | | | -.1 | U | V | 0 | U | V |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 1.818 | | V | 1.389 | | V | 5.154 | X | | | | | | | |
| uranium-234 | | | | | | | | | | 5.100 | | | 4.900 | | A |
| uranium-235 | .08417 | J | V | .08009 | J | V | .1291 | J | | .3000 | U | | .2300 | | A |
| uranium-238 | 2.04 | | V | 1.781 | | V | 3.882 | X | | 3.200 | | | 3.800 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-g

## Seep/Spring Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW00730WC (REAL)<br>Date: 01/10/91 | | | Location: SW046 (SEP)<br>Sample: SW00936WC (REAL)<br>Date: 03/28/91 | | | Location: SW046 (SEP)<br>Sample: SW01038WC (REAL)<br>Date: 04/08/91 | | | Location: SW046 (SEP)<br>Sample: SW01145WC (REAL)<br>Date: 05/22/91 | | | Location: SW046 (SEP)<br>Sample: SW01248WC (REAL)<br>Date: 06/25/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .000 | U | R | .2400 | | A | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .7000 | U | JA | .8500 | | | .0000 | | JA | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | 6.832 | | A | 4.638 | | A |
| gross alpha | 2.900 | U | V | 6.500 | | | 3.500 | | A | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | 3.384 | J | A | 2.03 | J | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 7.300 | | R | 6.900 | | | 7.900 | | V | | | | | | |
| neptunium-237 | 1.000 | U | JA | -0.35 | | | -0.05 | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | .000 | U | A | -0.007 | U | A | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | .361 | J | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | .8000 | U | | 1.000 | U | | .9000 | U | | | | | | | |
| strontium-89,-90 | | | | | | | | | | .09568 | J | | .7965 | J | A |
| strontium-90 | .3900 | | | .5000 | U | | .4000 | U | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | | | | | | | | | | 3.705 | | V | 4.752 | | V |
| uranium-234 | 3.100 | | R | 3.000 | | R | 3.300 | | A | | | | | | |
| uranium-235 | .062 | U | R | 0.12 | U | R | .074 | U | A | .1992 | J | V | .1348 | J | V |
| uranium-238 | 3.100 | | R | 2.700 | | R | 2.400 | | A | 2.978 | | V | 3.846 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-g

## Seep/Spring Water Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW01351WC (REAL)<br>Date: 07/09/91 | | | Location: SW046 (SEP)<br>Sample: SW01457WC (REAL)<br>Date: 08/08/91 | | | Location: SW046 (SEP)<br>Sample: SWB0147WC (DUP)<br>Date: 08/08/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 7.219 | | R | 4.085 | | A | 5.461 | | A | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 6.247 | | A | 4.648 | | A | 7.364 | | A | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .3321 | J | A | | | | .3752 | J | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .3788 | J | A | .8237 | J | A | .3692 | J | A | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 4.014 | | V | 4.8015 | | | -.00204 | J | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0 | J | V | 0.0433 | J | | .01019 | J | | | | | | | |
| uranium-238 | 2.85 | | V | 3.2425 | | | .01631 | J | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-h

## Seep/Spring Water Water Quality Parameter Samples

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW04490001 (REAL)<br>Date: 01/17/90 | | | Location: SW044 (SEP)<br>Sample: SW04490002 (REAL)<br>Date: 02/19/90 | | | Location: SW044 (SEP)<br>Sample: SW04490003 (REAL)<br>Date: 03/17/90 | | | Location: SW044 (SEP)<br>Sample: SW044W052290A (REAL)<br>Date: 05/22/90 | | | Location: SW044 (SEP)<br>Sample: SW00069WC (REAL)<br>Date: 06/13/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | 250 | | | 210 | | | 210 | | V | 210 | | V | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| carbonate (mg/l) | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | | | |
| carbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| chloride (mg/l) | 81 | | | 160 | | | 59 | | V | 58 | | V | | | |
| cyanide (ug/l) | 0.0100 | U | | | | | | | | 10 | U | | 10.0 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 6.4 | | | 3.2 | | | 31.0 | | V | 4.9 | | V | | | |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | 1 | U | | 2 | | | 1 | U | V | 1 | U | V | | | |
| orthophosphate (mg/l) | | | | | | | | | | | | | | | |
| pH (ph) | 7.2 | | | 7.9 | | | 7.7 | | | 8.1 | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 55 | | | 43 | | | 94 | | V | 46 | | V | | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 570 | | | 530 | | | 450 | | V | 410 | | V | | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 870 | | | 5 | U | | 16 | | V | 26 | | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-h

## Seep/Spring Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW044 (SEP)<br>Sample: SW00169WC (REAL)<br>Date: 07/19/90 | | Location: SW044 (SEP)<br>Sample: SW00250WC (REAL)<br>Date: 08/21/90 | | Location: SW044 (SEP)<br>Sample: SW00328WC (REAL)<br>Date: 09/17/90 | | Location: SW044 (SEP)<br>Sample: SW00523WC (REAL)<br>Date: 11/28/90 | | Location: SW044 (SEP)<br>Sample: SW00627WC (REAL)<br>Date: 12/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 200 | | 180 | | 200 | | 210 | | 12 | | V |
| carbonate (mg/l) | | | | | | | | | 1 | U | |
| carbonate as caco3 (mg/l) | 0 | | 0 | | 0 | | 0 | | 1 | U | V |
| chloride (mg/l) | 98 | | 44 | | 56 | | 130 | | 94 | | JA |
| cyanide (ug/l) | | | | | | | | | 0.02 | U | JA |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | 0.02 | U | |
| diss. organic carbon (mg/l) | | | | | | | | | | | |
| fluoride (mg/l) | 1.1 | | 0.5 | | 0.6 | | 1.0 | | 0.7 | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 6.1 | | 0.7 | | 2.1 | | 6.2 | | 4.8 | | V |
| nitrite (mg/l) | 0.04 | | 0.02 | U | 0.02 | U | 0.02 | U | 0.05 | U | JA |
| oil and grease (mg/l) | 0.6 | | 1.0 | | 0.8 | | 0.2 | U | 5 | U | V |
| orthophosphate (mg/l) | 0.01 | U | 0.01 | | 0.01 | U | 0.01 | U | 0.010 | U | JA |
| pH (ph) | | | | | | | | | | | |
| phosphate (mg/l) | 0.06 | | 0.04 | | 0.03 | | 0.01 | | 0.033 | | JA |
| phosphorus (mg/l) | | | | | | | | | | | |
| silica, dissolved (mg/l) | 4.7 | | 6.8 | | 8.0 | | 6.7 | | 19 | | JA |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | 0.7 | | JA |
| sodium sulfate (mg/l) | | | | | | | | | 33 | | JA |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | 49 | | 28 | | 37 | | 47 | | 33 | | |
| sulfide (mg/l) | | | | | | | 2 | | 10 | U | V |
| total diss. solids (mg/l) | 490 | | 320 | | 360 | | 550 | | 420 | | R |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | 5 | | 47 | | 94 | | 37 | | 67 | | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-h

## Seep/Spring Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW04590001 (REAL)<br>Date: 01/16/90 | | | Location: SW045 (SEP)<br>Sample: SW04590002 (REAL)<br>Date: 02/19/90 | | | Location: SW045 (SEP)<br>Sample: SW045900020 (DUP)<br>Date: 02/19/90 | | | Location: SW045 (SEP)<br>Sample: SW04590003 (REAL)<br>Date: 03/17/90 | | | Location: SW045 (SEP)<br>Sample: SW045W052290A (REAL)<br>Date: 05/22/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 264 | | V | 270 | | | 270 | | | 270 | | V | 240 | | V |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| carbonate (mg/l) | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| carbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| chloride (mg/l) | 110 | | V | 100 | | | 100 | | | 93 | | V | 90 | | V |
| cyanide (ug/l) | 0.0100 | U | | | | | | | | | | | 10 | U | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 8.8 | | V | 7.8 | | | 8.3 | | | 8.8 | | V | 9.1 | | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | 2 | | V | 1 | U | | 1 | U | | 1 | U | V | 1 | U | V |
| orthophosphate (mg/l) | | | | | | | | | | | | | | | |
| pH (ph) | 7.9 | | | 8.1 | | | 8.0 | | | 7.6 | | | 8.0 | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 56 | | V | 44 | | | 41 | | | 42 | | V | 42 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 530 | | A | 530 | | | 550 | | | 520 | | V | 540 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 540 | | A | 130 | | | 30 | | | 16 | | V | 5 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-h

## Seep/Spring Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW045 (SEP)<br>Sample: SW00066WC (REAL)<br>Date: 06/13/90 | | Location: SW045 (SEP)<br>Sample: SW00175WC (REAL)<br>Date: 07/19/90 | | Location: SW045 (SEP)<br>Sample: SW00249WC (REAL)<br>Date: 08/21/90 | | Location: SW045 (SEP)<br>Sample: SW00327WC (REAL)<br>Date: 09/18/90 | | Location: SW046 (SEP)<br>Sample: SW04690001 (REAL)<br>Date: 01/16/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | 233.1 | | 264 | | V |
| bicarbonate (mg/l) | | | | | | | | | 5 | U | V |
| bicarbonate as caco3 (mg/l) | | | 230 | | 230 | | | | | | |
| carbonate (mg/l) | | | 0 | | 0 | | | | 110 | | V |
| carbonate as caco3 (mg/l) | | | 97 | | 120 | | 96.44 | | 0.0100 | U | |
| chloride (mg/l) | | | | | | | | | | | |
| cyanide (ug/l) | 18.4 | U | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | 1.1 | | 0.9 | | | | | | |
| fluoride (mg/l) | | | | | | | 9.06 | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | 8.6 | | V |
| nitrate (mg/l) | | | 8.5 | | 7.2 | | | | | | |
| nitrate/nitrite (mg/l) | | | 0.02 | U | 0.02 | U | .1 | U | 1 | U | V |
| nitrite (mg/l) | | | 0.7 | | 0.7 | | 0 | | | | |
| oil and grease (mg/l) | | | 0.01 | U | 0.02 | | | | 8.0 | | |
| orthophosphate (mg/l) | | | | | | | | | | | |
| pH (ph) | | | 0.02 | | 0.01 | | | | | | |
| phosphate (mg/l) | | | | | | | .02 | U | | | |
| phosphorus (mg/l) | | | 7.1 | | 7.5 | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | 43 | | 42 | | | | 55 | | V |
| sulfate (mg/l) | | | | | | | | | | | |
| sulfide (mg/l) | | | 530 | | 550 | | 504 | | 510 | | A |
| total diss. solids (mg/l) | | | | | | | | | | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | 10 | | 4 | U | 3 | | 14 | | A |
| total susp. solids (mg/l) | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C6-h

## Seep/Spring Water Water Quality Parameter Samples (continued)

| ANALYTE | Location: SW046 (SEP)<br>Sample: SW04690002 (REAL)<br>Date: 02/19/90 | | | Location: SW046 (SEP)<br>Sample: SW04690003 (REAL)<br>Date: 03/17/90 | | | Location: SW046 (SEP)<br>Sample: SW00423WC (REAL)<br>Date: 10/16/90 | | Location: SW046 (SEP)<br>Sample: SW00524WC (REAL)<br>Date: 11/28/90 | | Location: SW046 (SEP)<br>Sample: SW00628WC (REAL)<br>Date: 12/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 230 | | | 260 | | V | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | | | 260 | | 220 | | 210 | | V |
| carbonate (mg/l) | 5 | U | | 5 | U | V | 1 | U | | | 1 | U | |
| carbonate as caco3 (mg/l) | | | | | | | | | 0 | | 1 | U | V |
| chloride (mg/l) | 110 | | | 94 | | V | 55 | | 120 | | 140 | | R |
| cyanide (ug/l) | | | | | | | | | | | 0.02 | U | JA |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | 0.02 | U | | | 0.02 | U | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | |
| fluoride (mg/l) | | | | | | | 1.0 | | 1.0 | | 0.7 | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | 4.18 | | | | | | |
| nitrate/nitrite (mg/l) | 6.3 | | | 10 | | V | | | 6.7 | | 8.1 | | V |
| nitrite (mg/l) | | | | | | | .1 | U | 0.02 | U | 0.05 | U | JA |
| oil and grease (mg/l) | 1 | U | | 1 | U | V | | | 0.2 | U | 5 | U | V |
| orthophosphate (mg/l) | | | | | | | | | 0.01 | U | 0.010 | U | JA |
| pH (ph) | 8.1 | | | 7.8 | | | | | | | | | |
| phosphate (mg/l) | | | | | | | 0.2 | U | 0.01 | U | 0.010 | U | R |
| phosphorus (mg/l) | | | | | | | 0.01 | U | | | | | |
| silica, dissolved (mg/l) | | | | | | | 21 | | 7.1 | | 29 | | JA |
| silicon (mg/l) | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | 0.7 | | JA |
| sodium sulfate (mg/l) | | | | | | | | | | | 53 | | R |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | |
| sulfate (mg/l) | 47 | | | 46 | | V | 56 | | 44 | | 53 | | |
| sulfide (mg/l) | | | | | | | | | 3 | | 10 | U | V |
| total diss. solids (mg/l) | 480 | | | 500 | | V | 510 | | 550 | | 550 | | R |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 38 | | | 10 | | V | 4 | U | 4 | U | 4 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

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## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Table C7-a

## Sediment Volatile Organic Samples (ug/kg)

| ANALYTE | Location: SED028 (SD)<br>Sample: SS0002OWC (REAL)<br>Date: 06/01/90 | | | Location: SED028 (SD)<br>Sample: SS00119WC (REAL)<br>Date: 08/23/90 | | | Location: SED028 (SD)<br>Sample: SS00186WC (REAL)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SS8009JWC (DUP)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SD00220WC (REAL)<br>Date: 05/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 7 | B | JA |
| 1,1,2,2-tetrachloroethane | 10 | U | | 7 | U | V | 9 | U | JA | 9 | U | V | 6 | U | V |
| 1,1,2-trichloroethane | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| 1,1-dichloroethane | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | V |
| 1,1-dichloroethene | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | V |
| 1,2-dichloroethene | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | V |
| 1,2-dichloropropane | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 20 | U | | 14 | U | V | 16 | J | A | 17 | U | R | 12 | U | JA |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 20 | U | | 14 | U | V | 18 | U | JA | 17 | U | V | 12 | U | R |
| 4-methyl-2-pentanone | 20 | U | | 14 | U | V | 18 | U | JA | 17 | U | V | 12 | U | V |
| acetone | 270 | | | 31 | U | JA | 66 | B | JA | 17 | U | V | 12 | U | V |
| benzene | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| bromoform | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| bromomethane | 20 | U | | 14 | U | V | 18 | U | V | 17 | U | V | 12 | U | V |
| carbon disulfide | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | V |
| carbon tetrachloride | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| chlorobenzene | 10 | U | | 7 | U | V | 9 | U | JA | 9 | U | V | 6 | U | V |
| chloroethane | 20 | U | | 14 | U | V | 18 | U | V | 17 | U | V | 12 | U | V |
| chloroform | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | V |
| chloromethane | 20 | U | | 14 | U | V | 18 | U | V | 17 | U | V | 12 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 10 | U | | 7 | U | V | 9 | U | JA | 9 | U | V | 6 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 21 | | | 7 | U | V | 13 | B | JA | 9 | U | V | 6 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 10 | U | | 7 | U | V | 9 | U | JA | 9 | U | V | 6 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 10 | U | | 7 | U | V | 9 | U | JA | 9 | U | V | 6 | U | V |
| toluene | 88 | U | | 7 | U | V | 9 | U | JA | 9 | U | V | 6 | U | V |
| total xylenes | 10 | U | | 7 | U | V | 9 | U | JA | 9 | U | V | 6 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| trichloroethene | 10 | U | | 7 | U | V | 9 | U | V | 9 | U | V | 6 | U | JA |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 20 | U | | 14 | U | V | 18 | U | V | 17 | U | V | 12 | U | JA |
| vinyl chloride | 20 | U | | 14 | U | V | 18 | U | V | 17 | U | V | 12 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-a

## Sediment Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SED028 (SD)<br>Sample: SD00254WC (REAL)<br>Date: 08/28/91 | | | Location: SED037 (SD)<br>Sample: SD00274WC (REAL)<br>Date: 11/06/91 | | | Location: SED037 (SD)<br>Sample: SD00323WC (REAL)<br>Date: 04/08/92 | | | Location: SED038 (SD)<br>Sample: SD00272WC (REAL)<br>Date: 11/05/91 | | | Location: SED039 (SD)<br>Sample: SD00273WC (REAL)<br>Date: 11/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,1,2,2-tetrachloroethane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,1,2-trichloroethane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,1-dichloroethane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,1-dichloroethene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,2-dichloroethene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,2-dichloropropane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 15 | U | V | 15 | U | V | 11 | J | A | 19 | | V | 18 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 15 | U | V | 15 | U | V | 37 | U | R | 16 | U | V | 18 | U | |
| 4-methyl-2-pentanone | 15 | U | V | 15 | U | V | 37 | U | R | 16 | U | V | 18 | U | |
| acetone | 130 | B | JA | 54 | | JA | 120 | B | JA | 71 | | JA | 36 | B | |
| benzene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| bromoform | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| bromomethane | 15 | U | V | 15 | U | V | 37 | U | R | 16 | U | V | 18 | U | |
| carbon disulfide | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| carbon tetrachloride | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| chlorobenzene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| chloroethane | 15 | U | V | 15 | U | V | 37 | U | R | 16 | U | V | 18 | U | |
| chloroform | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| chloromethane | 15 | U | V | 15 | U | V | 37 | U | R | 16 | U | V | 18 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 19 | B | JA | 8 | | JA | 79 | BJ | JA | 14 | | JA | 8 | BJ | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| toluene | 7 | U | V | 7 | U | V | 8 | J | A | 8 | U | V | 9 | U | |
| total xylenes | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| trichloroethene | 7 | U | V | 7 | U | V | 19 | U | R | 8 | U | V | 9 | U | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 15 | U | V | 15 | U | V | 37 | U | R | 16 | U | V | 18 | U | |
| vinyl chloride | 15 | U | V | 15 | U | V | 37 | U | R | 16 | U | V | 18 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-a

## Sediment Volatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SED039 (SD)<br>Sample: SD00322WC (REAL)<br>Date: 04/08/92 | | | Location: SED040 (SD)<br>Sample: SW70254WC (REAL)<br>Date: 02/24/92 | | | Location: SED041 (SD)<br>Sample: SW70255WC (REAL)<br>Date: 02/24/92 | | | Location: SED042 (SD)<br>Sample: SW70256WC (REAL)<br>Date: 02/24/92 | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,1,2,2-tetrachloroethane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,1,2-trichloroethane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,1-dichloroethane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,1-dichloroethene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,2-dichloroethene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,2-dichloropropane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 11 | J | A | 17 | U | V | 13 | U | V | 15 | | V | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 45 | U | R | 17 | U | V | 13 | U | V | 13 | U | V | | | |
| 4-methyl-2-pentanone | 45 | U | R | 17 | U | V | 13 | U | V | 13 | U | V | | | |
| acetone | 110 | B | JA | 100 | B | JA | 24 | B | JA | 58 | B | JA | | | |
| benzene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| bromoform | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| bromomethane | 45 | U | R | 17 | U | V | 13 | U | V | 13 | U | V | | | |
| carbon disulfide | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| carbon tetrachloride | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| chlorobenzene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| chloroethane | 45 | U | R | 17 | U | V | 13 | U | V | 13 | U | V | | | |
| chloroform | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| chloromethane | 45 | U | R | 17 | U | V | 13 | U | V | 13 | U | V | | | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 9 | BJ | JA | 41 | B | JA | 24 | B | JA | 28 | B | JA | | | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| toluene | 5 | J | A | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| total xylenes | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| trichloroethene | 23 | U | R | 8 | U | V | 6 | U | V | 6 | U | V | | | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 45 | U | R | 17 | U | V | 13 | U | V | 13 | U | V | | | |
| vinyl chloride | 45 | U | R | 17 | U | V | 13 | U | V | 13 | U | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-b

## Sediment Semivolatile Organic Samples (ug/kg)

| ANALYTE | Location: SED028 (SD)<br>Sample: SS00020WC (REAL)<br>Date: 06/01/90 | | | Location: SED028 (SD)<br>Sample: SS00119WC (REAL)<br>Date: 08/23/90 | | | Location: SED028 (SD)<br>Sample: SS00186WC (REAL)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SS80093WC (DUP)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SD00220WC (REAL)<br>Date: 05/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 1,2-dichlorobenzene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 1,3-dichlorobenzene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 1,4-dichlorobenzene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2,4,5-trichlorophenol | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| 2,4,6-trichlorophenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2,4-dichlorophenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2,4-dimethylphenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2,4-dinitrophenol | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| 2,4-dinitrotoluene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2,6-dinitrotoluene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2-chloronaphthalene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2-chlorophenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2-methylnaphthalene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2-methylphenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 2-nitroaniline | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| 2-nitrophenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 3,3'-dichlorobenzidine | 1300 | U | | 2300 | U | V | 1200 | U | V | 1100 | U | V | 1300 | U | V |
| 3-nitroaniline | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| 4,6-dinitro-2-methylphenol | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| 4-bromophenyl phenyl ether | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 4-chloro-3-methylphenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 4-chloroaniline | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 4-chlorophenyl phenyl ether | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| 4-methylphenol | 720 | | | 1100 | U | V | 110 | J | A | 570 | U | V | 670 | U | V |
| 4-nitroaniline | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| 4-nitrophenol | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| acenaphthene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| acenaphthylene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| anthracene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| benzo(a)pyrene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| benzo(b)fluoranthene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| benzo(ghi)perylene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| benzo(k)fluoranthene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| benzoic acid | 3200 | U | | 5500 | U | V | 3000 | U | R | 2900 | U | R | 3300 | U | V |
| benzyl alcohol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| bis(2-chloroethoxy)methane | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| bis(2-chloroethyl)ether | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| bis(2-chloroisopropyl)ether | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| bis(2-ethylhexyl)phthalate | 330 | JB | | 1100 | U | V | 130 | J | A | 67 | J | A | 670 | U | V |
| butyl benzyl phthalate | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| chrysene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| di-n-butyl phthalate | 650 | U | | 130 | BJ | JA | 600 | U | V | 570 | U | V | 670 | U | V |
| di-n-octyl phthalate | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| dibenzo(a,h)anthracene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| dibenzofuran | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| diethyl phthalate | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| dimethyl phthalate | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| fluoranthene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| fluorene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| hexachlorobenzene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| hexachlorobutadiene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| hexachlorocyclopentadiene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| hexachloroethane | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| indeno(1,2,3-cd)pyrene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| isophorone | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| n-nitroso-di-n-propylamine | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| naphthalene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| nitrobenzene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| pentachlorophenol | 3200 | U | | 5500 | U | V | 3000 | U | V | 2900 | U | V | 3300 | U | V |
| phenanthrene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| phenol | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |
| pyrene | 650 | U | | 1100 | U | V | 600 | U | V | 570 | U | V | 670 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-b

## Sediment Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SED028 (SD)<br>Sample: SD00254WC (REAL)<br>Date: 08/28/91 | | | Location: SED037 (SD)<br>Sample: SD00274WC (REAL)<br>Date: 11/06/91 | | | Location: SED037 (SD)<br>Sample: SD00323WC (REAL)<br>Date: 04/08/92 | | | Location: SED038 (SD)<br>Sample: SD00272WC (REAL)<br>Date: 11/05/91 | | | Location: SED039 (SD)<br>Sample: SD00273WC (REAL)<br>Date: 11/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 1,2-dichlorobenzene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 1,3-dichlorobenzene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 1,4-dichlorobenzene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2,4,5-trichlorophenol | 2400 | U | V | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| 2,4,6-trichlorophenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2,4-dichlorophenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2,4-dimethylphenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2,4-dinitrophenol | 2400 | U | R | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| 2,4-dinitrotoluene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2,6-dinitrotoluene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2-chloronaphthalene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2-chlorophenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2-methylnaphthalene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2-methylphenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 2-nitroaniline | 2400 | U | V | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| 2-nitrophenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 270 | U | V |
| 3,3'-dichlorobenzidine | 980 | U | V | 990 | U | V | 1100 | U | V | 1100 | U | V | 1100 | U | V |
| 3-nitroaniline | 2400 | U | V | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| 4,6-dinitro-2-methylphenol | 2400 | U | R | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| 4-bromophenyl phenyl ether | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 4-chloro-3-methylphenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 4-chloroaniline | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 4-chlorophenyl phenyl ether | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| 4-methylphenol | 490 | U | A | 500 | U | V | 510 | J | A | 540 | U | V | 570 | U | V |
| 4-nitroaniline | 2400 | U | V | 2500 | U | R | 2800 | U | V | 2700 | U | R | 2800 | U | V |
| 4-nitrophenol | 2400 | U | V | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| acenaphthene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| acenaphthylene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| anthracene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| benzo(a)pyrene | 490 | U | JA | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| benzo(b)fluoranthene | 490 | U | JA | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| benzo(ghi)perylene | 490 | U | JA | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| benzo(k)fluoranthene | 490 | U | JA | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| benzoic acid | 2400 | U | V | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| benzyl alcohol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| bis(2-chloroethoxy)methane | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| bis(2-chloroethyl)ether | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| bis(2-chloroisopropyl)ether | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| bis(2-ethylhexyl)phthalate | 87 | J | A | 440 | J | A | 260 | J | A | 1400 | | V | 280 | J | A |
| butyl benzyl phthalate | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| chrysene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 63 | J | A |
| di-n-butyl phthalate | 57 | JB | JA | 500 | U | V | 570 | U | V | 65 | J | A | 570 | U | V |
| di-n-octyl phthalate | 490 | U | JA | 500 | U | V | 570 | U | V | 210 | J | A | 570 | U | V |
| dibenzo(a,h)anthracene | 490 | U | JA | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| dibenzofuran | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| diethyl phthalate | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| dimethyl phthalate | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| fluoranthene | 490 | U | V | 500 | U | V | 120 | J | A | 70 | J | A | 130 | J | A |
| fluorene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| hexachlorobenzene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| hexachlorobutadiene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| hexachlorocyclopentadiene | 490 | U | R | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| hexachloroethane | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| indeno(1,2,3-cd)pyrene | 490 | U | JA | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| isophorone | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 270 | U | V |
| n-nitroso-di-n-propylamine | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| naphthalene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| nitrobenzene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| pentachlorophenol | 2400 | U | V | 2500 | U | V | 2800 | U | V | 2700 | U | V | 2800 | U | V |
| phenanthrene | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| phenol | 490 | U | V | 500 | U | V | 570 | U | V | 540 | U | V | 570 | U | V |
| pyrene | 61 | J | A | 500 | U | JA | 100 | J | A | 87 | J | A | 570 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-b

## Sediment Semivolatile Organic Samples (ug/kg) (continued)

| ANALYTE | Location: SED039 (SD) Sample: SD00322WC (REAL) Date: 04/08/92 | | | Location: SED040 (SD) Sample: SW70254WC (REAL) Date: 02/24/92 | | | Location: SED041 (SD) Sample: SW70255WC (REAL) Date: 02/24/92 | | | Location: SED042 (SD) Sample: SW70256WC (REAL) Date: 02/24/92 | | | Location: () Sample: () Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 1,2-dichlorobenzene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 1,3-dichlorobenzene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 1,4-dichlorobenzene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2,4,5-trichlorophenol | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| 2,4,6-trichlorophenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2,4-dichlorophenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2,4-dimethylphenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2,4-dinitrophenol | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| 2,4-dinitrotoluene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2,6-dinitrotoluene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2-chloronaphthalene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2-chlorophenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2-methylnaphthalene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2-methylphenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 2-nitroaniline | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| 2-nitrophenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 3,3'-dichlorobenzidine | 1700 | U | V | 1100 | U | JA | 820 | U | JA | 860 | U | V | | | |
| 3-nitroaniline | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| 4,6-dinitro-2-methylphenol | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| 4-bromophenyl phenyl ether | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 4-chloro-3-methylphenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 4-chloroaniline | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 4-chlorophenyl phenyl ether | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 4-methylphenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| 4-nitroaniline | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| 4-nitrophenol | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| acenaphthene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| acenaphthylene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| anthracene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| benzo(a)pyrene | 870 | U | V | 560 | U | V | 410 | U | V | 430 | U | V | | | |
| benzo(b)fluoranthene | 190 | J | A | 560 | U | V | 410 | U | V | 430 | U | V | | | |
| benzo(ghi)perylene | 870 | U | V | 560 | U | V | 410 | U | V | 430 | U | V | | | |
| benzo(k)fluoranthene | 110 | J | A | 560 | U | V | 410 | U | V | 430 | U | V | | | |
| benzoic acid | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| benzyl alcohol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| bis(2-chloroethoxy)methane | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| bis(2-chloroethyl)ether | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| bis(2-chloroisopropyl)ether | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| bis(2-ethylhexyl)phthalate | 240 | J | A | 310 | JB | JA | 76 | JB | JA | 100 | JB | JA | | | |
| butyl benzyl phthalate | 870 | U | V | 75 | J | A | 410 | U | JA | 430 | U | V | | | |
| chrysene | 190 | J | A | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| di-n-butyl phthalate | 870 | U | V | 73 | JB | JA | 48 | JB | JA | 47 | JB | JA | | | |
| di-n-octyl phthalate | 870 | U | V | 560 | U | V | 410 | U | V | 430 | U | V | | | |
| dibenzo(a,h)anthracene | 870 | U | V | 560 | U | V | 410 | U | V | 430 | U | V | | | |
| dibenzofuran | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| diethyl phthalate | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| dimethyl phthalate | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| fluoranthene | 380 | J | A | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| fluorene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| hexachlorobenzene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| hexachlorobutadiene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| hexachlorocyclopentadiene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| hexachloroethane | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| indeno(1,2,3-cd)pyrene | 870 | U | V | 560 | U | V | 410 | U | V | 430 | U | V | | | |
| isophorone | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| n-nitroso-di-n-propylamine | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| naphthalene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| nitrobenzene | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| pentachlorophenol | 4200 | U | V | 2800 | U | JA | 2100 | U | JA | 2200 | U | V | | | |
| phenanthrene | 190 | J | A | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| phenol | 870 | U | V | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |
| pyrene | 310 | J | A | 560 | U | JA | 410 | U | JA | 430 | U | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confirmed by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-c

## Sediment Pesticide/PCB Samples (ug/kg)

| ANALYTE | Location: SED028 (SD)<br>Sample: SS00020WC (REAL)<br>Date: 06/01/90 | | | Location: SED028 (SD)<br>Sample: SS00119WC (REAL)<br>Date: 08/23/90 | | | Location: SED037 (SD)<br>Sample: SD00274WC (REAL)<br>Date: 11/06/91 | | | Location: SED037 (SD)<br>Sample: SD00323WC (REAL)<br>Date: 04/08/92 | | | Location: SED038 (SD)<br>Sample: SD00272WC (REAL)<br>Date: 11/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 31 | U | V | 55 | U | V | 23 | U | V | 27 | U | V | 26 | U | V |
| 4,4'-dde | 31 | U | V | 55 | U | V | 23 | U | V | 27 | U | V | 26 | U | V |
| 4,4'-ddt | 10 | J | V | 55 | U | V | 23 | U | JA | 27 | U | V | 26 | U | JA |
| aldrin | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| alpha-bhc | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| alpha-chlordane | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| aroclor-1016 | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| aroclor-1221 | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| aroclor-1232 | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| aroclor-1242 | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| aroclor-1248 | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| aroclor-1254 | 310 | U | V | 550 | U | V | 86 | J | A | 270 | U | V | 84 | J | A |
| aroclor-1260 | 310 | U | V | 550 | U | V | 230 | U | V | 270 | U | V | 260 | U | V |
| beta-bhc | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| delta-bhc | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| dieldrin | 31 | U | V | 55 | U | V | 23 | U | V | 27 | U | V | 26 | U | V |
| endosulfan I | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| endosulfan II | 31 | U | V | 55 | U | V | 23 | U | V | 27 | U | V | 26 | U | V |
| endosulfan sulfate | 31 | U | V | 55 | U | V | 23 | U | V | 27 | U | V | 26 | U | V |
| endrin | 31 | U | V | 55 | U | V | 23 | U | V | 27 | U | V | 26 | U | V |
| endrin ketone | 31 | U | V | 55 | U | V | 23 | U | V | 27 | U | V | 26 | U | V |
| gamma-bhc (lindane) | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| gamma-chlordane | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| heptachlor | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| heptachlor epoxide | 15 | U | V | 28 | U | V | 12 | U | V | 14 | U | V | 13 | U | V |
| methoxychlor | 150 | U | V | 280 | U | V | 120 | U | V | 140 | U | V | 130 | U | V |
| toxaphene | 310 | U | V | 550 | U | V | 230 | U | V | 270 | U | V | 260 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-c

## Sediment Pesticide/PCB Samples (ug/kg) (continued)

| ANALYTE | Location: SED039 (SD)<br>Sample: SD00273WC (REAL)<br>Date: 11/05/91 | | | Location: SED039 (SD)<br>Sample: SD00322WC (REAL)<br>Date: 04/08/92 | | | Location: SED040 (SD)<br>Sample: SW70254WC (REAL)<br>Date: 02/24/92 | | | Location: SED041 (SD)<br>Sample: SW70255WC (REAL)<br>Date: 02/24/92 | | | Location: SED042 (SD)<br>Sample: SW70256WC (REAL)<br>Date: 02/24/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| 4,4'-dde | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| 4,4'-ddt | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| aldrin | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| alpha-bhc | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| alpha-chlordane | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| aroclor-1016 | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| aroclor-1221 | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| aroclor-1232 | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| aroclor-1242 | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| aroclor-1248 | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| aroclor-1254 | 280 | U | V | 420 | U | V | 270 | U | V | 200 | U | V | 210 | U | V |
| aroclor-1260 | 280 | U | V | 420 | U | V | 270 | U | V | 200 | U | V | 210 | U | V |
| beta-bhc | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| delta-bhc | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| dieldrin | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| endosulfan I | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| endosulfan II | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| endosulfan sulfate | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| endrin | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| endrin ketone | 28 | U | V | 42 | U | V | 27 | U | V | 20 | U | V | 21 | U | V |
| gamma-bhc (lindane) | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| gamma-chlordane | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| heptachlor | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| heptachlor epoxide | 14 | U | V | 21 | U | V | 13 | U | V | 10 | U | V | 10 | U | V |
| methoxychlor | 140 | U | V | 210 | U | V | 130 | U | V | 100 | U | V | 100 | U | V |
| toxaphene | 280 | U | V | 420 | U | V | 270 | U | V | 200 | U | V | 210 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-d

## Sediment Total Metal Samples (mg/kg)

| ANALYTE | Location: SED028 (SD)<br>Sample: SS00119WC (REAL)<br>Date: 08/23/90 | | Location: SED028 (SD)<br>Sample: SS00186WC (REAL)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SS80093WC (DUP)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SD00220WC (REAL)<br>Date: 05/20/91 | | | Location: SED028 (SD)<br>Sample: SD00254WC (REAL)<br>Date: 08/28/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12200.00 | | 15400 | | R | 17100 | | R | 12000 | | V | 18000 | | V |
| Antimony | 3.40 | UN | 4.7 | U | V | 5.9 | U | V | 3.9 | U | R | 10.4 | U | V |
| Arsenic | 4.40 | | 6.4 | | V | 6.5 | | V | 7.2 | | V | 5.0 | | V |
| Barium | 179.00 | | 214 | | V | 179 | | V | 180 | | V | 162 | | V |
| Beryllium | 0.79 | B | 0.98 | | V | 1.1 | | V | 0.79 | | V | 1.1 | | V |
| Cadmium | 0.95 | B | 0.70 | U | V | 0.87 | U | V | 0.86 | | V | 1.1 | U | V |
| Calcium | 22200.00 | | 27100 | | V | 26000 | | V | 16000 | | V | 16600 | | V |
| Cesium | 49.50 | U | 129 | U | V | 162 | U | | 18 | U | JA | 123 | U | V |
| Chromium | 13.50 | | 18.3 | | V | 19.0 | | V | 10 | | JA | 14.5 | | V |
| Cobalt | 9.30 | B | 10 | | V | 9.7 | | V | 7.8 | | V | 8.2 | | V |
| Copper | 18.40 | | 22.5 | | V | 22.9 | | V | 21 | | V | 18.1 | | V |
| Iron | 15100.00 | | 20200 | | V | 18800 | | V | 17000 | | V | 22300 | | V |
| Lead | 16.40 | | 23.1 | | JA | 22.3 | | JA | 22 | | V | 20.4 | | JA |
| Lithium | 12.00 | B | 13.6 | | V | 14.0 | | V | 12 | | JA | 14.0 | | V |
| Magnesium | 3910.00 | E | 4510 | | V | 4660 | | V | 3600 | | V | 4330 | | V |
| Manganese | 261.00 | N | 268 | | V | 307 | | V | 240 | | JA | 212 | | JA |
| Mercury | 0.15 | U | 0.16 | U | V | 0.13 | U | V | 0.16 | U | V | 0.10 | U | V |
| Molybdenum | 2.80 | B | 2.8 | U | V | 3.5 | U | V | 1.1 | U | JA | 2.5 | U | V |
| Nickel | 16.90 | | 18.8 | | V | 17.9 | | V | 15 | | JA | 18.8 | | V |
| Phosphorus | | | | | | | | | | | | | | |
| Potassium | 1690.00 | | 2100 | | V | 2230 | | V | 1700 | | V | 2240 | | V |
| Selenium | 0.34 | BN | 0.63 | | V | 0.49 | | V | 1.5 | UI | JA | 0.41 | | V |
| Silicon | | | 1740 | | JA | 2470 | | JA | 994 | | JA | 342 | | JA |
| Silver | 0.67 | U | 0.98 | U | V | 1.2 | U | V | 0.70 | U | V | 1.7 | U | V |
| Sodium | 220.00 | B | 225 | | JA | 257 | | JA | 220 | | V | 183 | | V |
| Strontium | 86.20 | | 97.3 | | V | 95.5 | | V | 76 | | JA | 72.1 | | V |
| Thallium | 1.00 | B | 0.44 | U | JA | 0.40 | U | JA | 0.75 | U | V | 0.70 | U | V |
| Tin | 7.20 | B | 6.2 | U | V | 7.8 | U | V | 4.6 | U | JA | 13.9 | | V |
| Vanadium | 33.30 | | 42.5 | | V | 45.8 | | V | 31 | | V | 41.4 | | V |
| Zinc | 68.70 | | 94.0 | | V | 87.4 | | V | 81 | I | JA | 85.9 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-d

## Sediment Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: SED037 (SD)<br>Sample: SD00274WC (REAL)<br>Date: 11/06/91 | | | Location: SED037 (SD)<br>Sample: SD00323WC (REAL)<br>Date: 04/08/92 | | | Location: SED038 (SD)<br>Sample: SD00272WC (REAL)<br>Date: 11/05/91 | | | Location: SED039 (SD)<br>Sample: SD00273WC (REAL)<br>Date: 11/05/91 | | | Location: SED039 (SD)<br>Sample: SD00322WC (REAL)<br>Date: 04/08/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14100 | | JA | 10700 | | JA | 16600 | | JA | 12400 | | JA | 16100 | | JA |
| Antimony | 4.1 | U | JA | 30.8 | U | JA | 3.8 | U | JA | 10.6 | U | V | 39.1 | U | JA |
| Arsenic | 4.8 | | JA | 5.9 | B | JA | 4.4 | | JA | 1.73 | B | JA | 6.5 | B | JA |
| Barium | 167 | | JA | 240 | | JA | 143 | | JA | 135 | | JA | 189 | | JA |
| Beryllium | 0.97 | | JA | .81 | B | JA | 0.86 | | JA | .87 | B | JA | .93 | U | JA |
| Cadmium | 0.79 | | JA | 2.2 | U | JA | 0.67 | U | JA | 1.4 | U | JA | 2.8 | U | JA |
| Calcium | 8680 | | JA | 15500 | | JA | 11000 | | JA | 9110 | | JA | 36600 | | JA |
| Cesium | 147 | U | JA | 5.2 | B | JA | 139 | U | JA | 2.23 | B | JA | 3.9 | B | JA |
| Chromium | 13.6 | | JA | 14.2 | | JA | 15.5 | | JA | 23.9 | | JA | 21.9 | | JA |
| Cobalt | 13.1 | | JA | 10.1 | B | JA | 10.1 | | JA | 6.4 | B | JA | 7.6 | B | JA |
| Copper | 26.0 | | JA | 38.3 | | JA | 16.9 | | JA | 23.2 | | JA | 39 | | JA |
| Iron | 17000 | | JA | 14600 | | JA | 20400 | | JA | 13700 | | JA | 19800 | | JA |
| Lead | 27.5 | | JA | 32.2 | | JA | 21.4 | | JA | 22.34 | | JA | 31.3 | | JA |
| Lithium | 8.4 | | JA | 7.1 | B | JA | 13.8 | | JA | 10 | B | JA | 16.9 | B | JA |
| Magnesium | 3370 | | JA | 3480 | B | JA | 4520 | | JA | 3170 | | JA | 6050 | | JA |
| Manganese | 108 | | JA | 103 | | JA | 285 | | JA | 192 | | JA | 251 | | JA |
| Mercury | 0.15 | U | JA | .18 | U | JA | 0.14 | U | JA | .08 | U | JA | .23 | U | JA |
| Molybdenum | 4.8 | | JA | 5.1 | U | JA | 5.2 | | JA | 2.7 | U | JA | 6.5 | U | JA |
| Nickel | 33.0 | | JA | 26.9 | B | JA | 17.6 | | JA | 11.8 | B | JA | 19.5 | U | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1610 | | JA | 2070 | U | JA | 2330 | | JA | 2930 | | JA | 4180 | B | JA |
| Selenium | 0.34 | U | JA | 1.5 | U | JA | 0.41 | | JA | .343 | U | JA | 1.9 | U | JA |
| Silicon | 254 | | JA | 1160 | | JA | 242 | | JA | 83.8 | | JA | 861 | | JA |
| Silver | 0.85 | U | V | 3.7 | U | JA | 0.81 | U | V | 1 | U | JA | 4.7 | U | JA |
| Sodium | 130 | | JA | 399 | B | JA | 128 | | JA | 147 | B | JA | 696 | B | JA |
| Strontium | 73.3 | | JA | 81.1 | B | JA | 52.5 | | JA | 44.6 | B | JA | 135 | B | JA |
| Thallium | 0.48 | U | JA | 1.5 | U | JA | 0.50 | U | JA | .404 | B | JA | 1.9 | U | JA |
| Tin | 10.2 | | JA | 99.6 | U | JA | 13.1 | | JA | 112 | U | JA | 127 | U | JA |
| Vanadium | 30.9 | | JA | 38.8 | | JA | 38.9 | | JA | 34.1 | | JA | 46.7 | | JA |
| Zinc | 126 | | JA | 291 | | JA | 77.1 | | JA | 46.9 | | JA | 199 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-d

## Sediment Total Metal Samples (mg/kg) (continued)

| ANALYTE | Location: SED040 (SD)<br>Sample: SW70254WC (REAL)<br>Date: 02/24/92 | | | Location: SED041 (SD)<br>Sample: SW70255WC (REAL)<br>Date: 02/24/92 | | | Location: SED042 (SD)<br>Sample: SW70256WC (REAL)<br>Date: 02/24/92 | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12100 | | JA | 2400 | | JA | 4120 | | JA | | | | | | |
| Antimony | 3.5 | U | JA | 3.3 | U | JA | 2.9 | U | JA | | | | | | |
| Arsenic | 4.0 | | JA | 2.9 | | JA | 0.74 | | JA | | | | | | |
| Barium | 128 | | JA | 28.1 | | JA | 43.8 | | JA | | | | | | |
| Beryllium | 0.21 | | JA | 0.19 | U | JA | 0.17 | U | JA | | | | | | |
| Cadmium | 0.79 | | JA | 0.68 | U | JA | 0.59 | U | JA | | | | | | |
| Calcium | 11100 | | JA | 1250 | | JA | 1570 | | JA | | | | | | |
| Cesium | 131 | U | JA | 121 | U | JA | 106 | U | JA | | | | | | |
| Chromium | 11.1 | | JA | 2.9 | | JA | 3.8 | | JA | | | | | | |
| Cobalt | 6.2 | | JA | 2.0 | | JA | 2.9 | | JA | | | | | | |
| Copper | 10.7 | | JA | 2.7 | | JA | 4.5 | | JA | | | | | | |
| Iron | 12300 | | JA | 3500 | | JA | 7140 | | JA | | | | | | |
| Lead | 18.9 | | JA | 11.7 | | JA | 3.7 | | JA | | | | | | |
| Lithium | 9.0 | | JA | 2.6 | | JA | 3.4 | | JA | | | | | | |
| Magnesium | 2480 | | JA | 485 | | JA | 801 | | JA | | | | | | |
| Manganese | 333 | | JA | 129 | | JA | 170 | | JA | | | | | | |
| Mercury | 0.12 | U | JA | 0.12 | U | JA | 0.11 | U | JA | | | | | | |
| Molybdenum | 6.1 | | JA | 1.8 | | JA | 3.9 | | JA | | | | | | |
| Nickel | 12.0 | | JA | 3.2 | | JA | 5.1 | | JA | | | | | | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1600 | | JA | 493 | | JA | 545 | | JA | | | | | | |
| Selenium | 1.1 | | JA | 0.37 | | JA | 0.52 | | JA | | | | | | |
| Silicon | 179 | | JA | 506 | | JA | 167 | | JA | | | | | | |
| Silver | 1.7 | | JA | 0.85 | | JA | 1.4 | | JA | | | | | | |
| Sodium | 77.4 | | JA | 41.1 | | JA | 47.9 | | JA | | | | | | |
| Strontium | 44.4 | | JA | 7.5 | | JA | 12.9 | | JA | | | | | | |
| Thallium | 0.39 | U | JA | 0.26 | U | JA | 0.30 | U | JA | | | | | | |
| Tin | 3.7 | U | JA | 3.4 | U | JA | 3.0 | U | JA | | | | | | |
| Vanadium | 23.6 | | JA | 5.9 | | JA | 11.3 | | JA | | | | | | |
| Zinc | 41.3 | | JA | 10.6 | | JA | 17.7 | | JA | | | | | | |

Note: *Data reporting order: result, qualifier, validation code.*
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-e

## Sediment Total Radiochemistry Samples (pCi/g)

| ANALYTE | Location: SED028 (SD)<br>Sample: SS00020WC (REAL)<br>Date: 06/01/90 | | | Location: SED028 (SD)<br>Sample: SS00119WC (REAL)<br>Date: 08/23/90 | | | Location: SED028 (SD)<br>Sample: SS00186WC (REAL)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SS80093WC (DUP)<br>Date: 03/18/91 | | | Location: SED028 (SD)<br>Sample: SD00220WC (REAL)<br>Date: 05/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .01524 | J | A | .02193 | X | | .04217 | | V | .02533 | | V | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 0.00 | | | .06988 | J | | .06543 | J | R | .05129 | J | R | 0.1 | | JA |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 38.4 | | V | 10.92 | X | | 9.482 | | A | 13.61 | | A | | | |
| gross alpha | | | | | | | | | | | | | 6.07 | | R |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 33.0 | | V | 23.48 | X | | 26.46 | | A | 22.64 | | A | | | |
| gross beta | | | | | | | | | | | | | 6.17 | | R |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | .002764 | J | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.1475 | | V | .1271 | X | | .1798 | | V | .1518 | | V | | | |
| radium-226 | 1.15 | | | 1.085 | X | | .9538 | | R | 1.174 | | R | 1.5 | | R |
| radium-228 | 1.46 | | | 1.862 | X | A | 2.122 | | R | 2.114 | | R | 2.5 | | R |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.23 | | | .2111 | J | | .1235 | J | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 200 | | | | | | 17.61 | J | V | | | | 1000 | | R |
| uranium-233,-234 | 1.69 | | R | 1.09 | X | | 1.12 | | A | 1.17 | | R | 0.246 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.13 | | R | .05955 | J | | .05031 | J | A | .05089 | J | R | 0.009 | | A |
| uranium-238 | 2.11 | | R | 1.442 | X | | 1.09 | | A | 1.231 | | R | 0.248 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-e

## Sediment Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: SED028 (SD)<br>Sample: SD00254WC (REAL)<br>Date: 08/28/91 | | Location: SED037 (SD)<br>Sample: SD00274WC (REAL)<br>Date: 11/06/91 | | Location: SED037 (SD)<br>Sample: SD00323WC (REAL)<br>Date: 04/08/92 | | | Location: SED038 (SD)<br>Sample: SD00272WC (REAL)<br>Date: 11/05/91 | | Location: SED039 (SD)<br>Sample: SD00273WC (REAL)<br>Date: 11/05/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.04 | V | 0.03 | A | .01875 | J | V | 0.02 | A | 0.40 | R |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | 0.07 | | 0.0443 | A | | | | 0.1105 | A | 0.1262 | A |
| cesium-137 | 0.09 | | 0.0647 | A | .146 | | A | 0.0789 | A | 0.2532 | A |
| curium-244 | | | | | | | | | | | |
| gross alpha | 2.43 | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha particle activity | | | | | 15.51 | | A | | | | |
| gross beta | 8.88 | | | | | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | 27.52 | | A | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0.12 | V | 0.35 | A | .02841 | J | V | 0.03 | A | 17.06 | A |
| radium-226 | 0.85 | | | | .9406 | | R | | | | |
| radium-228 | 0.74 | | | | 1.859 | | R | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | 0.00 | | 0.26 | A | .07641 | J | A | 0.20 | A | 1.54 | A |
| strontium-90 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 260.76 | R | 79.49 | R | 133.1 | J | V | 140.38 | R | 0.00 | R |
| uranium-233,-234 | 0.58 | A | 0.32 | A | 1.088 | | A | 0.31 | A | 0.23 | A |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | 0.03 | A | 0.02 | A | .05612 | J | A | 0.00 | A | 0.00 | A |
| uranium-238 | 0.57 | A | 0.31 | A | 1.204 | | A | 0.38 | A | 0.31 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-e

## Sediment Total Radiochemistry Samples (pCi/g) (continued)

| ANALYTE | Location: SED039 (SD)<br>Sample: SD00322WC (REAL)<br>Date: 04/08/92 | | | Location: SED040 (SD)<br>Sample: SW70254WC (REAL)<br>Date: 02/24/92 | | | Location: SED041 (SD)<br>Sample: SW70255WC (REAL)<br>Date: 02/24/92 | | | Location: SED042 (SD)<br>Sample: SW70256WC (REAL)<br>Date: 02/24/92 | | | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .04556 | | V | .006577 | J | A | .01221 | J | A | .05235 | | A | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | .1897 | | A | .1889 | | | .04881 | J | | .04466 | J | | |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | | 10.28 | | A | 11.85 | | A | 20.38 | | A | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha particle activity | 17.07 | | A | | | | | | | | | | |
| gross beta | | | | 26.69 | | A | 26.59 | | A | 43.92 | | A | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | 26.57 | | A | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | .1421 | | V | .02058 | J | A | .08909 | | A | .06492 | | A | |
| radium-226 | 1.015 | | R | .6808 | | R | .486 | J | R | .6897 | | R | |
| radium-228 | 1.895 | | R | 1.213 | | | .9459 | | | 2.251 | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | .06041 | J | A | .04294 | J | A | .01126 | J | A | 0.0156 | J | A | |
| strontium-90 | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | 50.01 | J | V | 94.29 | J | A | 96.14 | J | A | 118.3 | J | A | |
| uranium-233,-234 | 1.531 | | A | .981 | | A | .8919 | | A | 2.301 | | A | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | .05774 | J | A | .00879 | J | A | .02738 | J | A | .02522 | J | A | |
| uranium-238 | 1.718 | | A | .9237 | | A | .8198 | | A | 1.844 | | A | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-f

## Sediment Water Quality Parameter Samples

| ANALYTE | Location: SED028 (SD)<br>Sample: SS00020WC (REAL)<br>Date: 06/01/90 | | Location: SED028 (SD)<br>Sample: SS00119WC (REAL)<br>Date: 08/23/90 | | Location: SED037 (SD)<br>Sample: SD00274WC (REAL)<br>Date: 11/06/91 | | Location: SED037 (SD)<br>Sample: SD00323WC (REAL)<br>Date: 04/08/92 | | Location: SED038 (SD)<br>Sample: SD00272WC (REAL)<br>Date: 11/05/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | 67.0 | V | | | 61.7 | V |
| alkalinity as caco3 (mg/kg) | | | 140 | | 0.14 | | | | 0.49 | |
| ammonia (mg/kg) | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | | | | 1720 | JA | | |
| carbonate (mg/kg) | | | | | | | 0 | JA | | |
| nitrate (mg/kg) | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 2.2 | V | 0.9 | | 1.3 | U V | 1.14 | JA | 1.8 | JA |
| nitrite (mg/kg) | | | 0.3 | U | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | |
| pH (ph) | 7.5 | | 6.90 | | 7.4 | V | 7.06 | V | 8.0 | V |
| sulfide (mg/kg) | | | | | | | | | | |
| total alkalinity (mg/kg) | 0.45 | V | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C7-f

## Sediment Water Quality Parameter Samples (continued)

| ANALYTE | Location: SED039 (SD)<br>Sample: SD0027JWC (REAL)<br>Date: 11/05/91 | | | Location: SED039 (SD)<br>Sample: SD0032ZWC (REAL)<br>Date: 04/08/92 | | | Location: SED040 (SD)<br>Sample: SW70254WC (REAL)<br>Date: 02/24/92 | | | Location: SED041 (SD)<br>Sample: SW70255WC (REAL)<br>Date: 02/24/92 | | | Location: SED042 (SD)<br>Sample: SW70256WC (REAL)<br>Date: 02/24/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % solids (%) | | | | | | | 58.8 | | V | 77.5 | | V | 76.8 | | V |
| alkalinity as caco3 (mg/kg) | | | | | | | 8800 | | V | 1600 | | V | 1500 | | V |
| ammonia (mg/kg) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/kg) | | | | 5340 | | JA | | | | | | | | | |
| carbonate (mg/kg) | | | | 0 | | JA | | | | | | | | | |
| nitrate (mg/kg) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/kg) | 7.96 | | JA | 1.01 | | JA | 1.6 | U | V | 1.1 | U | V | 1.2 | U | V |
| nitrite (mg/kg) | | | | | | | | | | | | | | | |
| oil & grease (mg/kg) | | | | | | | | | | | | | | | |
| pH (ph) | 8.03 | | V | 7.36 | | V | 7.5 | | V | 7.4 | | V | 7.3 | | V |
| sulfide (mg/kg) | | | | | | | | | | | | | | | |
| total alkalinity (mg/kg) | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l)

| ANALYTE | Location: 0187 (RFA)<br>Sample: G01870290001 (REAL)<br>Date: 02/02/90 | | | Location: 0187 (RFA)<br>Sample: GW00093IT (REAL)<br>Date: 07/26/90 | | | Location: 0187 (RFA)<br>Sample: GW00506IT (REAL)<br>Date: 10/16/90 | | | Location: 0187 (RFA)<br>Sample: GW01290IT (REAL)<br>Date: 05/15/91 | | | Location: 0187 (RFA)<br>Sample: GW01659IT (REAL)<br>Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 16 | | | 3 | J | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 7 | | | 2 | J | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | V | 15 | B | JA | 11 | B | JA |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 6 | B | | 2 | J | JA | 2 | BJ | JA | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 1 | J | | 5 | U | V | 5 | U | V | 1 | J | A |
| toluene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 18 | | | 7 | | | 5 | U | V | 1 | J | A | 2 | J | A |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

*Note: Data reporting order: result, qualifier, validation code.*
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0187 (RFA)<br>Sample: GW020761T (REAL)<br>Date: 12/05/91 | | | Location: 0187 (RFA)<br>Sample: GW024311T (REAL)<br>Date: 02/20/92 | | Location: 0187 (RFA)<br>Sample: GW028791T (REAL)<br>Date: 05/12/92 | | | Location: 0287 (COL)<br>Sample: GO2870290001 (REAL)<br>Date: 02/02/90 | | Location: 0287 (COL)<br>Sample: GW000131T (REAL)<br>Date: 07/17/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | 0.10 | U | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 0.10 | U | 5 | U | V | 9 | | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 0.10 | U | 5 | U | V | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 0.14 | U | 5 | U | V | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 0.20 | U | 5 | U | V | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 0.20 | U | 5 | U | V | 3 | J | 5 | U |
| 1,1-dichloropropene | | | | 0.10 | U | | | | | | | |
| 1,2,3-trichlorobenzene | | | | 0.10 | U | | | | | | | |
| 1,2,3-trichloropropane | | | | 0.10 | U | | | | | | | |
| 1,2,4-trichlorobenzene | | | | 0.10 | U | | | | | | | |
| 1,2-dibromoethane | | | | 0.50 | U | | | | | | | |
| 1,2-dichlorobenzene | | | | 0.10 | U | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 0.10 | U | 5 | U | V | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | | | 5 | U | V | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 0.10 | U | 5 | U | V | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | 0.10 | U | | | | | | | |
| 1,3-dichloropropane | | | | 0.10 | U | | | | | | | |
| 1,4-dichlorobenzene | | | | 0.10 | U | | | | | | | |
| 2-butanone | 10 | U | V | | | 10 | U | V | 10 | U | 5 | BJ |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | | | 10 | U | V | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | | | 10 | U | V | 10 | U | 10 | U |
| acetone | 10 | U | V | | | 10 | U | V | 10 | U | 3 | BJ |
| benzene | 5 | U | V | 0.20 | U | 5 | U | V | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | 0.10 | U | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | 0.10 | U | | | | | | | |
| bromobenzene | | | | 0.20 | U | | | | | | | |
| bromochloromethane | | | | 0.50 | U | | | | | | | |
| bromodichloromethane | 5 | U | V | 0.20 | U | 5 | U | V | 5 | U | 5 | U |
| bromoform | 5 | U | V | 0.50 | U | 5 | U | V | 5 | U | 5 | U |
| bromomethane | 10 | U | V | 1.0 | U | 10 | U | V | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | | | 5 | U | V | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 0.20 | U | 5 | U | V | 5 | U | 5 | U |
| chlorobenzene | 5 | U | V | 0.1 | U | 5 | U | V | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 0.50 | U | 10 | U | V | 10 | U | 10 | U |
| chloroform | 5 | U | V | 0.10 | U | 1 | BJ | JA | 5 | U | 5 | U |
| chloromethane | 10 | U | V | 0.50 | U | 10 | U | V | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | 0.10 | U | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 0.10 | U | 5 | U | V | 5 | U | 5 | U |
| cumene | | | | 0.20 | U | | | | | | | |
| dibromochloromethane | 5 | U | V | 0.20 | U | 5 | U | V | 5 | U | 5 | U |
| dibromomethane | | | | 0.50 | U | | | | | | | |
| dichlorodifluoromethane | | | | 0.50 | U | | | | | | | |
| ethylbenzene | 5 | U | V | 0.20 | U | 5 | U | V | 5 | U | 5 | U |
| hexachlorobutadiene | | | | 0.10 | U | | | | | | | |
| m-xylene | | | | 0.20 | U | | | | | | | |
| methylene chloride | 5 | U | V | 2.0 | U | 5 | U | V | 5 | B | 2 | BJ |
| n-butylbenzene | | | | 0.20 | U | | | | | | | |
| n-propylbenzene | | | | 0.20 | U | | | | | | | |
| naphthalene | | | | 0.20 | U | | | | | | | |
| o-chlorotoluene | | | | 0.20 | U | | | | | | | |
| o-xylene | | | | 0.20 | U | | | | | | | |
| p-chlorotoluene | | | | 0.20 | U | | | | | | | |
| p-cymene | | | | 0.20 | U | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | 2.0 | U | | | | | | | |
| sec-butylbenzene | | | | 0.20 | U | | | | | | | |
| sec-dichloropropane | | | | 0.50 | U | | | | | | | |
| styrene | 5 | U | V | 0.10 | U | 5 | U | V | 5 | U | 5 | U |
| tert-butylbenzene | | | | 0.20 | U | | | | | | | |
| tetrachloroethene | 5 | U | V | 0.10 | U | 5 | U | V | 3 | J | 5 | U |
| toluene | 5 | U | V | 0.20 | U | 5 | U | V | 5 | U | 5 | U |
| total xylenes | 5 | U | V | | | 5 | U | V | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | 0.10 | U | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 0.10 | U | 5 | U | V | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 0.15 | | 5 | U | V | 8 | B | 5 | U |
| trichlorofluoromethane | | | | 0.50 | U | | | | | | | |
| vinyl acetate | 10 | U | V | | | 10 | U | V | 10 | U | 8 | J |
| vinyl chloride | 10 | U | V | 0.20 | U | 10 | U | V | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0287 (COL) Sample: GW00536IT (REAL) Date: 10/18/90 | | | Location: 0287 (COL) Sample: GW00929IT (REAL) Date: 03/07/91 | | | Location: 0287 (COL) Sample: GW01252IT (REAL) Date: 05/13/91 | | | Location: 0287 (COL) Sample: GW01752IT (REAL) Date: 09/06/91 | | | Location: 0287 (COL) Sample: GW02021IT (REAL) Date: 11/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | | | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | V | 10 | U | V | 10 | U | V | 2 | BJ | JA | 10 | U | R |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 5 | U | V | 1 | BJ | JA | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | 5.00 | U | V | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0387 (KAR)<br>Sample: GO3870290001 (REAL)<br>Date: 02/16/90 | | | Location: 0387 (KAR)<br>Sample: GW000171T (REAL)<br>Date: 09/12/90 | | | Location: 0387 (KAR)<br>Sample: GW000601T (REAL)<br>Date: 10/29/90 | | | Location: 0387 (KAR)<br>Sample: GW009841T (REAL)<br>Date: 03/14/91 | | | Location: 0387 (KAR)<br>Sample: GW012531T (REAL)<br>Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | | | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R |
| acetone | 10 | U | | 10 | U | | 10 | U | V | 18 | B | JA | 10 | U | V |
| benzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | R |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 8 | | JA |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | R |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | B | | 5 | U | | 4 | BJ | JA | 1 | J | A | 4 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | 5 | U | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0387 (KAR) Sample: GW01696IT (REAL) Date: 08/22/91 | | | Location: 0387 (KAR) Sample: GW02022IT (REAL) Date: 11/13/91 | | | Location: 0487 (COL) Sample: G04870190001 (REAL) Date: 01/31/90 | | Location: 0487 (COL) Sample: G04870607021215 (REAL) Date: 06/07/90 | | Location: 0487 (COL) Sample: GW0031BIT (REAL) Date: 08/29/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 2 | J | 7 | | 8 | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 4 | J | 4 | J | 5 | |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | R | 10 | U | V | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | 10 | U | R | 10 | U | V | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| acetone | 10 | U | V | 10 | U | R | 10 | U | 26 | B | 10 | U |
| benzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 160 | | 55 | | 95 | |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | V | 15 | | 5 | | 8 | |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 3 | JB | 3 | JB | 3 | BJ |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 27 | | 14 | | 21 | |
| toluene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 490 | | 200 | | 350 | D |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | R | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interferance from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0487 (COL) Sample: GW00602IT (REAL) Date: 10/30/90 | | | Location: 0487 (COL) Sample: GW00980IT (REAL) Date: 03/19/91 | | | Location: 0487 (COL) Sample: GW01250IT (REAL) Date: 05/10/91 | | | Location: 0487 (COL) Sample: GW01677IT (REAL) Date: 08/21/91 | | | Location: 0487 (COL) Sample: GW02421IT (REAL) Date: 02/11/92 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | 0.10 | U |
| 1,1,1-trichloroethane | 5 | U | V | 25 | U | | 5 | U | V | 7 | | V | 5.00 | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.10 | U |
| 1,1,2-trichloroethane | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.14 | U |
| 1,1-dichloroethane | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.20 | U |
| 1,1-dichloroethene | 5 | U | V | 25 | U | | 7 | | V | 14 | | V | 9.2 | |
| 1,1-dichloropropene | | | | | | | | | | | | | 0.10 | U |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,2,3-trichloropropane | | | | | | | | | | | | | 0.10 | U |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,2-dibromoethane | | | | | | | | | | | | | 0.50 | U |
| 1,2-dichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,2-dichloroethane | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.10 | U |
| 1,2-dichloroethene | 5 | U | V | | | | 5 | U | V | 5 | U | V | | |
| 1,2-dichloropropane | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.10 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,3-dichloropropane | | | | | | | | | | | | | 0.10 | U |
| 1,4-dichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 2-butanone | 19 | B | JA | 50 | U | | 10 | U | V | 10 | U | V | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 50 | U | | 10 | U | V | 10 | U | V | | |
| 4-methyl-2-pentanone | 10 | U | V | 50 | U | | 10 | U | V | 10 | U | V | | |
| acetone | 10 | U | V | 50 | U | | 10 | U | V | 5 | BJ | JA | | |
| benzene | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.20 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | 0.10 | U |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | 0.10 | U |
| bromobenzene | | | | | | | | | | | | | 0.20 | U |
| bromochloromethane | | | | | | | | | | | | | 0.50 | U |
| bromodichloromethane | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.20 | U |
| bromoform | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.50 | U |
| bromomethane | 10 | U | V | 50 | U | | 10 | U | V | 10 | U | V | 1.0 | U |
| carbon disulfide | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | | |
| carbon tetrachloride | 5 | U | V | 130 | | | 330 | D | V | 280 | D | V | 240.0 | |
| chlorobenzene | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.1 | U |
| chloroethane | 10 | U | V | 50 | U | | 10 | U | V | 10 | U | V | 0.50 | U |
| chloroform | 5 | U | V | 18 | J | | 21 | | V | 22 | | V | 17.2 | |
| chloromethane | 10 | U | V | 50 | U | | 10 | U | V | 10 | U | V | 0.50 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | 0.86 | |
| cis-1,3-dichloropropene | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.10 | U |
| cumene | | | | | | | | | | | | | 0.20 | U |
| dibromochloromethane | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.20 | U |
| dibromomethane | | | | | | | | | | | | | 0.50 | U |
| dichlorodifluoromethane | | | | | | | | | | | | | 0.50 | U |
| ethylbenzene | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.20 | U |
| hexachlorobutadiene | | | | | | | | | | | | | 0.10 | U |
| m-xylene | | | | | | | | | | | | | 0.20 | U |
| methylene chloride | 5 | B | JA | 10 | BJ | | 5 | U | V | 1 | BJ | JA | 2.0 | U |
| n-butylbenzene | | | | | | | | | | | | | 0.20 | U |
| n-propylbenzene | | | | | | | | | | | | | 0.20 | U |
| naphthalene | | | | | | | | | | | | | 0.20 | U |
| o-chlorotoluene | | | | | | | | | | | | | 0.20 | U |
| o-xylene | | | | | | | | | | | | | 0.20 | U |
| p-chlorotoluene | | | | | | | | | | | | | 0.20 | U |
| p-cymene | | | | | | | | | | | | | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | 2.0 | U |
| sec-butylbenzene | | | | | | | | | | | | | 0.20 | U |
| sec-dichloropropane | | | | | | | | | | | | | 0.50 | U |
| styrene | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.10 | U |
| tert-butylbenzene | | | | | | | | | | | | | 0.20 | U |
| tetrachloroethene | 5 | U | V | 28 | | | 46 | | V | 73 | | V | 55.0 | |
| toluene | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.20 | U |
| total xylenes | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | | |
| trans-1,2-dichloroethene | | | | 25 | U | | | | | | | | 0.10 | U |
| trans-1,3-dichloropropene | 5 | U | V | 25 | U | | 5 | U | V | 5 | U | V | 0.10 | U |
| trichloroethene | 5 | U | V | 610 | | | 1200 | D | V | 1200 | D | V | 880.0 | |
| trichlorofluoromethane | | | | | | | | | | | | | 1.3 | U |
| vinyl acetate | 10 | U | V | 50 | U | | 10 | U | V | 10 | U | R | | |
| vinyl chloride | 10 | U | V | 50 | U | | 10 | U | V | 10 | U | V | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0487 (COL)<br>Sample: GW02890IT (REAL)<br>Date: 05/11/92 | | Location: 0587 (KAR)<br>Sample: G05870290001 (REAL)<br>Date: 02/14/90 | | Location: 0587 (KAR)<br>Sample: GW00207IT (REAL)<br>Date: 08/07/90 | | Location: 0587 (KAR)<br>Sample: GW00499IT (REAL)<br>Date: 10/12/90 | | Location: 0587 (KAR)<br>Sample: GW00930IT (REAL)<br>Date: 03/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 10.00 | U | | | | | | | | | |
| 1,1,1-trichloroethane | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,1,2,2-tetrachloroethane | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,1,2-trichloroethane | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,1-dichloroethane | 20.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,1-dichloroethene | 20.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,1-dichloropropene | 10.00 | U | | | | | | | | | |
| 1,2,3-trichlorobenzene | 10.00 | U | | | | | | | | | |
| 1,2,3-trichloropropane | 10.00 | U | | | | | | | | | |
| 1,2,4-trichlorobenzene | 10.00 | U | | | | | | | | | |
| 1,2-dibromoethane | 50.00 | U | | | | | | | | | |
| 1,2-dichlorobenzene | 10.00 | U | | | | | | | | | |
| 1,2-dichloroethane | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,2-dichloroethene | | | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,2-dichloropropane | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| 1,3-dichlorobenzene | 10.00 | U | | | | | | | | | |
| 1,3-dichloropropane | 10.00 | U | | | | | | | | | |
| 1,4-dichlorobenzene | 10.00 | U | | | | | | | | | |
| 2-butanone | | | 10 | U | 10 | U | 10 | U | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | |
| 2-hexanone | | | 10 | U | 10 | U | 10 | U | 10 | U | R |
| 4-methyl-2-pentanone | | | 10 | U | 10 | U | 10 | U | 10 | U | R |
| acetone | | | 2 | JB | 10 | U | 7 | BJ | 3 | BJ | JA |
| benzene | 20.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| benzene, 1,2,4-trimethyl | 10.00 | U | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | 10.00 | U | | | | | | | | | |
| bromobenzene | 20.00 | U | | | | | | | | | |
| bromochloromethane | 50.00 | U | | | | | | | | | |
| bromodichloromethane | 20.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| bromoform | 50.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| bromomethane | 100.00 | U | 10 | U | 10 | U | 10 | U | 10 | U | R |
| carbon disulfide | | | 5 | U | 5 | U | 5 | U | 5 | U | R |
| carbon tetrachloride | 120 | | 5 | U | 5 | U | 5 | U | 5 | U | R |
| chlorobenzene | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| chloroethane | 50.00 | U | 10 | U | 10 | U | 10 | U | 10 | U | R |
| chloroform | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| chloromethane | 50.00 | U | 10 | U | 10 | U | 10 | U | 10 | U | R |
| cis-1,2-dichloroethene | 10.00 | U | | | | | | | | | |
| cis-1,3-dichloropropene | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| cumene | 20.00 | U | | | | | | | | | |
| dibromochloromethane | 20.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| dibromomethane | 50.00 | U | | | | | | | | | |
| dichlorodifluoromethane | 50.00 | U | | | | | | | | | |
| ethylbenzene | 20.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| hexachlorobutadiene | 10.00 | U | | | | | | | | | |
| m-xylene | 20.00 | U | | | | | | | | | |
| methylene chloride | 370 | B | 4 | JB | 3 | BJ | 2 | BJ | 3 | BJ | JA |
| n-butylbenzene | 20.00 | U | | | | | | | | | |
| n-propylbenzene | 20.00 | U | | | | | | | | | |
| naphthalene | 20.00 | U | | | | | | | | | |
| o-chlorotoluene | 20.00 | U | | | | | | | | | |
| o-xylene | 20.00 | U | | | | | | | | | |
| p-chlorotoluene | 20.00 | U | | | | | | | | | |
| p-cymene | 20.00 | U | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | 100.00 | U | | | | | | | | | |
| sec-butylbenzene | 20.00 | U | | | | | | | | | |
| sec-dichloropropane | 50.00 | U | | | | | | | | | |
| styrene | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| tert-butylbenzene | 20.00 | U | | | | | | | | | |
| tetrachloroethene | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| toluene | 20.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| total xylenes | | | 5 | U | 5 | U | 5 | U | 5 | U | R |
| trans-1,2-dichloroethene | 10.00 | U | | | | | | | | | |
| trans-1,3-dichloropropene | 10.00 | U | 5 | U | 5 | U | 5 | U | 5 | U | R |
| trichloroethene | 600 | | 2 | J | 5 | U | 5 | U | 5 | U | R |
| trichlorofluoromethane | 50.00 | U | | | | | | | | | |
| vinyl acetate | | | 10 | U | 10 | U | 10 | U | 10 | U | R |
| vinyl chloride | 20.00 | U | 10 | U | 10 | U | 10 | U | 10 | U | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0587 (KAR) Sample: GW01276IT (REAL) Date: 05/13/91 | | | Location: 0587 (KAR) Sample: GW01661IT (REAL) Date: 08/15/91 | | | Location: 0587 (KAR) Sample: GW02078IT (REAL) Date: 12/04/91 | | | Location: 0587 (KAR) Sample: GW02420IT (REAL) Date: 02/14/92 | | | Location: 0587 (KAR) Sample: GW02992IT (REAL) Date: 05/29/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | R | 14 | B | JA | 10 | U | V | 10 | U | R | 10 | U | V |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 1 | BJ | JA |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | R |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0687 (COL) Sample: GO6870190001 (REAL) Date: 01/31/90 | | | Location: 0687 (COL) Sample: GW00027IT (REAL) Date: 07/20/90 | | | Location: 0687 (COL) Sample: GW00489IT (REAL) Date: 10/09/90 | | | Location: 0687 (COL) Sample: GW00981IT (REAL) Date: 03/19/91 | | | Location: 0687 (COL) Sample: GW01251IT (REAL) Date: 05/17/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 1 | J | | 5 | U | | 5 | U | V | 6 | | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 2 | J | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | | | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | R |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| acetone | 10 | U | | 20 | B | | 10 | U | V | 10 | U | | 15 | B | JA |
| benzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 2 | BJ | | 5 | U | V | 5 | U | | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 7 | | | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | 5 | U | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V |
| trichloroethene | 8 | | | 19 | | | 25 | | V | 22 | | | 18 | | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0687 (COL)<br>Sample: GW01679IT (REAL)<br>Date: 08/19/91 | | | Location: 0887 (KAR)<br>Sample: G08870290001 (REAL)<br>Date: 02/15/90 | | | Location: 0887 (KAR)<br>Sample: GW00024IT (REAL)<br>Date: 09/11/90 | | | Location: 0887 (KAR)<br>Sample: GW00568IT (REAL)<br>Date: 11/09/90 | | | Location: 0887 (KAR)<br>Sample: GW00983IT (REAL)<br>Date: 03/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | | | | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 25 | | | 10 | U | V | 10 | U | V |
| acetone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 11 | B | JA |
| benzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 6 | B | | 5 | U | | 6 | B | JA | 2 | J | A |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | | 5 | U | | 6 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | 5 | U | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichloroethene | 32 | | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | R | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0887 (KAR)<br>Sample: GW01267IT (REAL)<br>Date: 05/10/91 | | | Location: 0887 (KAR)<br>Sample: GW01675IT (REAL)<br>Date: 09/19/91 | | | Location: 0887 (KAR)<br>Sample: GW02019IT (REAL)<br>Date: 11/14/91 | | | Location: 0974 (COL)<br>Sample: G09740290001 (REAL)<br>Date: 02/06/90 | | Location: 0974 (COL)<br>Sample: G09740530021540 (REAL)<br>Date: 05/31/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 1800 | | 3200 | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 7 | |
| 1,1-dichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 20 | | 6 | |
| 1,1-dichloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 1700 | | 2300 | |
| 1,1-dichloropropene | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | JA | 5 | U | V | 29 | | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 28 | | 10 | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | |
| 2-butanone | 10 | U | R | 10 | U | R | 10 | U | V | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | 10 | U |
| acetone | 6 | J | A | 10 | U | R | 10 | U | R | 11 | B | 8 | JB |
| benzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| bromomethane | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| chlorobenzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 1 | J |
| chloromethane | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| cumene | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | |
| methylene chloride | 2 | J | A | 5 | U | JA | 5 | U | V | 26 | B | 13 | B |
| n-butylbenzene | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 430 | | 1100 | |
| toluene | 5 | U | V | 5 | U | JA | 5 | U | V | 32 | | 32 | |
| total xylenes | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 2 | J |
| trans-1,2-dichloroethene | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | JA | 5 | U | V | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | JA | 5 | U | V | 2000 | | 4000 | |
| trichlorofluoromethane | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | JA | 10 | U | R | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0974 (COL) Sample: GW00209IT (REAL) Date: 08/09/90 | | | Location: 0974 (COL) Sample: GW00507IT (REAL) Date: 10/16/90 | | | Location: 0974 (COL) Sample: GW01270IT (REAL) Date: 05/14/91 | | | Location: 0974 (COL) Sample: GW01662IT (REAL) Date: 08/15/91 | | | Location: 0974 (COL) Sample: GW02105IT (REAL) Date: 12/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 19000 | D | | 8400 | U | V | 12000 | D | V | 14000 | | V | 7600 | | JA |
| 1,1,2,2-tetrachloroethane | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| 1,1,2-trichloroethane | 78 | J | | 84 | J | A | 120 | U | V | 500 | U | V | 250 | U | V |
| 1,1-dichloroethane | 250 | U | | 250 | U | V | 35 | J | A | 500 | U | V | 250 | U | V |
| 1,1-dichloroethene | 16000 | D | | 6400 | U | V | 120 | U | | 18000 | | V | 7900 | | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| 1,2-dichloroethene | 250 | U | | 250 | U | V | 12000 | D | | 500 | U | V | 250 | U | V |
| 1,2-dichloropropane | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 500 | U | | 500 | U | V | 250 | U | R | 1000 | U | V | 500 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 500 | U | | 500 | U | V | 250 | U | V | 1000 | U | V | 500 | U | R |
| 4-methyl-2-pentanone | 500 | U | | 500 | U | V | 250 | U | V | 1000 | U | V | 500 | U | V |
| acetone | 460 | DJ | | 500 | U | V | 250 | U | V | 1400 | B | JA | 500 | U | V |
| benzene | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| bromoform | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| bromomethane | 500 | U | | 500 | U | V | 250 | U | V | 1000 | U | V | 500 | U | V |
| carbon disulfide | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| carbon tetrachloride | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| chlorobenzene | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| chloroethane | 500 | U | | 500 | U | V | 250 | U | V | 1000 | U | V | 500 | U | V |
| chloroform | 170 | J | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| chloromethane | 500 | U | | 500 | U | V | 250 | U | V | 1000 | U | V | 500 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 250 | U | | 56 | J | JA | 120 | U | V | 500 | U | V | 250 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 250 | U | | 130 | JB | JA | 57 | BJ | JA | 260 | BJ | JA | 110 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 3000 | | | 2000 | U | V | 2300 | | V | 3000 | | V | 1800 | | V |
| toluene | 260 | | | 120 | J | A | 130 | | V | 270 | J | A | 57 | J | A |
| total xylenes | 250 | U | | 250 | U | V | 120 | U | V | 120 | BJ | JA | 250 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 250 | U | | 250 | U | V | 120 | U | V | 500 | U | V | 250 | U | V |
| trichloroethene | 13000 | D | | 9400 | U | V | 11000 | D | V | 14000 | | V | 9800 | | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 500 | U | | 500 | U | V | 250 | U | V | 1000 | U | V | 500 | U | V |
| vinyl chloride | 500 | U | | 500 | U | V | 250 | U | V | 1000 | U | V | 500 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 0974 (COL) Sample: GW02396IT (REAL) Date: 02/18/92 | | | Location: 0974 (COL) Sample: GW02850IT (REAL) Date: 05/06/92 | | | Location: 1074 (COL) Sample: G10740290001 (REAL) Date: 02/05/90 | | | Location: 1074 (COL) Sample: G10740530021340 (REAL) Date: 05/31/90 | | | Location: 1074 (COL) Sample: GW00149IT (REAL) Date: 08/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 6600 | D | V | 12000 | | | 5 | U | | 5 | U | | 120 | U | |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| 1,1,2-trichloroethane | 72 | | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| 1,1-dichloroethane | 20 | | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| 1,1-dichloroethene | 6100 | D | V | 12000 | | | 5 | U | | 5 | U | | 120 | U | |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 22 | | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| 1,2-dichloroethene | 30 | | JA | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| 1,2-dichloropropane | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |
| 4-methyl-2-pentanone | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |
| acetone | 10 | U | V | 1000 | U | | 10 | U | | 3 | JB | | 250 | U | |
| benzene | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| bromoform | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| bromomethane | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |
| carbon disulfide | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| carbon tetrachloride | 5 | U | V | 500 | U | | 2000 | | | 4500 | | | 3700 | | |
| chlorobenzene | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| chloroethane | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |
| chloroform | 3 | J | A | 140 | BJ | | 5 | U | | 62 | | | 72 | J | |
| chloromethane | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 27 | | V | 170 | BJ | | 5 | U | | 1 | JB | | 160 | B | |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 1500 | D | V | 2000 | | | 5 | U | | 5 | U | | 120 | U | |
| toluene | 47 | | V | 220 | J | | 5 | U | | 5 | U | | 120 | U | |
| total xylenes | 2 | J | A | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 500 | U | | 5 | U | | 5 | U | | 120 | U | |
| trichloroethene | 8800 | D. | V | 12000 | | | 700 | | | 1400 | | | 1400 | | |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |
| vinyl chloride | 10 | U | V | 1000 | U | | 10 | U | | 10 | U | | 250 | U | |

Note: Data reporting order: result, qualifier, validation code.
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Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
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REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 1074 (COL) Sample: GW00515IT (REAL) Date: 10/19/90 | | | Location: 1074 (COL) Sample: GW01291IT (REAL) Date: 05/17/91 | | | Location: 1074 (COL) Sample: GW01678IT (REAL) Date: 08/22/91 | | | Location: 1074 (COL) Sample: GW02106IT (REAL) Date: 12/11/91 | | | Location: 1074 (COL) Sample: GW02395IT (REAL) Date: 02/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,1,2,2-tetrachloroethane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,1,2-trichloroethane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,1-dichloroethane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,1-dichloroethene | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,2-dichloroethene | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,2-dichloropropane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 580 | B | JA | 150 | U | R | 200 | U | R | 100 | U | R | 300 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 250 | U | V | 150 | U | R | 200 | U | R | 100 | U | R | 300 | U | V |
| 4-methyl-2-pentanone | 250 | U | V | 150 | U | V | 200 | U | V | 100 | U | V | 300 | U | V |
| acetone | 400 | U | JA | 170 | B | JA | 200 | U | V | 100 | U | V | 300 | U | V |
| benzene | 120 | U | JA | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| bromoform | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| bromomethane | 250 | U | V | 150 | U | V | 200 | U | V | 100 | U | V | 300 | U | V |
| carbon disulfide | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| carbon tetrachloride | 3000 | | V | 3100 | D | V | 3800 | | V | 2500 | D | JA | 3400 | | V |
| chlorobenzene | 120 | U | JA | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| chloroethane | 250 | U | V | 150 | U | V | 200 | U | V | 100 | U | V | 300 | U | V |
| chloroform | 71 | J | A | 79 | | V | 87 | J | A | 78 | | V | 92 | J | A |
| chloromethane | 250 | U | V | 150 | U | V | 200 | U | V | 100 | U | V | 300 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 120 | U | JA | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 200 | U | JA | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 120 | U | JA | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| toluene | 120 | U | JA | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| total xylenes | 120 | U | JA | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 120 | U | V | 75 | U | V | 100 | U | V | 50 | U | V | 150 | U | V |
| trichloroethene | 1100 | | V | 1200 | | V | 1200 | | V | 790 | | V | 1200 | | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 250 | U | V | 150 | U | V | 200 | U | V | 100 | U | V | 300 | U | V |
| vinyl chloride | 250 | U | V | 150 | U | V | 200 | U | V | 100 | U | V | 300 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW02851IT (REAL)<br>Date: 05/06/92 | | Location: 30991 (COL)<br>Sample: GW02837IT (REAL)<br>Date: 05/14/92 | | Location: 31491 (COL)<br>Sample: GW02828IT (REAL)<br>Date: 05/13/92 | | Location: 31791 (VFA)<br>Sample: GW02468IT (REAL)<br>Date: 02/13/92 | | Location: 31791 (VFA)<br>Sample: GW02829IT (REAL)<br>Date: 05/08/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,1-trichloroethane | 120 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 120 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2-trichloroethane | 120 | U | 0.10 | U | 0.10 | U | 0.14 | U | 0.10 | U |
| 1,1-dichloroethane | 120 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloroethene | 42 | J | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloropropene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichlorobenzene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichloropropane | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,4-trichlorobenzene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dibromoethane | | | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| 1,2-dichlorobenzene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethane | 120 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethene | 120 | U | | | | | | | | |
| 1,2-dichloropropane | 120 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,3-dichlorobenzene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,3-dichloropropane | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,4-dichlorobenzene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 2-butanone | 250 | U | | | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | |
| 2-hexanone | 250 | U | | | | | | | | |
| 4-methyl-2-pentanone | 250 | U | | | | | | | | |
| acetone | 250 | U | | | | | | | | |
| benzene | 120 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| benzene, 1,2,4-trimethyl | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| benzene, 1,3,5-trimethyl- | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| bromobenzene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| bromochloromethane | | | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| bromodichloromethane | 120 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| bromoform | 120 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| bromomethane | 250 | U | 1.0 | U | 1.0 | U | 1.0 | U | 1.0 | U |
| carbon disulfide | 120 | U | | | | | | | | |
| carbon tetrachloride | 4200 | | 0.20 | U | 0.24 | | 0.20 | U | 0.20 | U |
| chlorobenzene | 120 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| chloroethane | 250 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| chloroform | 110 | BJ | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| chloromethane | 250 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| cis-1,2-dichloroethene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| cis-1,3-dichloropropene | 120 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| cumene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromochloromethane | 120 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromomethane | | | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| dichlorodifluoromethane | | | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| ethylbenzene | 120 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| hexachlorobutadiene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| m-xylene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| methylene chloride | 120 | U | 2.0 | U | 1.7 | J | 2.0 | U | 11 | |
| n-butylbenzene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| n-propylbenzene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| naphthalene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| o-chlorotoluene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| o-xylene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| p-chlorotoluene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| p-cymene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | | | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U |
| sec-butylbenzene | | | 0.38 | B | 0.49 | B | 0.20 | U | 0.20 | U |
| sec-dichloropropane | | | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| styrene | 120 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.08 | J |
| tert-butylbenzene | | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| tetrachloroethene | 120 | U | 0.11 | | 0.74 | | 0.24 | | 0.10 | U |
| toluene | 120 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| total xylenes | 120 | U | | | | | | | | |
| trans-1,2-dichloroethene | | | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| trans-1,3-dichloropropene | 120 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| trichloroethene | 1700 | | 0.10 | U | 0.51 | | 0.10 | U | 0.10 | U |
| trichlorofluoromethane | | | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| vinyl acetate | 250 | U | | | | | | | | |
| vinyl chloride | 250 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 31891 (COL) Sample: GW01997IT (REAL) Date: 11/11/91 | | | Location: 31891 (COL) Sample: GW02446IT (REAL) Date: 02/10/92 | | Location: 31891 (COL) Sample: GW03060IT (REAL) Date: 06/05/92 | | Location: 32591 (COL) Sample: GW02830IT (REAL) Date: 05/12/92 | | | Location: 34791 (COL) Sample: GW02157IT (REAL) Date: 12/17/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,1,1-trichloroethane | 5 | U | V | 0.10 | U | 0.10 | U | 5 | U | V | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 0.10 | U | 0.10 | U | 5 | U | V | 0.10 | U |
| 1,1,2-trichloroethane | 5 | U | V | 0.14 | U | 0.10 | U | 5 | U | V | 0.14 | U |
| 1,1-dichloroethane | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| 1,1-dichloroethene | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| 1,1-dichloropropene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,2,3-trichlorobenzene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,2,3-trichloropropane | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,2,4-trichlorobenzene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,2-dibromoethane | | | | 0.50 | U | 0.50 | U | | | | 0.50 | U |
| 1,2-dichlorobenzene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,2-dichloroethane | 5 | U | V | 0.10 | U | 0.10 | U | 5 | U | V | 0.10 | U |
| 1,2-dichloroethene | 5 | U | V | | | | | 5 | U | V | | |
| 1,2-dichloropropane | 5 | U | V | 0.10 | U | 0.10 | U | 5 | U | V | 0.10 | U |
| 1,3-dichlorobenzene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,3-dichloropropane | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 1,4-dichlorobenzene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| 2-butanone | 10 | U | V | | | | | 10 | U | V | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | | | | | 10 | U | V | | |
| 4-methyl-2-pentanone | 10 | U | V | | | | | 10 | U | V | | |
| acetone | 10 | U | V | | | | | 10 | U | V | | |
| benzene | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| benzene, 1,2,4-trimethyl | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| benzene, 1,3,5-trimethyl- | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| bromobenzene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| bromochloromethane | | | | 0.50 | U | 0.50 | U | | | | 0.50 | U |
| bromodichloromethane | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| bromoform | 5 | U | V | 0.50 | U | 0.50 | U | 5 | U | V | 0.50 | U |
| bromomethane | 10 | U | V | 1.0 | U | 1.0 | U | 10 | U | V | 1.0 | U |
| carbon disulfide | 5 | U | V | | | | | 5 | U | V | | |
| carbon tetrachloride | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| chlorobenzene | 5 | U | V | 0.1 | U | 0.1 | U | 5 | U | V | 0.1 | U |
| chloroethane | 10 | U | V | 0.50 | U | 0.50 | U | 10 | U | V | 0.50 | U |
| chloroform | 5 | U | V | 0.10 | U | 0.10 | U | 2 | BJ | JA | 0.10 | U |
| chloromethane | 10 | U | V | 0.50 | U | 0.50 | U | 10 | U | V | 0.50 | U |
| cis-1,2-dichloroethene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| cis-1,3-dichloropropene | 5 | U | V | 0.10 | U | 0.10 | U | 5 | U | V | 0.10 | U |
| cumene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| dibromochloromethane | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| dibromomethane | | | | 0.50 | U | 0.50 | U | | | | 0.50 | U |
| dichlorodifluoromethane | | | | 0.50 | U | 0.50 | U | | | | 0.50 | U |
| ethylbenzene | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| hexachlorobutadiene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| m-xylene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| methylene chloride | 1 | BJ | JA | 2.0 | U | 2.0 | U | 5 | U | V | 2.0 | U |
| n-butylbenzene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| n-propylbenzene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| naphthalene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| o-chlorotoluene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| o-xylene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| p-chlorotoluene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| p-cymene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | | | | 2.0 | U | 2.0 | U | | | | 2.0 | U |
| sec-butylbenzene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| sec-dichloropropane | | | | 0.50 | U | 0.50 | U | | | | 0.50 | U |
| styrene | 5 | U | V | 0.10 | U | 0.10 | U | 5 | U | V | 0.10 | U |
| tert-butylbenzene | | | | 0.20 | U | 0.20 | U | | | | 0.20 | U |
| tetrachloroethene | 5 | U | V | 0.10 | U | 0.10 | U | 2 | J | A | 8.5 | B |
| toluene | 5 | U | V | 0.20 | U | 0.20 | U | 5 | U | V | 0.20 | U |
| total xylenes | 5 | U | V | | | | | 5 | U | V | | |
| trans-1,2-dichloroethene | | | | 0.10 | U | 0.10 | U | | | | 0.10 | U |
| trans-1,3-dichloropropene | 5 | U | V | 0.10 | U | 0.10 | U | 5 | U | V | 0.10 | U |
| trichloroethene | 5 | U | V | 0.10 | U | 0.10 | U | 640 | D | V | 0.22 | |
| trichlorofluoromethane | | | | 0.50 | U | 0.50 | U | | | | 10.2 | |
| vinyl acetate | 10 | U | R | | | | | 10 | U | V | | |
| vinyl chloride | 10 | U | V | 0.20 | U | 0.20 | U | 10 | U | V | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 34791 (COL)<br>Sample: GW02447IT (REAL)<br>Date: 02/10/92 | | Location: 34791 (COL)<br>Sample: GW02908IT (REAL)<br>Date: 05/20/92 | | Location: 35391 (COL)<br>Sample: GW02028IT (REAL)<br>Date: 12/18/91 | | Location: 35391 (COL)<br>Sample: GW02448IT (REAL)<br>Date: 02/25/92 | | Location: 35391 (COL)<br>Sample: GW03019IT (REAL)<br>Date: 06/23/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,1,1-trichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,1,2,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,1,2-trichloroethane | 0.14 | U | 0.10 | U | 0.14 | U | 0.10 | U | 0.3 | U | V |
| 1,1-dichloroethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| 1,1-dichloroethene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.3 | U | V |
| 1,1-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,2,3-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2,3-trichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2,4-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2-dibromoethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.2 | U | V |
| 1,2-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2-dichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,2-dichloroethene | | | | | | | | | | | |
| 1,2-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,3-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,3-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,4-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 2-butanone | | | | | | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | |
| 2-hexanone | | | | | | | | | | | |
| 4-methyl-2-pentanone | | | | | | | | | | | |
| acetone | | | | | | | | | | | |
| benzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.3 | U | V |
| benzene, 1,2,4-trimethyl | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| benzene, 1,3,5-trimethyl- | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| bromobenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| bromochloromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.4 | U | V |
| bromodichloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.3 | U | V |
| bromoform | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.6 | U | V |
| bromomethane | 1.0 | U | 1.0 | U | 1.0 | U | 1.0 | U | 0.4 | U | V |
| carbon disulfide | | | | | | | | | | | |
| carbon tetrachloride | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.4 | U | V |
| chlorobenzene | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.2 | U | V |
| chloroethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.8 | U | V |
| chloroform | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.1 | U | V |
| chloromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.2 | U | V |
| cis-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| cis-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | | | |
| cumene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| dibromochloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.4 | U | V |
| dibromomethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.2 | U | V |
| dichlorodifluoromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.4 | U | V |
| ethylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| hexachlorobutadiene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.3 | U | V |
| m-xylene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | | | |
| methylene chloride | 2.0 | U | 18 | B | 2.0 | U | 2.0 | U | 0.3 | B | JA |
| n-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| n-propylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| naphthalene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| o-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.3 | U | V |
| o-xylene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | | | |
| p-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.3 | U | V |
| p-cymene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 0.3 | U | V |
| sec-butylbenzene | 0.20 | U | 0.92 | B | 0.20 | U | 0.20 | U | 0.2 | U | V |
| sec-dichloropropane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.2 | U | V |
| styrene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.3 | U | V |
| tert-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.3 | U | V |
| tetrachloroethene | 0.10 | U | 0.10 | U | 0.18 | B | 1.3 | | 0.2 | | V |
| toluene | 0.20 | U | 0.59 | B | 0.20 | U | 0.20 | U | 0.2 | U | V |
| total xylenes | | | | | | | | | 0.3 | U | V |
| trans-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.2 | U | V |
| trans-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | | | |
| trichloroethene | 0.10 | U | 0.10 | U | 0.34 | B | 0.3 | | 0.2 | | V |
| trichlorofluoromethane | 0.50 | U | 0.50 | U | 10.2 | | 1.1 | | 0.2 | U | V |
| vinyl acetate | | | | | | | | | | | |
| vinyl chloride | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.2 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 35691 (COL) Sample: GW01994IT (REAL) Date: 11/11/91 | | | Location: 35691 (COL) Sample: GW02891IT (REAL) Date: 05/14/92 | | | Location: 36191 (COL) Sample: GW02023IT (REAL) Date: 11/12/91 | | | Location: 36191 (COL) Sample: GW02459IT (REAL) Date: 02/11/92 | | Location: 36191 (COL) Sample: GW03020IT (REAL) Date: 06/10/92 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 0.14 | U | 0.10 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| 1,1-dichloropropene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2,3-trichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2,3-trichloropropane | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2,4-trichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2-dibromoethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| 1,2-dichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | | | | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,3-dichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,3-dichloropropane | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,4-dichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 2-butanone | 10 | U | V | 10 | U | V | 10 | U | V | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | V | | | | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | V | | | | |
| acetone | 10 | U | JA | 10 | U | V | 10 | U | R | | | | |
| benzene | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | 0.10 | U | 0.10 | U |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | 0.10 | U | 0.10 | U |
| bromobenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| bromochloromethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | V | 0.50 | U | 0.50 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | V | 1.0 | U | 1.00 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | V | | | | |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | V | 0.1 | U | 0.10 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 0.50 | U | 0.50 | U |
| chloroform | 5 | U | V | 1 | BJ | JA | 5 | U | V | 0.10 | U | 0.10 | U |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | V | 0.50 | U | 0.50 | U |
| cis-1,2-dichloroethene | | | | | | | | | | 0.10 | U | 0.10 | U |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| cumene | | | | | | | | | | 0.20 | U | 0.20 | U |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| dibromomethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| dichlorodifluoromethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| hexachlorobutadiene | | | | | | | | | | 0.10 | U | 0.10 | U |
| m-xylene | | | | | | | | | | 0.20 | U | 0.20 | U |
| methylene chloride | 1 | BJ | JA | 5 | U | V | 5 | U | V | 3.3 | | 2.00 | U |
| n-butylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| n-propylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| naphthalene | | | | | | | | | | 0.20 | U | 0.20 | U |
| o-chlorotoluene | | | | | | | | | | 0.20 | U | 0.20 | U |
| o-xylene | | | | | | | | | | 0.20 | U | 0.20 | U |
| p-chlorotoluene | | | | | | | | | | 0.20 | U | 0.20 | U |
| p-cymene | | | | | | | | | | 0.20 | U | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | 2.0 | U | 2.00 | U |
| sec-butylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| sec-dichloropropane | | | | | | | | | | 0.50 | U | 0.50 | U |
| styrene | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| tert-butylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| toluene | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | V | | | | |
| trans-1,2-dichloroethene | | | | | | | | | | 0.10 | U | 0.10 | U |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | V | 0.16 | | 0.10 | U |
| trichlorofluoromethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| vinyl acetate | 10 | U | R | 10 | U | V | 10 | U | R | | | | |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | V | 0.20 | U | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 36391 (COL) Sample: GW03021IT (REAL) Date: 06/05/92 | | | Location: 36691 (COL) Sample: GW02538IT (REAL) Date: 02/28/92 | | | Location: 37191 (COL) Sample: GW01995IT (REAL) Date: 11/12/91 | | | Location: 37191 (COL) Sample: GW02460IT (REAL) Date: 02/10/92 | | | Location: 37191 (COL) Sample: GW03024IT (REAL) Date: 06/25/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| 1,1,1-trichloroethane | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | 0.2 | U | V |
| 1,1,2,2-tetrachloroethane | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | 0.3 | U | V |
| 1,1,2-trichloroethane | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.14 | U | | 0.3 | U | V |
| 1,1-dichloroethane | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.2 | U | V |
| 1,1-dichloroethene | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.3 | U | V |
| 1,1-dichloropropene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| 1,2,3-trichlorobenzene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.3 | U | V |
| 1,2,3-trichloropropane | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.3 | U | V |
| 1,2,4-trichlorobenzene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.3 | U | V |
| 1,2-dibromoethane | 0.50 | U | | 0.50 | U | | | | | 0.50 | U | | 0.2 | U | V |
| 1,2-dichlorobenzene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.3 | U | V |
| 1,2-dichloroethane | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | 0.2 | U | V |
| 1,2-dichloroethene | | | | | | | 5 | U | V | | | | | | |
| 1,2-dichloropropane | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | 0.2 | U | V |
| 1,3-dichlorobenzene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| 1,3-dichloropropane | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| 1,4-dichlorobenzene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| 2-butanone | | | | | | | 10 | U | V | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | | | | | | | 10 | U | V | | | | | | |
| 4-methyl-2-pentanone | | | | | | | 10 | U | V | | | | | | |
| acetone | | | | | | | 10 | U | V | | | | | | |
| benzene | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.3 | U | V |
| benzene, 1,2,4-trimethyl | 0.10 | U | | 0.10 | U | | | | | 0.12 | | | 0.2 | U | V |
| benzene, 1,3,5-trimethyl- | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| bromobenzene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.2 | U | V |
| bromochloromethane | 0.50 | U | | 0.50 | U | | | | | 0.50 | U | | 0.4 | U | V |
| bromodichloromethane | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.3 | U | V |
| bromoform | 0.50 | U | | 0.50 | U | | 5 | U | V | 0.50 | U | | 0.6 | U | V |
| bromomethane | 1.0 | U | | 1.0 | U | | 10 | U | V | 1.0 | U | | 0.4 | U | V |
| carbon disulfide | | | | | | | 5 | U | V | | | | | | |
| carbon tetrachloride | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.4 | U | V |
| chlorobenzene | 0.1 | U | | 0.1 | U | | 5 | U | V | 0.1 | U | | 0.2 | U | V |
| chloroethane | 0.50 | U | | 0.50 | U | | 10 | U | V | 0.50 | U | | 0.8 | U | V |
| chloroform | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | 0.1 | U | V |
| chloromethane | 0.50 | U | | 0.50 | U | | 10 | U | V | 0.50 | U | | 0.2 | U | V |
| cis-1,2-dichloroethene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| cis-1,3-dichloropropene | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | | | |
| cumene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.2 | U | V |
| dibromochloromethane | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.4 | U | V |
| dibromomethane | 0.50 | U | | 0.50 | U | | | | | 0.50 | U | | 0.2 | U | V |
| dichlorodifluoromethane | 0.50 | U | | 0.50 | U | | | | | 0.50 | U | | 0.4 | U | V |
| ethylbenzene | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.2 | U | V |
| hexachlorobutadiene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.3 | U | V |
| m-xylene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | | | |
| methylene chloride | 2.0 | U | | 2.0 | U | | 2 | BJ | JA | 2.0 | U | | 11 | B | V |
| n-butylbenzene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.2 | U | V |
| n-propylbenzene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.2 | U | V |
| naphthalene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.2 | U | V |
| o-chlorotoluene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.3 | U | V |
| o-xylene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | | | |
| p-chlorotoluene | 0.20 | U | | 0.20 | U | | | | | 0.60 | | | 0.3 | U | V |
| p-cymene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.2 | U | V |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | | 2.0 | U | | | | | 2.0 | U | | 0.3 | U | V |
| sec-butylbenzene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.2 | U | V |
| sec-dichloropropane | 0.50 | U | | 0.50 | U | | | | | 0.50 | U | | 0.2 | U | V |
| styrene | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | 0.3 | U | V |
| tert-butylbenzene | 0.20 | U | | 0.20 | U | | | | | 4.0 | | | 0.3 | U | V |
| tetrachloroethene | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.16 | | | 0.3 | | V |
| toluene | 0.20 | U | | 0.20 | U | | 5 | U | V | 0.20 | U | | 0.2 | U | V |
| total xylenes | | | | | | | 5 | U | V | | | | 0.3 | U | V |
| trans-1,2-dichloroethene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.2 | U | V |
| trans-1,3-dichloropropene | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | | | |
| trichloroethene | 0.10 | U | | 0.10 | U | | 5 | U | V | 0.10 | U | | 0.2 | U | V |
| trichlorofluoromethane | 0.50 | U | | 0.50 | U | | | | | 0.50 | U | | 0.2 | U | V |
| vinyl acetate | | | | | | | 10 | U | R | | | | | | |
| vinyl chloride | 0.20 | U | | 0.20 | U | | 10 | U | V | 0.20 | U | | 0.2 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 37591 (RFA) Sample: GW02507IT (REAL) Date: 02/25/92 | | | Location: 37591 (RFA) Sample: GW03025IT (REAL) Date: 06/10/92 | | | Location: 37691 (RFA) Sample: GW03045IT (REAL) Date: 06/23/92 | | | Location: 37791 (RFA) Sample: GW02164IT (REAL) Date: 12/20/91 | | | Location: 37791 (RFA) Sample: GW02275IT (REAL) Date: 01/20/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 1,1,1-trichloroethane | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 1,1,2,2-tetrachloroethane | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.10 | U | | 0.10 | U | |
| 1,1,2-trichloroethane | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.14 | U | | 0.14 | U | |
| 1,1-dichloroethane | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| 1,1-dichloroethene | 0.20 | U | | 0.20 | U | | 0.3 | U | V | 0.20 | U | | 0.20 | U | |
| 1,1-dichloropropene | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 1,2,3-trichlorobenzene | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.10 | U | | 0.10 | U | |
| 1,2,3-trichloropropane | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.10 | U | | 0.10 | U | |
| 1,2,4-trichlorobenzene | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.10 | U | | 0.10 | U | |
| 1,2-dibromoethane | 0.50 | U | | 0.50 | U | | 0.2 | U | V | 0.50 | U | | 0.50 | U | |
| 1,2-dichlorobenzene | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.10 | U | | 0.10 | U | |
| 1,2-dichloroethane | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 1,2-dichloroethene | | | | | | | | | | | | | | | |
| 1,2-dichloropropane | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 1,3-dichlorobenzene | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 1,3-dichloropropane | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 1,4-dichlorobenzene | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| 2-butanone | | | | | | | | | | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | | | | | | | | | | | | | | | |
| 4-methyl-2-pentanone | | | | | | | | | | | | | | | |
| acetone | | | | | | | | | | | | | | | |
| benzene | 0.20 | U | | 0.20 | U | | 0.3 | U | V | 0.20 | U | | 0.20 | U | |
| benzene, 1,2,4-trimethyl | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| benzene, 1,3,5-trimethyl- | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| bromobenzene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| bromochloromethane | 0.50 | U | | 0.50 | U | | 0.4 | U | V | 0.50 | U | | 0.50 | U | |
| bromodichloromethane | 0.20 | U | | 0.20 | U | | 0.3 | U | V | 0.20 | U | | 0.20 | U | |
| bromoform | 0.50 | U | | 0.50 | U | | 0.6 | U | V | 0.50 | U | | 0.50 | U | |
| bromomethane | 1.0 | U | | 1.00 | U | | 0.4 | U | V | 1.0 | U | | 1.0 | U | |
| carbon disulfide | | | | | | | | | | | | | | | |
| carbon tetrachloride | 0.20 | U | | 0.20 | U | | 0.4 | U | V | 0.20 | U | | 0.20 | U | |
| chlorobenzene | 0.1 | U | | 0.10 | U | | 0.2 | U | V | 0.1 | U | | 0.1 | U | |
| chloroethane | 0.50 | U | | 0.50 | U | | 0.8 | U | V | 0.50 | U | | 0.50 | U | |
| chloroform | 0.10 | U | | 0.10 | U | | 0.1 | U | V | 0.10 | U | | 0.10 | U | |
| chloromethane | 0.50 | U | | 0.50 | U | | 0.2 | U | V | 0.50 | U | | 0.50 | U | |
| cis-1,2-dichloroethene | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| cis-1,3-dichloropropene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.10 | U | |
| cumene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| dibromochloromethane | 0.20 | U | | 0.20 | U | | 0.4 | U | V | 0.20 | U | | 0.20 | U | |
| dibromomethane | 0.50 | U | | 0.50 | U | | 0.2 | U | V | 0.50 | U | | 0.50 | U | |
| dichlorodifluoromethane | 0.50 | U | | 0.50 | U | | 0.4 | U | V | 0.50 | U | | 0.50 | U | |
| ethylbenzene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| hexachlorobutadiene | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.10 | U | | 0.10 | U | |
| m-xylene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.20 | U | |
| methylene chloride | 2.0 | U | | 2.00 | U | | 0.5 | B | JA | 2.0 | U | | 2.0 | U | |
| n-butylbenzene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| n-propylbenzene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| naphthalene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| o-chlorotoluene | 0.20 | U | | 0.20 | U | | 0.3 | U | V | 0.20 | U | | 0.20 | U | |
| o-xylene | 0.20 | U | | 0.20 | U | | | | | 0.20 | U | | 0.20 | U | |
| p-chlorotoluene | 0.20 | U | | 0.20 | U | | 0.3 | U | V | 0.20 | U | | 0.20 | U | |
| p-cymene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | | 2.00 | U | | 0.3 | U | V | 2.0 | U | | 2.0 | U | |
| sec-butylbenzene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| sec-dichloropropane | 0.50 | U | | 0.50 | U | | 0.2 | U | V | 0.50 | U | | 0.50 | U | |
| styrene | 0.10 | U | | 0.10 | U | | 0.3 | U | V | 0.10 | U | | 0.10 | U | |
| tert-butylbenzene | 0.20 | U | | 0.20 | U | | 0.3 | U | V | 0.20 | U | | 0.20 | U | |
| tetrachloroethene | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.22 | B | | 0.1 | | |
| toluene | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |
| total xylenes | | | | | | | 0.3 | U | V | | | | | | |
| trans-1,2-dichloroethene | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.10 | U | | 0.10 | U | |
| trans-1,3-dichloropropene | 0.10 | U | | 0.10 | U | | | | | 0.10 | U | | 0.10 | U | |
| trichloroethene | 0.10 | U | | 0.10 | U | | 0.2 | U | V | 0.12 | | | 0.4 | | |
| trichlorofluoromethane | 0.50 | U | | 0.50 | U | | 0.2 | U | V | 0.50 | U | | 0.50 | U | |
| vinyl acetate | | | | | | | | | | | | | | | |
| vinyl chloride | 0.20 | U | | 0.20 | U | | 0.2 | U | V | 0.20 | U | | 0.20 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 37791 (RFA) Sample: GW02757IT (REAL) Date: 04/21/92 | | Location: 37891 (WCS) Sample: GW02148IT (REAL) Date: 12/16/91 | | Location: 37891 (WCS) Sample: GW02461IT (REAL) Date: 02/27/92 | | Location: 37891 (WCS) Sample: GW03026IT (REAL) Date: 06/04/92 | | Location: 37991 (WCS) Sample: GW02147IT (REAL) Date: 12/16/91 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,1-trichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2-trichloroethane | 0.10 | U | 0.14 | U | 0.10 | U | 0.10 | U | 0.14 | U |
| 1,1-dichloroethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloroethene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,4-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dibromoethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| 1,2-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethene | | | | | | | | | | |
| 1,2-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,3-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,3-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,4-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 2-butanone | | | | | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | |
| 2-hexanone | | | | | | | | | | |
| 4-methyl-2-pentanone | | | | | | | | | | |
| acetone | | | | | | | | | | |
| benzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| benzene, 1,2,4-trimethyl | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| benzene, 1,3,5-trimethyl- | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| bromobenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| bromochloromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| bromodichloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| bromoform | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| bromomethane | 1.0 | U | 1.0 | U | 1.0 | U | 1.0 | U | 1.0 | U |
| carbon disulfide | | | | | | | | | | |
| carbon tetrachloride | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| chlorobenzene | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| chloroethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| chloroform | 0.10 | U | 6.8 | | 0.10 | U | 3.2 | | 9.3 | |
| chloromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| cis-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.23 | |
| cis-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| cumene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromochloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromomethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| dichlorodifluoromethane | 0.50 | U | 0.50 | U | 0.50 | U | 2.7 | | 0.50 | U |
| ethylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| hexachlorobutadiene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| m-xylene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.39 | |
| methylene chloride | 2.3 | B | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U |
| n-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| n-propylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| naphthalene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| o-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| o-xylene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| p-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| p-cymene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.38 | |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U |
| sec-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| sec-dichloropropane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| styrene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| tert-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| tetrachloroethene | 0.10 | U | 0.04 | U | 7.1 | B | 0.10 | U | 16 | |
| toluene | 0.20 | | 0.20 | U | 0.20 | U | 0.20 | U | 1.1 | |
| total xylenes | | | | | | | | | | |
| trans-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| trans-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| trichloroethene | 0.10 | U | 1.3 | | 0.5 | | 0.10 | U | 3.3 | |
| trichlorofluoromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| vinyl acetate | | | | | | | | | | |
| vinyl chloride | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 37991 (WCS)<br>Sample: GW024621T (REAL)<br>Date: 02/26/92 | | Location: 37991 (WCS)<br>Sample: GW030431T (REAL)<br>Date: 06/04/92 | | Location: 38591 (VFA)<br>Sample: GW021631T (REAL)<br>Date: 12/18/91 | | Location: 38591 (VFA)<br>Sample: GW024631T (REAL)<br>Date: 02/10/92 | | Location: 38591 (VFA)<br>Sample: GW028311T (REAL)<br>Date: 05/08/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,1-trichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2-trichloroethane | 0.10 | U | 0.10 | U | 0.14 | U | 0.14 | U | 0.10 | U |
| 1,1-dichloroethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloroethene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,4-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dibromoethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| 1,2-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethene | | | | | | | | | | |
| 1,2-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.35 | |
| 1,3-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,3-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,4-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| 2-butanone | | | | | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | |
| 2-hexanone | | | | | | | | | | |
| 4-methyl-2-pentanone | | | | | | | | | | |
| acetone | | | | | | | | | | |
| benzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| benzene, 1,2,4-trimethyl | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| benzene, 1,3,5-trimethyl- | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| bromobenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| bromochloromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| bromodichloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| bromoform | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| bromomethane | 1.0 | U | 1.0 | U | 1.0 | U | 1.0 | U | 1.0 | U |
| carbon disulfide | | | | | | | | | | |
| carbon tetrachloride | 0.2 | | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| chlorobenzene | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U | 0.1 | U |
| chloroethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| chloroform | 4.0 | | 1.1 | | 0.10 | U | 0.10 | U | 0.10 | U |
| chloromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| cis-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| cis-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| cumene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromochloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromomethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| dichlorodifluoromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| ethylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| hexachlorobutadiene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| m-xylene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| methylene chloride | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 6.3 | |
| n-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| n-propylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| naphthalene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| o-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| o-xylene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| p-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| p-cymene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U | 2.0 | U |
| sec-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| sec-dichloropropane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| styrene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| tert-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| tetrachloroethene | 0.4 | | 0.10 | U | 0.04 | U | 0.10 | U | 0.10 | U |
| toluene | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |
| total xylenes | | | | | | | | | | |
| trans-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| trans-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U | 0.10 | U |
| trichloroethene | 1.4 | | 0.64 | | 0.04 | U | 0.10 | U | 0.10 | U |
| trichlorofluoromethane | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U | 0.50 | U |
| vinyl acetate | | | | | | | | | | |
| vinyl chloride | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 39191 (WCS) Sample: GW02162IT (REAL) Date: 12/18/91 | | Location: 39191 (WCS) Sample: GW02464IT (REAL) Date: 02/26/92 | | Location: 39191 (WCS) Sample: GW02832IT (REAL) Date: 05/14/92 | | Location: 39691 (COL) Sample: GW02877IT (REAL) Date: 05/12/92 | | | Location: 4387 (COL) Sample: G43870290001 (REAL) Date: 02/01/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,1,1-trichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 5 | U | V | 13000 | |
| 1,1,2,2-tetrachloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 5 | U | V | 500 | U |
| 1,1,2-trichloroethane | 0.14 | U | 0.10 | U | 0.10 | U | 5 | U | V | 500 | U |
| 1,1-dichloroethane | 0.20 | U | 0.20 | U | 0.20 | U | 5 | U | V | 500 | U |
| 1,1-dichloroethene | 0.20 | U | 0.20 | U | 0.20 | U | 5 | U | V | 4900 | |
| 1,1-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,2,3-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,2,3-trichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,2,4-trichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,2-dibromoethane | 0.50 | U | 0.50 | U | 0.50 | U | | | | | |
| 1,2-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,2-dichloroethane | 0.10 | U | 0.10 | U | 0.10 | U | 5 | U | V | 500 | U |
| 1,2-dichloroethene | | | | | | | 5 | U | V | 500 | U |
| 1,2-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | 5 | U | V | 500 | U |
| 1,3-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,3-dichloropropane | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 1,4-dichlorobenzene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| 2-butanone | | | | | | | 10 | U | V | 1000 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | |
| 2-hexanone | | | | | | | 10 | U | V | 1000 | U |
| 4-methyl-2-pentanone | | | | | | | 10 | U | V | 1000 | U |
| acetone | | | | | | | 10 | U | V | 1000 | U |
| benzene | 0.20 | U | 0.20 | U | 0.20 | U | 5 | U | V | 500 | U |
| benzene, 1,2,4-trimethyl | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| benzene, 1,3,5-trimethyl- | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| bromobenzene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| bromochloromethane | 0.50 | U | 0.50 | U | 0.50 | U | | | | | |
| bromodichloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 5 | U | V | 500 | U |
| bromoform | 0.50 | U | 0.50 | U | 0.50 | U | 5 | U | V | 500 | U |
| bromomethane | 1.0 | U | 1.0 | U | 1.0 | U | 10 | U | V | 1000 | U |
| carbon disulfide | | | | | | | 5 | U | V | 500 | U |
| carbon tetrachloride | 0.20 | U | 0.4 | | 0.24 | | 5 | U | V | 500 | U |
| chlorobenzene | 0.1 | U | 0.1 | U | 0.1 | U | 5 | U | V | 500 | U |
| chloroethane | 0.50 | U | 0.50 | U | 0.50 | U | 10 | U | V | 1000 | U |
| chloroform | 1.8 | | 1.1 | | 0.95 | | 1 | BJ | JA | 500 | U |
| chloromethane | 0.50 | U | 0.50 | U | 0.50 | U | 10 | U | V | 1000 | U |
| cis-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| cis-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 5 | U | V | 500 | U |
| cumene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| dibromochloromethane | 0.20 | U | 0.20 | U | 0.20 | U | 5 | U | V | 500 | U |
| dibromomethane | 0.50 | U | 0.50 | U | 0.50 | U | | | | | |
| dichlorodifluoromethane | 0.50 | U | 0.50 | U | 0.50 | U | | | | | |
| ethylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | 5 | U | V | 500 | U |
| hexachlorobutadiene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| m-xylene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| methylene chloride | 2.0 | U | 2.0 | U | 2.0 | U | 5 | U | V | 620 | B |
| n-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| n-propylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| naphthalene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| o-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| o-xylene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| p-chlorotoluene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| p-cymene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | 2.0 | U | 2.0 | U | | | | | |
| sec-butylbenzene | 0.20 | U | 0.20 | U | 0.49 | B | | | | | |
| sec-dichloropropane | 0.50 | U | 0.50 | U | 0.50 | U | | | | | |
| styrene | 0.10 | U | 0.2 | | 0.10 | U | 5 | U | V | 500 | U |
| tert-butylbenzene | 0.20 | U | 0.20 | U | 0.20 | U | | | | | |
| tetrachloroethene | 0.04 | U | 0.50 | | 0.14 | B | 5 | U | V | 3600 | |
| toluene | 0.20 | U | 0.20 | U | 0.20 | U | 5 | U | V | 500 | U |
| total xylenes | | | | | | | 5 | U | V | 500 | U |
| trans-1,2-dichloroethene | 0.10 | U | 0.10 | U | 0.10 | U | | | | | |
| trans-1,3-dichloropropene | 0.10 | U | 0.10 | U | 0.10 | U | 5 | U | V | 500 | U |
| trichloroethene | 6.8 | B | 5.0 | | 2.00 | | 5 | U | V | 8400 | |
| trichlorofluoromethane | 0.50 | U | 0.50 | U | 0.50 | U | | | | | |
| vinyl acetate | | | | | | | 10 | U | V | 1000 | U |
| vinyl chloride | 0.20 | U | 0.20 | U | 0.20 | U | 10 | U | V | 1000 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 4387 (COL) Sample: G4387060602PS (UNKN) Date: 06/06/90 | | Location: 4387 (COL) Sample: G4387060602090O (UNKN) Date: 06/07/90 | | Location: 4387 (COL) Sample: GW00063IT (REAL) Date: 09/11/90 | | Location: 4387 (COL) Sample: GW00624IT (REAL) Date: 11/14/90 | | | Location: 4387 (COL) Sample: GW00986IT (REAL) Date: 03/19/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | |
| 1,1,1-trichloroethane | 110 | | 140 | | 3200 | E | 3000 | | V | 5900 | B |
| 1,1,2,2-tetrachloroethane | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| 1,1,2-trichloroethane | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| 1,1-dichloroethane | 5 | U | 5 | U | 19 | | 120 | U | V | 170 | U |
| 1,1-dichloroethene | 38 | | 53 | | 2400 | E | 1400 | | V | 2900 | |
| 1,1-dichloropropene | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | 5 | U | 7 | | 120 | U | V | 170 | U |
| 1,2-dichloroethene | 5 | U | 5 | U | | | 120 | U | V | | |
| 1,2-dichloropropane | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | |
| 2-butanone | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | |
| 2-hexanone | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| 4-methyl-2-pentanone | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| acetone | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| benzene | 5 | U | 5 | U | 6 | U | 120 | U | V | 170 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | |
| bromodichloromethane | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| bromoform | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| bromomethane | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| carbon disulfide | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| carbon tetrachloride | 5 | U | 5 | U | 400 | E | 120 | U | V | 170 | U |
| chlorobenzene | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| chloroethane | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| chloroform | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| chloromethane | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| cumene | | | | | | | | | | | |
| dibromochloromethane | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| dibromomethane | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | |
| ethylbenzene | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| hexachlorobutadiene | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | |
| methylene chloride | 4 | JB | 4 | JB | 5 | | 180 | B | JA | 79 | BJ |
| n-butylbenzene | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | |
| styrene | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| tert-butylbenzene | | | | | | | | | | | |
| tetrachloroethene | 61 | | 82 | | 1400 | E | 1500 | B | V | 2900 | |
| toluene | 5 | U | 5 | U | 40 | | 120 | U | V | 170 | U |
| total xylenes | 5 | U | 5 | U | 2 | BJ | 120 | U | V | 170 | U |
| trans-1,2-dichloroethene | | | | | 5 | U | | | | 170 | U |
| trans-1,3-dichloropropene | 5 | U | 5 | U | 5 | U | 120 | U | V | 170 | U |
| trichloroethene | 110 | | 140 | | 1200 | E | 2800 | | V | 5300 | |
| trichlorofluoromethane | | | | | | | | | | | |
| vinyl acetate | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |
| vinyl chloride | 10 | U | 10 | U | 10 | U | 250 | U | V | 330 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 4387 (COL) Sample: GW01268IT (REAL) Date: 05/15/91 | | | Location: 4387 (COL) Sample: GW01660IT (REAL) Date: 08/15/91 | | | Location: 4387 (COL) Sample: GW02102IT (REAL) Date: 12/12/91 | | | Location: 4387 (COL) Sample: GW02415IT (REAL) Date: 02/18/92 | | | Location: 4387 (COL) Sample: GW03044IT (REAL) Date: 06/24/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | 20 | U | V |
| 1,1,1-trichloroethane | 15000 | D | JA | 10000 | | V | 14000 | D | JA | 7400 | D | V | 2600 | | V |
| 1,1,2,2-tetrachloroethane | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 30 | U | V |
| 1,1,2-trichloroethane | 37 | | JA | 500 | U | V | 100 | U | V | 28 | | V | 30 | U | V |
| 1,1-dichloroethane | 27 | | JA | 500 | U | V | 23 | J | A | 19 | | V | 20 | U | V |
| 1,1-dichloroethene | 8200 | D | V | 7200 | | V | 6000 | D | V | 4300 | D | V | 1400 | | V |
| 1,1-dichloropropene | | | | | | | | | | | | | 20 | U | V |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | 30 | U | V |
| 1,2,3-trichloropropane | | | | | | | | | | | | | 30 | U | V |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | 30 | U | V |
| 1,2-dibromoethane | | | | | | | | | | | | | 20 | U | V |
| 1,2-dichlorobenzene | | | | | | | | | | | | | 30 | U | V |
| 1,2-dichloroethane | 9 | | JA | 500 | U | V | 100 | U | V | 7 | | V | 20 | U | V |
| 1,2-dichloroethene | 17 | | JA | 500 | U | V | 100 | U | V | 12 | | JA | | | |
| 1,2-dichloropropane | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 20 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | 20 | U | V |
| 1,3-dichloropropane | | | | | | | | | | | | | 20 | U | V |
| 1,4-dichlorobenzene | | | | | | | | | | | | | 20 | U | V |
| 2-butanone | 10 | U | R | 1000 | U | V | 200 | U | R | 10 | U | V | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | R | 1000 | U | V | 200 | U | V | 10 | U | V | | | |
| 4-methyl-2-pentanone | 10 | U | R | 1000 | U | V | 200 | U | V | 10 | U | R | | | |
| acetone | 10 | U | JA | 880 | BJ | JA | 200 | U | V | 10 | U | V | | | |
| benzene | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 30 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | 20 | U | V |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | 20 | U | V |
| bromobenzene | | | | | | | | | | | | | 20 | U | V |
| bromochloromethane | | | | | | | | | | | | | 40 | U | V |
| bromodichloromethane | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 30 | U | V |
| bromoform | 5 | U | R | 500 | U | V | 100 | U | V | 5 | U | V | 60 | U | V |
| bromomethane | 10 | U | JA | 1000 | U | V | 200 | U | V | 10 | U | V | 40 | U | V |
| carbon disulfide | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | | | |
| carbon tetrachloride | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 40 | U | V |
| chlorobenzene | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 20 | U | V |
| chloroethane | 10 | U | R | 1000 | U | V | 200 | U | V | 10 | U | V | 80 | U | V |
| chloroform | 2 | J | A | 500 | U | V | 100 | U | V | 2 | J | A | 10 | U | V |
| chloromethane | 10 | U | JA | 1000 | U | V | 200 | U | V | 10 | U | V | 20 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | 20 | U | V |
| cis-1,3-dichloropropene | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | | | |
| cumene | | | | | | | | | | | | | 20 | U | V |
| dibromochloromethane | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 40 | U | V |
| dibromomethane | | | | | | | | | | | | | 20 | U | V |
| dichlorodifluoromethane | | | | | | | | | | | | | 40 | U | V |
| ethylbenzene | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 20 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | 30 | U | V |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 7 | | JA | 180 | BJ | JA | 37 | J | A | 4 | J | A | 41 | B | JA |
| n-butylbenzene | | | | | | | | | | | | | 20 | U | V |
| n-propylbenzene | | | | | | | | | | | | | 20 | U | V |
| naphthalene | | | | | | | | | | | | | 20 | U | V |
| o-chlorotoluene | | | | | | | | | | | | | 30 | U | V |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | 30 | U | V |
| p-cymene | | | | | | | | | | | | | 20 | U | V |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | 30 | U | V |
| sec-butylbenzene | | | | | | | | | | | | | 20 | U | V |
| sec-dichloropropane | | | | | | | | | | | | | 20 | U | V |
| styrene | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | 30 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | 30 | U | V |
| tetrachloroethene | 6000 | D | JA | 5700 | | V | 3400 | D | V | 3200 | D | JA | 1400 | | V |
| toluene | 34 | | JA | 500 | U | V | 32 | J | A | 15 | | V | 20 | U | V |
| total xylenes | 1 | J | A | 500 | U | V | 100 | U | V | 5 | U | V | 30 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | 20 | U | V |
| trans-1,3-dichloropropene | 5 | U | JA | 500 | U | V | 100 | U | V | 5 | U | V | | | |
| trichloroethene | 11000 | D | V | 8700 | | V | 7500 | D | V | 5800 | D | V | 2700 | | V |
| trichlorofluoromethane | | | | | | | | | | | | | 20 | U | V |
| vinyl acetate | 10 | U | JA | 1000 | U | V | 200 | U | V | 10 | U | V | | | |
| vinyl chloride | 10 | U | JA | 1000 | U | V | 200 | U | V | 10 | U | V | 20 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 4587 (KAR) Sample: G45870390001 (REAL) Date: 03/15/90 | | | Location: 4587 (KAR) Sample: G45870612020830 (REAL) Date: 06/12/90 | | | Location: 4587 (KAR) Sample: GW00364IT (REAL) Date: 09/10/90 | | | Location: 4587 (KAR) Sample: GW00592IT (REAL) Date: 10/25/90 | | | Location: 4587 (KAR) Sample: GW00931IT (REAL) Date: 03/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | 10 | U | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 3 | JB | | 10 | U | | 10 | U | V | 10 | U | V |
| benzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | B | | 3 | JB | | 5 | U | | 5 | U | V | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | 5 | U | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 4587 (KAR) Sample: GW01269IT (REAL) Date: 05/14/91 | | | Location: 4587 (KAR) Sample: GW01663IT (REAL) Date: 08/16/91 | | | Location: 4587 (KAR) Sample: GW02097IT (REAL) Date: 12/11/91 | | Location: 4587 (KAR) Sample: GW02377IT (REAL) Date: 02/22/92 | | Location: 4587 (KAR) Sample: GW03047IT (REAL) Date: 06/23/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 0.14 | U | 0.10 | U | 0.3 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.2 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.3 | U | V |
| 1,1-dichloropropene | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,2,3-trichlorobenzene | | | | | | | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2,3-trichloropropane | | | | | | | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2,4-trichlorobenzene | | | | | | | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2-dibromoethane | | | | | | | 0.50 | U | 0.50 | U | 0.2 | U | V |
| 1,2-dichlorobenzene | | | | | | | 0.10 | U | 0.10 | U | 0.3 | U | V |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | | | | | | | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,3-dichlorobenzene | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,3-dichloropropane | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 1,4-dichlorobenzene | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| 2-butanone | 10 | U | R | 10 | U | V | | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | R | 10 | U | V | | | | | | | |
| 4-methyl-2-pentanone | 10 | U | R | 10 | U | V | | | | | | | |
| acetone | 10 | U | R | 8 | BJ | JA | | | | | | | |
| benzene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.3 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| benzene, 1,3,5-trimethyl- | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| bromobenzene | | | | | | | 0.20 | U | 0.20 | U | 0.2 | U | V |
| bromochloromethane | | | | | | | 0.50 | U | 0.50 | U | 0.4 | U | V |
| bromodichloromethane | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.3 | U | V |
| bromoform | 5 | U | R | 5 | U | V | 0.50 | U | 0.50 | U | 0.6 | U | V |
| bromomethane | 10 | U | V | 10 | U | V | 1.0 | U | 1.0 | U | 0.4 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | V | | | | | | | |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.4 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | V | 0.1 | U | 0.1 | U | 0.2 | U | V |
| chloroethane | 10 | U | V | 10 | U | V | 0.50 | U | 0.50 | U | 0.8 | U | V |
| chloroform | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.1 | U | V |
| chloromethane | 10 | U | V | 10 | U | V | 0.50 | U | 0.50 | U | 0.2 | U | V |
| cis-1,2-dichloroethene | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | | | |
| cumene | | | | | | | 0.20 | U | 0.20 | U | 0.2 | U | V |
| dibromochloromethane | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.4 | U | V |
| dibromomethane | | | | | | | 0.50 | U | 0.50 | U | 0.2 | U | V |
| dichlorodifluoromethane | | | | | | | 0.50 | U | 0.50 | U | 0.4 | U | V |
| ethylbenzene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.2 | U | V |
| hexachlorobutadiene | | | | | | | 0.10 | U | 0.10 | U | 0.3 | U | V |
| m-xylene | | | | | | | 0.20 | U | 0.20 | U | | | |
| methylene chloride | 3 | BJ | JA | 5 | B | JA | 2.0 | U | 2.0 | U | 0.5 | B | JA |
| n-butylbenzene | | | | | | | 0.20 | U | 0.20 | U | 0.2 | U | V |
| n-propylbenzene | | | | | | | 0.20 | U | 0.20 | U | 0.2 | U | V |
| naphthalene | | | | | | | 0.20 | U | 0.20 | U | 0.2 | U | V |
| o-chlorotoluene | | | | | | | 0.20 | U | 0.20 | U | 0.3 | U | V |
| o-xylene | | | | | | | 0.20 | U | 0.20 | U | | | |
| p-chlorotoluene | | | | | | | 0.20 | U | 0.20 | U | 0.3 | U | V |
| p-cymene | | | | | | | 0.20 | U | 0.20 | U | 0.2 | U | V |
| propane, 1,2-dibromo-3-chloro- | | | | | | | 2.0 | U | 2.0 | U | 0.3 | U | V |
| sec-butylbenzene | | | | | | | 0.20 | U | 0.20 | U | 0.2 | U | V |
| sec-dichloropropane | | | | | | | 0.50 | U | 0.50 | U | 0.2 | U | V |
| styrene | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.3 | U | V |
| tert-butylbenzene | | | | | | | 0.20 | U | 0.20 | U | 0.3 | U | V |
| tetrachloroethene | 5 | U | V | 5 | U | V | 0.07 | | 0.10 | U | 0.2 | U | V |
| toluene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.2 | U | V |
| total xylenes | 5 | U | V | 5 | U | V | | | | | 0.3 | U | V |
| trans-1,2-dichloroethene | | | | | | | 0.10 | U | 0.10 | U | 0.2 | U | V |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | | | |
| trichloroethene | 5 | U | V | 5 | U | V | 0.10 | | 0.10 | U | 0.2 | U | V |
| trichlorofluoromethane | | | | | | | 0.50 | U | 0.50 | U | 0.2 | U | V |
| vinyl acetate | 10 | U | V | 10 | U | V | | | | | | | |
| vinyl chloride | 10 | U | V | 10 | U | V | 0.20 | U | 0.20 | U | 0.2 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 4887 (COL)<br>Sample: GW00039IT (REAL)<br>Date: 07/24/90 | | | Location: 4887 (COL)<br>Sample: GW01676IT (REAL)<br>Date: 08/21/91 | | | Location: 4887 (COL)<br>Sample: GW02833IT (REAL)<br>Date: 05/12/92 | | | Location: 4987 (COL)<br>Sample: GW02838IT (REAL)<br>Date: 05/12/92 | | Location: 5187 (RFA)<br>Sample: GS1870521021053 (UNKN)<br>Date: 05/22/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | 0.10 | U | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 0.20 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 0.20 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | 0.10 | U | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | 0.10 | U | | |
| 1,2,3-trichloropropane | | | | | | | | | | 0.10 | U | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | 0.10 | U | | |
| 1,2-dibromoethane | | | | | | | | | | 0.50 | U | | |
| 1,2-dichlorobenzene | | | | | | | | | | 0.10 | U | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | | 5 | U | V | 5 | U | V | | | 5 | U |
| 1,2-dichloropropane | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | 0.10 | U | | |
| 1,3-dichloropropane | | | | | | | | | | 0.10 | U | | |
| 1,4-dichlorobenzene | | | | | | | | | | 0.10 | U | | |
| 2-butanone | 10 | U | | 10 | U | R | 10 | U | V | | | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | V | 10 | U | V | | | 10 | U |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | V | 10 | U | V | | | 10 | U |
| acetone | 12 | | | 10 | U | R | 10 | U | V | | | 13 | B |
| benzene | 5 | U | | 5 | U | V | 5 | U | V | 0.20 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | 0.10 | U | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | 0.10 | U | | |
| bromobenzene | | | | | | | | | | 0.20 | U | | |
| bromochloromethane | | | | | | | | | | 0.50 | U | | |
| bromodichloromethane | 5 | U | | 5 | U | V | 5 | U | V | 0.20 | U | 5 | U |
| bromoform | 5 | U | | 5 | U | V | 5 | U | V | 0.50 | U | 5 | U |
| bromomethane | 10 | U | | 10 | U | V | 10 | U | V | 1.0 | U | 10 | U |
| carbon disulfide | 5 | U | | 5 | U | V | 5 | U | V | | | 5 | U |
| carbon tetrachloride | 5 | U | | 5 | U | V | 5 | U | V | 0.20 | U | 5 | U |
| chlorobenzene | 5 | U | | 5 | U | V | 5 | U | V | 0.1 | U | 5 | U |
| chloroethane | 10 | U | | 10 | U | V | 10 | U | V | 0.50 | U | 10 | U |
| chloroform | 5 | U | | 5 | U | V | 2 | BJ | JA | 0.10 | U | 5 | U |
| chloromethane | 10 | U | | 10 | U | V | 10 | U | V | 0.50 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | 0.10 | U | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| cumene | | | | | | | | | | 0.20 | U | | |
| dibromochloromethane | 5 | U | | 5 | U | V | 5 | U | V | 0.20 | U | 5 | U |
| dibromomethane | | | | | | | | | | 0.50 | U | | |
| dichlorodifluoromethane | | | | | | | | | | 0.50 | U | | |
| ethylbenzene | 5 | U | | 5 | U | V | 5 | U | V | 0.20 | U | 5 | U |
| hexachlorobutadiene | | | | | | | | | | 0.10 | U | | |
| m-xylene | | | | | | | | | | 0.20 | U | | |
| methylene chloride | 7 | B | | 5 | U | V | 5 | U | V | 2.0 | U | 6 | B |
| n-butylbenzene | | | | | | | | | | 0.20 | U | | |
| n-propylbenzene | | | | | | | | | | 0.20 | U | | |
| naphthalene | | | | | | | | | | 0.20 | U | | |
| o-chlorotoluene | | | | | | | | | | 0.20 | U | | |
| o-xylene | | | | | | | | | | 0.20 | U | | |
| p-chlorotoluene | | | | | | | | | | 0.20 | U | | |
| p-cymene | | | | | | | | | | 0.20 | U | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | 2.0 | U | | |
| sec-butylbenzene | | | | | | | | | | 0.20 | U | | |
| sec-dichloropropane | | | | | | | | | | 0.50 | U | | |
| styrene | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | 0.20 | U | | |
| tetrachloroethene | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 8 | |
| toluene | 5 | U | | 5 | U | V | 5 | U | V | 0.42 | | 5 | U |
| total xylenes | 5 | U | | 5 | U | V | 5 | U | V | | | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | 0.10 | U | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| trichloroethene | 5 | U | | 5 | U | V | 5 | U | V | 0.10 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | 0.50 | U | | |
| vinyl acetate | 10 | U | | 10 | U | V | 10 | U | V | | | 10 | U |
| vinyl chloride | 10 | U | | 10 | U | V | 10 | U | V | 0.20 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5187 (RFA) Sample: GW00276IT (REAL) Date: 08/22/90 | | | Location: 5187 (RFA) Sample: GW01428IT (REAL) Date: 06/12/91 | | | Location: 5187 (RFA) Sample: GW01630IT (REAL) Date: 08/09/91 | | | Location: 5187 (RFA) Sample: GW01711IT (REAL) Date: 09/05/91 | | | Location: 5187 (RFA) Sample: GW01926IT (REAL) Date: 10/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | R | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | R | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| acetone | 5 | J | | 10 | U | | 12 | B | | 10 | U | V | 10 | U | V |
| benzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | | 2 | J | A | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | B | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 7 | | | 9 | | | 13 | | | 8 | | V | 10 | | V |
| toluene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5187 (RFA) Sample: GW027181T (REAL) Date: 04/24/92 | | | Location: 5287 (RFA) Sample: G52870190001 (REAL) Date: 01/29/90 | | | Location: 5287 (RFA) Sample: G52870621021400 (REAL) Date: 06/21/90 | | | Location: 5287 (RFA) Sample: GW003011T (REAL) Date: 08/24/90 | | | Location: 5287 (RFA) Sample: GW007971T (REAL) Date: 12/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| acetone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 5 | BJ | JA |
| benzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | | 2 | JB | | 6 | B | | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 3 | J | A | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| toluene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5287 (RFA) Sample: GW01044IT (REAL) Date: 03/26/91 | | | Location: 5287 (RFA) Sample: GW01390IT (REAL) Date: 06/07/91 | | | Location: 5287 (RFA) Sample: GW01628IT (REAL) Date: 08/08/91 | | | Location: 5287 (RFA) Sample: GW01897IT (REAL) Date: 10/11/91 | | | Location: 5287 (RFA) Sample: GW02274IT (REAL) Date: 01/17/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | | | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | V | 6 | J | | 10 | U | V | 10 | U | V |
| benzene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 2 | BJ | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | 5 | U | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | V | 5 | U | | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5287 (RFA)<br>Sample: GW02719IT (REAL)<br>Date: 04/22/92 | | | Location: 5387 (COL)<br>Sample: G53870190001 (REAL)<br>Date: 02/05/90 | | | Location: 5387 (COL)<br>Sample: GW00127IT (REAL)<br>Date: 07/31/90 | | | Location: 5387 (COL)<br>Sample: GW01281IT (REAL)<br>Date: 05/14/91 | | | Location: 5387 (COL)<br>Sample: GW01699IT (REAL)<br>Date: 08/22/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 7 | | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | R | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | R | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 10 | U | | 10 | U | R | 10 | U | V |
| acetone | 10 | U | V | 10 | U | | 7 | BJ | | 10 | U | R | 10 | U | R |
| benzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | R | 5 | U | V |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 4 | J | | 3 | BJ | | 4 | BJ | JA | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 3 | J | | 5 | U | | 5 | U | V | 5 | U | V |
| toluene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | V | 5 | | | 5 | U | | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | R | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5387 (COL) Sample: GW02821IT (REAL) Date: 04/30/92 | | | Location: 5487 (COL) Sample: G54870190001 (REAL) Date: 01/30/90 | | | Location: 5487 (COL) Sample: GW00527IT (REAL) Date: 10/24/90 | | | Location: 5487 (COL) Sample: GW01282IT (REAL) Date: 05/14/91 | | | Location: 5487 (COL) Sample: GW01697IT (REAL) Date: 08/22/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | V |
| acetone | 6 | BJ | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | R |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | R | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 2 | BJ | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | U | | 5 | U | | 5 | U | V | 4 | BJ | JA | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5487 (COL)<br>Sample: GW02016IT (REAL)<br>Date: 11/18/91 | | | Location: 5487 (COL)<br>Sample: GW02822IT (REAL)<br>Date: 04/30/92 | | | Location: 5587 (VFA)<br>Sample: GW01681IT (REAL)<br>Date: 08/19/91 | | | Location: 5587 (VFA)<br>Sample: GW02834IT (REAL)<br>Date: 05/08/92 | | Location: 5886 (VFA)<br>Sample: GW02385IT (REAL)<br>Date: 02/19/92 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.14 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| 1,1-dichloropropene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2,3-trichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2,3-trichloropropane | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2,4-trichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2-dibromoethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| 1,2-dichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,2-dichloroethane | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | | 5 | U | V | | | | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,3-dichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,3-dichloropropane | | | | | | | | | | 0.10 | U | 0.10 | U |
| 1,4-dichlorobenzene | | | | | | | | | | 0.10 | U | 0.10 | U |
| 2-butanone | 10 | U | V | 10 | U | | 10 | U | V | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | | 10 | U | V | | | | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | | 10 | U | V | | | | |
| acetone | 10 | U | V | 10 | U | | 6 | BJ | JA | | | | |
| benzene | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | 0.10 | U | 0.10 | U |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | 0.10 | U | 0.10 | U |
| bromobenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| bromochloromethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| bromodichloromethane | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| bromoform | 5 | U | V | 5 | U | | 5 | U | V | 0.50 | U | 0.50 | U |
| bromomethane | 10 | U | V | 10 | U | | 10 | U | V | 1.0 | U | 1.0 | U |
| carbon disulfide | 5 | U | V | 5 | U | | 5 | U | V | | | | |
| carbon tetrachloride | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| chlorobenzene | 5 | U | V | 5 | U | | 5 | U | V | 0.1 | U | 0.1 | U |
| chloroethane | 10 | U | V | 10 | U | | 10 | U | V | 0.50 | U | 0.50 | U |
| chloroform | 5 | U | V | 1 | BJ | | 5 | U | V | 0.10 | U | 0.10 | U |
| chloromethane | 10 | U | V | 10 | U | | 10 | U | V | 0.50 | U | 0.50 | U |
| cis-1,2-dichloroethene | | | | | | | | | | 0.10 | U | 0.10 | U |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| cumene | | | | | | | | | | 0.20 | U | 0.20 | U |
| dibromochloromethane | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| dibromomethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| dichlorodifluoromethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| ethylbenzene | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| hexachlorobutadiene | | | | | | | | | | 0.10 | U | 0.10 | U |
| m-xylene | | | | | | | | | | 0.20 | U | 0.20 | U |
| methylene chloride | 5 | U | V | 5 | U | | 5 | U | V | 5.1 | | 2.0 | U |
| n-butylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| n-propylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| naphthalene | | | | | | | | | | 0.20 | U | 0.20 | U |
| o-chlorotoluene | | | | | | | | | | 0.20 | U | 0.20 | U |
| o-xylene | | | | | | | | | | 0.20 | U | 0.20 | U |
| p-chlorotoluene | | | | | | | | | | 0.20 | U | 0.20 | U |
| p-cymene | | | | | | | | | | 0.20 | U | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | 2.0 | U | 2.0 | U |
| sec-butylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| sec-dichloropropane | | | | | | | | | | 0.50 | U | 0.50 | U |
| styrene | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| tert-butylbenzene | | | | | | | | | | 0.20 | U | 0.20 | U |
| tetrachloroethene | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| toluene | 5 | U | V | 5 | U | | 5 | U | V | 0.20 | U | 0.20 | U |
| total xylenes | 5 | U | V | 5 | U | | 5 | U | V | | | | |
| trans-1,2-dichloroethene | | | | | | | | | | 0.10 | U | 0.10 | U |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| trichloroethene | 5 | U | V | 5 | U | | 5 | U | V | 0.10 | U | 0.10 | U |
| trichlorofluoromethane | | | | | | | | | | 0.50 | U | 0.50 | U |
| vinyl acetate | 10 | U | V | 10 | U | | 10 | U | R | | | | |
| vinyl chloride | 10 | U | V | 10 | U | | 10 | U | V | 0.20 | U | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5986 (WCS) Sample: G59860390001 (REAL) Date: 03/20/90 | | | Location: 5986 (WCS) Sample: GW00014IT (REAL) Date: 07/18/90 | | | Location: 5986 (WCS) Sample: GW00500IT (REAL) Date: 10/09/90 | | | Location: 5986 (WCS) Sample: GW00985IT (REAL) Date: 03/15/91 | | | Location: 5986 (WCS) Sample: GW01265IT (REAL) Date: 05/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 3 | BJ | JA | 17 | B | JA | 10 | U | V |
| benzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | R | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 3 | JB | | 5 | U | | 5 | U | V | 1 | BJ | JA | 5 | U | V |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | JA | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interferance from another compound; Z-value cannot be estimated/ interferance from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 5986 (WCS) Sample: GW01700IT (REAL) Date: 08/22/91 | | | Location: 5986 (WCS) Sample: GW02018IT (REAL) Date: 11/15/91 | | | Location: 6286 (WCS) Sample: G62860290001 (REAL) Date: 02/16/90 | | Location: 6286 (WCS) Sample: G62860612021415 (REAL) Date: 06/13/90 | | Location: 6286 (WCS) Sample: GW00402IT (REAL) Date: 09/18/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | |
| 2-butanone | 10 | U | R | 10 | U | V | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | 10 | U | | |
| 2-hexanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| acetone | 2 | BJ | JA | 10 | U | V | 10 | U | 1 | JB | 2 | BJ |
| benzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| bromoform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| bromomethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 1 | J | 3 | U | 2 | J |
| chlorobenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| chloroethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| chloroform | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| chloromethane | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| cumene | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| dibromomethane | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | |
| ethylbenzene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 1 | BJ |
| hexachlorobutadiene | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | |
| methylene chloride | 5 | U | V | 5 | U | V | 5 | B | 3 | JB | 5 | U |
| n-butylbenzene | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | |
| o-xylene | | | | | | | | | 5 | U | | |
| p-chlorotoluene | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | |
| styrene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| toluene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| total xylenes | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | | | | | | | | | | | | |
| vinyl acetate | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 10 | U | V | 10 | U | V | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6286 (WCS) Sample: GW00731IT (REAL) Date: 11/21/90 | | | Location: 6286 (WCS) Sample: GW00855IT (REAL) Date: 01/09/91 | | | Location: 6286 (WCS) Sample: GW01284IT (REAL) Date: 05/14/91 | | | Location: 6286 (WCS) Sample: GW01708IT (REAL) Date: 08/22/91 | | | Location: 6286 (WCS) Sample: GW02046IT (REAL) Date: 11/25/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | 0.10 | U |
| 1,1,1-trichloroethane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U |
| 1,1,2-trichloroethane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.14 | U |
| 1,1-dichloroethane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U |
| 1,1-dichloroethene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U |
| 1,1-dichloropropene | | | | | | | | | | | | | 0.10 | U |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,2,3-trichloropropane | | | | | | | | | | | | | 0.10 | U |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,2-dibromoethane | | | | | | | | | | | | | 0.50 | U |
| 1,2-dichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,2-dichloroethane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U |
| 1,2-dichloroethene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | | |
| 1,2-dichloropropane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U |
| 1,3-dichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 1,3-dichloropropane | | | | | | | | | | | | | 0.10 | U |
| 1,4-dichlorobenzene | | | | | | | | | | | | | 0.10 | U |
| 2-butanone | 10 | U | R | 10 | U | V | 10 | U | R | 10 | U | R | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | R | | |
| 4-methyl-2-pentanone | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V | | |
| acetone | 11 | B | JA | 10 | U | V | 10 | U | V | 10 | U | V | | |
| benzene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | 0.10 | U |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | 0.10 | U |
| bromobenzene | | | | | | | | | | | | | 0.20 | U |
| bromochloromethane | | | | | | | | | | | | | 0.50 | U |
| bromodichloromethane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U |
| bromoform | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.50 | U |
| bromomethane | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V | 1.0 | U |
| carbon disulfide | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | | |
| carbon tetrachloride | 4 | J | A | 6 | | V | 4 | J | A | 5 | | V | 5.02 | |
| chlorobenzene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.1 | U |
| chloroethane | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V | 0.50 | U |
| chloroform | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.43 | |
| chloromethane | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V | 0.50 | U |
| cis-1,2-dichloroethene | | | | | | | | | | | | | 0.10 | U |
| cis-1,3-dichloropropene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U |
| cumene | | | | | | | | | | | | | 0.20 | U |
| dibromochloromethane | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U |
| dibromomethane | | | | | | | | | | | | | 0.50 | U |
| dichlorodifluoromethane | | | | | | | | | | | | | 2.82 | |
| ethylbenzene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | U |
| hexachlorobutadiene | | | | | | | | | | | | | 0.10 | U |
| m-xylene | | | | | | | | | | | | | 0.20 | U |
| methylene chloride | 3 | BJ | JA | 2 | J | A | 2 | BJ | JA | 5 | U | V | 2.0 | U |
| n-butylbenzene | | | | | | | | | | | | | 0.20 | U |
| n-propylbenzene | | | | | | | | | | | | | 0.20 | U |
| naphthalene | | | | | | | | | | | | | 0.20 | U |
| o-chlorotoluene | | | | | | | | | | | | | 0.20 | U |
| o-xylene | | | | | | | | | | | | | 0.20 | U |
| p-chlorotoluene | | | | | | | | | | | | | 0.20 | U |
| p-cymene | | | | | | | | | | | | | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | 2.0 | U |
| sec-butylbenzene | | | | | | | | | | | | | 0.20 | U |
| sec-dichloropropane | | | | | | | | | | | | | 0.50 | U |
| styrene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U |
| tert-butylbenzene | | | | | | | | | | | | | 0.20 | U |
| tetrachloroethene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.20 | |
| toluene | 5 | | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.27 | |
| total xylenes | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | | |
| trans-1,2-dichloroethene | | | | | | | | | | | | | 0.10 | U |
| trans-1,3-dichloropropene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.10 | U |
| trichloroethene | 5 | U | JA | 5 | U | V | 5 | U | V | 5 | U | V | 0.04 | U |
| trichlorofluoromethane | | | | | | | | | | | | | 0.50 | U |
| vinyl acetate | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V | | |
| vinyl chloride | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6286 (WCS)<br>Sample: GW02378IT (REAL)<br>Date: 02/11/92 | | | Location: 6286 (WCS)<br>Sample: GW03056IT (REAL)<br>Date: 06/11/92 | | | Location: 6386 (COL)<br>Sample: G63860612021210 (REAL)<br>Date: 06/13/90 | | | Location: 6386 (COL)<br>Sample: GW00403IT (REAL)<br>Date: 09/19/90 | | | Location: 6386 (COL)<br>Sample: GW01709IT (REAL)<br>Date: 08/22/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,1,1-trichloroethane | 0.10 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 0.10 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1,2-trichloroethane | 0.14 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1-dichloroethane | 0.20 | U | | 0.20 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1-dichloroethene | 0.20 | U | | 0.20 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,1-dichloropropene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,2,3-trichlorobenzene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,2,3-trichloropropane | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,2,4-trichlorobenzene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,2-dibromoethane | 0.50 | U | | 0.50 | U | | | | | | | | | | |
| 1,2-dichlorobenzene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,2-dichloroethane | 0.10 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,2-dichloroethene | | | | | | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,2-dichloropropane | 0.10 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| 1,3-dichlorobenzene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,3-dichloropropane | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 1,4-dichlorobenzene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| 2-butanone | | | | | | | 10 | U | | 2 | BJ | JA | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | | | | | | | 10 | U | | 10 | U | JA | 10 | U | R |
| 4-methyl-2-pentanone | | | | | | | 10 | U | | 10 | U | JA | 10 | U | V |
| acetone | | | | | | | 11 | | | 4 | J | A | 10 | U | V |
| benzene | 0.20 | U | | 0.20 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| benzene, 1,2,4-trimethyl | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| bromobenzene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| bromochloromethane | 0.50 | U | | 0.50 | U | | | | | | | | | | |
| bromodichloromethane | 0.20 | U | | 0.20 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| bromoform | 0.50 | U | | 0.50 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| bromomethane | 1.0 | U | | 1.00 | U | | 10 | U | | 10 | U | R | 10 | U | V |
| carbon disulfide | | | | | | | 5 | U | | 5 | U | JA | 5 | U | V |
| carbon tetrachloride | 1.7 | | | 5.30 | | | 5 | U | | 5 | U | JA | 5 | U | V |
| chlorobenzene | 0.1 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| chloroethane | 0.50 | U | | 0.50 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| chloroform | 3.3 | | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| chloromethane | 0.50 | U | | 0.50 | U | | 10 | U | | 10 | U | JA | 10 | U | V |
| cis-1,2-dichloroethene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| cis-1,3-dichloropropene | 0.10 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| cumene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| dibromochloromethane | 0.20 | U | | 0.20 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| dibromomethane | 0.50 | U | | 0.50 | U | | | | | | | | | | |
| dichlorodifluoromethane | 0.50 | U | | 0.50 | U | | | | | | | | | | |
| ethylbenzene | 0.20 | U | | 0.20 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| hexachlorobutadiene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| m-xylene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| methylene chloride | 2.0 | U | | 2.00 | U | | 4 | JB | | 3 | BJ | JA | 5 | U | V |
| n-butylbenzene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| n-propylbenzene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| naphthalene | 0.20 | U | | 2.40 | | | | | | | | | | | |
| o-chlorotoluene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| o-xylene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| p-chlorotoluene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| p-cymene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | | 2.00 | U | | | | | | | | | | |
| sec-butylbenzene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| sec-dichloropropane | 0.50 | U | | 0.50 | U | | | | | | | | | | |
| styrene | 0.10 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| tert-butylbenzene | 0.20 | U | | 0.20 | U | | | | | | | | | | |
| tetrachloroethene | 0.2 | | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| toluene | 0.3 | | | 0.20 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| total xylenes | | | | | | | 5 | U | | 5 | U | JA | 5 | U | V |
| trans-1,2-dichloroethene | 0.10 | U | | 0.10 | U | | | | | | | | | | |
| trans-1,3-dichloropropene | 0.10 | U | | 0.10 | U | | 5 | U | | 5 | U | JA | 5 | U | V |
| trichloroethene | 0.30 | | | 0.31 | | | 5 | U | | 5 | U | JA | 1 | J | A |
| trichlorofluoromethane | 0.50 | U | | 0.50 | U | | | | | | | | | | |
| vinyl acetate | | | | | | | 10 | U | | 10 | U | JA | 10 | U | V |
| vinyl chloride | 0.20 | U | | 0.20 | U | | 10 | U | | 10 | U | JA | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6386 (COL)<br>Sample: GW03057IT (REAL)<br>Date: 06/11/92 | | Location: 6486 (VFA)<br>Sample: G64860524020840 (REAL)<br>Date: 05/25/90 | | Location: 6486 (VFA)<br>Sample: GW01705IT (REAL)<br>Date: 08/22/91 | | | Location: 6486 (VFA)<br>Sample: GW02048IT (REAL)<br>Date: 12/07/91 | | Location: 6486 (VFA)<br>Sample: GW02325IT (REAL)<br>Date: 02/14/92 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,1,1-trichloroethane | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,1,2-trichloroethane | 0.10 | U | 5 | U | 5 | U | V | 0.14 | U | 0.14 | U |
| 1,1-dichloroethane | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 0.20 | U |
| 1,1-dichloroethene | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 0.20 | U |
| 1,1-dichloropropene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,2,3-trichlorobenzene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,2,3-trichloropropane | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,2,4-trichlorobenzene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,2-dibromoethane | 0.50 | U | | | | | | 0.50 | U | 0.50 | U |
| 1,2-dichlorobenzene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,2-dichloroethane | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,2-dichloroethene | | | 5 | U | 5 | U | V | | | | |
| 1,2-dichloropropane | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.10 | U |
| 1,3-dichlorobenzene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,3-dichloropropane | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 1,4-dichlorobenzene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| 2-butanone | | | 10 | U | 10 | U | R | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | |
| 2-hexanone | | | 10 | U | 10 | U | R | | | | |
| 4-methyl-2-pentanone | | | 10 | U | 10 | U | V | | | | |
| acetone | | | 8 | JB | 10 | U | V | | | | |
| benzene | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 0.20 | U |
| benzene, 1,2,4-trimethyl | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| benzene, 1,3,5-trimethyl- | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| bromobenzene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| bromochloromethane | 0.50 | U | | | | | | 0.50 | U | 0.50 | U |
| bromodichloromethane | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 0.20 | U |
| bromoform | 0.50 | U | 5 | U | 5 | U | V | 0.50 | U | 0.50 | U |
| bromomethane | 1.00 | U | 10 | U | 10 | U | V | 1.0 | U | 1.0 | U |
| carbon disulfide | | | 5 | U | 5 | U | V | | | | |
| carbon tetrachloride | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 1.40 | |
| chlorobenzene | 0.10 | U | 5 | U | 5 | U | V | 0.1 | U | 0.1 | U |
| chloroethane | 0.50 | U | 10 | U | 10 | U | V | 0.50 | U | 0.50 | U |
| chloroform | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.11 | |
| chloromethane | 0.50 | U | 10 | U | 10 | U | V | 0.50 | U | 0.50 | U |
| cis-1,2-dichloroethene | 0.10 | U | | | | | | 0.10 | U | 0.18 | |
| cis-1,3-dichloropropene | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.10 | U |
| cumene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| dibromochloromethane | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 0.20 | U |
| dibromomethane | 0.50 | U | | | | | | 0.50 | U | 0.50 | U |
| dichlorodifluoromethane | 0.50 | U | | | | | | 0.50 | U | 0.50 | U |
| ethylbenzene | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 0.20 | U |
| hexachlorobutadiene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| m-xylene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| methylene chloride | 2.00 | U | 5 | B | 5 | U | V | 2.0 | U | 2.0 | U |
| n-butylbenzene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| n-propylbenzene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| naphthalene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| o-chlorotoluene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| o-xylene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| p-chlorotoluene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| p-cymene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | 2.00 | U | | | | | | 2.0 | U | 2.0 | U |
| sec-butylbenzene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| sec-dichloropropane | 0.50 | U | | | | | | 0.50 | U | 0.50 | U |
| styrene | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.10 | U |
| tert-butylbenzene | 0.20 | U | | | | | | 0.20 | U | 0.20 | U |
| tetrachloroethene | 0.10 | U | 5 | U | 5 | U | V | 0.04 | U | 0.46 | |
| toluene | 0.20 | U | 5 | U | 5 | U | V | 0.20 | U | 0.20 | U |
| total xylenes | | | 5 | U | 5 | U | V | | | | |
| trans-1,2-dichloroethene | 0.10 | U | | | | | | 0.10 | U | 0.10 | U |
| trans-1,3-dichloropropene | 0.10 | U | 5 | U | 5 | U | V | 0.10 | U | 0.10 | U |
| trichloroethene | 0.10 | U | 5 | U | 5 | U | V | 0.04 | U | 0.29 | |
| trichlorofluoromethane | 0.50 | U | | | | | | 0.50 | U | 0.50 | U |
| vinyl acetate | | | 10 | U | 10 | U | V | | | | |
| vinyl chloride | 0.20 | U | 10 | U | 10 | U | V | 0.20 | U | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6486 (VFA)<br>Sample: GW02839IT (REAL)<br>Date: 04/30/92 | | Location: 6886 (VFA)<br>Sample: G68860523021005 (REAL)<br>Date: 05/23/90 | | Location: 6886 (VFA)<br>Sample: G68860523021045 (DUP)<br>Date: 05/23/90 | | Location: 6886 (VFA)<br>Sample: GW00187IT (REAL)<br>Date: 08/01/90 | | Location: 6886 (VFA)<br>Sample: GW00190IT (DUP)<br>Date: 08/01/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | | | | | | | | |
| 1,1,1-trichloroethane | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2,2-tetrachloroethane | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1,2-trichloroethane | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethane | 0.20 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloroethene | 0.20 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,1-dichloropropene | 0.10 | U | | | | | | | | |
| 1,2,3-trichlorobenzene | 0.10 | U | | | | | | | | |
| 1,2,3-trichloropropane | 0.10 | U | | | | | | | | |
| 1,2,4-trichlorobenzene | 0.10 | U | | | | | | | | |
| 1,2-dibromoethane | 0.50 | U | | | | | | | | |
| 1,2-dichlorobenzene | 0.10 | U | | | | | | | | |
| 1,2-dichloroethane | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloroethene | | | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,2-dichloropropane | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| 1,3-dichlorobenzene | 0.10 | U | | | | | | | | |
| 1,3-dichloropropane | 0.10 | U | | | | | | | | |
| 1,4-dichlorobenzene | 0.10 | U | | | | | | | | |
| 2-butanone | | | 10 | U | 10 | U | 10 | U | 10 | U |
| 2-chloroethyl vinyl ether | | | | | | | | | | |
| 2-hexanone | | | 10 | U | 10 | U | 10 | U | 10 | U |
| 4-methyl-2-pentanone | | | 10 | U | 10 | U | 10 | U | 10 | U |
| acetone | | | 10 | U | 10 | U | 5 | J | 5 | J |
| benzene | 0.20 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| benzene, 1,2,4-trimethyl | 0.10 | U | | | | | | | | |
| benzene, 1,3,5-trimethyl- | 0.10 | U | | | | | | | | |
| bromobenzene | 0.20 | U | | | | | | | | |
| bromochloromethane | 0.50 | U | | | | | | | | |
| bromodichloromethane | 0.20 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromoform | 0.50 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| bromomethane | 1.0 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| carbon disulfide | | | 5 | U | 5 | U | 5 | U | 5 | U |
| carbon tetrachloride | 0.20 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chlorobenzene | 0.1 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloroethane | 0.50 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| chloroform | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| chloromethane | 0.50 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| cis-1,2-dichloroethene | 0.10 | U | | | | | | | | |
| cis-1,3-dichloropropene | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| cumene | 0.20 | U | | | | | | | | |
| dibromochloromethane | 0.20 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| dibromomethane | 0.50 | U | | | | | | | | |
| dichlorodifluoromethane | 0.50 | U | | | | | | | | |
| ethylbenzene | 0.20 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| hexachlorobutadiene | 0.10 | U | | | | | | | | |
| m-xylene | 0.20 | U | | | | | | | | |
| methylene chloride | 4.3 | | 5 | U | 5 | U | 5 | U | 5 | U |
| n-butylbenzene | 0.20 | U | | | | | | | | |
| n-propylbenzene | 0.20 | U | | | | | | | | |
| naphthalene | 0.20 | U | | | | | | | | |
| o-chlorotoluene | 0.20 | U | | | | | | | | |
| o-xylene | 0.20 | U | | | | | | | | |
| p-chlorotoluene | 0.20 | U | | | | | | | | |
| p-cymene | 0.20 | U | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | | | | | | | | |
| sec-butylbenzene | 0.20 | U | | | | | | | | |
| sec-dichloropropane | 0.50 | U | | | | | | | | |
| styrene | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| tert-butylbenzene | 0.20 | U | | | | | | | | |
| tetrachloroethene | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| toluene | 0.24 | | 5 | U | 5 | U | 5 | U | 5 | U |
| total xylenes | | | 5 | U | 5 | U | 5 | U | 5 | U |
| trans-1,2-dichloroethene | 0.10 | U | | | | | | | | |
| trans-1,3-dichloropropene | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichloroethene | 0.10 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| trichlorofluoromethane | 0.50 | U | | | | | | | | |
| vinyl acetate | | | 10 | U | 10 | U | 10 | U | 10 | U |
| vinyl chloride | 0.20 | U | 10 | U | 10 | U | 10 | U | 10 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interferance from another compound; Z-value cannot be estimated/ interferance from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6886 (VFA) Sample: GW00629IT (REAL) Date: 11/02/90 | | | Location: 6886 (VFA) Sample: GW00991IT (REAL) Date: 03/19/91 | | | Location: 6886 (VFA) Sample: GW01286IT (REAL) Date: 05/14/91 | | | Location: 6886 (VFA) Sample: GW01289IT (DUP) Date: 05/14/91 | | | Location: 6886 (VFA) Sample: GW01751IT (REAL) Date: 09/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | | | | | 5 | U | V | 5 | U | V | | | |
| 1,2-dichloropropane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | | 10 | U | | 10 | U | R | 10 | U | R | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | | 10 | U | | 10 | U | R | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | | 10 | U | | 10 | U | R | 10 | U | V | 10 | U | V |
| acetone | 10 | U | | 10 | U | | 10 | U | R | 10 | U | V | 6 | BJ | JA |
| benzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | | 5 | U | | 5 | U | R | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 6 | B | | 2 | BJ | | 5 | U | V | 5 | B | JA | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | 5 | U | | | | | | | | 5 | U | V |
| trans-1,3-dichloropropene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | | 5 | U | | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| vinyl chloride | 10 | U | | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6886 (VFA) Sample: GW02058IT (REAL) Date: 11/25/91 | | | Location: 6886 (VFA) Sample: GW02060IT (DUP) Date: 11/25/91 | | | Location: 6886 (VFA) Sample: GW02381IT (REAL) Date: 02/26/92 | | Location: 6886 (VFA) Sample: GW02383IT (DUP) Date: 02/26/92 | | Location: 6886 (VFA) Sample: GW02825IT (REAL) Date: 05/15/92 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,1-trichloroethane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2,2-tetrachloroethane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1,2-trichloroethane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,1-dichloroethane | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloroethene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |
| 1,1-dichloropropene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichlorobenzene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,3-trichloropropane | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2,4-trichlorobenzene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dibromoethane | 0.50 | U | | | | | 0.50 | U | 0.50 | U | 0.50 | U |
| 1,2-dichlorobenzene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,2-dichloroethene | 5 | U | V | 5 | U | V | | | | | | |
| 1,2-dichloropropane | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,3-dichlorobenzene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,3-dichloropropane | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 1,4-dichlorobenzene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| 2-butanone | 10 | U | R | 10 | U | R | | | | | | |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | 10 | U | V | 10 | U | V | | | | | | |
| 4-methyl-2-pentanone | 10 | U | V | 10 | U | V | | | | | | |
| acetone | 2 | BJ | JA | 10 | U | V | | | | | | |
| benzene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |
| benzene, 1,2,4-trimethyl | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| benzene, 1,3,5-trimethyl- | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| bromobenzene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| bromochloromethane | 0.50 | U | | | | | 0.50 | U | 0.50 | U | 0.50 | U |
| bromodichloromethane | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |
| bromoform | 5 | U | V | 5 | U | V | 0.50 | U | 0.50 | U | 0.50 | U |
| bromomethane | 10 | U | V | 10 | U | V | 1.0 | U | 1.0 | U | 1.0 | U |
| carbon disulfide | 5 | U | V | 5 | U | V | | | | | | |
| carbon tetrachloride | 5 | U | V | 5 | U | V | 0.10 | J | 0.20 | U | 0.20 | U |
| chlorobenzene | 5 | U | V | 5 | U | V | 0.1 | U | 0.1 | U | 0.1 | U |
| chloroethane | 10 | U | V | 10 | U | V | 0.50 | U | 0.50 | U | 0.50 | U |
| chloroform | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| chloromethane | 10 | U | V | 10 | U | V | 0.50 | U | 0.50 | U | 0.50 | U |
| cis-1,2-dichloroethene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| cis-1,3-dichloropropene | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| cumene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromochloromethane | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |
| dibromomethane | 0.50 | U | | | | | 0.50 | U | 0.50 | U | 0.50 | U |
| dichlorodifluoromethane | 0.81 | J | | | | | 0.50 | U | 0.50 | U | 0.50 | U |
| ethylbenzene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |
| hexachlorobutadiene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| m-xylene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| methylene chloride | 5 | U | V | 5 | U | V | 2.0 | U | 2.0 | U | 2.0 | U |
| n-butylbenzene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| n-propylbenzene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| naphthalene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| o-chlorotoluene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| o-xylene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| p-chlorotoluene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| p-cymene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | | | | | 2.0 | U | 2.0 | U | 2.0 | U |
| sec-butylbenzene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.69 | B |
| sec-dichloropropane | 0.50 | U | | | | | 0.50 | U | 0.50 | U | 0.50 | U |
| styrene | 5 | U | V | 5 | U | V | 0.10 | U | 0.4 | | 0.10 | U |
| tert-butylbenzene | 0.20 | U | | | | | 0.20 | U | 0.20 | U | 0.20 | U |
| tetrachloroethene | 5 | U | V | 5 | U | V | 0.3 | | 0.8 | | 4.5 | |
| toluene | 5 | U | V | 5 | U | V | 0.20 | U | 0.20 | U | 0.15 | J |
| total xylenes | 5 | U | V | 5 | U | V | | | | | | |
| trans-1,2-dichloroethene | 0.10 | U | | | | | 0.10 | U | 0.10 | U | 0.10 | U |
| trans-1,3-dichloropropene | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.10 | U |
| trichloroethene | 5 | U | V | 5 | U | V | 0.10 | U | 0.10 | U | 0.11 | |
| trichlorofluoromethane | 0.50 | U | | | | | 0.50 | U | 0.50 | U | 0.50 | U |
| vinyl acetate | 10 | U | V | 10 | U | V | | | | | | |
| vinyl chloride | 10 | U | V | 10 | U | V | 0.20 | U | 0.20 | U | 0.20 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW02827IT (DUP)<br>Date: 05/15/92 | | Location: 6986 (COL)<br>Sample: G69860290001 (REAL)<br>Date: 02/12/90 | | | Location: 6986 (COL)<br>Sample: GW00018IT (REAL)<br>Date: 07/17/90 | | Location: 6986 (COL)<br>Sample: GW00509IT (REAL)<br>Date: 10/23/90 | | Location: 6986 (COL)<br>Sample: GW00925IT (REAL)<br>Date: 03/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | 0.10 | U | | | | | | | | | | |
| 1,1,1-trichloroethane | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1,2-trichloroethane | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1-dichloroethane | 0.20 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1-dichloroethene | 0.20 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,1-dichloropropene | 0.10 | U | | | | | | | | | | |
| 1,2,3-trichlorobenzene | 0.10 | U | | | | | | | | | | |
| 1,2,3-trichloropropane | 0.10 | U | | | | | | | | | | |
| 1,2,4-trichlorobenzene | 0.10 | U | | | | | | | | | | |
| 1,2-dibromoethane | 0.50 | U | | | | | | | | | | |
| 1,2-dichlorobenzene | 0.10 | U | | | | | | | | | | |
| 1,2-dichloroethane | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,2-dichloroethene | | | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,2-dichloropropane | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| 1,3-dichlorobenzene | 0.10 | U | | | | | | | | | | |
| 1,3-dichloropropane | 0.10 | U | | | | | | | | | | |
| 1,4-dichlorobenzene | 0.10 | U | | | | | | | | | | |
| 2-butanone | | | 10 | U | R | 10 | U | 10 | U | 10 | U | R |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | |
| 2-hexanone | | | 10 | U | V | 43 | | 10 | U | 10 | U | R |
| 4-methyl-2-pentanone | | | 10 | U | V | 10 | U | 10 | U | 10 | U | R |
| acetone | | | 10 | U | V | 100 | | 10 | U | 24 | B | JA |
| benzene | 0.20 | U | 5 | UJ | A | 3 | J | 5 | U | 5 | U | JA |
| benzene, 1,2,4-trimethyl | 0.10 | U | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | 0.10 | U | | | | | | | | | | |
| bromobenzene | 0.20 | U | | | | | | | | | | |
| bromochloromethane | 0.50 | U | | | | | | | | | | |
| bromodichloromethane | 0.20 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| bromoform | 0.50 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| bromomethane | 1.0 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| carbon disulfide | | | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| carbon tetrachloride | 0.20 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| chlorobenzene | 0.1 | U | 5 | UJ | A | 5 | U | 5 | U | 5 | U | JA |
| chloroethane | 0.50 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| chloroform | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| chloromethane | 0.50 | U | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| cis-1,2-dichloroethene | 0.10 | U | | | | | | | | | | |
| cis-1,3-dichloropropene | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| cumene | 0.20 | U | | | | | | | | | | |
| dibromochloromethane | 0.20 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| dibromomethane | 0.50 | U | | | | | | | | | | |
| dichlorodifluoromethane | 0.50 | U | | | | | | | | | | |
| ethylbenzene | 0.20 | U | 5 | UJ | A | 5 | U | 5 | U | 5 | U | JA |
| hexachlorobutadiene | 0.10 | U | | | | | | | | | | |
| m-xylene | 0.20 | U | | | | | | | | | | |
| methylene chloride | 2.0 | U | 12 | UJ | A | 6 | B | 4 | BJ | 6 | | V |
| n-butylbenzene | 0.20 | U | | | | | | | | | | |
| n-propylbenzene | 0.20 | U | | | | | | | | | | |
| naphthalene | 0.27 | | | | | | | | | | | |
| o-chlorotoluene | 0.20 | U | | | | | | | | | | |
| o-xylene | 0.20 | U | | | | | | | | | | |
| p-chlorotoluene | 0.20 | U | | | | | | | | | | |
| p-cymene | 0.20 | U | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | 2.0 | U | | | | | | | | | | |
| sec-butylbenzene | 0.84 | B | | | | | | | | | | |
| sec-dichloropropane | 0.50 | U | | | | | | | | | | |
| styrene | 0.10 | U | 5 | UJ | A | 5 | U | 5 | U | 5 | U | JA |
| tert-butylbenzene | 0.20 | U | | | | | | | | | | |
| tetrachloroethene | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| toluene | 0.20 | U | 5 | UJ | A | 5 | U | 5 | U | 5 | U | JA |
| total xylenes | | | 5 | UJ | A | 5 | U | 5 | U | 5 | U | JA |
| trans-1,2-dichloroethene | 0.10 | U | | | | | | | | | | |
| trans-1,3-dichloropropene | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| trichloroethene | 0.10 | U | 5 | U | V | 5 | U | 5 | U | 5 | U | V |
| trichlorofluoromethane | 0.50 | U | | | | | | | | | | |
| vinyl acetate | | | 10 | U | V | 10 | U | 10 | U | 10 | U | V |
| vinyl chloride | 0.28 | | 10 | U | V | 10 | U | 10 | U | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-a

## Groundwater Volatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 6986 (COL) Sample: GW00927IT (DUP) Date: 03/06/91 | | | Location: 6986 (COL) Sample: GW01277IT (REAL) Date: 05/13/91 | | | Location: 6986 (COL) Sample: GW01692IT (REAL) Date: 08/20/91 | | | Location: 6986 (COL) Sample: GW01695IT (DUP) Date: 08/20/91 | | | Location: 6986 (COL) Sample: GW02020IT (REAL) Date: 11/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1,2-tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-trichloroethane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2,2-tetrachloroethane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1,2-trichloroethane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloroethene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,1-dichloropropene | | | | | | | | | | | | | | | |
| 1,2,3-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2,3-trichloropropane | | | | | | | | | | | | | | | |
| 1,2,4-trichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dibromoethane | | | | | | | | | | | | | | | |
| 1,2-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,2-dichloroethane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloroethene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,2-dichloropropane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| 1,3-dichlorobenzene | | | | | | | | | | | | | | | |
| 1,3-dichloropropane | | | | | | | | | | | | | | | |
| 1,4-dichlorobenzene | | | | | | | | | | | | | | | |
| 2-butanone | 10 | U | R | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloroethyl vinyl ether | | | | | | | | | | | | | | | |
| 2-hexanone | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methyl-2-pentanone | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acetone | 9 | BJ | JA | 10 | U | R | 10 | U | V | 11 | B | JA | 10 | U | V |
| benzene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| benzene, 1,2,4-trimethyl | | | | | | | | | | | | | | | |
| benzene, 1,3,5-trimethyl- | | | | | | | | | | | | | | | |
| bromobenzene | | | | | | | | | | | | | | | |
| bromochloromethane | | | | | | | | | | | | | | | |
| bromodichloromethane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromoform | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| bromomethane | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| carbon disulfide | 2 | J | A | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| carbon tetrachloride | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chlorobenzene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloroethane | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chloroform | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| chloromethane | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| cis-1,2-dichloroethene | | | | | | | | | | | | | | | |
| cis-1,3-dichloropropene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| cumene | | | | | | | | | | | | | | | |
| dibromochloromethane | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| dibromomethane | | | | | | | | | | | | | | | |
| dichlorodifluoromethane | | | | | | | | | | | | | | | |
| ethylbenzene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| hexachlorobutadiene | | | | | | | | | | | | | | | |
| m-xylene | | | | | | | | | | | | | | | |
| methylene chloride | 5 | B | JA | 5 | U | V | 5 | U | V | 4 | BJ | JA | 2 | BJ | JA |
| n-butylbenzene | | | | | | | | | | | | | | | |
| n-propylbenzene | | | | | | | | | | | | | | | |
| naphthalene | | | | | | | | | | | | | | | |
| o-chlorotoluene | | | | | | | | | | | | | | | |
| o-xylene | | | | | | | | | | | | | | | |
| p-chlorotoluene | | | | | | | | | | | | | | | |
| p-cymene | | | | | | | | | | | | | | | |
| propane, 1,2-dibromo-3-chloro- | | | | | | | | | | | | | | | |
| sec-butylbenzene | | | | | | | | | | | | | | | |
| sec-dichloropropane | | | | | | | | | | | | | | | |
| styrene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| tert-butylbenzene | | | | | | | | | | | | | | | |
| tetrachloroethene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| toluene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| total xylenes | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trans-1,2-dichloroethene | | | | | | | | | | | | | | | |
| trans-1,3-dichloropropene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichloroethene | 5 | U | R | 5 | U | V | 5 | U | V | 5 | U | V | 5 | U | V |
| trichlorofluoromethane | | | | | | | | | | | | | | | |
| vinyl acetate | 10 | U | R | 10 | U | V | 10 | U | R | 10 | U | R | 10 | U | R |
| vinyl chloride | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-b

## Groundwater Semivolatile Organic Samples (ug/l)

| ANALYTE | Location: 0487 (COL)<br>Sample: GW02421IT (REAL)<br>Date: 02/11/92 | | | Location: 0974 (COL)<br>Sample: GW02105IT (REAL)<br>Date: 12/10/91 | | | Location: 0974 (COL)<br>Sample: GW02396IT (REAL)<br>Date: 02/18/92 | | | Location: 1074 (COL)<br>Sample: GW02106IT (REAL)<br>Date: 12/11/91 | | | Location: 31791 (VFA)<br>Sample: GW02468IT (REAL)<br>Date: 02/13/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,2-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,3-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,4-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4,5-trichlorophenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 2,4,6-trichlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dichlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dimethylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dinitrophenol | 50 | U | R | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 2,4-dinitrotoluene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,6-dinitrotoluene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloronaphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-methylnaphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-nitroaniline | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 2-nitrophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 3,3'-dichlorobenzidine | 20 | U | V | 20 | U | V | 20 | U | V | 20 | U | V | 20 | U | V |
| 3-nitroaniline | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 4,6-dinitro-2-methylphenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 4-bromophenyl phenyl ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chloro-3-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chloroaniline | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chlorophenyl phenyl ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methylphenol | | | | | | | 10 | U | V | | | | 10 | U | V |
| 4-nitroaniline | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 4-nitrophenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| acenaphthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acenaphthylene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(a)pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(b)fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(ghi)perylene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(k)fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzoic acid | 50 | U | R | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| benzyl alcohol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroethoxy)methane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroethyl)ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroisopropyl)ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| butyl benzyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chrysene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| di-n-butyl phthalate | 10 | U | V | 10 | U | V | 2 | J | A | 10 | U | V | 10 | U | V |
| di-n-octyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzo(a,h)anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzofuran | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| diethyl phthalate | 10 | U | V | 10 | U | V | 10 | U | JA | 6 | J | A | 3 | J | A |
| dimethyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| fluorene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobutadiene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorocyclopentadiene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| isophorone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitroso-di-n-propylamine | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| naphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| nitrobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| pentachlorophenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| phenanthrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| phenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-b

## Groundwater Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 31891 (COL)<br>Sample: GW01997IT (REAL)<br>Date: 11/11/91 | | | Location: 31891 (COL)<br>Sample: GW02446IT (REAL)<br>Date: 02/10/92 | | | Location: 34791 (COL)<br>Sample: GW02157IT (REAL)<br>Date: 12/17/91 | | | Location: 34791 (COL)<br>Sample: GW02447IT (REAL)<br>Date: 02/10/92 | | | Location: 35691 (COL)<br>Sample: GW01994IT (REAL)<br>Date: 11/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,2-dichlorobenzene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,3-dichlorobenzene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,4-dichlorobenzene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4,5-trichlorophenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | JA | 50 | U | V |
| 2,4,6-trichlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 2,4-dichlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 2,4-dimethylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 2,4-dinitrophenol | 50 | U | R | 50 | U | R | 50 | U | V | 50 | U | R | 50 | U | R |
| 2,4-dinitrotoluene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,6-dinitrotoluene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloronaphthalene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chlorophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 2-methylnaphthalene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 2-nitroaniline | 50 | U | V | 50 | U | JA | 50 | U | V | 50 | U | V | 50 | U | V |
| 2-nitrophenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 3,3'-dichlorobenzidine | 20 | U | V | 20 | U | JA | 20 | U | V | 20 | U | V | 20 | U | V |
| 3-nitroaniline | 50 | U | V | 50 | U | JA | 50 | U | V | 50 | U | V | 50 | U | V |
| 4,6-dinitro-2-methylphenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | JA | 50 | U | V |
| 4-bromophenyl phenyl ether | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chloro-3-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 4-chloroaniline | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chlorophenyl phenyl ether | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methylphenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| 4-nitroaniline | 50 | U | V | 50 | U | JA | 50 | U | V | 50 | U | V | 50 | U | V |
| 4-nitrophenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | JA | 50 | U | V |
| acenaphthene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| acenaphthylene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| anthracene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(a)pyrene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(b)fluoranthene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(ghi)perylene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(k)fluoranthene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| benzoic acid | 50 | U | V | 50 | U | R | 50 | U | V | 50 | U | R | 50 | U | V |
| benzyl alcohol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| bis(2-chloroethoxy)methane | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroethyl)ether | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroisopropyl)ether | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| butyl benzyl phthalate | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| chrysene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| di-n-butyl phthalate | 2 | J | A | 10 | U | JA | 10 | U | V | 10 | U | V | 2 | J | A |
| di-n-octyl phthalate | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzo(a,h)anthracene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzofuran | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| diethyl phthalate | 2 | J | A | 4 | BJ | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| dimethyl phthalate | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| fluoranthene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| fluorene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobenzene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobutadiene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorocyclopentadiene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachloroethane | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| isophorone | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitroso-di-n-propylamine | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| naphthalene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| nitrobenzene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| pentachlorophenol | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | JA | 50 | U | V |
| phenanthrene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |
| phenol | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | JA | 10 | U | V |
| pyrene | 10 | U | V | 10 | U | JA | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-b

## Groundwater Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 35691 (COL) Sample: GW02449IT (REAL) Date: 02/17/92 | | | Location: 36191 (COL) Sample: GW02023IT (REAL) Date: 11/12/91 | | | Location: 36191 (COL) Sample: GW02459IT (REAL) Date: 02/11/92 | | | Location: 36391 (COL) Sample: GW03021IT (REAL) Date: 06/05/92 | | | Location: 36691 (COL) Sample: GW02538IT (REAL) Date: 02/28/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,2-dichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,3-dichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,4-dichlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4,5-trichlorophenol | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | V |
| 2,4,6-trichlorophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dichlorophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dimethylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dinitrophenol | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | R | 50 | U | V |
| 2,4-dinitrotoluene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,6-dinitrotoluene | 10 | U | V | 2 | J | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloronaphthalene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chlorophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-methylnaphthalene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-methylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-nitroaniline | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | V |
| 2-nitrophenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 3,3'-dichlorobenzidine | 20 | U | V | 20 | U | | 20 | U | V | 20 | U | V | 20 | U | V |
| 3-nitroaniline | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | V |
| 4,6-dinitro-2-methylphenol | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | V |
| 4-bromophenyl phenyl ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chloro-3-methylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chloroaniline | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chlorophenyl phenyl ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methylphenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-nitroaniline | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | V |
| 4-nitrophenol | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | V |
| acenaphthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| acenaphthylene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| anthracene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(a)pyrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(b)fluoranthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(ghi)perylene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(k)fluoranthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| benzoic acid | 50 | U | V | 50 | U | | 50 | U | R | 50 | U | V | 50 | U | V |
| benzyl alcohol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroethoxy)methane | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroethyl)ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroisopropyl)ether | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 10 | U | V | 8 | J | | 10 | U | V | 10 | U | V | 10 | U | V |
| butyl benzyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| chrysene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| di-n-butyl phthalate | 10 | U | V | 10 | U | | 3 | BJ | JA | 10 | U | V | 10 | U | V |
| di-n-octyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzo(a,h)anthracene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzofuran | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| diethyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| dimethyl phthalate | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| fluoranthene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| fluorene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobutadiene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorocyclopentadiene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachloroethane | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| isophorone | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitroso-di-n-propylamine | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| naphthalene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| nitrobenzene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| pentachlorophenol | 50 | U | V | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | V |
| phenanthrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| phenol | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |
| pyrene | 10 | U | V | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-b

## Groundwater Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 37191 (COL)<br>Sample: GW01995IT (REAL)<br>Date: 11/12/91 | | | Location: 37191 (COL)<br>Sample: GW02460IT (REAL)<br>Date: 02/10/92 | | | Location: 37591 (RFA)<br>Sample: GW02507IT (REAL)<br>Date: 02/25/92 | | | Location: 37791 (RFA)<br>Sample: GW02164IT (REAL)<br>Date: 12/20/91 | | | Location: 37791 (RFA)<br>Sample: GW02757IT (REAL)<br>Date: 04/21/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 1,2-dichlorobenzene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 1,3-dichlorobenzene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 1,4-dichlorobenzene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4,5-trichlorophenol | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | | 50 | U | V |
| 2,4,6-trichlorophenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dichlorophenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dimethylphenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2,4-dinitrophenol | 50 | U | | 50 | U | R | 50 | U | V | 50 | U | | 50 | U | V |
| 2,4-dinitrotoluene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 2,6-dinitrotoluene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chloronaphthalene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 2-chlorophenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-methylnaphthalene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 2-methylphenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 2-nitroaniline | 50 | U | | 50 | U | JA | 50 | U | V | 50 | U | | 50 | U | V |
| 2-nitrophenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 3,3'-dichlorobenzidine | 20 | U | | 20 | U | JA | 20 | U | V | 20 | U | | 20 | U | V |
| 3-nitroaniline | 50 | U | | 50 | U | JA | 50 | U | V | 50 | U | | 50 | U | V |
| 4,6-dinitro-2-methylphenol | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | | 50 | U | V |
| 4-bromophenyl phenyl ether | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chloro-3-methylphenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chloroaniline | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 4-chlorophenyl phenyl ether | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| 4-methylphenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| 4-nitroaniline | 50 | U | | 50 | U | JA | 50 | U | V | 50 | U | | 50 | U | V |
| 4-nitrophenol | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | | 50 | U | V |
| acenaphthene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| acenaphthylene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| anthracene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(a)pyrene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(b)fluoranthene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(ghi)perylene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzo(k)fluoranthene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| benzoic acid | 50 | U | | 50 | U | R | 50 | U | V | 50 | U | | 14 | J | A |
| benzyl alcohol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroethoxy)methane | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroethyl)ether | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-chloroisopropyl)ether | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 2 | J | | 10 | U | JA | 10 | U | V | 10 | U | | 25 | U | JA |
| butyl benzyl phthalate | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| chrysene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| di-n-butyl phthalate | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| di-n-octyl phthalate | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| dibenzo(a,h)anthracene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| dibenzofuran | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| diethyl phthalate | 7 | BJ | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| dimethyl phthalate | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| fluoranthene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| fluorene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorobenzene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorobutadiene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| hexachlorocyclopentadiene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| hexachloroethane | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| isophorone | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| n-nitroso-di-n-propylamine | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| naphthalene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| nitrobenzene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| pentachlorophenol | 50 | U | | 50 | U | V | 50 | U | V | 50 | U | | 50 | U | V |
| phenanthrene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |
| phenol | 10 | U | | 10 | U | V | 10 | U | V | 10 | U | | 10 | U | V |
| pyrene | 10 | U | | 10 | U | JA | 10 | U | V | 10 | U | | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-b

## Groundwater Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 37891 (WCS) Sample: GW02461IT (REAL) Date: 02/27/92 | | | Location: 37991 (WCS) Sample: GW02462IT (REAL) Date: 02/26/92 | | | Location: 38591 (VFA) Sample: GW02463IT (REAL) Date: 02/10/92 | | | Location: 39191 (WCS) Sample: GW02162IT (REAL) Date: 12/18/91 | | | Location: 39191 (WCS) Sample: GW02464IT (REAL) Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,2-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,3-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 1,4-dichlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4,5-trichlorophenol | 50 | U | V | 50 | U | R | 50 | U | V | 50 | U | V | 50 | U | V |
| 2,4,6-trichlorophenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dichlorophenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dimethylphenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,4-dinitrophenol | 50 | U | V | 50 | U | R | 50 | U | R | 50 | U | V | 50 | U | V |
| 2,4-dinitrotoluene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2,6-dinitrotoluene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chloronaphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-chlorophenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-methylnaphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-methylphenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 2-nitroaniline | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 2-nitrophenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 3,3'-dichlorobenzidine | 20 | U | V | 20 | U | V | 20 | U | V | 20 | U | V | 20 | U | V |
| 3-nitroaniline | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 4,6-dinitro-2-methylphenol | 50 | U | V | 50 | U | R | 50 | U | V | 50 | U | V | 50 | U | V |
| 4-bromophenyl phenyl ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chloro-3-methylphenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chloroaniline | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-chlorophenyl phenyl ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-methylphenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| 4-nitroaniline | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V | 50 | U | V |
| 4-nitrophenol | 50 | U | V | 50 | U | R | 50 | U | V | 50 | U | V | 50 | U | V |
| acenaphthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| acenaphthylene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzenamine | | | | | | | | | | | | | | | |
| benzidine | | | | | | | | | | | | | | | |
| benzo(a)anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(a)pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(b)fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(ghi)perylene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzo(k)fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| benzoic acid | 50 | U | V | 50 | U | R | 50 | U | R | 50 | U | V | 50 | U | V |
| benzyl alcohol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroethoxy)methane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroethyl)ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-chloroisopropyl)ether | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| bis(2-ethylhexyl)phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| butyl benzyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| chrysene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| di-n-butyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| di-n-octyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzo(a,h)anthracene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| dibenzofuran | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| diethyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| dimethyl phthalate | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| fluoranthene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| fluorene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorobutadiene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachlorocyclopentadiene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| hexachloroethane | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| indeno(1,2,3-cd)pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| isophorone | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitroso-di-n-propylamine | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| n-nitrosodimethylamine | | | | | | | | | | | | | | | |
| n-nitrosodiphenylamine | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| naphthalene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| nitrobenzene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| pentachlorophenol | 50 | U | V | 50 | U | R | 50 | U | V | 50 | U | V | 50 | U | V |
| phenanthrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |
| phenol | 10 | U | V | 10 | U | R | 10 | U | V | 10 | U | V | 10 | U | V |
| pyrene | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-b

## Groundwater Semivolatile Organic Samples (ug/l) (continued)

| ANALYTE | Location: 4387 (COL)<br>Sample: GW021021T (REAL)<br>Date: 12/12/91 | | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|
| 1,2,4-trichlorobenzene | 10 | U | | | | |
| 1,2-dichlorobenzene | 10 | U | | | | |
| 1,3-dichlorobenzene | 10 | U | | | | |
| 1,4-dichlorobenzene | 10 | U | | | | |
| 2,4,5-trichlorophenol | 50 | U | | | | |
| 2,4,6-trichlorophenol | 10 | U | | | | |
| 2,4-dichlorophenol | 10 | U | | | | |
| 2,4-dimethylphenol | 10 | U | | | | |
| 2,4-dinitrophenol | 50 | U | | | | |
| 2,4-dinitrotoluene | 10 | U | | | | |
| 2,6-dinitrotoluene | 10 | U | | | | |
| 2-chloronaphthalene | 10 | U | | | | |
| 2-chlorophenol | 10 | U | | | | |
| 2-methylnaphthalene | 10 | U | | | | |
| 2-methylphenol | 10 | U | | | | |
| 2-nitroaniline | 50 | U | | | | |
| 2-nitrophenol | 10 | U | | | | |
| 3,3'-dichlorobenzidine | 20 | U | | | | |
| 3-nitroaniline | 50 | U | | | | |
| 4,6-dinitro-2-methylphenol | 50 | U | | | | |
| 4-bromophenyl phenyl ether | 10 | U | | | | |
| 4-chloro-3-methylphenol | 10 | U | | | | |
| 4-chloroaniline | 10 | U | | | | |
| 4-chlorophenyl phenyl ether | 10 | U | | | | |
| 4-methylphenol | 10 | U | | | | |
| 4-nitroaniline | 50 | U | | | | |
| 4-nitrophenol | 50 | U | | | | |
| acenaphthene | 10 | U | | | | |
| acenaphthylene | 10 | U | | | | |
| anthracene | 10 | U | | | | |
| benzenamine | | | | | | |
| benzidine | | | | | | |
| benzo(a)anthracene | 10 | U | | | | |
| benzo(a)pyrene | 10 | U | | | | |
| benzo(b)fluoranthene | 10 | U | | | | |
| benzo(ghi)perylene | 10 | U | | | | |
| benzo(k)fluoranthene | 10 | U | | | | |
| benzoic acid | 50 | U | | | | |
| benzyl alcohol | 10 | U | | | | |
| bis(2-chloroethoxy)methane | 10 | U | | | | |
| bis(2-chloroethyl)ether | 10 | U | | | | |
| bis(2-chloroisopropyl)ether | 10 | U | | | | |
| bis(2-ethylhexyl)phthalate | 10 | U | | | | |
| butyl benzyl phthalate | 10 | U | | | | |
| chrysene | 10 | U | | | | |
| di-n-butyl phthalate | 10 | U | | | | |
| di-n-octyl phthalate | 10 | U | | | | |
| dibenzo(a,h)anthracene | 10 | U | | | | |
| dibenzofuran | 10 | U | | | | |
| diethyl phthalate | 10 | U | | | | |
| dimethyl phthalate | 10 | U | | | | |
| fluoranthene | 10 | U | | | | |
| fluorene | 10 | U | | | | |
| hexachlorobenzene | 10 | U | | | | |
| hexachlorobutadiene | 10 | U | | | | |
| hexachlorocyclopentadiene | 10 | U | | | | |
| hexachloroethane | 10 | U | | | | |
| indeno(1,2,3-cd)pyrene | 10 | U | | | | |
| isophorone | 10 | U | | | | |
| n-nitroso-di-n-propylamine | 10 | U | | | | |
| n-nitrosodimethylamine | | | | | | |
| n-nitrosodiphenylamine | 10 | U | | | | |
| naphthalene | 10 | U | | | | |
| nitrobenzene | 10 | U | | | | |
| pentachlorophenol | 50 | U | | | | |
| phenanthrene | 10 | U | | | | |
| phenol | 10 | U | | | | |
| pyrene | 10 | U | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-c

## Groundwater Pesticide/PCB Samples (ug/l)

| ANALYTE | Location: 0487 (COL)<br>Sample: GW02421IT (REAL)<br>Date: 02/11/92 | | | Location: 0974 (COL)<br>Sample: GW02396IT (REAL)<br>Date: 02/18/92 | | | Location: 31791 (VFA)<br>Sample: GW02468IT (REAL)<br>Date: 02/13/92 | | | Location: 31891 (COL)<br>Sample: GW02446IT (REAL)<br>Date: 02/10/92 | | | Location: 34791 (COL)<br>Sample: GW02447IT (REAL)<br>Date: 02/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| 4,4'-dde | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| 4,4'-ddt | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| aldrin | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| alpha-bhc | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| alpha-chlordane | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1016 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1221 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1232 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1242 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1248 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1254 | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| aroclor-1260 | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| beta-bhc | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| delta-bhc | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| dieldrin | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endosulfan I | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| endosulfan II | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endosulfan sulfate | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endrin | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endrin ketone | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| gamma-bhc (lindane) | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| gamma-chlordane | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| heptachlor | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| heptachlor epoxide | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| methoxychlor | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| toxaphene | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-c

## Groundwater Pesticide/PCB Samples (ug/l) (continued)

| ANALYTE | Location: 35691 (COL)<br>Sample: GW024491I (REAL)<br>Date: 02/17/92 | | | Location: 36191 (COL)<br>Sample: GW024591I (REAL)<br>Date: 02/11/92 | | | Location: 36391 (COL)<br>Sample: GW030211I (REAL)<br>Date: 06/05/92 | | | Location: 37191 (COL)<br>Sample: GW024601I (REAL)<br>Date: 02/10/92 | | | Location: 37591 (RFA)<br>Sample: GW025071I (REAL)<br>Date: 02/25/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| 4,4'-dde | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| 4,4'-ddt | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| aldrin | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| alpha-bhc | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| alpha-chlordane | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1016 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1221 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1232 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1242 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1248 | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1254 | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| aroclor-1260 | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| beta-bhc | 0.055 | X | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| delta-bhc | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| dieldrin | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endosulfan I | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| endosulfan II | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endosulfan sulfate | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endrin | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endrin ketone | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| gamma-bhc (lindane) | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| gamma-chlordane | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| heptachlor | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| heptachlor epoxide | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| methoxychlor | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| toxaphene | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-c

## Groundwater Pesticide/PCB Samples (ug/l) (continued)

| ANALYTE | Location: 37791 (RFA)<br>Sample: GW02757IT (REAL)<br>Date: 04/21/92 | | | Location: 37891 (WCS)<br>Sample: GW02461IT (REAL)<br>Date: 02/27/92 | | | Location: 37991 (WCS)<br>Sample: GW02462IT (REAL)<br>Date: 02/26/92 | | | Location: 38591 (VFA)<br>Sample: GW02463IT (REAL)<br>Date: 02/10/92 | | | Location: 39191 (WCS)<br>Sample: GW02464IT (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4,4'-ddd | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| 4,4'-dde | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| 4,4'-ddt | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| aldrin | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| alpha-bhc | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| alpha-chlordane | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1016 | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1221 | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1232 | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1242 | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1248 | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| aroclor-1254 | 1.0 | U | | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| aroclor-1260 | 1.0 | U | | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |
| beta-bhc | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| delta-bhc | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| dieldrin | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endosulfan I | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| endosulfan II | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endosulfan sulfate | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endrin | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| endrin ketone | 0.10 | U | | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V | 0.10 | U | V |
| gamma-bhc (lindane) | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| gamma-chlordane | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| heptachlor | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| heptachlor epoxide | 0.050 | U | | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V | 0.050 | U | V |
| methoxychlor | 0.50 | U | | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V | 0.50 | U | V |
| toxaphene | 1.0 | U | | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V | 1.0 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Organic qualifiers: U-analyzed/not detected; J-estimated value; C-pesticide results confimred by GCMS; B-found in sample and associate blank;
E-exceeds calibration range/ value estimated; D-dilution; X-estimated value / interference from another compound; Z-value cannot be estimated/ interference from another compound

REAL - Field Sample; DUP - Field Duplicate.
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

## Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 5387 | COL | | TRICHLOROETHENE | 1/4 | ND | 23.0000 | 7.6250 | NA |
| GW | 5487 | COL | | TRICHLOROETHENE | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | TRICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | TRICHLOROETHENE | 0/12 | ND | ND | NA | NA |
| GW | 6286 | WCS | | TRICHLOROETHENE | 0/15 | ND | ND | NA | NA |
| GW | 6486 | VFA | | TRICHLOROETHENE | 0/8 | ND | ND | NA | NA |
| GW | 6886 | VFA | | TRICHLOROETHENE | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | TRICHLOROETHENE | 0/12 | ND | ND | NA | NA |
| GW | 0187 | RFA | FILMET | SELENIUM (Filtered) | 0/3 | ND | 1.9000 | 2.3000 | 607 • |
| GW | 0287 | COL | FILMET | SELENIUM (Filtered) | 0/12 | ND | ND | NA | 157.956 |
| GW | 0387 | KAR | FILMET | SELENIUM (Filtered) | 0/12 | ND | ND | NA | 6 * |
| GW | 0487 | COL | FILMET | SELENIUM (Filtered) | 8/11 | 7.0000 | 315.0000 | 179.0000 | 157.956 |
| GW | 0587 | KAR | FILMET | SELENIUM (Filtered) | 11/12 | ND | 230.0000 | 111.7833 | 6 * |
| GW | 0687 | COL | FILMET | SELENIUM (Filtered) | 0/4 | ND | 20.0000 | 12.3000 | 157.956 |
| GW | 0887 | KAR | FILMET | SELENIUM (Filtered) | 0/11 | ND | 3.0000 | 2.2818 | 6 * |
| GW | 0974 | COL | FILMET | SELENIUM (Filtered) | 13/15 | 21.0000 | 2070.0000 | 760.6000 | 157.956 |
| GW | 1074 | COL | FILMET | SELENIUM (Filtered) | 8/8 | 242.5000 | 3200.0000 | 2125.3125 | 157.956 |
| GW | 4387 | COL | FILMET | SELENIUM (Filtered) | 6/7 | 52.0000 | 600.0000 | 408.7143 | 157.956 |
| GW | 4587 | KAR | FILMET | SELENIUM (Filtered) | 0/10 | ND | 4.0000 | 2.4778 | 6 * |
| GW | 4787 | COL | FILMET | SELENIUM (Filtered) | 0/1 | ND | ND | NA | 157.956 |
| GW | 4887 | COL | FILMET | SELENIUM (Filtered) | 0/3 | 28.6000 | 62.0000 | 41.2000 | 157.956 |
| GW | 5287 | RFA | FILMET | SELENIUM (Filtered) | 0/10 | ND | 3.0000 | 2.0650 | 607 * |
| GW | 5387 | COL | FILMET | SELENIUM (Filtered) | 0/1 | ND | ND | NA | 157.956 |
| GW | 5487 | COL | FILMET | SELENIUM (Filtered) | 0/1 | ND | ND | NA | 157.956 |
| GW | 5986 | WCS | FILMET | SELENIUM (Filtered) | 0/9 | ND | 150.0000 | 79.6444 | 229.328 |
| GW | 6286 | WCS | FILMET | SELENIUM (Filtered) | 0/14 | ND | 71.0000 | 42.9187 | 229.328 |
| GW | 6486 | VFA | FILMET | SELENIUM (Filtered) | 0/5 | ND | 9.0000 | 4.0000 | 56 • |
| GW | 6886 | VFA | FILMET | SELENIUM (Filtered) | 0/6 | ND | ND | NA | 56 • |
| GW | 6986 | COL | FILMET | SELENIUM (Filtered) | 7/13 | ND | 240.0000 | 135.8462 | 157.956 |
| GW | 0187 | RFA | FILMET | VANADIUM (Filtered) | 0/3 | ND | ND | NA | 15.944 |
| GW | 0287 | COL | FILMET | VANADIUM (Filtered) | 0/12 | ND | ND | NA | 15.944 |
| GW | 0387 | KAR | FILMET | VANADIUM (Filtered) | 0/12 | ND | ND | NA | 15.944 |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 0487 | COL | FILMET | VANADIUM (Filtered) | 1/11 | ND | 30.2000 | 19.0182 | 15.944 |
| GW | 0587 | KAR | FILMET | VANADIUM (Filtered) | 0/12 | ND | ND | NA | 15.944 |
| GW | 0687 | COL | FILMET | VANADIUM (Filtered) | 0/4 | ND | ND | NA | 15.944 |
| GW | 0887 | KAR | FILMET | VANADIUM (Filtered) | 0/11 | ND | ND | NA | 15.944 |
| GW | 0974 | COL | FILMET | VANADIUM (Filtered) | 0/16 | ND | 13.9000 | 16.3063 | 15.944 |
| GW | 1074 | COL | FILMET | VANADIUM (Filtered) | 0/9 | ND | ND | NA | 15.944 |
| GW | 4387 | COL | FILMET | VANADIUM (Filtered) | 0/7 | ND | 2.2000 | 16.0286 | 15.944 |
| GW | 4587 | KAR | FILMET | VANADIUM (Filtered) | 0/11 | ND | ND | NA | 15.944 |
| GW | 4787 | COL | FILMET | VANADIUM (Filtered) | 0/1 | ND | ND | NA | 15.944 |
| GW | 4887 | COL | FILMET | VANADIUM (Filtered) | 0/3 | ND | ND | NA | 15.944 |
| GW | 5287 | RFA | FILMET | VANADIUM (Filtered) | 1/11 | ND | 34.0000 | 16.3697 | 15.944 |
| GW | 5387 | COL | FILMET | VANADIUM (Filtered) | 0/1 | ND | ND | NA | 15.944 |
| GW | 5487 | COL | FILMET | VANADIUM (Filtered) | 0/1 | ND | ND | NA | 15.944 |
| GW | 5986 | WCS | FILMET | VANADIUM (Filtered) | 0/10 | ND | ND | NA | 15.944 |
| GW | 6286 | WCS | FILMET | VANADIUM (Filtered) | 0/15 | ND | ND | NA | 15.944 |
| GW | 6486 | VFA | FILMET | VANADIUM (Filtered) | 1/5 | ND | 36.8000 | 20.7600 | 15.944 |
| GW | 6886 | VFA | FILMET | VANADIUM (Filtered) | 1/6 | ND | 35.2000 | 19.1167 | 15.944 |
| GW | 6986 | COL | FILMET | VANADIUM (Filtered) | 0/14 | ND | ND | NA | 15.944 |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 0187 | RFA | | TOLUENE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | TOLUENE | 0/9 | ND | ND | NA | NA |
| GW | 0387 | KAR | | TOLUENE | 0/8 | ND | ND | NA | NA |
| GW | 0487 | COL | | TOLUENE | 1/9 | ND | 3.0000 | 2.5556 | NA |
| GW | 0587 | KAR | | TOLUENE | 0/9 | ND | ND | NA | NA |
| GW | 0687 | COL | | TOLUENE | 0/5 | ND | ND | NA | NA |
| GW | 0887 | KAR | | TOLUENE | 0/9 | ND | ND | NA | NA |
| GW | 0974 | COL | | TOLUENE | 6/9 | ND | 110.0000 | 20.1111 | NA |
| GW | 1074 | COL | | TOLUENE | 1/10 | ND | 5.0000 | 2.6111 | NA |
| GW | 4387 | COL | | TOLUENE | 7/11 | ND | 500.0000 | 100.9500 | NA |
| GW | 4587 | KAR | | TOLUENE | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | TOLUENE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | TOLUENE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | TOLUENE | 1/3 | ND | 9.0000 | 4.6667 | NA |
| GW | 5287 | RFA | | TOLUENE | 1/10 | ND | 1.0000 | 2.3500 | NA |
| GW | 5387 | COL | | TOLUENE | 1/4 | ND | 11.0000 | 4.6250 | NA |
| GW | 5487 | COL | | TOLUENE | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | TOLUENE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | TOLUENE | 0/7 | ND | ND | NA | NA |
| GW | 6286 | WCS | | TOLUENE | 0/10 | ND | ND | NA | NA |
| GW | 6486 | VFA | | TOLUENE | 0/5 | ND | ND | NA | NA |
| GW | 6886 | VFA | | TOLUENE | 0/3 | ND | ND | NA | NA |
| GW | 6986 | COL | | TOLUENE | 0/8 | ND | ND | NA | NA |
| GW | 0187 | RFA | | TOTAL XYLENES | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| GW | 0387 | KAR | | TOTAL XYLENES | 0/8 | ND | ND | NA | NA |
| GW | 0487 | COL | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| GW | 0587 | KAR | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| GW | 0687 | COL | | TOTAL XYLENES | 0/5 | ND | ND | NA | NA |
| GW | 0887 | KAR | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| GW | 0974 | COL | | TOTAL XYLENES | 1/9 | ND | 1.0000 | 2.3333 | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 1074 | COL | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| GW | 4387 | COL | | TOTAL XYLENES | 4/10 | ND | 12.0000 | 3.5000 | NA |
| GW | 4587 | KAR | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | TOTAL XYLENES | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | TOTAL XYLENES | 1/3 | ND | 2.0000 | 2.3333 | NA |
| GW | 5287 | RFA | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| GW | 5387 | COL | | TOTAL XYLENES | 0/4 | ND | ND | NA | NA |
| GW | 5487 | COL | | TOTAL XYLENES | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | TOTAL XYLENES | 0/7 | ND | ND | NA | NA |
| GW | 6286 | WCS | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| GW | 6486 | VFA | | TOTAL XYLENES | 0/5 | ND | ND | NA | NA |
| GW | 6886 | VFA | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| GW | 6986 | COL | | TOTAL XYLENES | 0/8 | ND | ND | NA | NA |
| GW | 0187 | RFA | | TRICHLOROETHENE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | TRICHLOROETHENE | 1/11 | ND | 2.0000 | 2.4091 | NA |
| GW | 0387 | KAR | | TRICHLOROETHENE | 1/11 | ND | 6.0000 | 2.7273 | NA |
| GW | 0487 | COL | | TRICHLOROETHENE | 13/13 | 18.0000 | 525.0000 | 130.8462 | NA |
| GW | 0587 | KAR | | TRICHLOROETHENE | 0/12 | ND | ND | NA | NA |
| GW | 0687 | COL | | TRICHLOROETHENE | 6/7 | ND | 20.0000 | 11.1429 | NA |
| GW | 0887 | KAR | | TRICHLOROETHENE | 2/12 | ND | 35.0000 | 5.0833 | NA |
| GW | 0974 | COL | | TRICHLOROETHENE | 14/14 | 2400.0000 | 72000.0000 | 14181.1429 | NA |
| GW | 1074 | COL | | TRICHLOROETHENE | 12/12 | 258.0000 | 3600.0000 | 1151.9167 | NA |
| GW | 4387 | COL | | TRICHLOROETHENE | 11/11 | 1800.0000 | 12920.0000 | 5796.5455 | NA |
| GW | 4587 | KAR | | TRICHLOROETHENE | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | TRICHLOROETHENE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | TRICHLOROETHENE | 2/3 | ND | 3.0000 | 2.1667 | NA |
| GW | 5287 | RFA | | TRICHLOROETHENE | 2/10 | ND | 3.0000 | 2.5000 | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 1074 | COL | | CARBON TETRACHLORIDE | 12/12 | 441.0000 | 5000.0000 | 2305.8333 | NA |
| GW | 4387 | COL | | CARBON TETRACHLORIDE | 3/10 | ND | 2995.0000 | 648.2500 | NA |
| GW | 4587 | KAR | | CARBON TETRACHLORIDE | 1/10 | ND | 5.0000 | 2.7500 | NA |
| GW | 4787 | COL | | CARBON TETRACHLORIDE | 1/2 | ND | 1.0000 | 1.7500 | NA |
| GW | 4887 | COL | | CARBON TETRACHLORIDE | 1/5 | ND | 3.0000 | 2.6000 | NA |
| GW | 5087 | COL | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | CARBON TETRACHLORIDE | 1/3 | ND | 1.0000 | 2.0000 | NA |
| GW | 5287 | RFA | | CARBON TETRACHLORIDE | 0/10 | ND | ND | NA | NA |
| GW | 5387 | COL | | CARBON TETRACHLORIDE | 1/4 | ND | 6.0000 | 3.3750 | NA |
| GW | 5487 | COL | | CARBON TETRACHLORIDE | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | CARBON TETRACHLORIDE | 0/12 | ND | ND | NA | NA |
| GW | 6286 | WCS | | CARBON TETRACHLORIDE | 3/15 | ND | 5.0000 | 2.4000 | NA |
| GW | 6486 | VFA | | CARBON TETRACHLORIDE | 0/8 | ND | ND | NA | NA |
| GW | 6886 | VFA | | CARBON TETRACHLORIDE | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | CARBON TETRACHLORIDE | 0/12 | ND | ND | NA | NA |
| GW | 0187 | RFA | | CHLOROFORM | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | CHLOROFORM | 0/11 | ND | ND | NA | NA |
| GW | 0387 | KAR | | CHLOROFORM | 0/11 | ND | ND | NA | NA |
| GW | 0487 | COL | | CHLOROFORM | 4/13 | ND | 8.0000 | 3.3462 | NA |
| GW | 0587 | KAR | | CHLOROFORM | 0/12 | ND | ND | NA | NA |
| GW | 0687 | COL | | CHLOROFORM | 0/7 | ND | ND | NA | NA |
| GW | 0887 | KAR | | CHLOROFORM | 1/12 | ND | 3.0000 | 2.4583 | NA |
| GW | 0974 | COL | | CHLOROFORM | 4/14 | ND | 5.0000 | 2.9286 | NA |
| GW | 1074 | COL | | CHLOROFORM | 8/12 | ND | 73.0000 | 42.4444 | NA |
| GW | 4387 | COL | | CHLOROFORM | 3/10 | ND | 3.0000 | 2.5500 | NA |
| GW | 4587 | KAR | | CHLOROFORM | 3/10 | ND | 18.0000 | 4.4500 | NA |
| GW | 4787 | COL | | CHLOROFORM | 1/2 | ND | 1.0000 | 1.7500 | NA |
| GW | 4887 | COL | | CHLOROFORM | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| GW | 5287 | RFA | | CHLOROFORM | 0/10 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 5387 | COL | | CHLOROFORM | 0/4 | ND | ND | NA | NA |
| GW | 5487 | COL | | CHLOROFORM | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | CHLOROFORM | 0/12 | ND | ND | NA | NA |
| GW | 6286 | WCS | | CHLOROFORM | 0/15 | ND | ND | NA | NA |
| GW | 6486 | VFA | | CHLOROFORM | 0/8 | ND | ND | NA | NA |
| GW | 6886 | VFA | | CHLOROFORM | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | CHLOROFORM | 0/12 | ND | ND | NA | NA |
| GW | 0187 | RFA | | TETRACHLOROETHENE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | TETRACHLOROETHENE | 1/11 | ND | 35.0000 | 5.4091 | NA |
| GW | 0387 | KAR | | TETRACHLOROETHENE | 1/11 | ND | 5.0000 | 2.6364 | NA |
| GW | 0487 | COL | | TETRACHLOROETHENE | 11/13 | ND | 84.0000 | 12.8846 | NA |
| GW | 0587 | KAR | | TETRACHLOROETHENE | 0/12 | ND | ND | NA | NA |
| GW | 0687 | COL | | TETRACHLOROETHENE | 0/7 | ND | ND | NA | NA |
| GW | 0887 | KAR | | TETRACHLOROETHENE | 2/12 | ND | 20.0000 | 3.8333 | NA |
| GW | 0974 | COL | | TETRACHLOROETHENE | 14/14 | 780.0000 | 13200.0000 | 3986.7857 | NA |
| GW | 1074 | COL | | TETRACHLOROETHENE | 4/12 | ND | 44.0000 | 8.8182 | NA |
| GW | 4387 | COL | | TETRACHLOROETHENE | 11/11 | 630.0000 | 7590.0000 | 3661.2727 | NA |
| GW | 4587 | KAR | | TETRACHLOROETHENE | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | TETRACHLOROETHENE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | TETRACHLOROETHENE | 2/3 | ND | 8.0000 | 4.8333 | NA |
| GW | 5287 | RFA | | TETRACHLOROETHENE | 6/10 | ND | 5.0000 | 2.3000 | NA |
| GW | 5387 | COL | | TETRACHLOROETHENE | 1/4 | ND | 3.0000 | 2.6250 | NA |
| GW | 5487 | COL | | TETRACHLOROETHENE | 1/4 | ND | 3.0000 | 2.6250 | NA |
| GW | 5587 | VFA | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | TETRACHLOROETHENE | 1/12 | ND | 6.0000 | 2.6667 | NA |
| GW | 6286 | WCS | | TETRACHLOROETHENE | 1/15 | ND | 29.0000 | 4.1333 | NA |
| GW | 6486 | VFA | | TETRACHLOROETHENE | 1/8 | ND | 8.0000 | 3.0000 | NA |
| GW | 6886 | VFA | | TETRACHLOROETHENE | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | TETRACHLOROETHENE | 0/12 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 5387 | COL | | 1,1-DICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| GW | 5487 | COL | | 1,1-DICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | 1,1-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | 1,1-DICHLOROETHANE | 0/7 | ND | ND | NA | NA |
| GW | 6286 | WCS | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| GW | 6486 | VFA | | 1,1-DICHLOROETHANE | 0/5 | ND | ND | NA | NA |
| GW | 6886 | VFA | | 1,1-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 6986 | COL | | 1,1-DICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| GW | 0187 | RFA | | 1,1-DICHLOROETHENE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | 1,1-DICHLOROETHENE | 1/11 | ND | 6.0000 | 2.8182 | NA |
| GW | 0387 | KAR | | 1,1-DICHLOROETHENE | 0/11 | ND | ND | NA | NA |
| GW | 0487 | COL | | 1,1-DICHLOROETHENE | 5/13 | ND | 8.0000 | 2.8846 | NA |
| GW | 0587 | KAR | | 1,1-DICHLOROETHENE | 0/12 | ND | ND | NA | NA |
| GW | 0687 | COL | | 1,1-DICHLOROETHENE | 0/7 | ND | ND | NA | NA |
| GW | 0887 | KAR | | 1,1-DICHLOROETHENE | 1/12 | ND | 1.0000 | 2.2917 | NA |
| GW | 0974 | COL | | 1,1-DICHLOROETHENE | 14/14 | 703.0000 | 48000.0000 | 11569.9286 | NA |
| GW | 1074 | COL | | 1,1-DICHLOROETHENE | 2/12 | ND | 140.0000 | 19.0417 | NA |
| GW | 4387 | COL | | 1,1-DICHLOROETHENE | 11/11 | 1050.0000 | 32687.0000 | 9074.2727 | NA |
| GW | 4587 | KAR | | 1,1-DICHLOROETHENE | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | 1,1-DICHLOROETHENE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| GW | 5287 | RFA | | 1,1-DICHLOROETHENE | 0/10 | ND | ND | NA | NA |
| GW | 5387 | COL | | 1,1-DICHLOROETHENE | 1/4 | ND | 21.0000 | 7.1250 | NA |
| GW | 5487 | COL | | 1,1-DICHLOROETHENE | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | 1,1-DICHLOROETHENE | 0/12 | ND | ND | NA | NA |
| GW | 6286 | WCS | | 1,1-DICHLOROETHENE | 0/15 | ND | ND | NA | NA |
| GW | 6486 | VFA | | 1,1-DICHLOROETHENE | 0/8 | ND | ND | NA | NA |
| GW | 6886 | VFA | | 1,1-DICHLOROETHENE | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | 1,1-DICHLOROETHENE | 0/12 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 0187 | RFA | | 1,2-DICHLOROETHANE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | 1,2-DICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| GW | 0387 | KAR | | 1,2-DICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| GW | 0487 | COL | | 1,2-DICHLOROETHANE | 1/12 | ND | 32.0000 | 4.9167 | NA |
| GW | 0587 | KAR | | 1,2-DICHLOROETHANE | 1/12 | ND | 6.0000 | 2.7500 | NA |
| GW | 0687 | COL | | 1,2-DICHLOROETHANE | 0/7 | ND | ND | NA | NA |
| GW | 0887 | KAR | | 1,2-DICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0974 | COL | | 1,2-DICHLOROETHANE | 10/14 | ND | 16000.0000 | 1542.7143 | NA |
| GW | 1074 | COL | | 1,2-DICHLOROETHANE | 1/12 | ND | 140.0000 | 15.0000 | NA |
| GW | 4387 | COL | | 1,2-DICHLOROETHANE | 7/10 | ND | 25.0000 | 12.6500 | NA |
| GW | 4587 | KAR | | 1,2-DICHLOROETHANE | 1/10 | ND | 5.0000 | 2.7500 | NA |
| GW | 4787 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | 1,2-DICHLOROETHANE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 5287 | RFA | | 1,2-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| GW | 5387 | COL | | 1,2-DICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| GW | 5487 | COL | | 1,2-DICHLOROETHANE | 1/4 | ND | 2.0000 | 2.3750 | NA |
| GW | 5587 | VFA | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | 1,2-DICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 6286 | WCS | | 1,2-DICHLOROETHANE | 0/15 | ND | ND | NA | NA |
| GW | 6486 | VFA | | 1,2-DICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| GW | 6886 | VFA | | 1,2-DICHLOROETHANE | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | 1,2-DICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0187 | RFA | | CARBON TETRACHLORIDE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | CARBON TETRACHLORIDE | 0/11 | ND | ND | NA | NA |
| GW | 0387 | KAR | | CARBON TETRACHLORIDE | 0/11 | ND | ND | NA | NA |
| GW | 0487 | COL | | CARBON TETRACHLORIDE | 7/13 | ND | 81.0000 | 16.7500 | NA |
| GW | 0587 | KAR | | CARBON TETRACHLORIDE | 0/12 | ND | ND | NA | NA |
| GW | 0687 | COL | | CARBON TETRACHLORIDE | 1/7 | ND | 1.0000 | 2.2857 | NA |
| GW | 0887 | KAR | | CARBON TETRACHLORIDE | 1/12 | ND | 130.0000 | 13.0417 | NA |
| GW | 0974 | COL | | CARBON TETRACHLORIDE | 4/14 | ND | 28000.0000 | 2409.6786 | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 0187 | RFA | | 1,1,1-TRICHLOROETHANE | 1/6 | ND | 130.0000 | 23.7500 | NA |
| GW | 0287 | COL | | 1,1,1-TRICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| GW | 0387 | KAR | | 1,1,1-TRICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| GW | 0487 | COL | | 1,1,1-TRICHLOROETHANE | 6/12 | ND | 20.0000 | 5.7500 | NA |
| GW | 0587 | KAR | | 1,1,1-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0687 | COL | | 1,1,1-TRICHLOROETHANE | 1/7 | ND | 2.0000 | 2.4286 | NA |
| GW | 0887 | KAR | | 1,1,1-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0974 | COL | | 1,1,1-TRICHLOROETHANE | 13/14 | ND | 30250.0000 | 10071.3571 | NA |
| GW | 1074 | COL | | 1,1,1-TRICHLOROETHANE | 4/12 | ND | 312.0000 | 66.6250 | NA |
| GW | 4387 | COL | | 1,1,1-TRICHLOROETHANE | 10/11 | ND | 13000.0000 | 5546.0455 | NA |
| GW | 4587 | KAR | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | 1,1,1-TRICHLOROETHANE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | 1,1,1-TRICHLOROETHANE | 1/3 | ND | 3.0000 | 2.6667 | NA |
| GW | 5287 | RFA | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| GW | 5387 | COL | | 1,1,1-TRICHLOROETHANE | 1/4 | ND | 18.0000 | 6.3750 | NA |
| GW | 5487 | COL | | 1,1,1-TRICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | 1,1,1-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 6286 | WCS | | 1,1,1-TRICHLOROETHANE | 0/15 | ND | ND | NA | NA |
| GW | 6486 | VFA | | 1,1,1-TRICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| GW | 6886 | VFA | | 1,1,1-TRICHLOROETHANE | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | 1,1,1-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0187 | RFA | | 1,1,2-TRICHLOROETHANE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | 1,1,2-TRICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| GW | 0387 | KAR | | 1,1,2-TRICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| GW | 0487 | COL | | 1,1,2-TRICHLOROETHANE | 1/13 | ND | 1.0000 | 2.3077 | NA |
| GW | 0587 | KAR | | 1,1,2-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0687 | COL | | 1,1,2-TRICHLOROETHANE | 0/7 | ND | ND | NA | NA |
| GW | 0887 | KAR | | 1,1,2-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0974 | COL | | 1,1,2-TRICHLOROETHANE | 9/14 | ND | 14740.0000 | 1100.7857 | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-e

## Analytical Data Summary - Phase I & II Groundwater Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| GW | 1074 | COL | | 1,1,2-TRICHLOROETHANE | 1/11 | ND | 2.0000 | 2.4000 | NA |
| GW | 4387 | COL | | 1,1,2-TRICHLOROETHANE | 9/11 | ND | 85.0000 | 42.9091 | NA |
| GW | 4587 | KAR | | 1,1,2-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | 1,1,2-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | 1,1,2-TRICHLOROETHANE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | 1,1,2-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | 1,1,2-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 5287 | RFA | | 1,1,2-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| GW | 5387 | COL | | 1,1,2-TRICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| GW | 5487 | COL | | 1,1,2-TRICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| GW | 5587 | VFA | | 1,1,2-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 5986 | WCS | | 1,1,2-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 6286 | WCS | | 1,1,2-TRICHLOROETHANE | 0/15 | ND | ND | NA | NA |
| GW | 6486 | VFA | | 1,1,2-TRICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| GW | 6886 | VFA | | 1,1,2-TRICHLOROETHANE | 0/6 | ND | ND | NA | NA |
| GW | 6986 | COL | | 1,1,2-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| GW | 0187 | RFA | | 1,1-DICHLOROETHANE | 0/6 | ND | ND | NA | NA |
| GW | 0287 | COL | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| GW | 0387 | KAR | | 1,1-DICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| GW | 0487 | COL | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| GW | 0587 | KAR | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| GW | 0687 | COL | | 1,1-DICHLOROETHANE | 0/5 | ND | ND | NA | NA |
| GW | 0887 | KAR | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| GW | 0974 | COL | | 1,1-DICHLOROETHANE | 8/9 | ND | 180.0000 | 41.7222 | NA |
| GW | 1074 | COL | | 1,1-DICHLOROETHANE | 1/10 | ND | 2.0000 | 2.4444 | NA |
| GW | 4387 | COL | | 1,1-DICHLOROETHANE | 11/11 | 56.0000 | 500.0000 | 177.7273 | NA |
| GW | 4587 | KAR | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| GW | 4787 | COL | | 1,1-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| GW | 4887 | COL | | 1,1-DICHLOROETHANE | 0/5 | ND | ND | NA | NA |
| GW | 5087 | COL | | 1,1-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| GW | 5187 | RFA | | 1,1-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| GW | 5287 | RFA | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-d

## Analytical Data Summary - Phase I & II Sediment Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SD | SED014 | | | 1,1,1-TRICHLOROETHANE | 1/2 | ND | 1.0000 | 1.7500 | NA |
| SD | SED028 | | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| SD | SED001 | | | AROCLOR-1254 | 0/2 | ND | ND | NA | NA |
| SD | SED002 | | | AROCLOR-1254 | 0/1 | ND | ND | NA | NA |
| SD | SED014 | | | AROCLOR-1254 | 0/2 | ND | ND | NA | NA |
| SD | SED015 | | | AROCLOR-1254 | 0/1 | ND | ND | NA | NA |
| SD | SED014 | | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | FLUORENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | PYRENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | | TOLUENE | 0/2 | ND | ND | NA | NA |
| SD | SED028 | | | TOLUENE | 0/2 | ND | ND | NA | NA |
| SD | SED014 | | TOTRAD | AMERICIUM-241 | 0/2 | ND | ND | 0.0000 | 1.597 * |
| SD | SED028 | | TOTRAD | AMERICIUM-241 | 0/1 | 0.0200 | 0.0200 | 0.0200 | 1.597 * |
| SD | SED014 | | TOTRAD | PLUTONIUM-239/240 | 0/2 | ND | 0.0400 | 0.0200 | 4.963 • |
| SD | SED028 | | TOTRAD | PLUTONIUM-239/240 | 0/1 | 0.0520 | 0.0520 | 0.0520 | 4.963 • |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-c

## Analytical Data Summary - Phase I & II Seep/Spring Water Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SEP | SW045 | | TOTRAD | AMERICIUM-241(Total) | 1/7 | ND | 0.2040 | 0.0319 | 0.059 * |
| SEP | SW046 | | TOTRAD | AMERICIUM-241(Total) | 1/7 | ND | 0.2040 | 0.0299 | 0.059 * |
| SEP | SW072 | | TOTRAD | AMERICIUM-241(Total) | 0/1 | ND | ND | 0.0000 | 0.059 * |
| SEP | SW044 | | TOTRAD | PLUTONIUM-239/240(Total) | 0/7 | ND | 0.0100 | 0.0040 | 1.812 * |
| SEP | SW045 | | TOTRAD | PLUTONIUM-239/240(Total) | 0/7 | ND | 0.0312 | 0.0103 | 1.812 * |
| SEP | SW046 | | TOTRAD | PLUTONIUM-239/240(Total) | 0/7 | -0.0010 | 0.4010 | 0.1013 | 1.812 * |
| SEP | SW072 | | TOTRAD | PLUTONIUM-239/240(Total) | 0/1 | ND | ND | 0.0000 | 1.812 * |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-c

## Analytical Data Summary - Phase I & II Seep/Spring Water Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SEP | SW044 | | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SEP | SW045 | | | 1,1,1-TRICHLOROETHANE | 1/11 | ND | 5.0000 | 2.6818 | NA |
| SEP | SW046 | | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SEP | SW072 | | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| SEP | SW044 | | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SEP | SW045 | | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SEP | SW046 | | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SEP | SW044 | | | 1,2-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SEP | SW045 | | | 1,2-DICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| SEP | SW046 | | | 1,2-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SEP | SW072 | | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| SEP | SW044 | | | TETRACHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SEP | SW045 | | | TETRACHLOROETHENE | 7/11 | ND | 128.0000 | 15.9091 | NA |
| SEP | SW046 | | | TETRACHLOROETHENE | 4/10 | ND | 3.0000 | 2.2500 | NA |
| SEP | SW072 | | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| SEP | SW044 | | | TOLUENE | 0/9 | ND | ND | NA | NA |
| SEP | SW045 | | | TOLUENE | 1/10 | ND | 12.0000 | 3.4500 | NA |
| SEP | SW046 | | | TOLUENE | 0/9 | ND | ND | NA | NA |
| SEP | SW044 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SEP | SW045 | | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| SEP | SW046 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SEP | SW044 | | | TRICHLOROETHENE | 1/10 | ND | 4.0000 | 2.6000 | NA |
| SEP | SW045 | | | TRICHLOROETHENE | 3/11 | ND | 14.0000 | 3.9091 | NA |
| SEP | SW046 | | | TRICHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SEP | SW072 | | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| SEP | SW044 | | FILRAD | AMERICIUM-241(Filtered) | 1/1 | 0.0100 | 0.0100 | 0.0100 | 0.01 U |
| SEP | SW045 | | FILRAD | AMERICIUM-241(Filtered) | 0/1 | ND | ND | 0.0000 | 0.01 U |
| SEP | SW046 | | FILRAD | AMERICIUM-241(Filtered) | 0/1 | 0.0100 | 0.0100 | 0.0100 | 0.01 U |
| SEP | SW044 | | FILRAD | PLUTONIUM-239/240(Filtered) | 0/2 | ND | ND | 0.0000 | 0.02 U * |
| SEP | SW045 | | FILRAD | PLUTONIUM-239/240(Filtered) | 1/2 | -0.0100 | 2.5700 | 1.2800 | 0.02 U * |
| SEP | SW046 | | FILRAD | PLUTONIUM-239/240(Filtered) | 1/2 | -0.0100 | 0.0651 | 0.0276 | 0.02 U * |
| SEP | SW044 | | TOTRAD | AMERICIUM-241(Total) | 1/8 | ND | 0.2040 | 0.0293 | 0.059 * |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-b

## Analytical Data Summary - Phase I & II Surface Water Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SW | SW069 | | TOTRAD | AMERICIUM-241 (Total) | 1/7 | -0.0100 | 0.0250 | 0.0030 | 0.018 * |
| SW | SW070 | | TOTRAD | AMERICIUM-241 (Total) | 1/9 | ND | 0.0430 | 0.0090 | 0.018 * |
| SW | SW039 | | TOTRAD | Plutonium 239, 240 (Total) | 1/5 | ND | 0.1460 | 0.0312 | 0.019 * |
| SW | SW029 | | TOTRAD | PLUTONIUM-239/240 (Total) | 3/8 | ND | 0.3150 | 0.0510 | 0.019 * |
| SW | SW031 | | TOTRAD | PLUTONIUM-239/240 (Total) | 3/8 | -0.0100 | 0.3900 | 0.0589 | 0.019 * |
| SW | SW032 | | TOTRAD | PLUTONIUM-239/240 (Total) | 5/10 | ND | 0.2600 | 0.0724 | 0.019 * |
| SW | SW033 | | TOTRAD | PLUTONIUM-239/240 (Total) | 1/8 | -0.0100 | 0.1030 | 0.0159 | 0.019 * |
| SW | SW034 | | TOTRAD | PLUTONIUM-239/240 (Total) | 2/9 | ND | 0.4120 | 0.0537 | 0.019 * |
| SW | SW035 | | TOTRAD | PLUTONIUM-239/240 (Total) | 3/7 | ND | 0.1600 | 0.0466 | 0.019 * |
| SW | SW036 | | TOTRAD | PLUTONIUM-239/240 (Total) | 4/8 | -0.0400 | 0.6120 | 0.1019 | 0.019 * |
| SW | SW066 | | TOTRAD | PLUTONIUM-239/240 (Total) | 2/6 | ND | 0.0620 | 0.0183 | 0.019 * |
| SW | SW067 | | TOTRAD | PLUTONIUM-239/240 (Total) | 4/6 | ND | 0.9500 | 0.2285 | 0.019 * |
| SW | SW068 | | TOTRAD | PLUTONIUM-239/240 (Total) | 1/6 | ND | 0.2000 | 0.0375 | 0.019 * |
| SW | SW069 | | TOTRAD | PLUTONIUM-239/240 (Total) | 0/7 | ND | 0.0160 | 0.0059 | 0.019 * |
| SW | SW070 | | TOTRAD | PLUTONIUM-239/240 (Total) | 1/8 | ND | 0.0200 | 0.0075 | 0.019 * |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-b

## Analytical Data Summary - Phase I & II Surface Water Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SW | SW070 | | | TOLUENE | 1/10 | ND | 2.0000 | 2.4500 | NA |
| SW | SW029 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SW | SW031 | | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| SW | SW032 | | | TOTAL XYLENES | 0/11 | ND | ND | NA | NA |
| SW | SW033 | | | TOTAL XYLENES | 0/8 | ND | ND | NA | NA |
| SW | SW034 | | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| SW | SW035 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SW | SW036 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SW | SW039 | | | Total Xylenes | 0/6 | ND | ND | NA | NA |
| SW | SW066 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SW | SW067 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SW | SW068 | | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |
| SW | SW069 | | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| SW | SW070 | | | TOTAL XYLENES | 0/10 | ND | ND | NA | NA |
| SW | SW029 | | | TRICHLOROETHENE | 1/10 | ND | 42.0000 | 6.4000 | NA |
| SW | SW031 | | | TRICHLOROETHENE | 0/12 | ND | ND | NA | NA |
| SW | SW032 | | | TRICHLOROETHENE | 1/13 | ND | 26.0000 | 4.2692 | NA |
| SW | SW033 | | | TRICHLOROETHENE | 0/8 | ND | ND | NA | NA |
| SW | SW034 | | | TRICHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SW | SW035 | | | TRICHLOROETHENE | 0/11 | ND | ND | NA | NA |
| SW | SW036 | | | TRICHLOROETHENE | 0/9 | ND | ND | NA | NA |
| SW | SW039 | | | Trichloroethene | 0/6 | ND | ND | NA | NA |
| SW | SW066 | | | TRICHLOROETHENE | 0/9 | ND | ND | NA | NA |
| SW | SW067 | | | TRICHLOROETHENE | 0/9 | ND | ND | NA | NA |
| SW | SW068 | | | TRICHLOROETHENE | 1/9 | ND | 6.0000 | 2.8889 | NA |
| SW | SW069 | | | TRICHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SW | SW070 | | | TRICHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SW | SW039 | | FILRAD | Americium 241 (Filtered) | 0/1 | 0.0100 | 0.0100 | 0.0100 | 0.026 • |
| SW | SW029 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | ND | ND | 0.0000 | 0.026 • |
| SW | SW031 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | ND | ND | 0.0000 | 0.026 * |
| SW | SW032 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | ND | ND | 0.0000 | 0.026 • |
| SW | SW033 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | ND | ND | 0.0000 | 0.026 * |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-b

## Analytical Data Summary - Phase I & II Surface Water Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SW | SW034 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | -0.0100 | -0.0100 | -0.0100 | 0.026 * |
| SW | SW035 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | -0.0100 | -0.0100 | -0.0100 | 0.026 * |
| SW | SW036 | | FILRAD | AMERICIUM-241 (Filtered) | 0/2 | 0.0100 | 0.0100 | 0.0100 | 0.026 * |
| SW | SW066 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | -0.0100 | -0.0100 | -0.0100 | 0.026 * |
| SW | SW067 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | 0.0100 | 0.0100 | 0.0100 | 0.026 * |
| SW | SW068 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | -0.0100 | -0.0100 | -0.0100 | 0.026 * |
| SW | SW069 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | -0.0100 | -0.0100 | -0.0100 | 0.026 * |
| SW | SW070 | | FILRAD | AMERICIUM-241 (Filtered) | 0/1 | 0.0100 | 0.0100 | 0.0100 | 0.026 * |
| SW | SW039 | | FILRAD | Plutonium 239, 240 (Filtered) | 0/2 | ND | 0.2190 | 0.1095 | 0.52 * |
| SW | SW029 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | 0.0100 | 0.1590 | 0.0845 | 0.52 * |
| SW | SW031 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 1/2 | ND | 0.6810 | 0.3405 | 0.52 * |
| SW | SW032 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/3 | ND | 0.0479 | 0.0160 | 0.52 * |
| SW | SW033 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | -0.0100 | 0.1870 | 0.0885 | 0.52 * |
| SW | SW034 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/3 | ND | 0.2430 | 0.0810 | 0.52 * |
| SW | SW035 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | ND | 0.2540 | 0.1270 | 0.52 * |
| SW | SW036 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/4 | ND | 0.0684 | 0.0347 | 0.52 * |
| SW | SW066 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | ND | 0.3360 | 0.1680 | 0.52 * |
| SW | SW067 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | ND | 0.2460 | 0.1230 | 0.52 * |
| SW | SW068 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | ND | 0.2610 | 0.1305 | 0.52 * |
| SW | SW069 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | ND | 0.1800 | 0.0900 | 0.52 * |
| SW | SW070 | | FILRAD | PLUTONIUM-239/240 (Filtered) | 0/2 | ND | 0.1100 | 0.0550 | 0.52 * |
| SW | SW039 | | TOTRAD | Americium 241 (Total) | 2/5 | ND | 0.0890 | 0.0248 | 0.018 * |
| SW | SW029 | | TOTRAD | AMERICIUM-241 (Total) | 0/6 | ND | 0.0060 | 0.0012 | 0.018 * |
| SW | SW031 | | TOTRAD | AMERICIUM-241 (Total) | 2/8 | -0.0200 | 0.0390 | 0.0089 | 0.018 * |
| SW | SW032 | | TOTRAD | AMERICIUM-241 (Total) | 0/9 | ND | 0.0100 | 0.0017 | 0.018 * |
| SW | SW033 | | TOTRAD | AMERICIUM-241 (Total) | 0/6 | ND | 0.0120 | 0.0055 | 0.018 * |
| SW | SW034 | | TOTRAD | AMERICIUM-241 (Total) | 0/7 | -0.0100 | 0.0090 | -0.0001 | 0.018 * |
| SW | SW035 | | TOTRAD | AMERICIUM-241 (Total) | 0/7 | ND | 0.0100 | 0.0043 | 0.018 * |
| SW | SW036 | | TOTRAD | AMERICIUM-241 (Total) | 2/7 | ND | 0.2040 | 0.0389 | 0.018 * |
| SW | SW066 | | TOTRAD | AMERICIUM-241 (Total) | 1/7 | -0.0200 | 0.0220 | 0.0026 | 0.018 * |
| SW | SW067 | | TOTRAD | AMERICIUM-241 (Total) | 4/7 | ND | 0.2400 | 0.0613 | 0.018 * |
| SW | SW068 | | TOTRAD | AMERICIUM-241 (Total) | 0/6 | -0.0100 | 0.0100 | 0.0012 | 0.018 * |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-b

## Analytical Data Summary - Phase I & II Surface Water Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SW | SW029 | | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW031 | | | 1,1,1-TRICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| SW | SW032 | | | 1,1,1-TRICHLOROETHANE | 0/13 | ND | ND | NA | NA |
| SW | SW033 | | | 1,1,1-TRICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| SW | SW034 | | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW035 | | | 1,1,1-TRICHLOROETHANE | 1/11 | ND | 6.0000 | 2.8182 | NA |
| SW | SW036 | | | 1,1,1-TRICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW039 | | | 1,1,1-Trichloroethane | 0/6 | ND | ND | NA | NA |
| SW | SW066 | | | 1,1,1-TRICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW067 | | | 1,1,1-TRICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW068 | | | 1,1,1-TRICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW069 | | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW070 | | | 1,1,1-TRICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW029 | | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW031 | | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW032 | | | 1,1-DICHLOROETHANE | 0/11 | ND | ND | NA | NA |
| SW | SW033 | | | 1,1-DICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| SW | SW034 | | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW035 | | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW036 | | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW039 | | | 1,1-Dichloroethane | 0/6 | ND | ND | NA | NA |
| SW | SW066 | | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW067 | | | 1,1-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW068 | | | 1,1-DICHLOROETHANE | 1/9 | ND | 4.0000 | 2.6667 | NA |
| SW | SW069 | | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW070 | | | 1,1-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW029 | | | 1,2-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW031 | | | 1,2-DICHLOROETHANE | 0/12 | ND | ND | NA | NA |
| SW | SW032 | | | 1,2-DICHLOROETHANE | 0/13 | ND | ND | NA | NA |
| SW | SW033 | | | 1,2-DICHLOROETHANE | 0/8 | ND | ND | NA | NA |
| SW | SW034 | | | 1,2-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW035 | | | 1,2-DICHLOROETHANE | 0/11 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-b

## Analytical Data Summary - Phase I & II Surface Water Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| SW | SW036 | | | 1,2-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW039 | | | 1,2-Dichloroethane | 0/6 | ND | ND | NA | NA |
| SW | SW066 | | | 1,2-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW067 | | | 1,2-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW068 | | | 1,2-DICHLOROETHANE | 0/9 | ND | ND | NA | NA |
| SW | SW069 | | | 1,2-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW070 | | | 1,2-DICHLOROETHANE | 0/10 | ND | ND | NA | NA |
| SW | SW029 | | | TETRACHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SW | SW031 | | | TETRACHLOROETHENE | 0/12 | ND | ND | NA | NA |
| SW | SW032 | | | TETRACHLOROETHENE | 0/13 | ND | ND | NA | NA |
| SW | SW033 | | | TETRACHLOROETHENE | 0/8 | ND | ND | NA | NA |
| SW | SW034 | | | TETRACHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SW | SW035 | | | TETRACHLOROETHENE | 0/11 | ND | ND | NA | NA |
| SW | SW036 | | | TETRACHLOROETHENE | 0/9 | ND | ND | NA | NA |
| SW | SW039 | | | Tetrachloroethene | 0/6 | ND | ND | NA | NA |
| SW | SW066 | | | TETRACHLOROETHENE | 0/9 | ND | ND | NA | NA |
| SW | SW067 | | | TETRACHLOROETHENE | 0/9 | ND | ND | NA | NA |
| SW | SW068 | | | TETRACHLOROETHENE | 0/9 | ND | ND | NA | NA |
| SW | SW069 | | | TETRACHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SW | SW070 | | | TETRACHLOROETHENE | 0/10 | ND | ND | NA | NA |
| SW | SW029 | | | TOLUENE | 1/9 | ND | 11.0000 | 3.4444 | NA |
| SW | SW031 | | | TOLUENE | 0/10 | ND | ND | NA | NA |
| SW | SW032 | | | TOLUENE | 1/11 | ND | 12.0000 | 3.3636 | NA |
| SW | SW033 | | | TOLUENE | 0/8 | ND | ND | NA | NA |
| SW | SW034 | | | TOLUENE | 0/10 | ND | ND | NA | NA |
| SW | SW035 | | | TOLUENE | 1/9 | ND | 12.0000 | 3.5556 | NA |
| SW | SW036 | | | TOLUENE | 1/9 | ND | 3.0000 | 2.5556 | NA |
| SW | SW039 | | | Toluene | 1/6 | ND | 9.0000 | 3.5833 | NA |
| SW | SW066 | | | TOLUENE | 0/9 | ND | ND | NA | NA |
| SW | SW067 | | | TOLUENE | 0/9 | ND | ND | NA | NA |
| SW | SW068 | | | TOLUENE | 0/9 | ND | ND | NA | NA |
| SW | SW069 | | | TOLUENE | 1/10 | ND | 4.0000 | 2.6500 | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 5787 | COL | TOTRAD | URANIUM-238 | 0/3 | 0.5400 | 1.1000 | 0.8200 | 1.676 |
| BH | 5787 | WCS | TOTRAD | URANIUM-238 | 0/9 | 0.8100 | 1.8000 | 1.2267 | 1.935 |
| BH | 5887 | COL | TOTRAD | URANIUM-238 | 0/2 | 0.8000 | 1.3000 | 1.0500 | 1.676 |
| BH | 5887 | WCS | TOTRAD | URANIUM-238 | 0/1 | 1.1000 | 1.1000 | 1.1000 | 1.935 |
| BH | 5987 | COL | TOTRAD | URANIUM-238 | 0/1 | 0.8400 | 0.8400 | 0.8400 | 1.676 |
| BH | 5987 | WCS | TOTRAD | URANIUM-238 | 0/2 | 1.1000 | 1.1000 | 1.1000 | 1.935 |
| BH | 6187 | COL | TOTRAD | URANIUM-238 | 0/1 | 0.6800 | 0.6800 | 0.6800 | 1.676 |
| BH | 6187 | WCS | TOTRAD | URANIUM-238 | 0/2 | 0.8000 | 0.9100 | 0.8550 | 1.935 |
| BH | 6287 | RFA | TOTRAD | URANIUM-238 | 0/2 | 0.6800 | 1.2000 | 0.9400 | 1.363 |
| BH | 6287 | WCS | TOTRAD | URANIUM-238 | 0/1 | 1.3000 | 1.3000 | 1.3000 | 1.935 |
| BH | 6387 | RFA | TOTRAD | URANIUM-238 | 1/3 | 0.5300 | 1.4000 | 0.9633 | 1.363 |
| BH | 6387 | WCS | TOTRAD | URANIUM-238 | 0/2 | 1.1000 | 1.9000 | 1.5000 | 1.935 |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0887 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 1.3000 | 1.3000 | 1.3000 | 2.203 |
| BH | 0987 | COL | TOTRAD | URANIUM-233,-234 | 0/3 | 0.6400 | 0.9100 | 0.7933 | 1.749 |
| BH | 0987 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 0.7100 | 0.7100 | 0.7100 | 2.203 |
| BH | 1087 | COL | TOTRAD | URANIUM-233,-234 | 0/3 | 0.7300 | 0.9900 | 0.8433 | 1.749 |
| BH | 1087 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 0.8600 | 0.8600 | 0.8600 | 2.203 |
| BH | 1187 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | 0.4400 | 1.2000 | 0.8200 | 1.749 |
| BH | 1187 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 1.2000 | 1.2000 | 1.2000 | 2.203 |
| BH | 1287 | COL | TOTRAD | URANIUM-233,-234 | 0/1 | 0.9800 | 0.9800 | 0.9800 | 1.749 |
| BH | 1287 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 0.9600 | 0.9600 | 0.9600 | 2.203 |
| BH | 1387 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | 0.5800 | 0.6700 | 0.6250 | 1.749 |
| BH | 1387 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 1.4000 | 1.4000 | 1.4000 | 2.203 |
| BH | 1487 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | 0.6900 | 1.2000 | 0.9450 | 1.749 |
| BH | 1487 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | 0.5200 | 1.1000 | 0.8100 | 2.203 |
| BH | 1587 | RFA | TOTRAD | URANIUM-233,-234 | 0/2 | 0.7500 | 0.8600 | 0.8050 | 1.488 |
| BH | 1587 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 1.4000 | 1.4000 | 1.4000 | 2.203 |
| BH | 1687 | COL | TOTRAD | URANIUM-233,-234 | 0/1 | 0.5800 | 0.5800 | 0.5800 | 1.749 |
| BH | 1687 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | 0.9700 | 1.1000 | 1.0350 | 2.203 |
| BH | 1787 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | 0.8600 | 1.2000 | 1.0300 | 1.749 |
| BH | 1787 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 1.5000 | 1.5000 | 1.5000 | 2.203 |
| BH | 5787 | COL | TOTRAD | URANIUM-233,-234 | 0/3 | 0.4800 | 1.1000 | 0.7367 | 1.749 |
| BH | 5787 | WCS | TOTRAD | URANIUM-233,-234 | 0/9 | 0.7200 | 2.2000 | 1.2622 | 2.203 |
| BH | 5887 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | 0.8500 | 1.4000 | 1.1250 | 1.749 |
| BH | 5887 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 1.1000 | 1.1000 | 1.1000 | 2.203 |
| BH | 5987 | COL | TOTRAD | URANIUM-233,-234 | 0/1 | 0.6300 | 0.6300 | 0.6300 | 1.749 |
| BH | 5987 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | 0.9200 | 1.1000 | 1.0100 | 2.203 |
| BH | 6187 | COL | TOTRAD | URANIUM-233,-234 | 0/1 | 0.9900 | 0.9900 | 0.9900 | 1.749 |
| BH | 6187 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | 1.1000 | 1.1000 | 1.1000 | 2.203 |
| BH | 6287 | RFA | TOTRAD | URANIUM-233,-234 | 0/2 | 0.7700 | 1.3000 | 1.0350 | 1.488 |
| BH | 6287 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 1.1000 | 1.1000 | 1.1000 | 2.203 |
| BH | 6387 | RFA | TOTRAD | URANIUM-233,-234 | 0/3 | 0.5000 | 1.4000 | 0.9367 | 1.488 |
| BH | 6387 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | 0.8000 | 2.0000 | 1.4000 | 2.203 |
| BH | 0187 | COL | TOTRAD | URANIUM-238 | 0/1 | 0.3500 | 0.3500 | 0.3500 | 1.676 |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0187 | WCS | TOTRAD | URANIUM-238 | 0/2 | 0.5800 | 1.1000 | 0.8400 | 1.935 |
| BH | 0287 | COL | TOTRAD | URANIUM-238 | 0/2 | -0.1000 | 0.0100 | -0.0450 | 1.676 |
| BH | 0287 | WCS | TOTRAD | URANIUM-238 | 0/2 | 0.0300 | 0.1000 | 0.0650 | 1.935 |
| BH | 0387 | COL | TOTRAD | URANIUM-238 | 0/3 | -0.0900 | -0.0300 | -0.0700 | 1.676 |
| BH | 0387 | WCS | TOTRAD | URANIUM-238 | 0/1 | -0.0400 | -0.0400 | -0.0400 | 1.935 |
| BH | 0487 | COL | TOTRAD | URANIUM-238 | 0/3 | 0.5100 | 0.6200 | 0.5767 | 1.676 |
| BH | 0487 | WCS | TOTRAD | URANIUM-238 | 0/1 | 1.0000 | 1.0000 | 1.0000 | 1.935 |
| BH | 0587 | COL | TOTRAD | URANIUM-238 | 0/2 | -0.0600 | 0.0400 | -0.0100 | 1.676 |
| BH | 0587 | WCS | TOTRAD | URANIUM-238 | 0/1 | 0.0200 | 0.0200 | 0.0200 | 1.935 |
| BH | 0687 | COL | TOTRAD | URANIUM-238 | 0/3 | -0.0600 | 0.0100 | -0.0300 | 1.676 |
| BH | 0687 | WCS | TOTRAD | URANIUM-238 | 0/1 | 0.0100 | 0.0100 | 0.0100 | 1.935 |
| BH | 0787 | WCS | TOTRAD | URANIUM-238 | 0/2 | -0.1200 | -0.0800 | -0.1000 | 1.935 |
| BH | 0887 | COL | TOTRAD | URANIUM-238 | 0/2 | 0.3600 | 0.7900 | 0.5750 | 1.676 |
| BH | 0887 | WCS | TOTRAD | URANIUM-238 | 0/1 | 1.3000 | 1.3000 | 1.3000 | 1.935 |
| BH | 0987 | COL | TOTRAD | URANIUM-238 | 0/3 | 0.6300 | 0.8200 | 0.7400 | 1.676 |
| BH | 0987 | WCS | TOTRAD | URANIUM-238 | 0/1 | 0.7200 | 0.7200 | 0.7200 | 1.935 |
| BH | 1087 | COL | TOTRAD | URANIUM-238 | 0/3 | 0.6200 | 0.7900 | 0.6967 | 1.676 |
| BH | 1087 | WCS | TOTRAD | URANIUM-238 | 0/1 | 0.7600 | 0.7600 | 0.7600 | 1.935 |
| BH | 1187 | COL | TOTRAD | URANIUM-238 | 0/2 | 0.5100 | 0.7800 | 0.6450 | 1.676 |
| BH | 1187 | WCS | TOTRAD | URANIUM-238 | 0/1 | 1.0000 | 1.0000 | 1.0000 | 1.935 |
| BH | 1287 | COL | TOTRAD | URANIUM-238 | 0/1 | 0.8900 | 0.8900 | 0.8900 | 1.676 |
| BH | 1287 | WCS | TOTRAD | URANIUM-238 | 0/1 | 0.8500 | 0.8500 | 0.8500 | 1.935 |
| BH | 1387 | COL | TOTRAD | URANIUM-238 | 0/2 | 0.6000 | 0.8700 | 0.7350 | 1.676 |
| BH | 1387 | WCS | TOTRAD | URANIUM-238 | 0/1 | 1.2000 | 1.2000 | 1.2000 | 1.935 |
| BH | 1487 | COL | TOTRAD | URANIUM-238 | 0/2 | 0.6700 | 0.8000 | 0.7350 | 1.676 |
| BH | 1487 | WCS | TOTRAD | URANIUM-238 | 0/2 | 0.3600 | 0.9600 | 0.6600 | 1.935 |
| BH | 1587 | RFA | TOTRAD | URANIUM-238 | 0/2 | 0.7100 | 0.8900 | 0.8000 | 1.363 |
| BH | 1587 | WCS | TOTRAD | URANIUM-238 | 0/1 | 0.8300 | 0.8300 | 0.8300 | 1.935 |
| BH | 1687 | COL | TOTRAD | URANIUM-238 | 0/1 | 0.5600 | 0.5600 | 0.5600 | 1.676 |
| BH | 1687 | WCS | TOTRAD | URANIUM-238 | 0/2 | 0.8100 | 1.1000 | 0.9550 | 1.935 |
| BH | 1787 | COL | TOTRAD | URANIUM-238 | 0/2 | 0.8300 | 0.9700 | 0.9000 | 1.676 |
| BH | 1787 | WCS | TOTRAD | URANIUM-238 | 0/1 | 1.1000 | 1.1000 | 1.1000 | 1.935 |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 6187 | WCS | TOTRAD | AMERICIUM-241 | 1/2 | -0.0100 | 0.0900 | 0.0400 | 0.013 • |
| BH | 6287 | RFA | TOTRAD | AMERICIUM-241 | 0/2 | -0.0400 | -0.0200 | -0.0300 | 0.013 • |
| BH | 6287 | WCS | TOTRAD | AMERICIUM-241 | 0/1 | -0.0600 | -0.0600 | -0.0600 | 0.013 • |
| BH | 6387 | RFA | TOTRAD | AMERICIUM-241 | 1/3 | -0.0200 | 0.0500 | 0.0067 | 0.013 • |
| BH | 6387 | WCS | TOTRAD | AMERICIUM-241 | 0/2 | -0.0500 | 0.0100 | -0.0200 | 0.013 • |
| BH | 0187 | COL | TOTRAD | PLUTONIUM-239/240 | 1/1 | 0.0600 | 0.0600 | 0.0600 | 0.017 |
| BH | 0187 | WCS | TOTRAD | PLUTONIUM-239/240 | 1/2 | -0.0300 | 0.0300 | 0.0000 | 0.017 |
| BH | 0287 | COL | TOTRAD | PLUTONIUM-239/240 | 0/2 | -0.1000 | 0.0100 | -0.0450 | 0.017 |
| BH | 0287 | WCS | TOTRAD | PLUTONIUM-239/240 | 2/2 | 0.0300 | 0.1000 | 0.0650 | 0.017 |
| BH | 0387 | COL | TOTRAD | PLUTONIUM-239/240 | 0/3 | -0.0900 | -0.0300 | -0.0700 | 0.017 |
| BH | 0387 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0400 | -0.0400 | -0.0400 | 0.017 |
| BH | 0487 | COL | TOTRAD | PLUTONIUM-239/240 | 2/3 | -0.0400 | 0.0700 | 0.0267 | 0.017 |
| BH | 0487 | WCS | TOTRAD | PLUTONIUM-239/240 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.017 |
| BH | 0587 | COL | TOTRAD | PLUTONIUM-239/240 | 1/2 | -0.0600 | 0.0400 | -0.0100 | 0.017 |
| BH | 0587 | WCS | TOTRAD | PLUTONIUM-239/240 | 1/1 | 0.0200 | 0.0200 | 0.0200 | 0.017 |
| BH | 0687 | COL | TOTRAD | PLUTONIUM-239/240 | 0/3 | -0.0600 | -0.0100 | -0.0367 | 0.017 |
| BH | 0687 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | 0.0100 | 0.0100 | 0.0100 | 0.017 |
| BH | 0787 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/2 | -0.1200 | -0.0800 | -0.1000 | 0.017 |
| BH | 0887 | COL | TOTRAD | PLUTONIUM-239/240 | 2/2 | 0.0200 | 0.0800 | 0.0500 | 0.017 |
| BH | 0887 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0100 | -0.0100 | -0.0100 | 0.017 |
| BH | 0987 | COL | TOTRAD | PLUTONIUM-239/240 | 0/3 | -0.0800 | -0.0400 | -0.0667 | 0.017 |
| BH | 0987 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0400 | -0.0400 | -0.0400 | 0.017 |
| BH | 1087 | COL | TOTRAD | PLUTONIUM-239/240 | 0/3 | -0.0900 | -0.0500 | -0.0667 | 0.017 |
| BH | 1087 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0600 | -0.0600 | -0.0600 | 0.017 |
| BH | 1187 | COL | TOTRAD | PLUTONIUM-239/240 | 0/2 | -0.0200 | -0.0200 | -0.0200 | 0.017 |
| BH | 1187 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0800 | -0.0800 | -0.0800 | 0.017 |
| BH | 1287 | COL | TOTRAD | PLUTONIUM-239/240 | 1/1 | 0.1200 | 0.1200 | 0.1200 | 0.017 |
| BH | 1287 | WCS | TOTRAD | PLUTONIUM-239/240 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.017 |
| BH | 1387 | COL | TOTRAD | PLUTONIUM-239/240 | 1/2 | ND | 0.0400 | 0.0200 | 0.017 |
| BH | 1387 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0400 | -0.0400 | -0.0400 | 0.017 |
| BH | 1487 | COL | TOTRAD | PLUTONIUM-239/240 | 1/2 | -0.0300 | 0.0600 | 0.0150 | 0.017 |
| BH | 1487 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/2 | -0.0900 | -0.0100 | -0.0500 | 0.017 |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1587 | RFA | TOTRAD | PLUTONIUM-239/240 | 1/2 | -0.0200 | 0.0900 | 0.0350 | 0.017 |
| BH | 1587 | WCS | TOTRAD | PLUTONIUM-239/240 | 1/1 | 0.0700 | 0.0700 | 0.0700 | 0.017 |
| BH | 1687 | COL | TOTRAD | PLUTONIUM-239/240 | 1/1 | 0.9100 | 0.9100 | 0.9100 | 0.017 |
| BH | 1687 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/2 | -0.0400 | -0.0200 | -0.0300 | 0.017 |
| BH | 1787 | COL | TOTRAD | PLUTONIUM-239/240 | 2/2 | 0.0400 | 0.3800 | 0.2100 | 0.017 |
| BH | 1787 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0300 | -0.0300 | -0.0300 | 0.017 |
| BH | 5787 | COL | TOTRAD | PLUTONIUM-239/240 | 2/3 | -0.0100 | 0.0900 | 0.0333 | 0.017 |
| BH | 5787 | WCS | TOTRAD | PLUTONIUM-239/240 | 4/9 | -0.1000 | 0.0400 | -0.0067 | 0.017 |
| BH | 5887 | COL | TOTRAD | PLUTONIUM-239/240 | 2/2 | 0.0400 | 0.0900 | 0.0650 | 0.017 |
| BH | 5887 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0500 | -0.0500 | -0.0500 | 0.017 |
| BH | 5987 | COL | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0400 | -0.0400 | -0.0400 | 0.017 |
| BH | 5987 | WCS | TOTRAD | PLUTONIUM-239/240 | 1/2 | ND | 0.0700 | 0.0350 | 0.017 |
| BH | 6187 | COL | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0600 | -0.0600 | -0.0600 | 0.017 |
| BH | 6187 | WCS | TOTRAD | PLUTONIUM-239/240 | 1/2 | -0.0700 | 0.0600 | -0.0050 | 0.017 |
| BH | 6287 | RFA | TOTRAD | PLUTONIUM-239/240 | 1/2 | -0.0700 | 0.0700 | 0.0000 | 0.017 |
| BH | 6287 | WCS | TOTRAD | PLUTONIUM-239/240 | 0/1 | -0.0300 | -0.0300 | -0.0300 | 0.017 |
| BH | 6387 | RFA | TOTRAD | PLUTONIUM-239/240 | 0/3 | -0.0900 | ND | -0.0500 | 0.017 |
| BH | 6387 | WCS | TOTRAD | PLUTONIUM-239/240 | 2/2 | 0.0400 | 0.1400 | 0.0900 | 0.017 |
| BH | 0187 | COL | TOTRAD | URANIUM-233,-234 | 0/1 | 0.4200 | 0.4200 | 0.4200 | 1.749 |
| BH | 0187 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | 0.8700 | 0.8700 | 0.8700 | 2.203 |
| BH | 0287 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | -0.0100 | 0.0700 | 0.0300 | 1.749 |
| BH | 0287 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | 0.0200 | 0.0300 | 0.0250 | 2.203 |
| BH | 0387 | COL | TOTRAD | URANIUM-233,-234 | 0/3 | -0.0100 | 0.0400 | 0.0067 | 1.749 |
| BH | 0387 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | ND | ND | 0.0000 | 2.203 |
| BH | 0487 | COL | TOTRAD | URANIUM-233,-234 | 0/3 | 0.5000 | 0.6600 | 0.5700 | 1.749 |
| BH | 0487 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 0.8900 | 0.8900 | 0.8900 | 2.203 |
| BH | 0587 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | 0.0100 | 0.0300 | 0.0200 | 1.749 |
| BH | 0587 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 0.0400 | 0.0400 | 0.0400 | 2.203 |
| BH | 0687 | COL | TOTRAD | URANIUM-233,-234 | 0/3 | -0.0600 | 0.0200 | -0.0233 | 1.749 |
| BH | 0687 | WCS | TOTRAD | URANIUM-233,-234 | 0/1 | 0.0100 | 0.0100 | 0.0100 | 2.203 |
| BH | 0787 | WCS | TOTRAD | URANIUM-233,-234 | 0/2 | -0.0100 | 0.0700 | 0.0300 | 2.203 |
| BH | 0887 | COL | TOTRAD | URANIUM-233,-234 | 0/2 | 0.4300 | 0.6800 | 0.5550 | 1.749 |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1287 | COL | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | TRICHLOROETHENE | 1/2 | ND | 7.7000 | 5.1000 | NA |
| BH | 1587 | RFA | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | TRICHLOROETHENE | 3/3 | 8.0000 | 81.0000 | 40.6667 | NA |
| BH | 5787 | WCS | | TRICHLOROETHENE | 6/9 | ND | 150.0000 | 33.8333 | NA |
| BH | 5887 | COL | | TRICHLOROETHENE | 1/2 | ND | 8.0000 | 8.0000 | NA |
| BH | 5887 | WCS | | TRICHLOROETHENE | 1/1 | 7.0000 | 7.0000 | 7.0000 | NA |
| BH | 5987 | COL | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | TRICHLOROETHENE | 1/1 | 10.0000 | 10.0000 | 10.0000 | NA |
| BH | 6187 | WCS | | TRICHLOROETHENE | 2/2 | 9.0000 | 10.0000 | 9.5000 | NA |
| BH | 6287 | RFA | | TRICHLOROETHENE | 2/2 | 8.0000 | 9.0000 | 8.5000 | NA |
| BH | 6287 | WCS | | TRICHLOROETHENE | 1/1 | 8.0000 | 8.0000 | 8.0000 | NA |
| BH | 6387 | RFA | | TRICHLOROETHENE | 3/3 | 8.0000 | 9.0000 | 8.3333 | NA |
| BH | 6387 | WCS | | TRICHLOROETHENE | 2/2 | 8.0000 | 9.0000 | 8.5000 | NA |
| BH | 0187 | COL | TOTRAD | AMERICIUM-241 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.013 • |
| BH | 0187 | WCS | TOTRAD | AMERICIUM-241 | 1/2 | ND | 0.0400 | 0.0200 | 0.013 * |
| BH | 0287 | COL | TOTRAD | AMERICIUM-241 | 2/2 | 0.6400 | 0.7700 | 0.7050 | 0.013 • |
| BH | 0287 | WCS | TOTRAD | AMERICIUM-241 | 2/2 | 0.6600 | 0.8400 | 0.7500 | 0.013 • |
| BH | 0387 | COL | TOTRAD | AMERICIUM-241 | 3/3 | 0.5600 | 1.1000 | 0.7933 | 0.013 • |
| BH | 0387 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 1.0000 | 1.0000 | 1.0000 | 0.013 • |
| BH | 0487 | COL | TOTRAD | AMERICIUM-241 | 3/3 | 0.0200 | 0.1000 | 0.0567 | 0.013 * |
| BH | 0487 | WCS | TOTRAD | AMERICIUM-241 | 0/1 | -0.0300 | -0.0300 | -0.0300 | 0.013 • |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0587 | COL | TOTRAD | AMERICIUM-241 | 2/2 | 0.6800 | 1.9000 | 1.2900 | 0.013 • |
| BH | 0587 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 0.8500 | 0.8500 | 0.8500 | 0.013 • |
| BH | 0687 | COL | TOTRAD | AMERICIUM-241 | 3/3 | 0.6300 | 1.0000 | 0.8300 | 0.013 • |
| BH | 0687 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 1.4000 | 1.4000 | 1.4000 | 0.013 • |
| BH | 0787 | WCS | TOTRAD | AMERICIUM-241 | 2/2 | 0.4900 | 0.6200 | 0.5550 | 0.013 • |
| BH | 0887 | COL | TOTRAD | AMERICIUM-241 | 1/2 | ND | 0.0600 | 0.0300 | 0.013 • |
| BH | 0887 | WCS | TOTRAD | AMERICIUM-241 | 0/1 | ND | ND | 0.0000 | 0.013 • |
| BH | 0987 | COL | TOTRAD | AMERICIUM-241 | 1/3 | -0.0500 | 0.0300 | -0.0167 | 0.013 • |
| BH | 0987 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.013 • |
| BH | 1087 | COL | TOTRAD | AMERICIUM-241 | 1/3 | -0.0300 | 0.0400 | 0.0067 | 0.013 • |
| BH | 1087 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.013 • |
| BH | 1187 | COL | TOTRAD | AMERICIUM-241 | 2/2 | 0.0600 | 0.0900 | 0.0750 | 0.013 • |
| BH | 1187 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 0.0600 | 0.0600 | 0.0600 | 0.013 • |
| BH | 1287 | COL | TOTRAD | AMERICIUM-241 | 1/1 | 0.1500 | 0.1500 | 0.1500 | 0.013 • |
| BH | 1287 | WCS | TOTRAD | AMERICIUM-241 | 0/1 | -0.0100 | -0.0100 | -0.0100 | 0.013 • |
| BH | 1387 | COL | TOTRAD | AMERICIUM-241 | 2/2 | 0.0300 | 0.0300 | 0.0300 | 0.013 • |
| BH | 1387 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.013 • |
| BH | 1487 | COL | TOTRAD | AMERICIUM-241 | 2/2 | 0.0200 | 0.1000 | 0.0600 | 0.013 • |
| BH | 1487 | WCS | TOTRAD | AMERICIUM-241 | 0/2 | -0.0100 | 0.0100 | 0.0000 | 0.013 • |
| BH | 1587 | RFA | TOTRAD | AMERICIUM-241 | 1/2 | -0.0200 | 0.1000 | 0.0400 | 0.013 • |
| BH | 1587 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 0.0200 | 0.0200 | 0.0200 | 0.013 • |
| BH | 1687 | COL | TOTRAD | AMERICIUM-241 | 1/1 | 0.0200 | 0.0200 | 0.0200 | 0.013 • |
| BH | 1687 | WCS | TOTRAD | AMERICIUM-241 | 0/2 | -0.0300 | 0.0100 | -0.0100 | 0.013 • |
| BH | 1787 | COL | TOTRAD | AMERICIUM-241 | 1/2 | 0.0100 | 0.0600 | 0.0350 | 0.013 • |
| BH | 1787 | WCS | TOTRAD | AMERICIUM-241 | 1/1 | 0.0200 | 0.0200 | 0.0200 | 0.013 • |
| BH | 5787 | COL | TOTRAD | AMERICIUM-241 | 0/3 | -0.0300 | 0.0100 | -0.0100 | 0.013 • |
| BH | 5787 | WCS | TOTRAD | AMERICIUM-241 | 0/9 | -0.0500 | 0.0100 | -0.0133 | 0.013 • |
| BH | 5887 | COL | TOTRAD | AMERICIUM-241 | 1/2 | ND | 0.0200 | 0.0100 | 0.013 • |
| BH | 5887 | WCS | TOTRAD | AMERICIUM-241 | 0/1 | -0.0200 | -0.0200 | -0.0200 | 0.013 • |
| BH | 5987 | COL | TOTRAD | AMERICIUM-241 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.013 • |
| BH | 5987 | WCS | TOTRAD | AMERICIUM-241 | 0/2 | -0.0400 | -0.0100 | -0.0250 | 0.013 • |
| BH | 6187 | COL | TOTRAD | AMERICIUM-241 | 1/1 | 0.0300 | 0.0300 | 0.0300 | 0.013 • |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0387 | COL | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | TOTAL XYLENES | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | TOTAL XYLENES | 0/9 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 5887 | COL | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | TRICHLOROETHENE | 1/2 | ND | 120.0000 | 120.0000 | NA |
| BH | 0287 | COL | | TRICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | TRICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | TRICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | TRICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | TRICHLOROETHENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | TRICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | TRICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | TRICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | TRICHLOROETHENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1787 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | TETRACHLOROETHENE | 3/3 | 52.0000 | 96.0000 | 71.6667 | NA |
| BH | 5787 | WCS | | TETRACHLOROETHENE | 2/9 | ND | 62.0000 | 33.5000 | NA |
| BH | 5887 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | TOLUENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | TOLUENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | TOLUENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | TOLUENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | TOLUENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | TOLUENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1087 | COL | | TOLUENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | TOLUENE | 1/3 | ND | 6.0000 | 6.0000 | NA |
| BH | 5787 | WCS | | TOLUENE | 1/9 | ND | 25.0000 | 25.0000 | NA |
| BH | 5887 | COL | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | TOLUENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | TOLUENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | TOLUENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | TOTAL XYLENES | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | TOTAL XYLENES | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | TOTAL XYLENES | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0887 | COL | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | PYRENE | 1/3 | ND | 250.0000 | 155.0000 | NA |
| BH | 0987 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | PYRENE | 1/1 | 110.0000 | 110.0000 | 110.0000 | NA |
| BH | 1287 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | PYRENE | 1/2 | ND | 270.0000 | 217.5000 | NA |
| BH | 1587 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | PYRENE | 1/2 | ND | 140.0000 | 152.5000 | NA |
| BH | 1787 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | PYRENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | PYRENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0187 | COL | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | TETRACHLOROETHENE | 2/2 | 11.0000 | 190.0000 | 100.5000 | NA |
| BH | 0287 | COL | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | TETRACHLOROETHENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | TETRACHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | TETRACHLOROETHENE | 1/1 | 19.0000 | 19.0000 | 19.0000 | NA |
| BH | 1287 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | TETRACHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | TETRACHLOROETHENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 6287 | RFA | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | PHENANTHRENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | PHENANTHRENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | PHENANTHRENE | 1/3 | ND | 210.0000 | 180.0000 | NA |
| BH | 0487 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | PHENANTHRENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | PHENANTHRENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | PHENANTHRENE | 2/3 | ND | 310.0000 | 131.6667 | NA |
| BH | 0987 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | PHENANTHRENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | PHENANTHRENE | 1/1 | 92.0000 | 92.0000 | 92.0000 | NA |
| BH | 1287 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1587 | RFA | | PHENANTHRENE | 1/2 | ND | 370.0000 | 267.5000 | NA |
| BH | 1587 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | PHENANTHRENE | 1/2 | ND | 180.0000 | 172.5000 | NA |
| BH | 1787 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | PHENANTHRENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | PHENANTHRENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | PHENANTHRENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | PHENANTHRENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | PHENANTHRENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | PYRENE | 1/3 | ND | 240.0000 | 190.0000 | NA |
| BH | 0487 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | PYRENE | 0/4 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1387 | COL | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | INDENO(1,2,3-cd)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | INDENO(1,2,3-cd)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0687 | COL | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | NAPHTHALENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | NAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | NAPHTHALENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | NAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | NAPHTHALENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0487 | COL | | FLUORENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | FLUORENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | FLUORENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | FLUORENE | 1/3 | ND | 54.0000 | 98.0000 | NA |
| BH | 0987 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | FLUORENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | FLUORENE | 1/2 | ND | 55.0000 | 110.0000 | NA |
| BH | 1587 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | FLUORENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | FLUORENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 5987 | COL | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | FLUORENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | INDENO(1,2,3-cd)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | INDENO(1,2,3-cd)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | INDENO(1,2,3-cd)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | INDENO(1,2,3-cd)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | INDENO(1,2,3-cd)PYRENE | 1/3 | ND | 47.0000 | 120.6667 | NA |
| BH | 0987 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | INDENO(1,2,3-cd)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | INDENO(1,2,3-cd)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | INDENO(1,2,3-cd)PYRENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 5787 | COL | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | FLUORANTHENE | 1/3 | ND | 290.0000 | 206.6667 | NA |
| BH | 0487 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | FLUORANTHENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | FLUORANTHENE | 1/3 | ND | 240.0000 | 151.6667 | NA |
| BH | 0987 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1187 | COL | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | FLUORANTHENE | 1/1 | 110.0000 | 110.0000 | 110.0000 | NA |
| BH | 1287 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | FLUORANTHENE | 1/2 | ND | 350.0000 | 257.5000 | NA |
| BH | 1587 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | FLUORANTHENE | 1/2 | ND | 200.0000 | 182.5000 | NA |
| BH | 1787 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | FLUORANTHENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | FLUORENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | FLUORENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | FLUORENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | FLUORENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | FLUORENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0987 | COL | | CHRYSENE | 1/3 | ND | 91.0000 | 102.0000 | NA |
| BH | 0987 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | CHRYSENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | CHRYSENE | 1/1 | 42.0000 | 42.0000 | 42.0000 | NA |
| BH | 1287 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | CHRYSENE | 1/2 | ND | 150.0000 | 157.5000 | NA |
| BH | 1587 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | CHRYSENE | 1/2 | ND | 72.0000 | 118.5000 | NA |
| BH | 1787 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | CHRYSENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | CHRYSENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | CHRYSENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0287 | COL | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | DIBENZO(a,h)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | DIBENZO(a,h)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | DIBENZO(a,h)ANTHRACENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 6387 | RFA | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | CHLOROFORM | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

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## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1687 | COL | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | CHLOROFORM | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | CHLOROFORM | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | CHLOROFORM | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | CHLOROFORM | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | CHRYSENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | CHRYSENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | CHRYSENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | CHRYSENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | CHRYSENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | CHRYSENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | CHRYSENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | CHRYSENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

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## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1487 | COL | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | BENZO(k)FLUORANTHENE | 1/2 | ND | 180.0000 | 172.5000 | NA |
| BH | 1587 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | BENZO(k)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | BENZO(k)FLUORANTHENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | BENZO(k)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0787 | COL | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | CARBON TETRACHLORIDE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | CARBON TETRACHLORIDE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | CARBON TETRACHLORIDE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | CARBON TETRACHLORIDE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | CARBON TETRACHLORIDE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0587 | COL | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | BENZO(ghi)PERYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | BENZO(ghi)PERYLENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | BENZO(ghi)PERYLENE | 1/3 | ND | 50.0000 | 121.6667 | NA |
| BH | 0987 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | BENZO(ghi)PERYLENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | BENZO(ghi)PERYLENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | BENZO(ghi)PERYLENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 6187 | COL | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | BENZO(ghi)PERYLENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | BENZO(k)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | BENZO(k)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | BENZO(k)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | BENZO(k)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | BENZO(k)FLUORANTHENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | BENZO(k)FLUORANTHENE | 1/3 | ND | 78.0000 | 114.3333 | NA |
| BH | 0987 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | BENZO(k)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | BENZO(k)FLUORANTHENE | 1/1 | 35.0000 | 35.0000 | 35.0000 | NA |
| BH | 1287 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | BENZO(k)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | BENZO(k)FLUORANTHENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 5887 | COL | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | BENZO(b)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | BENZO(b)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | BENZO(b)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | BENZO(b)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | BENZO(b)FLUORANTHENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | BENZO(b)FLUORANTHENE | 1/3 | ND | 61.0000 | 108.6667 | NA |
| BH | 0987 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | BENZO(b)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1287 | COL | | BENZO(b)FLUORANTHENE | 1/1 | 34.0000 | 34.0000 | 34.0000 | NA |
| BH | 1287 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | BENZO(b)FLUORANTHENE | 1/2 | ND | 86.0000 | 125.5000 | NA |
| BH | 1587 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | BENZO(b)FLUORANTHENE | 1/2 | ND | 89.0000 | 127.0000 | NA |
| BH | 1787 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | BENZO(b)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | BENZO(b)FLUORANTHENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | BENZO(b)FLUORANTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | BENZO(b)FLUORANTHENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | BENZO(b)FLUORANTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | BENZO(ghi)PERYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | BENZO(ghi)PERYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | BENZO(ghi)PERYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | BENZO(ghi)PERYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | BENZO(ghi)PERYLENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1087 | COL | | BENZO(a)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | BENZO(a)ANTHRACENE | 1/1 | 36.0000 | 36.0000 | 36.0000 | NA |
| BH | 1287 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | BENZO(a)ANTHRACENE | 1/2 | ND | 110.0000 | 137.5000 | NA |
| BH | 1587 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | BENZO(a)ANTHRACENE | 1/2 | ND | 66.0000 | 115.5000 | NA |
| BH | 1787 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | BENZO(a)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | BENZO(a)ANTHRACENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | BENZO(a)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0387 | COL | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | BENZO(a)PYRENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | BENZO(a)PYRENE | 1/2 | ND | 130.0000 | 147.5000 | NA |
| BH | 1587 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | BENZO(a)PYRENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | BENZO(a)PYRENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | BENZO(a)PYRENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | BENZO(a)PYRENE | 0/9 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0187 | COL | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | ANTHRACENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | ANTHRACENE | 1/3 | ND | 74.0000 | 96.3333 | NA |
| BH | 0987 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | ANTHRACENE | 1/2 | ND | 81.0000 | 123.0000 | NA |
| BH | 1587 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | ANTHRACENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1787 | COL | | ANTHRACENE | 1/2 | ND | 46.0000 | 105.5000 | NA |
| BH | 1787 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | ANTHRACENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | ANTHRACENE | 1/3 | ND | 37.0000 | 122.3333 | NA |
| BH | 6387 | WCS | | ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | BENZO(a)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | BENZO(a)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | BENZO(a)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | BENZO(a)ANTHRACENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | BENZO(a)ANTHRACENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | BENZO(a)ANTHRACENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | BENZO(a)ANTHRACENE | 1/3 | ND | 84.0000 | 99.6667 | NA |
| BH | 0987 | WCS | | BENZO(a)ANTHRACENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1587 | RFA | | ACENAPHTHENE | 1/2 | ND | 57.0000 | 111.0000 | NA |
| BH | 1587 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | ACENAPHTHENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | ACENAPHTHENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | ACENAPHTHENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | ACENAPHTHYLENE | 0/4 | ND | ND | NA | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0887 | COL | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | ACENAPHTHYLENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | ACENAPHTHYLENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | ACENAPHTHYLENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | ACENAPHTHYLENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0587 | COL | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | 2-METHYLNAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | 2-METHYLNAPHTHALENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0987 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | 2-METHYLNAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1587 | RFA | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | 2-METHYLNAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | 2-METHYLNAPHTHALENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 6287 | RFA | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | 2-METHYLNAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | ACENAPHTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | ACENAPHTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | ACENAPHTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | ACENAPHTHENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | ACENAPHTHENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | ACENAPHTHENE | 1/3 | ND | 57.0000 | 99.0000 | NA |
| BH | 0987 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | ACENAPHTHENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | ACENAPHTHENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | ACENAPHTHENE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 5887 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | 2-CHLORONAPHTHALENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1287 | COL | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | 2-CHLORONAPHTHALENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | 2-CHLORONAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | 2-CHLORONAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | 2-CHLORONAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | 2-METHYLNAPHTHALENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0287 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0387 | COL | | 2-METHYLNAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | 2-METHYLNAPHTHALENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | 2-METHYLNAPHTHALENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

## Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1087 | COL | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | 1,1-DICHLOROETHENE | 1/3 | ND | 8.0000 | 8.0000 | NA |
| BH | 5787 | WCS | | 1,1-DICHLOROETHENE | 0/9 | ND | ND | NA | NA |
| BH | 5887 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 5887 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | COL | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 6187 | WCS | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | RFA | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |

• Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0387 | COL | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | 1,2-DICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | COL | | 1,2-DICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | 1,2-DICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | 1,2-DICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 5787 | WCS | | 1,2-DICHLOROETHANE | 2/9 | ND | 10.0000 | 7.5000 | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 0187 | COL | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | 1,1,1-TRICHLOROETHANE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1087 | COL | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 1087 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1187 | COL | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1187 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | COL | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1287 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1387 | COL | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1387 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1487 | COL | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1487 | WCS | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | RFA | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1587 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | COL | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 1687 | WCS | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Not Detected; NA - Not Applicable

# Table C13-a

## Analytical Data Summary - Phase I & II Subsurface Soil Contaminants

| MED | LOCATION | GEO** TYPE | GROUP | ANALYTE | RATIO* OVER BKG TO TOT OBS | MINIMUM | MAXIMUM | MEAN | BACKGROUND UTL |
|---|---|---|---|---|---|---|---|---|---|
| BH | 1787 | COL | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 1787 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 5787 | COL | | 1,1,1-TRICHLOROETHANE | 2/3 | ND | 47.0000 | 31.5000 | NA |
| BH | 5787 | WCS | | 1,1,1-TRICHLOROETHANE | 6/9 | ND | 110.0000 | 47.0000 | NA |
| BH | 5887 | COL | | 1,1,1-TRICHLOROETHANE | 2/2 | 23.0000 | 42.0000 | 32.5000 | NA |
| BH | 5887 | WCS | | 1,1,1-TRICHLOROETHANE | 1/1 | 10.0000 | 10.0000 | 10.0000 | NA |
| BH | 5987 | COL | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 5987 | WCS | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 6187 | COL | | 1,1,1-TRICHLOROETHANE | 1/1 | 11.0000 | 11.0000 | 11.0000 | NA |
| BH | 6187 | WCS | | 1,1,1-TRICHLOROETHANE | 1/2 | ND | 16.0000 | 16.0000 | NA |
| BH | 6287 | RFA | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 6287 | WCS | | 1,1,1-TRICHLOROETHANE | 0/1 | ND | ND | NA | NA |
| BH | 6387 | RFA | | 1,1,1-TRICHLOROETHANE | 0/3 | ND | ND | NA | NA |
| BH | 6387 | WCS | | 1,1,1-TRICHLOROETHANE | 0/2 | ND | ND | NA | NA |
| BH | 0187 | COL | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0187 | WCS | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0287 | COL | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0287 | WCS | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0387 | COL | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0387 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0487 | COL | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0487 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0587 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0587 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0687 | COL | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0687 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | COL | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0787 | WCS | | 1,1-DICHLOROETHENE | 0/4 | ND | ND | NA | NA |
| BH | 0887 | COL | | 1,1-DICHLOROETHENE | 0/2 | ND | ND | NA | NA |
| BH | 0887 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |
| BH | 0987 | COL | | 1,1-DICHLOROETHENE | 0/3 | ND | ND | NA | NA |
| BH | 0987 | WCS | | 1,1-DICHLOROETHENE | 0/1 | ND | ND | NA | NA |

* Organics: No Background UTL; Ratio represents Number of Detects to Total Observations

** GEO TYPE: RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; WCS - Weathered Claystone; KAR - Arapahoe/Laramie Formation

ND - Detected; NA - Not Applicable

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

(arithmetic mean). The error term "b" accounts for the propagated statistical counting uncertainty for the sample and the associated analytical blanks at the 95 percent confidence level. These error terms represent a minimum estimate of error for the data.

detecting that material in an appropriate blank sample (Type I error). In the formulation below, both $\alpha$ and $\beta$ are equal to 0.05.

Based on the approach presented in draft ANSI Standard N13.30, Performance Criteria for Radiobioassay (HE85) the formulation of the MDA for radioactive analyses is:

$$MDA = \frac{4.65\ S_B + 2.71/\ (T_S E_S Y)}{aV}$$

where:

MDA = minimum detectable amount (microcuries [$\mu$Ci] or picocuries [pCi])

$S_B$ = standard deviation of the population of appropriate laboratory blank values (disintegrations per minute, d/m)

$T_S$ = sample count time (minutes, m)

$E_S$ = absolute detection efficiency of the sample detector

Y = chemical recovery for the sample

a = conversion factor (d/m per unit activity)

(a = 2.22 disintegrations per minute per picocurie [d/m/pCi] when MDA is in units of pCi, and a = $2.22 \times 10^6$ disintegrations per minute per microcuries [d/m/$\mu$Ci] when MDA is in units of $\mu$Ci)

V = sample volume or weight (V=1 if the MDA per sample is desired)

The major component of the MDA equation is the variability of the laboratory blanks.

Table C12-3 shows the various formulas used for alpha data reduction during 1990 and 1991. These values are based on the average sample volume, typical detector efficiency, detector background, count time, and chemical recovery. MDA values calculated for individual analyses may vary significantly depending on actual sample volume, chemical recovery, and analytical blank used.

## C12.3 REPORTING OF MINIMUM DETECTABLE CONCENTRATION AND ERROR TERMS

Measured plutonium, uranium, americium, tritium, and beryllium measured concentrations are presented in this report. Most of the measured concentrations are at or very near background levels, and often there is little or no amount of these materials in the media being analyzed. When this occurs, the results of the laboratory analyses can be expected to show a statistical distribution of positive and negative numbers near zero and numbers that are less than the calculated minimum detectable concentration for the analyses. The laboratory analytical blanks, used to correct for background contributions to the measurements, show a similar statistical distribution around their average values. Negative sample values result when the measured value for a laboratory analytical blank is subtracted from a sample analytical result that is smaller than the analytical blank value. Results that are less than calculated minimum detectable levels indicate that the results are below the level of statistical confidence in the actual numerical values. All reported results, including negative values and values that are less than minimum detectable levels, are included in any arithmetic calculations on the data set. Reporting all values allows all of the data to be evaluated using appropriate statistical treatment. This assists in identifying any bias in the analyses, allows better evaluation of distributions and trends in environmental data, and helps in estimating the true sensitivity of the measurement process.

The reader should use caution in interpreting individual values that are negative or less than minimum detectable levels. A negative value has no physical significance. Values less than minimum detectable levels lack statistical confidence as to what the actual number is, although it is known with high confidence that it is below the specified detection level. Such values should not be interpreted as being the actual amount of material in the sample, but should be seen as reflecting a range form zero to the minimum detectable level in which the actual amount would likely lie. These values are significant, however, when taken together with other analytical results that indicate that the distribution is near zero.

Error terms in the form of $a \pm b$ are included with some of the data. For a single sample, "a" is the analytical blank corrected value; for multiple samples, "a" represents the average value

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

| Location | Sample Type | Sample Number | Sample Date | Dry | Method | Analyte | Result | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Coherex Drum | | | | | | | | | | |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | CARBON DISULFIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | CARBON DISULFIDE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | CARBON TETRACHLORIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | CARBON TETRACHLORIDE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | CHLOROBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | CHLOROBENZENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | CHLOROETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | CHLOROETHANE | 10,000.00 | UG/L | U | 10,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | CHLOROFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | CHLOROFORM | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | CHLOROMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | CHLOROMETHANE | 10,000.00 | UG/L | U | 10,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | DIBROMOCHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | DIBROMOCHLOROMETHANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | ETHYLBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | ETHYLBENZENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | METHYLENE CHLORIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | METHYLENE CHLORIDE | 7,200.00 | UG/L | B | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | STYRENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | STYRENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | TETRACHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | TETRACHLOROETHENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | TOLUENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | TOLUENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | TOTAL XYLENES | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | TOTAL XYLENES | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | TRICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | TRICHLOROETHENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | VINYL ACETATE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | VINYL ACETATE | 10,000.00 | UG/L | U | 10,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | VINYL CHLORIDE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | VINYL CHLORIDE | 10,000.00 | UG/L | U | 10,000.00 |

APPENDIX C 11 PHASE III FIELD PROGRAM UNIQUE SAMPLES



| Location | Sample Type | Sample Number | Sample Date | Dry | Method | Analyte | Result | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Coherex Drum | | | | | | | | | | |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,1,1-TRICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,1,1-TRICHLOROETHANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,1,2,2-TETRACHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,1,2,2-TETRACHLOROETHANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,1,2-TRICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,1,2-TRICHLOROETHANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,1-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,1-DICHLOROETHANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,1-DICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,1-DICHLOROETHENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,2-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,2-DICHLOROETHANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,2-DICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,2-DICHLOROETHENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 1,2-DICHLOROPROPANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 1,2-DICHLOROPROPANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 2-BUTANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 2-BUTANONE | 10,000.00 | UG/L | U | 10,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 2-HEXANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 2-HEXANONE | 10,000.00 | UG/L | U | 10,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | 4-METHYL-2-PENTANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | 4-METHYL-2-PENTANONE | 10,000.00 | UG/L | U | 10,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | ACETONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | ACETONE | 42,000.00 | UG/L | | 10,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | BENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | BENZENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | BROMODICHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | BROMODICHLOROMETHANE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | BROMOFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | BROMOFORM | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | BROMOMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | BROMOMETHANE | 10,000.00 | UG/L | U | 10,000.00 |

| Location | Sample Type | Sample Number | Sample Date | Dry | Method | Analyte | Result | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| MANHOLE | | | | | | | | | | |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 2-HEXANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 2-HEXANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 2-HEXANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 4-METHYL-2-PENTANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 4-METHYL-2-PENTANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 4-METHYL-2-PENTANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | ACETONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | ACETONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | ACETONE | 26.00 | UG/L | B | 26.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | BENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | BENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | BENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | BROMODICHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | BROMODICHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | BROMODICHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | BROMOFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | BROMOFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | BROMOFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | BROMOMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | BROMOMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | BROMOMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | CARBON DISULFIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | CARBON DISULFIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | CARBON DISULFIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | CARBON TETRACHLORIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | CARBON TETRACHLORIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | CARBON TETRACHLORIDE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | CHLOROBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | CHLOROBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | CHLOROBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | CHLOROETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | CHLOROETHANE | 10.00 | UG/L | U | 10.00 |

APPENDIX C 11 PHASE III FIELD PROGRAM UNIQUE SAMPLE



| Location | Sample Type | Sample Number | Sample Date | Dry | Method | Analyte | Result | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Coherex Drum | | | | | | | | | | |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | cis-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | cis-1,3-DICHLOROPROPENE | 5,000.00 | UG/L | U | 5,000.00 |
| | UNQ | BH01020EBU1 | 6-DEC-91 | | VOACLP | trans-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01021EBU1 | 6-DEC-91 | | VOACLP | trans-1,3-DICHLOROPROPENE | 5,000.00 | UG/L | U | 5,000.00 |
| MANHOLE | | | | | | | | | | |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,1,1-TRICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,1,1-TRICHLORDETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,1,1-TRICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,1,2,2-TETRACHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,1,2,2-TETRACHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,1,2,2-TETRACHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,1,2-TRICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,1,2-TRICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,1,2-TRICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,1-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,1-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,1-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,1-DICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,1-DICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,1-DICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROETHENE | 2.00 | UG/L | J | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROPROPANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROPROPANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 1,2-DICHLOROPROPANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | 2-BUTANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | 2-BUTANONE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | 2-BUTANONE | 10.00 | UG/L | U | 10.00 |

| Location | Sample Type | Sample Number | Sample Date | Dry | Method | Analyte | Result | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| MANHOLE | | | | | | | | | | |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | VINYL ACETATE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | VINYL ACETATE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | VINYL CHLORIDE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | VINYL CHLORIDE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | VINYL CHLORIDE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | cis-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | cis-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | cis-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | trans-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | trans-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | trans-1,3-DICHLOROPROPENE | 5.00 | UG/L | U | 5.00 |

APPENDIX C 11 PHASE III FIELD PROGRAM UNIQUE SAMPLES



| Location | Sample Type | Sample Number | Sample Date | Dry | Method | Analyte | Result | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| MANHOLE | | | | | | | | | | |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | CHLOROETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | CHLOROFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | CHLOROFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | CHLOROFORM | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | CHLOROMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | CHLOROMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | CHLOROMETHANE | 10.00 | UG/L | U | 10.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | DIBROMOCHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | DIBROMOCHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | DIBROMOCHLOROMETHANE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | ETHYLBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | ETHYLBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | ETHYLBENZENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | METHYLENE CHLORIDE | 10.00 | UG/L | B | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | METHYLENE CHLORIDE | 14.00 | UG/L | B | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | METHYLENE CHLORIDE | 6.00 | UG/L | B | 6.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | STYRENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | STYRENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | STYRENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | TETRACHLOROETHENE | 27.00 | UG/L | _ | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | TETRACHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | TETRACHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | TOLUENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | TOLUENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | TOLUENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | TOTAL XYLENES | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | TOTAL XYLENES | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | TOTAL XYLENES | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | TRICHLOROETHENE | 2.00 | UG/L | J | 5.00 |
| | UNQ | BH01001EBU1 | 26-NOV-91 | | VOACLP | TRICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01002EBU1 | 26-NOV-91 | | VOACLP | TRICHLOROETHENE | 5.00 | UG/L | U | 5.00 |
| | UNQ | BH01000EBU1 | 26-NOV-91 | | VOACLP | VINYL ACETATE | 10.00 | UG/L | U | 10.00 |

analyzed for individual specific isotope and/or further investigated to determine the cause and any needed corrective action.

All samples scheduled for alpha spectral analysis are analyzed in a similar manner regardless of matrix. Before dissolution, a known quantity of nonindigenous radioactive tracer is added to each sample. The tracer is used to determine the chemical recovery for the analysis. Tracers used include plutonium-236, plutonium-242, uranium-232, uranium-236, americium-243, and curium-244. The type and activity level of the tracer used depends on the type and projected activity level of the sample to be analyzed. All refractory or intractable actinides are dissolved by vigorous acid treatment using both oxidizing and complexing acids. After samples are dissolved, the radioisotopes of concern are separated from each other and from the matrix material by various solvent extraction and ion exchange techniques. The purified radioisotopes are electro-deposited onto stainless steel discs. These discs are alpha counted for 12 hours. If a lower minimum detection limit is required, samples may be counted from 72 to 168 hours, depending on the specific sensitivity requirement. Samples that exhibit a chemical recovery of less than 10 percent or greater than 110 percent of the tracer are automatically scheduled for reanalysis.

## C12.2 DETECTION LIMITS AND ERROR TERM PROPAGATION FOR RADIOACTIVITY PARAMETERS

Health and Safety Laboratories have adopted the following definition for detection limit, as given by Harley (HA72):

> The smallest amount of sample activity using a given measurement process (i.e., chemical procedure and detector) that will yield a net count for which there is confidence at a pre-determined level that activity is present.

The minimum detectable amount (MDA) is the term used to describe the detection limit and is defined as the smallest amount of an analyzed material in a sample that will be detected with a "b" probability of nondetection (Type II error), while accepting an "a" probability of erroneously

# APPENDIX C12
# AIR QUALITY

Air quality data collected as part of the Radioactive Ambient Air Monitoring Program for 1990 and 1991 is presented in Table C12-1. Air quality data collected from four high-volume OU1 site-specific air samplers for 1990 and 1991 are presented in Table C12-2.

Health and Safety Laboratories routinely perform the following analyses on environmental air samples:

- Total air filter counting (plutonium-specific alpha)
- Gas proportional counting (gross alpha and gross beta)
- Gamma spectral analysis
- Alpha spectral analysis (plutonium-239,-238, americium-241, uranium-238,-233,-234)

Procedures for these analyses are described in the Health and Safety Laboratories Procedures and Practices Manual (WI82). All new procedures and changes to existing procedures must be thoroughly tested, documented, and approved in writing by the manager of Health and Safety Laboratories before being implemented. Environmental Management is notified of any major changes that could affect analytical results. All procedures are reviewed annually (or at any time an analytical problem is suspected) for consistency with state-of-the-art techniques. Copies of all procedures are kept on file in the office of the manager of Health and Safety Laboratories.

## C12.1 ANALYTICAL PROCEDURES

Samples received for air filter screening are counted at approximately 24 hours and then 48 hours after collection. Samples exceeding specified limits are recounted. If the total long-lived alpha concentration for a screened filter exceeds specified action limits, the filter sample is then

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0287 (COL)<br>Sample: GW02021IT (REAL)<br>Date: 11/14/91 | | | Location: 0387 (KAR)<br>Sample: GW01696IT (REAL)<br>Date: 08/22/91 | | | Location: 0387 (KAR)<br>Sample: GW02022IT (REAL)<br>Date: 11/13/91 | | | Location: 0487 (COL)<br>Sample: GW01677IT (REAL)<br>Date: 08/21/91 | | | Location: 0487 (COL)<br>Sample: GW02421IT (REAL)<br>Date: 02/11/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 2730.00 | | | 99.00 | B* | JA | 3270.00 | | V | 9850.00 | * | JA | 15700.00 | | V |
| Antimony | 33.40 | B | | 9.30 | B | V | 17.70 | B | JA | 45.10 | B | V | 8.00 | UN | R |
| Arsenic | 2.00 | U | | 2.00 | UN | JA | 2.00 | BN | JA | 2.00 | BN | JA | 2.30 | BN | JA |
| Barium | 98.20 | B | | 87.60 | BE | JA | 123.00 | B | V | 132.00 | BE | JA | 146.00 | B | V |
| Beryllium | 1.00 | U | | 1.00 | U | V | 3.20 | B | JA | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 2.00 | U | | 1.00 | U | V | 2.00 | U* | JA | 2.80 | B | V | 1.60 | B | V |
| Calcium | 83100.00 | | | 25700.00 | | V | 28700.00 | | V | 152000.00 | | V | 160000.00 | | V |
| Cesium | 51.00 | U | | 30.0 | U | V | 60.00 | B | JA | 30.0 | U | JA | 30 | U | V |
| Chromium | 51.50 | | | 6.80 | B | JA | 41.70 | | V | 78.40 | | V | 65.00 | | V |
| Cobalt | 3.00 | U | | 2.00 | U | V | 4.20 | B | JA | 9.60 | B | JA | 3.30 | B | V |
| Copper | 13.60 | B | | 13.20 | B | JA | 17.40 | B | JA | 27.80 | | JA | 20.60 | B | JA |
| Iron | 2420.00 | | | 130.00 | * | JA | 3510.00 | | V | 9310.00 | * | JA | 14000.00 | | V |
| Lead | 1.90 | B | | 1.00 | U | JA | 8.20 | | V | 6.30 | | JA | 9.20 | S | V |
| Lithium | 11.20 | B | | 36.80 | B | V | 37.50 | B | V | 23.30 | B | V | 26.50 | B | V |
| Magnesium | 24400.00 | | | 7340.00 | | V | 8480.00 | | V | 32900.00 | | V | 36000.00 | | V |
| Manganese | 85.60 | | | 24.20 | | V | 55.90 | | V | 220.00 | | V | 143.00 | | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 12.50 | B | | 5.00 | B | V | 12.90 | B | JA | 13.60 | B | V | 7.40 | B | JA |
| Nickel | 24.50 | B | | 6.40 | B | JA | 32.50 | B | V | 105.00 | | V | 72.80 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1070.00 | B | | 3800.00 | B | V | 4760.00 | B | V | 1870.00 | B | V | 2430.00 | BE | JA |
| Selenium | 2.00 | UW | | 2.00 | U | V | 2.00 | U | V | 520.00 | | V | 608.00 | SN | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.00 | U | | 2.00 | U | V | 2.00 | U | V | 3.60 | B | V | 2.00 | U | V |
| Sodium | 71100.00 | | | 112000.00 | | V | 112000.00 | | V | 161000.00 | | V | 163000.00 | | V |
| Strontium | 798.00 | | | 365.00 | | V | 451.00 | | V | 985.00 | | V | 1040.00 | | V |
| Thallium | 1.00 | UW | | 2.00 | U | V | 1.00 | U | V | 2.00 | U | V | 1.00 | U | V |
| Tin | 17.00 | U | | 14.00 | U | V | 17.00 | U | V | 34.10 | B | V | 10.00 | U | V |
| Vanadium | 11.10 | B | | 3.40 | B | V | 10.50 | B | JA | 33.10 | B | V | 44.40 | B | V |
| Zinc | 43.50 | | | 22.10 | | JA | 56.90 | | V | 48.80 | | V | 91.00 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l)

| ANALYTE | Location: 0187 (RFA)<br>Sample: GW00093IT (REAL)<br>Date: 07/26/90 | | | Location: 0187 (RFA)<br>Sample: GW02076IT (REAL)<br>Date: 12/05/91 | | | Location: 0187 (RFA)<br>Sample: GW02879IT (REAL)<br>Date: 05/12/92 | | | Location: 0287 (COL)<br>Sample: GW00536IT (REAL)<br>Date: 10/18/90 | | | Location: 0287 (COL)<br>Sample: GW01752IT (REAL)<br>Date: 09/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 1220.00 | N* | JA | 1010.00 | | V | | | | 5280 | | V |
| Antimony | | | | 59.60 | B | JA | 18.00 | UN | JA | | | | 50.0 | U | V |
| Arsenic | | | | 2.00 | U | V | 1.00 | BN | JA | | | | 2.9 | B | V |
| Barium | | | | 197.00 | B | V | 209.00 | | V | | | | 120 | B | V |
| Beryllium | | | | 1.00 | U | V | 1.00 | U | V | | | | 2.0 | U | V |
| Cadmium | | | | 2.50 | B | JA | 2.00 | U | V | | | | 3.0 | U | V |
| Calcium | | | | 96500.00 | | V | 126000.00 | | V | | | | 87000 | | V |
| Cesium | | | | 50 | U | V | 60.00 | B | JA | | | | 500 | U | V |
| Chromium | | | | 30.90 | | V | 18.20 | | V | | | | 27.4 | | V |
| Cobalt | | | | 6.20 | B | V | 4.00 | U | V | | | | 10 | U | V |
| Copper | | | | 58.50 | | V | 75.00 | | V | | | | 10 | U | V |
| Iron | | | | 2830.00 | * | JA | 2300.00 | | V | | | | 4220 | | V |
| Lead | | | | 3.10 | | V | 2.20 | B | V | | | | 4.7 | | V |
| Lithium | | | | 11.00 | B | V | 10.60 | B | V | | | | 50.0 | U | V |
| Magnesium | | | | 25000.00 | | V | 37100.00 | | V | | | | 25600 | | V |
| Manganese | | | | 592.00 | | V | 444.00 | | V | | | | 191 | | V |
| Mercury | | | | 0.20 | U | V | 0.20 | U | V | | | | 0.20 | U | V |
| Molybdenum | | | | 10.00 | B | JA | 3.50 | B | JA | | | | 10.3 | B | V |
| Nickel | | | | 85.30 | | V | 112.00 | | V | | | | 24.2 | B | V |
| Phosphorus | 842 | B | | | | | | | | 530 | B | | | | |
| Potassium | | | | 3260.00 | B | V | 2950.00 | B | V | | | | 2000 | U | V |
| Selenium | | | | 2.00 | B | V | 2.70 | BWN | JA | | | | 1.0 | U | JA |
| Silicon | | | | | | | 7630.00 | | V | | | | 17100 | | JA |
| Silver | | | | 2.00 | U | V | 2.00 | U | V | | | | 5.0 | U | V |
| Sodium | | | | 84000.00 | | V | 96400.00 | | V | | | | 71300 | | V |
| Strontium | | | | 682.00 | | V | 961.00 | | V | | | | 828 | | V |
| Thallium | | | | 1.00 | U | V | 1.00 | U | V | | | | 1.0 | U | V |
| Tin | | | | 17.00 | U | V | 23.00 | UN | JA | | | | 100 | U | V |
| Vanadium | | | | 6.50 | B | V | 7.80 | B | V | | | | 14.1 | B | V |
| Zinc | | | | 100.00 | | V | 117.00 | | V | | | | 28.7 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0587 (KAR) Sample: GW02420IT (REAL) Date: 02/14/92 | | | Location: 0587 (KAR) Sample: GW02992IT (REAL) Date: 05/29/92 | | | Location: 0887 (KAR) Sample: GW00568IT (REAL) Date: 11/09/90 | | | Location: 0887 (KAR) Sample: GW01675IT (REAL) Date: 09/19/91 | | | Location: 0887 (KAR) Sample: GW02019IT (REAL) Date: 11/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14000.00 | * | JA | 25400.00 | | V | | | | 2910.00 | | V | 3660.00 | | |
| Antimony | 8.00 | UN | JA | 18.00 | U | R | | | | 66.00 | | JA | 55.30 | B | |
| Arsenic | 2.40 | BN | JA | 4.00 | B | V | | | | 3.00 | B | V | 4.00 | B | |
| Barium | 140.00 | B | V | 294.00 | E | JA | | | | 39.00 | B | V | 43.70 | B | |
| Beryllium | 1.00 | U | R | 4.30 | B | JA | | | | 4.00 | B | V | 1.00 | U | |
| Cadmium | 1.60 | B | V | 2.10 | B | JA | | | | 2.70 | B | JA | 2.60 | B | |
| Calcium | 316000.00 | | V | 296000.00 | | V | | | | 146000.00 | | V | 145000.00 | | |
| Cesium | 30 | U | V | 23.00 | U | JA | | | | 70.00 | B | JA | 51.00 | U | |
| Chromium | 47.30 | E | JA | 152.00 | | V | | | | 120.00 | | V | 218.00 | | |
| Cobalt | 8.60 | BE | JA | 26.10 | B | V | | | | 5.20 | B | V | 6.60 | B | |
| Copper | 40.40 | | JA | 72.20 | | JA | | | | 33.90 | | V | 48.70 | | |
| Iron | 17100.00 | | V | 35200.00 | | V | | | | 9330.00 | | V | 9750.00 | | |
| Lead | 21.60 | | JA | 65.30 | | V | | | | 9.70 | | V | 12.00 | | |
| Lithium | 507.00 | | V | 463.00 | | V | | | | 113.00 | | V | 104.00 | | |
| Magnesium | 94600.00 | | V | 87000.00 | | V | | | | 45000.00 | | V | 44000.00 | | |
| Manganese | 159.00 | E | JA | 701.00 | | V | | | | 104.00 | | V | 136.00 | | |
| Mercury | 0.20 | U | V | 0.20 | U | V | | | | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 5.20 | B | JA | 20.80 | B | JA | | | | 23.00 | B | V | 29.70 | B | |
| Nickel | 46.20 | E | JA | 213.00 | | V | | | | 73.50 | | V | 133.00 | | |
| Phosphorus | | | | | | | 304 | | V | | | | | | |
| Potassium | 13200.00 | E | V | 13900.00 | | V | | | | 9840.00 | | V | 9450.00 | | |
| Selenium | 158.00 | N | JA | 233.00 | | V | | | | 2.00 | UW | JA | 2.00 | UW | |
| Silicon | | | | 54400.00 | | V | | | | | | | | | |
| Silver | 2.00 | U | V | 2.00 | U | JA | | | | 2.00 | U | V | 2.20 | B | |
| Sodium | 172000.00 | | V | 159000.00 | | V | | | | 210000.00 | | V | 213000.00 | | |
| Strontium | 3550.00 | | V | 3520.00 | | V | | | | 2230.00 | | V | 2130.00 | | |
| Thallium | 1.00 | U | V | 1.00 | U | V | | | | 1.00 | UWN | JA | 1.00 | UW | |
| Tin | 10.00 | U | V | 23.00 | U | V | | | | 21.80 | B | V | 17.00 | U | |
| Vanadium | 57.50 | E | JA | 96.40 | | JA | | | | 12.40 | B | V | 15.00 | B | |
| Zinc | 135.00 | E | JA | 272.00 | | V | | | | 45.50 | | V | 83.90 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0487 (COL)<br>Sample: GW02890IT (REAL)<br>Date: 05/11/92 | | | Location: 0587 (KAR)<br>Sample: GW00207IT (REAL)<br>Date: 08/07/90 | | | Location: 0587 (KAR)<br>Sample: GW00930IT (REAL)<br>Date: 03/07/91 | | | Location: 0587 (KAR)<br>Sample: GW01661IT (REAL)<br>Date: 08/15/91 | | | Location: 0587 (KAR)<br>Sample: GW02078IT (REAL)<br>Date: 12/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 38600.00 | | V | | | | 102 | B | V | 15600.00 | * | JA | 1080.00 | N* | JA |
| Antimony | 18.00 | UN | JA | | | | 54.5 | B | JA | 99.80 | N | JA | 108.00 | | JA |
| Arsenic | 5.80 | BN | JA | | | | 2.0 | U | V | 2.00 | U | JA | 2.00 | U | V |
| Barium | 307.00 | | V | | | | 32.7 | BE | JA | 123.00 | B | V | 36.10 | B | JA |
| Beryllium | 1.00 | U | V | | | | 2.0 | U | V | 1.30 | B | JA | 1.00 | U | V |
| Cadmium | 2.60 | B | V | | | | 10.0 | U | JA | 7.60 | | JA | 6.90 | | JA |
| Calcium | 162000.00 | | V | | | | 298000 | | V | 288000.00 | | V | 301000.00 | | V |
| Cesium | 70.00 | B | JA | | | | 2.0 | U | V | 80.00 | B | JA | 50 | U | V |
| Chromium | 217.00 | | V | | | | 27.2 | | JA | 89.80 | | V | 36.80 | | V |
| Cobalt | 16.10 | B | V | | | | 10.0 | U | JA | 14.60 | B | JA | 5.20 | B | JA |
| Copper | 42.80 | | V | | | | 21.6 | B | JA | 30.60 | | JA | 14.30 | B | JA |
| Iron | 34400.00 | | V | | | | 18.5 | B | JA | 14200.00 | | V | 1490.00 | * | JA |
| Lead | 22.50 | | V | | | | 2.0 | U | JA | 16.50 | | JA | 3.90 | | V |
| Lithium | 40.60 | B | V | | | | 469 | | V | 448.00 | | V | 439.00 | | V |
| Magnesium | 40500.00 | | V | | | | 87300 | | V | 85800.00 | | V | 86800.00 | | V |
| Manganese | 698.00 | | V | | | | 11.9 | B | JA | 142.00 | | V | 28.80 | | V |
| Mercury | 0.22 | | V | | | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 12.20 | B | JA | | | | 10.0 | U | JA | 15.20 | B | JA | 14.20 | B | JA |
| Nickel | 143.00 | | V | | | | 39.4 | B | JA | 50.90 | | JA | 17.00 | U | JA |
| Phosphorus | | | | 465 | B | | | | | | | | | | |
| Potassium | 4800.00 | B | V | | | | 10600 | | V | 12200.00 | | V | 10500.00 | | V |
| Selenium | 614.00 | N | JA | | | | 130 | + | JA | 177.00 | S | V | 155.00 | | V |
| Silicon | 83800.00 | | V | | | | 7940 | | V | | | | | | |
| Silver | 2.00 | U | V | | | | 32.5 | | JA | 2.90 | B | JA | 2.40 | B | V |
| Sodium | 166000.00 | | V | | | | 170000 | | V | 157000.00 | | V | 167000.00 | | V |
| Strontium | 1160.00 | | V | | | | 3380 | | V | 3220.00 | N | JA | 3500.00 | | V |
| Thallium | 1.00 | U | V | | | | 2.0 | U | JA | 2.00 | U | V | 1.00 | U | V |
| Tin | 23.00 | UN | JA | | | | 200 | U | JA | 61.00 | BN | JA | 18.30 | B | JA |
| Vanadium | 96.70 | | V | | | | 18.4 | B | JA | 61.90 | | JA | 16.60 | B | JA |
| Zinc | 157.00 | | V | | | | 12.0 | U | JA | 89.80 | | V | 37.50 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW00149IT (REAL)<br>Date: 08/08/90 | | | Location: 1074 (COL)<br>Sample: GW01678IT (REAL)<br>Date: 08/22/91 | | | Location: 1074 (COL)<br>Sample: GW02851IT (REAL)<br>Date: 05/06/92 | | | Location: 31491 (COL)<br>Sample: GW02828IT (REAL)<br>Date: 05/13/92 | | | Location: 31791 (VFA)<br>Sample: GW02468IT (REAL)<br>Date: 02/13/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | 15400.00 | * | JA | 14300.00 | * | JA | 6780.00 | | V | 6940.00 | * | JA |
| Antimony | | | | 76.60 | | V | 18.00 | UN | JA | 18.00 | U | V | 8.00 | UN | JA |
| Arsenic | | | | 4.00 | BWN | JA | 5.20 | BN | JA | 8.20 | BN | JA | 2.00 | UN | JA |
| Barium | | | | 171.00 | BE | JA | 140.00 | B | V | 150.00 | B | V | 254.00 | | V |
| Beryllium | | | | 1.00 | U | V | 1.40 | B | JA | 1.30 | B | V | 1.00 | U | V |
| Cadmium | | | | 6.80 | | V | 2.00 | U | V | 2.00 | U | JA | 1.90 | B | V |
| Calcium | | | | 240000.00 | | V | 205000.00 | | V | 144000.00 | | V | 147000.00 | | V |
| Cesium | | | | 30.0 | U | V | 23.00 | U | R | 23.00 | U | R | 30 | U | V |
| Chromium | | | | 80.40 | | V | 49.50 | | V | 14.90 | | JA | 7.20 | BE | JA |
| Cobalt | | | | 16.10 | B | JA | 11.20 | B | V | 4.00 | U | V | 3.10 | BE | JA |
| Copper | | | | 67.80 | | JA | 38.20 | | V | 8.30 | B | JA | 13.40 | B | JA |
| Iron | | | | 18700.00 | * | JA | 21000.00 | | V | 7840.00 | | V | 6350.00 | | V |
| Lead | | | | 11.50 | | JA | 6.50 | | V | 9.60 | | V | 7.60 | | JA |
| Lithium | | | | 43.90 | B | V | 37.40 | B | V | 61.70 | B | V | 60.10 | B | V |
| Magnesium | | | | 67200.00 | | V | 58300.00 | | V | 63400.00 | | V | 48300.00 | | V |
| Manganese | | | | 302.00 | | V | 203.00 | | V | 114.00 | | V | 333.00 | E | JA |
| Mercury | | | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | | | | 20.10 | B | V | 11.80 | B | JA | 9.60 | B | JA | 8.20 | B | JA |
| Nickel | | | | 58.90 | | V | 51.50 | | V | 11.50 | B | V | 6.30 | BE | JA |
| Phosphorus | 738 | B | | | | | | | | | | | | | |
| Potassium | | | | 2530.00 | B | V | 2350.00 | BE | JA | 4770.00 | BE | JA | 6170.00 | E | V |
| Selenium | | | | 2200.00 | | V | 1.00 | U | V | 45.20 | S | V | 7.20 | SN | JA |
| Silicon | | | | | | | 34600.00 | * | JA | 21500.00 | | V | | | |
| Silver | | | | 4.60 | B | V | 2.00 | U | V | 2.00 | U | R | 2.00 | U | V |
| Sodium | | | | 165000.00 | | V | 156000.00 | | V | 237000.00 | | V | 108.00 | B | JA |
| Strontium | | | | 1830.00 | | V | 1700.00 | | V | 1930.00 | | V | 1400.00 | | V |
| Thallium | | | | 2.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Tin | | | | 42.80 | B | V | 23.00 | UN | JA | 23.00 | U | V | 10.00 | U | V |
| Vanadium | | | | 49.00 | B | V | 49.10 | BE | JA | 20.80 | B | V | 14.90 | BE | JA |
| Zinc | | | | 944.00 | | V | 235.00 | E | JA | 171.00 | | V | 30.70 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0974 (COL)<br>Sample: GW00507IT (REAL)<br>Date: 10/16/90 | | | | Location: 0974 (COL)<br>Sample: GW01662IT (REAL)<br>Date: 08/15/91 | | | | Location: 0974 (COL)<br>Sample: GW02105IT (REAL)<br>Date: 12/10/91 | | | | Location: 0974 (COL)<br>Sample: GW02396IT (REAL)<br>Date: 02/18/92 | | | | Location: 0974 (COL)<br>Sample: GW02850IT (REAL)<br>Date: 05/06/92 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | 3690.00 | * | JA | | 13100.00 | * | JA | | 234.00 | * | JA | | 265.00 | * | JA | |
| Antimony | | | | | 63.40 | N | JA | | 47.20 | B | V | | 8.00 | UN | JA | | 18.00 | UN | JA | |
| Arsenic | | | | | 2.00 | B | JA | | 4.00 | B | V | | 2.40 | BN | JA | | 2.00 | BWN | JA | |
| Barium | | | | | 134.00 | B | V | | 196.00 | B | V | | 81.00 | B | V | | 76.20 | B | V | |
| Beryllium | | | | | 1.00 | U | V | | 1.10 | B | V | | 1.00 | U | V | | 1.60 | B | JA | |
| Cadmium | | | | | 4.30 | B | JA | | 4.10 | B | V | | 1.70 | B | V | | 2.00 | U | V | |
| Calcium | | | | | 212000.00 | | V | | 242000.00 | | V | | 236000.00 | | V | | 226000.00 | | V | |
| Cesium | | | | | 70.00 | B | JA | | 50 | U | V | | 30 | U | V | | 30.00 | B | JA | |
| Chromium | | | | | 29.40 | | JA | | 30.50 | | JA | | 4.00 | BE | JA | | 5.00 | U | V | |
| Cobalt | | | | | 7.20 | B | JA | | 5.80 | B | V | | 3.00 | UE | V | | 4.00 | U | V | |
| Copper | | | | | 9.10 | B | JA | | 18.80 | B | V | | 5.30 | B | JA | | 2.40 | B | JA | |
| Iron | | | | | 3860.00 | | V | | 11100.00 | E | JA | | 169.00 | | V | | 212.00 | | V | |
| Lead | | | | | 6.40 | | JA | | 12.40 | | V | | 1.00 | U | JA | | 1.00 | U | V | |
| Lithium | | | | | 339.00 | | V | | 368.00 | | V | | 326.00 | | V | | 338.00 | | V | |
| Magnesium | | | | | 54800.00 | | V | | 65200.00 | | V | | 60900.00 | | V | | 57800.00 | | V | |
| Manganese | | | | | 63.00 | | V | | 92.30 | | V | | 27.10 | E | JA | | 16.60 | | V | |
| Mercury | | | | | 0.20 | U | V | | 0.20 | U | V | | 0.20 | U | V | | 0.44 | | V | |
| Molybdenum | | | | | 8.80 | B | JA | | 8.20 | B | V | | 6.70 | B | JA | | 4.50 | B | JA | |
| Nickel | | | | | 13.80 | B | JA | | 17.00 | U | V | | 2.00 | UE | JA | | 3.50 | B | V | |
| Phosphorus | 1490 | | | | | | | | | | | | | | | | | | | |
| Potassium | | | | | 2710.00 | B | V | | 4590.00 | B | V | | 2490.00 | BE | V | | 2430.00 | BE | JA | |
| Selenium | | | | | 1200.00 | | V | | 1400.00 | | V | | 1200.00 | N | JA | | 1.00 | U | V | |
| Silicon | | | | | | | | | | | | | | | | | 6940.00 | * | JA | |
| Silver | | | | | 2.00 | U | V | | 2.00 | U | JA | | 2.00 | U | V | | 2.00 | U | V | |
| Sodium | | | | | 148000.00 | | V | | 163000.00 | | V | | 160000.00 | | V | | 159000.00 | | V | |
| Strontium | | | | | 1750.00 | N | JA | | 2130.00 | | V | | 1960.00 | | V | | 1980.00 | | V | |
| Thallium | | | | | 2.00 | U | V | | 1.00 | U | V | | 1.00 | U | V | | 1.00 | U | V | |
| Tin | | | | | 38.80 | BN | JA | | 44.60 | B | V | | 10.00 | U | V | | 23.00 | UN | JA | |
| Vanadium | | | | | 24.20 | B | V | | 50.80 | | V | | 14.20 | BE | JA | | 12.80 | BE | JA | |
| Zinc | | | | | 41.50 | | JA | | 79.80 | E | JA | | 15.50 | BE | JA | | 11.50 | BE | JA | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 34791 (COL)<br>Sample: GW02447I1 (REAL)<br>Date: 02/10/92 | | | Location: 34791 (COL)<br>Sample: GW02908I1 (REAL)<br>Date: 05/20/92 | | | Location: 35691 (COL)<br>Sample: GW01994I1 (REAL)<br>Date: 11/11/91 | | | Location: 35691 (COL)<br>Sample: GW02449I1 (REAL)<br>Date: 02/17/92 | | | Location: 35691 (COL)<br>Sample: GW02891I1 (REAL)<br>Date: 05/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 2180.00 | N | JA | 3920.00 | N | JA | 12200.00 | | V | 1270.00 | * | JA | 215.00 | | V |
| Antimony | 8.00 | U | JA | 18.00 | U | V | 66.40 | | V | 10.90 | BN | JA | 18.00 | U | V |
| Arsenic | 1.00 | BN | JA | 1.40 | B | V | 2.00 | BN | JA | 2.00 | UN | JA | 1.10 | BN | JA |
| Barium | 231.00 | | V | 205.00 | | V | 245.00 | | V | 94.30 | B | V | 52.10 | B | V |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 4.40 | B | JA | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 1.00 | U | V | 2.00 | U | V | 4.00 | B* | JA | 1.20 | B | JA | 2.00 | U | R |
| Calcium | 145000.00 | | V | 118000.00 | | V | 184000.00 | | V | 179000.00 | | V | 177000.00 | | V |
| Cesium | 30 | U | V | 23.00 | U | R | 50 | U | JA | 30 | U | V | 23.00 | U | JA |
| Chromium | 2.00 | U | V | 5.00 | U | V | 29.90 | | JA | 4.20 | BE | JA | 5.00 | U | V |
| Cobalt | 3.00 | U | V | 4.00 | U | V | 8.70 | B | JA | 3.00 | UE | V | 4.00 | U | V |
| Copper | 11.40 | B | JA | 2.00 | U | R | 21.60 | B | JA | 5.70 | B | JA | 2.00 | U | V |
| Iron | 2320.00 | | V | 3770.00 | | V | 13600.00 | | V | 1420.00 | | V | 170.00 | | V |
| Lead | 2.80 | B | JA | 4.00 | | V | 11.80 | | V | 2.40 | B | JA | 1.00 | U | V |
| Lithium | 18.40 | B | V | 16.90 | B | V | 27.90 | B | V | 20.80 | B | V | 20.50 | B | V |
| Magnesium | 27300.00 | | V | 22600.00 | | V | 47200.00 | | V | 45200.00 | | V | 44700.00 | | V |
| Manganese | 674.00 | | V | 390.00 | | V | 607.00 | | V | 303.00 | E | JA | 127.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 10.10 | B | JA | 3.20 | B | JA | 11.10 | B | JA | 6.30 | B | JA | 3.60 | B | JA |
| Nickel | 9.40 | B | V | 5.30 | B | V | 17.20 | B | V | 2.00 | UE | JA | 3.70 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1910.00 | B | V | 1890.00 | B | V | 5250.00 | | V | 2780.00 | BE | V | 1610.00 | BE | JA |
| Selenium | 1.00 | U | V | 1.00 | U | V | 2.00 | UW | JA | 1.00 | UWN | JA | 1.00 | U | R |
| Silicon | | | | 14200.00 | | V | | | | | | | 8620.00 | | V |
| Silver | 2.00 | U | V | 2.00 | U | V | 2.90 | B | JA | 2.00 | U | V | 2.00 | U | R |
| Sodium | 68800.00 | | V | 61700.00 | | V | 137000.00 | | V | 145000.00 | | V | 140000.00 | | V |
| Strontium | | | | 740.00 | | V | 1330.00 | | V | 1220.00 | | V | 1290.00 | | V |
| Thallium | 2.00 | U | V | 1.00 | UW | JA | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Tin | 10.00 | U | V | 23.00 | U | V | 25.20 | B | V | 10.00 | U | V | 23.00 | U | V |
| Vanadium | 9.70 | B | V | 8.00 | B | V | 31.20 | B | V | 10.30 | BE | JA | 9.50 | B | V |
| Zinc | 33.80 | E | JA | 38.40 | | JA | 75.00 | | V | 15.80 | BE | JA | 11.80 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 31791 (VFA) Sample: GW02829IT (REAL) Date: 05/08/92 | | | Location: 31891 (COL) Sample: GW01997IT (REAL) Date: 11/11/91 | | | Location: 31891 (COL) Sample: GW02446IT (REAL) Date: 02/10/92 | | | Location: 31891 (COL) Sample: GW03060IT (REAL) Date: 06/05/92 | | | Location: 34791 (COL) Sample: GW02157IT (REAL) Date: 12/17/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 4220.00 | * | JA | 30400.00 | | V | 8450.00 | N | JA | 8120.00 | | V | 5720.00 | | V |
| Antimony | 18.00 | UN | JA | 63.30 | | V | 8.00 | U | V | 18.00 | UN | JA | 50.00 | B | JA |
| Arsenic | 1.00 | UN | JA | 2.00 | BN | JA | 1.00 | UN | JA | 1.00 | UN | JA | 2.00 | UN | JA |
| Barium | 178.00 | B | V | 332.00 | | V | 154.00 | B | V | 152.00 | B | V | 295.00 | | V |
| Beryllium | 1.60 | B | JA | 5.30 | | JA | 1.00 | U | V | 1.70 | B | V | 1.10 | B | V |
| Cadmium | 2.00 | U | V | 2.20 | B* | JA | 1.00 | U | V | 2.00 | U | V | 3.40 | B | JA |
| Calcium | 143000.00 | | V | 104000.00 | | V | 90000.00 | | V | 95700.00 | | V | 145000.00 | | V |
| Cesium | 23.00 | U | JA | 90.00 | B | JA | 30 | U | V | 23.00 | U | V | 30 | U | JA |
| Chromium | 5.00 | U | V | 96.30 | | V | 5.30 | B | JA | 8.80 | B | V | 22.90 | E | JA |
| Cobalt | 4.00 | U | V | 14.60 | B | JA | 3.30 | B | V | 4.10 | B | V | 4.20 | B | V |
| Copper | 6.10 | B | JA | 30.00 | | JA | 9.40 | B | JA | 5.60 | B | JA | 13.80 | B | JA |
| Iron | 3820.00 | | V | 28100.00 | | V | 9260.00 | | V | 7990.00 | | V | 5630.00 | E | JA |
| Lead | 4.60 | | V | 19.70 | | V | 7.90 | | JA | 6.90 | | V | 6.80 | | JA |
| Lithium | 71.70 | B | V | 26.80 | B | V | 18.70 | B | V | 18.40 | B | V | 21.10 | BE | JA |
| Magnesium | 47300.00 | | V | 26200.00 | | V | 21900.00 | | V | 23200.00 | | V | 27700.00 | | V |
| Manganese | 71.50 | | V | 552.00 | | V | 238.00 | | V | 171.00 | | V | 702.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 3.50 | B | JA | 17.60 | B | V | 2.00 | U | V | 5.40 | B | JA | 7.80 | B | V |
| Nickel | 3.60 | B | V | 67.10 | | V | 7.60 | B | V | 6.10 | B | JA | 11.20 | BE | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3800.00 | BE | JA | 5910.00 | | V | 2350.00 | B | V | 2240.00 | BE | V | 3190.00 | B | V |
| Selenium | 1.00 | U | V | 2.00 | UW | JA | 1.00 | U | V | 1.00 | UN | JA | 2.00 | U | V |
| Silicon | 15100.00 | * | JA | | | | | | | 21300.00 | | V | | | |
| Silver | 2.00 | U | V | 2.00 | B | JA | 2.00 | U | V | 2.00 | U | V | 4.70 | B | JA |
| Sodium | 183000.00 | | V | 58600.00 | | V | 48100.00 | | V | 61300.00 | | V | 58000.00 | | V |
| Strontium | 1440.00 | | V | 744.00 | | V | | | | 684.00 | | V | 894.00 | | V |
| Thallium | 1.00 | UW | JA | 1.00 | B | V | 2.00 | U | V | 1.00 | UWN | JA | 1.00 | U | V |
| Tin | 23.00 | UN | JA | 18.10 | B | V | 10.00 | U | V | 23.00 | UN | JA | 24.40 | B | V |
| Vanadium | 11.40 | BE | JA | 53.90 | | V | 19.80 | B | V | 18.70 | B | V | 14.50 | BE | JA |
| Zinc | 32.20 | E | JA | 116.00 | | V | 58.70 | E | JA | 38.30 | | JA | 38.50 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 37191 (COL)<br>Sample: GW03024IT (REAL)<br>Date: 06/25/92 | | | Location: 37591 (RFA)<br>Sample: GW02507IT (REAL)<br>Date: 02/25/92 | | | Location: 37591 (RFA)<br>Sample: GW03025IT (REAL)<br>Date: 06/10/92 | | | Location: 37791 (RFA)<br>Sample: GW02757IT (REAL)<br>Date: 04/21/92 | | | Location: 37891 (WCS)<br>Sample: GW02148IT (REAL)<br>Date: 12/16/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 12200.00 | N | JA | 56.90 | B | JA | 2120 | | JA | 1160.00 | | V | 2570.00 | * | JA |
| Antimony | 18.00 | U | V | 8.00 | U | V | 19.8 | U | V | 18.00 | U | V | 29.40 | B | V |
| Arsenic | 2.60 | B | V | 2.00 | U | V | 1.0 | U | JA | 2.00 | U | V | 2.00 | BW | JA |
| Barium | 240.00 | | V | 125.00 | BE | V | 150 | | V | 221.00 | | V | 90.70 | B | V |
| Beryllium | 2.10 | B | V | 1.00 | U | V | 0.60 | U | V | 1.00 | U | V | 1.00 | U | JA |
| Cadmium | 2.00 | U | V | 1.00 | U | V | 2.3 | U | V | 2.00 | U | V | 2.30 | B | V |
| Calcium | 175000.00 | | V | 74000.00 | | V | 74000 | | V | 91200.00 | | V | 117000.00 | | V |
| Cesium | 23.00 | U | V | 30 | U | V | 500 | U | V | 20 | U | V | 30 | U | V |
| Chromium | 16.40 | | V | 2.30 | B | V | 2.0 | U | V | 5.00 | U | V | 14.50 | | JA |
| Cobalt | 6.10 | B | V | 3.00 | U | V | 2.7 | U | V | 4.00 | U | V | 3.00 | U | V |
| Copper | 14.90 | B | JA | 5.00 | B | JA | 2.3 | U | V | 6.10 | B | JA | 9.80 | B | JA |
| Iron | 12300.00 | EN | JA | 50.10 | B | JA | 2060 | | V | 1120.00 | * | JA | 2840.00 | | V |
| Lead | 8.80 | S | V | 1.00 | UW | V | 3.4 | | JA | 1.70 | B | V | 4.00 | | JA |
| Lithium | 27.20 | BE | V | 6.50 | B | V | 5.5 | | JA | 27.00 | B | V | 159.00 | | V |
| Magnesium | 39400.00 | | V | 18400.00 | | V | 18800 | | V | 50600.00 | | V | 27900.00 | | V |
| Manganese | 384.00 | | V | 197.00 | | V | 138 | | V | 357.00 | | V | 69.80 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 9.90 | B | JA | 13.40 | B | JA | 11.2 | | JA | 5.60 | B | V | 41.50 | B | V |
| Nickel | 13.10 | B | JA | 2.50 | B | JA | 11.2 | U | V | 3.00 | U | V | 6.60 | B | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2530.00 | B | V | 3150.00 | B | V | 3330 | | JA | 9470.00 | | V | 8490.00 | | V |
| Selenium | 2.10 | BW | JA | 3.30 | B | V | 1.4 | U | V | 1.30 | B | V | 500.00 | | V |
| Silicon | 31200.00 | | V | | | | 12800 | | V | 10900.00 | N | JA | | | |
| Silver | 2.10 | B | V | 2.00 | U | V | 2.1 | U | V | 2.00 | U | JA | 2.00 | B | JA |
| Sodium | 174000.00 | | V | 25800.00 | | V | 23600 | | V | 121000.00 | | V | 174000.00 | | V |
| Strontium | 1220.00 | | V | 507.00 | | V | 587 | | V | 1110.00 | | V | 1160.00 | | V |
| Thallium | 1.00 | U | V | 2.00 | U | V | 1.8 | U | JA | 1.00 | U | V | 1.00 | U | V |
| Tin | 23.00 | U | V | 10.00 | U | V | 9.4 | U | V | 23.00 | U | V | 24.90 | B | JA |
| Vanadium | 39.30 | BE | JA | 2.90 | B | JA | 3.5 | U | V | 6.20 | [redacted] | JA | 14.40 | B | V |
| Zinc | 51.50 | | JA | 8.30 | B | JA | 60.1 | | V | 25.40 | E | JA | 44.00 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 36191 (COL) Sample: GW02459IT (REAL) Date: 02/11/92 | | | Location: 36191 (COL) Sample: GW03020IT (REAL) Date: 06/10/92 | | | Location: 36391 (COL) Sample: GW03021IT (REAL) Date: 06/05/92 | | | Location: 37191 (COL) Sample: GW01995IT (REAL) Date: 11/12/91 | | | Location: 37191 (COL) Sample: GW02460IT (REAL) Date: 02/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 4080.00 | N | JA | 2400 | | JA | 14700.00 | | V | 205000.00 | | | 5730.00 | N | JA |
| Antimony | 13.80 | B | JA | 19.8 | U | V | 18.00 | UN | JA | 210.00 | | | 8.00 | U | V |
| Arsenic | 1.00 | UWN | JA | 1.0 | U | JA | 2.70 | BN | JA | 6.00 | B | | 1.20 | BN | JA |
| Barium | 188.00 | B | V | 333 | | V | 365.00 | | V | 1880.00 | | | 182.00 | B | V |
| Beryllium | 1.00 | U | V | 0.60 | U | V | 1.70 | B | V | 12.70 | | | 1.00 | U | V |
| Cadmium | 1.00 | U | V | 2.3 | U | V | 3.50 | B | JA | 2.00 | U | | 1.00 | U | V |
| Calcium | 66100.00 | | V | 77300 | | V | 127000.00 | | V | 269000.00 | | | 155000.00 | | V |
| Cesium | 30 | U | V | 500 | U | V | 23.00 | U | V | 51.00 | U | | 30 | U | V |
| Chromium | 2.50 | B | JA | 2.0 | U | V | 13.30 | | V | 281.00 | | | 6.80 | B | JA |
| Cobalt | 3.00 | U | V | 2.7 | U | V | 6.50 | B | V | 76.30 | | | 3.90 | B | V |
| Copper | 8.50 | B | JA | 4.5 | | JA | 12.30 | B | JA | 203.00 | | | 7.80 | B | JA |
| Iron | 4210.00 | | V | 1960 | | V | 19100.00 | | V | 193000.00 | | | 4260.00 | | V |
| Lead | 4.20 | | JA | 4.1 | | JA | 18.00 | | V | 86.40 | | | 1.60 | B | JA |
| Lithium | 19.80 | B | V | 37.1 | | V | 28.60 | B | V | 178.00 | | | 25.50 | B | V |
| Magnesium | 16200.00 | | V | 18100 | | V | 35800.00 | | V | 80400.00 | | | 39500.00 | | V |
| Manganese | 150.00 | | V | 172 | | V | 1030.00 | | V | 3660.00 | | | 1260.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.56 | | | 0.20 | U | V |
| Molybdenum | 6.80 | B | JA | 6.5 | | JA | 17.50 | B | JA | 14.10 | B | | 5.60 | B | JA |
| Nickel | 3.30 | B | V | 11.2 | U | V | 10.80 | B | JA | 171.00 | | | 9.60 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4200.00 | B | V | 2290 | | JA | 7210.00 | E | V | 23500.00 | | | 2130.00 | B | V |
| Selenium | 1.00 | U | V | 1.4 | U | V | 1.00 | UN | JA | 20.00 | UW | | 1.00 | UW | JA |
| Silicon | | | | 13400 | | V | 36300.00 | | V | | | | | | |
| Silver | 2.00 | U | V | 2.1 | U | V | 2.00 | U | V | 5.30 | B | | 2.00 | U | V |
| Sodium | 106000.00 | | V | 101000 | | V | 188000.00 | | V | 174000.00 | | | 172000.00 | | V |
| Strontium | | | | 644 | | V | 928.00 | | V | 1820.00 | | | | | |
| Thallium | 2.00 | U | V | 1.8 | U | V | 1.00 | UWN | JA | 2.00 | BW | | 2.00 | U | V |
| Tin | 10.00 | U | V | 9.4 | U | JA | 23.00 | UN | JA | 17.00 | U | | 10.00 | U | V |
| Vanadium | 8.60 | B | V | 4.5 | | JA | 25.20 | B | V | 403.00 | | | 19.50 | B | V |
| Zinc | 28.30 | E | JA | 58.1 | | V | 83.40 | | V | 581.00 | | | 38.40 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 38591 (VFA)<br>Sample: GW02163IT (REAL)<br>Date: 12/18/91 | | | Location: 38591 (VFA)<br>Sample: GW02463IT (REAL)<br>Date: 02/10/92 | | | Location: 38591 (VFA)<br>Sample: GW02831IT (REAL)<br>Date: 05/08/92 | | | Location: 39191 (WCS)<br>Sample: GW02162IT (REAL)<br>Date: 12/18/91 | | | Location: 39191 (WCS)<br>Sample: GW02464IT (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 624.00 | | V | 551.00 | N | JA | 220.00 | | V | 9110.00 | | V | 12800.00 | | V |
| Antimony | 25.20 | B | JA | 8.00 | U | JA | 18.00 | UN | JA | 54.30 | B | JA | 8.00 | U | V |
| Arsenic | 2.00 | UN | JA | 1.00 | UWN | JA | 1.00 | UN | JA | 4.00 | BN | JA | 4.20 | B | V |
| Barium | 137.00 | B | V | 111.00 | B | V | 115.00 | B | V | 107.00 | B | V | 144.00 | BE | V |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 1.90 | B | JA | 1.60 | B | V | 2.00 | U | V | 3.30 | B | JA | 1.00 | U | JA |
| Calcium | 80200.00 | | V | 90200.00 | | V | 101000.00 | | V | 191000.00 | | V | 212000.00 | | V |
| Cesium | 50.00 | B | JA | 30 | U | V | 70.00 | B | JA | 50.00 | B | JA | 30 | U | V |
| Chromium | 13.10 | E | JA | 2.90 | B | JA | 5.00 | U | V | 48.40 | E | JA | 29.50 | | V |
| Cobalt | 19.60 | B | V | 10.30 | B | V | 7.70 | B | V | 8.20 | B | V | 7.50 | B | V |
| Copper | 9.40 | B | JA | 6.90 | B | JA | 6.10 | B | JA | 26.60 | | JA | 43.20 | | V |
| Iron | 1390.00 | E | JA | 936.00 | | V | 393.00 | | V | 10200.00 | E | JA | 15100.00 | | V |
| Lead | 1.80 | B | JA | 1.00 | U | JA | 1.00 | U | V | 12.00 | | JA | 22.30 | | V |
| Lithium | 15.60 | BE | JA | 13.50 | B | V | 14.30 | B | V | 166.00 | E | JA | 215.00 | | V |
| Magnesium | 18900.00 | | V | 21000.00 | | V | 23800.00 | | V | 37900.00 | | V | 44900.00 | | V |
| Manganese | 1010.00 | | V | 305.00 | | V | 82.30 | | V | 82.00 | | V | 121.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 18.30 | B | V | 8.70 | B | JA | 3.00 | U | V | 34.50 | B | V | 15.80 | B | JA |
| Nickel | 19.50 | BE | JA | 16.80 | B | V | 10.50 | B | V | 20.90 | BE | JA | 27.70 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 3100.00 | B | V | 1860.00 | B | V | 1820.00 | B | V | 9810.00 | | V | 10600.00 | | V |
| Selenium | 5.00 | | V | 4.80 | B | V | 2.70 | BN | JA | 1050.00 | | V | 1060.00 | | V |
| Silicon | | | | | | | 6370.00 | | V | | | | | | |
| Silver | 3.70 | B | JA | 2.00 | U | V | 2.00 | U | V | 4.40 | B | JA | 2.00 | U | V |
| Sodium | 91800.00 | | V | 93800.00 | | V | 98600.00 | | V | 131000.00 | | V | 140000.00 | | V |
| Strontium | 505.00 | | V | | | | 661.00 | | V | 1970.00 | | V | 2160.00 | | V |
| Thallium | 1.00 | UW | V | 2.00 | U | V | 1.00 | UW | JA | 1.00 | BW | JA | 2.00 | U | V |
| Tin | 10.00 | U | V | 10.00 | U | V | 23.00 | UN | JA | 20.90 | B | JA | 10.00 | U | V |
| Vanadium | 6.70 | BE | JA | 5.70 | B | V | 3.60 | B | V | 40.20 | BE | JA | 50.30 | | V |
| Zinc | 20.00 | B | JA | 69.50 | E | JA | 14.20 | B | JA | 69.40 | | V | 135.00 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 37891 (WCS)<br>Sample: GW02461IT (REAL)<br>Date: 02/27/92 | | | Location: 37891 (WCS)<br>Sample: GW03026IT (REAL)<br>Date: 06/04/92 | | | Location: 37991 (WCS)<br>Sample: GW02147IT (REAL)<br>Date: 12/16/91 | | | Location: 37991 (WCS)<br>Sample: GW02462IT (REAL)<br>Date: 02/26/92 | | | Location: 37991 (WCS)<br>Sample: GW03043IT (REAL)<br>Date: 06/04/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 41200.00 | | V | 26700.00 | N | JA | 23900.00 | * | JA | 29800.00 | | V | 18700.00 | N | JA |
| Antimony | 8.00 | U | V | 18.00 | U | V | 87.50 | | V | 8.00 | U | R | 18.00 | U | V |
| Arsenic | 2.60 | B | JA | 6.60 | BWN | JA | 6.00 | B | V | 5.00 | B | V | 3.90 | BWN | JA |
| Barium | 502.00 | E | V | 255.00 | E | JA | 511.00 | | V | 384.00 | E | V | 281.00 | E | JA |
| Beryllium | 2.30 | B | V | 1.00 | U | V | 3.00 | B | JA | 1.50 | B | V | 2.20 | B | JA |
| Cadmium | 1.70 | B | V | 3.30 | B | V | 2.40 | B | V | 2.50 | B | JA | 3.20 | B | JA |
| Calcium | 146000.00 | | V | 135000.00 | | V | 149000.00 | | V | 294000.00 | | V | 312000.00 | | V |
| Cesium | 30 | U | V | 30.00 | B | JA | 50.00 | B | JA | 30 | U | V | 23.00 | U | R |
| Chromium | 52.00 | | V | 30.20 | | V | 36.10 | | V | 31.10 | | V | 11.60 | | V |
| Cobalt | 26.40 | B | V | 8.30 | B | V | 16.30 | B | V | 14.80 | B | V | 8.60 | B | V |
| Copper | 91.70 | | V | 35.60 | | V | 42.50 | | V | 52.00 | | JA | 17.30 | B | JA |
| Iron | 56500.00 | | V | 25100.00 | | V | 30700.00 | | V | 38800.00 | | V | 20800.00 | | V |
| Lead | 59.10 | | V | 24.70 | | V | 32.50 | | JA | 33.00 | | V | 21.00 | | V |
| Lithium | 264.00 | | V | 289.00 | | V | 189.00 | | V | 391.00 | | V | 485.00 | | V |
| Magnesium | 43800.00 | | V | 39600.00 | | V | 41000.00 | | V | 85900.00 | | V | 94400.00 | | V |
| Manganese | 617.00 | | V | 220.00 | | V | 1290.00 | | V | 1480.00 | | V | 806.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 27.80 | B | V | 17.20 | B | JA | 11.40 | B | V | 4.70 | B | JA | 3.00 | U | V |
| Nickel | 72.90 | | V | 30.30 | B | V | 33.20 | B | V | 39.20 | B | JA | 12.90 | B | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 14100.00 | | V | 12400.00 | | V | 17500.00 | | V | 17800.00 | | V | 16700.00 | | V |
| Selenium | 652.00 | | V | 722.00 | S | V | 61.30 | S | V | 89.00 | | V | 257.00 | S | V |
| Silicon | | | | 61700.00 | | V | | | | | | | 45100.00 | | V |
| Silver | 2.00 | U | V | 2.00 | U | V | 2.50 | B | JA | 2.00 | U | V | 2.00 | U | V |
| Sodium | 230000.00 | | V | 239000.00 | | V | 89000.00 | | V | 159000.00 | | V | 167000.00 | | V |
| Strontium | 1540.00 | | V | 1560.00 | | V | 1510.00 | | V | 3100.00 | | V | 3720.00 | | V |
| Thallium | 2.00 | U | JA | 1.00 | U | V | 1.00 | U | V | 2.00 | UW | JA | 1.00 | U | V |
| Tin | 10.00 | U | V | 23.00 | UN | JA | 30.60 | B | JA | 10.00 | U | V | 23.00 | UN | JA |
| Vanadium | 127.00 | | V | 86.50 | | V | 65.90 | | V | 90.20 | | V | 47.20 | B | JA |
| Zinc | 303.00 | | V | 166.00 | E | JA | 177.00 | E | JA | 187.00 | | V | 143.00 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 4587 (KAR) Sample: GW01663IT (REAL) Date: 08/16/91 | | | Location: 4587 (KAR) Sample: GW02097IT (REAL) Date: 12/11/91 | | | Location: 4587 (KAR) Sample: GW02377IT (REAL) Date: 02/22/92 | | | Location: 4587 (KAR) Sample: GW03047IT (REAL) Date: 06/23/92 | | | Location: 4887 (COL) Sample: GW02833IT (REAL) Date: 05/12/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 3860.00 | * | JA | 921.00 | * | JA | 1200.00 | N | JA | 53.30 | BN | JA | 5710.00 | | V |
| Antimony | 46.80 | BN | JA | 20.90 | B | JA | 8.00 | U | JA | 18.00 | U | V | 18.00 | UN | JA |
| Arsenic | 9.00 | B | V | 8.00 | B | V | 6.60 | BS | V | 9.30 | B | V | 2.90 | BN | JA |
| Barium | 111.00 | B | V | 60.20 | B | V | 60.80 | B | V | 44.10 | B | V | 149.00 | B | V |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 3.10 | B | JA | 2.00 | U | V | 1.30 | B | JA | 2.00 | U | V | 2.30 | B | V |
| Calcium | 45000.00 | | V | 46100.00 | | V | 44100.00 | | V | 42800.00 | | V | 183000.00 | | V |
| Cesium | 70.00 | B | JA | 50 | U | V | 32.00 | U | V | 23.00 | U | V | 50.00 | B | JA |
| Chromium | 169.00 | | V | 72.30 | | V | 63.10 | | V | 5.00 | U | JA | 2360.00 | | V |
| Cobalt | 10.70 | B | JA | 3.00 | U | V | 3.00 | U | V | 4.00 | U | V | 10.70 | B | V |
| Copper | 25.50 | | V | 10.20 | B | JA | 5.90 | B | JA | 2.30 | B | JA | 283.00 | | V |
| Iron | 8800.00 | | V | 2650.00 | | V | 2430.00 | | JA | 271.00 | EN | JA | 12400.00 | | V |
| Lead | 11.30 | | JA | 2.40 | B | V | 3.60 | | V | 1.00 | U | V | 5.70 | | V |
| Lithium | 49.50 | B | V | 51.60 | B | V | 52.30 | B | V | 51.40 | BE | V | 16.20 | B | V |
| Magnesium | 12500.00 | | V | 12200.00 | | V | 11900.00 | | V | 11400.00 | | V | 54000.00 | | V |
| Manganese | 428.00 | | V | 301.00 | | V | 264.00 | | V | 237.00 | | V | 244.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 24.20 | B | V | 15.90 | B | JA | 10.10 | B | JA | 7.20 | B | JA | 466.00 | | V |
| Nickel | 112.00 | | V | 50.90 | | V | 46.90 | | V | 3.00 | U | JA | 1410.00 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 6060.00 | | V | 5680.00 | | V | 5400.00 | | V | 4920.00 | B | V | 1970.00 | B | V |
| Selenium | 1.00 | U | V | 2.00 | UW | JA | 1.00 | U | V | 1.00 | U | V | 16.30 | SN | JA |
| Silicon | | | | | | | | | | 5290.00 | | V | 14800.00 | | V |
| Silver | 3.40 | B | JA | 2.40 | B | JA | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V |
| Sodium | 79300.00 | | V | 86700.00 | | V | 85900.00 | | V | 86800.00 | | V | 161000.00 | | V |
| Strontium | 481.00 | N | JA | 518.00 | | V | 478.00 | | V | 497.00 | | V | 1560.00 | | V |
| Thallium | 2.00 | U | V | 1.00 | U | V | 2.00 | UW | JA | 1.00 | U | V | 1.00 | UW | JA |
| Tin | 18.00 | BN | JA | 18.40 | B | JA | 10.00 | U | V | 23.00 | U | V | 23.00 | UN | JA |
| Vanadium | 13.10 | B | V | 6.00 | B | JA | 5.40 | B | V | 4.70 | BE | JA | 31.40 | B | V |
| Zinc | 67.50 | | V | 26.20 | | V | 20.70 | | JA | 10.60 | B | JA | 194.00 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 39191 (WCS)<br>Sample: GW02832IT (REAL)<br>Date: 05/14/92 | | | Location: 4387 (COL)<br>Sample: GW00624IT (REAL)<br>Date: 11/14/90 | | | Location: 4387 (COL)<br>Sample: GW02102IT (REAL)<br>Date: 12/12/91 | | | Location: 4387 (COL)<br>Sample: GW03044IT (REAL)<br>Date: 06/24/92 | | | Location: 4587 (KAR)<br>Sample: GW00592IT (REAL)<br>Date: 10/25/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20900.00 | | V | | | | 16100.00 | * | JA | 30600.00 | N | JA | | | |
| Antimony | 18.00 | U | JA | | | | 51.90 | B | V | 18.00 | U | V | | | |
| Arsenic | 4.10 | BN | JA | | | | 3.00 | B | V | 5.30 | B | V | | | |
| Barium | 174.00 | B | V | | | | 213.00 | | V | 307.00 | | V | | | |
| Beryllium | 1.10 | B | V | | | | 1.10 | B | V | 1.90 | B | V | | | |
| Cadmium | 2.00 | U | R | | | | 3.60 | B | JA | 3.00 | B | JA | | | |
| Calcium | 205000.00 | | V | | | | 157000.00 | | V | 166000.00 | | V | | | |
| Cesium | 23.00 | U | R | | | | 50 | U | V | 23.00 | U | V | | | |
| Chromium | 34.60 | | V | | | | 56.80 | | V | 1090.00 | | V | | | |
| Cobalt | 8.60 | B | V | | | | 8.50 | B | V | 22.10 | B | V | | | |
| Copper | 33.10 | | V | | | | 328.00 | | V | 704.00 | | V | | | |
| Iron | 19100.00 | | V | | | | 15400.00 | | V | 30900.00 | EN | JA | | | |
| Lead | 21.40 | | V | | | | 18.90 | | V | 25.90 | S | V | | | |
| Lithium | 246.00 | | V | | | | 52.60 | B | V | 61.90 | BE | V | | | |
| Magnesium | 54100.00 | | V | | | | 40500.00 | | V | 42600.00 | | V | | | |
| Manganese | 120.00 | | V | | | | 239.00 | | V | 350.00 | | V | | | |
| Mercury | 0.20 | U | V | | | | 0.20 | U | V | 0.20 | U | V | | | |
| Molybdenum | 9.80 | B | JA | | | | 24.20 | B | V | 170.00 | B | V | | | |
| Nickel | 27.20 | B | V | | | | 156.00 | | V | 922.00 | | V | | | |
| Phosphorus | | | | 291 | | V | | | | | | | 169 | B | |
| Potassium | 11000.00 | E | JA | | | | 4150.00 | B | V | 5840.00 | | V | | | |
| Selenium | 1240.00 | | V | | | | 310.00 | | V | 343.00 | | V | | | |
| Silicon | 48400.00 | | V | | | | | | | 67800.00 | | V | 5260 | | |
| Silver | 2.00 | U | R | | | | 3.40 | B | JA | 2.00 | U | V | | | |
| Sodium | 142000.00 | | V | | | | 166000.00 | | V | 164000.00 | | V | | | |
| Strontium | 2330.00 | | V | | | | 1330.00 | | V | 1400.00 | | V | | | |
| Thallium | 1.00 | U | V | | | | 1.00 | U | V | 1.00 | U | V | | | |
| Tin | 23.00 | U | V | | | | 44.50 | B | JA | 23.00 | U | V | | | |
| Vanadium | 74.70 | | V | | | | 53.10 | | V | 96.80 | E | JA | | | |
| Zinc | 120.00 | | V | | | | 310.00 | | V | 566.00 | | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 5387 (COL)<br>Sample: GW02821IT (REAL)<br>Date: 04/30/92 | | | Location: 5986 (WCS)<br>Sample: GW01700IT (REAL)<br>Date: 08/22/91 | | | Location: 5986 (WCS)<br>Sample: GW02018IT (REAL)<br>Date: 11/15/91 | | | Location: 6286 (WCS)<br>Sample: GW01708IT (REAL)<br>Date: 08/22/91 | | | Location: 6286 (WCS)<br>Sample: GW02046IT (REAL)<br>Date: 11/25/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 66300.00 | * | JA | 510.00 | * | JA | 431.00 | | | 303.00 | * | JA | 534.00 | | V |
| Antimony | 21.90 | BN | JA | 35.50 | B | JA | 53.50 | B | | 20.80 | B | V | 40.60 | BE | JA |
| Arsenic | 11.40 | N | JA | 2.00 | UWN | JA | 2.00 | U | | 2.00 | UN | JA | 2.00 | UWN | JA |
| Barium | 759.00 | | V | 90.90 | BE | JA | 84.90 | B | | 65.60 | BE | JA | 62.10 | B | V |
| Beryllium | 6.30 | | V | 1.00 | U | V | 1.00 | U | | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 2.00 | U | V | 3.70 | B | V | 3.40 | B | | 1.30 | B | V | 2.40 | BE | JA |
| Calcium | 128000.00 | | V | 138000.00 | | V | 138000.00 | | | 45800.00 | | V | 42700.00 | | V |
| Cesium | 23.00 | U | JA | 30.0 | U | V | 51.00 | U | | 30.0 | U | JA | 50 | U | V |
| Chromium | 91.10 | | V | 20.80 | | JA | 14.90 | | | 109.00 | | V | 101.00 | | V |
| Cobalt | 23.10 | B | V | 3.10 | B | JA | 3.00 | U | | 4.80 | B | JA | 3.20 | BE | JA |
| Copper | 2440.00 | | V | 13.70 | B | JA | 17.60 | B | | 14.60 | B | JA | 9.00 | B | V |
| Iron | 49700.00 | | V | 545.00 | * | JA | 638.00 | | | 598.00 | * | JA | 903.00 | | JA |
| Lead | 76.40 | | V | 1.00 | US | V | 1.40 | B | | 1.00 | BW | JA | 2.30 | B | V |
| Lithium | 48.90 | B | V | 69.10 | B | V | 70.50 | B | | 44.90 | B | V | 41.30 | B | V |
| Magnesium | 45700.00 | | V | 46900.00 | | V | 47300.00 | | | 14300.00 | | V | 13100.00 | E | JA |
| Manganese | 493.00 | | V | 10.60 | B | V | 9.00 | B | | 52.10 | | V | 25.00 | | V |
| Mercury | 0.38 | | V | 0.20 | U | V | 0.20 | U | | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 5.90 | B | V | 6.50 | B | V | 7.10 | B | | 15.80 | B | V | 15.20 | BE | JA |
| Nickel | 597.00 | | V | 4.60 | B | JA | 17.00 | U | | 48.60 | | V | 28.20 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 8640.00 | E | JA | 2020.00 | B | V | 2070.00 | B | | 4750.00 | B | V | 4900.00 | B | V |
| Selenium | 11.00 | + | JA | 71.20 | S | V | 64.00 | S | | 56.00 | | V | 54.00 | | V |
| Silicon | 132000.00 | * | JA | | | | | | | | | | | | |
| Silver | 2.00 | U | V | 3.50 | B | V | 2.00 | U | | 3.30 | B | V | 2.10 | B | V |
| Sodium | 106000.00 | | V | 122000.00 | | V | 127000.00 | | | 50200.00 | | V | 48900.00 | | V |
| Strontium | 1170.00 | | V | 1310.00 | | V | 1410.00 | | | 465.00 | | V | 463.00 | | V |
| Thallium | 1.00 | B | V | 2.00 | U | V | 1.00 | UW | | 2.00 | U | V | 1.00 | U | V |
| Tin | 23.00 | UN | JA | 34.90 | B | V | 17.00 | U | | 28.00 | B | V | 17.00 | U | V |
| Vanadium | 195.00 | E | JA | 9.40 | B | V | 8.50 | B | | 8.60 | B | V | 8.50 | BE | JA |
| Zinc | 2730.00 | E | JA | 16.90 | B | JA | 56.80 | | | 15.30 | B | JA | 78.70 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 5187 (RFA) Sample: GW01926IT (REAL) Date: 10/18/91 | | | Location: 5287 (RFA) Sample: GW01628IT (REAL) Date: 08/08/91 | | | Location: 5287 (RFA) Sample: GW01897IT (REAL) Date: 10/11/91 | | | Location: 5287 (RFA) Sample: GW02274IT (REAL) Date: 01/17/92 | | | Location: 5287 (RFA) Sample: GW02719IT (REAL) Date: 04/22/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 89.50 | B* | JA | 2530.00 | * | JA | 8080.00 | * | JA | 7000.00 | | | 12800.00 | | V |
| Antimony | 60.00 | B | JA | 41.40 | B | JA | 58.10 | BN | JA | 8.00 | U | | 18.00 | U | V |
| Arsenic | 3.00 | BN | JA | 2.00 | U | V | 2.00 | BN | JA | 2.20 | B | | 2.00 | B | V |
| Barium | 30.50 | B | V | 141.00 | B | V | 199.00 | B* | JA | 191.00 | B | | 187.00 | B | V |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | | 1.00 | U | V |
| Cadmium | 4.10 | B | JA | 1.00 | U | JA | 2.00 | U | JA | 1.00 | U | | 2.00 | U | V |
| Calcium | 139000.00 | | V | 115000.00 | | V | 116000.00 | * | JA | 114000.00 | | | 111000.00 | | V |
| Cesium | 50 | U | V | 32.00 | U | R | 50 | U | V | 32.00 | U | | 20 | U | V |
| Chromium | 22.50 | | JA | 15.70 | | JA | 36.40 | N* | JA | 14.30 | | | 26.20 | | V |
| Cobalt | 4.70 | B | JA | 2.00 | U | JA | 6.90 | B | JA | 5.20 | B | | 5.70 | B | V |
| Copper | 9.10 | B | JA | 16.40 | B | JA | 90.00 | * | JA | 41.90 | | | 41.10 | | V |
| Iron | 391.00 | | V | 2020.00 | * | JA | 6930.00 | * | JA | 7260.00 | | | 7740.00 | * | JA |
| Lead | 6.20 | | JA | 1.80 | B | JA | 7.60 | N* | JA | 9.50 | | | 8.50 | | V |
| Lithium | 91.90 | B | V | 13.70 | B | V | 17.80 | B | JA | 14.30 | B | | 19.80 | B | V |
| Magnesium | 41100.00 | | V | 30900.00 | | V | 31200.00 | * | JA | *30700.00* | | | *30900.00* | | V |
| Manganese | 59.80 | | V | 91.10 | * | JA | 232.00 | N* | JA | 219.00 | E | | 105.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | UN | V | 0.20 | UN | V | 0.20 | U | | 0.20 | U | V |
| Molybdenum | 8.80 | B | JA | 5.80 | B | JA | 11.10 | B | JA | 2.00 | U | | 3.00 | U | V |
| Nickel | 17.00 | U | V | 9.40 | B | JA | 34.50 | B* | JA | 24.00 | B | | 27.30 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | *6420.00* | | V | 1160.00 | B | V | 2080.00 | B | V | 1940.00 | B | | 2640.00 | B | V |
| Selenium | 15.00 | | V | 1.00 | BW | JA | 2.00 | U | V | 1.00 | U | | 1.50 | BW | JA |
| Silicon | | | | | | | | | | | | | 33200.00 | N | JA |
| Silver | 3.30 | B | JA | 2.00 | U | V | 2.00 | U | JA | 2.00 | U | | 2.00 | U | V |
| Sodium | 234000.00 | | V | 203000.00 | | V | 214000.00 | | V | 186000.00 | | | 195000.00 | | V |
| Strontium | 1970.00 | | V | 710.00 | | V | 781.00 | | V | 741.00 | | | 788.00 | | V |
| Thallium | 1.00 | UWN | JA | 2.00 | UW | JA | 1.00 | U | V | 1.00 | U | | 1.00 | U | V |
| Tin | 31.30 | B | V | 57.20 | B | JA | 25.60 | B | JA | 10.00 | U | | 23.00 | U | V |
| Vanadium | 8.70 | B | JA | 8.70 | B | V | 27.90 | BN* | JA | 20.80 | B | | 34.70 | B | V |
| Zinc | 18.90 | BE | JA | 53.60 | | JA | 99.40 | * | JA | 98.90 | E | | 106.00 | E | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW02381IT (REAL)<br>Date: 02/26/92 | | | Location: 6886 (VFA)<br>Sample: GW02383IT (DUP)<br>Date: 02/26/92 | | | Location: 6886 (VFA)<br>Sample: GW02825IT (REAL)<br>Date: 05/15/92 | | | Location: 6886 (VFA)<br>Sample: GW02827IT (DUP)<br>Date: 05/15/92 | | | Location: 6986 (COL)<br>Sample: GW00925IT (REAL)<br>Date: 03/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 4050.00 | N | JA | 1220.00 | N | JA | 809.00 | N | JA | 789.00 | N | JA | 87.2 | B | V |
| Antimony | 8.00 | U | V | 8.60 | B | JA | 18.00 | U | V | 18.00 | U | V | 31.0 | U | JA |
| Arsenic | 2.00 | U | V | 2.00 | U | V | 1.00 | U | V | 1.20 | B | V | 2.0 | U | V |
| Barium | 183.00 | B | V | 126.00 | B | V | 132.00 | B | V | 131.00 | B | V | 114 | BE | JA |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 2.0 | U | V |
| Cadmium | 1.00 | U | V | 1.00 | U | V | 2.00 | U | V | 2.00 | U | V | 3.1 | B | JA |
| Calcium | 45200.00 | | V | 42700.00 | | V | 38800.00 | | V | 38600.00 | | V | 141000 | | V |
| Cesium | 32.00 | U | V | 32.00 | U | V | 23.00 | U | R | 23.00 | U | R | 2.0 | U | V |
| Chromium | 111.00 | | V | 21.70 | | V | 5.00 | U | JA | 5.00 | U | JA | 19.6 | | V |
| Cobalt | 3.00 | U | V | 3.00 | U | V | 4.00 | U | V | 4.00 | U | V | 10.0 | U | V |
| Copper | 19.50 | B | V | 5.30 | B | JA | 10.10 | B | JA | 6.70 | B | JA | 18.2 | B | V |
| Iron | 4710.00 | | JA | 1060.00 | | JA | 1070.00 | | V | 1000.00 | | V | 16.3 | B | JA |
| Lead | 11.50 | | V | 2.40 | B | V | 1.70 | B | V | 2.10 | BW | JA | 2.0 | U | JA |
| Lithium | 6.40 | B | V | 4.50 | B | V | 5.40 | B | JA | 5.50 | B | JA | 55.6 | | JA |
| Magnesium | 10500.00 | | V | 9670.00 | | V | 8900.00 | | V | 8880.00 | | V | 40200 | | V |
| Manganese | 158.00 | | | 158.00 | | V | 439.00 | | V | 454.00 | | V | 6.0 | U | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 2.00 | U | JA | 2.00 | U | V | 3.00 | U | V | 3.00 | U | V | 10.0 | U | JA |
| Nickel | 14.70 | B | V | 5.90 | B | JA | 9.90 | B | V | 7.40 | B | V | 20.0 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1650.00 | B | V | 1080.00 | B | V | 1630.00 | B | V | 1580.00 | B | V | 783 | B | V |
| Selenium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 141 | | V |
| Silicon | | | | | | | 9510.00 | | V | 9370.00 | | V | 7230 | | V |
| Silver | 3.30 | B | V | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 23.0 | U | JA |
| Sodium | 25400.00 | | V | 25300.00 | | V | 24400.00 | | V | 24400.00 | | V | 125000 | | V |
| Strontium | 257.00 | | | 236.00 | | V | 238.00 | | V | 237.00 | | V | 1080 | | V |
| Thallium | 2.00 | UW | JA | 2.00 | UW | JA | 1.00 | U | V | 1.00 | U | V | 2.0 | U | JA |
| Tin | 10.00 | U | V | 10.00 | U | V | 23.00 | U | V | 23.00 | U | V | 200 | U | JA |
| Vanadium | 14.50 | B | V | 5.50 | B | JA | 3.80 | B | JA | 3.80 | B | JA | 13.6 | B | V |
| Zinc | 63.70 | | V | 38.00 | | V | 23.80 | | JA | 17.80 | B | JA | 8.1 | B | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6286 (WCS)<br>Sample: GW02378IT (REAL)<br>Date: 02/11/92 | | | Location: 6286 (WCS)<br>Sample: GW03056IT (REAL)<br>Date: 06/11/92 | | | Location: 6886 (VFA)<br>Sample: GW01751IT (REAL)<br>Date: 09/06/91 | | | Location: 6886 (VFA)<br>Sample: GW02058IT (REAL)<br>Date: 11/25/91 | | | Location: 6886 (VFA)<br>Sample: GW02060IT (DUP)<br>Date: 11/25/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 338.00 | | V | 1330 | | JA | 4430 | | V | 1740.00 | N* | JA | 1370.00 | N* | JA |
| Antimony | 8.00 | UN | R | 19.8 | U | V | 50.0 | U | V | 48.00 | B | JA | 46.80 | B | JA |
| Arsenic | 1.00 | UN | JA | 1.0 | U | JA | 2.4 | B | V | 2.00 | U | V | 2.00 | U | V |
| Barium | 66.40 | B | V | 92.3 | | V | 150 | B | V | 128.00 | B | V | 123.00 | B | V |
| Beryllium | 1.00 | U | V | 0.60 | U | V | 2.0 | U | V | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 1.00 | U | V | 2.3 | U | V | 3.0 | U | V | 2.00 | U | V | 2.00 | U | V |
| Calcium | 40200.00 | | V | 59700 | | V | 47500 | | V | 40900.00 | | V | 39500.00 | | V |
| Cesium | 30 | U | V | 500 | U | V | 500 | U | V | 50 | U | V | 50 | U | V |
| Chromium | 65.30 | | V | 98.2 | | V | 36.9 | | V | 37.80 | | V | 37.20 | | V |
| Cobalt | 3.00 | U | V | 2.7 | U | V | 10 | U | V | 4.40 | B | V | 3.20 | B | V |
| Copper | 3.90 | B | V | 7.2 | | JA | 10 | U | V | 17.90 | B | V | 19.50 | B | V |
| Iron | 764.00 | | V | 1820 | | V | 4350 | | V | 2300.00 | * | JA | 2140.00 | * | JA |
| Lead | 1.00 | UW | JA | 3.0 | | JA | 8.2 | | V | 3.50 | | V | 3.00 | | V |
| Lithium | 63.80 | B | V | 43.9 | | V | 50.0 | U | V | 5.10 | B | V | 4.60 | B | V |
| Magnesium | 12800.00 | | V | 17500 | | V | 10900 | | V | 9180.00 | | V | 8890.00 | | V |
| Manganese | 14.20 | B | V | 54.6 | | V | 1210 | | V | 373.00 | | V | 426.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 8.40 | B | JA | 8.7 | | JA | 10.0 | U | V | 7.10 | B | JA | 6.20 | B | JA |
| Nickel | 23.20 | B | V | 69.4 | | V | 10.6 | B | V | 17.80 | B | V | 17.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4700.00 | BE | JA | 5170 | | V | 2000 | U | V | 1230.00 | B | V | 1150.00 | B | V |
| Selenium | 54.00 | N | JA | 58.0 | | V | 1.0 | U | JA | 2.00 | U | V | 2.00 | U | V |
| Silicon | | | | 11000 | | V | 15800 | | JA | | | | | | |
| Silver | 2.00 | U | V | 2.1 | U | V | 5.0 | U | V | 2.90 | B | V | 2.00 | B | V |
| Sodium | 49600.00 | | V | 51200 | | V | 23800 | | V | 25000.00 | | V | 23800.00 | | V |
| Strontium | 687.00 | | V | 628 | | V | 277 | | V | 243.00 | | V | 235.00 | | V |
| Thallium | 1.00 | U | V | 1.8 | U | V | 1.0 | U | V | 1.00 | U | V | 1.00 | U | V |
| Tin | 10.00 | U | V | 9.4 | U | JA | 100 | U | V | 17.00 | U | V | 17.00 | U | V |
| Vanadium | 8.90 | B | V | 8.1 | | JA | 12.0 | B | V | 7.20 | B | V | 6.20 | B | V |
| Zinc | 23.10 | | V | 20.1 | | V | 33.1 | | V | 37.30 | | JA | 29.30 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-d

## Groundwater Total Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6986 (COL)<br>Sample: GW00927IT (DUP)<br>Date: 03/06/91 | | | Location: 6986 (COL)<br>Sample: GW01692IT (REAL)<br>Date: 08/20/91 | | | Location: 6986 (COL)<br>Sample: GW01695IT (DUP)<br>Date: 08/20/91 | | | Location: 6986 (COL)<br>Sample: GW02020IT (REAL)<br>Date: 11/13/91 | | | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 87.9 | B | V | 11400.00 | * | JA | 23800.00 | * | JA | 4910.00 | | | |
| Antimony | 30.0 | U | JA | 23.00 | BN | JA | 28.30 | BN | JA | 45.90 | B | | |
| Arsenic | 2.0 | U | V | 2.00 | B | V | 5.00 | B | JA | 2.00 | B | | |
| Barium | 115 | BE | JA | 209.00 | | V | 273.00 | | V | 151.00 | B | | |
| Beryllium | 2.0 | U | V | 1.00 | U | V | 1.40 | B | JA | 1.00 | U | | |
| Cadmium | 2.8 | B | JA | 4.60 | B | JA | 4.70 | B | JA | 2.00 | B | | |
| Calcium | 142000 | | V | 121000.00 | | V | 126000.00 | | V | 121000.00 | | | |
| Cesium | 2.0 | U | V | 30.0 | U | V | 70.00 | B | JA | 51.00 | U | | |
| Chromium | 21.3 | | V | 190.00 | | V | 183.00 | | V | 66.80 | | | |
| Cobalt | 10.0 | U | V | 11.90 | B | JA | 12.30 | B | JA | 3.90 | B | | |
| Copper | 14.6 | B | V | 15.80 | B | JA | 17.00 | B | JA | 13.70 | B | | |
| Iron | 42.1 | B | JA | 10600.00 | | V | 16600.00 | | V | 4490.00 | | | |
| Lead | 2.0 | U | JA | 13.20 | | JA | 27.20 | | JA | 6.90 | | | |
| Lithium | 50.0 | U | JA | 47.00 | B | V | 52.10 | B | V | 44.10 | B | | |
| Magnesium | 40400 | | V | 35300.00 | | V | 38600.00 | | V | 34300.00 | | | |
| Manganese | 45.0 | U | V | 188.00 | | V | 274.00 | | V | 76.50 | | | |
| Mercury | 0.20 | U | V | 0.37 | | V | 0.32 | | V | 0.34 | | | |
| Molybdenum | 10.0 | U | JA | 10.30 | B | JA | 10.80 | B | JA | 6.60 | B | | |
| Nickel | 23.0 | U | V | 32.40 | B | V | 34.00 | B | V | 17.00 | U | | |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 723 | B | V | 2490.00 | B | V | 3310.00 | B | V | 1440.00 | B | | |
| Selenium | 170 | | V | 104.00 | S | V | 104.00 | | V | 96.40 | S | | |
| Silicon | 7270 | | V | | | | | | | | | | |
| Silver | 22.2 | | JA | 5.70 | B | JA | 3.90 | B | JA | 6.40 | B | | |
| Sodium | 126000 | | V | 109000.00 | | V | 111000.00 | | V | 120000.00 | | | |
| Strontium | 1090 | | JA | 896.00 | N | JA | 948.00 | N | JA | 940.00 | | | |
| Thallium | 2.0 | U | JA | 2.00 | U | V | 2.00 | U | V | 1.00 | UW | | |
| Tin | 200 | U | JA | 48.30 | BN | JA | 53.20 | BN | JA | 17.00 | U | | |
| Vanadium | 13.2 | B | V | 32.60 | B | V | 43.70 | B | V | 16.70 | B | | |
| Zinc | 5.0 | U | V | 55.30 | | JA | 71.70 | | V | 45.00 | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0287 (COL)<br>Sample: GW00013IT (REAL)<br>Date: 07/17/90 | | | Location: 0287 (COL)<br>Sample: GW00536IT (REAL)<br>Date: 10/18/90 | | | Location: 0287 (COL)<br>Sample: GW00929IT (REAL)<br>Date: 03/07/91 | | | Location: 0287 (COL)<br>Sample: GW01252IT (REAL)<br>Date: 05/13/91 | | | Location: 0287 (COL)<br>Sample: GW01752IT (REAL)<br>Date: 09/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 57.90 | B | | 57.6 | B | | 23.90 | B | | 18.50 | B | JA | 100 | U | V |
| Antimony | 16.70 | B | | 26.0 | U | | 8.00 | U | | 43.50 | B | JA | 50.0 | U | V |
| Arsenic | 1.00 | B | | 1.6 | U | | 2.00 | U | | 2.00 | U | V | 2.0 | U | V |
| Barium | 92.10 | BE | | 96.6 | B | | 71.90 | B | | 73.60 | B | V | 100 | U | V |
| Beryllium | 1.00 | U | | 0.60 | U | | 1.00 | U | | 1.00 | U | V | 2.0 | U | V |
| Cadmium | | | | 2.9 | U | | 2.00 | U | | 2.00 | U | V | 5.1 | | JA |
| Calcium | 85900.00 | | | 83300 | | | 79500.00 | | | 79700.00 | | V | 81300 | | V |
| Cesium | 147.00 | UN | | 60.0 | U | | 76.00 | U | | 110 | U | V | 500 | U | V |
| Chromium | 6.00 | U | | 4.0 | U | | 5.00 | U | | 3.00 | U | JA | 5.0 | U | V |
| Cobalt | 4.00 | U | | 4.0 | U | | 3.00 | U | | 3.00 | U | V | 10 | U | V |
| Copper | 3.40 | B | | 3.0 | U | | 2.00 | U | | 11.00 | U | V | 10 | U | V |
| Iron | 29.80 | B | | 3.0 | U | | 183.00 | | | 9.80 | B | JA | 50.0 | U | V |
| Lead | 1.00 | U | | 0.40 | U | | 1.00 | UW | | 1.00 | UW | V | 1.0 | U | V |
| Lithium | 10.80 | B | | 26.0 | U | | 4.50 | B | | 8.30 | B | V | 50.0 | U | V |
| Magnesium | 26100.00 | | | 24900 | | | 24200.00 | | | 23400.00 | | V | 23300 | | V |
| Manganese | 115.00 | | | 191 | | | 39.20 | | | 47.40 | | V | 160 | | V |
| Mercury | 0.20 | U | | 0.10 | U | | 0.20 | U | | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 14.30 | B | | 13.0 | U | | 4.70 | B | | 12.00 | B | JA | 10.0 | U | V |
| Nickel | 27.40 | B | | 16.1 | B | | 4.00 | U | | 14.40 | B | JA | 10 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 903.00 | B | | 2120 | B | | 533.00 | BE | | 649.00 | B | V | 2000 | U | V |
| Selenium | 1.00 | U | | 1.1 | U | | 20.00 | UWN | | 1.00 | UW | V | 1.0 | U | JA |
| Silicon | | | | 6780 | | | | | | | | | 6480 | | V |
| Silver | 2.00 | U | | 7.0 | B | | 3.00 | U | | 2.00 | U | V | 5.0 | U | V |
| Sodium | 82000.00 | | | 80100 | | | 74800.00 | | | 70900.00 | | V | 72500 | | V |
| Strontium | 916.00 | | | 842 | | | 827.00 | | | 802.00 | | V | 786 | | V |
| Thallium | 3.00 | U | | 0.60 | U | | 1.00 | U | | 1.00 | UW | JA | 1.0 | U | V |
| Tin | 21.90 | B | | 17.0 | U | | 39.60 | B | | 24.00 | B | JA | 100 | U | V |
| Vanadium | 7.20 | B | | 12.9 | B | | 2.00 | U | | 2.00 | U | V | 10 | U | V |
| Zinc | 12.00 | B | | 2.5 | B | | 14.60 | B | | 14.80 | B | JA | 10 | U | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l)

| ANALYTE | Location: 0187 (RFA)<br>Sample: GW00093IT (REAL)<br>Date: 07/26/90 | | Location: 0187 (RFA)<br>Sample: GW01659IT (REAL)<br>Date: 08/15/91 | | Location: 0187 (RFA)<br>Sample: GW02076IT (REAL)<br>Date: 12/05/91 | | Location: 0287 (COL)<br>Sample: G02870290001 (REAL)<br>Date: 02/02/90 | | Location: 0287 (COL)<br>Sample: 2GW00013IT (REAL)<br>Date: 07/17/90 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 63.5 | B | 42.80 | B | 36.60 | B | 84.0 | U | | |
| Antimony | 28.5 | B | 8.00 | U | 58.90 | B | 22.0 | U | | |
| Arsenic | 0.80 | U | 2.00 | U | 2.00 | U | 2.0 | U | | |
| Barium | 281 | | 142.00 | BE | 172.00 | B | 79.8 | B | | |
| Beryllium | 2.0 | U | 1.00 | U | 1.00 | U | 1.0 | U | | |
| Cadmium | 2.0 | U | 1.00 | U | 2.00 | U | 3.0 | U | 2.00 | U |
| Calcium | 150000 | | 78300.00 | | 98500.00 | | 95500 | | | |
| Cesium | 60.0 | U | 40.00 | B | 51.00 | U | | | | |
| Chromium | 4.0 | U | 4.00 | U | 6.00 | U | 2.0 | U | | |
| Cobalt | 13.4 | B | 4.20 | B | 3.00 | U | 4.0 | U | | |
| Copper | 16.0 | B | 27.90 | | 37.10 | | 5.0 | U | | |
| Iron | 1060 | | 734.00 | | 974.00 | | 89.9 | B | | |
| Lead | 0.70 | U | 1.00 | U | 1.00 | U | 3.0 | UNW | | |
| Lithium | 35.0 | U | 11.30 | B | 9.90 | B | | | | |
| Magnesium | 41000 | | 19700.00 | | 26300.00 | | 28300 | | | |
| Manganese | 1190 | | 623.00 | | 446.00 | | 192 | * | | |
| Mercury | 0.10 | U | 0.20 | U | 0.20 | U | 0.20 | U | | |
| Molybdenum | 70.0 | U | 4.50 | B | 9.20 | B | | | | |
| Nickel | 229 | | 31.10 | B | 104.00 | | 8.1 | B | | |
| Phosphorus | | | | | | | | | | |
| Potassium | 4050 | B | 2380.00 | B | 3140.00 | BE | 1240 | B | | |
| Selenium | 5.6 | | 2.00 | B | 2.00 | B | 3.2 | BNW | | |
| Silicon | 5130 | | | | | | | | | |
| Silver | 2.0 | U | 2.00 | U | 2.00 | U | 3.0 | U | | |
| Sodium | 117000 | | 89100.00 | | 89100.00 | | 80200 | | | |
| Strontium | 993 | | 540.00 | | 735.00 | | | | | |
| Thallium | 2.0 | U | 2.00 | U | 1.00 | B | 4.0 | UNW | | |
| Tin | 24.0 | U | 14.00 | U | 17.00 | U | | | | |
| Vanadium | 12.3 | B | 3.40 | B | 2.90 | B | 17.6 | B | | |
| Zinc | 126 | | 46.90 | | 95.90 | E | 30.3 | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0387 (KAR)<br>Sample: GW01696IT (REAL)<br>Date: 08/22/91 | | Location: 0387 (KAR)<br>Sample: GW02022IT (REAL)<br>Date: 11/13/91 | | | Location: 0487 (COL)<br>Sample: G04870607021215 (REAL)<br>Date: 06/07/90 | | Location: 0487 (COL)<br>Sample: GW00318IT (REAL)<br>Date: 08/29/90 | | Location: 0487 (COL)<br>Sample: 2GW00602IT (REAL)<br>Date: 10/30/90 |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 29.40 | B | 11.50 | B | V | 218 | | 77.60 | B | |
| Antimony | 8.00 | U | 14.70 | B | JA | 60.0 | U | 28.10 | B | |
| Arsenic | 2.00 | U | 2.00 | U | V | 10.0 | U | 1.00 | B | |
| Barium | 87.80 | BE | 84.60 | B | V | 200 | U | 49.00 | B | |
| Beryllium | 1.00 | U | 3.00 | B | JA | 5.0 | U | 1.00 | U | |
| Cadmium | 1.00 | U | 2.00 | U | V | 5.0 | U | 2.00 | U | |
| Calcium | 26600.00 | | 24800.00 | | V | 186000 | | 144000.00 | | |
| Cesium | 80.00 | B | 110.00 | B | JA | 100 | U | 147.00 | U | |
| Chromium | 4.00 | U | 6.00 | U | V | 10.0 | U | 24.20 | | |
| Cobalt | 2.00 | U | 3.30 | B | V | 50.0 | U | 4.00 | U | |
| Copper | 7.60 | B | 3.00 | U | V | 25 | U | 14.20 | B | |
| Iron | 9.50 | B | 125.00 | | V | 100 | U | 15.00 | B | |
| Lead | 1.00 | U | 1.00 | U | V | 3 | U | 1.00 | U | |
| Lithium | 39.90 | B | 35.20 | B | V | 100 | U | 4.00 | U | |
| Magnesium | 7540.00 | | 7440.00 | | V | 39400 | | 29100.00 | | 28500.00 |
| Manganese | 24.50 | | 19.20 | | V | 57.4 | | 12.50 | B | |
| Mercury | 0.20 | U | 0.20 | U | V | 0.20 | U | 0.20 | U | |
| Molybdenum | 6.20 | B | 7.40 | B | V | 100 | U | 23.40 | B | |
| Nickel | 4.50 | B | 17.00 | U | V | 48.3 | | 30.10 | B | |
| Phosphorus | | | | | | | | | | |
| Potassium | 4180.00 | BE | 4360.00 | B | V | 5000 | U | 632.00 | B | |
| Selenium | 2.00 | U | 2.00 | U | V | 175 | | 240.00 | | |
| Silicon | | | | | | 6370 | | | | |
| Silver | 2.00 | U | 2.00 | U | V | 10.0 | U | 9.40 | B | |
| Sodium | 119000.00 | | 113000.00 | | V | 219000 | | 171000.00 | | |
| Strontium | 383.00 | | 400.00 | | V | 1300 | | 912.00 | | |
| Thallium | 2.00 | U | 1.00 | U | V | 10.0 | U | 3.00 | UW | |
| Tin | 14.00 | U | 17.00 | U | V | 100 | U | 40.80 | B | |
| Vanadium | 2.60 | B | 3.30 | B | V | 50.0 | U | 14.90 | B | |
| Zinc | 10.40 | B | 9.50 | B | JA | 21.7 | | 17.20 | B | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0287 (COL)<br>Sample: GW02021IT (REAL)<br>Date: 11/14/91 | | | Location: 0387 (KAR)<br>Sample: GW00017IT (REAL)<br>Date: 09/12/90 | | | Location: 0387 (KAR)<br>Sample: GW00601IT (REAL)<br>Date: 10/29/90 | | | Location: 0387 (KAR)<br>Sample: GW00984IT (REAL)<br>Date: 03/14/91 | | | Location: 0387 (KAR)<br>Sample: GW01253IT (REAL)<br>Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 54.70 | B | V | 38.40 | BE | | 25.60 | B | | 55.30 | B | | 11.00 | U | V |
| Antimony | 48.10 | B | JA | 14.00 | B | | 7.00 | U | | 8.00 | U | | 19.40 | B | JA |
| Arsenic | 2.00 | U | V | 2.00 | B | | 2.00 | U | | 2.00 | U | | 2.00 | U | V |
| Barium | 76.20 | B | V | 85.00 | B | | 87.20 | BE | | 92.20 | B | | 91.80 | B | V |
| Beryllium | 1.00 | U | V | 1.50 | B | | 1.00 | U | | 1.00 | U | | 1.00 | U | V |
| Cadmium | 2.50 | B | JA | 6.90 | | | 2.00 | U | | 2.00 | U | | 2.00 | U | V |
| Calcium | 86500.00 | | V | 26800.00 | | | 26900.00 | | | 26500.00 | | | 26500.00 | | V |
| Cesium | 50 | U | V | 92.00 | U | | 76.00 | U | | 76.00 | U | | 110 | U | V |
| Chromium | 12.70 | | JA | 9.10 | B | | 7.20 | B | | 5.00 | U | | 3.00 | U | JA |
| Cobalt | 3.00 | U | V | 3.00 | U | | 3.00 | U | | 3.00 | U | | 3.00 | U | V |
| Copper | 3.70 | B | JA | 12.70 | B | | 2.40 | B | | 2.00 | U | | 11.00 | U | V |
| Iron | 46.70 | B | JA | 26.90 | B* | | 14.00 | U | | 161.00 | | | 16.40 | B | JA |
| Lead | 1.00 | U | V | 32.30 | | | 1.00 | U | | 1.00 | U | | 1.00 | UW | V |
| Lithium | 10.00 | B | V | 40.00 | B | | 40.00 | B | | 40.40 | B | | 37.10 | B | V |
| Magnesium | 25000.00 | | V | 7810.00 | | | 7650.00 | | | 7420.00 | | | 7550.00 | | V |
| Manganese | 50.50 | | V | 35.00 | | | 31.90 | | | 46.10 | | | 32.00 | | V |
| Mercury | 0.20 | UN* | V | 0.20 | U | | 0.20 | UN | | 0.20 | UN | | 0.20 | U | V |
| Molybdenum | 12.80 | B | V | 13.30 | B | | 5.80 | B | | 7.00 | B | | 8.10 | B | JA |
| Nickel | 17.00 | U | V | 10.30 | B | | 4.30 | B | | 4.00 | U | | 3.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 697.00 | B | V | 4370.00 | B | | 4130.00 | B | | 4270.00 | B | | 4110.00 | B | V |
| Selenium | 2.00 | U | V | 2.00 | U | | 2.00 | U | | 2.00 | UW | | 1.00 | U | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.20 | B | V | 3.00 | U | | 6.40 | B | | 3.00 | U | | 2.00 | U | V |
| Sodium | 72200.00 | | V | 112000.00 | | | 106000.00 | | | 120000.00 | | | 119000.00 | | V |
| Strontium | 831.00 | | V | 389.00 | | | 387.00 | | | 409.00 | | | 406.00 | | V |
| Thallium | 1.00 | UW | JA | 1.00 | UW | | 2.00 | UW | | 1.00 | UW | | 1.00 | UW | JA |
| Tin | 19.30 | B | V | 7.00 | U | | 33.00 | B | | 11.00 | U | | 10.00 | U | V |
| Vanadium | 6.20 | B | V | 6.00 | B | | 4.80 | B | | 2.00 | U | | 2.00 | U | V |
| Zinc | 12.60 | B | JA | 24.80 | | | 6.50 | B | | 6.20 | B | | 12.80 | B | JA |

Note: Date reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0487 (COL)<br>Sample: GW02890IT (REAL)<br>Date: 05/11/92 | | | Location: 0587 (KAR)<br>Sample: G05870290001 (REAL)<br>Date: 02/14/90 | | | Location: 0587 (KAR)<br>Sample: GW00207IT (REAL)<br>Date: 08/07/90 | | | Location: 0587 (KAR)<br>Sample: GW00499IT (REAL)<br>Date: 10/12/90 | | | Location: 0587 (KAR)<br>Sample: GW01276IT (REAL)<br>Date: 05/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 54.40 | B | V | 200 | U | | 93.1 | B | | 153.00 | B | | 80.50 | B | JA |
| Antimony | 18.00 | U | V | 60.0 | U | | 19.3 | B | | 49.30 | B | | 87.30 | | JA |
| Arsenic | 1.00 | U | V | 10.0 | U | | 0.90 | U | | 2.00 | U | | 2.00 | U | V |
| Barium | 49.20 | BE | JA | 200 | U | | 32.2 | B | | 29.80 | BE | | 27.20 | B | JA |
| Beryllium | 1.00 | U | V | 5.0 | U | | 2.0 | U | | 1.00 | U | | 1.00 | U | V |
| Cadmium | 2.00 | U | JA | 5.0 | U | | 2.0 | U | | 4.40 | B | | 2.00 | U | V |
| Calcium | 157000.00 | | V | 296000 | | | 296000 | | | 307000.00 | | | 301000.00 | | V |
| Cesium | 40.00 | B | JA | 2500 | U | | 55.0 | U | | 300.00 | B | | 110 | U | V |
| Chromium | 8.30 | B | JA | 10.0 | U | | 4.3 | B | | 36.80 | | | 11.40 | | JA |
| Cobalt | 4.00 | U | V | 50.0 | U | | 4.0 | U | | 12.30 | B | | 3.00 | U | V |
| Copper | 2.00 | U | V | 25.0 | U | | 3.0 | U | | 11.80 | B | | 11.00 | U | V |
| Iron | 6.10 | B | JA | 100 | U | | 6.0 | U | | 50.70 | B | | 33.20 | B | JA |
| Lead | 1.00 | U | V | 3.0 | U | | 0.60 | U | | 1.00 | U | | 1.00 | UW | JA |
| Lithium | 13.40 | B | V | 372 | | | 429 | | | 500.00 | | | 488.00 | | V |
| Magnesium | 32800.00 | | V | 93900 | | | 87600 | | | 86400.00 | | | 87900.00 | | V |
| Manganese | 4.40 | B | V | 15.0 | U | | 12.6 | B | | 11.90 | B | | 3.60 | B | JA |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.10 | U | | 0.20 | U | | 0.20 | U | V |
| Molybdenum | 9.10 | BE | JA | 100 | U | | 70.0 | U | | 26.70 | B | | 8.90 | B | JA |
| Nickel | 26.00 | B | V | 40.0 | U | | 18.0 | B | | 26.60 | B | | 3.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 577.00 | B | JA | 11100 | | | 10900 | | | 9740.00 | | | 10700.00 | | V |
| Selenium | 652.00 | | V | 144 | | | 170 | | | 125.00 | N | | 160.00 | | V |
| Silicon | 5580.00 | | V | | | | 6140 | | | | | | | | |
| Silver | 2.00 | U | R | 10.0 | U | | 8.0 | B | | 11.30 | | | 2.00 | U | R |
| Sodium | 174000.00 | | V | 185000 | | | 199000 | | | 154000.00 | E | | 178000.00 | | V |
| Strontium | 1080.00 | | V | 3610 | | | 3490 | | | 3400.00 | | | 3600.00 | | V |
| Thallium | 1.00 | UN | JA | 10.0 | U | | 2.0 | U | | 2.00 | U | | 1.00 | U | V |
| Tin | 23.00 | U | V | 100 | U | | 72.6 | B | | 87.30 | B | | 59.30 | B | JA |
| Vanadium | 8.90 | B | V | 50.0 | U | | 20.6 | B | | 17.50 | B | | 2.00 | U | V |
| Zinc | 1.00 | U | V | 20.0 | U | | 8.8 | B | | 15.00 | B | | 13.50 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0487 (COL) Sample: GW00602IT (REAL) Date: 10/30/90 | | | Location: 0487 (COL) Sample: GW00980IT (REAL) Date: 03/19/91 | | | Location: 0487 (COL) Sample: GW01250IT (REAL) Date: 05/10/91 | | | Location: 0487 (COL) Sample: GW01677IT (REAL) Date: 08/21/91 | | | Location: 0487 (COL) Sample: GW02421IT (REAL) Date: 02/11/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 72.90 | B | | 45.50 | B | | 50.40 | B* | JA | 79.80 | B | | 185.00 | B | V |
| Antimony | 7.00 | U | | 8.00 | U | | 16.30 | B | V | 32.90 | B | | 8.00 | U | V |
| Arsenic | 2.00 | U | | 2.00 | U | | 2.00 | U | V | 2.00 | U | | 1.00 | U | V |
| Barium | 52.50 | BE | | 48.80 | B | | 53.10 | B | V | 49.70 | BE | | 51.50 | B | V |
| Beryllium | 1.00 | U | | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.00 | U | V |
| Cadmium | 2.00 | U | | 2.00 | U | | 2.00 | U | V | 1.70 | B | | 1.00 | U | V |
| Calcium | 139000.00 | | | 144000.00 | | | 157000.00 | | V | 144000.00 | | | 159000.00 | E | JA |
| Cesium | 76.00 | U | | 76.00 | U | | 180.00 | B | JA | 32.00 | U | | 30 | U | V |
| Chromium | 22.50 | | | 5.80 | B | | 7.60 | B | JA | 20.70 | | | 2.00 | U | V |
| Cobalt | 3.00 | U | | 3.00 | U | | 3.00 | U | V | 2.00 | U | | 3.00 | U | V |
| Copper | 13.50 | B | | 2.40 | B | | 11.00 | U | V | 11.30 | B | | 3.60 | B | JA |
| Iron | 14.00 | U | | 17.00 | B | | 15.40 | B* | JA | 16.60 | B | | 153.00 | | JA |
| Lead | 1.00 | U | | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.00 | U | V |
| Lithium | 30.00 | B | | 13.70 | B | | 12.90 | B | V | 15.70 | B | | 16.30 | B | V |
| Magnesium | | | | 30600.00 | | | 33000.00 | | V | 29700.00 | | | 33500.00 | | V |
| Manganese | 3.40 | B | | 3.30 | B | | 1.80 | B | JA | 10.60 | B | | 14.30 | B | V |
| Mercury | 0.20 | UN | | 0.20 | U | | 0.20 | U | V | 0.20 | U | | 0.20 | U | V |
| Molybdenum | 15.10 | B | | 5.00 | B | | 8.90 | B | JA | 12.20 | B | | 8.50 | B | JA |
| Nickel | 27.00 | B | | 5.60 | B | | 12.90 | B | V | 64.80 | | | 40.10 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 620.00 | B | | 349.00 | BE | | 448.00 | B | V | 581.00 | BE | | 817.00 | BE | JA |
| Selenium | 320.00 | | | 360.00 | | | 550.00 | | V | 500.00 | | | 612.00 | | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 9.40 | B | | 3.00 | U | | 2.00 | U | V | 2.00 | U | | 2.00 | U | V |
| Sodium | 162000.00 | | | 166000.00 | | | 179000.00 | | V | 168000.00 | | | 167000.00 | | V |
| Strontium | 896.00 | | | 1000.00 | | | 1080.00 | | V | 926.00 | | | 1050.00 | | V |
| Thallium | 2.00 | UW | | 1.00 | UW | | 1.00 | UW | JA | 2.00 | U | | 1.00 | U | V |
| Tin | 58.40 | B | | 25.80 | B | | 10.00 | U | V | 19.60 | B | | 10.00 | U | V |
| Vanadium | 10.40 | B | | 5.10 | B | | 2.00 | U | V | 8.40 | B | | 9.10 | B | V |
| Zinc | 7.30 | B | | 17.20 | B | | 7.20 | B | JA | 6.30 | B | | 12.30 | B | JA |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0687 (COL)<br>Sample: GW00981IT (REAL)<br>Date: 03/19/91 | | | Location: 0687 (COL)<br>Sample: GW01251IT (REAL)<br>Date: 05/17/91 | | | Location: 0887 (KAR)<br>Sample: GW00024IT (REAL)<br>Date: 09/11/90 | | | Location: 0887 (KAR)<br>Sample: GW00568IT (REAL)<br>Date: 11/09/90 | | | Location: 0887 (KAR)<br>Sample: GW00983IT (REAL)<br>Date: 03/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 60.00 | B | | 36.90 | B | JA | 87.90 | BE | | 41.0 | | V | 73.80 | B | |
| Antimony | 14.50 | B | | 26.10 | B | JA | 38.60 | B | | 22.0 | U | JA | 25.90 | B | |
| Arsenic | 2.00 | U | | 2.00 | U | V | 2.00 | U | | 1.0 | U | JA | 2.00 | U | |
| Barium | 49.80 | B | | 54.10 | B | V | 16.30 | B | | 23.8 | | JA | 15.40 | B | |
| Beryllium | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.0 | U | V | 1.00 | U | |
| Cadmium | 2.00 | U | | 2.00 | U | V | 2.00 | U | | 5.0 | U | R | 2.00 | U | |
| Calcium | 89000.00 | | | 106000.00 | | V | 136000.00 | | | 154000 | | V | 138000.00 | | |
| Cesium | 76.00 | U | | 110 | U | V | 92.00 | U | | 500 | U | V | 76.00 | U | |
| Chromium | 10.80 | | | 3.00 | U | V | 20.00 | | | 4.0 | U | V | 13.10 | | |
| Cobalt | 3.00 | U | | 3.00 | U | V | 5.20 | B | | 4.0 | U | V | 3.00 | U | |
| Copper | 8.70 | B | | 11.00 | U | V | 14.00 | B | | 5.0 | U | V | 5.20 | B | |
| Iron | 20.80 | B | | 23.80 | B | JA | 1150.00 | * | | 229 | | V | 165.00 | | |
| Lead | 1.00 | U | | 1.00 | U | V | 1.60 | B | | 1.0 | U | V | 1.00 | U | |
| Lithium | 42.70 | B | | 53.60 | B | V | 120.00 | | | 128 | | V | 109.00 | | |
| Magnesium | 44600.00 | | | 36300.00 | | V | 46500.00 | | | 46600 | | V | 44000.00 | | |
| Manganese | 1.50 | B | | 99.30 | | V | 55.20 | | | 49.0 | | V | 40.90 | | |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | | 0.10 | U | R | 0.20 | UN | |
| Molybdenum | 12.20 | B | | 20.60 | B | JA | 23.70 | B | | 9.0 | U | V | 7.10 | B | |
| Nickel | 4.00 | U | | 16.10 | B | V | 34.90 | B | | 22.7 | | V | 13.60 | B | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1050.00 | BE | | 1610.00 | B | V | 12800.00 | | | 12300 | | V | 9740.00 | | |
| Selenium | 11.00 | | | 10.70 | +N | JA | 2.00 | U | | 20.0 | | JA | 2.00 | U | |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 3.00 | U | | 2.00 | U | V | 4.50 | B | | 8.3 | | JA | 5.40 | B | |
| Sodium | 241000.00 | | | 244000.00 | | V | 212000.00 | | | 224000 | | V | 214000.00 | | |
| Strontium | 1280.00 | | | 1200.00 | | V | 2060.00 | | | 2130 | | V | 2120.00 | | |
| Thallium | 1.00 | UW | | 1.00 | B | V | 1.00 | UW | | 2.0 | U | V | 1.00 | U | |
| Tin | 85.00 | B | | 15.80 | B | JA | 37.50 | B | | 30.0 | U | V | 44.40 | B | |
| Vanadium | 6.30 | B | | 2.00 | U | V | 17.10 | B | | 8.6 | | V | 8.30 | B | |
| Zinc | 20.00 | | | 3.90 | B | JA | 12.00 | B | | 48.5 | | V | 12.00 | B | |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0587 (KAR)<br>Sample: GW01661IT (REAL)<br>Date: 08/15/91 | | | Location: 0587 (KAR)<br>Sample: GW02078IT (REAL)<br>Date: 12/04/91 | | | Location: 0587 (KAR)<br>Sample: GW02420IT (REAL)<br>Date: 02/14/92 | | | Location: 0587 (KAR)<br>Sample: GW02992IT (REAL)<br>Date: 05/29/92 | | | Location: 0687 (COL)<br>Sample: GW00027IT (REAL)<br>Date: 07/20/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 140.00 | B | | 120.00 | B | | 111.00 | B | V | 117.00 | B | V | 45.70 | B | |
| Antimony | 43.30 | B | | 105.00 | | | 8.00 | U | V | 18.00 | U | V | 10.00 | U | |
| Arsenic | 2.00 | U | | 2.00 | U | | 2.00 | U | V | 2.00 | U | V | 2.00 | U | |
| Barium | 26.20 | BE | | 27.70 | B | | 25.50 | B | V | 26.90 | B | V | 76.30 | BE | |
| Beryllium | 1.00 | U | | 1.00 | U | | 1.00 | U | R | 1.00 | U | V | 1.00 | U | |
| Cadmium | 5.00 | | | 7.30 | | | 2.00 | B | JA | 2.00 | U | V | 2.00 | U | |
| Calcium | 287000.00 | | | 313000.00 | | | 310000.00 | | V | 299000.00 | | V | 147000.00 | | |
| Cesium | 32.00 | U | | 51.00 | U | | 30 | U | V | 23.00 | U | R | 147.00 | U | |
| Chromium | 28.60 | | | 28.20 | | | 3.80 | B | JA | 5.00 | U | V | 6.00 | U | |
| Cobalt | 2.70 | B | | 3.90 | B | | 3.00 | U | V | 4.00 | U | V | 4.00 | U | |
| Copper | 15.50 | B | | 6.90 | B | | 6.40 | B | JA | 2.00 | U | JA | 3.00 | U | |
| Iron | 23.40 | B | | 38.00 | B | | 25.30 | B | JA | 48.50 | BE | JA | 13.00 | U | |
| Lead | 1.00 | U | | 1.00 | U | | 1.00 | U | V | 1.00 | U | V | 1.00 | U | |
| Lithium | 485.00 | | | 451.00 | | | 510.00 | | V | 457.00 | | V | 40.20 | B | |
| Magnesium | 82600.00 | | | 90500.00 | | | 92000.00 | | V | 86100.00 | | V | 43500.00 | | |
| Manganese | 7.40 | B | | 8.20 | B | | 6.50 | B | JA | 5.10 | B | V | 2.90 | B | |
| Mercury | 0.20 | U | | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 10.00 | B | | 13.80 | B | | 2.00 | U | V | 3.00 | U | V | 17.10 | B | |
| Nickel | 6.80 | B | | 17.00 | U | | 5.30 | B | JA | 3.20 | B | JA | 56.70 | | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 10100.00 | | | 10800.00 | E | | 11500.00 | | V | 10500.00 | | V | 1060.00 | B | |
| Selenium | 143.00 | S | | 155.00 | | | 126.00 | | V | 237.00 | | V | 7.60 | S | |
| Silicon | | | | | | | | | | 8110.00 | | V | | | |
| Silver | 2.80 | B | | 2.30 | B | | 2.00 | U | V | 2.00 | U | V | 4.30 | B | |
| Sodium | 170000.00 | | | 173000.00 | | | 178000.00 | | V | 168000.00 | | V | 249000.00 | | |
| Strontium | 3420.00 | | | 3660.00 | | | 3540.00 | | V | 3490.00 | | V | 1420.00 | | |
| Thallium | 2.00 | U | | 1.00 | U | | 1.00 | U | V | 1.00 | UWN | JA | 3.00 | U | |
| Tin | 37.30 | B | | 21.60 | B | | 10.00 | U | V | 23.00 | U | V | 18.60 | B | |
| Vanadium | 14.00 | B | | 12.70 | B | | 13.50 | B | JA | 14.70 | B | JA | 5.60 | B | |
| Zinc | 14.00 | B | | 23.60 | E | | 12.60 | B | JA | 19.10 | B | JA | 12.90 | B | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0974 (COL)<br>Sample: 2GW00209IT (REAL)<br>Date: 08/09/90 | | Location: 0974 (COL)<br>Sample: GW00209IT (REAL)<br>Date: 08/09/90 | | Location: 0974 (COL)<br>Sample: GW00507IT (REAL)<br>Date: 10/16/90 | | Location: 0974 (COL)<br>Sample: GW01270IT (REAL)<br>Date: 05/14/91 | | | Location: 0974 (COL)<br>Sample: GW01662IT (REAL)<br>Date: 08/15/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | 63.00 | B | 58.6 | B | 331.00 | | V | 130.00 | B |
| Antimony | | | 14.10 | B | 26.0 | U | 55.70 | B | JA | 38.70 | B |
| Arsenic | | | 4.00 | B | 3.0 | B | 2.00 | B | V | 2.00 | U |
| Barium | | | 64.20 | BE | 78.1 | B | 78.60 | B | V | 70.00 | BE |
| Beryllium | | | 1.00 | U | 0.60 | U | 1.00 | U | V | 1.00 | U |
| Cadmium | 2.00 | U | | | 2.9 | U | 2.00 | U | V | 3.60 | B |
| Calcium | | | 172000.00 | | 209000 | | 205000.00 | | V | 210000.00 | |
| Cesium | | | 400.00 | B | 60.0 | U | 110 | U | V | 32.00 | U |
| Chromium | | | 13.90 | | 4.0 | U | 5.50 | B | JA | 23.20 | |
| Cobalt | | | 4.00 | U | 4.0 | U | 3.00 | U | V | 2.00 | U |
| Copper | | | 3.00 | U | 3.0 | U | 11.00 | U | V | 15.80 | B |
| Iron | | | 32.30 | B | 3.0 | U | 376.00 | | V | 16.50 | B |
| Lead | | | 1.00 | U | 3.4 | | 1.80 | B | V | 1.00 | U |
| Lithium | | | 449.00 | | 424 | | 370.00 | | V | 360.00 | |
| Magnesium | | | 40200.00 | | 51400 | | 50100.00 | | V | 52300.00 | |
| Manganese | | | 3.60 | B | 11.7 | B | 10.40 | B | V | 11.80 | B |
| Mercury | | | 0.20 | U | 0.11 | B | 0.20 | U | V | 0.20 | U |
| Molybdenum | | | 13.20 | B | 13.0 | U | 9.50 | B | JA | 8.40 | B |
| Nickel | | | 4.00 | U | 12.0 | U | 3.00 | U | V | 7.80 | B |
| Phosphorus | | | | | | | | | | | |
| Potassium | | | 968.00 | B | 2180 | B | 1700.00 | B | V | 2100.00 | B |
| Selenium | | | 507.00 | | 1.1 | U | 825.00 | | V | 1250.00 | |
| Silicon | | | | | 6730 | | | | | | |
| Silver | | | 3.60 | B | 5.3 | B | 2.00 | U | V | 3.70 | B |
| Sodium | | | 168000.00 | | 160000 | | 160000.00 | | V | 151000.00 | |
| Strontium | | | 1310.00 | | 1630 | | 1710.00 | | V | 1800.00 | |
| Thallium | | | 1.00 | UW | 0.60 | U | 1.00 | UW | JA | 2.00 | U |
| Tin | | | 41.40 | B | 39.9 | B | 41.80 | B | JA | 36.90 | B |
| Vanadium | | | 17.10 | B | 17.8 | B | 3.10 | B | V | 14.50 | B |
| Zinc | | | 6.90 | B | 2.0 | U | 37.00 | | JA | 10.90 | B |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0887 (KAR) Sample: GW012671T (REAL) Date: 05/10/91 | | | Location: 0887 (KAR) Sample: GW01675IT (REAL) Date: 09/19/91 | | | Location: 0887 (KAR) Sample: GW020191T (REAL) Date: 11/14/91 | | | Location: 0974 (COL) Sample: G09740290001 (REAL) Date: 02/06/90 | | | Location: 0974 (COL) Sample: G09740530021540 (REAL) Date: 05/31/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 31.70 | B | JA | 56.60 | B | | 72.60 | B | V | 84.0 | U | | 200 | U | |
| Antimony | 39.80 | B | JA | 53.90 | B | | 61.80 | | JA | 23.5 | B | | 60.0 | U | |
| Arsenic | 2.00 | UW | JA | 2.00 | U | | 2.00 | UW | JA | 2.0 | U | | 10 | U | |
| Barium | 12.60 | B | V | 14.60 | B | | 14.70 | B | V | 80.0 | B | | 200 | U | |
| Beryllium | 1.00 | U | V | 1.00 | U | | 1.00 | U | V | 1.0 | U | | 5.0 | U | |
| Cadmium | 2.00 | U | V | 2.60 | B | | 3.20 | B | JA | 3.0 | U | | 5.0 | U | |
| Calcium | 136000.00 | | V | 142000.00 | | | 142000.00 | | V | 256000 | | | 189000 | | |
| Cesium | 110 | U | V | 70.00 | B | | 50 | U | V | | | | 100 | U | |
| Chromium | 3.00 | U | JA | 12.10 | | | 15.60 | | JA | 2.0 | U | | 10 | U | |
| Cobalt | 3.00 | U | V | 3.00 | U | | 3.70 | B | V | 4.0 | U | | 50.0 | U | |
| Copper | 11.00 | U | V | 3.20 | B | | 4.20 | B | JA | 5.0 | U | | 25.0 | U | |
| Iron | 31.40 | B | JA | 1230.00 | | | 1220.00 | | V | 44.0 | U | | 100 | U | |
| Lead | 1.00 | U | V | 1.00 | U | | 1.00 | U | V | 6.0 | UNS | | 3.0 | U | |
| Lithium | 105.00 | | V | 112.00 | | | 101.00 | | V | | | | 712 | | |
| Magnesium | 42400.00 | | V | 44700.00 | | | 43900.00 | | V | 59000 | | | 46300 | | |
| Manganese | 37.20 | | V | 44.90 | | | 43.00 | | V | 30.3 | * | | 15.0 | U | |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.20 | UN* | V | 0.20 | U | | 0.20 | U | |
| Molybdenum | 8.70 | B | JA | 13.30 | B | | 12.40 | B | V | | | | 100 | U | |
| Nickel | 9.20 | B | V | 17.00 | U | | 19.00 | B | V | 7.5 | B | | 40.0 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 8820.00 | | V | 9720.00 | | | 8940.00 | | V | 1970 | B | | 5000 | U | |
| Selenium | 1.00 | UW | JA | 2.00 | UW | | 2.00 | U | V | 1220 | NS | | 492 | | |
| Silicon | | | | | | | | | | | | | 5330 | | |
| Silver | 2.00 | U | V | 2.00 | U | | 2.00 | B | V | 3.0 | U | | 10.0 | U | |
| Sodium | 214000.00 | | V | 213000.00 | | | 207000.00 | | V | 153000 | | | 146000 | | |
| Strontium | 2100.00 | | V | 2200.00 | | | 2140.00 | | V | | | | 1480 | | |
| Thallium | 1.00 | UW | JA | 1.00 | UWN | | 1.00 | UW | JA | 4.0 | UNW | | 100 | U | |
| Tin | 30.50 | B | JA | 24.90 | B | | 26.70 | B | V | | | | 100 | U | |
| Vanadium | 2.00 | U | V | 6.10 | B | | 7.90 | B | V | 44.8 | B | | 50.0 | U | |
| Zinc | 8.30 | B | JA | 6.40 | B | | 20.70 | | JA | 19.5 | B | | 33.8 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW00149IT (REAL)<br>Date: 08/08/90 | | | Location: 1074 (COL)<br>Sample: GW00515IT (REAL)<br>Date: 10/19/90 | | | Location: 1074 (COL)<br>Sample: GW01291IT (REAL)<br>Date: 05/17/91 | | | Location: 1074 (COL)<br>Sample: GW01678IT (REAL)<br>Date: 08/22/91 | | | Location: 1074 (COL)<br>Sample: GW02395IT (REAL)<br>Date: 02/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 161 | B | | 128.00 | B | | 80.50 | B | JA | 112.00 | B | | 81.70 | B | V |
| Antimony | 12.0 | U | | 32.70 | B | | 44.50 | B | JA | 49.50 | B | | 8.00 | U | V |
| Arsenic | 1.1 | | | 2.00 | B | | 2.00 | B | V | 2.00 | U | | 2.00 | U | V |
| Barium | 57.0 | B | | 57.30 | BE | | 48.60 | B | JA | 55.00 | BE | | 47.40 | B | V |
| Beryllium | 2.0 | U | | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.00 | U | V |
| Cadmium | 2.0 | U | | 4.20 | B | | 2.00 | U | V | 4.80 | B | | 1.00 | U | V |
| Calcium | 243000 | | | 267000.00 | | | 250000.00 | | V | 235000.00 | | | 220000.00 | | V |
| Cesium | 55.0 | U | | 100.00 | B | | 110 | U | V | 80.00 | B | | 30 | U | V |
| Chromium | 4.0 | U | | 37.30 | | | 10.70 | | JA | 29.70 | | | 3.50 | B | JA |
| Cobalt | 4.0 | U | | 9.50 | B | | 3.00 | U | R | 3.10 | B | | 3.00 | U | V |
| Copper | 3.0 | U | | 14.40 | B | | 11.00 | U | JA | 16.80 | B | | 9.00 | B | JA |
| Iron | 6.0 | U | | 38.60 | B* | | 17.70 | B | JA | 45.90 | B | | 6.10 | B | JA |
| Lead | 0.60 | U | | 1.00 | UW | | 1.00 | U | V | 1.00 | U | | 1.00 | U | V |
| Lithium | 38.8 | B | | 60.00 | B | | 28.50 | B | V | 33.10 | B | | 30.30 | B | V |
| Magnesium | 68300 | | | 70300.00 | | | 68400.00 | | V | 63500.00 | | | 63400.00 | | V |
| Manganese | 1.7 | B | | 2.50 | B | | 1.00 | U | V | 4.10 | B | | 1.60 | B | JA |
| Mercury | 0.10 | U | | 0.20 | U | | 0.20 | U | V | 0.20 | U | | 0.20 | U | V |
| Molybdenum | 70.0 | U | | 25.70 | B | | 10.30 | B | JA | 15.90 | B | | 11.50 | B | JA |
| Nickel | 10 | U | | 21.60 | B | | 3.00 | U | V | 8.30 | B | | 4.40 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 708 | B | | 737.00 | B | | 462.00 | B | JA | 806.00 | BE | | 586.00 | B | V |
| Selenium | 1980 | | | 2180.00 | S | | 2300.00 | N | JA | 2600.00 | | | 2340.00 | | V |
| Silicon | 3710 | B | | | | | | | | | | | | | |
| Silver | 5.0 | B | | 12.50 | | | 2.00 | U | R | 4.20 | B | | 2.00 | U | V |
| Sodium | 202000 | | | 162000.00 | | | 174000.00 | | V | 166000.00 | | | 165000.00 | | V |
| Strontium | 1930 | | | 2020.00 | | | 2010.00 | | JA | 1780.00 | | | 1780.00 | | V |
| Thallium | 2.0 | U | | 2.00 | UWN | | 1.00 | UW | V | 2.00 | U | | 1.00 | U | V |
| Tin | 110 | B | | 88.90 | B | | 30.90 | B | JA | 37.80 | B | | 10.00 | U | V |
| Vanadium | 32.7 | B | | 18.10 | B | | 2.00 | U | R | 13.20 | B | | 10.10 | B | V |
| Zinc | 3.2 | B | | 93.80 | | | 129.00 | | JA | 84.70 | | | 118.00 | | V |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 0974 (COL)<br>Sample: GW02105IT (REAL)<br>Date: 12/10/91 | | | Location: 0974 (COL)<br>Sample: GW02396IT (REAL)<br>Date: 02/18/92 | | | Location: 0974 (COL)<br>Sample: GW02850IT (REAL)<br>Date: 05/06/92 | | | Location: 1074 (COL)<br>Sample: G10740290001 (REAL)<br>Date: 02/05/90 | | Location: 1074 (COL)<br>Sample: G10740530021340 (REAL)<br>Date: 05/31/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 84.50 | B | JA | 84.40 | B | V | 82.60 | B | JA | 84.0 | U | 200 | U |
| Antimony | 43.60 | B | JA | 8.00 | U | V | 18.00 | U | V | 23.5 | B | 60 | U |
| Arsenic | 2.00 | B | V | 2.80 | B | V | 2.00 | B | V | 2.0 | U | 10 | U |
| Barium | 81.80 | B | V | 79.20 | B | V | 71.20 | BE | JA | 42.7 | B | 200 | U |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.0 | U | 5 | U |
| Cadmium | 3.20 | B | V | 1.00 | U | V | 2.00 | U | V | 3.0 | U | 5 | U |
| Calcium | 242000.00 | | V | 240000.00 | | V | 224000.00 | | V | 236000 | | 225000 | |
| Cesium | 50 | U | V | 30 | U | JA | 23.00 | U | V | | | 2500 | U |
| Chromium | 14.70 | | V | 3.30 | B | JA | 5.00 | U | V | 2.0 | U | 10 | U |
| Cobalt | 3.00 | U | V | 3.00 | U | V | 4.00 | U | V | 4.0 | U | 50 | U |
| Copper | 3.00 | U | V | 1.00 | U | V | 2.00 | U | V | 5.0 | U | 25 | U |
| Iron | 28.50 | B | JA | 3.30 | B | JA | 2.00 | U | JA | 44.0 | U | 100 | U |
| Lead | 1.00 | U | JA | 1.00 | U | V | 1.00 | U | V | 3.0 | UNW | 3 | U |
| Lithium | 324.00 | | V | 328.00 | | V | 339.00 | | V | | | 100 | U |
| Magnesium | 63500.00 | | V | 61800.00 | | V | 58200.00 | | V | 59700 | | 63700 | |
| Manganese | 16.30 | | V | 23.80 | | V | 13.50 | B | V | 2.0 | U* | 15 | U |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | 0.2 | U |
| Molybdenum | 9.20 | B | V | 5.80 | B | JA | 3.00 | U | R | | | 100 | U |
| Nickel | 17.00 | U | V | 3.40 | B | V | 3.00 | U | V | 7.0 | U | 40 | U |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 2620.00 | B | V | 2460.00 | B | V | 2420.00 | B | V | 939 | B | 5000 | U |
| Selenium | 1300.00 | | V | 1190.00 | | V | 1200.00 | | V | 28200 | NS | 2570 | |
| Silicon | | | | | | | 6740.00 | | V | | | 3890 | |
| Silver | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 3.0 | U | 10 | U |
| Sodium | 158000.00 | | V | 161000.00 | | V | 159000.00 | | V | 147000 | | 162000 | |
| Strontium | 2060.00 | | V | 1990.00 | | V | 1970.00 | | V | | | 1840 | |
| Thallium | 1.00 | U | V | 1.50 | B | V | 1.00 | UW | JA | 4.0 | UNW | 10 | U |
| Tin | 18.90 | B | V | 10.00 | U | V | 23.00 | U | V | | | 100 | U |
| Vanadium | 10.60 | B | V | 13.30 | B | V | 14.20 | B | V | 41.1 | B | 50 | U |
| Zinc | 8.50 | B | V | 8.60 | B | JA | 2.80 | B* | JA | 57.4 | | 42.9 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 31891 (COL) Sample: GW02446IT (REAL) Date: 02/10/92 | | | Location: 31891 (COL) Sample: GW03060IT (REAL) Date: 06/05/92 | | | Location: 34791 (COL) Sample: GW02157IT (REAL) Date: 12/17/91 | | | Location: 34791 (COL) Sample: GW02447IT (REAL) Date: 02/10/92 | | | Location: 34791 (COL) Sample: GW02908IT (REAL) Date: 05/20/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 20.60 | B | JA | 43.20 | B | JA | 74.70 | B | JA | 50.20 | B | JA | 50.80 | B | JA |
| Antimony | 9.40 | B | JA | 18.00 | U | JA | 44.70 | B | JA | 8.00 | U | V | 18.00 | U | V |
| Arsenic | 1.00 | U | V | 1.00 | U | V | 2.00 | U | V | 1.00 | U | V | 2.00 | U | V |
| Barium | 70.00 | B | V | 82.60 | BE | JA | 227.00 | | V | 213.00 | | V | 172.00 | BE | JA |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 1.00 | U | V | 2.00 | U | V | 3.00 | B | JA | 1.00 | U | V | 2.00 | U | V |
| Calcium | 87000.00 | | V | 101000.00 | | V | 145000.00 | | V | 153000.00 | | V | 125000.00 | | V |
| Cesium | 30 | U | V | 23.00 | U | V | 30 | U | JA | 30 | U | V | 23.00 | U | R |
| Chromium | 2.00 | U | V | 5.00 | U | V | 18.40 | | JA | 2.00 | U | V | 5.00 | U | V |
| Cobalt | 3.00 | U | V | 4.00 | U | V | 3.00 | B | V | 3.00 | U | V | 4.00 | U | V |
| Copper | 1.90 | B | JA | 2.00 | U | V | 5.60 | B | JA | 1.00 | U | V | 2.00 | U | V |
| Iron | 2.00 | U | V | 6.70 | B | JA | 39.20 | B | JA | 6.40 | B | JA | 42.90 | B | JA |
| Lead | 1.00 | U | JA | 1.00 | U | V | 1.00 | U | V | 1.00 | UW | JA | 1.00 | U | V |
| Lithium | 13.80 | B | V | 15.20 | B | V | 18.90 | B | V | 18.10 | B | V | 17.70 | B | V |
| Magnesium | 21000.00 | | V | 24300.00 | | V | 27300.00 | | V | 28500.00 | | V | 23100.00 | | V |
| Manganese | 43.70 | | V | 6.20 | B | V | 634.00 | | V | 603.00 | | V | 396.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 2.00 | U | V | 3.00 | U | V | 7.40 | B | V | 6.20 | B | JA | 3.00 | U | V |
| Nickel | 2.00 | U | V | 3.00 | U | V | 8.50 | B | JA | 2.20 | B | V | 3.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 630.00 | B | JA | 536.00 | B | V | 1740.00 | BE | JA | 1310.00 | B | V | 1080.00 | B | JA |
| Selenium | 1.00 | U | V | 1.00 | U | V | 2.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Silicon | | | | 5890.00 | | V | | | | | | | 6750.00 | | V |
| Silver | 2.00 | U | V | 2.00 | U | V | 5.00 | B | JA | 2.00 | U | V | 2.00 | U | V |
| Sodium | 52400.00 | | V | 70100.00 | | V | 59100.00 | | V | 66500.00 | | V | 65000.00 | | V |
| Strontium | 594.00 | | V | 732.00 | | V | 892.00 | | V | 890.00 | | V | 787.00 | | V |
| Thallium | 2.00 | U | V | 1.00 | U | V | 1.00 | UW | JA | 2.00 | U | V | 1.00 | U | V |
| Tin | 10.00 | U | V | 23.00 | U | V | 29.80 | B | JA | 10.00 | U | V | 23.00 | U | V |
| Vanadium | 6.10 | B | JA | 5.60 | B | V | 9.00 | B | JA | 8.30 | B | JA | 7.20 | B | JA |
| Zinc | 5.70 | B | JA | 11.10 | B | JA | 11.30 | B | V | 12.00 | B | JA | 8.00 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW02851IT (REAL)<br>Date: 05/06/92 | | | Location: 31491 (COL)<br>Sample: GW02828IT (REAL)<br>Date: 05/13/92 | | | Location: 31791 (VFA)<br>Sample: GW02468IT (REAL)<br>Date: 02/13/92 | | | Location: 31791 (VFA)<br>Sample: GW02829IT (REAL)<br>Date: 05/08/92 | | | Location: 31891 (COL)<br>Sample: GW01997IT (REAL)<br>Date: 11/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 92.90 | B | JA | 82.30 | B | V | 60.70 | B | V | 64.00 | B | JA | 37.90 | B | V |
| Antimony | 18.00 | U | V | 18.00 | U | V | 9.40 | B | JA | 18.00 | U | V | 24.90 | B | JA |
| Arsenic | 1.00 | U | V | 4.60 | B | V | 2.00 | U | V | 1.00 | U | V | 2.00 | U | V |
| Barium | 30.40 | BE | JA | 24.00 | B | V | 164.00 | B | V | 131.00 | BE | JA | 78.30 | B | V |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 3.10 | B | JA |
| Cadmium | 2.00 | U | V | 2.00 | U | V | 1.00 | U | V | 2.00 | U | V | 2.00 | U | V |
| Calcium | 200000.00 | | V | 143000.00 | | V | 152000.00 | | V | 141000.00 | | V | 91500.00 | | V |
| Cesium | 23.00 | U | V | 23.00 | U | JA | 30 | U | V | 40.00 | B | JA | 50 | U | V |
| Chromium | 5.00 | U | V | 5.00 | U | V | 2.00 | U | V | 5.00 | U | V | 9.10 | B | JA |
| Cobalt | 4.00 | U | V | 4.00 | U | V | 3.00 | U | V | 4.00 | U | V | 3.00 | U | V |
| Copper | 2.00 | U | V | 2.30 | B | V | 5.10 | B | JA | 2.00 | U | V | 3.00 | U | V |
| Iron | 14.50 | B | JA | 4.00 | BE | JA | 8.60 | B | JA | 2.00 | U | V | 398.00 | | V |
| Lead | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Lithium | 27.30 | B | V | 59.30 | B | V | 52.60 | B | V | 70.70 | B | V | 13.10 | B | V |
| Magnesium | 55700.00 | | V | 63700.00 | | V | 50200.00 | | V | 47100.00 | | V | 22100.00 | | V |
| Manganese | 2.00 | U | V | 9.70 | B | V | 196.00 | | V | 2.00 | U | V | 100.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 6.40 | B | JA | 3.60 | B | JA | 5.80 | B | JA | 3.00 | U | JA | 6.90 | B | V |
| Nickel | 3.30 | B | V | 4.10 | B | V | 2.00 | U | V | 3.00 | U | V | 17.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 621.00 | B | JA | 3250.00 | B | V | 4270.00 | B | V | 2810.00 | B | V | 774.00 | B | V |
| Selenium | 2010.00 | | V | 35.50 | S | V | 7.60 | S | V | 4.80 | B | JA | 2.00 | U | V |
| Silicon | 4610.00 | | V | 7750.00 | | V | | | | 7070.00 | | V | | | |
| Silver | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V |
| Sodium | 156000.00 | | V | 240000.00 | | V | 177000.00 | | V | 182000.00 | | V | 59800.00 | | V |
| Strontium | 1680.00 | | V | 1980.00 | | V | 1480.00 | | V | 1420.00 | | V | 674.00 | | V |
| Thallium | 1.00 | UW | JA | 1.00 | UWN | JA | 1.00 | UW | JA | 1.00 | UW | JA | 1.00 | U | V |
| Tin | 23.00 | U | V | 23.00 | U | V | 10.00 | U | V | 23.00 | U | V | 17.00 | U | V |
| Vanadium | 11.30 | B | JA | 8.10 | B | JA | 7.00 | B | V | 8.80 | B | JA | 4.70 | B | V |
| Zinc | 16.00 | B* | JA | 62.20 | | V | 5.60 | B | JA | 15.90 | B* | JA | 7.50 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 36391 (COL) Sample: GW03021IT (REAL) Date: 06/05/92 | | | Location: 37191 (COL) Sample: GW01995IT (REAL) Date: 11/12/91 | | | Location: 37191 (COL) Sample: GW02460IT (REAL) Date: 02/10/92 | | | Location: 37191 (COL) Sample: GW03024IT (REAL) Date: 06/25/92 | | | Location: 37591 (RFA) Sample: GW02507IT (REAL) Date: 02/25/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 53.40 | B | V | 74.50 | B | V | 43.90 | B | JA | 86.70 | B | JA | 33.60 | B | V |
| Antimony | 18.00 | U | V | 55.80 | B | JA | 8.00 | U | V | 20.00 | U | V | 8.00 | U | V |
| Arsenic | 1.00 | U | V | 2.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V |
| Barium | 75.20 | BE | JA | 167.00 | B | V | 158.00 | B | V | 131.00 | B | V | 130.00 | BE | JA |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 3.00 | U | V | 1.00 | U | V |
| Cadmium | 2.00 | U | V | 3.00 | B | JA | 1.00 | B | V | 2.00 | U | V | 1.00 | U | JA |
| Calcium | 121000.00 | | V | 154000.00 | | V | 157000.00 | | V | 169000.00 | | V | 76700.00 | | V |
| Cesium | 23.00 | U | V | 50 | U | V | 30 | U | V | 80.00 | B | JA | 30 | U | V |
| Chromium | 5.00 | U | V | 14.00 | | JA | 2.00 | U | V | 4.00 | U | V | 2.00 | U | V |
| Cobalt | 4.00 | U | V | 6.60 | B | V | 3.00 | U | V | 3.00 | U | V | 3.00 | U | V |
| Copper | 2.00 | U | V | 4.30 | B | JA | 1.00 | U | V | 2.00 | U | V | 4.20 | B | JA |
| Iron | 7.40 | B | JA | 46.50 | B | JA | 6.10 | B | JA | 15.60 | B | JA | 23.50 | B* | JA |
| Lead | 1.00 | U | V | 1.00 | U | V | 1.00 | U | JA | 1.00 | U | V | 1.00 | U | V |
| Lithium | 20.40 | B | V | 23.00 | B | V | 21.20 | B | V | 17.20 | B | V | 6.20 | B | V |
| Magnesium | 34000.00 | | V | 40100.00 | | V | 39700.00 | | V | 37500.00 | | V | 19700.00 | | V |
| Manganese | 748.00 | | V | 1650.00 | | V | 931.00 | | V | 86.30 | | V | 218.00 | | V |
| Mercury | 0.20 | U | V | 0.24 | N* | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 15.90 | B | JA | 14.50 | B | V | 6.50 | B | JA | 4.00 | U | V | 10.30 | B | V |
| Nickel | 5.10 | B | JA | 17.00 | U | V | 3.00 | B | V | 4.00 | U | V | 2.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2930.00 | B | V | 2140.00 | B | V | 1530.00 | B | V | 625.00 | B | V | 2280.00 | B | V |
| Selenium | 1.00 | U | V | 2.00 | U | V | 1.00 | U | V | 1.00 | UW | JA | 1.50 | B | V |
| Silicon | 9030.00 | | V | | | | | | | 8620.00 | | V | | | |
| Silver | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 3.00 | U | V | 2.00 | U | V |
| Sodium | 189000.00 | | V | 176000.00 | | V | 172000.00 | | V | 179000.00 | | V | 25300.00 | | V |
| Strontium | 876.00 | | V | 1210.00 | | V | 1140.00 | | V | 1210.00 | | V | 543.00 | | V |
| Thallium | 1.00 | U | V | 1.00 | UW | JA | 2.00 | U | V | 1.00 | UWN | JA | 1.00 | UW | V |
| Tin | 23.00 | U | V | 18.70 | B | V | 10.00 | U | V | 32.00 | U | V | 10.00 | U | V |
| Vanadium | 5.80 | B | V | 8.10 | B | V | 8.00 | B | JA | 10.80 | B | V | 3.00 | B | JA |
| Zinc | 12.70 | B | JA | 10.80 | B | JA | 2.90 | B | JA | 13.10 | B | JA | 5.40 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 35691 (COL) Sample: GW01994IT (REAL) Date: 11/11/91 | | | Location: 35691 (COL) Sample: GW02449IT (REAL) Date: 02/17/92 | | | Location: 35691 (COL) Sample: GW02891IT (REAL) Date: 05/14/92 | | | Location: 36191 (COL) Sample: GW02459IT (REAL) Date: 02/11/92 | | | Location: 36191 (COL) Sample: GW03020IT (REAL) Date: 06/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 75.70 | B | V | 67.80 | B | V | 71.90 | B | V | 11.00 | B | JA | 29.2 | U | JA |
| Antimony | 45.30 | B | V | 8.00 | U | JA | 18.00 | U | V | 8.00 | U | V | 19.8 | U | V |
| Arsenic | 2.00 | U | V | 2.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.0 | U | JA |
| Barium | 87.10 | B | V | 79.70 | B | V | 47.60 | B | V | 122.00 | B | V | 150 | | V |
| Beryllium | 3.40 | B | JA | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 0.60 | U | V |
| Cadmium | 3.20 | B | V | 1.30 | B | JA | 2.00 | U | V | 1.00 | U | V | 2.3 | U | V |
| Calcium | 182000.00 | | V | 177000.00 | | V | 187000.00 | | V | 67100.00 | | V | 73300 | | V |
| Cesium | 70.00 | B | JA | 30 | U | V | 23.00 | U | JA | 30 | U | V | 500 | U | V |
| Chromium | 19.80 | | JA | 2.00 | U | V | 5.00 | U | V | 2.00 | U | V | 2.0 | U | V |
| Cobalt | 3.50 | B | V | 3.00 | U | V | 4.00 | U | V | 3.00 | U | V | 2.7 | U | V |
| Copper | 5.50 | B | JA | 1.10 | B | JA | 2.00 | U | V | 1.00 | U | V | 3.3 | | JA |
| Iron | 703.00 | | V | 6.70 | B | JA | 7.40 | BE | JA | 2.00 | U | V | 32.2 | | JA |
| Lead | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | JA | 0.80 | U | V |
| Lithium | 21.40 | B | V | 19.00 | B | V | 22.60 | B | V | 18.30 | B | V | 28.6 | | V |
| Magnesium | 45600.00 | | V | 44500.00 | | V | 47600.00 | | V | 16200.00 | | V | 18000 | | V |
| Manganese | 386.00 | | V | 283.00 | | V | 85.70 | | V | 45.30 | | V | 1.5 | U | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | JA |
| Molybdenum | 10.40 | B | V | 5.80 | B | JA | 3.00 | U | V | 5.80 | B | JA | 6.3 | | V |
| Nickel | 17.00 | U | V | 2.00 | U | V | 3.00 | U | V | 2.00 | U | V | 11.2 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2950.00 | B | V | 2600.00 | B | V | 1520.00 | B | V | 2890.00 | B | V | 1420 | | JA |
| Selenium | 2.00 | UW | JA | 10.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.7 | | V |
| Silicon | | | | | | | 8370.00 | | V | | | | 8750 | | V |
| Silver | 2.60 | B | JA | 2.00 | U | V | 2.00 | U | JA | 2.00 | U | V | 2.1 | U | V |
| Sodium | 137000.00 | | V | 140000.00 | | V | 145000.00 | | V | 109000.00 | | V | 103000 | | V |
| Strontium | 1310.00 | | V | 1210.00 | | V | 1400.00 | | V | 487.00 | | V | 605 | | V |
| Thallium | 1.00 | U | V | 1.00 | U | V | 1.00 | UWN | JA | 2.00 | U | V | 1.8 | U | V |
| Tin | 17.80 | B | V | 10.00 | U | V | 23.00 | U | V | 10.00 | U | V | 9.4 | U | V |
| Vanadium | 9.20 | B | V | 9.00 | B | V | 10.70 | B | JA | 4.00 | B | JA | 3.5 | U | V |
| Zinc | 15.30 | B | JA | 7.60 | B | JA | 6.30 | B | JA | 3.30 | B | JA | 2.7 | | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 37991 (WCS) Sample: GW02147IT (REAL) Date: 12/16/91 | | | Location: 37991 (WCS) Sample: GW02462IT (REAL) Date: 02/26/92 | | | Location: 37991 (WCS) Sample: GW03043IT (REAL) Date: 06/04/92 | | | Location: 38591 (VFA) Sample: GW02163IT (REAL) Date: 12/18/91 | | | Location: 38591 (VFA) Sample: GW02463IT (REAL) Date: 02/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 80.30 | B | V | 696.00 | | V | 98.90 | B | V | 44.80 | B | JA | 17.80 | B | JA |
| Antimony | 50.10 | B | JA | 8.00 | U | R | 18.00 | U | V | 23.80 | B | JA | 8.10 | B | JA |
| Arsenic | 2.00 | U | V | 1.00 | B | JA | 2.00 | BW | JA | 2.00 | U | V | 1.00 | U | V |
| Barium | 304.00 | | V | 133.00 | BE | JA | 94.80 | BE | JA | 128.00 | B | V | 99.60 | B | V |
| Beryllium | 1.00 | U | JA | 1.00 | U | R | 1.10 | B | JA | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 2.90 | B | V | 1.00 | U | V | 2.00 | U | V | 1.60 | B | JA | 1.50 | B | V |
| Calcium | 177000.00 | | V | 289000.00 | | V | 312000.00 | | V | 80900.00 | | V | 90600.00 | | V |
| Cesium | 40.00 | B | JA | 30 | U | V | 23.00 | U | R | 30 | U | JA | 30 | U | V |
| Chromium | 12.80 | | JA | 2.00 | U | V | 5.00 | U | V | 11.20 | | JA | 2.00 | U | V |
| Cobalt | 3.00 | U | V | 3.00 | U | V | 4.00 | U | V | 16.60 | B | V | 9.30 | B | V |
| Copper | 2.70 | B | V | 6.30 | B | JA | 2.00 | U | V | 2.20 | B | JA | 1.00 | U | V |
| Iron | 38.70 | B | JA | 865.00 | * | JA | 14.90 | B | JA | 247.00 | | V | 106.00 | | V |
| Lead | 1.00 | U | V | 1.00 | B | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | JA |
| Lithium | 225.00 | | V | 388.00 | | V | 484.00 | | V | 14.60 | B | V | 12.70 | B | V |
| Magnesium | 46700.00 | | V | 82600.00 | | V | 93700.00 | | V | 19000.00 | | V | 21100.00 | | V |
| Manganese | 1030.00 | | V | 1180.00 | | V | 583.00 | | V | 860.00 | | V | 256.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 9.30 | B | V | 2.00 | U | V | 3.80 | B | JA | 18.10 | B | V | 5.60 | B | JA |
| Nickel | 3.60 | B | V | 2.50 | B | JA | 3.00 | U | V | 17.80 | B | JA | 13.10 | B | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 13700.00 | | V | 13000.00 | | V | 12200.00 | | V | 2740.00 | BE | JA | 1670.00 | B | V |
| Selenium | 75.30 | SN | JA | 123.00 | S | V | 215.00 | | V | 5.00 | | V | 4.70 | B | V |
| Silicon | | | | | | | 9870.00 | | V | | | | | | |
| Silver | 2.00 | U | V | 2.00 | U | V | 2.60 | B | JA | 3.50 | B | JA | 2.00 | U | V |
| Sodium | 106000.00 | | V | 158000.00 | | V | 174000.00 | | V | 92400.00 | | V | 95200.00 | | V |
| Strontium | 1800.00 | | V | 3040.00 | | V | 3750.00 | | V | 509.00 | | V | 535.00 | | V |
| Thallium | 1.00 | U | V | 1.00 | UW | V | 1.00 | U | V | 1.00 | UW | JA | 2.00 | U | V |
| Tin | 23.50 | B | JA | 10.00 | U | V | 23.00 | U | V | 17.50 | B | JA | 10.00 | U | V |
| Vanadium | 8.00 | B | V | 13.00 | B | JA | 11.70 | B | JA | 5.80 | B | JA | 4.80 | B | JA |
| Zinc | 5.60 | B | JA | 9.50 | B | JA | 34.80 | | JA | 3.90 | B | JA | 3.60 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 37591 (RFA) Sample: GW030251T (REAL) Date: 06/10/92 | | | Location: 37791 (RFA) Sample: GW027571T (REAL) Date: 04/21/92 | | | Location: 37891 (WCS) Sample: GW021481T (REAL) Date: 12/16/91 | | | Location: 37891 (WCS) Sample: GW024611T (REAL) Date: 02/27/92 | | | Location: 37891 (WCS) Sample: GW030261T (REAL) Date: 06/04/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 29.9 | | JA | 55.10 | B | JA | 48.50 | B | JA | 142.00 | B | JA | 68.40 | B | JA |
| Antimony | 19.8 | U | V | 18.00 | U | V | 29.30 | B | JA | 8.00 | U | V | 18.00 | U | V |
| Arsenic | 1.0 | U | V | 1.00 | U | V | 2.00 | BW | JA | 1.50 | B | V | 2.00 | U | V |
| Barium | 121 | | V | 214.00 | | V | 67.60 | B | V | 68.00 | BE | JA | 69.80 | BE | JA |
| Beryllium | 0.60 | U | V | 1.00 | U | V | 1.00 | U | JA | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 2.3 | U | V | 2.00 | U | V | 1.30 | B | V | 1.00 | U | V | 2.00 | U | V |
| Calcium | 67900 | | V | 93500.00 | | V | 113000.00 | | V | 119000.00 | | V | 123000.00 | | V |
| Cesium | 500 | U | V | 20 | U | JA | 40.00 | B | JA | 30 | U | V | 23.00 | U | R |
| Chromium | 2.0 | U | V | 5.00 | U | V | 9.40 | B | JA | 2.00 | U | V | 5.00 | U | V |
| Cobalt | 2.7 | U | V | 4.00 | U | V | 3.00 | U | V | 3.00 | U | V | 4.00 | U | V |
| Copper | 2.3 | U | V | 2.20 | B | JA | 1.00 | U | V | 2.50 | B | JA | 2.00 | U | V |
| Iron | 49.7 | | JA | 16.70 | B | JA | 410.00 | | V | 109.00 | * | JA | 41.40 | B | JA |
| Lead | 0.80 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 2.10 | BW | JA |
| Lithium | 5.5 | | JA | 27.40 | B | V | 171.00 | | V | 228.00 | | V | 264.00 | | V |
| Magnesium | 17000 | | V | 52200.00 | | V | 27500.00 | | V | 30800.00 | | V | 33400.00 | | V |
| Manganese | 39.7 | | V | 350.00 | | V | 37.20 | | V | 26.40 | | V | 22.30 | | V |
| Mercury | 0.22 | | JA | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 13.2 | | V | 4.80 | B | V | 48.10 | B | V | 39.80 | B | V | 21.30 | B | JA |
| Nickel | 11.2 | U | V | 3.00 | U | V | 2.00 | U | V | 2.00 | U | V | 3.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2790 | | JA | 9440.00 | | V | 7660.00 | | V | 7610.00 | | V | 7660.00 | | V |
| Selenium | 1.7 | U | V | 1.30 | BW | JA | 605.00 | SN | JA | 685.00 | | V | 670.00 | | V |
| Silicon | 8100 | | V | 9070.00 | | V | | | | | | | 8390.00 | | V |
| Silver | 2.1 | U | V | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V |
| Sodium | 24800 | | V | 124000.00 | | V | 196000.00 | | V | 236000.00 | | V | 238000.00 | | V |
| Strontium | 522 | | V | 1140.00 | | V | 1130.00 | | V | 1210.00 | | V | 1390.00 | | V |
| Thallium | 1.8 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | UW | V | 1.00 | U | V |
| Tin | 9.4 | U | V | 23.00 | U | V | 24.60 | B | JA | 10.00 | U | V | 23.00 | U | V |
| Vanadium | 3.5 | U | V | 4.60 | B | JA | 6.70 | B | V | 5.00 | B | JA | 4.80 | B | JA |
| Zinc | 12.7 | | V | 13.30 | B | JA | 9.10 | B | JA | 5.70 | B | JA | 9.50 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 4387 (COL)<br>Sample: GW00063IT (REAL)<br>Date: 09/11/90 | | | Location: 4387 (COL)<br>Sample: GW00624IT (REAL)<br>Date: 11/14/90 | | | Location: 4387 (COL)<br>Sample: GW00986IT (REAL)<br>Date: 03/19/91 | | | Location: 4387 (COL)<br>Sample: GW01268IT (REAL)<br>Date: 05/15/91 | | | Location: 4387 (COL)<br>Sample: GW01660IT (REAL)<br>Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 76.10 | BE | | 45.9 | | JA | 67.40 | B | | 32.90 | B | JA | 112.00 | B | |
| Antimony | 25.40 | B | | 22.0 | U | JA | 15.60 | B | | 44.40 | B | JA | 17.20 | B | |
| Arsenic | 3.00 | BW | | 1.2 | | V | 2.00 | U | | 2.00 | U | V | 2.00 | U | |
| Barium | 63.90 | B | | 67.5 | | JA | 65.70 | B | | 62.20 | B | V | 66.10 | BE | |
| Beryllium | 1.00 | U | | 1.0 | U | V | 1.00 | U | | 1.00 | U | V | 1.00 | U | |
| Cadmium | 2.00 | U | | 5.0 | U | R | 2.00 | U | | 2.00 | U | V | 1.30 | B | |
| Calcium | 148000.00 | | | 181000 | | V | 166000.00 | | | 150000.00 | | V | 149000.00 | | |
| Cesium | 200.00 | B | | 500 | U | V | 76.00 | U | | 110 | U | V | 40.00 | B | |
| Chromium | 11.60 | | | 4.0 | U | V | 10.90 | | | 3.00 | U | JA | 12.50 | | |
| Cobalt | 3.00 | U | | 4.0 | U | V | 3.00 | U | | 3.00 | U | V | 2.00 | U | |
| Copper | 25.70 | | | 49.7 | | V | 19.40 | B | | 11.00 | U | V | 15.90 | B | |
| Iron | 36.20 | B* | | 3.0 | U | V | 27.00 | B | | 18.50 | B | JA | 17.70 | B | |
| Lead | 1.00 | UW | | 1.0 | U | V | 1.00 | U | | 1.00 | UW | V | 1.00 | U | |
| Lithium | 50.00 | B | | 68.9 | | V | 45.40 | B | | 38.00 | B | V | 49.50 | B | |
| Magnesium | 37400.00 | | | 40600 | | V | 39300.00 | | | 34600.00 | | V | 34100.00 | | |
| Manganese | 284.00 | | | 440 | | V | 57.00 | | | 78.60 | | V | 211.00 | | |
| Mercury | 0.20 | U | | 0.10 | U | R | 0.20 | U | | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 20.30 | B | | 14.5 | | JA | 11.40 | B | | 14.30 | B | JA | 14.60 | B | |
| Nickel | 42.40 | | | 62.6 | | V | 10.70 | B | | 13.40 | B | JA | 59.80 | | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1830.00 | B | | 3580 | | JA | 1730.00 | BE | | 1550.00 | B | V | 1780.00 | B | |
| Selenium | 377.00 | | | 409 | | V | 560.00 | | | 263.00 | S | V | 330.00 | | |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 3.00 | U | | 7.9 | | JA | 3.70 | B | | 2.00 | U | V | 2.00 | U | |
| Sodium | 173000.00 | | | 201000 | | V | 180000.00 | | | 166000.00 | | V | 172000.00 | | |
| Strontium | 1240.00 | | | 1350 | | V | 1370.00 | | | 1240.00 | | V | 1260.00 | | |
| Thallium | 1.00 | UW | | 2.0 | U | V | 1.00 | UW | | 1.00 | U | V | 2.00 | U | |
| Tin | 32.40 | B | | 30.0 | U | V | 43.50 | B | | 22.80 | B | JA | 18.80 | B | |
| Vanadium | 14.00 | B | | 14.8 | | JA | 10.70 | B | | 2.00 | U | V | 8.70 | B | |
| Zinc | 24.10 | | | 204 | | V | 48.60 | | | 13.40 | B | JA | 17.50 | B | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 38591 (VFA)<br>Sample: GW02831IT (REAL)<br>Date: 05/08/92 | | | Location: 39191 (WCS)<br>Sample: GW02162IT (REAL)<br>Date: 12/18/91 | | | Location: 39191 (WCS)<br>Sample: GW02464IT (REAL)<br>Date: 02/26/92 | | | Location: 39191 (WCS)<br>Sample: GW02832IT (REAL)<br>Date: 05/14/92 | | | Location: 4387 (COL)<br>Sample: G43870606020900 (UNKN)<br>Date: 06/07/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 43.10 | B | V | 73.60 | B | JA | 103.00 | B | V | 76.20 | B | V | 200 | U |
| Antimony | 18.00 | U | V | 43.10 | B | JA | 8.00 | U | V | 18.00 | U | V | 60.0 | U |
| Arsenic | 1.00 | U | V | 2.00 | U | V | 1.00 | B | JA | 1.00 | U | V | 10.0 | U |
| Barium | 115.00 | BE | JA | 28.00 | B | V | 28.30 | BE | JA | 23.80 | B | V | 200 | U |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 5.0 | U |
| Cadmium | 2.00 | U | JA | 2.50 | B | JA | 1.00 | U | JA | 2.00 | U | V | 5.0 | U |
| Calcium | 105000.00 | | V | *188060.00* | | V | *214000.00* | | V | *200000.00* | | V | 132000 | |
| Cesium | 40.00 | B | JA | 40.00 | B | JA | 30 | U | V | 30.00 | B | JA | 100 | U |
| Chromium | 5.00 | U | V | 29.40 | | JA | 9.10 | B | JA | 5.80 | B | JA | 10.0 | U |
| Cobalt | 6.00 | B | V | 3.00 | U | V | 3.00 | U | V | 4.00 | U | V | 50.0 | U |
| Copper | 2.00 | U | V | 5.20 | B | JA | 2.50 | B | JA | 2.00 | U | V | 25.0 | U |
| Iron | 38.80 | B | JA | 21.90 | B | JA | 24.10 | B* | JA | 2.00 | UE | JA | 100 | U |
| Lead | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 3.0 | U |
| Lithium | 15.60 | B | V | 165.00 | | V | 223.00 | | V | 237.00 | | V | 100 | U |
| Magnesium | 24500.00 | | V | 35900.00 | | V | *45400.00* | | V | *50300.00* | | V | *44600* | |
| Manganese | 61.20 | | V | 2.20 | B | V | 1.50 | B | V | 2.00 | U | V | 74.5 | |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U |
| Molybdenum | 5.60 | BE | JA | 36.20 | B | JA | 16.50 | B | V | 6.50 | B | JA | 100 | U |
| Nickel | 13.60 | B | JA | 3.10 | B | JA | 2.00 | U | V | 3.00 | U | V | 40.0 | U |
| Phosphorus | | | | | | | | | | | | | | |
| Potassium | 1860.00 | B | V | 8640.00 | E | JA | 8650.00 | | V | 8050.00 | | V | 5000 | U |
| Selenium | 2.90 | B | JA | 850.00 | | V | 1150.00 | | V | 1300.00 | | V | 420 | |
| Silicon | 6310.00 | | V | | | | | | | *6030.00* | | V | *6630* | |
| Silver | 2.00 | U | R | 3.00 | B | JA | 2.00 | U | V | 2.00 | U | JA | 10.0 | U |
| Sodium | 102000.00 | | V | 137000.00 | | V | 149000.00 | | V | 146000.00 | | V | 188000 | |
| Strontium | 677.00 | | V | 1950.00 | | V | 2200.00 | | V | 2270.00 | | V | 1350 | |
| Thallium | 1.00 | UWN | JA | 1.00 | UW | JA | 1.00 | UW | V | 1.00 | UWN | JA | 100 | U |
| Tin | 23.00 | U | V | 18.40 | B | JA | 10.00 | U | V | 23.00 | U | V | 100 | U |
| Vanadium | 6.20 | B | JA | 10.30 | B | JA | 8.80 | B | JA | 11.40 | B | JA | 50.0 | U |
| Zinc | 4.90 | B | JA | 3.10 | B | JA | 7.30 | B | JA | 5.80 | B | JA | 31.9 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 4587 (KAR) Sample: GW01663IT (REAL) Date: 08/16/91 | | | Location: 4587 (KAR) Sample: GW02097IT (REAL) Date: 12/11/91 | | | Location: 4587 (KAR) Sample: GW02377IT (REAL) Date: 02/22/92 | | | Location: 4587 (KAR) Sample: GW03047IT (REAL) Date: 06/23/92 | | | Location: 4887 (COL) Sample: GW02833IT (REAL) Date: 05/12/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 40.00 | B | | 24.70 | B | V | 5.30 | B | JA | 4510.00 | | V | 70.80 | B | V |
| Antimony | 8.00 | U | | 10.50 | B | JA | 8.00 | U | V | 20.00 | U | V | 18.00 | U | JA |
| Arsenic | 7.00 | B | | 9.00 | B | V | 8.50 | B | V | 11.20 | | V | 1.00 | U | V |
| Barium | 49.40 | BE | | 48.00 | B | V | 46.80 | BE | JA | 100.00 | B | V | 74.10 | BE | JA |
| Beryllium | 1.00 | U | | 1.00 | U | V | 1.00 | U | V | 3.00 | U | V | 1.00 | U | V |
| Cadmium | 1.00 | U | | 2.00 | U | V | 1.00 | U | V | 2.00 | U | V | 2.00 | U | JA |
| Calcium | 41200.00 | | | 46000.00 | | V | 45100.00 | | V | 45800.00 | | V | 182000.00 | | V |
| Cesium | 90.00 | B | | 50 | U | V | 32.00 | U | V | 100.00 | B | V | 50.00 | B | JA |
| Chromium | 4.00 | U | | 6.10 | B | JA | 2.50 | B | V | 157.00 | | V | 5.00 | U | V |
| Cobalt | 2.00 | U | | 3.00 | U | V | 3.00 | U | V | 7.50 | B | V | 6.50 | B | V |
| Copper | 3.00 | U | | 3.00 | U | V | 1.00 | U | JA | 22.90 | B | JA | 13.40 | B | JA |
| Iron | 476.00 | | | 659.00 | | V | 331.00 | E | JA | 8150.00 | | V | 9.10 | B | JA |
| Lead | 1.00 | U | | 1.00 | U | V | 1.00 | UW | V | 7.90 | | V | 1.00 | U | V |
| Lithium | 52.00 | B | | 51.00 | B | V | 51.40 | B | V | 53.30 | B | V | 13.80 | B | V |
| Magnesium | 10800.00 | | | 12100.00 | | V | 12100.00 | | V | 12800.00 | | V | 54600.00 | | V |
| Manganese | 243.00 | | | 255.00 | | V | 238.00 | E | JA | 409.00 | | V | 168.00 | | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 3.50 | B | | 8.40 | B | JA | 8.40 | B | JA | 23.90 | B | JA | 236.00 | E | JA |
| Nickel | 3.00 | U | | 17.00 | U | V | 4.10 | B | V | 117.00 | | V | 903.00 | | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 5020.00 | | | 5410.00 | | V | 5200.00 | | V | 6200.00 | | V | 888.00 | B | V |
| Selenium | 1.00 | U | | 2.00 | U | V | 1.00 | U | V | 1.00 | U | V | 19.10 | S | V |
| Silicon | | | | | | | | | | 13800.00 | | V | 3070.00 | | V |
| Silver | 2.00 | U | | 2.10 | B | JA | 2.00 | U | V | 3.00 | U | V | 2.00 | U | R |
| Sodium | 85500.00 | | | 86600.00 | | V | 88900.00 | | V | 86300.00 | | V | 167000.00 | | V |
| Strontium | 495.00 | | | 515.00 | | V | 502.00 | E | JA | 527.00 | | V | 1550.00 | | V |
| Thallium | 2.00 | U | | 1.00 | U | V | 1.00 | UW | V | 1.00 | UWN | JA | 1.00 | UN | JA |
| Tin | 14.00 | U | | 10.00 | U | V | 10.00 | U | V | 32.00 | U | V | 23.00 | U | V |
| Vanadium | 2.00 | U | | 3.80 | B | JA | 1.00 | U | R | 13.60 | B | V | 8.80 | B | V |
| Zinc | 5.10 | B | | 12.50 | B | JA | 10.70 | B | JA | 59.80 | | JA | 2.20 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 4387 (COL)<br>Sample: GW02102IT (REAL)<br>Date: 12/12/91 | | | Location: 4587 (KAR)<br>Sample: GW00364IT (REAL)<br>Date: 09/10/90 | | | Location: 4587 (KAR)<br>Sample: GW00592IT (REAL)<br>Date: 10/25/90 | | | Location: 4587 (KAR)<br>Sample: GW00931IT (REAL)<br>Date: 03/07/91 | | | Location: 4587 (KAR)<br>Sample: GW01269IT (REAL)<br>Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 78.90 | B | V | 46.90 | B | | 27.0 | U | | 9.00 | U | | 11.00 | U | V |
| Antimony | 39.80 | B | JA | 10.50 | B | | 26.0 | U | | 8.00 | U | | 21.40 | B | JA |
| Arsenic | 2.00 | B | V | 7.00 | B | | 5.8 | B | | 8.00 | B | | 9.00 | B | V |
| Barium | 64.80 | B | V | 47.10 | B | | 57.1 | B | | 55.00 | B | | 53.10 | B | V |
| Beryllium | 1.00 | U | V | 1.00 | U | | 0.60 | U | | 1.00 | U | | 1.00 | U | V |
| Cadmium | 4.00 | B | JA | 2.00 | U | | 2.9 | U | | 2.00 | U | | 2.00 | U | V |
| Calcium | 169000.00 | | V | 18200.00 | | | 42700 | | | 42400.00 | | | 42500.00 | | V |
| Cesium | 50 | U | V | 100.00 | U | | 500 | U | | 76.00 | U | | 110 | U | V |
| Chromium | 19.00 | | JA | 7.10 | B | | 4.0 | U | | 5.00 | U | | 3.00 | U | JA |
| Cobalt | 4.20 | B | V | 4.00 | U | | 4.0 | U | | 3.00 | U | | 3.00 | U | V |
| Copper | 20.70 | B | JA | 3.00 | U | | 3.0 | U | | 2.00 | U | | 11.00 | U | V |
| Iron | 81.90 | B | V | 39.50 | B | | 461 | | | 431.00 | | | 264.00 | | V |
| Lead | 1.00 | U | V | 1.00 | U | | 0.40 | U | | 1.00 | UW | | 1.00 | U | V |
| Lithium | 54.40 | B | V | 52.80 | B | | 51.8 | B | | 43.00 | B | | 48.70 | B | V |
| Magnesium | 39700.00 | | V | 3830.00 | BE | | 11200 | | | 11600.00 | | | 11000.00 | | V |
| Manganese | 316.00 | | V | 35.60 | | | 268 | | | 250.00 | | | 244.00 | | V |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.28 | | | 0.40 | U | | 0.20 | U | V |
| Molybdenum | 20.40 | B | JA | 4.90 | B | | 13.0 | U | | 3.00 | U | | 6.80 | B | JA |
| Nickel | 44.50 | | V | 4.10 | B | | 12.0 | U | | 4.00 | U | | 3.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2000.00 | B | V | 549.00 | B | | 5950 | | | 5580.00 | E | | 5120.00 | | V |
| Selenium | 310.00 | | V | 2.00 | U | | 1.2 | U | | 2.00 | UWN | | 1.00 | U | JA |
| Silicon | | | | | | | 4820 | B | | | | | | | |
| Silver | 4.00 | B | JA | 3.20 | B | | 3.3 | B | | 3.00 | U | | 2.00 | U | V |
| Sodium | 176000.00 | | V | 15000.00 | | | 84400 | | | 88000.00 | | | 88500.00 | | V |
| Strontium | 1350.00 | | V | 106.00 | B | | 469 | | | 496.00 | | | 495.00 | | V |
| Thallium | 1.00 | U | V | 3.00 | U | | 0.60 | U | | 1.00 | UW | | 1.00 | U | JA |
| Tin | 21.60 | B | JA | 15.10 | B | | 48.3 | B | | 11.00 | U | | 12.00 | B | JA |
| Vanadium | 12.30 | B | JA | 3.20 | B | | 5.0 | B | | 2.00 | U | | 2.00 | U | V |
| Zinc | 21.10 | | JA | 6.50 | B | | 3.2 | B | | 5.30 | B | | 7.50 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 5287 (RFA) Sample: GW01044IT (REAL) Date: 03/26/91 | | | Location: 5287 (RFA) Sample: GW01390IT (REAL) Date: 06/07/91 | | | Location: 5287 (RFA) Sample: GW01628IT (REAL) Date: 08/08/91 | | | Location: 5287 (RFA) Sample: GW01897IT (REAL) Date: 10/11/91 | | | Location: 5287 (RFA) Sample: GW02274IT (REAL) Date: 01/17/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 66.2 | B | | 40.40 | B | V | 41.10 | B | JA | 60.70 | B | JA | 61.10 | B | |
| Antimony | 19.0 | U | | 14.00 | B | JA | 53.60 | B | JA | 40.40 | B | JA | 24.20 | B | |
| Arsenic | 1.0 | U | | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 1.00 | U | |
| Barium | 117 | B | | 125.00 | B | V | 120.00 | B | V | 117.00 | B | V | 103.00 | B | |
| Beryllium | 1.0 | U | | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 1.00 | U | |
| Cadmium | 4.0 | U | | 2.00 | U | V | 2.00 | B | JA | 2.70 | B | JA | 1.00 | U | |
| Calcium | 122000 | | | 120000.00 | | V | 113000.00 | | V | 111000.00 | | V | 117000.00 | E | |
| Cesium | 500 | U | | 110.00 | U | V | 32.00 | U | R | 50 | U | V | 32.00 | U | |
| Chromium | 4.0 | U | | 3.00 | U | JA | 17.20 | | JA | 13.50 | | V | 2.00 | U | |
| Cobalt | 5.0 | U | | 3.00 | U | V | 5.00 | B | JA | 3.00 | U | V | 3.00 | U | |
| Copper | 6.0 | U | | 11.00 | U | V | 10.40 | B | JA | 6.30 | B | JA | 3.80 | B | |
| Iron | 57.1 | B | | 18.50 | B | JA | 14.00 | B | JA | 11.30 | B | JA | 10.10 | B | |
| Lead | 1.5 | B | | 1.00 | UW | V | 1.00 | U | JA | 1.00 | U | V | 1.00 | U | |
| Lithium | 20.0 | U | | 11.10 | B | V | 13.60 | B | V | 11.00 | B | V | 12.80 | B | |
| Magnesium | 31200 | | | 31600.00 | | V | 30100.00 | | V | 28800.00 | | V | 30000.00 | E | |
| Manganese | 27.0 | | | 18.80 | | V | 45.00 | | V | 87.50 | | V | 18.30 | | |
| Mercury | 0.40 | | | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | |
| Molybdenum | 7.0 | U | | 2.70 | B | V | 6.40 | B | JA | 6.10 | B | JA | 2.00 | U | |
| Nickel | 21.2 | B | | 3.00 | U | V | 6.80 | B | JA | 17.00 | U | V | 4.60 | B | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1310 | B | | 883.00 | B | V | 981.00 | B | JA | 874.00 | B | V | 970.00 | B | |
| Selenium | 2.0 | U | | 2.00 | UW | JA | 2.00 | U | V | 2.00 | UW | JA | 1.00 | U | |
| Silicon | 5150 | | | | | | | | | | | | | | |
| Silver | 6.5 | B | | 2.00 | U | V | 2.20 | B | JA | 2.00 | U | V | 2.00 | U | |
| Sodium | 180000 | | | 204000.00 | | V | 194000.00 | | V | 198000.00 | | V | 191000.00 | E | |
| Strontium | 712 | | | 811.00 | | V | 696.00 | | V | 726.00 | | V | 730.00 | | |
| Thallium | 1.0 | U | | 1.00 | U | V | 2.00 | UWN | JA | 1.00 | U | V | 2.00 | U | |
| Tin | 15.0 | U | | 20.40 | B | V | 55.70 | B | JA | 40.20 | B | JA | 10.00 | U | |
| Vanadium | 6.6 | B | | 2.00 | U | V | 4.70 | B | JA | 6.70 | B | V | 9.40 | B | |
| Zinc | 51.6 | | | 42.10 | | V | 31.30 | | JA | 21.30 | | JA | 9.50 | B | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 5187 (RFA)<br>Sample: GW01926IT (REAL)<br>Date: 10/18/91 | | | Location: 5287 (RFA)<br>Sample: G52870190001 (REAL)<br>Date: 01/29/90 | | | Location: 5287 (RFA)<br>Sample: G52870621021400 (REAL)<br>Date: 06/21/90 | | | Location: 5287 (RFA)<br>Sample: GW00301IT (REAL)<br>Date: 08/24/90 | | | Location: 5287 (RFA)<br>Sample: GW00797IT (REAL)<br>Date: 12/11/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 39.20 | B | V | 200 | U | | 200 | U | | 43.80 | B | | 57.20 | B | |
| Antimony | 51.10 | B | JA | 60.0 | U | | 60 | U | | 10.00 | U | | 16.90 | B | |
| Arsenic | 2.00 | U | V | 10.0 | U | | 10 | U | | 1.00 | U | | 2.00 | U | |
| Barium | 67.50 | B | V | 200 | U | | 200 | U | | 124.00 | B | | 116.00 | B | |
| Beryllium | 1.00 | U | V | 5.0 | U | | 5 | U | | 1.00 | U | | 1.00 | U | |
| Cadmium | 3.10 | B | JA | 5.0 | U | | 5 | U | | 2.00 | U | | 2.00 | U | |
| Calcium | 71000.00 | | V | 107000 | | | 119000 | | | 113000.00 | | | 115000.00 | | |
| Cesium | 50 | U | V | 2500 | U | | 100 | U | | 147.00 | UN | | 76.00 | U | |
| Chromium | 14.60 | | JA | 10.0 | U | | 10 | U | | 10.90 | | | 14.10 | | |
| Cobalt | 4.30 | B | JA | 50.0 | U | | 50 | U | | 4.00 | U | | 3.00 | U | |
| Copper | 8.10 | B | JA | 25.0 | U | | 25 | U | | 3.00 | U | | 12.30 | B | |
| Iron | 4.00 | U | V | 100 | U | | 100 | U | | 13.00 | UN | | 19.20 | B | |
| Lead | 1.00 | U | V | 3.0 | U | | 3 | U | | 1.00 | UWN | | 1.00 | U | |
| Lithium | 20.10 | B | V | 100 | U | | 100 | U | | 11.90 | B | | 15.60 | B | |
| Magnesium | 17100.00 | | V | 28600 | | | 31900 | | | 30400.00 | | | 30600.00 | | |
| Manganese | 2.30 | B | V | 130 | | | 28.3 | | | 90.20 | | | 62.90 | | |
| Mercury | 0.20 | U | V | 0.20 | U | | 0.2 | U | | 0.20 | U | | 0.20 | U | |
| Molybdenum | 19.20 | B | JA | 100 | U | | 100 | U | | 7.40 | B | | 9.80 | B | |
| Nickel | 17.00 | U | V | 40.0 | U | | 40 | U | | 4.00 | U | | 11.50 | B | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4220.00 | B | V | 5000 | U | | 5000 | U | | 737.00 | B | | 1440.00 | B | |
| Selenium | 17.00 | | V | 5.0 | U | | 5 | U | | 1.00 | U | | 2.00 | U | |
| Silicon | | | | | | | 7210 | | | | | | | | |
| Silver | 3.40 | B | JA | 10.0 | U | | 10 | U | | 3.00 | B | | 3.00 | U | |
| Sodium | 58100.00 | | V | 187000 | | | 194000 | | | 184000.00 | | | 187000.00 | | |
| Strontium | 571.00 | | V | 665 | | | 777 | | | 760.00 | | | 771.00 | | |
| Thallium | 1.00 | UW | JA | 10.0 | U | | 10 | U | | 3.00 | UN | | 3.00 | UWN | |
| Tin | 19.20 | B | V | 100 | U | | 100 | U | | 37.70 | B | | 31.60 | B | |
| Vanadium | 8.90 | B | JA | 50.0 | U | | 50 | U | | 9.90 | B | | 8.50 | B | |
| Zinc | 5.00 | B | JA | 43.8 | | | 54.2 | | | 30.50 | | | 52.30 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
*I-interference*; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 5986 (WCS)<br>Sample: GW01265IT (REAL)<br>Date: 05/10/91 | | | Location: 5986 (WCS)<br>Sample: GW01700IT (REAL)<br>Date: 08/22/91 | | | Location: 5986 (WCS)<br>Sample: GW02018IT (REAL)<br>Date: 11/15/91 | | | Location: 6286 (WCS)<br>Sample: GW00402IT (REAL)<br>Date: 09/18/90 | | | Location: 6286 (WCS)<br>Sample: GW00731IT (REAL)<br>Date: 11/21/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 58.20 | B* | JA | 86.00 | B | | 76.30 | B | V | 37.50 | B | | 67.50 | B | |
| Antimony | 30.80 | B | V | 37.70 | B | | 65.80 | | JA | 7.00 | U | | 19.70 | B | |
| Arsenic | 2.00 | U | V | 2.00 | U | | 2.00 | U | V | 2.00 | U | | 2.00 | U | |
| Barium | 88.50 | B | V | 85.10 | BE | | 85.00 | B | V | 55.30 | BE | | 56.00 | BE | |
| Beryllium | 1.00 | U | V | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.00 | U | |
| Cadmium | 2.00 | U | V | 3.60 | B | | 4.40 | B | JA | 2.00 | U | | 2.80 | B | |
| Calcium | 146000.00 | | V | 139000.00 | | | 144000.00 | | V | 40500.00 | E | | 40500.00 | | |
| Cesium | 110 | U | V | 60.00 | B | | 50 | U | V | 92.00 | U | | 100.00 | B | |
| Chromium | 6.00 | B | JA | 20.40 | | | 17.30 | | JA | 63.30 | | | 72.90 | | |
| Cobalt | 3.00 | U | V | 2.60 | B | | 3.30 | B | V | 3.00 | U | | 5.70 | B | |
| Copper | 11.00 | U | V | 10.20 | B | | 8.40 | B | JA | 2.00 | U | | 6.20 | B | |
| Iron | 8.00 | B* | JA | 25.40 | B | | 45.50 | B | JA | 14.00 | U | | 227.00 | | |
| Lead | 1.00 | U | V | 1.00 | U | | 1.00 | U | V | 1.00 | UN | | 1.00 | U | |
| Lithium | 74.20 | B | V | 71.70 | B | | 69.90 | B | V | 60.00 | B | | 44.90 | B | |
| Magnesium | 50500.00 | | V | 47100.00 | | | 49200.00 | | V | 14400.00 | E | | 14700.00 | E | |
| Manganese | 1.00 | U | V | 1.80 | B | | 3.50 | B | V | 2.90 | B | | 4.50 | B | |
| Mercury | 0.24 | | V | 0.20 | U | | 0.20 | UN* | V | 0.20 | U | | 0.20 | U | |
| Molybdenum | 2.30 | B | JA | 5.60 | B | | 10.00 | B | V | 12.00 | B | | 16.10 | B | |
| Nickel | 3.00 | U | V | 3.30 | B | | 17.00 | U | V | 14.30 | B | | 24.10 | B | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 2020.00 | B | V | 2020.00 | BE | | 2070.00 | B | V | 7820.00 | | | 7970.00 | E | |
| Selenium | 68.00 | | V | 82.00 | | | 78.00 | | V | 53.80 | S | | 54.00 | N | |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 2.00 | U | V | 3.30 | B | | 2.70 | B | V | 4.30 | B | | 7.20 | B | |
| Sodium | 133000.00 | | V | 124000.00 | | | 126000.00 | | V | 52400.00 | E | | 49000.00 | E | |
| Strontium | 1490.00 | | V | 1310.00 | | | 1480.00 | | V | 461.00 | E | | 465.00 | E | |
| Thallium | 1.00 | UW | JA | 2.00 | U | | 1.00 | U | V | 3.00 | U | | 2.00 | UW | |
| Tin | 12.70 | B | V | 30.70 | B | | 42.70 | B | V | 15.30 | B | | 17.50 | B | |
| Vanadium | 2.00 | U | V | 8.90 | B | | 8.00 | B | V | 8.20 | B | | 11.30 | B | |
| Zinc | 23.20 | | JA | 9.10 | B | | 34.90 | | JA | 6.50 | B | | 11.10 | B | |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (SRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 5287 (RFA) Sample: GW02719IT (REAL) Date: 04/22/92 | | | Location: 5487 (COL) Sample: GW02016IT (REAL) Date: 11/18/91 | | | Location: 5986 (WCS) Sample: G59860390001 (REAL) Date: 03/20/90 | | Location: 5986 (WCS) Sample: GW00014IT (REAL) Date: 07/18/90 | | Location: 5986 (WCS) Sample: GW00985IT (REAL) Date: 03/15/91 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 45.10 | B | JA | 58.10 | B | V | 35.00 | U | 89.70 | B | 76.80 | B |
| Antimony | 18.00 | U | V | 76.10 | | JA | 26.00 | U | 26.90 | B | 14.60 | B |
| Arsenic | 1.00 | U | V | 2.00 | U | V | 2.00 | U | 1.00 | UW | 2.00 | U |
| Barium | 110.00 | B | V | 156.00 | B | V | 88.50 | B | 89.40 | BE | 86.40 | B |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | 1.00 | U | 1.00 | U |
| Cadmium | 2.50 | B | V | 3.00 | B | JA | 2.00 | U | 3.30 | B | 2.00 | U |
| Calcium | 108000.00 | | V | 105000.00 | | V | 137000.00 | | 142000.00 | | 145000.00 | |
| Cesium | 20 | U | V | 50 | U | V | 50.00 | U | 147.00 | UN | 76.00 | U |
| Chromium | 5.00 | U | V | 14.70 | | JA | 5.00 | U | 6.00 | U | 12.60 | |
| Cobalt | 4.00 | U | V | 35.70 | B | V | 4.00 | U | 4.00 | U | 3.00 | U |
| Copper | 8.60 | B | JA | 1210.00 | | V | 8.20 | B | 4.00 | B | 2.60 | B |
| Iron | 47.40 | B | JA | 54.60 | B | JA | 10.10 | B | 17.30 | B | 29.50 | B |
| Lead | 1.00 | U | V | 1.00 | U | V | 1.00 | UW | 1.00 | U | 1.00 | U |
| Lithium | 13.60 | B | V | 38.60 | B | V | 77.30 | B | 69.00 | B | 74.90 | B |
| Magnesium | 28700.00 | | V | 26600.00 | | V | 47200.00 | | 48300.00 | | 50100.00 | |
| Manganese | 5.10 | B | V | 615.00 | | V | 3.00 | B | 2.60 | B | 1.00 | U |
| Mercury | 0.20 | U | V | 0.20 | UN* | V | 0.20 | U | 0.20 | U | 0.20 | UN |
| Molybdenum | 3.00 | U | V | 77.10 | B | V | 35.00 | U | 11.80 | B | 3.00 | U |
| Nickel | 10.00 | B | V | 4950.00 | | V | 6.00 | U | 8.90 | B | 4.00 | U |
| *Phosphorus* | | | | | | | | | | | | |
| Potassium | 1080.00 | B | V | 3570.00 | B | V | 1980.00 | B | 1990.00 | B | 2100.00 | B |
| Selenium | 1.60 | BW | JA | 3.00 | B | V | 88.30 | S | 64.00 | | 64.60 | * |
| Silicon | 6940.00 | | V | | | | | | | | | |
| Silver | 2.00 | U | JA | 3.00 | B | V | 6.00 | U | 2.00 | U | 4.80 | B |
| Sodium | 193000.00 | | V | 95600.00 | | V | 129000.00 | | 130000.00 | | 135000.00 | |
| Strontium | 748.00 | | V | 834.00 | | V | 1510.00 | | 1430.00 | | 1490.00 | |
| Thallium | 1.00 | U | V | 1.00 | U | V | 1.00 | UNW | 3.00 | U | 1.00 | UW |
| Tin | 23.00 | U | V | 27.10 | B | V | 25.00 | U | 45.80 | B | 39.90 | B |
| Vanadium | 6.20 | B | JA | 7.40 | B | V | 6.00 | U | 8.80 | B | 7.00 | B |
| Zinc | 22.70 | | JA | 9850.00 | | V | 23.20 | U | 23.50 | | 10.70 | B |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
*I-interference; +-correlation coefficient* for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6286 (WCS)<br>Sample: GW03056IT (REAL)<br>Date: 06/11/92 | | | Location: 6386 (COL)<br>Sample: G63860612021210 (REAL)<br>Date: 06/13/90 | | | Location: 6886 (VFA)<br>Sample: G68860290001 (REAL)<br>Date: 02/13/90 | | | Location: 6886 (VFA)<br>Sample: G68860523021005 (REAL)<br>Date: 05/23/90 | | | Location: 6886 (VFA)<br>Sample: G68860523021045 (DUP)<br>Date: 05/23/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 29.2 | U | JA | 200 | U | | 200 | U | | 46.1 | B | | 22.1 | U | |
| Antimony | 19.8 | U | V | 60 | U | | 60.0 | U | | 17.6 | U | | 17.6 | U | |
| Arsenic | 1.0 | U | V | 10 | U | | 10.0 | U | | 1.6 | U | | 1.6 | U | |
| Barium | 62.5 | | V | 200 | U | | 200 | U | | 85.4 | B | | 83.4 | B | |
| Beryllium | 0.60 | U | V | 5 | U | | 5.0 | U | | 2.6 | U | | 2.6 | U | |
| Cadmium | 2.3 | U | V | 5 | U | | 5.0 | U | | 4.1 | B | | 3.6 | U | |
| Calcium | 51500 | | V | 34000 | | | 33100 | | | 37600 | | | 37400 | | |
| Cesium | 500 | U | V | 100 | U | | 2500 | U | | 1000 | U | | 1000 | U | |
| Chromium | 18.5 | | JA | 10 | U | | 10.0 | U | | 4.9 | U | | 4.9 | U | |
| Cobalt | 2.7 | U | V | 50 | U | | 50.0 | U | | 4.4 | U | | 4.4 | U | |
| Copper | 2.3 | U | V | 25 | U | | 25.0 | U | | 6.3 | B | | 4.5 | B | |
| Iron | 18.4 | U | JA | 100 | U | | 100 | U | | 172 | | | 42.8 | B | |
| Lead | 0.80 | U | V | 3 | U | | 3.0 | U | | 2.6 | B | | 2.6 | B | |
| Lithium | 38.4 | | V | 100 | U | | 100 | U | | 2.0 | U | | 2.0 | U | |
| Magnesium | 16200 | | V | 6930 | | | 8260 | | | 8760 | | | 8740 | | |
| Manganese | 1.5 | U | V | 15 | U | | 15.0 | U | | 58.2 | | | 52.2 | | |
| Mercury | 0.20 | U | JA | 0.2 | U | | 0.20 | U | | 0.2 | U | | 0.2 | U | |
| Molybdenum | 6.3 | | V | 100 | U | | 100 | U | | 17.4 | U | | 17.4 | U | |
| Nickel | 11.2 | U | V | 40 | U | | 40.0 | U | | 5.5 | U | | 5.5 | U | |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 4320 | | V | 5000 | U | | 5000 | U | | 1420 | B | | 1360 | B | |
| Selenium | 52.0 | | V | 11.8 | | | 5.0 | U | | 1.2 | U | | 1.2 | U | |
| Silicon | 7140 | | V | 6690 | | | | | | 8070 | | | 7950 | | |
| Silver | 2.1 | U | V | 10 | U | | 10.0 | U | | 4.4 | U | | 4.4 | U | |
| Sodium | 47600 | | V | 69700 | | | 19100 | | | 22300 | | | 21900 | | |
| Strontium | 534 | | V | 242 | | | 204 | | | 229 | B | | 227 | B | |
| Thallium | 1.8 | U | V | 10 | U | | 10.0 | U | | 1.1 | U | | 1.1 | U | |
| Tin | 9.4 | U | V | 100 | U | | 100 | U | | 23.2 | U | | 23.2 | U | |
| Vanadium | 3.5 | U | V | 50 | U | | 50.0 | U | | 2.4 | B | | 2.3 | B | |
| Zinc | 1.7 | U | V | 20 | U | | 20.0 | U | | 18.8 | B | | 9 | U | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6286 (WCS) Sample: GW00855IT (REAL) Date: 01/09/91 | | | Location: 6286 (WCS) Sample: GW01284IT (REAL) Date: 05/14/91 | | | Location: 6286 (WCS) Sample: GW01708IT (REAL) Date: 08/22/91 | | | Location: 6286 (WCS) Sample: GW02046IT (REAL) Date: 11/25/91 | | | Location: 6286 (WCS) Sample: GW02378IT (REAL) Date: 02/11/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 41.50 | B | | 11.00 | U | V | 53.80 | B | | 20.40 | B | V | 5.00 | B | JA |
| Antimony | 23.90 | B | | 27.70 | B | JA | 19.10 | B | | 44.70 | B | JA | 12.60 | B | JA |
| Arsenic | 2.00 | U | | 2.00 | U | V | 2.00 | U | | 2.00 | U | V | 1.00 | U | V |
| Barium | 51.00 | BE | | 50.80 | B | V | 59.50 | BE | | 49.30 | B | V | 62.50 | B | V |
| Beryllium | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.00 | U | V | 1.00 | U | V |
| Cadmium | 2.00 | U | | 2.00 | U | V | 1.90 | B | | 2.00 | U | V | 1.00 | U | V |
| Calcium | 40500.00 | | | 41100.00 | | V | 46100.00 | | | 39800.00 | | V | 50700.00 | E | JA |
| Cesium | 100.00 | B | | 110 | U | V | 60.00 | B | | 50 | U | V | 30 | U | V |
| Chromium | 55.30 | | | 60.50 | | V | 68.10 | | | 70.80 | | V | 82.80 | | V |
| Cobalt | 3.00 | U | | 3.00 | U | V | 2.30 | B | | 3.00 | U | V | 3.00 | U | V |
| Copper | 6.00 | B | | 11.00 | U | V | 8.30 | B | | 3.00 | U | V | 1.00 | U | JA |
| Iron | 9.20 | B | | 13.00 | B | JA | 76.90 | B | | 23.10 | B | JA | 2.00 | U | V |
| Lead | 1.00 | U | | 1.00 | UW | V | 1.00 | U | | 1.00 | U | JA | 1.00 | U | V |
| Lithium | 36.20 | B | | 42.40 | B | V | 45.30 | B | | 43.90 | B | V | 47.20 | B | V |
| Magnesium | 13800.00 | | | 13500.00 | | V | 15000.00 | | | 13400.00 | | V | 16200.00 | | V |
| Manganese | 2.00 | B | | 1.00 | U | V | 1.50 | B | | 1.00 | U | V | 1.00 | U | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | | 0.20 | U | V | 0.20 | U | V |
| Molybdenum | 17.90 | B | | 13.40 | B | JA | 11.90 | B | | 13.80 | B | JA | 9.30 | B | JA |
| Nickel | 16.90 | B | | 7.50 | B | JA | 11.60 | B | | 17.00 | U | V | 8.80 | B | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 6950.00 | | | 3760.00 | B | V | 4590.00 | BE | | 5160.00 | E | JA | 3770.00 | BE | JA |
| Selenium | 64.00 | | | 56.00 | | V | 60.00 | | | 56.00 | | V | 52.70 | S | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 3.00 | U | | 2.00 | U | V | 3.70 | B | | 2.00 | U | V | 2.00 | U | V |
| Sodium | 53900.00 | | | 52400.00 | | V | 50500.00 | | | 53500.00 | | V | 51900.00 | | V |
| Strontium | 461.00 | E | | 480.00 | | V | 507.00 | | | 460.00 | | V | 573.00 | | V |
| Thallium | 1.00 | U | | 1.00 | UW | JA | 2.00 | U | | 1.00 | U | V | 1.00 | U | V |
| Tin | 35.00 | B | | 15.50 | B | JA | 22.90 | B | | 17.00 | U | V | 10.00 | U | V |
| Vanadium | 8.90 | B | | 2.00 | U | V | 7.90 | B | | 5.50 | B | V | 6.80 | B | V |
| Zinc | 15.20 | B | | 9.80 | B | JA | 14.60 | B | | 10.60 | B | JA | 3.90 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW01289IT (DUP)<br>Date: 05/14/91 | | | Location: 6886 (VFA)<br>Sample: GW01751IT (REAL)<br>Date: 09/06/91 | | | Location: 6886 (VFA)<br>Sample: GW02058IT (REAL)<br>Date: 11/25/91 | | Location: 6886 (VFA)<br>Sample: GW02060IT (DUP)<br>Date: 11/25/91 | | Location: 6886 (VFA)<br>Sample: GW02381IT (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 19.50 | B | JA | 100 | U | V | 28.20 | B | 32.70 | B | 20.10 | B | JA |
| Antimony | 31.60 | B | JA | 50.0 | U | V | 51.00 | B | 46.90 | B | 8.00 | U | V |
| Arsenic | 2.00 | U | V | 2.0 | U | V | 2.00 | U | 2.00 | U | 1.00 | U | V |
| Barium | 107.00 | B | V | 118 | B | V | 108.00 | B | 111.00 | B | 125.00 | BE | JA |
| Beryllium | 1.00 | U | V | 2.0 | U | V | 1.00 | U | 1.00 | U | 1.00 | U | V |
| Cadmium | 2.00 | U | V | 3.0 | U | V | 2.00 | U | 2.00 | U | 1.00 | U | V |
| Calcium | 43400.00 | | V | 45300 | | V | 40100.00 | | 41200.00 | | 43300.00 | | V |
| Cesium | 110 | U | V | 500 | U | V | 51.00 | U | 51.00 | U | 32.00 | U | V |
| Chromium | 3.00 | U | JA | 5.0 | U | V | 6.40 | B | 6.00 | U | 2.00 | U | V |
| Cobalt | 3.00 | U | V | 10 | U | V | 3.80 | B | 3.00 | U | 3.00 | U | V |
| Copper | 11.00 | U | V | 10 | U | V | 3.10 | B | 3.00 | U | 1.00 | U | V |
| Iron | 911.00 | | V | 1070 | | V | 472.00 | | 508.00 | | 81.90 | BE | JA |
| Lead | 1.00 | UW | V | 4.4 | | JA | 1.00 | U | 1.00 | U | 1.00 | U | V |
| Lithium | 4.30 | B | V | 50.0 | U | V | 3.90 | B | 4.10 | B | 2.80 | B | V |
| Magnesium | 9460.00 | | V | 9880 | | V | 8830.00 | | 9140.00 | | 9630.00 | | V |
| Manganese | 381.00 | | V | 1130 | | V | 312.00 | | 407.00 | | 60.10 | E | JA |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | 0.20 | U | 0.20 | U | V |
| Molybdenum | 4.60 | B | JA | 10.0 | U | V | 4.70 | B | 4.70 | B | 2.00 | U | V |
| Nickel | 4.30 | B | JA | 10 | U | V | 17.00 | U | 17.00 | U | 2.50 | B | V |
| Phosphorus | | | | | | | | | | | | | |
| Potassium | 1230.00 | B | V | 2000 | U | V | 902.00 | BE | 922.00 | BE | 783.00 | B | V |
| Selenium | 1.00 | U | V | 1.0 | U | JA | 2.00 | U | 2.00 | U | 1.00 | U | V |
| Silicon | | | | 7140 | | V | | | | | | | |
| Silver | 2.00 | U | V | 5.0 | U | V | 2.00 | U | 2.00 | U | 2.00 | U | V |
| Sodium | 24100.00 | | V | 22800 | | V | 24900.00 | | 25900.00 | | 25100.00 | | V |
| Strontium | 257.00 | | V | 258 | | V | 237.00 | | 244.00 | | 240.00 | E | JA |
| Thallium | 1.00 | U | V | 1.0 | U | V | 1.00 | U | 1.00 | U | 1.00 | UW | V |
| Tin | 13.00 | B | JA | 100 | U | V | 17.00 | U | 17.00 | U | 10.00 | U | V |
| Vanadium | 2.00 | U | V | 10 | U | V | 2.40 | B | 2.50 | B | 1.00 | U | R |
| Zinc | 55.30 | | JA | 10.6 | B | V | 14.90 | BE | 14.20 | BE | 9.60 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW00187IT (REAL)<br>Date: 08/01/90 | | | Location: 6886 (VFA)<br>Sample: GW00190IT (DUP)<br>Date: 08/01/90 | | | Location: 6886 (VFA)<br>Sample: GW00629IT (REAL)<br>Date: 11/02/90 | | | Location: 6886 (VFA)<br>Sample: GW00991IT (REAL)<br>Date: 03/19/91 | | | Location: 6886 (VFA)<br>Sample: GW01286IT (REAL)<br>Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 48.90 | BE | | 101.00 | BE | | 27.20 | B | | 23.80 | B | | 11.00 | U | V |
| Antimony | 10.00 | U | | 10.00 | U | | 7.00 | U | | 8.00 | U | | 35.10 | B | JA |
| Arsenic | 2.00 | BW | | 1.00 | BW | | 1.00 | U | | 2.00 | U | | 2.00 | U | V |
| Barium | 88.80 | BE | | 92.00 | BE | | 83.30 | B | | 84.00 | B | | 98.70 | B | V |
| Beryllium | 1.00 | U | | 1.00 | U | | 1.00 | U | | 1.00 | U | | 1.00 | U | V |
| Cadmium | 2.00 | U | | 2.10 | B | | 2.00 | U | | 2.00 | U | | 2.00 | U | V |
| Calcium | 36200.00 | E | | 36400.00 | E | | 33700.00 | | | 39000.00 | | | 39000.00 | | V |
| Cesium | 147.00 | U | | 147.00 | U | | 200.00 | B | | 76.00 | U | | 110 | U | V |
| Chromium | 13.00 | | | 12.80 | | | 6.40 | B | | 5.00 | U | | 3.50 | B | JA |
| Cobalt | 6.30 | B | | 5.60 | B | | 3.00 | U | | 3.00 | U | | 3.30 | B | V |
| Copper | 3.00 | U | | 3.00 | U | | 2.00 | U | | 2.70 | B | | 11.00 | U | V |
| Iron | 1190.00 | | | 1310.00 | | | 1130.00 | | | 575.00 | | | 833.00 | | V |
| Lead | 1.00 | U | | 1.00 | U | | 1.00 | U | | 1.00 | U | | 1.00 | U | V |
| Lithium | 12.70 | B | | 9.30 | B | | 3.60 | B | | 6.30 | B | | 4.80 | B | V |
| Magnesium | 8010.00 | E | | 8190.00 | E | | 7700.00 | | | 8720.00 | | | 8600.00 | | V |
| Manganese | 186.00 | | | 187.00 | | | 986.00 | | | 449.00 | | | 339.00 | | V |
| Mercury | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | | 0.20 | U | V |
| Molybdenum | 7.10 | B | | 5.30 | B | | 3.10 | B | | 3.00 | U | | 5.50 | B | JA |
| Nickel | 9.00 | B | | 8.40 | B | | 4.50 | B | | 4.00 | U | | 5.60 | B | JA |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 1100.00 | BE | | 1140.00 | BE | | 948.00 | BE | | 1030.00 | BE | | 1220.00 | B | V |
| Selenium | 2.00 | U | | 2.00 | U | | 1.00 | UWN | | 2.00 | U | | 1.00 | U | JA |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 6.30 | B | | 6.30 | B | | 3.00 | U | | 3.00 | U | | 2.00 | U | V |
| Sodium | 17800.00 | | | 18200.00 | | | 15900.00 | | | 23400.00 | | | 22000.00 | | V |
| Strontium | 211.00 | E | | 212.00 | E | | 199.00 | B | | 225.00 | | | 233.00 | | V |
| Thallium | 3.00 | UWN | | 3.00 | UWN | | 2.00 | U | | 1.00 | UW | | 1.00 | U | V |
| Tin | 25.90 | B | | 36.10 | B | | 31.20 | B | | 14.90 | B | | 13.20 | B | JA |
| Vanadium | 7.00 | B | | 7.20 | B | | 3.50 | B | | 2.10 | B | | 2.00 | U | V |
| Zinc | 5.00 | B | | 2.70 | B | | 2.00 | B | | 23.80 | | | 16.80 | B | JA |

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Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6986 (COL)<br>Sample: GW00509IT (REAL)<br>Date: 10/23/90 | | | Location: 6986 (COL)<br>Sample: GW01277IT (REAL)<br>Date: 05/13/91 | | | Location: 6986 (COL)<br>Sample: GW01692IT (REAL)<br>Date: 08/20/91 | | | Location: 6986 (COL)<br>Sample: GW01695IT (DUP)<br>Date: 08/20/91 | | | Location: 6986 (COL)<br>Sample: GW02020IT (REAL)<br>Date: 11/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 70.60 | B | | 42.80 | B | JA | 82.70 | B | | 76.10 | B | | 61.10 | B | V |
| Antimony | 9.90 | B | | 51.00 | B | JA | 8.00 | U | | 8.70 | B | | 48.40 | B | JA |
| Arsenic | 2.00 | U | | 2.00 | U | V | 2.00 | U | | 2.00 | U | | 2.00 | U | V |
| Barium | 116.00 | BE | | 119.00 | B | V | 97.00 | BE | | 96.50 | BE | | 107.00 | B | V |
| Beryllium | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.00 | U | | 1.00 | U | V |
| Cadmium | 2.00 | U | | 2.00 | U | V | 1.00 | U | | 1.00 | B | | 2.20 | B | JA |
| Calcium | 127000.00 | | | 142000.00 | | V | 115000.00 | | | 114000.00 | | | 119000.00 | | V |
| Cesium | 76.00 | U | | 110 | U | V | 70.00 | B | | 130.00 | B | | 50 | U | V |
| Chromium | 18.40 | | | 3.80 | B | JA | 4.40 | B | | 9.90 | B | | 12.60 | | JA |
| Cobalt | 3.00 | B | | 3.00 | U | V | 2.00 | U | | 2.00 | U | | 3.00 | U | V |
| Copper | 2.70 | B | | 11.00 | U | V | 3.00 | U | | 3.40 | B | | 4.00 | B | JA |
| Iron | 15.50 | B | | 37.50 | B | JA | 4.90 | B | | 2.60 | B | | 50.90 | B | JA |
| Lead | 1.00 | U | | 1.00 | U | V | 1.00 | U | | 1.00 | U | | 1.00 | U | V |
| Lithium | 60.00 | B | | 41.10 | B | V | 43.10 | B | | 42.90 | B | | 40.90 | B | V |
| Magnesium | 35000.00 | | | 39300.00 | | V | 31900.00 | | | 31300.00 | | | 33300.00 | | V |
| Manganese | 6.30 | B | | 3.10 | B | V | 3.30 | B | | 6.40 | B | | 5.70 | B | V |
| Mercury | 0.20 | U | | 0.20 | U | V | 0.20 | U | | 0.20 | U | | 0.26 | N* | JA |
| Molybdenum | 8.30 | B | | 4.90 | B | JA | 3.00 | U | | 3.20 | B | | 6.60 | B | V |
| Nickel | 6.60 | B | | 3.00 | U | | 3.00 | U | | 3.00 | U | | 17.00 | U | V |
| Phosphorus | | | | | | | | | | | | | | | |
| Potassium | 741.00 | B | | 689.00 | B | V | 689.00 | B | | 662.00 | B | | 836.00 | B | V |
| Selenium | 112.00 | | | 140.00 | S | JA | 105.00 | | | 110.00 | | | 110.00 | | V |
| Silicon | | | | | | | | | | | | | | | |
| Silver | 9.30 | B | | 2.00 | U | V | 2.00 | U | | 2.00 | U | | 2.00 | U | V |
| Sodium | 117000.00 | E | | 127000.00 | | V | 118000.00 | | | 115000.00 | | | 119000.00 | | V |
| Strontium | 951.00 | | | 1110.00 | | V | 923.00 | | | 905.00 | | | 940.00 | | V |
| Thallium | 2.00 | UWN | | 1.00 | UW | JA | 2.00 | U | | 2.00 | U | | 1.00 | UW | JA |
| Tin | 64.10 | B | | 31.90 | B | JA | 14.00 | U | | 14.00 | U | | 22.70 | B | V |
| Vanadium | 11.70 | B | | 2.00 | U | V | 6.40 | B | | 8.00 | B | | 8.10 | B | V |
| Zinc | 4.10 | B | | 12.10 | B | JA | 14.40 | B | | 16.90 | B | | 13.00 | B | JA |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-e

## Groundwater Filtered Metal Samples (ug/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW02383IT (DUP)<br>Date: 02/26/92 | | | Location: 6886 (VFA)<br>Sample: GW02825IT (REAL)<br>Date: 05/15/92 | | | Location: 6886 (VFA)<br>Sample: GW02827IT (DUP)<br>Date: 05/15/92 | | | Location: 6986 (COL)<br>Sample: G69860290001 (REAL)<br>Date: 02/12/90 | | Location: 6986 (COL)<br>Sample: GW00018IT (REAL)<br>Date: 07/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 14.60 | B | JA | 18.90 | B | JA | 12.60 | B | JA | 200 | U | 62.10 | B | |
| Antimony | 13.20 | B | V | 18.00 | U | V | 18.00 | U | V | 60.0 | U | 17.50 | B | |
| Arsenic | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 10.0 | U | 1.00 | B | |
| Barium | 121.00 | BE | JA | 116.00 | B | V | 116.00 | B | V | 200 | U | 110.00 | BE | |
| Beryllium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 5.0 | U | 1.70 | B | |
| Cadmium | 1.00 | U | V | 2.00 | U | V | 2.00 | U | V | 5.0 | U | 2.10 | B | |
| Calcium | 43100.00 | | V | 39400.00 | | V | 37800.00 | | V | 129000 | | 124000.00 | | |
| Cesium | 32.00 | U | V | 23.00 | U | JA | 23.00 | U | JA | 2500 | U | 147.00 | UN | |
| Chromium | 2.00 | U | V | 5.00 | U | V | 5.00 | U | V | 10.0 | U | 6.00 | U | |
| Cobalt | 3.00 | U | V | 4.00 | U | V | 4.00 | U | V | 50.0 | U | 4.00 | U | |
| Copper | 1.00 | U | V | 2.00 | U | V | 2.00 | U | V | 25.0 | U | 3.00 | U | |
| Iron | 65.80 | BE | JA | 170.00 | E | JA | 213.00 | E | JA | 100 | U | 13.40 | B | |
| Lead | 1.00 | UW | V | 1.00 | U | V | 1.00 | U | V | 3.0 | U | 1.00 | UW | |
| Lithium | 3.20 | B | V | 5.10 | B | V | 4.40 | B | V | 100 | U | 34.80 | B | |
| Magnesium | 9530.00 | | V | 8840.00 | | V | 8520.00 | | V | 37800 | | 35000.00 | | |
| Manganese | 143.00 | E | JA | 411.00 | | V | 423.00 | | V | 15.0 | U | 2.00 | B | |
| Mercury | 0.20 | U | V | 0.20 | U | V | 0.20 | U | V | 0.20 | U | 0.20 | U | |
| Molybdenum | 2.00 | U | V | 3.00 | U | V | 3.00 | U | V | 100 | U | 6.10 | B | |
| Nickel | 3.70 | B | V | 9.00 | B | JA | 8.50 | B | JA | 40.0 | U | 4.00 | U | |
| Phosphorus | | | | | | | | | | | | | | |
| Potassium | 775.00 | B | V | 1580.00 | B | V | 1400.00 | B | V | 5000 | U | 642.00 | B | |
| Selenium | 1.00 | U | V | 1.00 | U | V | 1.00 | U | V | 127 | U | 141.00 | S | |
| Silicon | | | | 8120.00 | | V | 7870.00 | | V | | | | | |
| Silver | 2.00 | U | V | 2.00 | U | V | 2.00 | U | V | 10.0 | U | 2.00 | U | |
| Sodium | 24600.00 | | V | 24400.00 | | V | 23700.00 | | V | 125000 | | 124000.00 | | |
| Strontium | 236.00 | E | JA | 235.00 | | V | 228.00 | | V | 1010 | | 958.00 | | |
| Thallium | 1.00 | UW | V | 1.00 | U | | 1.00 | U | V | 10.0 | U | 3.00 | U | |
| Tin | 10.00 | U | V | 23.00 | U | V | 23.00 | U | V | 100 | U | 35.90 | B | |
| Vanadium | 1.00 | U | R | 3.00 | B | JA | 1.10 | B | JA | 50.0 | U | 9.10 | B | |
| Zinc | 12.30 | B | JA | 21.70 | | JA | 17.80 | B | JA | 22.6 | | 5.10 | B | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0187 (RFA)<br>Sample: GW02431IT (REAL)<br>Date: 02/20/92 | | | Location: 0287 (COL)<br>Sample: G02870290001 (REAL)<br>Date: 02/02/90 | | Location: 0287 (COL)<br>Sample: GW00013IT (REAL)<br>Date: 07/17/90 | | | Location: 0287 (COL)<br>Sample: GW00536IT (REAL)<br>Date: 10/18/90 | | | Location: 0287 (COL)<br>Sample: GW00929IT (REAL)<br>Date: 03/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | 0.014 | A | .005131 | J | A | .05526 | | R | 0 | J | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | | | .08598 | J | A | .004275 | J | | .1287 | J | A |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | 5.55 | R | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | 4.07 | R | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | .002073 | J | | .0009386 | J | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | 0.013 | R | 0 | J | A | .001872 | J | V | .002507 | J | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 52.13 | J | A | 280 | | 213.5 | J | A | 337.5 | J | | 58.04 | J | V |
| uranium-233,-234 | | | | 2.85 | R | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | 0.17 | R | | | | | | | | | |
| uranium-238 | | | | 1.54 | R | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l)

| ANALYTE | Location: 0187 (RFA)<br>Sample: G01870290001 (REAL)<br>Date: 02/02/90 | | Location: 0187 (RFA)<br>Sample: GW00093IT (REAL)<br>Date: 07/26/90 | | | Location: 0187 (RFA)<br>Sample: GW01290IT (REAL)<br>Date: 05/15/91 | | | Location: 0187 (RFA)<br>Sample: GW01659IT (REAL)<br>Date: 08/15/91 | | | Location: 0187 (RFA)<br>Sample: GW02076IT (REAL)<br>Date: 12/05/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | 277.6 | J | | 126.4 | J | V | 65.28 | J | V | 2.891 | J | |
| uranium-233,-234 | 11.04 | A | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | 0.99 | A | | | | | | | | | | | | |
| uranium-238 | 6.99 | A | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0387 (KAR)<br>Sample: GW00601IT (REAL)<br>Date: 10/29/90 | | | Location: 0387 (KAR)<br>Sample: GW00984IT (REAL)<br>Date: 03/14/91 | | | Location: 0387 (KAR)<br>Sample: GW01253IT (REAL)<br>Date: 05/14/91 | | | Location: 0387 (KAR)<br>Sample: GW01696IT (REAL)<br>Date: 08/22/91 | | | Location: 0387 (KAR)<br>Sample: GW02022IT (REAL)<br>Date: 11/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -0.0001 | J | | 0 | | R | .003037 | J | A | .005846 | J | A | 0 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .0744 | J | A | .4276 | J | | .3686 | J | A | -.165 | J | A | -.539 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | 0.0096 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.0038 | J | | .0008516 | J | V | .002013 | J | V | .0008971 | J | V | .002728 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 153.3 | J | A | 31.72 | J | V | 6.756 | J | V | 91.45 | J | V | | | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0287 (COL)<br>Sample: GW01252IT (REAL)<br>Date: 05/13/91 | | | Location: 0287 (COL)<br>Sample: GW01752IT (REAL)<br>Date: 09/06/91 | | | Location: 0287 (COL)<br>Sample: GW02021IT (REAL)<br>Date: 11/14/91 | | | Location: 0387 (KAR)<br>Sample: G03870290001 (REAL)<br>Date: 02/16/90 | | Location: 0387 (KAR)<br>Sample: GW00017IT (REAL)<br>Date: 09/12/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -.00139 | J | A | .001313 | J | V | .004078 | J | A | -0.008 | A | .004068 | J | A |
| cesium - unknown isotope | | | | | | | | | | 0 | V | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | -.441 | J | A | .2303 | J | A | .04772 | J | A | | | -.19 | J | A |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | .0008965 | J | V | .0009208 | J | V | .0004891 | J | A | 0.002 | A | .005824 | J | A |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 268.4 | J | V | 102.8 | J | V | 76.23 | J | | | | | | |
| uranium-233,-234 | | | | | | | | | | 0.7 | A | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | 0 | A | | | |
| uranium-238 | | | | | | | | | | 0.05 | A | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0487 (COL) Sample: GW01677IT (REAL) Date: 08/21/91 | | | Location: 0487 (COL) Sample: GW02421IT (REAL) Date: 02/11/92 | | | Location: 0487 (COL) Sample: GW02890IT (REAL) Date: 05/11/92 | | | Location: 0587 (KAR) Sample: G05870290001 (REAL) Date: 02/14/90 | | Location: 0587 (KAR) Sample: GW00207IT (REAL) Date: 08/07/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .007569 | J | A | | | | 0 | J | A | | | .007658 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | -.214 | J | | | | | -.68 | J | A | | | .2928 | J | A |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | .0004272 | J | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | .002704 | J | V | | | | .0008484 | J | A | 0.014 | A | .000568 | J | A |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 169.3 | J | V | 21.4 | V | | 278.2 | J | V | 30 | | 84.6 | J | |
| uranium-233,-234 | | | | | | | | | | 13.83 | R | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | 0.15 | R | | | |
| uranium-238 | | | | | | | | | | 11.39 | R | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0487 (COL)<br>Sample: G04870607021215 (REAL)<br>Date: 06/07/90 | | Location: 0487 (COL)<br>Sample: GW00318IT (REAL)<br>Date: 08/29/90 | | Location: 0487 (COL)<br>Sample: GW00602IT (REAL)<br>Date: 10/30/90 | | | Location: 0487 (COL)<br>Sample: GW00980IT (REAL)<br>Date: 03/19/91 | | | Location: 0487 (COL)<br>Sample: GW01250IT (REAL)<br>Date: 05/10/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .005106 | A | | | .001009 | J | | .0008036 | J | V | .007531 | J | R |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | .1145 | | | | .01685 | J | A | -.236 | J | A | -.374 | J | A |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha | 28.89 | R | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta | 18.87 | R | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | .01644 | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | .006052 | R | .0133 | | .0002783 | J | | -.00114 | J | V | -.000253 | J | V |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | |
| strontium-90 | .02164 | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | 485 | R | 227.5 | J | A | 178.4 | J | V | 223.5 | J | V |
| uranium-233,-234 | 19.98 | A | 16.3 | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | 1.127 | A | 1.5 | | | | | | | | | | |
| uranium-238 | 13.63 | A | 11.5 | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0587 (KAR) Sample: GW02420IT (REAL) Date: 02/14/92 | | | Location: 0587 (KAR) Sample: GW02992IT (REAL) Date: 05/29/92 | | | Location: 0687 (COL) Sample: G06870190001 (REAL) Date: 01/31/90 | | Location: 0687 (COL) Sample: GW00027IT (REAL) Date: 07/20/90 | | Location: 0687 (COL) Sample: GW00981IT (REAL) Date: 03/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .08436 | | A | 0.006 | U | | 0.01 | A | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | .06536 | J | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha | | | | | | | 64.1 | V | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta | | | | | | | 30.9 | V | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | .008147 | J | A | 0.016 | | A | 0.014 | R | .005 | V | | | |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | -27 | J | A | 120 | U | | 120 | | | | .9325 | J | R |
| uranium-233,-234 | | | | | | | 24.2 | R | | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | | | | | | | 0.68 | R | | | | | |
| uranium-238 | | | | | | | 18.6 | R | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium, COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0587 (KAR)<br>Sample: GW00499IT (REAL)<br>Date: 10/12/90 | | | Location: 0587 (KAR)<br>Sample: GW00930IT (REAL)<br>Date: 03/07/91 | | | Location: 0587 (KAR)<br>Sample: GW01276IT (REAL)<br>Date: 05/13/91 | | | Location: 0587 (KAR)<br>Sample: GW01661IT (REAL)<br>Date: 08/15/91 | | | Location: 0587 (KAR)<br>Sample: GW02078IT (REAL)<br>Date: 12/04/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .00291 | J | V | .004805 | J | | -.00054 | J | A | 0 | J | R | .008602 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .3555 | J | | .1874 | J | A | .1183 | J | A | .05064 | J | A | -.0466 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001726 | J | A | -.000324 | J | | -.000995 | J | V | .006494 | J | V | 0.0279 | | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -105 | J | V | 36.76 | J | V | 64.68 | J | V | -42 | J | V | -10.6 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0887 (KAR) Sample: GW00983IT (REAL) Date: 03/14/91 | | | Location: 0887 (KAR) Sample: GW01267IT (REAL) Date: 05/10/91 | | | Location: 0887 (KAR) Sample: GW01675IT (REAL) Date: 09/19/91 | | | Location: 0887 (KAR) Sample: GW02019IT (REAL) Date: 11/14/91 | | | Location: 0974 (COL) Sample: G09740290001 (REAL) Date: 02/06/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .003393 | J | V | 0 | J | A | .001273 | J | A | | | | 0.002 | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | 1.156 | | A | .1224 | J | A | .305 | J | A | -.177 | J | R | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | 9.04 | V |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | 9.8 | R |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001964 | J | V | .00196 | J | V | -.000433 | J | V | | | | 0.009 | A |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 5.79 | J | V | -33.8 | J | V | 84.4 | J | V | 203.4 | J | V | 90 | |
| uranium-233,-234 | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | 8.02 | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0687 (COL)<br>Sample: GW01251IT (REAL)<br>Date: 05/17/91 | | | Location: 0687 (COL)<br>Sample: GW01679IT (REAL)<br>Date: 08/19/91 | | | Location: 0887 (KAR)<br>Sample: G08870290001 (REAL)<br>Date: 02/15/90 | | | Location: 0887 (KAR)<br>Sample: GW00024IT (REAL)<br>Date: 09/11/90 | | | Location: 0887 (KAR)<br>Sample: GW00568IT (REAL)<br>Date: 11/09/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .001813 | J | A | | | | -0.006 | A | | .0008201 | J | A | .001182 | J | A |
| cesium - unknown isotope | | | | | | | 0.1 | V | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | -.00836 | J | A | .002126 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | 0 | J | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -.000317 | J | V | | | | 0.002 | A | | .0003773 | J | A | 0 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | 0.2 | V | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 49.21 | J | V | 76.45 | J | V | | | | | | | 70.34 | J | A |
| uranium-233,-234 | | | | | | | 0.6 | A | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | 0 | A | | | | | | | |
| uranium-238 | | | | | | | 0.3 | A | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0974 (COL)<br>Sample: GW02105IT (REAL)<br>Date: 12/10/91 | | | Location: 0974 (COL)<br>Sample: GW02396IT (REAL)<br>Date: 02/18/92 | | | Location: 0974 (COL)<br>Sample: GW02850IT (REAL)<br>Date: 05/06/92 | | | Location: 1074 (COL)<br>Sample: G10740290001 (REAL)<br>Date: 02/05/90 | | | Location: 1074 (COL)<br>Sample: G10740530021340 (REAL)<br>Date: 05/31/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .004135 | J | | .002472 | J | A | .01102 | | A | 0.005 | | A | 0.006 | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .003161 | J | | .1234 | J | | .01186 | J | A | | | | 0.50 | | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | 5.9 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | 8.7 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .01832 | | | .01149 | | A | .01747 | | A | 0.0135 | | JA | 0.001 | | A |
| radium-226 | | | | | | | | | | | | | 0.06 | | A |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | 0.11 | | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 77.02 | J | | 95.47 | J | A | 103.8 | J | V | | | | 480 | | |
| uranium-233,-234 | | | | | | | | | | 5.58 | | A | 6.12 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | 0.29 | | A | 0.36 | | A |
| uranium-238 | | | | | | | | | | 4.98 | | A | 5.03 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0974 (COL)<br>Sample: G09740530021540 (REAL)<br>Date: 05/31/90 | | | Location: 0974 (COL)<br>Sample: GW00209IT (REAL)<br>Date: 08/09/90 | | | Location: 0974 (COL)<br>Sample: GW00507IT (REAL)<br>Date: 10/16/90 | | | Location: 0974 (COL)<br>Sample: GW01270IT (REAL)<br>Date: 05/14/91 | | | Location: 0974 (COL)<br>Sample: GW01662IT (REAL)<br>Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.005 | | | .0126 | | | .03567 | | A | .003301 | J | A | .001167 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 0.34 | | A | .65 | U | | -.224 | J | | .2844 | J | A | -.259 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 17.7 | | A | | | | | | | | | | | | |
| gross alpha | | | | 2.56 | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 16.2 | | A | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 16.9 | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | .002949 | J | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.003 | | A | .0134 | | | .00147 | J | V | .003148 | J | V | .004445 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 0.20 | | A | | | | | | | | | | | | |
| strontium-90 | | | | .973 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 450 | | | 400 | U | | 89.78 | J | | 89.77 | J | V | 493.3 | | V |
| uranium-233,-234 | 9.96 | | A | 14.8 | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.29 | | A | .636 | | | | | | | | | | | |
| uranium-238 | 6.44 | | A | 9.93 | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 31891 (COL)<br>Sample: GW02446IT (REAL)<br>Date: 02/10/92 | | | Location: 31891 (COL)<br>Sample: GW03060IT (REAL)<br>Date: 06/05/92 | | | Location: 32591 (COL)<br>Sample: GW02830IT (REAL)<br>Date: 05/12/92 | | | Location: 34791 (COL)<br>Sample: GW02157IT (REAL)<br>Date: 12/17/91 | | | Location: 34791 (COL)<br>Sample: GW02447IT (REAL)<br>Date: 02/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .006121 | J | A | .0007134 | J | A | | | | .001998 | J | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.309 | J | R | .4353 | J | A | | | | .1105 | J | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .003301 | J | A | .002999 | J | V | | | | .0009844 | J | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 89.1 | J | A | 305.7 | J | V | 59.67 | J | V | 106.4 | J | | 88.15 | J | A |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 34791 (COL)<br>Sample: GW029081T (REAL)<br>Date: 05/20/92 | | | Location: 35391 (COL)<br>Sample: GW030191T (REAL)<br>Date: 06/23/92 | | | Location: 35691 (COL)<br>Sample: GW019941T (REAL)<br>Date: 11/11/91 | | | Location: 35691 (COL)<br>Sample: GW024491T (REAL)<br>Date: 02/17/92 | | | Location: 35691 (COL)<br>Sample: GW028911T (REAL)<br>Date: 05/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | .009654 | J | A | .004829 | J | A | -.000245 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | -.122 | J | A | .2242 | J | | -.113 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.003 | U | V | | | | .002056 | J | A | -.000464 | J | A | .001715 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 210 | U | V | 33.68 | J | V | 35.72 | J | | 83.91 | J | A | 32.72 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW02851IT (REAL)<br>Date: 05/06/92 | | | Location: 3149J (COL)<br>Sample: GW02828IT (REAL)<br>Date: 05/13/92 | | | Location: 31791 (VFA)<br>Sample: GW02468IT (REAL)<br>Date: 02/13/92 | | | Location: 31791 (VFA)<br>Sample: GW02829IT (REAL)<br>Date: 05/08/92 | | | Location: 31891 (COL)<br>Sample: GW01997IT (REAL)<br>Date: 11/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .005556 | J | A | | | | .003148 | J | A | .006374 | J | A | .002895 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.101 | J | A | | | | .167 | J | | .08873 | J | A | .356 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| *plutonium*-239,-240 | .009344 | J | A | | | | .001166 | J | A | .000869 | J | A | .005414 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 45.42 | J | V | 73.13 | J | V | 238.4 | J | A | 204.1 | J | V | 107.2 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW00149IT (REAL)<br>Date: 08/08/90 | | | Location: 1074 (COL)<br>Sample: GW00515IT (REAL)<br>Date: 10/19/90 | | | Location: 1074 (COL)<br>Sample: GW01291IT (REAL)<br>Date: 05/17/91 | | | Location: 1074 (COL)<br>Sample: GW01678IT (REAL)<br>Date: 08/22/91 | | | Location: 1074 (COL)<br>Sample: GW02395IT (REAL)<br>Date: 02/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | .007208 | J | A | .01843 | | V | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .61 | U | A | -.127 | J | | .1246 | J | A | -.088 | J | A | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .0108 | | | .0007024 | J | V | .009602 | J | V | .01288 | | V | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | -6.9 | U | R | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .152 | | R | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | -48.9 | J | V | 172.7 | J | V | 58.94 | J | V | -13 | | V |
| uranium-233,-234 | 9.27 | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .453 | | | | | | | | | | | | | | |
| uranium-238 | 6.45 | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 37191 (COL)<br>Sample: GW03024IT (REAL)<br>Date: 06/25/92 | | | Location: 37591 (RFA)<br>Sample: GW02507IT (REAL)<br>Date: 02/25/92 | | | Location: 37591 (RFA)<br>Sample: GW03025IT (REAL)<br>Date: 06/10/92 | | | Location: 37691 (RFA)<br>Sample: GW03045IT (REAL)<br>Date: 06/23/92 | | | Location: 37791 (RFA)<br>Sample: GW02164IT (REAL)<br>Date: 12/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .009786 | J | R | .006002 | J | A | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .06732 | J | A | -.353 | J | R | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -.000813 | J | V | .000524 | J | A | 0 | U | A | | | | | | |
| radium-226 | | | | | | | 0.71 | B | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 57.82 | J | V | 33.76 | J | A | 170 | U | A | -41.4 | J | V | -19.3 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
!-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL Field Sample; DUP - Field Duplicate
RFA Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 36191 (COL)<br>Sample: GW02459IT (REAL)<br>Date: 02/11/92 | | | Location: 36191 (COL)<br>Sample: GW03020IT (REAL)<br>Date: 06/10/92 | | | Location: 36391 (COL)<br>Sample: GW03021IT (REAL)<br>Date: 06/05/92 | | | Location: 37191 (COL)<br>Sample: GW01995IT (REAL)<br>Date: 11/12/91 | | | Location: 37191 (COL)<br>Sample: GW02460IT (REAL)<br>Date: 02/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .004237 | J | A | | | | .005483 | J | A | .009955 | J | A | .00137 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | -.0149 | J | A | -.143 | J | R | -.0547 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .002805 | J | A | | | | 0 | J | V | .01033 | | A | .004803 | J | A |
| radium-226 | | | | 0.88 | B | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -182 | J | A | 180 | U | A | 925.8 | | V | 101.4 | J | V | -43.6 | J | A |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 37991 (WCS)<br>Sample: GW02147IT (REAL)<br>Date: 12/16/91 | | | Location: 37991 (WCS)<br>Sample: GW02462IT (REAL)<br>Date: 02/26/92 | | | Location: 37991 (WCS)<br>Sample: GW03043IT (REAL)<br>Date: 06/04/92 | | | Location: 38591 (VFA)<br>Sample: GW02163IT (REAL)<br>Date: 12/18/91 | | | Location: 38591 (VFA)<br>Sample: GW02463IT (REAL)<br>Date: 02/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 2.169 | | R | | | | .008186 | J | | .002575 | J | | .003663 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .2001 | J | A | | | | .1977 | J | A | .4409 | J | | .2848 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .01547 | | A | | | | .005557 | J | | .004089 | J | | .0006134 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -41.5 | J | V | -17.4 | J | A | 93.69 | J | V | 84.15 | J | | 25.99 | J | A |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
*Inorganic qualifiers: U-analyzed/not detected;* B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 37791 (RFA)<br>Sample: GW02275IT (REAL)<br>Date: 01/20/92 | | | Location: 37791 (RFA)<br>Sample: GW02757IT (REAL)<br>Date: 04/21/92 | | | Location: 37891 (WCS)<br>Sample: GW02148IT (REAL)<br>Date: 12/16/91 | | | Location: 37891 (WCS)<br>Sample: GW02461IT (REAL)<br>Date: 02/27/92 | | | Location: 37891 (WCS)<br>Sample: GW03026IT (REAL)<br>Date: 06/04/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | .02047 | | A | .007853 | J | A | .005262 | J | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | -.414 | J | A | | | | .006072 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | .008347 | J | A | 0 | J | V | .01071 | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 310 | J | A | -29.9 | J | V | .9647 | J | V | 190.1 | J | V | 87.2 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4387 (COL)<br>Sample: G43870606020900 (UNKN)<br>Date: 06/07/90 | | | Location: 4387 (COL)<br>Sample: GW00063IT (REAL)<br>Date: 09/11/90 | | | Location: 4387 (COL)<br>Sample: GW00624IT (REAL)<br>Date: 11/14/90 | | | Location: 4387 (COL)<br>Sample: GW00986IT (REAL)<br>Date: 03/19/91 | | | Location: 4387 (COL)<br>Sample: GW01268IT (REAL)<br>Date: 05/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | .02099 | | A | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .2181 | | | -.964 | J | A | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | 20.26 | | R | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | 13.93 | | R | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .008138 | | R | .05233 | | A | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | -.06638 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | 355.3 | J | V | 159.9 | J | A | 117.5 | J | R | 13.91 | J | V |
| uranium-233,-234 | 14.56 | | A | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .7094 | | A | | | | | | | | | | | | |
| uranium-238 | 12.14 | | A | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 38591 (VFA)<br>Sample: GW02831IT (REAL)<br>Date: 05/08/92 | | | Location: 39191 (WCS)<br>Sample: GW02162IT (REAL)<br>Date: 12/18/91 | | | Location: 39191 (WCS)<br>Sample: GW02464IT (REAL)<br>Date: 02/26/92 | | | Location: 39191 (WCS)<br>Sample: GW02832IT (REAL)<br>Date: 05/14/92 | | | Location: 4387 (COL)<br>Sample: G43870290001 (REAL)<br>Date: 02/01/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .00289 | J | A | .009123 | J | | | | | .01813 | | R | | |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | -.454 | J | A | .5285 | J | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | 23.0 | V |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | 21.9 | V |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | .0001807 | J | A | .007486 | J | | | | | 0 | J | A | 0.020 | JA |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | 121.3 | J | V | 112.2 | J | | -19.3 | J | A | -16.4 | J | V | 160 | |
| uranium-233,-234 | | | | | | | | | | | | | 6.21 | R |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | 0.06 | R |
| uranium-238 | | | | | | | | | | | | | 1.63 | R |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4587 (KAR)<br>Sample: G45870612020830 (REAL)<br>Date: 06/12/90 | | Location: 4587 (KAR)<br>Sample: GW00364IT (REAL)<br>Date: 09/10/90 | | | Location: 4587 (KAR)<br>Sample: GW00592IT (REAL)<br>Date: 10/25/90 | | | Location: 4587 (KAR)<br>Sample: GW00931IT (REAL)<br>Date: 03/07/91 | | | Location: 4587 (KAR)<br>Sample: GW01269IT (REAL)<br>Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .003194 | A | .002615 | J | A | .004572 | J | V | .005898 | J | | .001132 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | .1283 | | -.189 | J | | -.00595 | J | | .1731 | J | A | .07387 | J | A |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | 1.699 | R | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | 5.925 | R | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | .002002 | J | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | .01701 | R | -.00057 | J | V | .0004414 | J | A | .005253 | J | | .001872 | J | V |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | .01994 | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | -36.6693 | R | -70.6 | J | | -46.9 | J | V | -1.93 | J | V | 23.16 | J | V |
| uranium-233,-234 | .4018 | R | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | 0.0 | R | | | | | | | | | | | | |
| uranium-238 | .2411 | R | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4387 (COL)<br>Sample: GW01660IT (REAL)<br>Date: 08/15/91 | | | Location: 4387 (COL)<br>Sample: GW02102IT (REAL)<br>Date: 12/12/91 | | | Location: 4387 (COL)<br>Sample: GW02415IT (REAL)<br>Date: 02/18/92 | | | Location: 4387 (COL)<br>Sample: GW03044IT (REAL)<br>Date: 06/24/92 | | | Location: 4587 (KAR)<br>Sample: G45870390001 (REAL)<br>Date: 03/15/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | 0.011 | JA |
| cesium - unknown isotope | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | 0.007 | A |
| radium-226 | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | |
| tritium (pCi/l) | -16.8 | J | V | 771 | | | -59 | | V | -109 | J | V | | |
| uranium-233,-234 | | | | | | | | | | | | | 0.47 | R |
| uranium-234 | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | 0.07 | R |
| uranium-238 | | | | | | | | | | | | | 0.29 | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5187 (RFA) Sample: GW01711IT (REAL) Date: 09/05/91 | | Location: 5187 (RFA) Sample: GW01926IT (REAL) Date: 10/18/91 | | | Location: 5287 (RFA) Sample: G52870190001 (REAL) Date: 01/29/90 | | Location: 5287 (RFA) Sample: G52870621021400 (REAL) Date: 06/21/90 | | Location: 5287 (RFA) Sample: GW00301IT (REAL) Date: 08/24/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | 0.010 | A | 0.000 | A | | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | | | | | | 0.04 | A | .92 | U |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | 58.9 | A | | |
| gross alpha | | | | | | | | | | 64.4 | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | 34.6 | A | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | 32.8 | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | 0.009 | A | | | .00234 | |
| radium-226 | | | | | | | | | | 1.68 | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | 0.18 | A | | |
| strontium-90 | | | | | | | | | | .896 | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 617.9 | V | 191.4 | J | V | | | 290 | JA | 400 | U |
| uranium-233,-234 | | | | | | | | | | 31.4 | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | 1.01 | |
| uranium-238 | | | | | | 19.78 | A | | | 21.9 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4587 (KAR)<br>Sample: GW01663IT (REAL)<br>Date: 08/16/91 | | | Location: 4587 (KAR)<br>Sample: GW02097IT (REAL)<br>Date: 12/11/91 | | | Location: 4587 (KAR)<br>Sample: GW02377IT (REAL)<br>Date: 02/22/92 | | | Location: 4587 (KAR)<br>Sample: GW03047IT (REAL)<br>Date: 06/23/92 | | | Location: 4887 (COL)<br>Sample: GW02833IT (REAL)<br>Date: 05/12/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .0009443 | J | V | .005271 | J | A | .004089 | J | A | .007267 | J | A | .008023 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.0373 | J | A | .1671 | J | R | .003164 | J | A | .5534 | J | A | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -.00117 | J | V | .001542 | J | A | .006189 | J | A | .0036 | J | V | .00302 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 118.4 | J | V | 129.9 | J | V | 44.35 | J | A | -85.6 | J | V | 24.06 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5287 (RFA) Sample: GW02274IT (REAL) Date: 01/17/92 | | | Location: 5287 (RFA) Sample: GW02719IT (REAL) Date: 04/22/92 | | | Location: 5387 (COL) Sample: G53870190001 (REAL) Date: 02/05/90 | | | Location: 5387 (COL) Sample: GW00127IT (REAL) Date: 07/31/90 | | | Location: 5387 (COL) Sample: GW01281IT (REAL) Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .002608 | J | A | .003468 | J | A | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.011 | J | A | -.721 | J | A | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .004278 | J | A | .001768 | J | A | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 275.1 | J | A | 82 | J | V | | | | 229.4 | J | | 115.9 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | 5.00 | | A | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium, COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5287 (RFA)<br>Sample: GW00797IT (REAL)<br>Date: 12/11/90 | | | Location: 5287 (RFA)<br>Sample: GW01044IT (REAL)<br>Date: 03/26/91 | | | Location: 5287 (RFA)<br>Sample: GW01390IT (REAL)<br>Date: 06/07/91 | | | Location: 5287 (RFA)<br>Sample: GW01628IT (REAL)<br>Date: 08/08/91 | | | Location: 5287 (RFA)<br>Sample: GW01897IT (REAL)<br>Date: 10/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | -.000312 | J | A | .003458 | J | A | .00738 | J | | .00293 | J | | .005528 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .04039 | J | A | .04993 | J | A | -.236 | J | A | .05901 | J | R | .09857 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | -.000293 | J | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | -.000293 | J | A | .001088 | J | V | 0 | J | | .001468 | J | | .001098 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 65.56 | J | A | 223.8 | J | A | 315.3 | J | V | 211.7 | J | V | 163 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5487 (COL)<br>Sample: GW02016IT (REAL)<br>Date: 11/18/91 | | | Location: 5487 (COL)<br>Sample: GW02822IT (REAL)<br>Date: 04/30/92 | | | Location: 5587 (VFA)<br>Sample: GW02834IT (REAL)<br>Date: 05/08/92 | | | Location: 5986 (WCS)<br>Sample: G59860390001 (REAL)<br>Date: 03/20/90 | | | Location: 5986 (WCS)<br>Sample: GW00014IT (REAL)<br>Date: 07/18/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | .004688 | J | A |
| cesium - unknown isotope | | | | | | | | | | 0.26 | | R | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | -.0614 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | 0 | J | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | .001019 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | 0.39 | | V | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 58.48 | J | V | 129.2 | J | V | 199.3 | J | V | | | | 249.6 | J | A |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5387 (COL)<br>Sample: GW01699IT (REAL)<br>Date: 08/22/91 | | | Location: 5387 (COL)<br>Sample: GW02821IT (REAL)<br>Date: 04/30/92 | | | Location: 5487 (COL)<br>Sample: G54870190001 (REAL)<br>Date: 01/30/90 | | | Location: 5487 (COL)<br>Sample: GW01282IT (REAL)<br>Date: 05/14/91 | | | Location: 5487 (COL)<br>Sample: GW01697IT (REAL)<br>Date: 08/22/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | 10.0 | | V | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | 1.9 | | V | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 65.79 | J | V | -17.3 | J | V | | | | 0 | J | V | 62.89 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6286 (WCS) Sample: G62860290001 (REAL) Date: 02/16/90 | | Location: 6286 (WCS) Sample: G62860612021415 (REAL) Date: 06/13/90 | | Location: 6286 (WCS) Sample: GW00402IT (REAL) Date: 09/18/90 | | | Location: 6286 (WCS) Sample: GW00731IT (REAL) Date: 11/21/90 | | | Location: 6286 (WCS) Sample: GW00855IT (REAL) Date: 01/09/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0.011 | A | 0.023 | A | .001197 | J | | .0007101 | J | | .005408 | J | |
| cesium - unknown isotope | 0.1 | V | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | 0.16 | A | .09976 | J | A | .1897 | J | | .4589 | J | A |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | 11.8 | A | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | | | 17.1 | A | | | | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | .0002828 | J | | | | | 0 | J | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.003 | A | 0.009 | A | .001691 | J | | .004683 | J | | .004004 | J | |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | 0.1 | V | 0.36 | JA | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | 87 | JA | 100.8 | J | | 411.2 | | V | 26.8 | J | V |
| uranium-233,-234 | 4.2 | A | 4.42 | R | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | 0.2 | A | 0.29 | R | | | | | | | | | |
| uranium-238 | 2.6 | A | 2.63 | R | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5986 (WCS)<br>Sample: GW00500IT (REAL)<br>Date: 10/09/90 | | | Location: 5986 (WCS)<br>Sample: GW00985IT (REAL)<br>Date: 03/15/91 | | | Location: 5986 (WCS)<br>Sample: GW01265IT (REAL)<br>Date: 05/10/91 | | | Location: 5986 (WCS)<br>Sample: GW01700IT (REAL)<br>Date: 08/22/91 | | | Location: 5986 (WCS)<br>Sample: GW02018IT (REAL)<br>Date: 11/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .005187 | J | V | 0.0314 | J | R | 0 | J | R | .004259 | J | A | 0.0021 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .3312 | J | | -.157 | J | | -.274 | J | A | -.00591 | J | | -.405 | J | R |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001396 | J | V | -0.0004 | J | V | -.000835 | J | V | .001888 | J | V | 0 | J | A |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 137.9 | J | V | -336 | J | V | 314.1 | J | V | 277.7 | J | V | 285 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6386 (COL)<br>Sample: G63860612021210 (REAL)<br>Date: 06/13/90 | | Location: 6386 (COL)<br>Sample: GW01709IT (REAL)<br>Date: 08/22/91 | | | Location: 6486 (VFA)<br>Sample: G64860524020840 (REAL)<br>Date: 05/25/90 | | Location: 6486 (VFA)<br>Sample: GW01705IT (REAL)<br>Date: 08/22/91 | | | Location: 6486 (VFA)<br>Sample: GW02048IT (REAL)<br>Date: 12/07/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | | | | | | 9.3 | A | | | | | | |
| gross alpha | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | | | | | | 26.7 | A | | | | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | |
| plutonium-239,-240 | 0.039 | A | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | 271.4 | J | V | | | 212.8 | J | V | 112.7 | J | |
| uranium-233,-234 | | | | | | 5.32 | A | | | | | | |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | | | | | | 0.16 | A | | | | | | |
| uranium-238 | | | | | | 4.64 | A | | | | | | |

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Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
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I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6286 (WCS)<br>Sample: GW01284IT (REAL)<br>Date: 05/14/91 | | | Location: 6286 (WCS)<br>Sample: GW01708IT (REAL)<br>Date: 08/22/91 | | | Location: 6286 (WCS)<br>Sample: GW02046IT (REAL)<br>Date: 11/25/91 | | | Location: 6286 (WCS)<br>Sample: GW02378IT (REAL)<br>Date: 02/11/92 | | | Location: 6286 (WCS)<br>Sample: GW03056IT (REAL)<br>Date: 06/11/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .001451 | J | A | .009358 | J | A | .002373 | J | A | 0 | J | A | .001337 | J | V |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .1868 | J | A | .3127 | J | A | .158 | J | A | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .004081 | J | V | .0008436 | J | V | .005359 | J | A | .00357 | J | A | .006423 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | -16.7 | J | V | -45.7 | J | V | 35.67 | J | V | -358 | J | A | -127 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW00187IT (REAL)<br>Date: 08/01/90 | | | Location: 6886 ()<br>Sample: GW00190IT (DUP)<br>Date: 08/01/90 | | | Location: 6886 (VFA)<br>Sample: GW00629IT (REAL)<br>Date: 11/02/90 | | | Location: 6886 (VFA)<br>Sample: GW00991IT (REAL)<br>Date: 03/19/91 | | | Location: 6886 (VFA)<br>Sample: GW01286IT (REAL)<br>Date: 05/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .006684 | J | A | .001157 | J | A | .03487 | | A | .004995 | J | V | .0009514 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.217 | J | A | .1109 | J | A | .07381 | J | A | .09099 | J | A | -.207 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | .0007568 | J | | -.000182 | J | | .002497 | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .003396 | J | A | .001448 | J | A | .03866 | | A | .002815 | J | V | .0009464 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 61.51 | J | | 127.9 | J | | 50.11 | J | A | 156.2 | J | V | 34.31 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6486 (VFA)<br>Sample: GW02325IT (REAL)<br>Date: 02/14/92 | | Location: 6486 (VFA)<br>Sample: GW02839IT (REAL)<br>Date: 04/30/92 | | | Location: 6886 (VFA)<br>Sample: G68860290001 (REAL)<br>Date: 02/13/90 | | Location: 6886 (VFA)<br>Sample: G68860523021005 (REAL)<br>Date: 05/23/90 | | Location: 6886 ()<br>Sample: G68860523021045 (DUP)<br>Date: 05/23/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | 0.006 | A | 0.007 | A |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | | | | | | | | 0.17 | R | 0.57 | R |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | 2.3 | A | | |
| gross alpha | | | | | | 2.4 | V | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | 2.7 | A | | |
| gross beta | | | | | | 4.9 | V | | | | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | 0.014 | JA | -0.001 | A | -0.002 | A |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | 0.49 | A | 0.57 | A |
| strontium-90 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | 111 | V | 142.6 | J | V | 140 | | 220 | JA | 320 | JA |
| uranium-233,-234 | | | | | | | | 0.62 | A | 0.94 | A |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | | | | | | 0.06 | A | 0.10 | A |
| uranium-238 | | | | | | | | 0.50 | A | 0.38 | A |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6886 ()<br>Sample: GW02383IT (DUP)<br>Date: 02/26/92 | | | Location: 6886 (VFA)<br>Sample: GW02825IT (REAL)<br>Date: 05/15/92 | | | Location: 6886 ()<br>Sample: GW02827IT (DUP)<br>Date: 05/15/92 | | | Location: 6986 (COL)<br>Sample: G69860290001 (REAL)<br>Date: 02/12/90 | Location: 6986 ()<br>Sample: G69860290001D (DUP)<br>Date: 02/12/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .004102 | J | A | 0 | J | A | .001035 | J | A | | |
| cesium - unknown isotope | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | |
| cesium-137 | -.131 | J | A | .2209 | J | A | -.684 | J | A | | |
| curium-244 | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | |
| plutonium-239,-240 | 0 | J | V | 0 | J | A | -.000358 | J | A | | |
| radium-226 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | |
| tritium (pCi/l) | -37.7 | J | A | .9632 | J | V | 115.6 | J | V | 100 | 150 |
| uranium-233,-234 | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample, DUP - Field Duplicate
RFA - Rocky Flats Alluvium, COL - Colluvium; VFA Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6886 ()<br>Sample: GW01289IT (DUP)<br>Date: 05/14/91 | | | Location: 6886 (VFA)<br>Sample: GW01751IT (REAL)<br>Date: 09/06/91 | | | Location: 6886 (VFA)<br>Sample: GW02058IT (REAL)<br>Date: 11/25/91 | | | Location: 6886 ()<br>Sample: GW02060IT (DUP)<br>Date: 11/25/91 | | | Location: 6886 (VFA)<br>Sample: GW02381IT (REAL)<br>Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .0009754 | J | A | .001533 | J | V | .0006904 | J | A | .007293 | J | A | .009159 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .1511 | J | A | -.562 | J | A | .2244 | J | A | -.159 | J | A | -.384 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .001502 | J | V | .006998 | J | V | -.000496 | J | A | .001314 | J | A | .001231 | J | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 42.66 | J | V | 140.6 | J | V | 99.3 | J | V | 61.7 | J | V | -114 | J | A |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
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N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6986 (COL)<br>Sample: GW01692IT (REAL)<br>Date: 08/20/91 | | | Location: 6986 ()<br>Sample: GW01695IT (DUP)<br>Date: 08/20/91 | | | Location: 6986 (COL)<br>Sample: GW02020IT (REAL)<br>Date: 11/13/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | .005165 | J | A | .003874 | J | A | .007857 | J | A | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .3204 | J | | .2655 | J | | .1561 | J | A | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .02564 | | V | .05846 | | V | .007539 | J | A | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 77.43 | J | V | 122 | J | V | 210.4 | J | | | | | | | |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-f

## Groundwater Total Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6986 (COL) Sample: GW00018IT (REAL) Date: 07/17/90 | | | Location: 6986 (COL) Sample: GW00509IT (REAL) Date: 10/23/90 | | | Location: 6986 (COL) Sample: GW00925IT (REAL) Date: 03/06/91 | | | Location: 6986 () Sample: GW00927IT (DUP) Date: 03/06/91 | | | Location: 6986 (COL) Sample: GW01277IT (REAL) Date: 05/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | 0 | J | A | .01446 | | V | .009547 | J | | .007173 | J | | 0 | J | A |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | -.141 | J | A | .01283 | J | | .5278 | J | A | .5661 | J | A | .6093 | J | A |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | 0 | J | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | .01331 | | A | .01198 | | A | .03991 | | | .04323 | | | .05287 | | V |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 197 | J | A | 51.65 | J | V | 173 | J | V | 108.3 | J | V | 143.8 | J | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | | | | | | | | | | | | | | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0287 (COL)<br>Sample: GW00013IT (REAL)<br>Date: 07/17/90 | | | Location: 0287 (COL)<br>Sample: GW00536IT (REAL)<br>Date: 10/18/90 | | | Location: 0287 (COL)<br>Sample: GW00929IT (REAL)<br>Date: 03/07/91 | | | Location: 0287 (COL)<br>Sample: GW01252IT (REAL)<br>Date: 05/13/91 | | | Location: 0287 (COL)<br>Sample: GW01752IT (REAL)<br>Date: 09/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 4.664 | | A | 11.73 | | A | .9473 | J | | 4.106 | | A | 2.25 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 3.155 | J | A | 2.947 | J | A | 1.219 | J | | 1.908 | J | A | 2.086 | J | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .2846 | J | | .3078 | J | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .7506 | J | A | -.0126 | J | A | -.0673 | J | A | .3604 | J | JA | .5869 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 4.284 | | V | 2.977 | | V | 3.446 | | | 3.146 | | A | 2.213 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .07332 | J | V | 0 | J | V | .03894 | J | | .1116 | J | A | .04217 | J | A |
| uranium-238 | 2.263 | | V | 1.832 | | V | 2.083 | | | 2.035 | | A | 1.509 | | A |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l)

| ANALYTE | Location: 0187 (RFA)<br>Sample: GW00093IT (REAL)<br>Date: 07/26/90 | | | Location: 0187 (RFA)<br>Sample: GW00506IT (REAL)<br>Date: 10/16/90 | | | Location: 0187 (RFA)<br>Sample: GW01659IT (REAL)<br>Date: 08/15/91 | | | Location: 0187 (RFA)<br>Sample: GW02076IT (REAL)<br>Date: 12/05/91 | | | Location: 0287 (COL)<br>Sample: G02870290001 (REAL)<br>Date: 02/02/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | 0.014 |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | 0.45 |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | 9.743 | | | 16.34 | | A | 4.959 | | A | 15.31 | | R | |
| gross alpha | | | | | | | | | | | | | 10.9 |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | 10.34 | | A | 8.232 | | A | 7.488 | | A | 10.75 | | A | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 7.2 |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | 0.013 |
| plutonium-239,-240 | | | | | | | | | | | | | |
| radium-226 | .8352 | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | 0.21 |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | |
| uranium-233,-234 | 14.74 | | | 9.697 | | V | 8.486 | | V | 13.42 | | A | 2.85 |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | .2085 | J | V | .1551 | J | V | .1044 | J | V | .1886 | J | A | 0.17 |
| uranium-238 | 10.67 | | V | 6.358 | | V | 4.741 | | V | 8.329 | | A | 1.54 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0387 (KAR) Sample: GW01253IT (REAL) Date: 05/14/91 | | | Location: 0387 (KAR) Sample: GW01696IT (REAL) Date: 08/22/91 | | | Location: 0387 (KAR) Sample: GW02022IT (REAL) Date: 11/13/91 | | | Location: 0487 (COL) Sample: GW00318IT (REAL) Date: 08/29/90 | | | Location: 0487 (COL) Sample: GW00602IT (REAL) Date: 10/30/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | .9047 | J | A | 2.964 | | A | 1.126 | J | | | | | 27.16 | | A |
| gross alpha | | | | | | | | | | 34.4 | | A | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 3.308 | J | A | 3.748 | J | A | 4.613 | | | | | | 6.001 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | 14 | | R | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | .128 | | A | .1202 | J | A |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .5812 | J | A | -.02 | J | | -.151 | J | A | | | | .3215 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .3994 | J | A | .4504 | J | A | .5914 | J | V | | | | 13.54 | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .01902 | J | A | -.00427 | J | A | 0 | J | V | | | | .1789 | J | |
| uranium-238 | .09509 | J | A | .09392 | J | A | .139 | J | V | | | | 11.45 | | |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0287 (COL)<br>Sample: GW02021IT (REAL)<br>Date: 11/14/91 | | | Location: 0387 (KAR)<br>Sample: G03870290001 (REAL)<br>Date: 02/16/90 | | | Location: 0387 (KAR)<br>Sample: GW00017IT (REAL)<br>Date: 09/12/90 | | | Location: 0387 (KAR)<br>Sample: GW00601IT (REAL)<br>Date: 10/29/90 | | | Location: 0387 (KAR)<br>Sample: GW00984IT (REAL)<br>Date: 03/14/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | -.008 | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | .05 | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 2.824 | | | | | | .2687 | J | | .797 | J | A | 1.88 | J | |
| gross alpha | | | | .2 | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 3.263 | J | | | | | 2.164 | J | | 3.063 | J | A | 3.215 | J | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 4.9 | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | .002 | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .1079 | J | A | 0 | | | .0955 | J | A | .0141 | J | A | -.0676 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 2.379 | | A | .7 | | | .6259 | | A | .1532 | J | | .6675 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0 | J | A | 0 | | | .07976 | J | A | 0 | J | | .05562 | J | V |
| uranium-238 | 1.666 | | A | .05 | | | .07976 | J | A | .2221 | J | | .2559 | J | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0587 (KAR) Sample: G05870290001 (REAL) Date: 02/14/90 | | | Location: 0587 (KAR) Sample: GW00207IT (REAL) Date: 08/07/90 | | | Location: 0587 (KAR) Sample: GW00499IT (REAL) Date: 10/12/90 | | | Location: 0587 (KAR) Sample: GW00930IT (REAL) Date: 03/07/91 | | | Location: 0587 (KAR) Sample: GW01276IT (REAL) Date: 05/13/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | 0.87 | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | 25.11 | | A | 16.21 | | | 14.1 | | | 14.09 | | A |
| gross alpha | 18.5 | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 23.23 | | A | 28.93 | | | 12.4 | | | 14.82 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 38.0 | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | 0.014 | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | .3761 | J | A | .5383 | | A | | | | .504 | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | .8446 | J | A | .3755 | J | JA | .03105 | J | A | .511 | J | A |
| strontium-90 | .09 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 13.83 | | | 15.35 | | V | 12.92 | | V | 15.44 | | | 13.55 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.15 | | | .5562 | J | V | .5738 | J | V | .4372 | J | | .3522 | J | A |
| uranium-238 | 11.39 | | | 9.248 | | V | 8.441 | | V | 9.472 | | | 9.551 | | A |

Note: Data reporting order: result, qualifier, validation code.
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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0487 (COL) Sample: GW009801T (REAL) Date: 03/19/91 | | | | Location: 0487 (COL) Sample: GW012501T (REAL) Date: 05/10/91 | | | | Location: 0487 (COL) Sample: GW016771T (REAL) Date: 08/21/91 | | | | Location: 0487 (COL) Sample: GW024211T (REAL) Date: 02/11/92 | | | | Location: 0487 (COL) Sample: GW028901T (REAL) Date: 05/11/92 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | | | | | | |
| gross alpha | 3.712 | | | R | 18.2 | | | A | 14.51 | | | R | 31.34 | | | R | 21.26 | | | |
| gross alpha | | | | | | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | | | | | | |
| gross beta | 1.895 | J | | A | 5.913 | | | A | 9.264 | | | A | 10.3 | | | A | 4.59 | | | |
| gross beta | | | | | | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | | | | | | |
| radium-226 | | | | | .4613 | J | | A | .4404 | J | | | | | | | .1126 | J | | |
| radium-228 | | | | | | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | .5213 | J | | A | .2037 | J | | | | | | | .3207 | J | | R |
| strontium-90 | | | | | | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | | | | | | |
| uranium-233,-234 | 13.51 | | | V | 11.23 | | | A | 11.51 | | | A | 11.97 | | | A | 10.9 | | | R |
| uranium-234 | | | | | | | | | | | | | | | | | | | | |
| uranium-235 | .3012 | J | | V | .4183 | J | | A | .2211 | J | | A | .318 | J | | A | .6089 | | | R |
| uranium-238 | 8.385 | | | V | 8.911 | | | A | 7.88 | | | A | 9.595 | | | A | 8.852 | | | R |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0687 (COL)<br>Sample: GW000271T (REAL)<br>Date: 07/20/90 | | | Location: 0687 (COL)<br>Sample: GW004891T (REAL)<br>Date: 10/09/90 | | | Location: 0687 (COL)<br>Sample: GW009811T (REAL)<br>Date: 03/19/91 | | | Location: 0687 (COL)<br>Sample: GW012511T (REAL)<br>Date: 05/17/91 | | | Location: 0687 (COL)<br>Sample: GW016791T (REAL)<br>Date: 08/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 39.98 | X | A | 217.4 | | | 29.79 | | A | 21.23 | | A | 16.65 | | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 3.686 | J | A | 157.4 | | | 12.53 | | A | 10.98 | | A | 18.69 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | .3814 | J | A | | | | .4567 | J | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .554 | J | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 26.29 | X | V | 19.83 | | | 12.41 | | A | 22.99 | | A | 20.14 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .7412 | X | V | .4763 | J | | .441 | J | A | .7323 | | A | .5948 | J | A |
| uranium-238 | 17.99 | X | V | 19.57 | | | 11.47 | | A | 18.06 | | A | 17.3 | | A |

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Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0587 (KAR)<br>Sample: GW016611T (REAL)<br>Date: 08/15/91 | | | Location: 0587 (KAR)<br>Sample: GW020781T (REAL)<br>Date: 12/04/91 | | | Location: 0587 (KAR)<br>Sample: GW024201T (REAL)<br>Date: 02/14/92 | | | Location: 0587 (KAR)<br>Sample: GW029921T (REAL)<br>Date: 05/29/92 | | | Location: 0687 (COL)<br>Sample: GO6870190001 (REAL)<br>Date: 01/31/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | 0.010 |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | 0.37 | U | | 0.66 |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | 10.22 | | A | 26.03 | | R | 17.98 | | R | 19 | | | |
| gross alpha | | | | | | | | | | | | | 64.1 |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | 15.56 | | A | 19.14 | | A | 13.81 | | A | 22 | U | | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 30.9 |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | 0.014 |
| plutonium-239,-240 | | | | | | | | | | | | | |
| radium-226 | .9019 | | | .4759 | J | A | .4473 | J | A | 0.19 | BJ | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | .3822 | J | A | .1758 | J | R | .1895 | J | A | 0.23 | U | | |
| strontium-90 | | | | | | | | | | | | | 0.12 |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | |
| uranium-233,-234 | 13.74 | | V | 14.32 | | A | 15.13 | | A | 16 | B | V | 24.20 |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | .4423 | J | V | .3196 | J | A | .3518 | J | A | 0.49 | J | V | 0.68 |
| uranium-238 | 10.26 | | V | 9.501 | | A | 10.07 | | A | 11 | | V | 18.60 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GARRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0887 (KAR) Sample: GW02019IT (REAL) Date: 11/14/91 | | | Location: 0974 (COL) Sample: G09740290001 (REAL) Date: 02/06/90 | | | Location: 0974 (COL) Sample: GW00507IT (REAL) Date: 10/16/90 | | | Location: 0974 (COL) Sample: GW01270IT (REAL) Date: 05/14/91 | | | Location: 0974 (COL) Sample: GW01662IT (REAL) Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | 0.002 | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | -0.02 | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | .6115 | J | | | | | 12.52 | | A | 16.52 | | A | 12.96 | | A |
| gross alpha | | | | 17.6 | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 9.959 | | | | | | 8.351 | | A | 11.55 | | A | 6.033 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 9.8 | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | 0.009 | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .4275 | J | | | | | .3089 | J | | .2419 | J | | .5892 | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .04488 | J | A | | | | -.00897 | J | A | .4191 | J | A | .7038 | J | A |
| strontium-90 | | | | 0.07 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .4404 | J | A | 9.79 | | | 11.55 | | V | 11.71 | | A | 9.465 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .0367 | J | A | 0.56 | | | .3111 | J | V | .2819 | J | A | .3725 | J | V |
| uranium-238 | .1468 | J | A | 8.02 | | | 8.233 | | V | 8.627 | | A | 9.005 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0887 (KAR) Sample: GW00024IT (REAL) Date: 09/11/90 | | | Location: 0887 (KAR) Sample: GW00568IT (REAL) Date: 11/09/90 | | | Location: 0887 (KAR) Sample: GW00983IT (REAL) Date: 03/14/91 | | | Location: 0887 (KAR) Sample: GW01267IT (REAL) Date: 05/10/91 | | | Location: 0887 (KAR) Sample: GW01675IT (REAL) Date: 09/19/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 4.249 | | | 2.636 | | A | -1.39 | J | R | 2.714 | | A | 2.166 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 13.73 | | | 10.92 | | A | 7.531 | | A | 5.719 | | A | 11.31 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .3765 | J | A | .2955 | J | | | | | .1753 | J | A | .3424 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 2.115 | | A | .7197 | | V | .7658 | | A | .6243 | | A | 1.717 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | -.00993 | J | A | .02768 | J | V | .07042 | J | A | .01674 | J | A | -.0196 | J | V |
| uranium-238 | .7349 | | A | .2122 | J | V | .2905 | J | A | .177 | J | A | .3336 | J | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 1074 (COL) Sample: GW00515IT (REAL) Date: 10/19/90 | | | Location: 1074 (COL) Sample: GW01291IT (REAL) Date: 05/17/91 | | | Location: 1074 (COL) Sample: GW01678IT (REAL) Date: 08/22/91 | | | Location: 1074 (COL) Sample: GW02106IT (REAL) Date: 12/11/91 | | | Location: 1074 (COL) Sample: GW02395IT (REAL) Date: 02/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 11.8 | | | 9.745 | | A | 7.787 | | | 10.04 | | A | 10.94 | | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | 6.722 | | | 13.29 | | A | 12.04 | | | 5.677 | | A | 8.206 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | .005722 | J | | .05813 | J | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .2729 | J | | .1584 | J | A | -.153 | J | R | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 7.769 | | V | 8.396 | | A | 7.451 | | V | 6.825 | | A | 8.328 | | A |
| uranium-234 | .5844 | J | V | .2085 | J | A | .385 | J | V | .1787 | J | A | .281 | J | A |
| uranium-235 | 6.42 | | V | 6.337 | | A | 5.44 | | V | 5.589 | | A | 5.096 | | A |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 0974 (COL)<br>Sample: GW02105IT (REAL)<br>Date: 12/10/91 | | | Location: 0974 (COL)<br>Sample: GW02396IT (REAL)<br>Date: 02/18/92 | | | Location: 0974 (COL)<br>Sample: GW02850IT (REAL)<br>Date: 05/06/92 | | | Location: 1074 (COL)<br>Sample: G10740290001 (REAL)<br>Date: 02/05/90 | | | Location: 1074 (COL)<br>Sample: GW00149IT (REAL)<br>Date: 08/08/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 10.73 | | | 10.17 | | R | 13.75 | | | | | | | | |
| gross alpha | | | | | | | | | | | | | 17.8 | | R |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 16.75 | | | 9.941 | | A | 9.869 | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | 19 | | R |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | 0.018 | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .5275 | | | .3776 | J | A | .3115 | J | | 0.11 | | A | 3.53 | | R |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .06652 | J | | .4054 | J | A | -.0986 | J | A | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 10.98 | | | 10.72 | | A | 9.761 | | R | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .1181 | J | | .4669 | J | A | .132 | J | R | | | | | | |
| uranium-238 | 7.969 | | | 8.171 | | A | 6.66 | | R | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 31891 (COL) Sample: GW024461I (REAL) Date: 02/10/92 | | | Location: 31891 (COL) Sample: GW030601I (REAL) Date: 06/05/92 | | | Location: 34791 (COL) Sample: GW021571I (REAL) Date: 12/17/91 | | | Location: 34791 (COL) Sample: GW024471I (REAL) Date: 02/10/92 | | | Location: 34791 (COL) Sample: GW029081I (REAL) Date: 05/20/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | 0.27 | U | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | .9853 | J | A | 6.042 | | | 4.077 | | | 3.404 | | A | 4.1 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 7.796 | | A | 2.344 | J | | 2.581 | J | | 2.986 | J | A | 2.1 | U | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | .2983 | J | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 1.034 | | A | .5379 | J | A | .2926 | J | | .5002 | J | A | 0.32 | J | V |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 2.778 | | A | 3.893 | | V | .4514 | J | | 2.006 | | A | 0.18 | J | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .1259 | J | A | -.00695 | J | V | -.01 | J | | .08224 | J | A | 0 | U | V |
| uranium-238 | 2.782 | | A | 2.367 | | V | .3912 | J | | 1.262 | | A | 0.52 | J | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW02851I (REAL)<br>Date: 05/06/92 | | | Location: 31491 (COL)<br>Sample: GW02828I (REAL)<br>Date: 05/13/92 | | | Location: 31791 (VFA)<br>Sample: GW02468I (REAL)<br>Date: 02/13/92 | | | Location: 31791 (VFA)<br>Sample: GW02829I (REAL)<br>Date: 05/08/92 | | | Location: 31891 (COL)<br>Sample: GW01997I (REAL)<br>Date: 11/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 10.06 | | | | | | 51.31 | | R | 40.74 | | A | 8.8 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | 12.8 | | A | | | | | | | | | |
| gross beta | 3.366 | J | | | | | 17.05 | | A | 13.24 | | A | 5.673 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 7.033 | | A | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .1955 | J | | | | | .9811 | | A | .8655 | | A | .3824 | J | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .2485 | J | A | | | | .3708 | J | A | .6231 | J | A | .5156 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 7.08 | | A | 8.297 | | R | 29.05 | | A | 33.1 | | A | 2.667 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .304 | J | A | .3058 | J | R | .8173 | | A | .6175 | | A | .166 | J | A |
| uranium-238 | 4.98 | | A | 6.045 | | R | 19.26 | | A | 21.65 | | A | 2.777 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 36391 (COL)<br>Sample: GW03021IT (REAL)<br>Date: 06/05/92 | | | Location: 37191 (COL)<br>Sample: GW01995IT (REAL)<br>Date: 11/12/91 | | | Location: 37191 (COL)<br>Sample: GW02460IT (REAL)<br>Date: 02/10/92 | | | Location: 37191 (COL)<br>Sample: GW03024IT (REAL)<br>Date: 06/25/92 | | | Location: 37591 (RFA)<br>Sample: GW02507IT (REAL)<br>Date: 02/25/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 23.98 | | | 25.42 | | | 8.798 | | A | 7.142 | | | 5.355 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 8.864 | | | 17.26 | | | 9.06 | | A | 1.794 | J | | 4.434 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .5348 | | | .4365 | J | | .3072 | J | A | .3633 | J | | .4772 | J | A |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .4196 | J | A | .1612 | J | A | .3285 | J | JA | .5225 | J | A | .2832 | J | JA |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 13.09 | | V | 9.461 | | A | 9.266 | | A | 8.988 | | A | 5.133 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .5482 | J | V | .04654 | J | A | .2606 | J | A | .1906 | J | A | .04649 | J | A |
| uranium-238 | 11.28 | | V | 8.378 | | A | 6.552 | | A | 4.518 | | A | 3.03 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 35691 (COL)<br>Sample: GW01994IT (REAL)<br>Date: 11/11/91 | | | Location: 35691 (COL)<br>Sample: GW02449IT (REAL)<br>Date: 02/17/92 | | | Location: 35691 (COL)<br>Sample: GW02891IT (REAL)<br>Date: 05/14/92 | | | Location: 36191 (COL)<br>Sample: GW02459IT (REAL)<br>Date: 02/11/92 | | | Location: 36191 (COL)<br>Sample: GW03020IT (REAL)<br>Date: 06/10/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | 0.78 | BJ | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 40.07 | | | 28.53 | | R | 25.75 | | | 21.24 | | A | 25 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 15.85 | | | 14.36 | | A | 6.086 | | | 9.942 | | A | 11 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .7042 | | | .5782 | | A | .4671 | J | | .5809 | | A | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .4193 | J | A | .3881 | J | A | .1712 | J | JA | .09999 | J | A | 0.21 | U | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | 19.59 | | A | 20.78 | | A | 15.01 | | A | 13.64 | | A | 14 | B | V |
| uranium-233,-234 | | | | | | | | | | | | | | | |
| uranium-234 | .2895 | J | A | .586 | J | A | .4883 | J | A | .4559 | J | A | 0.32 | J | V |
| uranium-235 | 14.7 | | A | 15.96 | | A | 12.79 | | A | 9.45 | | A | 9.1 | B | V |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 37891 (WCS)<br>Sample: GW03026IT (REAL)<br>Date: 06/04/92 | | | Location: 37991 (WCS)<br>Sample: GW02147IT (REAL)<br>Date: 12/16/91 | | | Location: 37991 (WCS)<br>Sample: GW02462IT (REAL)<br>Date: 02/26/92 | | | Location: 37991 (WCS)<br>Sample: GW03043IT (REAL)<br>Date: 06/04/92 | | | Location: 38591 (VFA)<br>Sample: GW02163IT (REAL)<br>Date: 12/18/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 17 | | | 25.2 | R | | 36.79 | | A | 24.31 | | | 15.89 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 17.72 | | | 22.2 | R | | 19.77 | | A | 31.12 | | | 3.766 | J | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .6268 | | | 1.968 | A | | | | | .9668 | | | .6199 | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .925 | J | A | 2.474 | JA | | | | | .2611 | J | JA | .8256 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 17.41 | | | 16.33 | A | | 26.95 | | A | 25.67 | | | 11.58 | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .3644 | J | | .6781 | A | | .4586 | J | A | .7953 | | | .2619 | J | |
| uranium-238 | 12.14 | | | 11.44 | A | | 16.53 | | A | 17 | | | 7.652 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 37591 (RFA)<br>Sample: GW030251T (REAL)<br>Date: 06/10/92 | | | Location: 37791 (RFA)<br>Sample: GW022751T (REAL)<br>Date: 01/20/92 | | | Location: 37791 (RFA)<br>Sample: GW027571T (REAL)<br>Date: 04/21/92 | | | Location: 37891 (WCS)<br>Sample: GW021481T (REAL)<br>Date: 12/16/91 | | | Location: 37891 (WCS)<br>Sample: GW024611T (REAL)<br>Date: 02/27/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 13 | | | 47 | R | | 34.88 | A | | 23.96 | | R | 20.62 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 8.1 | | | 31.58 | A | | 17.2 | A | | 17.23 | | R | 8.16 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | .5386 | | A | .5986 | | A |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | .6549 | J | A | .2117 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 5.4 | B | V | 34.37 | A | | 24.11 | A | | 17.85 | | A | 17.98 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.16 | J | V | .9141 | A | | .9963 | A | | .3312 | J | A | .4171 | J | V |
| uranium-238 | 4.9 | B | V | 30.29 | A | | 21.53 | A | | 10.6 | | A | 10.46 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4387 (COL)<br>Sample: G43870290001 (REAL)<br>Date: 02/01/90 | | | Location: 4387 (COL)<br>Sample: GW00063IT (REAL)<br>Date: 09/11/90 | | | Location: 4387 (COL)<br>Sample: GW00624IT (REAL)<br>Date: 11/14/90 | | | Location: 4387 (COL)<br>Sample: GW00986IT (REAL)<br>Date: 03/19/91 | | | Location: 4387 (COL)<br>Sample: GW01268IT (REAL)<br>Date: 05/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | | | | 20.01 | | | 13.83 | | R | 21.16 | | A | 35.7 | | A |
| gross alpha | 23.0 | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | | | | 13.3 | | | 3.962 | J | A | 8.23 | | A | 9.21 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | 21.9 | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | 0.013 | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | 1.046 | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | .8603 | J | A | | | | | | | | | |
| strontium-90 | 0.17 | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 6.21 | | | 14.73 | | A | 14.59 | | V | 2.905 | | V | 17.77 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0.06 | | | .397 | J | A | .4119 | J | V | .1937 | J | V | .3198 | J | A |
| uranium-238 | 1.63 | | | 10.93 | | A | 10.46 | | V | 2.692 | | V | 13.29 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 38591 (VFA)<br>Sample: GW02463IT (REAL)<br>Date: 02/10/92 | | | Location: 38591 (VFA)<br>Sample: GW02831IT (REAL)<br>Date: 05/08/92 | | | Location: 39191 (WCS)<br>Sample: GW02162IT (REAL)<br>Date: 12/18/91 | | | Location: 39191 (WCS)<br>Sample: GW02464IT (REAL)<br>Date: 02/26/92 | | | Location: 39191 (WCS)<br>Sample: GW02832IT (REAL)<br>Date: 05/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 29.96 | | A | 18.38 | | A | 3.007 | | | 9.98 | | A | 12.18 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 8.872 | | A | 9.938 | | A | 11.07 | | | 13.66 | | A | 8.845 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .553 | | A | .7582 | | A | | | | | | | .4021 | J | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | 1.403 | | JA | .729 | J | A | .3677 | J | | | | | .2782 | J | JA |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 13.39 | | A | 11.61 | | A | 2.38 | | | 7.195 | | A | 7.27 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .334 | J | A | .4443 | J | A | .05196 | J | | .09966 | J | A | .1851 | J | A |
| uranium-238 | 8.495 | | A | 7.292 | | A | 1.185 | | | 4.062 | | A | 5.131 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4587 (KAR)<br>Sample: GW00931T (REAL)<br>Date: 03/07/91 | | | Location: 4587 (KAR)<br>Sample: GW01269T (REAL)<br>Date: 05/14/91 | | | Location: 4587 (KAR)<br>Sample: GW01663T (REAL)<br>Date: 08/16/91 | | | Location: 4587 (KAR)<br>Sample: GW02097T (REAL)<br>Date: 12/11/91 | | | Location: 4587 (KAR)<br>Sample: GW02377T (REAL)<br>Date: 02/22/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 2.745 | | | .8745 | J | A | .5045 | J | A | .3139 | J | A | 2.021 | | A |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 4.505 | | | 3.691 | J | A | 3.355 | J | A | 6.278 | | A | 14.69 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .4696 | J | A | .5381 | J | JA | .1046 | J | A | .04102 | J | A | .001876 | J | JA |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .3146 | J | | .3452 | J | A | .2584 | J | V | .4591 | J | A | .535 | J | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 0 | J | | .02466 | J | A | -.00728 | J | V | .04051 | J | A | -.0109 | J | A |
| uranium-238 | .0899 | J | | .1973 | J | A | .3639 | J | V | .1331 | J | A | .1092 | J | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4387 (COL) Sample: GW01660IT (REAL) Date: 08/15/91 | | | Location: 4387 (COL) Sample: GW02102IT (REAL) Date: 12/12/91 | | | Location: 4387 (COL) Sample: GW02415IT (REAL) Date: 02/18/92 | | | Location: 4587 (KAR) Sample: GW00364IT (REAL) Date: 09/10/90 | | | Location: 4587 (KAR) Sample: GW00592IT (REAL) Date: 10/25/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 21.43 | | A | 17.39 | | | 39.04 | R | | 1.619 | J | A | 10.59 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 17.99 | | A | 13.23 | | | 7.808 | A | | 5.945 | | A | 2.643 | J | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | .2585 | J | B |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | .1279 | J | | .4459 | J | |
| strontium-89,-90 | | | | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 18.67 | | V | 19.79 | | | | | | .4212 | J | A | 60.75 | | V |
| uranium-234 | | | | | | | | | | 0 | J | A | 1.372 | | V |
| uranium-235 | .1927 | J | V | .7031 | | | | | | .335 | J | A | 39.27 | | V |
| uranium-238 | 14.31 | | V | 13.16 | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5287 (RFA) Sample: GW00797IT (REAL) Date: 12/11/90 | | | Location: 5287 (RFA) Sample: GW01044IT (REAL) Date: 03/26/91 | | | Location: 5287 (RFA) Sample: GW01390IT (REAL) Date: 06/07/91 | | | Location: 5287 (RFA) Sample: GW01628IT (REAL) Date: 08/08/91 | | | Location: 5287 (RFA) Sample: GW01897IT (REAL) Date: 10/11/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 41.53 | | A | 31.64 | | A | 43.71 | | A | 58.69 | | A | 60.63 | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 10.06 | | A | 6.645 | | A | 11.29 | | A | 20.09 | | A | 25.86 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .3206 | J | A | .5618 | | A | .321 | J | A | .4688 | J | A | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .3416 | J | | .2044 | J | A | .7177 | J | A | .7934 | J | A | .1158 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 27.67 | | A | 31.08 | | V | 31.37 | | | 32.04 | | | 30.2 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-233 | 1.164 | | A | .5363 | J | V | .6813 | | | 1.228 | | | .946 | | A |
| uranium-238 | 21.72 | | A | 20.45 | | V | 21.11 | | | 21.13 | | | 22.29 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 4587 (KAR)<br>Sample: GW03047IT (REAL)<br>Date: 06/23/92 | | | Location: 4887 (COL)<br>Sample: GW00039IT (REAL)<br>Date: 07/24/90 | | | Location: 4887 (COL)<br>Sample: GW02833IT (REAL)<br>Date: 05/12/92 | | | Location: 5187 (RFA)<br>Sample: GW01926IT (REAL)<br>Date: 10/18/91 | | | Location: 5287 (RFA)<br>Sample: G52870190001 (REAL)<br>Date: 01/29/90 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | 0.010 |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | 0.43 |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | 1.239 | J | | 21.02 | X | | | | | 30.84 | | | |
| gross alpha | | | | | | | | | | | | | 61.3 |
| gross alpha particle activity | | | | | | | 3.532 | | A | | | | |
| gross beta | 4.49 | | | 11.62 | X | | | | | 18.8 | | | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | 2.683 | J | A | | | | 82.2 |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | 0.009 |
| plutonium-239,-240 | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | .3236 | J | A | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | 0.15 |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | |
| uranium-233,-234 | .3685 | J | A | 7.335 | X | | 4.292 | | R | 7.203 | | A | 27.48 |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | .03879 | J | A | .3031 | J | | .189 | J | R | .05062 | J | A | 0.80 |
| uranium-238 | .07759 | J | A | 4.971 | X | | 4.81 | | R | 5.832 | | A | 19.78 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5487 (COL)<br>Sample: GW02016IT (REAL)<br>Date: 11/18/91 | | | Location: 5986 (WCS)<br>Sample: G59860390001 (REAL)<br>Date: 03/20/90 | | | Location: 5986 (WCS)<br>Sample: GW00014IT (REAL)<br>Date: 07/18/90 | | | Location: 5986 (WCS)<br>Sample: GW00500IT (REAL)<br>Date: 10/09/90 | | | Location: 5986 (WCS)<br>Sample: GW00985IT (REAL)<br>Date: 03/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | -.003255 | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | -.2562 | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 10.96 | | | | | | 9.055 | | A | 14.12 | | | 24.33 | | |
| gross alpha | | | | 16.63 | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 10.22 | | | | | | 4.472 | | A | 4.494 | | | 7.803 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | 13. | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | .007372 | | | | | | | | | | | |
| radium-226 | | | | | | | .4538 | J | | .3492 | J | A | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | .7926 | J | A | .2099 | J | A | .3424 | J | A |
| strontium-90 | | | | .3914 | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 8.837 | | A | 14.74 | | | 12.54 | | A | 15.71 | | A | 12.56 | | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .1769 | J | A | .5716 | | | .5732 | J | A | .4321 | J | A | .09282 | J | V |
| uranium-238 | 3.619 | | A | 12.28 | | | 9.411 | | A | 9.269 | | A | 8.447 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5287 (RFA)<br>Sample: GW022741T (REAL)<br>Date: 01/17/92 | | | Location: 5287 (RFA)<br>Sample: GW027191T (REAL)<br>Date: 04/22/92 | | | Location: 5387 (COL)<br>Sample: G53870190001 (REAL)<br>Date: 02/05/90 | | | Location: 5387 (COL)<br>Sample: GW00127IT (REAL)<br>Date: 07/31/90 | | | Location: 5487 (COL)<br>Sample: G54870190001 (REAL)<br>Date: 01/30/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 44.89 | | R | 36.41 | | A | | | | 29.01 | | | | | |
| gross alpha | | | | | | | 22.0 | | | | | | 10.0 | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 14.98 | | A | 16.62 | | A | | | | 11.72 | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | 12.1 | | | | | | 1.9 | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .4693 | J | A | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .4016 | J | A | .4325 | J | A | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 31.66 | | A | 28.56 | | A | 7.39 | | | 10.17 | | A | 3.61 | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | 1.092 | | A | 1.073 | | A | 0.46 | | | .5759 | J | A | 0.10 | | |
| uranium-238 | 20.31 | | A | 21.66 | | A | 5.00 | | | 8.385 | | A | 1.17 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
*N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6286 (WCS)<br>Sample: GW00855IT (REAL)<br>Date: 01/09/91 | | | Location: 6286 (WCS)<br>Sample: GW01284IT (REAL)<br>Date: 05/14/91 | | | Location: 6286 (WCS)<br>Sample: GW01708IT (REAL)<br>Date: 08/22/91 | | | Location: 6286 (WCS)<br>Sample: GW02046IT (REAL)<br>Date: 11/25/91 | | | Location: 6286 (WCS)<br>Sample: GW02378IT (REAL)<br>Date: 02/11/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 7.021 | | | 10.4 | | A | 2.57 | | A | 5.982 | | R | 4.938 | | A |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 5.132 | | | 4.181 | | A | 5.549 | | A | 8.077 | | A | 4.978 | | A |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .2141 | J | A | | | | | | | .2191 | J | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .5599 | J | A | .2535 | J | A | .1714 | J | | .1509 | J | A | .1709 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .2743 | J | | 4.629 | | A | 4.375 | | A | 3.563 | | A | 4.674 | | R |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .1947 | J | | .08922 | J | A | .06469 | J | A | -.0104 | J | A | .2244 | J | R |
| uranium-238 | .1593 | J | | 3.788 | | A | 3.259 | | A | 2.264 | | A | 2.976 | | R |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rojected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 5986 (WCS)<br>Sample: GW01265IT (REAL)<br>Date: 05/10/91 | | | Location: 5986 (WCS)<br>Sample: GW01700IT (REAL)<br>Date: 08/22/91 | | | Location: 5986 (WCS)<br>Sample: GW02018IT (REAL)<br>Date: 11/15/91 | | | Location: 6286 (WCS)<br>Sample: GW00402IT (REAL)<br>Date: 09/18/90 | | | Location: 6286 (WCS)<br>Sample: GW00731IT (REAL)<br>Date: 11/21/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 24.61 | | A | 11.58 | | R | 16.91 | | | 13.39 | | A | 1.432 | J | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 17.35 | | | 5.806 | | | 13.72 | | | 7.68 | | A | 5.697 | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .6419 | | A | .4009 | J | | .4263 | J | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .197 | J | | .4592 | J | | .7357 | J | | .565 | J | | .3384 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 12.42 | | A | 15.2 | | A | 15.4 | | | 5.242 | | | 4.766 | | |
| uranium-234 | .4613 | J | A | .2885 | J | A | .3793 | J | A | .1512 | J | | .1973 | J | |
| uranium-235 | 9.052 | | A | 10.81 | | A | 10.02 | | A | 3.578 | | | 3.118 | | |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW006291T (REAL)<br>Date: 11/02/90 | | | Location: 6886 (VFA)<br>Sample: GW009911T (REAL)<br>Date: 03/19/91 | | | Location: 6886 (VFA)<br>Sample: GW012861T (REAL)<br>Date: 05/14/91 | | | Location: 6886 (VFA)<br>Sample: GW012891T (DUP)<br>Date: 05/14/91 | | | Location: 6886 (VFA)<br>Sample: GW017511T (REAL)<br>Date: 09/06/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | .2062 | J | A | 1.533 | J | R | 1.457 | J | A | .8253 | J | A | .937 | J | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 1.706 | J | A | 2.037 | J | A | 1.636 | J | A | 2.949 | J | A | 2.476 | J | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .5606 | J | A | | | | .6404 | J | A | .5801 | J | A | .9164 | J | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .06755 | J | V | .1257 | J | V | .1923 | J | A | .2954 | J | A | .2277 | J | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .04825 | J | V | .05028 | J | V | -.00836 | J | A | .1198 | J | A | 0 | J | A |
| uranium-238 | .0965 | J | V | .1886 | J | V | .1505 | J | A | .03194 | J | A | .1851 | J | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
M-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6286 (WCS)<br>Sample: GW030561T (REAL)<br>Date: 06/11/92 | | | Location: 6386 (COL)<br>Sample: G63860612021210 (REAL)<br>Date: 06/13/90 | | | Location: 6886 (VFA)<br>Sample: G68860290001 (REAL)<br>Date: 02/13/90 | | | Location: 6886 (VFA)<br>Sample: GW00187IT (REAL)<br>Date: 08/01/90 | | | Location: 6886 (VFA)<br>Sample: GW00190IT (DUP)<br>Date: 08/01/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | .575 | J | A | | | | 0.14 | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 3.396 | | | | | | | | | 3.369 | | A | 7.486 | | A |
| gross alpha | | | | | | | 2.4 | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 6.886 | | | | | | | | | 2.972 | J | A | 2.167 | J | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | 4.9 | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | 0.014 | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | .1415 | J | A |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | | | | | | | | | | .5718 | J | A | .295 | J | R |
| strontium-90 | | | | | | | 0.12 | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 3.638 | | A | 5.23 | | | 1.03 | | | .1836 | J | V | .08913 | J | V |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .2056 | J | A | 0.04 | | | 0.19 | | | 0 | J | V | 0 | J | V |
| uranium-238 | 3.12 | | A | 4.62 | | | 0.78 | | | .306 | J | V | .2546 | J | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW02827IT (DUP)<br>Date: 05/15/92 | | | Location: 6986 (COL)<br>Sample: G69860290001 (REAL)<br>Date: 02/12/90 | | Location: 6986 (COL)<br>Sample: G69860290001D (DUP)<br>Date: 02/12/90 | | Location: 6986 (COL)<br>Sample: GW00018IT (REAL)<br>Date: 07/17/90 | | | Location: 6986 (COL)<br>Sample: GW00509IT (REAL)<br>Date: 10/23/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | 0.006 | | 0.002 | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | |
| cesium-137 | | | | -0.07 | | 0.41 | | | | | | | |
| curium-244 | | | | | | | | | | | | | |
| gross alpha | 1.351 | J | | | | 11.1 | | 15.82 | | A | 5.23 | | |
| gross alpha | | | | 10.6 | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | |
| gross beta | 3.161 | J | | | | | | 4.878 | | A | 5.877 | | |
| gross beta | | | | | | | | | | | | | |
| gross beta particle activity | | | | 10.2 | | 17.6 | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | |
| plutonium-239 | | | | 0.009 | | 0.003 | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | |
| radium-226 | | | | | | | | .1025 | J | | .08389 | J | A |
| radium-228 | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | |
| strontium-89,-90 | .6232 | J | A | | | | | .4133 | J | A | .3474 | J | |
| strontium-90 | | | | -0.14 | | -0.04 | | | | | | | |
| total radiocesium | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | |
| uranium-233,-234 | .8379 | | R | 8.02 | | 6.82 | | 8.739 | | V | 8.541 | | V |
| uranium-234 | | | | | | | | | | | | | |
| uranium-235 | -.0212 | J | R | 0.55 | | 0.47 | | .2559 | J | V | .3767 | J | V |
| uranium-238 | .7424 | | R | 5.63 | | 6.62 | | 6.072 | | V | 5.273 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6886 (VFA)<br>Sample: GW02058IT (REAL)<br>Date: 11/25/91 | | | Location: 6886 (VFA)<br>Sample: GW02060IT (DUP)<br>Date: 11/25/91 | | | Location: 6886 (VFA)<br>Sample: GW02381IT (REAL)<br>Date: 02/26/92 | | | Location: 6886 (VFA)<br>Sample: GW02383IT (DUP)<br>Date: 02/26/92 | | | Location: 6886 (VFA)<br>Sample: GW02825IT (REAL)<br>Date: 05/15/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | .858 | J | R | .9518 | J | R | 3.772 | | | 1.864 | J | | .8564 | J | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | 2.631 | J | A | 2.253 | J | A | 3.174 | J | | 2.299 | J | | 2.52 | J | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | | | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .4618 | J | A | .8557 | J | A | .9367 | J | A | .6296 | J | A | 1.044 | | A |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | .477 | J | A | .4756 | J | A | 1.784 | | A | 1.419 | | A | .6302 | | R |
| uranium-234 | -.00776 | J | A | .05429 | J | A | .09199 | J | A | -.00378 | J | A | .1446 | J | R |
| uranium-235 | .3684 | J | A | .4887 | J | A | 1.046 | | A | 1.218 | | A | .6095 | | R |
| uranium-238 | | | | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6986 (COL)<br>Sample: GW009251T (REAL)<br>Date: 03/06/91 | | | Location: 6986 (COL)<br>Sample: GW009271T (DUP)<br>Date: 03/06/91 | | | Location: 6986 (COL)<br>Sample: GW012771T (REAL)<br>Date: 05/13/91 | | | Location: 6986 (COL)<br>Sample: GW016921T (REAL)<br>Date: 08/20/91 | | | Location: 6986 (COL)<br>Sample: GW016951T (DUP)<br>Date: 08/20/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 11.15 | | | 13.09 | | | 5.469 | | A | 7.999 | | R | 7.63 | | R |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 1.298 | J | | 1.659 | J | | 4.76 | | A | 8.424 | | A | 6.093 | | A |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .08469 | J | A | .06956 | J | A | .07022 | J | | .3013 | J | | .3743 | J | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .3519 | J | A | -.0668 | J | A | .4495 | J | A | .07713 | J | | .3231 | J | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 9.172 | | | 11.73 | | | 9.857 | | A | 8.753 | | A | 9.987 | | A |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .326 | J | | .1008 | J | | .2125 | J | A | .3706 | J | A | .4398 | J | A |
| uranium-238 | 6.829 | | | 8.162 | | | 7.697 | | A | 7.281 | | A | 7.16 | | A |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-g

## Groundwater Filtered Radiochemistry Samples (pCi/l) (continued)

| ANALYTE | Location: 6986 (COL)<br>Sample: GW020201T (REAL)<br>Date: 11/13/91 | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | | Location: ()<br>Sample: ()<br>Date: / / | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| americium-241 | | | | | | | | | | | | | | | |
| cesium - unknown isotope | | | | | | | | | | | | | | | |
| cesium-134 | | | | | | | | | | | | | | | |
| cesium-137 | | | | | | | | | | | | | | | |
| curium-244 | | | | | | | | | | | | | | | |
| gross alpha | 9.629 | | | | | | | | | | | | | | |
| gross alpha | | | | | | | | | | | | | | | |
| gross alpha particle activity | | | | | | | | | | | | | | | |
| gross beta | 6.84 | | | | | | | | | | | | | | |
| gross beta | | | | | | | | | | | | | | | |
| gross beta particle activity | | | | | | | | | | | | | | | |
| neptunium-237 | | | | | | | | | | | | | | | |
| plutonium-236 | | | | | | | | | | | | | | | |
| plutonium-238 | | | | | | | | | | | | | | | |
| plutonium-239 | | | | | | | | | | | | | | | |
| plutonium-239,-240 | | | | | | | | | | | | | | | |
| radium-226 | .06228 | J | | | | | | | | | | | | | |
| radium-228 | | | | | | | | | | | | | | | |
| strontium-89 | | | | | | | | | | | | | | | |
| strontium-89,-90 | .1021 | J | A | | | | | | | | | | | | |
| strontium-90 | | | | | | | | | | | | | | | |
| total radiocesium | | | | | | | | | | | | | | | |
| tritium (pCi/l) | | | | | | | | | | | | | | | |
| uranium-233,-234 | 9.578 | | V | | | | | | | | | | | | |
| uranium-234 | | | | | | | | | | | | | | | |
| uranium-235 | .1165 | J | V | | | | | | | | | | | | |
| uranium-238 | 6.849 | | V | | | | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
M-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone.

# Table C8-h

## Groundwater Water Quality Parameter Samples

| ANALYTE | Location: 0187 (RFA)<br>Sample: G01870290001 (REAL)<br>Date: 02/02/90 | | Location: 0187 (RFA)<br>Sample: GW00093IT (REAL)<br>Date: 07/26/90 | | Location: 0187 (RFA)<br>Sample: GW00506IT (REAL)<br>Date: 10/16/90 | | Location: 0187 (RFA)<br>Sample: GW01290IT (REAL)<br>Date: 05/15/91 | | Location: 0187 (RFA)<br>Sample: GW01659IT (REAL)<br>Date: 08/15/91 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | |
| bicarbonate (mg/l) | 630 | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | 600 | | 420 | | | | 340 | | V |
| carbonate (mg/l) | 5 | U | 1 | U | 1 | U | | | | | |
| carbonate as caco3 (mg/l) | | | | | | | | | 10 | | V |
| chloride (mg/l) | 55 | | 55 | | 34 | | | | 31 | | V |
| cyanide (ug/l) | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | |
| *diss. organic carbon (mg/l)* | | | | | | | | | | | |
| fluoride (mg/l) | 0.5 | U | 0.6 | | 0.6 | | | | 0.8 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | 1 | U | | | | | | | |
| nitrate/nitrite (mg/l) | 0.06 | | | | | | 0.2 | V | 1.0 | | V |
| nitrite (mg/l) | | | 1 | U | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | 0.01 | U | JA |
| pH (ph) | 7.5 | | | | | | | | | | |
| phosphate (mg/l) | | | 0.2 | U | 0.2 | U | | | | | |
| phosphorus (mg/l) | | | 0.010 | U | 0.03 | | | | | | |
| silica, dissolved (mg/l) | | | | | 27.0 | | | | 6.8 | | V |
| silicon (mg/l) | | | 13 | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, *nonvol/susp (mg/l)* | | | | | | | | | | | |
| sulfate (mg/l) | 96 | | 110 | | 100 | | | | 140 | | V |
| sulfide (mg/l) | | | | | | | | | | | |
| total diss. solids (mg/l) | 740 | | 930 | | 670 | | | | 620 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | | | 40 | | 34 | | | | 360 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 0187 (RFA) Sample: GW02076IT (REAL) Date: 12/05/91 | | | Location: 0187 (RFA) Sample: GW02431IT (REAL) Date: 02/20/92 | | | Location: 0187 (RFA) Sample: GW02879IT (REAL) Date: 05/12/92 | | | Location: 0287 (COL) Sample: GO2870290001 (REAL) Date: 02/02/90 | | | Location: 0287 (COL) Sample: GW00013IT (REAL) Date: 07/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | 400 | | V | | | |
| bicarbonate as caco3 (mg/l) | 410 | | V | 490 | | V | 150 | | V | | | | 320 | | |
| carbonate (mg/l) | | | | | | | | | | 5 | U | V | | | |
| carbonate as caco3 (mg/l) | 1 | U | V | 1 | U | V | 1 | U | V | | | | 0 | | |
| chloride (mg/l) | 32 | | V | 47 | | V | 47 | | V | 92 | J | A | 95 | | |
| cyanide (ug/l) | 2.00 | U | V | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.9 | | JA | 0.8 | | V | 0.7 | | V | 1.7 | | V | 1.8 | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.8 | | V | 0.6 | | V | 0.8 | | V | 0.05 | U | V | 0.03 | | |
| nitrite (mg/l) | | | | | | | | | | | | | 0.02 | U | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.01 | U | V | | | | | | | | | | | | |
| pH (ph) | | | | | | | | | | 7.5 | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | 1.2 | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 7.0 | | V | 6.0 | | V | | | | | | | 7.1 | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 110 | | JA | 220 | | JA | 81 | | V | 62 | | V | 51 | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 620 | | V | 710 | | V | 750 | | V | 550 | | V | 540 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 49 | | V | 20 | | V | 55 | | V | | | | 590 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 0287 (COL)<br>Sample: GW005361T (REAL)<br>Date: 10/18/90 | | Location: 0387 (KAR)<br>Sample: G03870290001 (REAL)<br>Date: 02/16/90 | | Location: 0387 (KAR)<br>Sample: GW00017IT (REAL)<br>Date: 09/12/90 | | Location: 0387 (KAR)<br>Sample: GW00601IT (REAL)<br>Date: 10/29/90 | | Location: 0487 (COL)<br>Sample: G04870190001 (REAL)<br>Date: 01/31/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | 250 | | | | | | 470 | | V |
| bicarbonate (mg/l) | | | | | 220 | | 210 | | | | |
| bicarbonate as caco3 (mg/l) | 310 | | | | | | | | 470 | | V |
| carbonate (mg/l) | 1 | U | 5 | U | 0 | | 0 | | | | |
| carbonate as caco3 (mg/l) | | | | | 120 | | 110 | | 150 | J | A |
| chloride (mg/l) | 99 | | 100 | | | | | | | | |
| cyanide (ug/l) | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 0.02 | U | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | |
| fluoride (mg/l) | 1.7 | | 1.2 | | 1.2 | | 1.1 | | 1.6 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | .1 | U | 0.05 | U | 0.02 | U | 0.05 | | 11 | | V |
| nitrate/nitrite (mg/l) | | | | | 0.02 | U | | | | | |
| nitrite (mg/l) | .1 | U | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | 0.01 | U | | | |
| orthophosphate (mg/l) | | | | | | | | | | | |
| pH (ph) | | | 7.9 | | | | | | 7.5 | | |
| phosphate (mg/l) | 0.2 | U | | | 0.01 | U | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | |
| silica, dissolved (mg/l) | 29.3 | | | | 3.3 | | 3.9 | | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | 54 | | 5 | U | 5 | | 4.7 | | 240 | | V |
| sulfide (mg/l) | | | | | | | | | | | |
| total diss. solids (mg/l) | 560 | | 400 | | 380 | | 450 | | 1100 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | 18 | | | | 70 | | 4 | U | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 0487 (COL) Sample: G04870607021215 (REAL) Date: 06/07/90 | | | Location: 0487 (COL) Sample: GW003181T (REAL) Date: 08/29/90 | | | Location: 0487 (COL) Sample: GW006021T (REAL) Date: 10/30/90 | | | Location: 0487 (COL) Sample: GW024211T (REAL) Date: 02/11/92 | | | Location: 0487 (COL) Sample: GW028901T (REAL) Date: 05/11/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 462 | | | 470 | | | 410 | | | 380 | | V | 390 | | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 2 | U | | 0 | | | 0 | | | 1 | U | V | 1 | U | V |
| chloride (mg/l) | 150 | | | 97 | | | 140 | | | 190 | | V | 200 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.4 | | | 1.7 | | | 1.5 | | | 1.7 | | V | 1.1 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 12.2 | | | 12 | | | 11 | | | 9.7 | | V | 9.7 | | V |
| nitrite (mg/l) | 0.1 | U | | 0.02 | U | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | 0.02 | | | 0.01 | U | V | 0.02 | | V |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | 0.14 | | | 0.92 | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | 5.6 | | | 6.6 | | | 5.1 | | V | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 371 | | | 200 | | | 210 | | | 240 | | V | 200 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1280 | | | 1100 | | | 1000 | | | 1100 | | V | 1000 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 72 | | | 3500 | | | 4 | U | | 790 | | V | 1800 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 0587 (KAR) Sample: G05870290001 (REAL) Date: 02/14/90 | | | Location: 0587 (KAR) Sample: GW00207IT (REAL) Date: 08/07/90 | | | Location: 0587 (KAR) Sample: GW00499IT (REAL) Date: 10/12/90 | | | Location: 0587 (KAR) Sample: GW02420IT (REAL) Date: 02/14/92 | | | Location: 0587 (KAR) Sample: GW02992IT (REAL) Date: 05/29/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 640 | | V | 540 | | V | 540 | | V | 510 | | V | 520 | | V |
| bicarbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| carbonate (mg/l) | 5 | U | V | 1 | U | V | 0 | | V | 1 | U | V | 1 | U | V |
| carbonate as caco3 (mg/l) | | | | | | | | | | | | | | | |
| chloride (mg/l) | 280 | | V | 250 | | V | 290 | | V | 430 | | R | 280 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | 0.02 | U | V | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.5 | U | V | 0.2 | | V | 0.3 | | V | 0.2 | | V | 0.2 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | 12 | | V | | | | | | | | | |
| nitrate/nitrite (mg/l) | 15 | | V | | | | 9.9 | | V | 11 | | V | 16 | | V |
| nitrite (mg/l) | | | | 10 | U | V | 0.02 | U | V | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | | 0.01 | U | JA | 0.01 | U | JA |
| pH (ph) | 7.3 | | | | | | | | | | | | | | |
| phosphate (mg/l) | | | | 1 | U | V | 0.81 | | V | | | | | | |
| phosphorus (mg/l) | | | | 0.084 | | V | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | 9.0 | | V | 8.4 | | V | | | |
| silicon (mg/l) | | | | 18 | | V | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 560 | | V | 550 | | V | 580 | | V | 660 | | V | 600 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1900 | | V | 1200 | | V | 1900 | | V | 1800 | | V | 2000 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | | | | 990 | | V | 720 | | V | 1100 | | V | 4800 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 0687 (COL) Sample: GO6870190001 (REAL) Date: 01/31/90 | | | Location: 0687 (COL) Sample: GW000271T (REAL) Date: 07/20/90 | | Location: 0687 (COL) Sample: GW004891T (REAL) Date: 10/09/90 | Location: 0887 (KAR) Sample: GO8870290001 (REAL) Date: 02/15/90 | | Location: 0887 (KAR) Sample: GW000241T (REAL) Date: 09/11/90 |
|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | |
| bicarbonate (mg/l) | 460 | | V | | | | 430 | | |
| bicarbonate as caco3 (mg/l) | | | | 370 | | 350 | | | 350 |
| carbonate (mg/l) | 5 | U | V | | | | 5 | U | |
| carbonate as caco3 (mg/l) | | | | 0 | | 0 | | | 0 |
| chloride (mg/l) | 320 | J | A | 270 | | 240 | 43 | | 49 |
| cyanide (ug/l) | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | |
| fluoride (mg/l) | 2.9 | | V | 3.4 | | 4.1 | 0.5 | U | 0.4 |
| hydrocyanic acid (mg/l) | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.05 | U | V | 0.08 | | | 0.05 | U | 0.3 |
| nitrite (mg/l) | | | | 0.02 | U | | | | 0.02 |
| oil and grease (mg/l) | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | |
| pH (ph) | 7.6 | | | | | | 7.6 | | |
| phosphate (mg/l) | | | | 0.06 | | | | | 0.06 |
| phosphorus (mg/l) | | | | | | | | | |
| silica, dissolved (mg/l) | | | | 8.6 | | 9.0 | | | 4.1 |
| silicon (mg/l) | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | |
| sulfate (mg/l) | 350 | | V | 300 | | 320 | 570 | | 620 |
| sulfide (mg/l) | | | | | | | | | |
| total diss. solids (mg/l) | 1500 | | V | 980 | | 1200 | 1300 | | 1300 |
| tot. org. carbon (mg/l) | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | |
| total susp. solids (mg/l) | | | | 67 | | 36 | | | 140 |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 0887 (KAR)<br>Sample: GW00568IT (REAL)<br>Date: 11/09/90 | | | Location: 0974 (COL)<br>Sample: GO9740290001 (REAL)<br>Date: 02/06/90 | | | Location: 0974 (COL)<br>Sample: GO9740530021540 (REAL)<br>Date: 05/31/90 | | Location: 0974 (COL)<br>Sample: GW00209IT (REAL)<br>Date: 08/09/90 | | Location: 0974 (COL)<br>Sample: GW00507IT (REAL)<br>Date: 10/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | 240 | | V | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 360 | | JA | | | | 239 | | 290 | | 240 | |
| carbonate (mg/l) | 1 | U | JA | 5 | U | V | | | | | 1 | U |
| carbonate as caco3 (mg/l) | | | | | | | 2 | U | 0 | | | |
| chloride (mg/l) | 47 | | JA | 480 | | V | 360 | | 240 | | 380 | |
| cyanide (ug/l) | | | | | | | 11.1 | U | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 0.02 | U | JA | | | | | | | | 0.02 | U |
| diss. organic carbon (mg/l) | | | | | | | | | | | | |
| fluoride (mg/l) | 0.3 | | JA | 0.8 | | V | 1.1 | | | | 1.3 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | 16.2 | |
| nitrate/nitrite (mg/l) | .33 | | | 40 | | V | 8.9 | | 5.2 | | | |
| nitrite (mg/l) | | | | | | | 0.1 | U | 0.08 | | .16 | |
| oil and grease (mg/l) | | | | | | | | | | | | |
| orthophosphate (mg/l) | 2 | U | JA | | | | | | | | | |
| pH (ph) | | | | 7.5 | | | | | | | | |
| phosphate (mg/l) | 2 | U | | | | | 1.4 | | 1.4 | | 1 | U |
| phosphorus (mg/l) | | | | | | | | | | | 0.87 | |
| silica, dissolved (mg/l) | 18 | | JA | | | | | | 6.4 | | 31 | |
| silicon (mg/l) | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | |
| sulfate (mg/l) | 600 | | JA | 170 | | V | 265 | | 260 | | 230 | |
| sulfide (mg/l) | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1300 | | V | 1800 | | V | 1480 | | 1200 | | 1800 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | |
| total susp. solids (mg/l) | 100 | | V | | | | 53 | | 10 | | 27 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 0974 (COL) Sample: GW02396IT (REAL) Date: 02/18/92 | | | Location: 0974 (COL) Sample: GW02850IT (REAL) Date: 05/06/92 | | | Location: 1074 (COL) Sample: G10740290001 (REAL) Date: 02/05/90 | | | Location: 1074 (COL) Sample: G10740530021340 (REAL) Date: 05/31/90 | | Location: 1074 (COL) Sample: GW00149IT (REAL) Date: 08/08/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | 330 | | V | | | | |
| bicarbonate as caco3 (mg/l) | 200 | | V | 230 | | V | | | | 250 | | 310 | |
| carbonate (mg/l) | | | | | | | 5 | U | V | | | 1 | U |
| carbonate as caco3 (mg/l) | 1 | U | V | 1 | U | V | | | | 2 | U | | |
| chloride (mg/l) | 710 | | R | 430 | | V | 350 | | V | 348 | | 360 | |
| cyanide (ug/l) | | | | | | | | | | 10 | U | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | 0.02 | U |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.0 | | V | 0.9 | | V | 1.4 | | V | 1.6 | | 1.6 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | 32 | |
| nitrate/nitrite (mg/l) | 43 | | V | 39 | | V | 39 | | V | 43 | | | |
| nitrite (mg/l) | | | | | | | | | | 0.1 | U | 10 | U |
| oil and grease (mg/l) | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.32 | | V | 0.59 | | V | | | | | | | |
| pH (ph) | | | | | | | 7.6 | | | | | | |
| phosphate (mg/l) | | | | | | | | | | 0.05 | U | 1 | U |
| phosphorus (mg/l) | | | | | | | | | | | | 0.010 | U |
| silica, dissolved (mg/l) | 7.1 | | V | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | 11 | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | |
| sulfate (mg/l) | 210 | | V | 190 | | V | 230 | | V | 347 | | 320 | |
| sulfide (mg/l) | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1700 | | V | 1600 | | V | 1600 | | V | 1620 | | 2310 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 4 | | V | 4 | U | V | | | | 5 | U | 16 | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 1074 (COL)<br>Sample: GW00515IT (REAL)<br>Date: 10/19/90 | | | Location: 1074 (COL)<br>Sample: GW02395IT (REAL)<br>Date: 02/14/92 | | | Location: 1074 (COL)<br>Sample: GW02851IT (REAL)<br>Date: 05/06/92 | | | Location: 30991 (COL)<br>Sample: GW02837IT (REAL)<br>Date: 05/14/92 | | | Location: 31491 (COL)<br>Sample: GW02828IT (REAL)<br>Date: 05/13/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 300 | | | 280 | | V | 310 | | V | | | | 230 | | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 0 | | | 1 | U | V | 1 | U | V | | | | 1 | U | V |
| chloride (mg/l) | 460 | | | 450 | | R | 280 | | V | | | | 130 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.9 | | | 1.7 | | V | 1.7 | | V | | | | 1.9 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 32 | | | 35 | | V | 22 | | V | 0.02 | U | V | 2.7 | | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.02 | | | 0.01 | | JA | 0.01 | U | V | | | | 0.02 | | V |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | 0.05 | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 5.5 | | | 4.6 | | V | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 370 | | | 350 | | V | 320 | | V | | | | 730 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1800 | | | 1400 | | V | 1400 | | V | | | | 1500 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 83 | | | 280 | | V | 410 | | V | | | | 33 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 31791 (VFA) Sample: GW02468I1 (REAL) Date: 02/13/92 | | | Location: 31791 (VFA) Sample: GW02829I1 (REAL) Date: 05/08/92 | | | Location: 31891 (COL) Sample: GW02446I1 (REAL) Date: 02/10/92 | | | Location: 31891 (COL) Sample: GW03060I1 (REAL) Date: 06/05/92 | | | Location: 32591 (COL) Sample: GW02830I1 (REAL) Date: 05/12/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 350 | | V | 440 | | V | 270 | | V | 270 | | V | | | |
| carbonate (mg/l) | | | | | | | | | | 1 | U | V | | | |
| carbonate as caco3 (mg/l) | 1 | U | V | 1 | U | V | 1 | U | V | | | | | | |
| chloride (mg/l) | 300 | | R | 180 | | V | 70 | | V | 69 | | V | | | |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.5 | | V | 1.9 | | V | 1.1 | | V | 1.1 | | V | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 1.5 | | V | 0.8 | | V | 0.3 | | V | 0.6 | | V | 14 | | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.03 | | JA | 0.03 | | JA | 0.02 | | JA | 0.02 | | JA | | | |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 6.5 | | V | | | | 5.5 | | V | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 400 | | V | 270 | | V | 45 | | JA | 83 | | V | | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1100 | | V | 1100 | | V | 460 | | V | 500 | | V | | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 330 | | V | 130 | | V | 380 | | V | 210 | | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 34791 (COL) Sample: GW024471I (REAL) Date: 02/10/92 | | | Location: 34791 (COL) Sample: GW029081I (REAL) Date: 05/20/92 | | | Location: 35391 (COL) Sample: GW024481I (REAL) Date: 02/25/92 | | Location: 35391 (COL) Sample: GW030191I (REAL) Date: 06/23/92 | | Location: 35691 (COL) Sample: GW024491I (REAL) Date: 02/17/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | 440 | | V |
| bicarbonate (mg/l) | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 60 | | V | 47 | | V | | | | | | | |
| carbonate (mg/l) | | | | | | | | | | | 1 | U | V |
| carbonate as caco3 (mg/l) | 1 | U | V | 1 | U | V | | | | | | | |
| chloride (mg/l) | 400 | | V | 450 | | V | | | | | 190 | | R |
| cyanide (ug/l) | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | 1.0 | | V |
| fluoride (mg/l) | 0.2 | | V | 0.2 | | V | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | 0.02 | U | V |
| nitrate/nitrite (mg/l) | 0.8 | | V | 0.6 | | V | 0.7 | V | 1.6 | V | | | |
| nitrite (mg/l) | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | 0.01 | | JA |
| orthophosphate (mg/l) | 0.01 | U | JA | 0.01 | U | V | | | | | | | |
| pH (ph) | | | | | | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | 9.5 | | V |
| silica, dissolved (mg/l) | 6.2 | | V | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | 350 | | V |
| sulfate (mg/l) | 41 | | JA | 42 | | JA | | | | | | | |
| sulfide (mg/l) | | | | | | | | | | | 700 | | V |
| total diss. solids (mg/l) | 1000 | | V | 820 | | V | | | | | | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | 27 | | V |
| total susp. solids (mg/l) | 59 | | V | 150 | | V | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 35691 (COL) Sample: GW02891IT (REAL) Date: 05/14/92 | | | Location: 36191 (COL) Sample: GW02459IT (REAL) Date: 02/11/92 | | | Location: 36191 (COL) Sample: GW03020IT (REAL) Date: 06/10/92 | | Location: 36391 (COL) Sample: GW03021IT (REAL) Date: 06/05/92 | | | Location: 36691 (COL) Sample: GW02538IT (REAL) Date: 02/28/92 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | 340 | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 430 | | V | 310 | | V | 420 | | 520 | | V | | |
| carbonate (mg/l) | | | | | | | 5 | U | 1 | U | V | | |
| carbonate as caco3 (mg/l) | 1 | U | V | 1 | U | V | | | | | | | |
| chloride (mg/l) | 120 | | V | 52 | | V | | | 60 | | V | | |
| cyanide (ug/l) | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.3 | | V | 0.5 | | V | 0.6 | | 0.8 | | V | | |
| hydrocyanic acid (mg/l) | | | | | | | 0.005 | U | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.2 | | V | 0.2 | | V | 0.21 | | 2.2 | | V | 0.9 | V |
| nitrite (mg/l) | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.02 | | V | 0.02 | | JA | 0.02 | U | 0.03 | | JA | | |
| pH (ph) | | | | | | | 7.7 | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | 8.0 | | V | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | |
| sulfate (mg/l) | 390 | | V | 100 | | JA | | | 250 | | V | | |
| sulfide (mg/l) | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1200 | | V | 580 | | V | 610 | | 990 | | V | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 8 | | V | 150 | | V | 200 | | 440 | | V | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 37191 (COL)<br>Sample: GW02460IT (REAL)<br>Date: 02/10/92 | | | Location: 37191 (COL)<br>Sample: GW03024IT (REAL)<br>Date: 06/25/92 | | | Location: 37591 (RFA)<br>Sample: GW02507IT (REAL)<br>Date: 02/25/92 | | | Location: 37591 (RFA)<br>Sample: GW03025IT (REAL)<br>Date: 06/10/92 | | | Location: 37691 (RFA)<br>Sample: GW03045IT (REAL)<br>Date: 06/23/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | 240 | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 640 | | V | 680 | | V | 220 | | V | 290 | | | 300 | | V |
| carbonate (mg/l) | | | | 1 | U | V | | | | 5 | U | | 1 | U | V |
| carbonate as caco3 (mg/l) | 1 | U | V | | | | 1 | U | V | | | | | | |
| chloride (mg/l) | 69 | | V | 59 | | V | 22 | | V | | | | 1200 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.1 | | V | 1.1 | | V | 0.7 | | JA | 0.8 | | | 0.4 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | 0.005 | U | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 1.5 | | V | 3.1 | | V | 2.7 | | V | 1.2 | | | 12 | | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.01 | | JA | 0.04 | | JA | 0.01 | U | JA | 0.02 | U | | | | |
| pH (ph) | | | | | | | | | | 7.8 | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 9.1 | | V | | | | 8.0 | | V | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 220 | | JA | 180 | | V | 48 | | JA | | | | 27 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 1200 | | V | 1100 | | V | 380 | | V | 370 | | | 3200 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 1400 | | V | 610 | | V | 110 | | V | 72 | | | 31 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 37791 (RFA) Sample: GW02275I1 (REAL) Date: 01/20/92 | | | Location: 37791 (RFA) Sample: GW02757I1 (REAL) Date: 04/21/92 | | | Location: 37891 (WCS) Sample: GW02461I1 (REAL) Date: 02/27/92 | | | Location: 37891 (WCS) Sample: GW03026I1 (REAL) Date: 06/04/92 | | | Location: 37991 (WCS) Sample: GW02462I1 (REAL) Date: 02/26/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 510 | | V | 480 | | V | 230 | | V | 290 | | V | 460 | | V |
| carbonate (mg/l) | | | | | | | | | | 1 | U | V | | | |
| carbonate as caco3 (mg/l) | 1 | U | V | 1 | U | V | 1 | U | V | | | | 1 | U | V |
| chloride (mg/l) | 160 | | V | 120 | | V | 230 | | V | 260 | | V | 180 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.9 | | V | 2.1 | | V | 0.6 | | JA | 0.5 | | V | 0.4 | | JA |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 1.9 | | V | 6.2 | | V | 29 | | V | 33 | | V | 3.6 | | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.01 | U | V | 0.01 | | V | 0.09 | | V | 0.08 | | V | 0.01 | | V |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 11 | | V | | | | 8.4 | | V | | | | 11 | | V |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 83 | | V | 66 | | V | 470 | | JA | 250 | | JA | 1300 | | JA |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 860 | | V | 810 | | V | 1200 | | V | 1300 | | V | 1800 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 170 | | V | 180 | | V | 760 | | V | 1800 | | V | 1300 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 37991 (WCS) Sample: GW03043IT (REAL) Date: 06/04/92 | | | Location: 38591 (VFA) Sample: GW02463IT (REAL) Date: 02/10/92 | | | Location: 38591 (VFA) Sample: GW02831IT (REAL) Date: 05/08/92 | | | Location: 39191 (WCS) Sample: GW02464IT (REAL) Date: 02/26/92 | | | Location: 39191 (WCS) Sample: GW02832IT (REAL) Date: 05/14/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 560 | | V | 290 | | V | 340 | | V | 130 | | V | 180 | | V |
| carbonate (mg/l) | 1 | U | V | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | | | | 1 | U | V | 1 | U | V | 1 | U | V | 1 | U | V |
| chloride (mg/l) | 200 | | V | 74 | | V | 87 | | V | 250 | | V | 250 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.3 | | V | 0.8 | | V | 0.9 | | V | 0.7 | | JA | 0.5 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 6.4 | | V | 0.02 | U | V | 0.02 | U | V | 34 | | V | 38 | | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.02 | | V | 0.01 | U | JA | 0.01 | U | JA | 0.02 | | V | 0.03 | | V |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | 4.7 | | V | | | | 5.2 | | V | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 820 | | JA | 150 | | JA | 140 | | V | 640 | | JA | 400 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 2000 | | V | 560 | | V | 660 | | V | 1400 | | V | 1400 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 2700 | | V | 9 | | V | 22 | | V | 120 | | V | 2200 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 39691 (COL) Sample: GW028771T (REAL) Date: 05/12/92 | | | Location: 4387 (COL) Sample: G43870290001 (REAL) Date: 02/01/90 | | | Location: 4387 (COL) Sample: G43870606020900 (UNKN) Date: 06/07/90 | | | Location: 4387 (COL) Sample: GW00063IT (REAL) Date: 09/11/90 | | | Location: 4387 (COL) Sample: GW00624IT (REAL) Date: 11/14/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | 370 | | | 186 | | V | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | 220 | | | 240 | | V |
| bicarbonate as caco3 (mg/l) | 310 | | JA | | | | | | | | | | 1 | U | V |
| carbonate (mg/l) | | | | 5 | U | | 2.0 | U | V | | | | | | |
| carbonate as caco3 (mg/l) | 1 | U | JA | | | | | | | 0 | | | | | |
| chloride (mg/l) | 74 | | V | 250 | | | 292 | | V | 280 | | | 280 | | JA |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | 0.02 | U | JA |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.2 | | V | 1.5 | | | 1.3 | | V | 1.8 | | | 1.5 | | JA |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | | | | 1.3 | | | 0.53 | | V | 2.4 | | | 2.1 | | |
| nitrite (mg/l) | | | | | | | 0.10 | U | R | 0.02 | U | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | | | | | | | |
| pH (ph) | | | | 7.7 | | | | | | | | | | | |
| phosphate (mg/l) | | | | | | | 0.083 | | V | 0.04 | | | 0.2 | U | JA |
| phosphorus (mg/l) | | | | | | | | | | 8.1 | | | 32 | | JA |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 91 | | V | 330 | | | 364 | | V | 340 | | | 300 | | JA |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 620 | | V | 1200 | | | 1230 | | V | 1200 | | | 1400 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 30 | | V | | | | 74 | | V | 340 | | | 1500 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 4387 (COL) Sample: GW02415IT (REAL) Date: 02/18/92 | | | Location: 4387 (COL) Sample: GW03044IT (REAL) Date: 06/24/92 | | | Location: 4587 (KAR) Sample: G45870390001 (REAL) Date: 03/15/90 | | | Location: 4587 (KAR) Sample: G45870612020830 (REAL) Date: 06/12/90 | | | Location: 4587 (KAR) Sample: GW00364IT (REAL) Date: 09/10/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | 350 | | V | | | | | | |
| bicarbonate as caco3 (mg/l) | 280 | | V | 300 | | V | | | | 268 | | V | 270 | | |
| carbonate (mg/l) | | | | I | U | V | 5 | U | V | | | | | | |
| carbonate as caco3 (mg/l) | 1 | U | V | | | | | | | 10.0 | U | V | 0 | | |
| chloride (mg/l) | 380 | | R | 250 | | V | 21 | | V | 16.7 | | V | 20 | | |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.2 | | V | 1.5 | | V | 0.7 | | V | 0.73 | | V | 0.7 | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 1.8 | | V | 2.3 | | V | 0.05 | U | V | 0.30 | | V | 0.02 | U | |
| nitrite (mg/l) | | | | | | | | | | 0.020 | U | JA | 0.02 | U | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | | | | | | | |
| pH (ph) | | | | | | | 7.7 | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | 0.02 | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 7.2 | | V | | | | | | | | | | 5.7 | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 350 | | V | 300 | | V | 59 | | V | 48.6 | | V | 46 | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 970 | | V | 1100 | | V | 410 | | V | 390 | | V | 380 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 5100 | | V | 1400 | | V | | | | 320 | | V | 73 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 4587 (KAR)<br>Sample: GW00592IT (REAL)<br>Date: 10/25/90 | | | Location: 4587 (KAR)<br>Sample: GW02377IT (REAL)<br>Date: 02/22/92 | | | Location: 4587 (KAR)<br>Sample: GW03047IT (REAL)<br>Date: 06/23/92 | | | Location: 4887 (COL)<br>Sample: GW02833IT (REAL)<br>Date: 05/12/92 | | | Location: 5287 (RFA)<br>Sample: GS2870190001 (REAL)<br>Date: 01/29/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | 570 | | V |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 260 | | | 240 | V | | 270 | | V | 300 | | JA | | | |
| carbonate (mg/l) | | | | | | | 4 | | V | | | | 5 | U | V |
| carbonate as caco3 (mg/l) | 1 | U | | 32 | V | | | | | 1 | U | JA | | | |
| chloride (mg/l) | 24 | | | 20 | V | | 19 | | V | 370 | | V | 73 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | 0.02 | U | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | .52 | | | 0.7 | V | | 0.7 | | V | 0.7 | | V | 0.6 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | .05 | U | | 0.9 | V | | 0.03 | | V | 0.2 | | V | 0.27 | | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | 0.01 | JA | | 0.01 | U | JA | 0.01 | U | V | | | |
| pH (ph) | | | | | | | | | | | | | 7.2 | | |
| phosphate (mg/l) | .04 | | | | | | | | | | | | | | |
| phosphorus (mg/l) | .02 | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 23 | | | 5.7 | V | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 46 | | | 92 | JA | | 56 | | V | 270 | | V | 240 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 442 | | | 390 | V | | 370 | | V | 1200 | | V | 960 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 9 | | | 65 | V | | 240 | | V | 260 | | V | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 5287 (RFA)<br>Sample: G52870621021400 (REAL)<br>Date: 06/21/90 | | Location: 5287 (RFA)<br>Sample: GW00301IT (REAL)<br>Date: 08/24/90 | | Location: 5287 (RFA)<br>Sample: GW00797IT (REAL)<br>Date: 12/11/90 | | Location: 5287 (RFA)<br>Sample: GW02274IT (REAL)<br>Date: 01/17/92 | | Location: 5287 (RFA)<br>Sample: GW02719IT (REAL)<br>Date: 04/22/92 | |
|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 482 | | 480 | | 490 | | 470 | V | 496 | V |
| carbonate (mg/l) | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 2 | U | 0 | | 0 | | 1 U | V | 1 U | V |
| chloride (mg/l) | 86.2 | | 88 | | 86 | | 72 | R | 80 | V |
| cyanide (ug/l) | 10 | U | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | |
| fluoride (mg/l) | 1.6 | | 0.6 | | 0.6 | | 0.6 | V | 0.8 | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.89 | | 0.8 | | 0.3 | | 0.07 | V | 0.02 U | V |
| nitrite (mg/l) | 0.16 | | 0.02 | U | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | 0.03 | | 0.02 | JA | 0.02 | V |
| pH (ph) | | | | | | | | | | |
| phosphate (mg/l) | 1 | | 0.02 | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | |
| silica, dissolved (mg/l) | | | 7.1 | | 7.6 | | 7.1 | V | | |
| silicon (mg/l) | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | |
| sulfate (mg/l) | 240 | | 240 | | 180 | | 220 | V | 210 | V |
| sulfide (mg/l) | | | | | | | | | | |
| total diss. solids (mg/l) | 992 | | 990 | | 1000 | | 950 | V | 970 | V |
| tot. org. carbon (mg/l) | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | |
| total susp. solids (mg/l) | 1480 | | 55 | | 820 | | 670 | V | 260 | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 5387 (COL)<br>Sample: G53870190001 (REAL)<br>Date: 02/05/90 | | | Location: 5387 (COL)<br>Sample: GW001271T (REAL)<br>Date: 07/31/90 | | Location: 5387 (COL)<br>Sample: GW028211T (REAL)<br>Date: 04/30/92 | | | Location: 5487 (COL)<br>Sample: G54870190001 (REAL)<br>Date: 01/30/90 | | Location: 5587 (VFA)<br>Sample: GW006131T (REAL)<br>Date: 10/31/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | |
| bicarbonate (mg/l) | 570 | | V | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | | | | | | 380 | | V | | | | |
| carbonate (mg/l) | 5 | U | V | | | | | | | | | |
| carbonate as caco3 (mg/l) | | | | | | 1 | U | V | | | | |
| chloride (mg/l) | 66 | | V | | | 58 | | V | | | | |
| cyanide (ug/l) | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | |
| fluoride (mg/l) | 1.6 | | V | | | 1.1 | | V | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.12 | | V | 0.05 | | 0.4 | | V | 0.07 | | 0.11 | |
| nitrite (mg/l) | | | | 0.02 | U | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | | | | |
| pH (ph) | 7.3 | | | | | | | | | | | |
| phosphate (mg/l) | | | | 0.90 | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | |
| sulfate (mg/l) | 240 | | V | | | 180 | | V | | | | |
| sulfide (mg/l) | | | | | | | | | | | | |
| total diss. solids (mg/l) | 630 | | V | | | 860 | | V | | | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | |
| total susp. solids (mg/l) | | | | | | 3900 | | V | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated; N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits; I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 5587 (VFA)<br>Sample: GW02834IT (REAL)<br>Date: 05/08/92 | | Location: 5986 (WCS)<br>Sample: G59860390001 (REAL)<br>Date: 03/20/90 | | | Location: 5986 (WCS)<br>Sample: GW00014IT (REAL)<br>Date: 07/18/90 | | Location: 5986 (WCS)<br>Sample: GW00500IT (REAL)<br>Date: 10/09/90 | | Location: 6286 (WCS)<br>Sample: G62860290001 (REAL)<br>Date: 02/16/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | |
| bicarbonate (mg/l) | | | 490 | | V | | | | | 180 | |
| bicarbonate as caco3 (mg/l) | | | | | | 440 | | 440 | | | |
| carbonate (mg/l) | | | 5 | U | V | | | | | 5 | U |
| carbonate as caco3 (mg/l) | | | | | | 0 | | 0 | | | |
| chloride (mg/l) | | | 160 | | V | 130 | | 130 | | 35 | |
| cyanide (ug/l) | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | |
| fluoride (mg/l) | | | 1.5 | | V | 1.4 | | 1.6 | | 1.0 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 6.6 | V | 1.3 | | V | 1.5 | | 1.2 | | 3.5 | |
| nitrite (mg/l) | | | | | | 0.02 | U | 0.02 | U | | |
| oil and grease (mg/l) | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | | | |
| pH (ph) | | | 7.6 | | | | | | | 8.5 | |
| phosphate (mg/l) | | | | | | 0.03 | | 0.06 | | | |
| phosphorus (mg/l) | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | 8.8 | | 9.0 | | | |
| silicon (mg/l) | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | |
| sulfate (mg/l) | | | 230 | U | V | 220 | | 260 | | 45 | |
| sulfide (mg/l) | | | | | | | | | | | |
| total diss. solids (mg/l) | | | 980 | | V | 980 | | 940 | | 320 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | |
| total susp. solids (mg/l) | | | | | | 27 | | 80 | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 6286 (WCS)<br>Sample: G6286061202141S (REAL)<br>Date: 06/13/90 | | | Location: 6286 (WCS)<br>Sample: GW004021T (REAL)<br>Date: 09/18/90 | | | Location: 6286 (WCS)<br>Sample: GW007311T (REAL)<br>Date: 11/21/90 | | | Location: 6286 (WCS)<br>Sample: GW023781T (REAL)<br>Date: 02/11/92 | | | Location: 6286 (WCS)<br>Sample: GW030561T (REAL)<br>Date: 06/11/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | 220 | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 158 | | V | 180 | | | 170 | | | 180 | | V | 260 | | |
| carbonate (mg/l) | | | | | | | | | | | | | 5 | U | |
| carbonate as caco3 (mg/l) | 10.0 | | V | 4 | | | 4 | | | 1 | U | V | | | |
| chloride (mg/l) | 33.1 | | V | 40 | | | 38 | | | 42 | | V | | | |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 1.0 | | V | 1.1 | | | 1.0 | | | 1.2 | | V | 1.0 | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | 0.005 | U | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 4.4 | | V | 2.9 | | | 2.1 | | | 3.4 | | V | 3.3 | | |
| nitrite (mg/l) | 0.020 | U | JA | 0.02 | U | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | 0.03 | | | 0.02 | | V | 0.02 | U | |
| pH (ph) | | | | | | | | | | | | | 8.0 | | |
| phosphate (mg/l) | | | | 0.01 | U | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | 7.3 | | | 7.0 | | | 7.4 | | V | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 48.4 | | V | 53 | | | 50 | | | 64 | | V | | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 368 | | V | 330 | | | 330 | | | 350 | | V | 360 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 94 | | V | 21 | | | 47 | | | 13 | | V | 94 | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 6386 (COL)<br>Sample: G63860612021210 (REAL)<br>Date: 06/13/90 | | | Location: 6386 (COL)<br>Sample: GW03057IT (REAL)<br>Date: 06/11/92 | | | Location: 6486 (VFA)<br>Sample: G64860524020840 (REAL)<br>Date: 05/25/90 | | | Location: 6486 (VFA)<br>Sample: GW02325IT (REAL)<br>Date: 02/14/92 | | | Location: 6486 (VFA)<br>Sample: GW02839IT (REAL)<br>Date: 04/30/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | 270 | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | 170 | | V |
| bicarbonate as caco3 (mg/l) | 190 | | | 330 | | | 189 | | | | | | | | |
| carbonate (mg/l) | | | | 5 | U | | | | | | | | 1 | U | V |
| carbonate as caco3 (mg/l) | 2 | U | | | | | 2 | U | | | | | | | |
| chloride (mg/l) | 6.4 | | | | | | 63.7 | | | | | | 66 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | 2.2 | | V |
| fluoride (mg/l) | 0.82 | | | 0.8 | | | 2 | | | | | | | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | 2.8 | U | | 0.02 | U | V | 0.02 | U | V |
| nitrate/nitrite (mg/l) | 3.4 | | | | | | | | | | | | | | |
| nitrite (mg/l) | 0.1 | U | | | | | 0.1 | U | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | 0.04 | | JA | | | |
| orthophosphate (mg/l) | | | | | | | | | | | | | | | |
| pH (ph) | | | | 7.7 | | | | | | | | | | | |
| phosphate (mg/l) | 0.57 | | | | | | 0.054 | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | 130 | | | | | | 150 | | V |
| sulfate (mg/l) | 46 | | | | | | | | | | | | | | |
| sulfide (mg/l) | | | | | | | | | | | | | 510 | | V |
| total diss. solids (mg/l) | 348 | | | 490 | | | 548 | | | | | | | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | 4 | U | V |
| total susp. solids (mg/l) | 351 | | | 130 | | | 24 | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 6886 (VFA) Sample: G68860290001 (REAL) Date: 02/13/90 | | | Location: 6886 (VFA) Sample: G68860523021005 (REAL) Date: 05/23/90 | | | Location: 6886 (VFA) Sample: G68860523021045 (DUP) Date: 05/23/90 | | | Location: 6886 (VFA) Sample: GW00187IT (REAL) Date: 08/01/90 | | Location: 6886 (VFA) Sample: GW00190IT (DUP) Date: 08/01/90 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | |
| bicarbonate (mg/l) | 150 | | V | 143 | | JA | 146 | | JA | | | | |
| bicarbonate as caco3 (mg/l) | | | | 143 | | | 146 | | | 110 | | 110 | |
| carbonate (mg/l) | 150 | | V | 10.0 | U | JA | 10.0 | | JA | | | | |
| carbonate as caco3 (mg/l) | | | | | | | | | | 0 | | 0 | |
| chloride (mg/l) | 16 | | V | 13.7 | | V | 13.7 | | V | 32 | | 31 | |
| cyanide (ug/l) | | | | 0.0072 | U | JA | 0.0146 | | JA | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.4 | | V | 0.33 | | V | 0.31 | | V | 0.4 | | 0.4 | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.05 | U | V | 0.10 | U | V | 0.10 | U | V | 0.02 | U | 0.02 | U |
| nitrite (mg/l) | | | | 0.020 | U | V | 0.020 | U | V | 0.02 | U | 0.02 | U |
| oil and grease (mg/l) | | | | | | | | | | | | | |
| orthophosphate (mg/l) | | | | | | | | | | | | | |
| pH (ph) | 7.4 | | | | | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | 0.02 | | 0.02 | |
| phosphorus (mg/l) | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | 7.9 | | 7.8 | |
| silicon (mg/l) | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | |
| sulfate (mg/l) | 28 | | V | 18.8 | | V | 15.8 | | V | 10 | | 10 | |
| sulfide (mg/l) | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 220 | | V | 200 | | V | 208 | | V | 190 | | 180 | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | |
| total susp. solids (mg/l) | | | | 5.0 | U | V | 5.0 | U | V | 4 | | 4 | U |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 6886 (VFA) Sample: GW00629IT (REAL) Date: 11/02/90 | | | Location: 6886 (VFA) Sample: GW02381IT (REAL) Date: 02/26/92 | | | Location: 6886 (VFA) Sample: GW02382IT (RNS) Date: 02/26/92 | | | Location: 6886 (VFA) Sample: GW02383IT (DUP) Date: 02/26/92 | | | Location: 6886 (VFA) Sample: GW02825IT (REAL) Date: 05/15/92 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | | | |
| bicarbonate as caco3 (mg/l) | 110 | | | 130 | | V | 1 | | V | 130 | | V | 150 | | V |
| carbonate (mg/l) | | | | | | | | | | | | | | | |
| carbonate as caco3 (mg/l) | 0 | | | 1 | U | V | 1 | U | V | 1 | U | V | 1 | U | V |
| chloride (mg/l) | 25 | | | 24 | | V | 0.2 | U | V | 24 | | V | 15 | | V |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.4 | | | 0.4 | | V | 0.1 | U | V | 0.3 | | V | 0.4 | | V |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | | | |
| nitrate/nitrite (mg/l) | 0.02 | U | | 0.02 | U | R | 0.02 | U | R | 0.02 | U | R | 0.02 | U | V |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.01 | U | | 0.01 | | V | 0.01 | U | V | 0.01 | U | V | 0.01 | | JA |
| pH (ph) | | | | | | | | | | | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | 7.7 | | | 5.5 | | V | 0.4 | U | V | 5.4 | | V | | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 15 | | | 39 | | JA | 2 | U | JA | 38 | | JA | 21 | | V |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 190 | | | 230 | | V | 10 | U | V | 220 | | V | 200 | | V |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | | | |
| total susp. solids (mg/l) | 32 | | | 140 | | V | 4 | U | V | 150 | | V | 69 | | V |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calculation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 6886 (VFA) Sample: GW02826IT (RNS) Date: 05/15/92 | | | Location: 6886 (VFA) Sample: GW02827IT (DUP) Date: 05/15/92 | | | Location: 6986 (COL) Sample: G69860290001 (REAL) Date: 02/12/90 | | | Location: 6986 (COL) Sample: G69860290001D (DUP) Date: 02/12/90 | | | Location: 6986 (COL) Sample: GW00018IT (REAL) Date: 07/17/90 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | | 430 | | V | 400 | | V | | | |
| bicarbonate (mg/l) | | | | | | | | | | | | | 350 | | |
| bicarbonate as caco3 (mg/l) | 2 | | V | 150 | | V | | | | | | | | | |
| carbonate (mg/l) | | | | | | | 5 | U | V | 5 | U | V | | | |
| carbonate as caco3 (mg/l) | 1 | U | V | 1 | U | V | | | | | | | 0 | | |
| chloride (mg/l) | 0.2 | U | V | 15 | | V | 110 | | V | 120 | J | A | 94 | | |
| cyanide (ug/l) | | | | | | | | | | | | | | | |
| cyanide, amenable (mg/l) | | | | | | | | | | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | | | | | | | | | | |
| diss. organic carbon (mg/l) | | | | | | | | | | | | | | | |
| fluoride (mg/l) | 0.1 | U | V | 0.4 | | V | 0.9 | | V | 1.0 | | V | 3.4 | | |
| hydrocyanic acid (mg/l) | | | | | | | | | | | | | | | |
| nitrate (mg/l) | | | | | | | | | | | | | 5.0 | | |
| nitrate/nitrite (mg/l) | 0.02 | U | V | 0.02 | U | V | 4.2 | | V | 4.1 | | V | 0.02 | U | |
| nitrite (mg/l) | | | | | | | | | | | | | | | |
| oil and grease (mg/l) | | | | | | | | | | | | | | | |
| orthophosphate (mg/l) | 0.01 | U | JA | 0.01 | U | JA | | | | | | | | | |
| pH (ph) | | | | | | | 7.3 | | | 7.3 | | | | | |
| phosphate (mg/l) | | | | | | | | | | | | | 0.03 | | |
| phosphorus (mg/l) | | | | | | | | | | | | | | | |
| silica, dissolved (mg/l) | | | | | | | | | | | | | 8.3 | | |
| silicon (mg/l) | | | | | | | | | | | | | | | |
| sodium fluoride (mg/l) | | | | | | | | | | | | | | | |
| sodium sulfate (mg/l) | | | | | | | | | | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | | | | | | | | | | |
| sulfate (mg/l) | 2 | U | V | 21 | | V | 220 | | V | 230 | | V | 220 | | |
| sulfide (mg/l) | | | | | | | | | | | | | | | |
| total diss. solids (mg/l) | 10 | U | V | 200 | | V | 920 | | V | 910 | | V | 880 | | |
| tot. org. carbon (mg/l) | | | | | | | | | | | | | | | |
| total solids (mg/l) | | | | | | | | | | | | | 67 | | |
| total susp. solids (mg/l) | 4 | U | V | 40 | | V | | | | | | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Table C8-h

## Groundwater Water Quality Parameter Samples (continued)

| ANALYTE | Location: 6986 (COL)<br>Sample: GW00509IT (REAL)<br>Date: 10/23/90 | | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / | Location: ()<br>Sample: ()<br>Date: / / |
|---|---|---|---|---|---|---|
| alkalinity as caco3 (mg/l) | | | | | | |
| bicarbonate (mg/l) | | | | | | |
| bicarbonate as caco3 (mg/l) | 340 | | | | | |
| carbonate (mg/l) | | | | | | |
| carbonate as caco3 (mg/l) | 0 | | | | | |
| chloride (mg/l) | 110 | | | | | |
| cyanide (ug/l) | | | | | | |
| cyanide, amenable (mg/l) | | | | | | |
| cyanides (s. salts) (mg/l) | | | | | | |
| diss. organic carbon (mg/l) | | | | | | |
| fluoride (mg/l) | 1.1 | | | | | |
| hydrocyanic acid (mg/l) | | | | | | |
| nitrate (mg/l) | | | | | | |
| nitrate/nitrite (mg/l) | 2.8 | | | | | |
| nitrite (mg/l) | 0.02 | U | | | | |
| oil and grease (mg/l) | | | | | | |
| orthophosphate (mg/l) | 0.02 | | | | | |
| pH (ph) | | | | | | |
| phosphate (mg/l) | 0.07 | | | | | |
| phosphorus (mg/l) | | | | | | |
| silica, dissolved (mg/l) | 8.7 | | | | | |
| silicon (mg/l) | | | | | | |
| sodium fluoride (mg/l) | | | | | | |
| sodium sulfate (mg/l) | | | | | | |
| solids, nonvol/susp (mg/l) | | | | | | |
| sulfate (mg/l) | 240 | | | | | |
| sulfide (mg/l) | | | | | | |
| total diss. solids (mg/l) | 860 | | | | | |
| tot. org. carbon (mg/l) | | | | | | |
| total solids (mg/l) | | | | | | |
| total susp. solids (mg/l) | 4 | U | | | | |

Note: Data reporting order: result, qualifier, validation code.
Validation Codes: V-valid; A-acceptable with qualifications; R-rejected; B-found in blank; E-value > calibration range; JA-estimated, acceptable; U-not detected at/above method det. limit
Inorganic qualifiers: U-analyzed/not detected; B-value < Contract Required Detection Limit (CRDL) and > Instrument Detection Limit (IDL); E-estimated because of interference; J-estimated;
N-spike recovery out of control limits; S-determined by method of standard additions (MSA); *-duplicate out of control limits; W-post-digestion spike out of control limits;
I-interference; +-correlation coefficient for MSA < 0.995; X-detection limit high because of matrix interference; X-result by calcuation (GRRASP)
REAL - Field Sample; DUP - Field Duplicate
RFA - Rocky Flats Alluvium; COL - Colluvium; VFA - Valley Fill Alluvium; KAR - Arapahoe/Laramie Formation; WCS - Weathered Claystone

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

APPENDIX C 9 Field Parameter Data for OU1 Ground Water Modeling

Date:05/27/92
Page: 1 of 5

| Location | Sample Number | Sample Date | Dry | Specific Conductance (micromhos) | Temperature (Degrees Centigrade) | Turbidity | Dissolved Oxygen | pH | Alkalinity (as Bicarbonate in mg/l) |
|---|---|---|---|---|---|---|---|---|---|
| 0187 | | | | | | | | | |
| | GW012901T | 15-MAY-91 | N | 1.34 | 12.7 C | 24 | 2.7 | 6.95 | 0.0 |
| | GW016591T | 15-AUG-91 | N | 1.12 | 17.6 C | TOO HIGH | 7.6 | 7.05 | N.A. |
| | GW020761T | 05-DEC-91 | N | 1.11 | 12.6 C | 178 | 4.7 | 7.17 | N.A. |
| 0287 | | | | | | | | | |
| | GW009291T | 07-MAR-91 | N | 0.88 | 7.3 C | 279 | 5.9 | 8.00 | 136 |
| | GW012521T | 13-MAY-91 | N | 0.89 | 12.4 C | 304 | 4.7 | 7.62 | 210 |
| | GW017521T | 06-SEP-91 | N | 0.89 | 16.6 C | 135 | 3.5 | 7.61 | 510 |
| | GW020211T | 14-NOV-91 | N | 0.89 | 11.1 C | 99 | 5.5 | 7.59 | 430 |
| 0487 | | | | | | | | | |
| | GW009801T | 19-MAR-91 | N | 1.74 | 12.0 C | TOO HIGH | 5.9 | 7.33 | 173 |
| | GW012501T | 10-MAY-91 | N | 1.73 | 13.1 C | TOO HIGH | TOO HIGH | 7.47 | 430 |
| | GW016771T | 21-AUG-91 | N | 1.55 | 14.2 C | TOO HIGH | 4.1 | 7.46 | N.A. |
| 0687 | | | | | | | | | |
| | GW009811T | 19-MAR-91 | N | 1.56 | 11.2 C | 7 | 2.6 | 8.38 | 60 |
| | GW012511T | 15-MAY-91 | N | 1.88 | 12.3 C | 6 | 2.0 | 7.85 | N.A. |
| | GW016791T | 20-AUG-91 | N | 1.74 | 17.9 C | 162 | 3.3 | 7.99 | N.A. |
| 0974 | | | | | | | | | |
| | GW012701T | 14-MAY-91 | N | 2.07 | 15.4 C | TOO HIGH | TOO HIGH | 7.60 | 173 |
| | GW016621T | 15-AUG-91 | N | 2.12 | 18.3 C | 0 | 2.1 | 7.58 | 200 |
| | GW021051T | 10-DEC-91 | N | 2.44 | 11.9 C | 16 | 1.7 | 7.39 | 203 |
| 1074 | | | | | | | | | |
| | GW012911T | 16-MAY-91 | N | 2.49 | 9.7 C | 150 | 7.5 | 7.41 | 219 |
| | GW016781T | 22-AUG-91 | N | 2.29 | 16.9 C | 333 | 5.3 | 7.68 | 390 |
| | GW021061T | 10-DEC-91 | N | 2.27 | 12.4 C | N.A. | N.A. | 7.48 | 230 |
| 31891 | | | | | | | | | |
| | GW019971T | 11-NOV-91 | N | 0.84 | 11.6 C | 299 | 4.4 | 7.52 | 224 |
| 35691 | | | | | | | | | |
| | GW019941T | 11-NOV-91 | N | 1.68 | 11.2 C | 157 | 5.9 | 7.43 | 600 |
| 36191 | | | | | | | | | |
| | GW020231T | 12-NOV-91 | N | 0.56 | 14.1 C | 62 | 5.9 | 8.16 | 226 |
| 37191 | | | | | | | | | |
| | GW019951T | 12-NOV-91 | N | 1.58 | 14.6 C | TOO HIGH | TOO HIGH | 7.97 | 1650 |

## Field Parameter Data for OU I Ground Water Modeling



| Location | Sample Number | Sample Date | Dry | Specific Conductance (micromhos) | Temperature (Degrees Centigrade) | Turbidity | Dissolved Oxygen | pH | Alkalinity (as Bicarbonate in mg/l) |
|---|---|---|---|---|---|---|---|---|---|
| 37791 | | | | | | | | | |
| | GW021641T | 19-DEC-91 | N | 1.14 | 13.9 C | 203 | 0.0 | 7.86 | 850 |
| 4387 | | | | | | | | | |
| | GW009861T | 19-MAR-91 | N | 1.95 | 11.8 C | TOO HIGH | 5.9 | 7.87 | 680 |
| | GW012681T | 14-MAY-91 | N | 1.94 | 10.7 C | 13 | 8.2 | 7.47 | N.A. |
| | GW016601T | 15-AUG-91 | N | 1.79 | 17.5 C | TOO HIGH | TOO HIGH | 7.43 | N.A. |
| | GW021021T | 11-DEC-91 | N | 1.84 | 12.4 C | N.A. | N.A. | 7.44 | 390 |
| 4787 | | | | | | | | | |
| | GW008201T | 02-JAN-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011431T | 01-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW016801T | 19-AUG-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW018631T | 02-OCT-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 4887 | | | | | | | | | |
| | GW009821T | 14-MAR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011441T | 01-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW016761T | 21-AUG-91 | N | 3.48 | 23.1 C | TOO HIGH | TOO HIGH | 7.00 | N.A. |
| | GW018641T | 02-OCT-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 4987 | | | | | | | | | |
| | GW008191T | 02-JAN-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011451T | 01-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW014971T | 02-JUL-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW018651T | 02-OCT-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 5087 | | | | | | | | | |
| | GW008181T | 02-JAN-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011461T | 01-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW014981T | 03-JUL-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW018661T | 02-OCT-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 5187 | | | | | | | | | |
| | GW014281T | 13-JUN-91 | Y | 0.87 | 19.0 C | 69 | 6.3 | 8.19 | N.A. |
| | GW016301T | 09-AUG-91 | N | 0.98 | 18.9 C | 54 | 4.5 | 7.93 | N.A. |
| | GW017111T | 04-SEP-91 | N | 0.92 | 19.4 C | 22 | 4.3 | 8.17 | N.A. |
| | GW019261T | 18-OCT-91 | N | 0.80 | 18.0 C | 113 | TOO HIGH | 8.31 | N.A. |
| 5287 | | | | | | | | | |

## Field Parameter Data for OU1 Ground Water Modeling



| Location | Sample Number | Sample Date | Dry | Specific Conductance (micromhos) | Temperature (Degrees Centigrade) | Turbidity | Dissolved Oxygen | pH | Alkalinity (as Bicarbonate in mg/l) |
|---|---|---|---|---|---|---|---|---|---|
| 5287 | | | | | | | | | |
| | GW010441T | 26-MAR-91 | N | 1.54 | 11.2 C | 110 | 4.9 | 7.38 | 210 |
| | GW013901T | 07-JUN-91 | N | 1.49 | 14.2 C | 221 | 9.0 | 7.22 | 600 |
| | GW016281T | 08-AUG-91 | N | 1.53 | 25.0 C | 4 | 3.7 | 6.70 | 970 |
| | GW018971T | 11-OCT-91 | N | 1.53 | 15.9 C | 457 | 12.4 | 7.38 | 330 |
| 5387 | | | | | | | | | |
| | GW012811T | 14-MAY-91 | N | 1.33 | 13.4 C | TOO HIGH | 1.9 | 7.52 | 0 |
| | GW016991T | 22-AUG-91 | N | 1.50 | 18.5 C | 227 | 9.9 | 7.55 | N.A. |
| | GW020171T | 14-NOV-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 5487 | | | | | | | | | |
| | GW012821T | 14-MAY-91 | N | 1.43 | 13.1 C | 218 | 4.2 | 6.85 | 0 |
| | GW016971T | 22-AUG-91 | N | 1.40 | 20.2 C | 218 | TOO HIGH | 6.76 | N.A. |
| | GW020161T | 15-NOV-91 | N | 1.03 | 7.1 C | 46 | 3.5 | 7.22 | 470 |
| 5587 | | | | | | | | | |
| | GW011471T | 01-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW016811T | 20-AUG-91 | N | 2.36 | 18.0 C | TOO HIGH | 1.1 | 7.94 | N.A. |
| | GW020291T | 14-NOV-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 5886 | | | | | | | | | |
| | GW000071T | 03-JAN-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011341T | 02-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW014911T | 02-JUL-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW018551T | 03-OCT-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 5986 | | | | | | | | | |
| | GW009851T | 15-MAR-91 | N | 1.53 | 10.5 C | 143 | 9.4 | 7.94 | 760 |
| | GW012651T | 10-MAY-91 | N | 1.59 | 13.2 C | 269 | 14.1 | 7.62 | 290 |
| | GW017001T | 22-AUG-91 | N | 1.51 | 14.6 C | 64 | 6.5 | 7.50 | 1030 |
| | GW020181T | 15-NOV-91 | N | 1.33 | 9.8 C | 97 | 6.2 | 7.55 | 2110 |
| 6286 | | | | | | | | | |
| | GW008551T | 10-JAN-91 | N | .481 | 11.5 C | 84 | 6.7 | 8.85 | 156 |
| | GW012841T | 14-MAY-91 | N | 0.36 | 14.1 C | 23 | 6.3 | 10.24 | 85 |
| | GW017081T | 23-AUG-91 | N | 0.51 | 15.8 C | 21 | 8.0 | 8.58 | 160 |
| | GW020461T | 23-NOV-91 | N | 0.48 | 11.4 C | 75 | 8.3 | 9.13 | 149 |
| 6386 | | | | | | | | | |

## Field Peremeter Data for OU1 Ground Water Modeling



| Location | Sample Number | Sample Date | Dry | Specific Conductance (micromhos) | Temperature (Degrees Centigrade) | Turbidity | Dissolved Oxygen | pH | Alkalinity (as Bicarbonate in mg/l) |
|---|---|---|---|---|---|---|---|---|---|
| 4380 | | | | | | | | | |
| | GW008621T | 07-JAN-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011351T | 09-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW017091T | 23-AUG-91 | N | 0.75 | 16.6 C | 439 | 5.3 | 7.57 | N.A. |
| | GW020471T | 22-NOV-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 6486 | | | | | | | | | |
| | GW008161T | 02-JAN-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011361T | 01-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW017051T | 23-AUG-91 | N | 1.99 | 19.0 C | 15 | 6.4 | 7.42 | N.A. |
| | GW020481T | 06-DEC-91 | N | 1.57 | 10.7 C | 5 | 9.6 | 7.00 | N.A. |
| 6886 | | | | | | | | | |
| | GW009911T | 18-MAR-91 | N | 0.35 | 8.8 C | 65 | 3.4 | 7.11 | N.A. |
| | GW012861T | 14-MAY-91 | N | 0.40 | 13.5 C | 19 | 2.4 | 6.87 | 153 |
| | GW012861TMS | 14-MAY-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW012861TMS | 14-MAY-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW012871T | 14-MAY-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW012891T | 14-MAY-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW017511T | 06-SEP-91 | N | 0.42 | 17.9 C | 25 | 3.2 | 8.30 | 198 |
| | GW020581T | 25-NOV-91 | N | 0.38 | 5.5 C | 36 | 1.7 | 7.19 | 145 |
| | GW020591T | 25-NOV-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW020601T | 25-NOV-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW020581TMS | 25-NOV-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW020581TMS | 25-NOV-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| 6986 | | | | | | | | | |
| | GW009251T | 06-MAR-91 | N | 1.52 | 8.4 C | 307 | 3.4 | 6.99 | 120 |
| | GW009251TMS | 06-MAR-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW009251TMS | 06-MAR-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW009271T | 06-MAR-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW009261T | 06-MAR-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW016921T | 20-AUG-91 | N | 1.28 | 20.2 C | 75 | 2.9 | 7.22 | 410 |
| | GW016921TMS | 20-AUG-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW016921TMS | 20-AUG-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW016941T | 20-AUG-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |

## Field Parameter Data for OU1 Ground Water Modeling



| Location | Sample Number | Sample Date | Dry | Specific Conductance (micromhos) | Temperature (Degrees Centigrade) | Turbidity | Dissolved Oxygen | pH | Alkalinity (as Bicarbonate in mg/l) |
|---|---|---|---|---|---|---|---|---|---|
| 6986 | | | | | | | | | |
| | GW016951T | 20-AUG-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW020201T | 13-NOV-91 | N | 1.26 | 15.3 C | 82 | TOO HIGH | 7.25 | 1070 |
| | GW020201TLR | 13-NOV-91 | N | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| B301889 | | | | | | | | | |
| | GW008091T | 03-JAN-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW011501T | 02-APR-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW015001T | 01-JUL-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| | GW018691T | 02-OCT-91 | Y | N.A. | N.A. | N.A. | N.A. | N.A. | N.A. |
| B302089 | | | | | | | | | |
| | GW009931T | 19-MAR-91 | N | 0.92 | 11.8 C | 0 | 11.4 | 9.13 | N.A. |
| | GW013021T | 16-MAY-91 | N | 1.04 | 9.7 C | 0 | 9.9 | 7.98 | N.A. |
| | GW017301T | 29-AUG-91 | Y | 1.00 | 13.2 C | 18 | 3.7 | 7.99 | N.A. |
| | GW021401T | 16-DEC-91 | N | 0.55 | 9.6 C | 7 | 6.3 | 7.38 | 1470 |
| B304789 | | | | | | | | | |
| | GW009921T | 19-MAR-91 | N | 0.92 | 13.0 C | 0 | 3.8 | 8.18 | N.A. |
| | GW013011T | 16-MAY-91 | N | 0.97 | 12.2 C | 0 | 3.0 | 7.53 | N.A. |
| | GW017311T | 29-AUG-91 | N | 0.93 | 14.6 C | 0 | 7.8 | 8.15 | N.A. |

# Key to Qualifiers and Codes

## Organic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| J | - | estimated value |
| C | - | pesticide results confirmed by GCMS |
| B | - | found in sample and associated lab blank |
| E | - | exceeds calibration range / value estimated |
| D | - | dilution |
| X | - | estimated value / interference from another compound |
| Z | - | value cannot be estimated / interference from another compound |

## Inorganic Data Qualifiers

| | | |
|---|---|---|
| U | - | analyzed / not detected |
| B | - | value < contract required detection limit (CRDL) and > instrument detection limit (IDL) |
| E | - | estimated because of interference |
| J | - | estimated |
| N | - | spike recovery out of control limits |
| S | - | determined by method of standard additions (MSA) |
| * | - | duplicate out of control limits |
| W | - | post-digestion spike out of control limits |
| I | - | interference |
| + | - | correlation coefficient for MSA < 0.995 |
| X | - | result by calculation (GRRASP) |

## Validation Codes

| | | |
|---|---|---|
| V | - | valid |
| A | - | acceptable with qualifications |
| R | - | rejected |
| B | - | found in blank |
| E | - | value > calibration range |
| JA | - | estimated, acceptable |
| U | - | not detected at/above method detection limit |

## Field Sample QC Codes

| | | |
|---|---|---|
| REAL | - | field sample |
| DUP | - | field duplicate |
| RNS | - | rinsate blank |
| SPLT | - | field split |
| TB | - | trip blank |
| FB | - | field blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |

## Geologic Formation Codes

| | | |
|---|---|---|
| RFA | - | Rocky Flats Alluvium |
| COL | - | Colluvium |
| VFA | - | Valley Fill Alluvium |
| WCS | - | Weathered Claystone |
| KAR | - | Arapahoe/Laramie Formation |

==========

## Laboratory QC Sample Codes (list is informational - lab QC codes not referred to in report)

| | | |
|---|---|---|
| BLK | - | blank |
| BS | - | blank spike |
| BSD | - | blank spike duplicate |
| DUP | - | laboratory duplicate |
| LCS | - | laboratory control sample |
| MB | - | method blank |
| MS | - | matrix spike |
| MSD | - | matrix spike duplicate |
| SD | - | spike duplicate |
| SPK | - | spike |
| SUR | - | surrogate |
| DIL | - | dilution |
| TIC | - | tentatively identified compound |
| TRG | - | target |
| REP | - | replicate |
| RB | - | reagent blank |
| DL | - | normal 1st run dilution |
| DL2 | - | 2nd analysis run dilution |
| BS1 | - | blank spike |
| BS2 | - | blank spike |
| BS3 | - | blank spike |
| BS4 | - | blank spike |
| DL1 | - | dilution |
| DL3 | - | dilution |
| LD | - | lab duplicate |
| PB | - | prep blank |
| R | - | replicate or reanalysis |
| S | - | spike |
| S1 | - | spike |
| S2 | - | spike |
| SP | - | spike |
| REX | - | re-extraction |

TABLE C10 BIOLOGICAL TISSUE SAMPLES

| Biota Site Code | RFEDS (1) Location Code |
|---|---|
| MA01A | BI028 |
| MA01A/3A | BI028/BI030 |
| MA02A | BI029 |
| MA03A | BI030 |
| MA04A | BI031 |
| MD01A | BI032 |
| MD02A | BI033 |
| MG01A | BI034 |
| MG02A | BI035 |
| MG03A | BI036 |
| MG04A | BI037 |
| MR01A | BI038 |
| MR02A | BI039 |
| MR03A | BI040 |
| MR04A | BI041 |
| MW01A | BI042 |
| MW02A | BI043 |
| MW03A | BI044 |
| MW04A | BI045 |
| MA01R | BI047 |
| MA02R | BI048 |
| MA03R | BI049 |
| MA04R | BI050 |
| MG01R | BI051 |
| MG02R | BI052 |
| MG03R | BI053 |
| MG04R | BI054 |
| MW01R | BI055 |
| MW02R | BI056 |
| MW03R | BI057 |
| MX01R | BI059 |
| MX02R | BI060 |
| MX03R | BI061 |
| MD01B | BI063 |
| SWC001 | BI101 |
| SWC002 | BI102 |
| SW003 | BI105 |
| SW005 | BI106 |
| SW033 | BI115 |
| WORI01 | BI116 |
| SW026 | BI118 |
| WOPO02 | BI124 |
| SW038 | BI128 |
| WOSP01 | BI135 |
| RCSP01 | BI137 |
| WORI03 | BI148 |

(1) RFEDS = Rocky Flats Environmental Data System

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1028 | | | | | | | | | | | |
| | | B100191EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | B100289EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100290EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100191EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100289EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100290EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100191EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.001 | PCI/G | J | 0.001 |
| | | B100289EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100290EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100191EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 11 |
| | | B100289EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100290EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 22 |
| | | B100191EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | B100289EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100290EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| B1028/B10 | | | | | | | | | | | |
| | | B100524EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100524EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100524EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.002 | PCI/G | J | 0.002 |
| | | B100524EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 11 |
| | | B100524EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| B1029 | | | | | | | | | | | |
| | | B100173EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.005 | PCI/G | UX | 0.007 |
| | | B100173EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.004 | PCI/G | U | 0.006 |
| | | B100173EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.003 | 0.005 | PCI/G | U | 0.006 |
| | | B100173EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100173EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| B1030 | | | | | | | | | | | |
| | | B100214EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100214EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100214EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.008 | 0.003 | PCI/G | J | 0.001 |
| | | B100214EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 13 |
| | | B100214EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| B1032 | | | | | | | | | | | |
| | | B100190EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.005 | PCI/G | U | 0.007 |
| | | B100308EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1032 | | | | | | | | | | | |
| | | B100310EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.001 | PCI/G | U | 0.003 |
| | | B100190EB | | TRG | TRADS | PLUTONIUM-238 | 0.006 | 0.006 | PCI/G | U | 0.008 |
| | | B100308EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100310EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100190EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.026 | 0.009 | PCI/G | | 0.006 |
| | | B100308EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100310EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100190EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 34 |
| | | B100308EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 15 |
| | | B100310EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 24 |
| | | B100190EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | B100308EB | | TRG | TRADS | URANIUM-238 | 0.057 | 0.013 | PCI/G | JX | 0.036 |
| | | B100310EB | | TRG | TRADS | URANIUM-238 | 0.043 | 0.010 | PCI/G | JX | 0.036 |
| B1033 | | | | | | | | | | | |
| | | B100187EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100287EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.003 |
| | | B100288EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.002 | PCI/G | U | 0.003 |
| | | B100187EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.003 |
| | | B100287EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100288EB | | TRG | TRADS | PLUTONIUM-238 | 0.002 | 0.001 | PCI/G | J | 0.002 |
| | | B100187EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.003 | 0.002 | PCI/G | J | 0.002 |
| | | B100287EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100288EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100187EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 10 |
| | | B100287EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 24 |
| | | B100288EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 21 |
| | | B100187EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | B100287EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100288EB | | TRG | TRADS | URANIUM-238 | 0.039 | 0.009 | PCI/G | JX | 0.036 |
| B1035 | | | | | | | | | | | |
| | | B100318EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.002 | PCI/G | BJ | 0.002 |
| | | B100319EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100520EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100521EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100318EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100319EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100520EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100521EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100318EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | U | 0.002 |
| | | B100319EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1035 | | | | | | | | | | | |
| | | B100520EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100521EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100318EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 20 |
| | | B100319EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 24 |
| | | B100520EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 25 |
| | | B100521EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 16 |
| | | B100318EB | | TRG | TRADS | URANIUM-238 | 0.054 | 0.012 | PCI/G | JX | 0.036 |
| | | B100319EB | | TRG | TRADS | URANIUM-238 | 0.036 | 0.009 | PCI/G | JX | 0.036 |
| | | B100520EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100521EB | | TRG | TRADS | URANIUM-238 | 0.042 | 0.011 | PCI/G | JX | 0.036 |
| B1036 | | | | | | | | | | | |
| | | B100341EB | | TRG | TRADS | AMERICIUM-241 | 0.013 | 0.004 | PCI/G | BJ | 0.002 |
| | | B100517EB | | TRG | TRADS | AMERICIUM-241 | 0.011 | 0.003 | PCI/G | BJ | 0.002 |
| | | B100518EB | | TRG | TRADS | AMERICIUM-241 | 0.006 | 0.003 | PCI/G | BJ | 0.002 |
| | | B100519EB | | TRG | TRADS | AMERICIUM-241 | 0.014 | 0.004 | PCI/G | BJ | 0.002 |
| | | B100341EB | | TRG | TRADS | PLUTONIUM-238 | 0.002 | 0.002 | PCI/G | J | 0.002 |
| | | B100517EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100518EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100519EB | | TRG | TRADS | PLUTONIUM-238 | 0.002 | 0.002 | PCI/G | J | 0.001 |
| | | B100341EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.048 | 0.007 | PCI/G | B | 0.001 |
| | | B100517EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.054 | 0.006 | PCI/G | B | 0.002 |
| | | B100518EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.022 | 0.004 | PCI/G | B | 0.002 |
| | | B100519EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.045 | 0.007 | PCI/G | B | 0.003 |
| | | B100341EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 16 |
| | | B100517EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 22 |
| | | B100518EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 18 |
| | | B100519EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 16 |
| | | B100341EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100517EB | | TRG | TRADS | URANIUM-238 | 0.046 | 0.010 | PCI/G | JX | 0.036 |
| | | B100518EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100519EB | | TRG | TRADS | URANIUM-238 | 0.040 | 0.010 | PCI/G | JX | 0.036 |
| B1037 | | | | | | | | | | | |
| | | B100255EB | | TRG | TRADS | AMERICIUM-241 | 0.023 | 0.004 | PCI/G | B | 0.001 |
| | | B100256EB | | TRG | TRADS | AMERICIUM-241 | 0.011 | 0.003 | PCI/G | BJ | 0.001 |
| | | B100522EB | | REP | TRADS | AMERICIUM-241 | 0.088 | 0.009 | PCI/G | B | 0.002 |
| | | B100522EB | | TRG | TRADS | AMERICIUM-241 | 0.12 | 0.021 | PCI/G | B | 0.007 |
| | | B100523EB | | TRG | TRADS | AMERICIUM-241 | 0.003 | 0.002 | PCI/G | BJ | 0.001 |
| | | B100255EB | | TRG | TRADS | PLUTONIUM-238 | 0.002 | 0.001 | PCI/G | J | 0.001 |
| | | B100256EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100522EB | | REP | TRADS | PLUTONIUM-238 | 0.001 | 0.002 | PCI/G | J | 0.001 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1037 | | | | | | | | | | | |
| | | B100522EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | B100523EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100255EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.091 | 0.008 | PCI/G | B | 0.001 |
| | | B100256EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.051 | 0.005 | PCI/G | B | 0.001 |
| | | B100522EB | | REP | TRADS | PLUTONIUM-239,-240 | 0.12 | 0.013 | PCI/G | B | 0.003 |
| | | B100522EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.11 | 0.010 | PCI/G | B | 0.001 |
| | | B100523EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.014 | 0.003 | PCI/G | BJ | 0.001 |
| | | B100255EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100256EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 21 |
| | | B100522EB | | REP | TRADS | RADIUM-226 | 11 | 18 | PCI/G | | |
| | | B100522EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 34 |
| | | B100523EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100255EB | | TRG | TRADS | URANIUM-238 | 0.049 | 0.012 | PCI/G | JX | 0.036 |
| | | B100256EB | | TRG | TRADS | URANIUM-238 | 0.045 | 0.010 | PCI/G | JX | 0.036 |
| | | B100522EB | | REP | TRADS | URANIUM-238 | 0.038 | 0.009 | PCI/G | JX | 0.036 |
| | | B100522EB | | TRG | TRADS | URANIUM-238 | 0.038 | 0.009 | PCI/G | JX | 0.036 |
| | | B100523EB | | TRG | TRADS | URANIUM-238 | 0.040 | 0.010 | PCI/G | JX | 0.036 |
| B1038 | | | | | | | | | | | |
| | | B100363EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.002 | PCI/G | U | 0.002 |
| | | B100363EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100363EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100363EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 18 |
| | | B100363EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| B1039 | | | | | | | | | | | |
| | | B100320EB | | TRG | TRADS | AMERICIUM-241 | 0.003 | 0.002 | PCI/G | BJ | 0.002 |
| | | B100320EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.001 |
| | | B100320EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.006 | 0.003 | PCI/G | BJ | 0.003 |
| | | B100320EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 16 |
| | | B100320EB | | TRG | TRADS | URANIUM-238 | 0.056 | 0.012 | PCI/G | JX | 0.036 |
| B1040 | | | | | | | | | | | |
| | | B100282EB | | TRG | TRADS | AMERICIUM-241 | 0.005 | 0.005 | PCI/G | BJ | 0.005 |
| | | B100283EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | U | 0.002 |
| | | B100282EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | B100283EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100282EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | U | 0.002 |
| | | B100283EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100282EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 18 |
| | | B100283EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 21 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1040 | | | | | | | | | | | |
| | | B100282EB | | TRG | TRADS | URANIUM-238 | 0.086 | 0.014 | PCI/G | JX | 0.036 |
| | | B100283EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| B1041 | | | | | | | | | | | |
| | | B100259EB | | TRG | TRADS | AMERICIUM-241 | 0.003 | 0.003 | PCI/G | BJ | 0.003 |
| | | B100261EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100515EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.002 | PCI/G | U | 0.004 |
| | | B100516EB | | REP | TRADS | AMERICIUM-241 | 0.005 | 0.003 | PCI/G | BJ | 0.002 |
| | | B100516EB | | TRG | TRADS | AMERICIUM-241 | 0.022 | 0.007 | PCI/G | BX | 0.005 |
| | | B100259EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.002 | PCI/G | J | 0.001 |
| | | B100261EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100515EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100516EB | | REP | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.001 |
| | | B100516EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.003 | PCI/G | U | 0.003 |
| | | B100259EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.007 | 0.003 | PCI/G | BJ | 0.002 |
| | | B100261EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100515EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | U | 0.002 |
| | | B100516EB | | REP | TRADS | PLUTONIUM-239,-240 | 0.008 | 0.003 | PCI/G | BJ | 0.003 |
| | | B100516EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.006 | 0.003 | PCI/G | BJ | 0.004 |
| | | B100259EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100261EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100515EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100516EB | | REP | TRADS | RADIUM-226 | | | PCI/G | | 29 |
| | | B100516EB | | TRG | TRADS | RADIUM-226 | 11 | 18 | PCI/G | | |
| | | B100259EB | | TRG | TRADS | URANIUM-238 | 0.040 | 0.009 | PCI/G | JX | 0.036 |
| | | B100261EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100515EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100516EB | | REP | TRADS | URANIUM-238 | 0.053 | 0.012 | PCI/G | JX | 0.036 |
| | | B100516EB | | TRG | TRADS | URANIUM-238 | 0.064 | 0.014 | PCI/G | JX | 0.036 |
| B1042 | | | | | | | | | | | |
| | | B100189EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.002 | PCI/G | J | 0.002 |
| | | B100189EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.003 | PCI/G | U | 0.004 |
| | | B100189EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100189EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 21 |
| | | B100189EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| B1044 | | | | | | | | | | | |
| | | B100188EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.003 |
| | | B100188EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.003 |
| | | B100188EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.002 | PCI/G | U | 0.002 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1044 | | | | | | | | | | | |
| | | B100188EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 16 |
| | | B100188EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| B1045 | | | | | | | | | | | |
| | | B100186EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.003 |
| | | B100186EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.003 |
| | | B100186EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100186EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 17 |
| | | B100186EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| B1047 | | | | | | | | | | | |
| | | B100329EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.004 |
| | | B100331EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.002 | PCI/G | BJ | 0.002 |
| | | B100329EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | B100331EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100329EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100331EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100329EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 14 |
| | | B100331EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 18 |
| | | B100329EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.036 |
| | | B100331EB | | TRG | TRADS | URANIUM-238 | 0.047 | 0.010 | PCI/G | JX | 0.036 |
| B1053 | | | | | | | | | | | |
| | | B100333EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100336EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100333EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100336EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100333EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.002 | PCI/G | BJ | 0.001 |
| | | B100336EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100333EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 15 |
| | | B100336EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 15 |
| | | B100333EB | | TRG | TRADS | URANIUM-238 | 0.056 | 0.012 | PCI/G | JX | 0.036 |
| | | B100336EB | | TRG | TRADS | URANIUM-238 | 0.036 | 0.009 | PCI/G | JX | 0.036 |
| B1054 | | | | | | | | | | | |
| | | B100280EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.002 | PCI/G | U | 0.004 |
| | | B100281EB | | REP | TRADS | AMERICIUM-241 | 0.001 | 0.005 | PCI/G | U | 0.009 |
| | | B100281EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.003 | PCI/G | U | 0.005 |
| | | B100280EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100281EB | | REP | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1054 | | | | | | | | | | | |
| | | B100281EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100280EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100281EB | | REP | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100281EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | BJ | 0.001 |
| | | B100280EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 15 |
| | | B100281EB | | REP | TRADS | RADIUM-226 | | | PCI/G | | 32 |
| | | B100281EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 26 |
| | | B100280EB | | TRG | TRADS | URANIUM-238 | 0.054 | 0.012 | PCI/G | JX | 0.036 |
| | | B100281EB | | REP | TRADS | URANIUM-238 | 0.046 | 0.010 | PCI/G | JX | 0.036 |
| | | B100281EB | | TRG | TRADS | URANIUM-238 | 0.037 | 0.008 | PCI/G | JX | 0.036 |
| B1101 | | | | | | | | | | | |
| | | B100203EB | | TRG | TRADS | AMERICIUM-241 | 0.015 | 0.029 | PCI/G | U | 0.038 |
| | | B100204EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100205EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100206EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.003 | PCI/G | U | 0.003 |
| | | B100210EB | | TRG | TRADS | AMERICIUM-241 | 0.005 | 0.007 | PCI/G | U | 0.006 |
| | | B100211EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.009 | PCI/G | U | 0.012 |
| | | B100212EB | | TRG | TRADS | AMERICIUM-241 | 0.004 | 0.005 | PCI/G | U | 0.006 |
| | | B100213EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.002 | PCI/G | U | 0.005 |
| | | B100215EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | B100216EB | | REP | TRADS | AMERICIUM-241 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100216EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100217EB | | REP | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100217EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.001 | PCI/G | U | 0.002 |
| | | B100218EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100219EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100220EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100221EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.002 | PCI/G | U | 0.002 |
| | | B100500EB | | TRG | TRADS | AMERICIUM-241 | 0.004 | 0.006 | PCI/G | U | 0.007 |
| | | B100203EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.007 | PCI/G | U | 0.010 |
| | | B100204EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100205EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100206EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100210EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.001 | PCI/G | U | 0.005 |
| | | B100211EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.003 | PCI/G | U | 0.006 |
| | | B100212EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100213EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100215EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100216EB | | REP | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100216EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100217EB | | REP | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100217EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI101 | | | | | | | | | | | |
| | | BI00218EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | BI00219EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | BI00220EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.001 | PCI/G | U | 0.003 |
| | | BI00221EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | BI00500EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.005 | PCI/G | U | 0.009 |
| | | BI00203EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.004 | 0.007 | PCI/G | U | 0.010 |
| | | BI00204EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.001 | PCI/G | J | 0.001 |
| | | BI00205EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | BI00206EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.002 | PCI/G | J | 0.002 |
| | | BI00210EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | U | 0.003 |
| | | BI00211EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.019 | 0.007 | PCI/G | J | 0.003 |
| | | BI00212EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.032 | 0.006 | PCI/G | | 0.001 |
| | | BI00213EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.008 | 0.003 | PCI/G | J | 0.001 |
| | | BI00215EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.003 | 0.001 | PCI/G | J | 0.001 |
| | | BI00216EB | | REP | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | BI00216EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | BI00217EB | | REP | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | BI00217EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.001 | PCI/G | J | 0.001 |
| | | BI00218EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | BI00219EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | BI00220EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.002 | PCI/G | U | 0.003 |
| | | BI00221EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | BI00500EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.006 | 0.007 | PCI/G | U | 0.007 |
| | | BI00203EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 150 |
| | | BI00204EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 15 |
| | | BI00205EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 14 |
| | | BI00206EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 25 |
| | | BI00210EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 49 |
| | | BI00211EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 46 |
| | | BI00212EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 38 |
| | | BI00213EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 24 |
| | | BI00215EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 7.5 |
| | | BI00216EB | | REP | TRADS | RADIUM-226 | | | PCI/G | | 7.9 |
| | | BI00216EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 7.8 |
| | | BI00217EB | | REP | TRADS | RADIUM-226 | | | PCI/G | | 6.8 |
| | | BI00217EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 6.7 |
| | | BI00218EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 6.8 |
| | | BI00219EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 5.8 |
| | | BI00220EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 19 |
| | | BI00221EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 16 |
| | | BI00500EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 78 |
| | | BI00203EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.75 |
| | | BI00204EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00205EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI101 | | | | | | | | | | | |
| | | BI00206EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00210EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00211EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00212EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00213EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00215EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 380 |
| | | BI00216EB | | REP | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00216EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00217EB | | REP | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00217EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00218EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00219EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00220EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00221EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.38 |
| | | BI00500EB | | TRG | TRADS | URANIUM-238 | 0.10 | 0.019 | PCI/G | J | 0.038 |
| BI102 | | | | | | | | | | | |
| | | BI00472EB | | TRG | TRADS | AMERICIUM-241 | 0.017 | 0.006 | PCI/G | J | 0.004 |
| | | BI00473EB | | TRG | TRADS | AMERICIUM-241 | 0.017 | 0.016 | PCI/G | U | 0.018 |
| | | BI00474EB | | TRG | TRADS | AMERICIUM-241 | 0.009 | 0.007 | PCI/G | J | 0.006 |
| | | BI00472EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.004 |
| | | BI00473EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.002 | PCI/G | U | 0.003 |
| | | BI00474EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.002 | PCI/G | U | 0.004 |
| | | BI00472EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.11 | 0.014 | PCI/G | | 0.002 |
| | | BI00473EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.11 | 0.013 | PCI/G | | 0.002 |
| | | BI00474EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.092 | 0.013 | PCI/G | | 0.002 |
| | | BI00472EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 26 |
| | | BI00473EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 20 |
| | | BI00474EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 25 |
| | | BI00472EB | | TRG | TRADS | URANIUM-238 | 0.36 | 0.065 | PCI/G | | 0.038 |
| | | BI00473EB | | TRG | TRADS | URANIUM-238 | 0.39 | 0.071 | PCI/G | | 0.038 |
| | | BI00474EB | | TRG | TRADS | URANIUM-238 | 0.39 | 0.070 | PCI/G | | 0.038 |
| BI115 | | | | | | | | | | | |
| | | BI00484EB | | TRG | TRADS | AMERICIUM-241 | 0.004 | 0.007 | PCI/G | U | 0.009 |
| | | BI00485EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.007 | PCI/G | U | 0.009 |
| | | BI00486EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.011 | PCI/G | U | 0.013 |
| | | BI00484EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.003 | PCI/G | U | 0.005 |
| | | BI00485EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | BI00486EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.002 | PCI/G | U | 0.004 |
| | | BI00484EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.003 | PCI/G | U | 0.003 |
| | | BI00485EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | U | 0.002 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI115 | | | | | | | | | | | |
| | | BI00486EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.002 | PCI/G | U | 0.004 |
| | | BI00484EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 33 |
| | | BI00485EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 31 |
| | | BI00486EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 52 |
| | | BI00484EB | | TRG | TRADS | URANIUM-238 | 0.25 | 0.080 | PCI/G | | 0.038 |
| | | BI00485EB | | TRG | TRADS | URANIUM-238 | 0.12 | 0.033 | PCI/G | J | 0.038 |
| | | BI00486EB | | TRG | TRADS | URANIUM-238 | 0.097 | 0.031 | PCI/G | J | 0.038 |
| BI116 | | | | | | | | | | | |
| | | BI00487EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.006 | PCI/G | U | 0.007 |
| | | BI00488EB | | TRG | TRADS | AMERICIUM-241 | 0.002 | 0.007 | PCI/G | U | 0.008 |
| | | BI00489EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.002 | PCI/G | U | 0.005 |
| | | BI00490EB | | TRG | TRADS | AMERICIUM-241 | -0.003 | 0.002 | PCI/G | U | 0.008 |
| | | BI00491EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.010 | PCI/G | U | 0.016 |
| | | BI00492EB | | TRG | TRADS | AMERICIUM-241 | 0.007 | 0.009 | PCI/G | U | 0.010 |
| | | BI00493EB | | TRG | TRADS | AMERICIUM-241 | 0.003 | 0.006 | PCI/G | U | 0.008 |
| | | BI00494EB | | TRG | TRADS | AMERICIUM-241 | -0.003 | 0.008 | PCI/G | U | 0.013 |
| | | BI00487EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.005 |
| | | BI00488EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.002 | PCI/G | U | 0.004 |
| | | BI00489EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.001 | PCI/G | U | 0.004 |
| | | BI00490EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.003 |
| | | BI00491EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.003 | PCI/G | U | 0.003 |
| | | BI00492EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.005 |
| | | BI00493EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.001 | PCI/G | U | 0.005 |
| | | BI00494EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.005 | PCI/G | U | 0.007 |
| | | BI00487EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.024 | 0.010 | PCI/G | | 0.005 |
| | | BI00488EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.034 | 0.011 | PCI/G | | 0.003 |
| | | BI00489EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.004 | 0.004 | PCI/G | J | 0.003 |
| | | BI00490EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.003 | PCI/G | U | 0.003 |
| | | BI00491EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.003 | PCI/G | U | 0.003 |
| | | BI00492EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.004 | PCI/G | U | 0.007 |
| | | BI00493EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.003 | PCI/G | U | 0.004 |
| | | BI00494EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.003 | 0.005 | PCI/G | U | 0.005 |
| | | BI00487EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 63 |
| | | BI00488EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 77 |
| | | BI00489EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 30 |
| | | BI00490EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 38 |
| | | BI00491EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 31 |
| | | BI00492EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 47 |
| | | BI00493EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 25 |
| | | BI00494EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 55 |
| | | BI00487EB | | TRG | TRADS | URANIUM-238 | 0.093 | 0.019 | PCI/G | J | 0.038 |
| | | BI00488EB | | TRG | TRADS | URANIUM-238 | 0.20 | 0.037 | PCI/G | | 0.038 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI116 | | | | | | | | | | | |
| | | BI00489EB | | TRG | TRADS | URANIUM-238 | 0.19 | 0.053 | PCI/G | J | 0.038 |
| | | BI00490EB | | TRG | TRADS | URANIUM-238 | 0.086 | 0.021 | PCI/G | J | 0.038 |
| | | BI00491EB | | TRG | TRADS | URANIUM-238 | 0.094 | 0.030 | PCI/G | J | 0.038 |
| | | BI00492EB | | TRG | TRADS | URANIUM-238 | 0.10 | 0.027 | PCI/G | J | 0.038 |
| | | BI00493EB | | TRG | TRADS | URANIUM-238 | 0.052 | 0.011 | PCI/G | J | 0.038 |
| | | BI00494EB | | TRG | TRADS | URANIUM-238 | 0.15 | 0.041 | PCI/G | J | 0.038 |
| BI118 | | | | | | | | | | | |
| | | BI00475EB | | REP | TRADS | AMERICIUM-241 | 0.002 | 0.002 | PCI/G | U | 0.003 |
| | | BI00475EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | BI00476EB | | TRG | TRADS | AMERICIUM-241 | 0.003 | 0.003 | PCI/G | J | 0.003 |
| | | BI00477EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.004 | PCI/G | U | 0.005 |
| | | BI00478EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.005 | PCI/G | U | 0.008 |
| | | BI00479EB | | TRG | TRADS | AMERICIUM-241 | 0.011 | 0.013 | PCI/G | U | 0.015 |
| | | BI00475EB | | REP | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | BI00475EB | | TRG | TRADS | PLUTONIUM-238 | 0.003 | 0.002 | PCI/G | J | 0.002 |
| | | BI00476EB | | TRG | TRADS | PLUTONIUM-238 | 0.010 | 0.014 | PCI/G | U | 0.018 |
| | | BI00477EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.002 | PCI/G | U | 0.003 |
| | | BI00478EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.002 | PCI/G | U | 0.003 |
| | | BI00479EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.004 |
| | | BI00475EB | | REP | TRADS | PLUTONIUM-239,-240 | 0 | 0.002 | PCI/G | U | 0.003 |
| | | BI00475EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.008 | 0.003 | PCI/G | J | 0.002 |
| | | BI00476EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.015 | 0.010 | PCI/G | J | 0.008 |
| | | BI00477EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.003 | 0.002 | PCI/G | J | 0.002 |
| | | BI00478EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.002 | PCI/G | U | 0.003 |
| | | BI00479EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.002 | PCI/G | U | 0.004 |
| | | BI00475EB | | REP | TRADS | RADIUM-226 | 8.5 | 14 | PCI/G | J | |
| | | BI00475EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 21 |
| | | BI00476EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 27 |
| | | BI00477EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 19 |
| | | BI00478EB | | TRG | TRADS | RADIUM-226 | 24 | 28 | PCI/G | | |
| | | BI00479EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 27 |
| | | BI00475EB | | REP | TRADS | URANIUM-238 | 0.071 | 0.016 | PCI/G | J | 0.038 |
| | | BI00475EB | | TRG | TRADS | URANIUM-238 | 0.10 | 0.029 | PCI/G | J | 0.038 |
| | | BI00476EB | | TRG | TRADS | URANIUM-238 | 0.14 | 0.033 | PCI/G | J | 0.038 |
| | | BI00477EB | | TRG | TRADS | URANIUM-238 | 0.24 | 0.071 | PCI/G | | 0.038 |
| | | BI00478EB | | TRG | TRADS | URANIUM-238 | 0.12 | 0.040 | PCI/G | J | 0.038 |
| | | BI00479EB | | TRG | TRADS | URANIUM-238 | 0.28 | 0.084 | PCI/G | | 0.038 |
| BI124 | | | | | | | | | | | |
| | | BI00480EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.008 | PCI/G | U | 0.014 |
| | | BI00481EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.004 | PCI/G | U | 0.009 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1124 | | | | | | | | | | | |
| | | B100482EB | | TRG | TRADS | AMERICIUM-241 | 0.007 | 0.006 | PCI/G | J | 0.006 |
| | | B100483EB | | REP | TRADS | AMERICIUM-241 | -0.001 | 0.003 | PCI/G | U | 0.003 |
| | | B100483EB | | TRG | TRADS | AMERICIUM-241 | 0.003 | 0.005 | PCI/G | U | 0.005 |
| | | B100496EB | | TRG | TRADS | AMERICIUM-241 | -0.002 | 0.012 | PCI/G | U | 0.023 |
| | | B100497EB | | TRG | TRADS | AMERICIUM-241 | 0.004 | 0.008 | PCI/G | U | 0.009 |
| | | B100480EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.003 | PCI/G | U | 0.003 |
| | | B100481EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100482EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0 | PCI/G | U | 0.001 |
| | | B100483EB | | REP | TRADS | PLUTONIUM-238 | 0 | 0.003 | PCI/G | U | 0.005 |
| | | B100483EB | | TRG | TRADS | PLUTONIUM-238 | 0.002 | 0.003 | PCI/G | J | 0.002 |
| | | B100496EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.005 |
| | | B100497EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.007 | PCI/G | U | 0.010 |
| | | B100480EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.003 |
| | | B100481EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100482EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0 | 0.001 | PCI/G | U | 0.001 |
| | | B100483EB | | REP | TRADS | PLUTONIUM-239,-240 | -0.001 | 0.003 | PCI/G | U | 0.004 |
| | | B100483EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.003 | 0.002 | PCI/G | J | 0.002 |
| | | B100496EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.021 | 0.011 | PCI/G | | 0.007 |
| | | B100497EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.025 | 0.011 | PCI/G | | 0.005 |
| | | B100480EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 55 |
| | | B100481EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 14 |
| | | B100482EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 37 |
| | | B100483EB | | REP | TRADS | RADIUM-226 | | | PCI/G | | 33 |
| | | B100483EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 38 |
| | | B100496EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 49 |
| | | B100497EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 28 |
| | | B100480EB | | TRG | TRADS | URANIUM-238 | 0.15 | 0.037 | PCI/G | J | 0.038 |
| | | B100481EB | | TRG | TRADS | URANIUM-238 | 0.29 | 0.070 | PCI/G | | 0.038 |
| | | B100482EB | | TRG | TRADS | URANIUM-238 | 0.38 | 0.10 | PCI/G | | 0.038 |
| | | B100483EB | | REP | TRADS | URANIUM-238 | 0.21 | 0.054 | PCI/G | | 0.038 |
| | | B100483EB | | TRG | TRADS | URANIUM-238 | 0.31 | 0.087 | PCI/G | | 0.038 |
| | | B100496EB | | TRG | TRADS | URANIUM-238 | 0.20 | 0.036 | PCI/G | | 0.038 |
| | | B100497EB | | TRG | TRADS | URANIUM-238 | | | PCI/G | | 0.038 |
| B1128 | | | | | | | | | | | |
| | | B100501EB | | TRG | TRADS | AMERICIUM-241 | -0.001 | 0.004 | PCI/G | U | 0.005 |
| | | B100501EB | | TRG | TRADS | PLUTONIUM-238 | -0.002 | 0.002 | PCI/G | U | 0.008 |
| | | B100501EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.018 | 0.010 | PCI/G | J | 0.006 |
| | | B100501EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 56 |
| | | B100501EB | | TRG | TRADS | URANIUM-238 | 0.12 | 0.021 | PCI/G | J | 0.038 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1137 | | | | | | | | | | | |
| | | B100504EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100505EB | | TRG | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100506EB | | REP | TRADS | AMERICIUM-241 | 0.001 | 0.002 | PCI/G | U | 0.002 |
| | | B100506EB | | TRG | TRADS | AMERICIUM-241 | 0.003 | 0.004 | PCI/G | U | 0.005 |
| | | B100504EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.001 | PCI/G | U | 0.002 |
| | | B100505EB | | TRG | TRADS | PLUTONIUM-238 | 0.001 | 0.001 | PCI/G | U | 0.002 |
| | | B100506EB | | REP | TRADS | PLUTONIUM-238 | 0 | 0.003 | PCI/G | U | 0.005 |
| | | B100506EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.002 | PCI/G | U | 0.004 |
| | | B100504EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.001 | PCI/G | J | 0.001 |
| | | B100505EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.007 | 0.003 | PCI/G | J | 0.002 |
| | | B100506EB | | REP | TRADS | PLUTONIUM-239,-240 | 0.003 | 0.003 | PCI/G | U | 0.004 |
| | | B100506EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.020 | 0.006 | PCI/G | J | 0.002 |
| | | B100504EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 21 |
| | | B100505EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 20 |
| | | B100506EB | | REP | TRADS | RADIUM-226 | | | PCI/G | | 35 |
| | | B100506EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 41 |
| | | B100504EB | | TRG | TRADS | URANIUM-238 | 0.57 | 0.10 | PCI/G | | 0.038 |
| | | B100505EB | | TRG | TRADS | URANIUM-238 | 0.62 | 0.11 | PCI/G | | 0.038 |
| | | B100506EB | | REP | TRADS | URANIUM-238 | 0.40 | 0.10 | PCI/G | | 0.038 |
| | | B100506EB | | TRG | TRADS | URANIUM-238 | 0.38 | 0.068 | PCI/G | | 0.038 |
| B1148 | | | | | | | | | | | |
| | | B100495EB | | TRG | TRADS | AMERICIUM-241 | -0.003 | 0.008 | PCI/G | U | 0.013 |
| | | B100498EB | | TRG | TRADS | AMERICIUM-241 | 0 | 0.002 | PCI/G | U | 0.002 |
| | | B100499EB | | TRG | TRADS | AMERICIUM-241 | -0.002 | 0.002 | PCI/G | U | 0.004 |
| | | B100495EB | | TRG | TRADS | PLUTONIUM-238 | 0 | 0.003 | PCI/G | U | 0.007 |
| | | B100498EB | | TRG | TRADS | PLUTONIUM-238 | -0.001 | 0.003 | PCI/G | U | 0.005 |
| | | B100499EB | | TRG | TRADS | PLUTONIUM-238 | -0.002 | 0.005 | PCI/G | U | 0.008 |
| | | B100495EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.001 | 0.005 | PCI/G | U | 0.007 |
| | | B100498EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.002 | PCI/G | J | 0.002 |
| | | B100499EB | | TRG | TRADS | PLUTONIUM-239,-240 | 0.002 | 0.003 | PCI/G | U | 0.004 |
| | | B100495EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 110 |
| | | B100498EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 15 |
| | | B100499EB | | TRG | TRADS | RADIUM-226 | | | PCI/G | | 49 |
| | | B100495EB | | TRG | TRADS | URANIUM-238 | 0.057 | 0.015 | PCI/G | J | 0.038 |
| | | B100498EB | | TRG | TRADS | URANIUM-238 | 0.094 | 0.030 | PCI/G | J | 0.038 |
| | | B100499EB | | TRG | TRADS | URANIUM-238 | 0.17 | 0.065 | PCI/G | J | 0.038 |

End of Report

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1028 | | | | | | | | | | | |
| | | B100191EB | | TRG | BIOMET | CADMIUM | 2.3 | | MG/KG | U | 5 |
| | | B100289EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100290EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100191EB | | TRG | BIOMET | CHROMIUM | 3.4 | | MG/KG | U | 10 |
| | | B100289EB | | TRG | BIOMET | CHROMIUM | 1.2 | | MG/KG | | 10 |
| | | B100290EB | | TRG | BIOMET | CHROMIUM | 0.6 | | MG/KG | | 10 |
| | | B100191EB | | TRG | BIOMET | COPPER | 19.8 | | MG/KG | | 25 |
| | | B100289EB | | TRG | BIOMET | COPPER | 3.3 | | MG/KG | | 25 |
| | | B100290EB | | TRG | BIOMET | COPPER | 9.9 | | MG/KG | | 25 |
| | | B100191EB | | TRG | BIOMET | LEAD | 2.9 | | MG/KG | | 3 |
| | | B100289EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | I | 3 |
| | | B100290EB | | TRG | BIOMET | LEAD | 0.5 | | MG/KG | I | 3 |
| | | B100191EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100289EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100290EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100191EB | | TRG | BIOMET | SELENIUM | 4.5 | | MG/KG | U | 5 |
| | | B100289EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100290EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100191EB | | TRG | BIOMET | SILVER | 2.3 | | MG/KG | U | 10 |
| | | B100289EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100290EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100191EB | | TRG | BIOMET | ZINC | 90.8 | | MG/KG | | 20 |
| | | B100289EB | | TRG | BIOMET | ZINC | 13.6 | | MG/KG | | 20 |
| | | B100290EB | | TRG | BIOMET | ZINC | 9.3 | | MG/KG | | 20 |
| B1028/B10 | | | | | | | | | | | |
| | | B100524EB | | TRG | BIOMET | CADMIUM | 2.4 | | MG/KG | U | 5 |
| | | B100524EB | | TRG | BIOMET | CHROMIUM | 4.9 | | MG/KG | | 10 |
| | | B100524EB | | TRG | BIOMET | COPPER | 19.4 | | MG/KG | | 25 |
| | | B100524EB | | TRG | BIOMET | LEAD | 3.8 | | MG/KG | | 3 |
| | | B100524EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100524EB | | TRG | BIOMET | SELENIUM | 4.8 | | MG/KG | U | 5 |
| | | B100524EB | | TRG | BIOMET | SILVER | 2.4 | | MG/KG | U | 10 |
| | | B100524EB | | TRG | BIOMET | ZINC | 110 | | MG/KG | | 20 |
| B1029 | | | | | | | | | | | |
| | | B100173EB | | TRG | BIOMET | CADMIUM | 2.5 | | MG/KG | U | 5 |
| | | B100311EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100173EB | | TRG | BIOMET | CHROMIUM | 3.8 | | MG/KG | U | 10 |
| | | B100311EB | | TRG | BIOMET | CHROMIUM | 37.8 | | MG/KG | | 10 |
| | | B100173EB | | TRG | BIOMET | COPPER | 18.7 | | MG/KG | | 25 |
| | | B100311EB | | TRG | BIOMET | COPPER | 5.1 | | MG/KG | | 25 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1029 | | | | | | | | | | | |
| | | B100173EB | | TRG | BIOMET | LEAD | 2.3 | | MG/KG | I | 3 |
| | | B100311EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | | 3 |
| | | B100173EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100311EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100173EB | | TRG | BIOMET | SELENIUM | 6.9 | | MG/KG | | 5 |
| | | B100311EB | | TRG | BIOMET | SELENIUM | 0.9 | | MG/KG | U | 5 |
| | | B100173EB | | TRG | BIOMET | SILVER | 2.5 | | MG/KG | U | 10 |
| | | B100311EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100173EB | | TRG | BIOMET | ZINC | 91.1 | | MG/KG | | 20 |
| | | B100311EB | | TRG | BIOMET | ZINC | 7.1 | | MG/KG | | 20 |
| B1030 | | | | | | | | | | | |
| | | B100214EB | | TRG | BIOMET | CADMIUM | 2.3 | | MG/KG | U | 5 |
| | | B100323EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100214EB | | TRG | BIOMET | CHROMIUM | 4.6 | | MG/KG | | 10 |
| | | B100323EB | | TRG | BIOMET | CHROMIUM | 0.6 | | MG/KG | U | 10 |
| | | B100214EB | | TRG | BIOMET | COPPER | 18.3 | | MG/KG | | 25 |
| | | B100323EB | | TRG | BIOMET | COPPER | 4.4 | | MG/KG | | 25 |
| | | B100214EB | | TRG | BIOMET | LEAD | 2.0 | | MG/KG | | 3 |
| | | B100323EB | | TRG | BIOMET | LEAD | 0.5 | | MG/KG | | 3 |
| | | B100214EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100323EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100214EB | | TRG | BIOMET | SELENIUM | 4.6 | | MG/KG | U | 5 |
| | | B100323EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100214EB | | TRG | BIOMET | SILVER | 2.3 | | MG/KG | U | 10 |
| | | B100323EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100214EB | | TRG | BIOMET | ZINC | 127 | | MG/KG | | 20 |
| | | B100323EB | | TRG | BIOMET | ZINC | 7.0 | | MG/KG | | 20 |
| B1031 | | | | | | | | | | | |
| | | B100239EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | | 5 |
| | | B100241EB | | TRG | BIOMET | CADMIUM | 6.4 | | MG/KG | | 5 |
| | | B100325EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100239EB | | TRG | BIOMET | CHROMIUM | 5.7 | | MG/KG | U | 10 |
| | | B100241EB | | TRG | BIOMET | CHROMIUM | 6.5 | | MG/KG | U | 10 |
| | | B100325EB | | TRG | BIOMET | CHROMIUM | 1.9 | | MG/KG | | 10 |
| | | B100239EB | | TRG | BIOMET | COPPER | 22.0 | | MG/KG | | 25 |
| | | B100241EB | | TRG | BIOMET | COPPER | 204 | | MG/KG | | 25 |
| | | B100325EB | | TRG | BIOMET | COPPER | 2.8 | | MG/KG | | 25 |
| | | B100239EB | | TRG | BIOMET | LEAD | 1.1 | | MG/KG | U | 3 |
| | | B100241EB | | TRG | BIOMET | LEAD | 3.6 | | MG/KG | | 3 |
| | | B100325EB | | TRG | BIOMET | LEAD | 0.5 | | MG/KG | | 3 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI031 | | | | | | | | | | | |
| | | BI00239EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | BI00241EB | | TRG | BIOMET | MERCURY | 1.0 | | MG/KG | U | 0.2 |
| | | BI00325EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | BI00239EB | | TRG | BIOMET | SELENIUM | 4.6 | | MG/KG | UI | 5 |
| | | BI00241EB | | TRG | BIOMET | SELENIUM | 8.6 | | MG/KG | UI | 5 |
| | | BI00325EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | BI00239EB | | TRG | BIOMET | SILVER | 3.4 | | MG/KG | U | 10 |
| | | BI00241EB | | TRG | BIOMET | SILVER | 4.3 | | MG/KG | U | 10 |
| | | BI00325EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | BI00239EB | | TRG | BIOMET | ZINC | 133 | | MG/KG | | 20 |
| | | BI00241EB | | TRG | BIOMET | ZINC | 210 | | MG/KG | | 20 |
| | | BI00325EB | | TRG | BIOMET | ZINC | 10.1 | | MG/KG | | 20 |
| BI032 | | | | | | | | | | | |
| | | BI00190EB | | TRG | BIOMET | CADMIUM | 3.1 | | MG/KG | U | 5 |
| | | BI00262EB | | TRG | BIOMET | CADMIUM | 3.8 | | MG/KG | | 5 |
| | | BI00308EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | BI00310EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | BI00190EB | | TRG | BIOMET | CHROMIUM | 4.6 | | MG/KG | U | 10 |
| | | BI00262EB | | TRG | BIOMET | CHROMIUM | 4.7 | | MG/KG | U | 10 |
| | | BI00308EB | | TRG | BIOMET | CHROMIUM | 1.5 | | MG/KG | | 10 |
| | | BI00310EB | | TRG | BIOMET | CHROMIUM | 0.6 | | MG/KG | U | 10 |
| | | BI00190EB | | TRG | BIOMET | COPPER | 158 | | MG/KG | | 25 |
| | | BI00262EB | | TRG | BIOMET | COPPER | 133 | | MG/KG | | 25 |
| | | BI00308EB | | TRG | BIOMET | COPPER | 4.8 | | MG/KG | | 25 |
| | | BI00310EB | | TRG | BIOMET | COPPER | 4.4 | | MG/KG | | 25 |
| | | BI00190EB | | TRG | BIOMET | LEAD | 2.6 | | MG/KG | | 3 |
| | | BI00262EB | | TRG | BIOMET | LEAD | 1.6 | | MG/KG | U | 3 |
| | | BI00308EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | I | 3 |
| | | BI00310EB | | TRG | BIOMET | LEAD | 0.4 | | MG/KG | I | 3 |
| | | BI00190EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | BI00262EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | BI00308EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | BI00310EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | BI00190EB | | TRG | BIOMET | SELENIUM | 6.2 | | MG/KG | UI | 5 |
| | | BI00262EB | | TRG | BIOMET | SELENIUM | 6.3 | | MG/KG | U | 5 |
| | | BI00308EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | BI00310EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | BI00190EB | | TRG | BIOMET | SILVER | 3.1 | | MG/KG | U | 10 |
| | | BI00262EB | | TRG | BIOMET | SILVER | 3.1 | | MG/KG | U | 10 |
| | | BI00308EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | BI00310EB | | TRG | BIOMET | SILVER | 0.5 | | MG/KG | | 10 |
| | | BI00190EB | | TRG | BIOMET | ZINC | 93.8 | | MG/KG | | 20 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1032 | | | | | | | | | | | |
| | | B100262EB | | TRG | BIOMET | ZINC | 144 | | MG/KG | | 20 |
| | | B100308EB | | TRG | BIOMET | ZINC | 14.6 | | MG/KG | | 20 |
| | | B100310EB | | TRG | BIOMET | ZINC | 5.2 | | MG/KG | | 20 |
| B1033 | | | | | | | | | | | |
| | | B100187EB | | TRG | BIOMET | CADMIUM | 2.1 | | MG/KG | U | 5 |
| | | B100287EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100288EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100187EB | | TRG | BIOMET | CHROMIUM | 3.1 | | MG/KG | U | 10 |
| | | B100287EB | | TRG | BIOMET | CHROMIUM | 0.7 | | MG/KG | | 10 |
| | | B100288EB | | TRG | BIOMET | CHROMIUM | 0.9 | | MG/KG | | 10 |
| | | B100187EB | | TRG | BIOMET | COPPER | 36.2 | | MG/KG | | 25 |
| | | B100287EB | | TRG | BIOMET | COPPER | 2.8 | | MG/KG | | 25 |
| | | B100288EB | | TRG | BIOMET | COPPER | 5.1 | | MG/KG | | 25 |
| | | B100187EB | | TRG | BIOMET | LEAD | 2.3 | | MG/KG | | 3 |
| | | B100287EB | | TRG | BIOMET | LEAD | 0.3 | | MG/KG | I | 3 |
| | | B100288EB | | TRG | BIOMET | LEAD | 0.4 | | MG/KG | I | 3 |
| | | B100187EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100287EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100288EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100187EB | | TRG | BIOMET | SELENIUM | 4.2 | | MG/KG | U | 5 |
| | | B100287EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100288EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100187EB | | TRG | BIOMET | SILVER | 2.1 | | MG/KG | U | 10 |
| | | B100287EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100288EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100187EB | | TRG | BIOMET | ZINC | 113 | | MG/KG | | 20 |
| | | B100287EB | | TRG | BIOMET | ZINC | 12.7 | | MG/KG | | 20 |
| | | B100288EB | | TRG | BIOMET | ZINC | 7.8 | | MG/KG | | 20 |
| B1034 | | | | | | | | | | | |
| | | B100366EB | | TRG | BIOMET | CADMIUM | 6.4 | | MG/KG | | 5 |
| | | B100366EB | | TRG | BIOMET | CHROMIUM | 6.5 | | MG/KG | U | 10 |
| | | B100366EB | | TRG | BIOMET | COPPER | 34.4 | | MG/KG | | 25 |
| | | B100366EB | | TRG | BIOMET | LEAD | 6.9 | | MG/KG | | 3 |
| | | B100366EB | | TRG | BIOMET | MERCURY | 0.9 | | MG/KG | U | 0.2 |
| | | B100366EB | | TRG | BIOMET | SELENIUM | 8.7 | | MG/KG | U | 5 |
| | | B100366EB | | TRG | BIOMET | SILVER | 4.3 | | MG/KG | U | 10 |
| | | B100366EB | | TRG | BIOMET | ZINC | 157 | | MG/KG | | 20 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1035 | | | | | | | | | | | |
| | | B100318EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | | 5 |
| | | B100319EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100520EB | | TRG | BIOMET | CADMIUM | 0.6 | | MG/KG | | 5 |
| | | B100521EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100318EB | | TRG | BIOMET | CHROMIUM | 1.2 | | MG/KG | | 10 |
| | | B100319EB | | TRG | BIOMET | CHROMIUM | 1.4 | | MG/KG | | 10 |
| | | B100520EB | | TRG | BIOMET | CHROMIUM | 1.0 | | MG/KG | | 10 |
| | | B100521EB | | TRG | BIOMET | CHROMIUM | 1.7 | | MG/KG | | 10 |
| | | B100318EB | | TRG | BIOMET | COPPER | 9.5 | | MG/KG | | 25 |
| | | B100319EB | | TRG | BIOMET | COPPER | 4.0 | | MG/KG | | 25 |
| | | B100520EB | | TRG | BIOMET | COPPER | 11.4 | | MG/KG | | 25 |
| | | B100521EB | | TRG | BIOMET | COPPER | 14.0 | | MG/KG | | 25 |
| | | B100318EB | | TRG | BIOMET | LEAD | 1.0 | | MG/KG | | 3 |
| | | B100319EB | | TRG | BIOMET | LEAD | 0.8 | | MG/KG | | 3 |
| | | B100520EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100521EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | | 3 |
| | | B100318EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100319EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100520EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100521EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100318EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100319EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100520EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100521EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100318EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100319EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100520EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100521EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100318EB | | TRG | BIOMET | ZINC | 45.6 | | MG/KG | | 20 |
| | | B100319EB | | TRG | BIOMET | ZINC | 14.4 | | MG/KG | | 20 |
| | | B100520EB | | TRG | BIOMET | ZINC | 50.9 | | MG/KG | | 20 |
| | | B100521EB | | TRG | BIOMET | ZINC | 14.6 | | MG/KG | | 20 |
| B1036 | | | | | | | | | | | |
| | | B100249EB | | TRG | BIOMET | CADMIUM | 4.6 | | MG/KG | | 5 |
| | | B100341EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100365EB | | TRG | BIOMET | CADMIUM | 10.6 | | MG/KG | | 5 |
| | | B100517EB | | TRG | BIOMET | CADMIUM | 1.8 | | MG/KG | | 5 |
| | | B100518EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | | 5 |
| | | B100519EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100249EB | | TRG | BIOMET | CHROMIUM | 6.5 | | MG/KG | U | 10 |
| | | B100341EB | | TRG | BIOMET | CHROMIUM | 2.2 | | MG/KG | | 10 |
| | | B100365EB | | TRG | BIOMET | CHROMIUM | 13.0 | | MG/KG | U | 10 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1036 | | | | | | | | | | | |
| | | B100517EB | | TRG | BIOMET | CHROMIUM | 2.1 | | MG/KG | | 10 |
| | | B100518EB | | TRG | BIOMET | CHROMIUM | 1.2 | | MG/KG | | 10 |
| | | B100519EB | | TRG | BIOMET | CHROMIUM | 2.1 | | MG/KG | | 10 |
| | | B100249EB | | TRG | BIOMET | COPPER | 130 | | MG/KG | | 25 |
| | | B100341EB | | TRG | BIOMET | COPPER | 2.0 | | MG/KG | | 25 |
| | | B100365EB | | TRG | BIOMET | COPPER | 43.1 | | MG/KG | | 25 |
| | | B100517EB | | TRG | BIOMET | COPPER | 15.2 | | MG/KG | | 25 |
| | | B100518EB | | TRG | BIOMET | COPPER | 14.6 | | MG/KG | | 25 |
| | | B100519EB | | TRG | BIOMET | COPPER | 2.2 | | MG/KG | | 25 |
| | | B100249EB | | TRG | BIOMET | LEAD | 3.5 | | MG/KG | I | 3 |
| | | B100341EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | | 3 |
| | | B100365EB | | TRG | BIOMET | LEAD | 8.5 | | MG/KG | | 3 |
| | | B100517EB | | TRG | BIOMET | LEAD | 1.1 | | MG/KG | | 3 |
| | | B100518EB | | TRG | BIOMET | LEAD | 1.0 | | MG/KG | | 3 |
| | | B100519EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | | 3 |
| | | B100249EB | | TRG | BIOMET | MERCURY | 1.1 | | MG/KG | U | 0.2 |
| | | B100341EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100365EB | | TRG | BIOMET | MERCURY | 1.8 | | MG/KG | U | 0.2 |
| | | B100517EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100518EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100519EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100249EB | | TRG | BIOMET | SELENIUM | 8.6 | | MG/KG | UI | 5 |
| | | B100341EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100365EB | | TRG | BIOMET | SELENIUM | 17.4 | | MG/KG | UI | 5 |
| | | B100517EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100518EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100519EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100249EB | | TRG | BIOMET | SILVER | 4.3 | | MG/KG | U | 10 |
| | | B100341EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100365EB | | TRG | BIOMET | SILVER | 8.7 | | MG/KG | U | 10 |
| | | B100517EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100518EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100519EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100249EB | | TRG | BIOMET | ZINC | 242 | | MG/KG | | 20 |
| | | B100341EB | | TRG | BIOMET | ZINC | 12.1 | | MG/KG | | 20 |
| | | B100365EB | | TRG | BIOMET | ZINC | 151 | | MG/KG | | 20 |
| | | B100517EB | | TRG | BIOMET | ZINC | 48.1 | | MG/KG | | 20 |
| | | B100518EB | | TRG | BIOMET | ZINC | 56.4 | | MG/KG | | 20 |
| | | B100519EB | | TRG | BIOMET | ZINC | 10.8 | | MG/KG | | 20 |
| B1037 | | | | | | | | | | | |
| | | B100255EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100256EB | | TRG | BIOMET | CADMIUM | 0.6 | | MG/KG | | 5 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1037 | | | | | | | | | | | |
| | | B100353EB | | TRG | BIOMET | CADMIUM | 3.0 | | MG/KG | | 5 |
| | | B100522EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100523EB | | TRG | BIOMET | CADMIUM | 0.8 | | MG/KG | | 5 |
| | | B100255EB | | TRG | BIOMET | CHROMIUM | 1.6 | | MG/KG | | 10 |
| | | B100256EB | | TRG | BIOMET | CHROMIUM | 1.1 | | MG/KG | | 10 |
| | | B100353EB | | TRG | BIOMET | CHROMIUM | 3.3 | | MG/KG | U | 10 |
| | | B100522EB | | TRG | BIOMET | CHROMIUM | 1.3 | | MG/KG | | 10 |
| | | B100523EB | | TRG | BIOMET | CHROMIUM | 3.4 | | MG/KG | | 10 |
| | | B100255EB | | TRG | BIOMET | COPPER | 1.9 | | MG/KG | | 25 |
| | | B100256EB | | TRG | BIOMET | COPPER | 10.4 | | MG/KG | | 25 |
| | | B100353EB | | TRG | BIOMET | COPPER | 13.0 | | MG/KG | | 25 |
| | | B100522EB | | TRG | BIOMET | COPPER | 5.4 | | MG/KG | | 25 |
| | | B100523EB | | TRG | BIOMET | COPPER | 16.3 | | MG/KG | | 25 |
| | | B100255EB | | TRG | BIOMET | LEAD | 0.6 | | MG/KG | | 3 |
| | | B100256EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100353EB | | TRG | BIOMET | LEAD | 1.9 | | MG/KG | | 3 |
| | | B100522EB | | TRG | BIOMET | LEAD | 1.3 | | MG/KG | | 3 |
| | | B100523EB | | TRG | BIOMET | LEAD | 1.9 | | MG/KG | | 3 |
| | | B100255EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100256EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100353EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100522EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100523EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100255EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100256EB | | TRG | BIOMET | SELENIUM | 0.9 | | MG/KG | U | 5 |
| | | B100353EB | | TRG | BIOMET | SELENIUM | 4.4 | | MG/KG | U | 5 |
| | | B100522EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100523EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100255EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100256EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100353EB | | TRG | BIOMET | SILVER | 2.2 | | MG/KG | U | 10 |
| | | B100522EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100523EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100255EB | | TRG | BIOMET | ZINC | 20.7 | | MG/KG | | 20 |
| | | B100256EB | | TRG | BIOMET | ZINC | 46.9 | | MG/KG | | 20 |
| | | B100353EB | | TRG | BIOMET | ZINC | 92.3 | | MG/KG | | 20 |
| | | B100522EB | | TRG | BIOMET | ZINC | 23.7 | | MG/KG | | 20 |
| | | B100523EB | | TRG | BIOMET | ZINC | 59.8 | | MG/KG | | 20 |
| B1038 | | | | | | | | | | | |
| | | B100363EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100363EB | | TRG | BIOMET | CHROMIUM | 1.5 | | MG/KG | | 10 |
| | | B100363EB | | TRG | BIOMET | COPPER | 2.2 | | MG/KG | | 25 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI038 | | | | | | | | | | | |
| | | BI00363EB | | TRG | BIOMET | LEAD | 0.6 | | MG/KG | | 3 |
| | | BI00363EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | BI00363EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | BI00363EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | BI00363EB | | TRG | BIOMET | ZINC | 14.0 | | MG/KG | | 20 |
| BI039 | | | | | | | | | | | |
| | | BI00320EB | | TRG | BIOMET | CADMIUM | 0.5 | | MG/KG | | 5 |
| | | BI00364EB | | TRG | BIOMET | CADMIUM | 4.1 | | MG/KG | | 5 |
| | | BI00320EB | | TRG | BIOMET | CHROMIUM | 2.7 | | MG/KG | | 10 |
| | | BI00364EB | | TRG | BIOMET | CHROMIUM | 5.1 | | MG/KG | U | 10 |
| | | BI00320EB | | TRG | BIOMET | COPPER | 12.6 | | MG/KG | | 25 |
| | | BI00364EB | | TRG | BIOMET | COPPER | 18.2 | | MG/KG | | 25 |
| | | BI00320EB | | TRG | BIOMET | LEAD | 1.0 | | MG/KG | | 3 |
| | | BI00364EB | | TRG | BIOMET | LEAD | 3.1 | | MG/KG | | 3 |
| | | BI00320EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | BI00364EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | BI00320EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | BI00364EB | | TRG | BIOMET | SELENIUM | 6.8 | | MG/KG | U | 5 |
| | | BI00320EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | BI00364EB | | TRG | BIOMET | SILVER | 3.4 | | MG/KG | U | 10 |
| | | BI00320EB | | TRG | BIOMET | ZINC | 23.1 | | MG/KG | | 20 |
| | | BI00364EB | | TRG | BIOMET | ZINC | 139 | | MG/KG | | 20 |
| BI040 | | | | | | | | | | | |
| | | BI00282EB | | TRG | BIOMET | CADMIUM | 0.9 | | MG/KG | | 5 |
| | | BI00283EB | | TRG | BIOMET | CADMIUM | 0.3 | | MG/KG | U | 5 |
| | | BI00302EB | | TRG | BIOMET | CADMIUM | 3.6 | | MG/KG | U | 5 |
| | | BI00282EB | | TRG | BIOMET | CHROMIUM | 1.2 | | MG/KG | | 10 |
| | | BI00283EB | | TRG | BIOMET | CHROMIUM | 1.0 | | MG/KG | | 10 |
| | | BI00302EB | | TRG | BIOMET | CHROMIUM | 5.4 | | MG/KG | U | 10 |
| | | BI00282EB | | TRG | BIOMET | COPPER | 10.4 | | MG/KG | | 25 |
| | | BI00283EB | | TRG | BIOMET | COPPER | 2.0 | | MG/KG | | 25 |
| | | BI00302EB | | TRG | BIOMET | COPPER | 89.2 | | MG/KG | | 25 |
| | | BI00282EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | | 3 |
| | | BI00283EB | | TRG | BIOMET | LEAD | 0.2 | | MG/KG | UI | 3 |
| | | BI00302EB | | TRG | BIOMET | LEAD | 1.9 | | MG/KG | | 3 |
| | | BI00282EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | BI00283EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | BI00302EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | BI00282EB | | TRG | BIOMET | SELENIUM | 1.5 | | MG/KG | | 5 |
| | | BI00283EB | | TRG | BIOMET | SELENIUM | 0.7 | | MG/KG | U | 5 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1040 | | | | | | | | | | | |
| | | B100302EB | | TRG | BIOMET | SELENIUM | 7.3 | | MG/KG | U | 5 |
| | | B100282EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100283EB | | TRG | BIOMET | SILVER | 0.3 | | MG/KG | U | 10 |
| | | B100302EB | | TRG | BIOMET | SILVER | 3.6 | | MG/KG | U | 10 |
| | | B100282EB | | TRG | BIOMET | ZINC | 43.3 | | MG/KG | | 20 |
| | | B100283EB | | TRG | BIOMET | ZINC | 6.1 | | MG/KG | | 20 |
| | | B100302EB | | TRG | BIOMET | ZINC | 162 | | MG/KG | | 20 |
| B1041 | | | | | | | | | | | |
| | | B100259EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100261EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100354EB | | TRG | BIOMET | CADMIUM | 2.6 | | MG/KG | | 5 |
| | | B100515EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100516EB | | TRG | BIOMET | CADMIUM | 0.5 | | MG/KG | | 5 |
| | | B100259EB | | TRG | BIOMET | CHROMIUM | 1.9 | | MG/KG | | 10 |
| | | B100261EB | | TRG | BIOMET | CHROMIUM | 1.5 | | MG/KG | | 10 |
| | | B100354EB | | TRG | BIOMET | CHROMIUM | 3.6 | | MG/KG | U | 10 |
| | | B100515EB | | TRG | BIOMET | CHROMIUM | 2.0 | | MG/KG | | 10 |
| | | B100516EB | | TRG | BIOMET | CHROMIUM | 1.6 | | MG/KG | | 10 |
| | | B100259EB | | TRG | BIOMET | COPPER | 10 | | MG/KG | | 25 |
| | | B100261EB | | TRG | BIOMET | COPPER | 1.8 | | MG/KG | | 25 |
| | | B100354EB | | TRG | BIOMET | COPPER | 18.6 | | MG/KG | | 25 |
| | | B100515EB | | TRG | BIOMET | COPPER | 1.9 | | MG/KG | | 25 |
| | | B100516EB | | TRG | BIOMET | COPPER | 8.1 | | MG/KG | | 25 |
| | | B100259EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | I | 3 |
| | | B100261EB | | TRG | BIOMET | LEAD | 0.2 | | MG/KG | UI | 3 |
| | | B100354EB | | TRG | BIOMET | LEAD | 1.5 | | MG/KG | | 3 |
| | | B100515EB | | TRG | BIOMET | LEAD | 0.2 | | MG/KG | I | 3 |
| | | B100516EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | I | 3 |
| | | B100259EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100261EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100354EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100515EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100516EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100259EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100261EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100354EB | | TRG | BIOMET | SELENIUM | 4.8 | | MG/KG | U | 5 |
| | | B100515EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100516EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100259EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100261EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100354EB | | TRG | BIOMET | SILVER | 2.4 | | MG/KG | U | 10 |
| | | B100515EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1041 | | | | | | | | | | | |
| | | B100516EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100259EB | | TRG | BIOMET | ZINC | 29.1 | | MG/KG | | 20 |
| | | B100261EB | | TRG | BIOMET | ZINC | 24.0 | | MG/KG | | 20 |
| | | B100354EB | | TRG | BIOMET | ZINC | 91.2 | | MG/KG | | 20 |
| | | B100515EB | | TRG | BIOMET | ZINC | 22.5 | | MG/KG | | 20 |
| | | B100516EB | | TRG | BIOMET | ZINC | 30.0 | | MG/KG | | 20 |
| B1042 | | | | | | | | | | | |
| | | B100189EB | | TRG | BIOMET | CADMIUM | 2.6 | | MG/KG | U | 5 |
| | | B100293EB | | TRG | BIOMET | CADMIUM | 0.3 | | MG/KG | | 5 |
| | | B100300EB | | TRG | BIOMET | CADMIUM | 0.7 | | MG/KG | U | 5 |
| | | B100189EB | | TRG | BIOMET | CHROMIUM | 3.9 | | MG/KG | U | 10 |
| | | B100293EB | | TRG | BIOMET | CHROMIUM | 34.1 | | MG/KG | | 10 |
| | | B100300EB | | TRG | BIOMET | CHROMIUM | 3.5 | | MG/KG | U | 10 |
| | | B100189EB | | TRG | BIOMET | COPPER | 15.7 | | MG/KG | | 25 |
| | | B100293EB | | TRG | BIOMET | COPPER | 2.1 | | MG/KG | | 25 |
| | | B100300EB | | TRG | BIOMET | COPPER | 32.1 | | MG/KG | | 25 |
| | | B100189EB | | TRG | BIOMET | LEAD | 2.1 | | MG/KG | | 3 |
| | | B100293EB | | TRG | BIOMET | LEAD | 0.8 | | MG/KG | | 3 |
| | | B100300EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100189EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100293EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100300EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | B100189EB | | TRG | BIOMET | SELENIUM | 5.2 | | MG/KG | U | 5 |
| | | B100293EB | | TRG | BIOMET | SELENIUM | 0.9 | | MG/KG | UI | 5 |
| | | B100300EB | | TRG | BIOMET | SELENIUM | 2.8 | | MG/KG | U | 5 |
| | | B100189EB | | TRG | BIOMET | SILVER | 2.6 | | MG/KG | U | 10 |
| | | B100293EB | | TRG | BIOMET | SILVER | 0.6 | | MG/KG | U | 10 |
| | | B100300EB | | TRG | BIOMET | SILVER | 2.1 | | MG/KG | U | 10 |
| | | B100189EB | | TRG | BIOMET | ZINC | 210 | | MG/KG | | 20 |
| | | B100293EB | | TRG | BIOMET | ZINC | 28.1 | | MG/KG | | 20 |
| | | B100300EB | | TRG | BIOMET | ZINC | 47.0 | | MG/KG | | 20 |
| B1043 | | | | | | | | | | | |
| | | B100232EB | | TRG | BIOMET | CADMIUM | 2.3 | | MG/KG | | 5 |
| | | B100232EB | | TRG | BIOMET | CHROMIUM | 6.9 | | MG/KG | U | 10 |
| | | B100232EB | | TRG | BIOMET | COPPER | 21.3 | | MG/KG | | 25 |
| | | B100232EB | | TRG | BIOMET | LEAD | 1.8 | | MG/KG | | 3 |
| | | B100232EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100232EB | | TRG | BIOMET | SELENIUM | 5.5 | | MG/KG | U | 5 |
| | | B100232EB | | TRG | BIOMET | SILVER | 4.1 | | MG/KG | U | 10 |
| | | B100232EB | | TRG | BIOMET | ZINC | 104 | | MG/KG | | 20 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1044 | | | | | | | | | | | |
| | | B100174EB | | TRG | BIOMET | CADMIUM | 2.5 | | MG/KG | | 5 |
| | | B100188EB | | TRG | BIOMET | CADMIUM | 2.3 | | MG/KG | U | 5 |
| | | B100312EB | | TRG | BIOMET | CADMIUM | 0.2 | | MG/KG | | 5 |
| | | B100313EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | | 5 |
| | | B100174EB | | TRG | BIOMET | CHROMIUM | 4.2 | | MG/KG | U | 10 |
| | | B100188EB | | TRG | BIOMET | CHROMIUM | 3.4 | | MG/KG | | 10 |
| | | B100312EB | | TRG | BIOMET | CHROMIUM | 1.5 | | MG/KG | | 10 |
| | | B100313EB | | TRG | BIOMET | CHROMIUM | 2.5 | | MG/KG | | 10 |
| | | B100174EB | | TRG | BIOMET | COPPER | 15.7 | | MG/KG | | 25 |
| | | B100188EB | | TRG | BIOMET | COPPER | 17.3 | | MG/KG | | 25 |
| | | B100312EB | | TRG | BIOMET | COPPER | 1.7 | | MG/KG | | 25 |
| | | B100313EB | | TRG | BIOMET | COPPER | 11.5 | | MG/KG | | 25 |
| | | B100174EB | | TRG | BIOMET | LEAD | 2.4 | | MG/KG | | 3 |
| | | B100188EB | | TRG | BIOMET | LEAD | 1.2 | | MG/KG | | 3 |
| | | B100312EB | | TRG | BIOMET | LEAD | 0.6 | | MG/KG | I | 3 |
| | | B100313EB | | TRG | BIOMET | LEAD | 0.8 | | MG/KG | | 3 |
| | | B100174EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100188EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100312EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100313EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100174EB | | TRG | BIOMET | SELENIUM | 11.4 | | MG/KG | | 5 |
| | | B100188EB | | TRG | BIOMET | SELENIUM | 4.5 | | MG/KG | UI | 5 |
| | | B100312EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100313EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100174EB | | TRG | BIOMET | SILVER | 2.5 | | MG/KG | U | 10 |
| | | B100188EB | | TRG | BIOMET | SILVER | 2.3 | | MG/KG | U | 10 |
| | | B100312EB | | TRG | BIOMET | SILVER | 0.6 | | MG/KG | U | 10 |
| | | B100313EB | | TRG | BIOMET | SILVER | 0.6 | | MG/KG | U | 10 |
| | | B100174EB | | TRG | BIOMET | ZINC | 85.8 | | MG/KG | | 20 |
| | | B100188EB | | TRG | BIOMET | ZINC | 57.8 | | MG/KG | | 20 |
| | | B100312EB | | TRG | BIOMET | ZINC | 13.0 | | MG/KG | | 20 |
| | | B100313EB | | TRG | BIOMET | ZINC | 53.0 | | MG/KG | | 20 |
| B1045 | | | | | | | | | | | |
| | | B100186EB | | TRG | BIOMET | CADMIUM | 2.2 | | MG/KG | U | 5 |
| | | B100344EB | | TRG | BIOMET | CADMIUM | 0.2 | | MG/KG | U | 5 |
| | | B100345EB | | TRG | BIOMET | CADMIUM | 1.1 | | MG/KG | | 5 |
| | | B100186EB | | TRG | BIOMET | CHROMIUM | 3.3 | | MG/KG | U | 10 |
| | | B100344EB | | TRG | BIOMET | CHROMIUM | 0.9 | | MG/KG | U | 10 |
| | | B100345EB | | TRG | BIOMET | CHROMIUM | 23.3 | | MG/KG | | 10 |
| | | B100186EB | | TRG | BIOMET | COPPER | 28.2 | | MG/KG | | 25 |
| | | B100344EB | | TRG | BIOMET | COPPER | 1.6 | | MG/KG | | 25 |
| | | B100345EB | | TRG | BIOMET | COPPER | 7.5 | | MG/KG | | 25 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1045 | | | | | | | | | | | |
| | | B100186EB | | TRG | BIOMET | LEAD | 2.9 | | MG/KG | | 3 |
| | | B100344EB | | TRG | BIOMET | LEAD | 0.4 | | MG/KG | | 3 |
| | | B100345EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | I | 3 |
| | | B100186EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100344EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100345EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100186EB | | TRG | BIOMET | SELENIUM | 4.4 | | MG/KG | UI | 5 |
| | | B100344EB | | TRG | BIOMET | SELENIUM | 0.7 | | MG/KG | UI | 5 |
| | | B100345EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100186EB | | TRG | BIOMET | SILVER | 2.2 | | MG/KG | U | 10 |
| | | B100344EB | | TRG | BIOMET | SILVER | 0.5 | | MG/KG | U | 10 |
| | | B100345EB | | TRG | BIOMET | SILVER | 0.6 | | MG/KG | U | 10 |
| | | B100186EB | | TRG | BIOMET | ZINC | 153 | | MG/KG | | 20 |
| | | B100344EB | | TRG | BIOMET | ZINC | 14.2 | | MG/KG | | 20 |
| | | B100345EB | | TRG | BIOMET | ZINC | 53.9 | | MG/KG | | 20 |
| B1047 | | | | | | | | | | | |
| | | B100247EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | | 5 |
| | | B100328EB | | TRG | BIOMET | CADMIUM | 3.8 | | MG/KG | | 5 |
| | | B100329EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100331EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100247EB | | TRG | BIOMET | CHROMIUM | 9.7 | | MG/KG | | 10 |
| | | B100328EB | | TRG | BIOMET | CHROMIUM | 5.4 | | MG/KG | U | 10 |
| | | B100329EB | | TRG | BIOMET | CHROMIUM | 1.1 | | MG/KG | | 10 |
| | | B100331EB | | TRG | BIOMET | CHROMIUM | 0.6 | | MG/KG | | 10 |
| | | B100247EB | | TRG | BIOMET | COPPER | 26.2 | | MG/KG | | 25 |
| | | B100328EB | | TRG | BIOMET | COPPER | 51.8 | | MG/KG | | 25 |
| | | B100329EB | | TRG | BIOMET | COPPER | 3.1 | | MG/KG | | 25 |
| | | B100331EB | | TRG | BIOMET | COPPER | 11.1 | | MG/KG | | 25 |
| | | B100247EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | B100328EB | | TRG | BIOMET | LEAD | 2.9 | | MG/KG | | 3 |
| | | B100329EB | | TRG | BIOMET | LEAD | 0.4 | | MG/KG | I | 3 |
| | | B100331EB | | TRG | BIOMET | LEAD | 0.5 | | MG/KG | I | 3 |
| | | B100247EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100328EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | B100329EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100331EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100247EB | | TRG | BIOMET | SELENIUM | 5.9 | | MG/KG | U | 5 |
| | | B100328EB | | TRG | BIOMET | SELENIUM | 7.1 | | MG/KG | U | 5 |
| | | B100329EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100331EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100247EB | | TRG | BIOMET | SILVER | 4.4 | | MG/KG | U | 10 |
| | | B100328EB | | TRG | BIOMET | SILVER | 3.6 | | MG/KG | U | 10 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1047 | | | | | | | | | | | |
| | | B100329EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100331EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100247EB | | TRG | BIOMET | ZINC | 157 | | MG/KG | | 20 |
| | | B100328EB | | TRG | BIOMET | ZINC | 144 | | MG/KG | | 20 |
| | | B100329EB | | TRG | BIOMET | ZINC | 19.4 | | MG/KG | | 20 |
| | | B100331EB | | TRG | BIOMET | ZINC | 60.5 | | MG/KG | | 20 |
| B1048 | | | | | | | | | | | |
| | | B100248EB | | TRG | BIOMET | CADMIUM | 1.2 | | MG/KG | | 5 |
| | | B100248EB | | TRG | BIOMET | CHROMIUM | 5.8 | | MG/KG | U | 10 |
| | | B100248EB | | TRG | BIOMET | COPPER | 10.8 | | MG/KG | | 25 |
| | | B100248EB | | TRG | BIOMET | LEAD | 1.2 | | MG/KG | | 3 |
| | | B100248EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100248EB | | TRG | BIOMET | SELENIUM | 4.7 | | MG/KG | UI | 5 |
| | | B100248EB | | TRG | BIOMET | SILVER | 3.5 | | MG/KG | U | 10 |
| | | B100248EB | | TRG | BIOMET | ZINC | 106 | | MG/KG | | 20 |
| B1049 | | | | | | | | | | | |
| | | B100246EB | | TRG | BIOMET | CADMIUM | 1.6 | | MG/KG | | 5 |
| | | B100246EB | | TRG | BIOMET | CHROMIUM | 5.0 | | MG/KG | U | 10 |
| | | B100246EB | | TRG | BIOMET | COPPER | 17.0 | | MG/KG | | 25 |
| | | B100246EB | | TRG | BIOMET | LEAD | 1.5 | | MG/KG | | 3 |
| | | B100246EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100246EB | | TRG | BIOMET | SELENIUM | 4.0 | | MG/KG | U | 5 |
| | | B100246EB | | TRG | BIOMET | SILVER | 3.0 | | MG/KG | U | 10 |
| | | B100246EB | | TRG | BIOMET | ZINC | 96.9 | | MG/KG | | 20 |
| B1050 | | | | | | | | | | | |
| | | B100240EB | | TRG | BIOMET | CADMIUM | 3.1 | | MG/KG | | 5 |
| | | B100240EB | | TRG | BIOMET | CHROMIUM | 6.8 | | MG/KG | U | 10 |
| | | B100240EB | | TRG | BIOMET | COPPER | 18.8 | | MG/KG | | 25 |
| | | B100240EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | B100240EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100240EB | | TRG | BIOMET | SELENIUM | 5.4 | | MG/KG | U | 5 |
| | | B100240EB | | TRG | BIOMET | SILVER | 4.1 | | MG/KG | U | 10 |
| | | B100240EB | | TRG | BIOMET | ZINC | 108 | | MG/KG | | 20 |
| B1051 | | | | | | | | | | | |
| | | B100267EB | | TRG | BIOMET | CADMIUM | 2.4 | | MG/KG | | 5 |
| | | B100267EB | | TRG | BIOMET | CHROMIUM | 7.3 | | MG/KG | U | 10 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1051 | | | | | | | | | | | |
| | | B100267EB | | TRG | BIOMET | COPPER | 42.8 | | MG/KG | | 25 |
| | | B100267EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | B100267EB | | TRG | BIOMET | MERCURY | 0.7 | | MG/KG | U | 0.2 |
| | | B100267EB | | TRG | BIOMET | SELENIUM | 5.9 | | MG/KG | U | 5 |
| | | B100267EB | | TRG | BIOMET | SILVER | 4.4 | | MG/KG | U | 10 |
| | | B100267EB | | TRG | BIOMET | ZINC | 112 | | MG/KG | | 20 |
| B1052 | | | | | | | | | | | |
| | | B100266EB | | TRG | BIOMET | CADMIUM | 3.0 | | MG/KG | | 5 |
| | | B100266EB | | TRG | BIOMET | CHROMIUM | 9.1 | | MG/KG | U | 10 |
| | | B100266EB | | TRG | BIOMET | COPPER | 19.6 | | MG/KG | | 25 |
| | | B100266EB | | TRG | BIOMET | LEAD | 1.8 | | MG/KG | U | 3 |
| | | B100266EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | B100266EB | | TRG | BIOMET | SELENIUM | 7.3 | | MG/KG | U | 5 |
| | | B100266EB | | TRG | BIOMET | SILVER | 5.4 | | MG/KG | U | 10 |
| | | B100266EB | | TRG | BIOMET | ZINC | 144 | | MG/KG | | 20 |
| B1053 | | | | | | | | | | | |
| | | B100301EB | | TRG | BIOMET | CADMIUM | 3.6 | | MG/KG | | 5 |
| | | B100333EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100336EB | | TRG | BIOMET | CADMIUM | 0.6 | | MG/KG | | 5 |
| | | B100301EB | | TRG | BIOMET | CHROMIUM | 4.0 | | MG/KG | U | 10 |
| | | B100333EB | | TRG | BIOMET | CHROMIUM | 1.3 | | MG/KG | | 10 |
| | | B100336EB | | TRG | BIOMET | CHROMIUM | 1.3 | | MG/KG | | 10 |
| | | B100301EB | | TRG | BIOMET | COPPER | 73.9 | | MG/KG | | 25 |
| | | B100333EB | | TRG | BIOMET | COPPER | 3.4 | | MG/KG | | 25 |
| | | B100336EB | | TRG | BIOMET | COPPER | 10.4 | | MG/KG | | 25 |
| | | B100301EB | | TRG | BIOMET | LEAD | 1.3 | | MG/KG | U | 3 |
| | | B100333EB | | TRG | BIOMET | LEAD | 1.4 | | MG/KG | J | 3 |
| | | B100336EB | | TRG | BIOMET | LEAD | 1.4 | | MG/KG | J | 3 |
| | | B100301EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100333EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100336EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100301EB | | TRG | BIOMET | SELENIUM | 5.4 | | MG/KG | U | 5 |
| | | B100333EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100336EB | | TRG | BIOMET | SELENIUM | 1.0 | | MG/KG | U | 5 |
| | | B100301EB | | TRG | BIOMET | SILVER | 2.7 | | MG/KG | U | 10 |
| | | B100333EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100336EB | | TRG | BIOMET | SILVER | 0.7 | | MG/KG | | 10 |
| | | B100301EB | | TRG | BIOMET | ZINC | 138 | | MG/KG | | 20 |
| | | B100333EB | | TRG | BIOMET | ZINC | 14.3 | | MG/KG | | 20 |
| | | B100336EB | | TRG | BIOMET | ZINC | 38.3 | | MG/KG | | 20 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1054 | | | | | | | | | | | |
| | | B100271EB | | TRG | BIOMET | CADMIUM | 2.7 | | MG/KG | U | 5 |
| | | B100280EB | | TRG | BIOMET | CADMIUM | 1.2 | | MG/KG | | 5 |
| | | B100281EB | | TRG | BIOMET | CADMIUM | 0.4 | | MG/KG | U | 5 |
| | | B100271EB | | TRG | BIOMET | CHROMIUM | 4.0 | | MG/KG | U | 10 |
| | | B100280EB | | TRG | BIOMET | CHROMIUM | 1.1 | | MG/KG | | 10 |
| | | B100281EB | | TRG | BIOMET | CHROMIUM | 1.2 | | MG/KG | | 10 |
| | | B100271EB | | TRG | BIOMET | COPPER | 16.2 | | MG/KG | | 25 |
| | | B100280EB | | TRG | BIOMET | COPPER | 10.7 | | MG/KG | | 25 |
| | | B100281EB | | TRG | BIOMET | COPPER | 4.7 | | MG/KG | | 25 |
| | | B100271EB | | TRG | BIOMET | LEAD | 2.5 | | MG/KG | | 3 |
| | | B100280EB | | TRG | BIOMET | LEAD | 1.1 | | MG/KG | I | 3 |
| | | B100281EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | I | 3 |
| | | B100271EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100280EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100281EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100271EB | | TRG | BIOMET | SELENIUM | 5.3 | | MG/KG | U | 5 |
| | | B100280EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100281EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | U | 5 |
| | | B100271EB | | TRG | BIOMET | SILVER | 2.7 | | MG/KG | U | 10 |
| | | B100280EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100281EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100271EB | | TRG | BIOMET | ZINC | 124 | | MG/KG | | 20 |
| | | B100280EB | | TRG | BIOMET | ZINC | 44.8 | | MG/KG | | 20 |
| | | B100281EB | | TRG | BIOMET | ZINC | 19.8 | | MG/KG | | 20 |
| B1055 | | | | | | | | | | | |
| | | B100242EB | | TRG | BIOMET | CADMIUM | 1.4 | | MG/KG | U | 5 |
| | | B100242EB | | TRG | BIOMET | CHROMIUM | 6.8 | | MG/KG | U | 10 |
| | | B100242EB | | TRG | BIOMET | COPPER | 16.8 | | MG/KG | | 25 |
| | | B100242EB | | TRG | BIOMET | LEAD | 2.6 | | MG/KG | | 3 |
| | | B100242EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100242EB | | TRG | BIOMET | SELENIUM | 5.4 | | MG/KG | U | 5 |
| | | B100242EB | | TRG | BIOMET | SILVER | 4.1 | | MG/KG | U | 10 |
| | | B100242EB | | TRG | BIOMET | ZINC | 106 | | MG/KG | | 20 |
| B1056 | | | | | | | | | | | |
| | | B100243EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | U | 5 |
| | | B100243EB | | TRG | BIOMET | CHROMIUM | 6.3 | | MG/KG | U | 10 |
| | | B100243EB | | TRG | BIOMET | COPPER | 16.6 | | MG/KG | | 25 |
| | | B100243EB | | TRG | BIOMET | LEAD | 1.6 | | MG/KG | | 3 |
| | | B100243EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100243EB | | TRG | BIOMET | SELENIUM | 5.1 | | MG/KG | U | 5 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1056 | | | | | | | | | | | |
| | | B100243EB | | TRG | BIOMET | SILVER | 3.8 | | MG/KG | U | 10 |
| | | B100243EB | | TRG | BIOMET | ZINC | 101 | | MG/KG | | 20 |
| B1057 | | | | | | | | | | | |
| | | B100244EB | | TRG | BIOMET | CADMIUM | 0.9 | | MG/KG | | 5 |
| | | B100304EB | | TRG | BIOMET | CADMIUM | 1.1 | | MG/KG | | 5 |
| | | B100305EB | | TRG | BIOMET | CADMIUM | 0.2 | | MG/KG | U | 5 |
| | | B100327EB | | TRG | BIOMET | CADMIUM | 3.6 | | MG/KG | | 5 |
| | | B100244EB | | TRG | BIOMET | CHROMIUM | 4.7 | | MG/KG | U | 10 |
| | | B100304EB | | TRG | BIOMET | CHROMIUM | 5.4 | | MG/KG | | 10 |
| | | B100305EB | | TRG | BIOMET | CHROMIUM | 1.5 | | MG/KG | | 10 |
| | | B100327EB | | TRG | BIOMET | CHROMIUM | 5.0 | | MG/KG | U | 10 |
| | | B100244EB | | TRG | BIOMET | COPPER | 11.5 | | MG/KG | | 25 |
| | | B100304EB | | TRG | BIOMET | COPPER | 10.2 | | MG/KG | | 25 |
| | | B100305EB | | TRG | BIOMET | COPPER | 1.7 | | MG/KG | | 25 |
| | | B100327EB | | TRG | BIOMET | COPPER | 66.3 | | MG/KG | | 25 |
| | | B100244EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | U | 3 |
| | | B100304EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100305EB | | TRG | BIOMET | LEAD | 0.6 | | MG/KG | | 3 |
| | | B100327EB | | TRG | BIOMET | LEAD | 3.2 | | MG/KG | | 3 |
| | | B100244EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | B100304EB | | TRG | BIOMET | MERCURY | 0.1 | | MG/KG | U | 0.2 |
| | | B100305EB | | TRG | BIOMET | MERCURY | 0.0 | | MG/KG | U | 0.2 |
| | | B100327EB | | TRG | BIOMET | MERCURY | 0.7 | | MG/KG | U | 0.2 |
| | | B100244EB | | TRG | BIOMET | SELENIUM | 3.7 | | MG/KG | UI | 5 |
| | | B100304EB | | TRG | BIOMET | SELENIUM | 0.9 | | MG/KG | U | 5 |
| | | B100305EB | | TRG | BIOMET | SELENIUM | 0.8 | | MG/KG | UI | 5 |
| | | B100327EB | | TRG | BIOMET | SELENIUM | 6.6 | | MG/KG | U | 5 |
| | | B100244EB | | TRG | BIOMET | SILVER | 2.8 | | MG/KG | U | 10 |
| | | B100304EB | | TRG | BIOMET | SILVER | 0.4 | | MG/KG | U | 10 |
| | | B100305EB | | TRG | BIOMET | SILVER | 0.6 | | MG/KG | U | 10 |
| | | B100327EB | | TRG | BIOMET | SILVER | 3.3 | | MG/KG | U | 10 |
| | | B100244EB | | TRG | BIOMET | ZINC | 74.5 | | MG/KG | | 20 |
| | | B100304EB | | TRG | BIOMET | ZINC | 55.9 | | MG/KG | | 20 |
| | | B100305EB | | TRG | BIOMET | ZINC | 12.6 | | MG/KG | | 20 |
| | | B100327EB | | TRG | BIOMET | ZINC | 129 | | MG/KG | | 20 |
| B1059 | | | | | | | | | | | |
| | | B100268EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | | 5 |
| | | B100299EB | | TRG | BIOMET | CADMIUM | 0.6 | | MG/KG | U | 5 |
| | | B100268EB | | TRG | BIOMET | CHROMIUM | 7.0 | | MG/KG | U | 10 |
| | | B100299EB | | TRG | BIOMET | CHROMIUM | 3.1 | | MG/KG | U | 10 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1059 | | | | | | | | | | | |
| | | B100268EB | | TRG | BIOMET | COPPER | 19.5 | | MG/KG | | 25 |
| | | B100299EB | | TRG | BIOMET | COPPER | 6.4 | | MG/KG | | 25 |
| | | B100268EB | | TRG | BIOMET | LEAD | 1.5 | | MG/KG | | 3 |
| | | B100299EB | | TRG | BIOMET | LEAD | 1.1 | | MG/KG | | 3 |
| | | B100268EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100299EB | | TRG | BIOMET | MERCURY | 0.2 | | MG/KG | U | 0.2 |
| | | B100268EB | | TRG | BIOMET | SELENIUM | 5.6 | | MG/KG | U | 5 |
| | | B100299EB | | TRG | BIOMET | SELENIUM | 2.5 | | MG/KG | UI | 5 |
| | | B100268EB | | TRG | BIOMET | SILVER | 4.2 | | MG/KG | U | 10 |
| | | B100299EB | | TRG | BIOMET | SILVER | 1.9 | | MG/KG | U | 10 |
| | | B100268EB | | TRG | BIOMET | ZINC | 113 | | MG/KG | | 20 |
| | | B100299EB | | TRG | BIOMET | ZINC | 32.5 | | MG/KG | | 20 |
| B1060 | | | | | | | | | | | |
| | | B100263EB | | TRG | BIOMET | CADMIUM | 1.0 | | MG/KG | U | 5 |
| | | B100263EB | | TRG | BIOMET | CHROMIUM | 5.1 | | MG/KG | U | 10 |
| | | B100263EB | | TRG | BIOMET | COPPER | 16.6 | | MG/KG | | 25 |
| | | B100263EB | | TRG | BIOMET | LEAD | 1.2 | | MG/KG | | 3 |
| | | B100263EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100263EB | | TRG | BIOMET | SELENIUM | 4.1 | | MG/KG | U | 5 |
| | | B100263EB | | TRG | BIOMET | SILVER | 3.1 | | MG/KG | U | 10 |
| | | B100263EB | | TRG | BIOMET | ZINC | 109 | | MG/KG | | 20 |
| B1061 | | | | | | | | | | | |
| | | B100265EB | | TRG | BIOMET | CADMIUM | 3.3 | | MG/KG | | 5 |
| | | B100265EB | | TRG | BIOMET | CHROMIUM | 7.3 | | MG/KG | U | 10 |
| | | B100265EB | | TRG | BIOMET | COPPER | 22.5 | | MG/KG | | 25 |
| | | B100265EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | B100265EB | | TRG | BIOMET | MERCURY | 0.7 | | MG/KG | U | 0.2 |
| | | B100265EB | | TRG | BIOMET | SELENIUM | 5.8 | | MG/KG | UI | 5 |
| | | B100265EB | | TRG | BIOMET | SILVER | 4.4 | | MG/KG | U | 10 |
| | | B100265EB | | TRG | BIOMET | ZINC | 117 | | MG/KG | | 20 |
| B1063 | | | | | | | | | | | |
| | | B100269EB | | TRG | BIOMET | CADMIUM | 3.1 | | MG/KG | | 5 |
| | | B100269EB | | TRG | BIOMET | CHROMIUM | 6.9 | | MG/KG | U | 10 |
| | | B100269EB | | TRG | BIOMET | COPPER | 26.6 | | MG/KG | | 25 |
| | | B100269EB | | TRG | BIOMET | LEAD | 1.4 | | MG/KG | U | 3 |
| | | B100269EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100269EB | | TRG | BIOMET | SELENIUM | 5.5 | | MG/KG | U | 5 |
| | | B100269EB | | TRG | BIOMET | SILVER | 4.1 | | MG/KG | U | 10 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI063 | | | | | | | | | | | |
| | | BI00269EB | | TRG | BIOMET | ZINC | 128 | | MG/KG | | 20 |
| BI101 | | | | | | | | | | | |
| | | BI00203EB | | TRG | BIOMET | CADMIUM | 5.0 | | MG/KG | U | 5 |
| | | BI00204EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | U | 5 |
| | | BI00205EB | | TRG | BIOMET | CADMIUM | 3.1 | | MG/KG | U | 5 |
| | | BI00206EB | | TRG | BIOMET | CADMIUM | 2.4 | | MG/KG | U | 5 |
| | | BI00210EB | | TRG | BIOMET | CADMIUM | 8.3 | | MG/KG | U | 5 |
| | | BI00211EB | | TRG | BIOMET | CADMIUM | 5.2 | | MG/KG | U | 5 |
| | | BI00212EB | | TRG | BIOMET | CADMIUM | 5.2 | | MG/KG | U | 5 |
| | | BI00213EB | | TRG | BIOMET | CADMIUM | 3.2 | | MG/KG | U | 5 |
| | | BI00215EB | | TRG | BIOMET | CADMIUM | 1.4 | | MG/KG | U | 5 |
| | | BI00216EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | U | 5 |
| | | BI00217EB | | TRG | BIOMET | CADMIUM | 1.4 | | MG/KG | U | 5 |
| | | BI00218EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | | 5 |
| | | BI00219EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | | 5 |
| | | BI00220EB | | TRG | BIOMET | CADMIUM | 3.3 | | MG/KG | | 5 |
| | | BI00221EB | | TRG | BIOMET | CADMIUM | 3.9 | | MG/KG | | 5 |
| | | BI00500EB | | TRG | BIOMET | CADMIUM | 3.0 | | MG/KG | U | 5 |
| | | BI00203EB | | TRG | BIOMET | CHROMIUM | 8.9 | | MG/KG | | 10 |
| | | BI00204EB | | TRG | BIOMET | CHROMIUM | 2.4 | | MG/KG | | 10 |
| | | BI00205EB | | TRG | BIOMET | CHROMIUM | 4.6 | | MG/KG | U | 10 |
| | | BI00206EB | | TRG | BIOMET | CHROMIUM | 3.6 | | MG/KG | U | 10 |
| | | BI00210EB | | TRG | BIOMET | CHROMIUM | 12.5 | | MG/KG | U | 10 |
| | | BI00211EB | | TRG | BIOMET | CHROMIUM | 7.7 | | MG/KG | U | 10 |
| | | BI00212EB | | TRG | BIOMET | CHROMIUM | 15.1 | | MG/KG | | 10 |
| | | BI00213EB | | TRG | BIOMET | CHROMIUM | 10.4 | | MG/KG | | 10 |
| | | BI00215EB | | TRG | BIOMET | CHROMIUM | 2.1 | | MG/KG | U | 10 |
| | | BI00216EB | | TRG | BIOMET | CHROMIUM | 2.4 | | MG/KG | | 10 |
| | | BI00217EB | | TRG | BIOMET | CHROMIUM | 3.1 | | MG/KG | | 10 |
| | | BI00218EB | | TRG | BIOMET | CHROMIUM | 4.5 | | MG/KG | | 10 |
| | | BI00219EB | | TRG | BIOMET | CHROMIUM | 3.7 | | MG/KG | U | 10 |
| | | BI00220EB | | TRG | BIOMET | CHROMIUM | 10.2 | | MG/KG | U | 10 |
| | | BI00221EB | | TRG | BIOMET | CHROMIUM | 11.7 | | MG/KG | U | 10 |
| | | BI00500EB | | TRG | BIOMET | CHROMIUM | 4.7 | | MG/KG | | 10 |
| | | BI00203EB | | TRG | BIOMET | COPPER | 73.0 | | MG/KG | | 25 |
| | | BI00204EB | | TRG | BIOMET | COPPER | 1.7 | | MG/KG | | 25 |
| | | BI00205EB | | TRG | BIOMET | COPPER | 52.6 | | MG/KG | | 25 |
| | | BI00206EB | | TRG | BIOMET | COPPER | 9.9 | | MG/KG | | 25 |
| | | BI00210EB | | TRG | BIOMET | COPPER | 657 | | MG/KG | | 25 |
| | | BI00211EB | | TRG | BIOMET | COPPER | 99.7 | | MG/KG | | 25 |
| | | BI00212EB | | TRG | BIOMET | COPPER | 604 | | MG/KG | | 25 |
| | | BI00213EB | | TRG | BIOMET | COPPER | 103 | | MG/KG | | 25 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI101 | | | | | | | | | | | |
| | | BI00215EB | | TRG | BIOMET | COPPER | 1.4 | | MG/KG | U | 25 |
| | | BI00216EB | | TRG | BIOMET | COPPER | 5.9 | | MG/KG | | 25 |
| | | BI00217EB | | TRG | BIOMET | COPPER | 3.5 | | MG/KG | | 25 |
| | | BI00218EB | | TRG | BIOMET | COPPER | 9.4 | | MG/KG | | 25 |
| | | BI00219EB | | TRG | BIOMET | COPPER | 8.1 | | MG/KG | | 25 |
| | | BI00220EB | | TRG | BIOMET | COPPER | 18.9 | | MG/KG | | 25 |
| | | BI00221EB | | TRG | BIOMET | COPPER | 18.0 | | MG/KG | | 25 |
| | | BI00500EB | | TRG | BIOMET | COPPER | 118 | | MG/KG | | 25 |
| | | BI00203EB | | TRG | BIOMET | LEAD | 4.3 | | MG/KG | | 3 |
| | | BI00204EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | BI00205EB | | TRG | BIOMET | LEAD | 2.6 | | MG/KG | | 3 |
| | | BI00206EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | BI00210EB | | TRG | BIOMET | LEAD | 6.4 | | MG/KG | | 3 |
| | | BI00211EB | | TRG | BIOMET | LEAD | 10.1 | | MG/KG | | 3 |
| | | BI00212EB | | TRG | BIOMET | LEAD | 12.7 | | MG/KG | | 3 |
| | | BI00213EB | | TRG | BIOMET | LEAD | 3.0 | | MG/KG | | 3 |
| | | BI00215EB | | TRG | BIOMET | LEAD | 1.4 | | MG/KG | | 3 |
| | | BI00216EB | | TRG | BIOMET | LEAD | 1.0 | | MG/KG | | 3 |
| | | BI00217EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | BI00218EB | | TRG | BIOMET | LEAD | 1.2 | | MG/KG | | 3 |
| | | BI00219EB | | TRG | BIOMET | LEAD | 0.7 | | MG/KG | U | 3 |
| | | BI00220EB | | TRG | BIOMET | LEAD | 2.3 | | MG/KG | | 3 |
| | | BI00221EB | | TRG | BIOMET | LEAD | 2.3 | | MG/KG | UI | 3 |
| | | BI00500EB | | TRG | BIOMET | LEAD | 4.1 | | MG/KG | | 3 |
| | | BI00203EB | | TRG | BIOMET | MERCURY | 1.3 | | MG/KG | U | 0.2 |
| | | BI00204EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | | 0.2 |
| | | BI00205EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | BI00206EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | BI00210EB | | TRG | BIOMET | MERCURY | 1.7 | | MG/KG | U | 0.2 |
| | | BI00211EB | | TRG | BIOMET | MERCURY | 1.1 | | MG/KG | U | 0.2 |
| | | BI00212EB | | TRG | BIOMET | MERCURY | 1.2 | | MG/KG | U | 0.2 |
| | | BI00213EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | BI00215EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | BI00216EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | BI00217EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | BI00218EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | | 0.2 |
| | | BI00219EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | BI00220EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | BI00221EB | | TRG | BIOMET | MERCURY | 1.1 | | MG/KG | U | 0.2 |
| | | BI00500EB | | TRG | BIOMET | MERCURY | 0.7 | | MG/KG | U | 0.2 |
| | | BI00203EB | | TRG | BIOMET | SELENIUM | 10.1 | | MG/KG | UI | 5 |
| | | BI00204EB | | TRG | BIOMET | SELENIUM | 2.7 | | MG/KG | U | 5 |
| | | BI00205EB | | TRG | BIOMET | SELENIUM | 6.1 | | MG/KG | UI | 5 |
| | | BI00206EB | | TRG | BIOMET | SELENIUM | 4.8 | | MG/KG | U | 5 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI101 | | | | | | | | | | | |
| | | BI00211EB | | TRG | BIOMET | SELENIUM | 10.3 | | MG/KG | U | 5 |
| | | BI00213EB | | TRG | BIOMET | SELENIUM | 6.3 | | MG/KG | U | 5 |
| | | BI00215EB | | TRG | BIOMET | SELENIUM | 3.0 | | MG/KG | | 5 |
| | | BI00216EB | | TRG | BIOMET | SELENIUM | 2.7 | | MG/KG | UI | 5 |
| | | BI00217EB | | TRG | BIOMET | SELENIUM | 21.3 | | MG/KG | | 5 |
| | | BI00218EB | | TRG | BIOMET | SELENIUM | 3.2 | | MG/KG | U | 5 |
| | | BI00219EB | | TRG | BIOMET | SELENIUM | 3.0 | | MG/KG | UI | 5 |
| | | BI00220EB | | TRG | BIOMET | SELENIUM | 8.2 | | MG/KG | U | 5 |
| | | BI00221EB | | TRG | BIOMET | SELENIUM | 9.3 | | MG/KG | U | 5 |
| | | BI00500EB | | TRG | BIOMET | SELENIUM | 6.1 | | MG/KG | UI | 5 |
| | | BI00203EB | | TRG | BIOMET | SILVER | 5.0 | | MG/KG | U | 10 |
| | | BI00204EB | | TRG | BIOMET | SILVER | 1.3 | | MG/KG | U | 10 |
| | | BI00205EB | | TRG | BIOMET | SILVER | 3.1 | | MG/KG | U | 10 |
| | | BI00206EB | | TRG | BIOMET | SILVER | 2.4 | | MG/KG | U | 10 |
| | | BI00210EB | | TRG | BIOMET | SILVER | 8.3 | | MG/KG | U | 10 |
| | | BI00211EB | | TRG | BIOMET | SILVER | 5.2 | | MG/KG | U | 10 |
| | | BI00212EB | | TRG | BIOMET | SILVER | 5.2 | | MG/KG | U | 10 |
| | | BI00213EB | | TRG | BIOMET | SILVER | 3.2 | | MG/KG | U | 10 |
| | | BI00215EB | | TRG | BIOMET | SILVER | 1.4 | | MG/KG | U | 10 |
| | | BI00216EB | | TRG | BIOMET | SILVER | 1.3 | | MG/KG | U | 10 |
| | | BI00217EB | | TRG | BIOMET | SILVER | 1.4 | | MG/KG | U | 10 |
| | | BI00218EB | | TRG | BIOMET | SILVER | 2.4 | | MG/KG | U | 10 |
| | | BI00219EB | | TRG | BIOMET | SILVER | 2.2 | | MG/KG | U | 10 |
| | | BI00220EB | | TRG | BIOMET | SILVER | 6.1 | | MG/KG | U | 10 |
| | | BI00221EB | | TRG | BIOMET | SILVER | 7.0 | | MG/KG | U | 10 |
| | | BI00500EB | | TRG | BIOMET | SILVER | 3.0 | | MG/KG | U | 10 |
| | | BI00203EB | | TRG | BIOMET | ZINC | 426 | | MG/KG | | 20 |
| | | BI00204EB | | TRG | BIOMET | ZINC | 96.1 | | MG/KG | | 20 |
| | | BI00205EB | | TRG | BIOMET | ZINC | 104 | | MG/KG | | 20 |
| | | BI00206EB | | TRG | BIOMET | ZINC | 73.2 | | MG/KG | | 20 |
| | | BI00210EB | | TRG | BIOMET | ZINC | 539 | | MG/KG | | 20 |
| | | BI00211EB | | TRG | BIOMET | ZINC | 301 | | MG/KG | | 20 |
| | | BI00212EB | | TRG | BIOMET | ZINC | 406 | | MG/KG | | 20 |
| | | BI00213EB | | TRG | BIOMET | ZINC | 158 | | MG/KG | | 20 |
| | | BI00215EB | | TRG | BIOMET | ZINC | 40.5 | | MG/KG | | 20 |
| | | BI00216EB | | TRG | BIOMET | ZINC | 44.5 | | MG/KG | | 20 |
| | | BI00217EB | | TRG | BIOMET | ZINC | 62.1 | | MG/KG | | 20 |
| | | BI00218EB | | TRG | BIOMET | ZINC | 60.1 | | MG/KG | | 20 |
| | | BI00219EB | | TRG | BIOMET | ZINC | 73.8 | | MG/KG | | 20 |
| | | BI00220EB | | TRG | BIOMET | ZINC | 103 | | MG/KG | | 20 |
| | | BI00221EB | | TRG | BIOMET | ZINC | 187 | | MG/KG | | 20 |
| | | BI00500EB | | TRG | BIOMET | ZINC | 126 | | MG/KG | | 20 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1102 | | | | | | | | | | | |
| | | B100233EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | U | 5 |
| | | B100234EB | | TRG | BIOMET | CADMIUM | 1.5 | | MG/KG | U | 5 |
| | | B100235EB | | TRG | BIOMET | CADMIUM | 1.0 | | MG/KG | U | 5 |
| | | B100237EB | | TRG | BIOMET | CADMIUM | 3.3 | | MG/KG | | 5 |
| | | B100472EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | | 5 |
| | | B100473EB | | TRG | BIOMET | CADMIUM | 1.3 | | MG/KG | U | 5 |
| | | B100474EB | | TRG | BIOMET | CADMIUM | 1.4 | | MG/KG | U | 5 |
| | | B100525EB | | TRG | BIOMET | CADMIUM | 3.7 | | MG/KG | | 5 |
| | | B100233EB | | TRG | BIOMET | CHROMIUM | 6.6 | | MG/KG | U | 10 |
| | | B100234EB | | TRG | BIOMET | CHROMIUM | 7.5 | | MG/KG | U | 10 |
| | | B100235EB | | TRG | BIOMET | CHROMIUM | 5.2 | | MG/KG | U | 10 |
| | | B100237EB | | TRG | BIOMET | CHROMIUM | 10.0 | | MG/KG | U | 10 |
| | | B100472EB | | TRG | BIOMET | CHROMIUM | 5.7 | | MG/KG | U | 10 |
| | | B100473EB | | TRG | BIOMET | CHROMIUM | 6.5 | | MG/KG | U | 10 |
| | | B100474EB | | TRG | BIOMET | CHROMIUM | 7.1 | | MG/KG | U | 10 |
| | | B100525EB | | TRG | BIOMET | CHROMIUM | 4.5 | | MG/KG | U | 10 |
| | | B100233EB | | TRG | BIOMET | COPPER | 16.0 | | MG/KG | | 25 |
| | | B100234EB | | TRG | BIOMET | COPPER | 6.0 | | MG/KG | U | 25 |
| | | B100235EB | | TRG | BIOMET | COPPER | 4.1 | | MG/KG | U | 25 |
| | | B100237EB | | TRG | BIOMET | COPPER | 57.2 | | MG/KG | | 25 |
| | | B100472EB | | TRG | BIOMET | COPPER | 12.3 | | MG/KG | | 25 |
| | | B100473EB | | TRG | BIOMET | COPPER | 54.6 | | MG/KG | | 25 |
| | | B100474EB | | TRG | BIOMET | COPPER | 8.4 | | MG/KG | | 25 |
| | | B100525EB | | TRG | BIOMET | COPPER | 13.8 | | MG/KG | | 25 |
| | | B100233EB | | TRG | BIOMET | LEAD | 2.0 | | MG/KG | | 3 |
| | | B100234EB | | TRG | BIOMET | LEAD | 2.8 | | MG/KG | | 3 |
| | | B100235EB | | TRG | BIOMET | LEAD | 1.6 | | MG/KG | J | 3 |
| | | B100237EB | | TRG | BIOMET | LEAD | 5.7 | | MG/KG | | 3 |
| | | B100472EB | | TRG | BIOMET | LEAD | 4.7 | | MG/KG | | 3 |
| | | B100473EB | | TRG | BIOMET | LEAD | 3.1 | | MG/KG | | 3 |
| | | B100474EB | | TRG | BIOMET | LEAD | 3.2 | | MG/KG | | 3 |
| | | B100525EB | | TRG | BIOMET | LEAD | 1.5 | | MG/KG | UJ | 3 |
| | | B100233EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100234EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100235EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100237EB | | TRG | BIOMET | MERCURY | 0.9 | | MG/KG | U | 0.2 |
| | | B100472EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100473EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100474EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | B100525EB | | TRG | BIOMET | MERCURY | 0.7 | | MG/KG | U | 0.2 |
| | | B100233EB | | TRG | BIOMET | SELENIUM | 5.3 | | MG/KG | UJ | 5 |
| | | B100234EB | | TRG | BIOMET | SELENIUM | 6.0 | | MG/KG | U | 5 |
| | | B100235EB | | TRG | BIOMET | SELENIUM | 4.1 | | MG/KG | UJ | 5 |
| | | B100237EB | | TRG | BIOMET | SELENIUM | 8.0 | | MG/KG | U | 5 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1102 | | | | | | | | | | | |
| | | B100472EB | | TRG | BIOMET | SELENIUM | 4.9 | | MG/KG | | 5 |
| | | B100473EB | | TRG | BIOMET | SELENIUM | 5.2 | | MG/KG | U | 5 |
| | | B100474EB | | TRG | BIOMET | SELENIUM | 5.7 | | MG/KG | UI | 5 |
| | | B100525EB | | TRG | BIOMET | SELENIUM | 6.0 | | MG/KG | UI | 5 |
| | | B100233EB | | TRG | BIOMET | SILVER | 4.0 | | MG/KG | U | 10 |
| | | B100234EB | | TRG | BIOMET | SILVER | 4.5 | | MG/KG | U | 10 |
| | | B100235EB | | TRG | BIOMET | SILVER | 3.1 | | MG/KG | U | 10 |
| | | B100237EB | | TRG | BIOMET | SILVER | 6.0 | | MG/KG | U | 10 |
| | | B100472EB | | TRG | BIOMET | SILVER | 3.4 | | MG/KG | U | 10 |
| | | B100473EB | | TRG | BIOMET | SILVER | 3.9 | | MG/KG | U | 10 |
| | | B100474EB | | TRG | BIOMET | SILVER | 4.3 | | MG/KG | U | 10 |
| | | B100525EB | | TRG | BIOMET | SILVER | 3.0 | | MG/KG | U | 10 |
| | | B100233EB | | TRG | BIOMET | ZINC | 53.4 | | MG/KG | | 20 |
| | | B100234EB | | TRG | BIOMET | ZINC | 33.8 | | MG/KG | | 20 |
| | | B100235EB | | TRG | BIOMET | ZINC | 25.2 | | MG/KG | | 20 |
| | | B100237EB | | TRG | BIOMET | ZINC | 233 | | MG/KG | | 20 |
| | | B100472EB | | TRG | BIOMET | ZINC | 281 | | MG/KG | | 20 |
| | | B100473EB | | TRG | BIOMET | ZINC | 433 | | MG/KG | | 20 |
| | | B100474EB | | TRG | BIOMET | ZINC | 538 | | MG/KG | | 20 |
| | | B100525EB | | TRG | BIOMET | ZINC | 89.9 | | MG/KG | | 20 |
| B1105 | | | | | | | | | | | |
| | | B100185EB | | TRG | BIOMET | CADMIUM | 0.8 | | MG/KG | U | 5 |
| | | B100185EB | | TRG | BIOMET | CHROMIUM | 4.4 | | MG/KG | U | 10 |
| | | B100185EB | | TRG | BIOMET | COPPER | 3.5 | | MG/KG | U | 25 |
| | | B100185EB | | TRG | BIOMET | LEAD | 1.3 | | MG/KG | | 3 |
| | | B100185EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100185EB | | TRG | BIOMET | SELENIUM | 3.5 | | MG/KG | UI | 5 |
| | | B100185EB | | TRG | BIOMET | SILVER | 2.6 | | MG/KG | U | 10 |
| | | B100185EB | | TRG | BIOMET | ZINC | 19.5 | | MG/KG | | 20 |
| B1106 | | | | | | | | | | | |
| | | B100275EB | | TRG | BIOMET | CADMIUM | 2.4 | | MG/KG | | 5 |
| | | B100276EB | | TRG | BIOMET | CADMIUM | 1.6 | | MG/KG | U | 5 |
| | | B100277EB | | TRG | BIOMET | CADMIUM | 2.5 | | MG/KG | | 5 |
| | | B100275EB | | TRG | BIOMET | CHROMIUM | 2.9 | | MG/KG | U | 10 |
| | | B100276EB | | TRG | BIOMET | CHROMIUM | 2.5 | | MG/KG | U | 10 |
| | | B100277EB | | TRG | BIOMET | CHROMIUM | 3.8 | | MG/KG | | 10 |
| | | B100275EB | | TRG | BIOMET | COPPER | 10.3 | | MG/KG | | 25 |
| | | B100276EB | | TRG | BIOMET | COPPER | 3.6 | | MG/KG | | 25 |
| | | B100277EB | | TRG | BIOMET | COPPER | 6.8 | | MG/KG | | 25 |
| | | B100275EB | | TRG | BIOMET | LEAD | 1.9 | | MG/KG | | 3 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI106 | | | | | | | | | | | |
| | | BI00276EB | | TRG | BIOMET | LEAD | 0.8 | | MG/KG | | 3 |
| | | BI00277EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | BI00275EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | BI00276EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | | 0.2 |
| | | BI00277EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | BI00275EB | | TRG | BIOMET | SELENIUM | 3.9 | | MG/KG | U | 5 |
| | | BI00276EB | | TRG | BIOMET | SELENIUM | 3.3 | | MG/KG | UI | 5 |
| | | BI00277EB | | TRG | BIOMET | SELENIUM | 4.1 | | MG/KG | U | 5 |
| | | BI00275EB | | TRG | BIOMET | SILVER | 1.9 | | MG/KG | U | 10 |
| | | BI00276EB | | TRG | BIOMET | SILVER | 1.6 | | MG/KG | U | 10 |
| | | BI00277EB | | TRG | BIOMET | SILVER | 2.1 | | MG/KG | U | 10 |
| | | BI00275EB | | TRG | BIOMET | ZINC | 78.1 | | MG/KG | | 20 |
| | | BI00276EB | | TRG | BIOMET | ZINC | 79.9 | | MG/KG | | 20 |
| | | BI00277EB | | TRG | BIOMET | ZINC | 113 | | MG/KG | | 20 |
| BI115 | | | | | | | | | | | |
| | | BI00484EB | | TRG | BIOMET | CADMIUM | 2.6 | | MG/KG | U | 5 |
| | | BI00485EB | | TRG | BIOMET | CADMIUM | 2.6 | | MG/KG | U | 5 |
| | | BI00486EB | | TRG | BIOMET | CADMIUM | 2.3 | | MG/KG | U | 5 |
| | | BI00484EB | | TRG | BIOMET | CHROMIUM | 13.2 | | MG/KG | U | 10 |
| | | BI00485EB | | TRG | BIOMET | CHROMIUM | 13.2 | | MG/KG | U | 10 |
| | | BI00486EB | | TRG | BIOMET | CHROMIUM | 11.5 | | MG/KG | U | 10 |
| | | BI00484EB | | TRG | BIOMET | COPPER | 10.5 | | MG/KG | U | 25 |
| | | BI00485EB | | TRG | BIOMET | COPPER | 19.4 | | MG/KG | | 25 |
| | | BI00486EB | | TRG | BIOMET | COPPER | 13.5 | | MG/KG | | 25 |
| | | BI00484EB | | TRG | BIOMET | LEAD | 5.7 | | MG/KG | | 3 |
| | | BI00485EB | | TRG | BIOMET | LEAD | 3.4 | | MG/KG | | 3 |
| | | BI00486EB | | TRG | BIOMET | LEAD | 4.0 | | MG/KG | | 3 |
| | | BI00484EB | | TRG | BIOMET | MERCURY | 1.3 | | MG/KG | U | 0.2 |
| | | BI00485EB | | TRG | BIOMET | MERCURY | 1.3 | | MG/KG | U | 0.2 |
| | | BI00486EB | | TRG | BIOMET | MERCURY | 1.0 | | MG/KG | U | 0.2 |
| | | BI00484EB | | TRG | BIOMET | SELENIUM | 10.5 | | MG/KG | UI | 5 |
| | | BI00485EB | | TRG | BIOMET | SELENIUM | 10.5 | | MG/KG | U | 5 |
| | | BI00486EB | | TRG | BIOMET | SELENIUM | 9.2 | | MG/KG | U | 5 |
| | | BI00484EB | | TRG | BIOMET | SILVER | 7.9 | | MG/KG | U | 10 |
| | | BI00485EB | | TRG | BIOMET | SILVER | 7.9 | | MG/KG | U | 10 |
| | | BI00486EB | | TRG | BIOMET | SILVER | 6.9 | | MG/KG | U | 10 |
| | | BI00484EB | | TRG | BIOMET | ZINC | 302 | | MG/KG | | 20 |
| | | BI00485EB | | TRG | BIOMET | ZINC | 296 | | MG/KG | | 20 |
| | | BI00486EB | | TRG | BIOMET | ZINC | 265 | | MG/KG | | 20 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI116 | | | | | | | | | | | |
| | | B100487EB | | TRG | BIOMET | CADMIUM | 3.6 | | MG/KG | U | 5 |
| | | B100488EB | | TRG | BIOMET | CADMIUM | 0.5 | | MG/KG | U | 5 |
| | | B100489EB | | TRG | BIOMET | CADMIUM | 1.1 | | MG/KG | U | 5 |
| | | B100490EB | | TRG | BIOMET | CADMIUM | 0.9 | | MG/KG | U | 5 |
| | | B100491EB | | TRG | BIOMET | CADMIUM | 1.0 | | MG/KG | U | 5 |
| | | B100492EB | | TRG | BIOMET | CADMIUM | 1.7 | | MG/KG | U | 5 |
| | | B100493EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | U | 5 |
| | | B100494EB | | TRG | BIOMET | CADMIUM | 1.6 | | MG/KG | U | 5 |
| | | B100487EB | | TRG | BIOMET | CHROMIUM | 17.9 | | MG/KG | U | 10 |
| | | B100488EB | | TRG | BIOMET | CHROMIUM | 3.0 | | MG/KG | U | 10 |
| | | B100489EB | | TRG | BIOMET | CHROMIUM | 5.7 | | MG/KG | U | 10 |
| | | B100490EB | | TRG | BIOMET | CHROMIUM | 4.9 | | MG/KG | U | 10 |
| | | B100491EB | | TRG | BIOMET | CHROMIUM | 5.0 | | MG/KG | U | 10 |
| | | B100492EB | | TRG | BIOMET | CHROMIUM | 3.9 | | MG/KG | | 10 |
| | | B100493EB | | TRG | BIOMET | CHROMIUM | 2.8 | | MG/KG | U | 10 |
| | | B100494EB | | TRG | BIOMET | CHROMIUM | 2.5 | | MG/KG | | 10 |
| | | B100487EB | | TRG | BIOMET | COPPER | 804 | | MG/KG | | 25 |
| | | B100488EB | | TRG | BIOMET | COPPER | 21.7 | | MG/KG | | 25 |
| | | B100489EB | | TRG | BIOMET | COPPER | 14.0 | | MG/KG | | 25 |
| | | B100490EB | | TRG | BIOMET | COPPER | 3.9 | | MG/KG | U | 25 |
| | | B100491EB | | TRG | BIOMET | COPPER | 4.1 | | MG/KG | | 25 |
| | | B100492EB | | TRG | BIOMET | COPPER | 76.9 | | MG/KG | | 25 |
| | | B100493EB | | TRG | BIOMET | COPPER | 34.2 | | MG/KG | | 25 |
| | | B100494EB | | TRG | BIOMET | COPPER | 17.7 | | MG/KG | | 25 |
| | | B100487EB | | TRG | BIOMET | LEAD | 11.4 | | MG/KG | | 3 |
| | | B100488EB | | TRG | BIOMET | LEAD | 2.1 | | MG/KG | | 3 |
| | | B100489EB | | TRG | BIOMET | LEAD | 1.3 | | MG/KG | | 3 |
| | | B100490EB | | TRG | BIOMET | LEAD | 1.5 | | MG/KG | | 3 |
| | | B100491EB | | TRG | BIOMET | LEAD | 1.7 | | MG/KG | | 3 |
| | | B100492EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100493EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100494EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100487EB | | TRG | BIOMET | MERCURY | 1.7 | | MG/KG | U | 0.2 |
| | | B100488EB | | TRG | BIOMET | MERCURY | 0.2 | | MG/KG | U | 0.2 |
| | | B100489EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100490EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100491EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100492EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100493EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100494EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | B100487EB | | TRG | BIOMET | SELENIUM | 14.3 | | MG/KG | UI | 5 |
| | | B100488EB | | TRG | BIOMET | SELENIUM | 2.4 | | MG/KG | U | 5 |
| | | B100489EB | | TRG | BIOMET | SELENIUM | 4.6 | | MG/KG | UI | 5 |
| | | B100490EB | | TRG | BIOMET | SELENIUM | 3.9 | | MG/KG | UI | 5 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI116 | | | | | | | | | | | |
| | | BI00491EB | | TRG | BIOMET | SELENIUM | 4.0 | | MG/KG | UI | 5 |
| | | BI00492EB | | TRG | BIOMET | SELENIUM | 3.5 | | MG/KG | UI | 5 |
| | | BI00493EB | | TRG | BIOMET | SELENIUM | 3.7 | | MG/KG | UI | 5 |
| | | BI00494EB | | TRG | BIOMET | SELENIUM | 3.2 | | MG/KG | UI | 5 |
| | | BI00487EB | | TRG | BIOMET | SILVER | 10.7 | | MG/KG | U | 10 |
| | | BI00488EB | | TRG | BIOMET | SILVER | 1.8 | | MG/KG | U | 10 |
| | | BI00489EB | | TRG | BIOMET | SILVER | 3.4 | | MG/KG | U | 10 |
| | | BI00490EB | | TRG | BIOMET | SILVER | 2.9 | | MG/KG | U | 10 |
| | | BI00491EB | | TRG | BIOMET | SILVER | 3.0 | | MG/KG | U | 10 |
| | | BI00492EB | | TRG | BIOMET | SILVER | 1.7 | | MG/KG | U | 10 |
| | | BI00493EB | | TRG | BIOMET | SILVER | 1.9 | | MG/KG | U | 10 |
| | | BI00494EB | | TRG | BIOMET | SILVER | 1.6 | | MG/KG | U | 10 |
| | | BI00487EB | | TRG | BIOMET | ZINC | 375 | | MG/KG | | 20 |
| | | BI00488EB | | TRG | BIOMET | ZINC | 141 | | MG/KG | | 20 |
| | | BI00489EB | | TRG | BIOMET | ZINC | 126 | | MG/KG | | 20 |
| | | BI00490EB | | TRG | BIOMET | ZINC | 85.4 | | MG/KG | | 20 |
| | | BI00491EB | | TRG | BIOMET | ZINC | 89.7 | | MG/KG | | 20 |
| | | BI00492EB | | TRG | BIOMET | ZINC | 155 | | MG/KG | | 20 |
| | | BI00493EB | | TRG | BIOMET | ZINC | 205 | | MG/KG | | 20 |
| | | BI00494EB | | TRG | BIOMET | ZINC | 223 | | MG/KG | | 20 |
| BI118 | | | | | | | | | | | |
| | | BI00475EB | | TRG | BIOMET | CADMIUM | 1.4 | | MG/KG | U | 5 |
| | | BI00476EB | | TRG | BIOMET | CADMIUM | 2.5 | | MG/KG | U | 5 |
| | | BI00477EB | | TRG | BIOMET | CADMIUM | 2.4 | | MG/KG | U | 5 |
| | | BI00478EB | | TRG | BIOMET | CADMIUM | 2.5 | | MG/KG | U | 5 |
| | | BI00479EB | | TRG | BIOMET | CADMIUM | 2.5 | | MG/KG | U | 5 |
| | | BI00475EB | | TRG | BIOMET | CHROMIUM | 7.2 | | MG/KG | U | 10 |
| | | BI00476EB | | TRG | BIOMET | CHROMIUM | 12.6 | | MG/KG | U | 10 |
| | | BI00477EB | | TRG | BIOMET | CHROMIUM | 12.1 | | MG/KG | U | 10 |
| | | BI00478EB | | TRG | BIOMET | CHROMIUM | 12.7 | | MG/KG | U | 10 |
| | | BI00479EB | | TRG | BIOMET | CHROMIUM | 12.6 | | MG/KG | U | 10 |
| | | BI00475EB | | TRG | BIOMET | COPPER | 16.5 | | MG/KG | | 25 |
| | | BI00476EB | | TRG | BIOMET | COPPER | 12.4 | | MG/KG | | 25 |
| | | BI00477EB | | TRG | BIOMET | COPPER | 11.9 | | MG/KG | | 25 |
| | | BI00478EB | | TRG | BIOMET | COPPER | 14.5 | | MG/KG | | 25 |
| | | BI00479EB | | TRG | BIOMET | COPPER | 10.1 | | MG/KG | U | 25 |
| | | BI00475EB | | TRG | BIOMET | LEAD | 3.0 | | MG/KG | | 3 |
| | | BI00476EB | | TRG | BIOMET | LEAD | 3.2 | | MG/KG | | 3 |
| | | BI00477EB | | TRG | BIOMET | LEAD | 5.8 | | MG/KG | | 3 |
| | | BI00478EB | | TRG | BIOMET | LEAD | 3.6 | | MG/KG | | 3 |
| | | BI00479EB | | TRG | BIOMET | LEAD | 3.9 | | MG/KG | | 3 |
| | | BI00475EB | | TRG | BIOMET | MERCURY | 0.7 | | MG/KG | U | 0.2 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1118 | | | | | | | | | | | |
| | | B100476EB | | TRG | BIOMET | MERCURY | 1.3 | | MG/KG | U | 0.2 |
| | | B100477EB | | TRG | BIOMET | MERCURY | 0.9 | | MG/KG | U | 0.2 |
| | | B100478EB | | TRG | BIOMET | MERCURY | 1.3 | | MG/KG | U | 0.2 |
| | | B100479EB | | TRG | BIOMET | MERCURY | 1.0 | | MG/KG | U | 0.2 |
| | | B100475EB | | TRG | BIOMET | SELENIUM | 7.0 | | MG/KG | | 5 |
| | | B100476EB | | TRG | BIOMET | SELENIUM | 10.1 | | MG/KG | UI | 5 |
| | | B100477EB | | TRG | BIOMET | SELENIUM | 9.7 | | MG/KG | U | 5 |
| | | B100478EB | | TRG | BIOMET | SELENIUM | 10.1 | | MG/KG | UI | 5 |
| | | B100479EB | | TRG | BIOMET | SELENIUM | 10.1 | | MG/KG | UI | 5 |
| | | B100475EB | | TRG | BIOMET | SILVER | 4.3 | | MG/KG | U | 10 |
| | | B100476EB | | TRG | BIOMET | SILVER | 7.5 | | MG/KG | U | 10 |
| | | B100477EB | | TRG | BIOMET | SILVER | 7.3 | | MG/KG | U | 10 |
| | | B100478EB | | TRG | BIOMET | SILVER | 7.6 | | MG/KG | U | 10 |
| | | B100479EB | | TRG | BIOMET | SILVER | 7.5 | | MG/KG | U | 10 |
| | | B100475EB | | TRG | BIOMET | ZINC | 90.0 | | MG/KG | | 20 |
| | | B100476EB | | TRG | BIOMET | ZINC | 300 | | MG/KG | | 20 |
| | | B100477EB | | TRG | BIOMET | ZINC | 193 | | MG/KG | | 20 |
| | | B100478EB | | TRG | BIOMET | ZINC | 129 | | MG/KG | | 20 |
| | | B100479EB | | TRG | BIOMET | ZINC | 272 | | MG/KG | | 20 |
| B1124 | | | | | | | | | | | |
| | | B100480EB | | TRG | BIOMET | CADMIUM | 3.4 | | MG/KG | U | 5 |
| | | B100481EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | U | 5 |
| | | B100482EB | | TRG | BIOMET | CADMIUM | 2.1 | | MG/KG | U | 5 |
| | | B100483EB | | TRG | BIOMET | CADMIUM | 1.8 | | MG/KG | U | 5 |
| | | B100496EB | | TRG | BIOMET | CADMIUM | 3.1 | | MG/KG | U | 5 |
| | | B100497EB | | TRG | BIOMET | CADMIUM | 2.6 | | MG/KG | U | 5 |
| | | B100480EB | | TRG | BIOMET | CHROMIUM | 17.2 | | MG/KG | U | 10 |
| | | B100481EB | | TRG | BIOMET | CHROMIUM | 9.6 | | MG/KG | U | 10 |
| | | B100482EB | | TRG | BIOMET | CHROMIUM | 10.6 | | MG/KG | U | 10 |
| | | B100483EB | | TRG | BIOMET | CHROMIUM | 8.8 | | MG/KG | U | 10 |
| | | B100496EB | | TRG | BIOMET | CHROMIUM | 4.9 | | MG/KG | | 10 |
| | | B100497EB | | TRG | BIOMET | CHROMIUM | 5.8 | | MG/KG | | 10 |
| | | B100480EB | | TRG | BIOMET | COPPER | 115 | | MG/KG | | 25 |
| | | B100481EB | | TRG | BIOMET | COPPER | 7.7 | | MG/KG | U | 25 |
| | | B100482EB | | TRG | BIOMET | COPPER | 8.5 | | MG/KG | U | 25 |
| | | B100483EB | | TRG | BIOMET | COPPER | 7.1 | | MG/KG | U | 25 |
| | | B100496EB | | TRG | BIOMET | COPPER | 516 | | MG/KG | | 25 |
| | | B100497EB | | TRG | BIOMET | COPPER | 135 | | MG/KG | | 25 |
| | | B100480EB | | TRG | BIOMET | LEAD | 4.4 | | MG/KG | | 3 |
| | | B100481EB | | TRG | BIOMET | LEAD | 3.5 | | MG/KG | | 3 |
| | | B100482EB | | TRG | BIOMET | LEAD | 2.4 | | MG/KG | | 3 |
| | | B100483EB | | TRG | BIOMET | LEAD | 3.8 | | MG/KG | | 3 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI124 | | | | | | | | | | | |
| | | BI00496EB | | TRG | BIOMET | LEAD | 5.6 | | MG/KG | | 3 |
| | | BI00497EB | | TRG | BIOMET | LEAD | 4.0 | | MG/KG | | 3 |
| | | BI00480EB | | TRG | BIOMET | MERCURY | 1.7 | | MG/KG | U | 0.2 |
| | | BI00481EB | | TRG | BIOMET | MERCURY | 0.9 | | MG/KG | U | 0.2 |
| | | BI00482EB | | TRG | BIOMET | MERCURY | 0.9 | | MG/KG | U | 0.2 |
| | | BI00483EB | | TRG | BIOMET | MERCURY | 0.8 | | MG/KG | U | 0.2 |
| | | BI00496EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | BI00497EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | BI00480EB | | TRG | BIOMET | SELENIUM | 14.3 | | MG/KG | | 5 |
| | | BI00481EB | | TRG | BIOMET | SELENIUM | 7.7 | | MG/KG | UI | 5 |
| | | BI00482EB | | TRG | BIOMET | SELENIUM | 8.5 | | MG/KG | UI | 5 |
| | | BI00483EB | | TRG | BIOMET | SELENIUM | 7.1 | | MG/KG | U | 5 |
| | | BI00496EB | | TRG | BIOMET | SELENIUM | 6.1 | | MG/KG | UI | 5 |
| | | BI00497EB | | TRG | BIOMET | SELENIUM | 5.1 | | MG/KG | UI | 5 |
| | | BI00480EB | | TRG | BIOMET | SILVER | 10.3 | | MG/KG | U | 10 |
| | | BI00481EB | | TRG | BIOMET | SILVER | 5.8 | | MG/KG | U | 10 |
| | | BI00482EB | | TRG | BIOMET | SILVER | 6.4 | | MG/KG | U | 10 |
| | | BI00483EB | | TRG | BIOMET | SILVER | 5.3 | | MG/KG | U | 10 |
| | | BI00496EB | | TRG | BIOMET | SILVER | 3.1 | | MG/KG | U | 10 |
| | | BI00497EB | | TRG | BIOMET | SILVER | 3.3 | | MG/KG | | 10 |
| | | BI00480EB | | TRG | BIOMET | ZINC | 120 | | MG/KG | | 20 |
| | | BI00481EB | | TRG | BIOMET | ZINC | 185 | | MG/KG | | 20 |
| | | BI00482EB | | TRG | BIOMET | ZINC | 145 | | MG/KG | | 20 |
| | | BI00483EB | | TRG | BIOMET | ZINC | 192 | | MG/KG | | 20 |
| | | BI00496EB | | TRG | BIOMET | ZINC | 203 | | MG/KG | | 20 |
| | | BI00497EB | | TRG | BIOMET | ZINC | 145 | | MG/KG | | 20 |
| BI128 | | | | | | | | | | | |
| | | BI00501EB | | TRG | BIOMET | CADMIUM | 2.7 | | MG/KG | U | 5 |
| | | BI00501EB | | TRG | BIOMET | CHROMIUM | 5.6 | | MG/KG | | 10 |
| | | BI00501EB | | TRG | BIOMET | COPPER | 122 | | MG/KG | | 25 |
| | | BI00501EB | | TRG | BIOMET | LEAD | 5.2 | | MG/KG | | 3 |
| | | BI00501EB | | TRG | BIOMET | MERCURY | 0.6 | | MG/KG | U | 0.2 |
| | | BI00501EB | | TRG | BIOMET | SELENIUM | 5.5 | | MG/KG | UI | 5 |
| | | BI00501EB | | TRG | BIOMET | SILVER | 2.7 | | MG/KG | U | 10 |
| | | BI00501EB | | TRG | BIOMET | ZINC | 219 | | MG/KG | | 20 |
| BI135 | | | | | | | | | | | |
| | | BI00502EB | | TRG | BIOMET | CADMIUM | 1.5 | | MG/KG | U | 5 |
| | | BI00502EB | | TRG | BIOMET | CHROMIUM | 7.5 | | MG/KG | U | 10 |
| | | BI00502EB | | TRG | BIOMET | COPPER | 48.9 | | MG/KG | | 25 |
| | | BI00502EB | | TRG | BIOMET | LEAD | 2.6 | | MG/KG | | 3 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BI135 | | | | | | | | | | | |
| | | BI00502EB | | TRG | BIOMET | MERCURY | 0.7 | | MG/KG | U | 0.2 |
| | | BI00502EB | | TRG | BIOMET | SELENIUM | 9.2 | | MG/KG | | 5 |
| | | BI00502EB | | TRG | BIOMET | SILVER | 4.5 | | MG/KG | U | 10 |
| | | BI00502EB | | TRG | BIOMET | ZINC | 58.2 | | MG/KG | | 20 |
| BI137 | | | | | | | | | | | |
| | | BI00504EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | U | 5 |
| | | BI00505EB | | TRG | BIOMET | CADMIUM | 3.9 | | MG/KG | U | 5 |
| | | BI00506EB | | TRG | BIOMET | CADMIUM | 4.1 | | MG/KG | U | 5 |
| | | BI00504EB | | TRG | BIOMET | CHROMIUM | 4.3 | | MG/KG | | 10 |
| | | BI00505EB | | TRG | BIOMET | CHROMIUM | 5.8 | | MG/KG | U | 10 |
| | | BI00506EB | | TRG | BIOMET | CHROMIUM | 7.4 | | MG/KG | | 10 |
| | | BI00504EB | | TRG | BIOMET | COPPER | 14.5 | | MG/KG | | 25 |
| | | BI00505EB | | TRG | BIOMET | COPPER | 36.8 | | MG/KG | | 25 |
| | | BI00506EB | | TRG | BIOMET | COPPER | 40.9 | | MG/KG | | 25 |
| | | BI00504EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | U | 3 |
| | | BI00505EB | | TRG | BIOMET | LEAD | 3.0 | | MG/KG | | 3 |
| | | BI00506EB | | TRG | BIOMET | LEAD | 4.3 | | MG/KG | | 3 |
| | | BI00504EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | BI00505EB | | TRG | BIOMET | MERCURY | 0.9 | | MG/KG | U | 0.2 |
| | | BI00506EB | | TRG | BIOMET | MERCURY | 0.9 | | MG/KG | U | 0.2 |
| | | BI00504EB | | TRG | BIOMET | SELENIUM | 18.8 | | MG/KG | UI | 5 |
| | | BI00505EB | | TRG | BIOMET | SELENIUM | 38.8 | | MG/KG | UI | 5 |
| | | BI00506EB | | TRG | BIOMET | SELENIUM | 40.8 | | MG/KG | UI | 5 |
| | | BI00504EB | | TRG | BIOMET | SILVER | 1.9 | | MG/KG | U | 10 |
| | | BI00505EB | | TRG | BIOMET | SILVER | 3.9 | | MG/KG | U | 10 |
| | | BI00506EB | | TRG | BIOMET | SILVER | 4.1 | | MG/KG | U | 10 |
| | | BI00504EB | | TRG | BIOMET | ZINC | 315 | | MG/KG | | 20 |
| | | BI00505EB | | TRG | BIOMET | ZINC | 500 | | MG/KG | | 20 |
| | | BI00506EB | | TRG | BIOMET | ZINC | 648 | | MG/KG | | 20 |
| BI148 | | | | | | | | | | | |
| | | BI00495EB | | TRG | BIOMET | CADMIUM | 2.0 | | MG/KG | U | 5 |
| | | BI00498EB | | TRG | BIOMET | CADMIUM | 1.7 | | MG/KG | U | 5 |
| | | BI00499EB | | TRG | BIOMET | CADMIUM | 1.9 | | MG/KG | U | 5 |
| | | BI00495EB | | TRG | BIOMET | CHROMIUM | 3.0 | | MG/KG | U | 10 |
| | | BI00498EB | | TRG | BIOMET | CHROMIUM | 2.6 | | MG/KG | U | 10 |
| | | BI00499EB | | TRG | BIOMET | CHROMIUM | 2.9 | | MG/KG | U | 10 |
| | | BI00495EB | | TRG | BIOMET | COPPER | 58.4 | | MG/KG | | 25 |
| | | BI00498EB | | TRG | BIOMET | COPPER | 65.7 | | MG/KG | | 25 |
| | | BI00499EB | | TRG | BIOMET | COPPER | 13.8 | | MG/KG | | 25 |
| | | BI00495EB | | TRG | BIOMET | LEAD | 1.0 | | MG/KG | U | 3 |

| Location | Sample Type | Sample Number | Sample Date | Result Type | Method | Analyte | Result | Error | Units | Qualifier | Detection Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| B1148 | | | | | | | | | | | |
| | | B100498EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | | 3 |
| | | B100499EB | | TRG | BIOMET | LEAD | 0.9 | | MG/KG | U | 3 |
| | | B100495EB | | TRG | BIOMET | MERCURY | 0.5 | | MG/KG | U | 0.2 |
| | | B100498EB | | TRG | BIOMET | MERCURY | 0.4 | | MG/KG | U | 0.2 |
| | | B100499EB | | TRG | BIOMET | MERCURY | 0.3 | | MG/KG | U | 0.2 |
| | | B100495EB | | TRG | BIOMET | SELENIUM | 4.0 | | MG/KG | U | 5 |
| | | B100498EB | | TRG | BIOMET | SELENIUM | 3.5 | | MG/KG | UI | 5 |
| | | B100499EB | | TRG | BIOMET | SELENIUM | 3.8 | | MG/KG | UI | 5 |
| | | B100495EB | | TRG | BIOMET | SILVER | 2.0 | | MG/KG | U | 10 |
| | | B100498EB | | TRG | BIOMET | SILVER | 1.7 | | MG/KG | U | 10 |
| | | B100499EB | | TRG | BIOMET | SILVER | 1.9 | | MG/KG | U | 10 |
| | | B100495EB | | TRG | BIOMET | ZINC | 55.9 | | MG/KG | | 20 |
| | | B100498EB | | TRG | BIOMET | ZINC | 106 | | MG/KG | | 20 |
| | | B100499EB | | TRG | BIOMET | ZINC | 56.9 | | MG/KG | | 20 |

End of Report