Draft Data Summary Report
IHSS Group 900-2
(IHSS 153, Oil Burn Pit No. 2 and IHSS 154, Pallet Burn Site)

Approval received from the U.S. Environmental Protection Agency
( ).
Approval letter contained in the Administrative Record

RECEIVED
NOV 15 2004

November 2004

ADMIN RECORD

BZ-A-000752

1/48

RECEIVED
MAR

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 SITE CHARACTERIZATION 1
2.1 Analytical Results 24
2.2 Sum of Ratios 24
2.3 Summary Statistics 25
2.4 Discussion 28
3.0 SUBSURFACE SOIL RISK SCREEN 28
4.0 NFAA SUMMARY 29
5.0 DATA QUALITY ASSESSMENT 29
5.1 Data Quality Assessment Process 29
5.2 Verification and Validation of Results 30
5.2.1 Accuracy 31
5.2.2 Precision 38
5.2.3 Completeness 41
5.2.4 Sensitivity 42
5.3 Summary of Data Quality 42
6.0 REFERENCES 42

LIST OF FIGURES

Figure 1 IHSS Group 900-2 (IHSSs 153 and 154) Location 2

Figure 2 IHSS 153 Surface Soil Results Greater Than Background Means Plus Two Standard Deviations or RLs 3

Figure 3 IHSS 153 Subsurface Soil Results Greater Than Background Means Plus Two Standard Deviations or RLs 4

Figure 4 IHSS 154 Surface and Subsurface Soil Results Greater Than Background Means Plus Two Standard Deviations or RLs 5

LIST OF TABLES

Table 1 IHSS Group 900-2 Characterization Sampling Deviations 6

Table 2 IHSS Group 900-2 Results Greater Than Background Means Plus Two Standard Deviations or RLs 10

Table 3 IHSS Group 900-2 WRW AL Exceedances 24

Table 4 IHSS Group 900-2 RFCA SORs for Surface Soil Radionuclide Activities 25

2

Table 5 IHSS Group 900-2 RFCA SORs for Surface Soil Non-Radionuclide Concentrations 25
Table 6 Surface Soil Summary Statistics 26
Table 7 Subsurface Soil Summary Statistics 27
Table 8 LCS Frequency 31
Table 9 LCS Evaluation Summary 33
Table 10 Surrogate Recovery Summary 35
Table 11 Field Blank Summary 36
Table 12 Sample Matrix Spike Summary 36
Table 13 Sample Matrix Spike Duplicate Summary 38
Table 14 Field Duplicate Sample Frequency Summary 40
Table 15 Duplicate Relative Percent Difference Summary 40
Table 16 Verification and Validation Summary 41

ENCLOSURE

Compact Disk Containing Standardized Real and Quality Control Data

3

ACRONYMS

AAESE	Accelerated Action Ecological Screening Evaluation
AL	action level
AR	Administrative Record
ASD	Analytical Services Division
BZSAP	Buffer Zone Sampling and Analysis Plan
CAS	Chemical Abstract Service
CD	compact disk
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
CRA	Comprehensive Risk Assessment
DOE	U.S. Department of Energy
DQA	Data Quality Assessment
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
FY	Fiscal Year
HPGe	high purity germanium
HRR	Historical Release Report
IHSS	Individual Hazardous Substance Site
IMP	Integrated Monitoring Program
IM/IRA	Interim Measure/Interim Remedial Action
K-H	Kaiser-Hill Company, L.L.C.
LCS	laboratory control sample
ug/kg	micrograms per kilogram
ug/L	micrograms per liter
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
NFAA	No Further Accelerated Action
PARCCS	precision, accuracy, representativeness, completeness, comparability, and sensitivity
PCB	polychlorinated biphenyl
pCi/g	picocuries per gram
QC	Quality Control
RFCA	Rocky Flats Cleanup Agreement
RFETS or Site	Rocky Flats Environmental Technology Site
RL	reporting limit
RPD	relative percent difference
SOR	sum of ratios
SSRS	Subsurface Soil Risk Screen
SWD	Soil Water Database

4

V&V	verification and validation
VOC	volatile organic compound
WRW	wildlife refuge worker

1.0 INTRODUCTION

This Data Summary Report summarizes characterization activities conducted at Individual Hazardous Substance Site (IHSS) Group 900-2 at the Rocky Flats Environmental Technology Site (RFETS or Site) in Golden, Colorado. Characterization activities were planned and executed in accordance with the Buffer Zone (BZ) Sampling and Analysis Plan (SAP) (BZSAP) (DOE 2002a) and BZSAP Addendum BZ-02-01 (DOE 2002b). Ecological effects will be evaluated in the Accelerated Action Ecological Screening Evaluation (AAESE) and the ecological risk assessment portion of the Sitewide Comprehensive Risk Assessment (CRA).

IHSS Group 900-2 consists of IHSS 153, Oil Burn Pit No. 2 and IHSS 154, Pallet Burn Site. The location of IHSS Group 900-2 is shown on Figure 1.

Approval of this Data Summary Report constitutes regulatory agency concurrence of IHSS Group 900-2 as a No Further Accelerated Action (NFAA) Site. This information and NFAA determination will be documented in the Fiscal Year (FY) 2005 Historical Release Report (HRR).

2.0 SITE CHARACTERIZATION

Characterization of IHSS Group 900-2 consists of historical knowledge (DOE 1999a), historical sampling data from 3 sampling locations in the IHSS 900-153 area (DOE 2002a), and 36 accelerated action sampling locations. Original accelerated action sampling locations, as described in BZSAP Addendum #BZ-02-01 (DOE 2002b), consisted of 8 locations in IHSS 153 and 6 locations in IHSS 154. An additional 22 soil samples were collected in IHSS 153 to characterize the extent of soil contamination. Characterization sampling locations and deviations from the planned sampling locations as described in the BZSAP Addendum #BZ-02-01 (DOE 2002b) are presented in Table 1.

The locations of samples and analytical results greater than background means plus two standard deviations or reporting limits (RLs) are shown on Figures 2, 3, and 4 and presented in Table 2. Analytical results greater than Rocky Flats Cleanup Agreement (RFCA) wildlife refuge worker (WRW) action levels (ALs) are listed in Table 3 and highlighted in red on the figures. Results of surface soil and subsurface soil sampling at IHSS 153 are shown on Figures 2 and 3, respectively. Results of surface and subsurface soil sampling at IHSS 154 are shown on Figure 4.

Radionuclide and non-radionuclide sums of ratios (SORs) are listed in Tables 4 and 5, respectively. All analytical data are summarized, by analyte, in Tables 6 and 7. Real and Quality Control (QC) data are enclosed on a compact disc (CD). The CD contains standardized real and QC data (Chemical Abstracts Service [CAS] numbers, analyte names, and units).

6

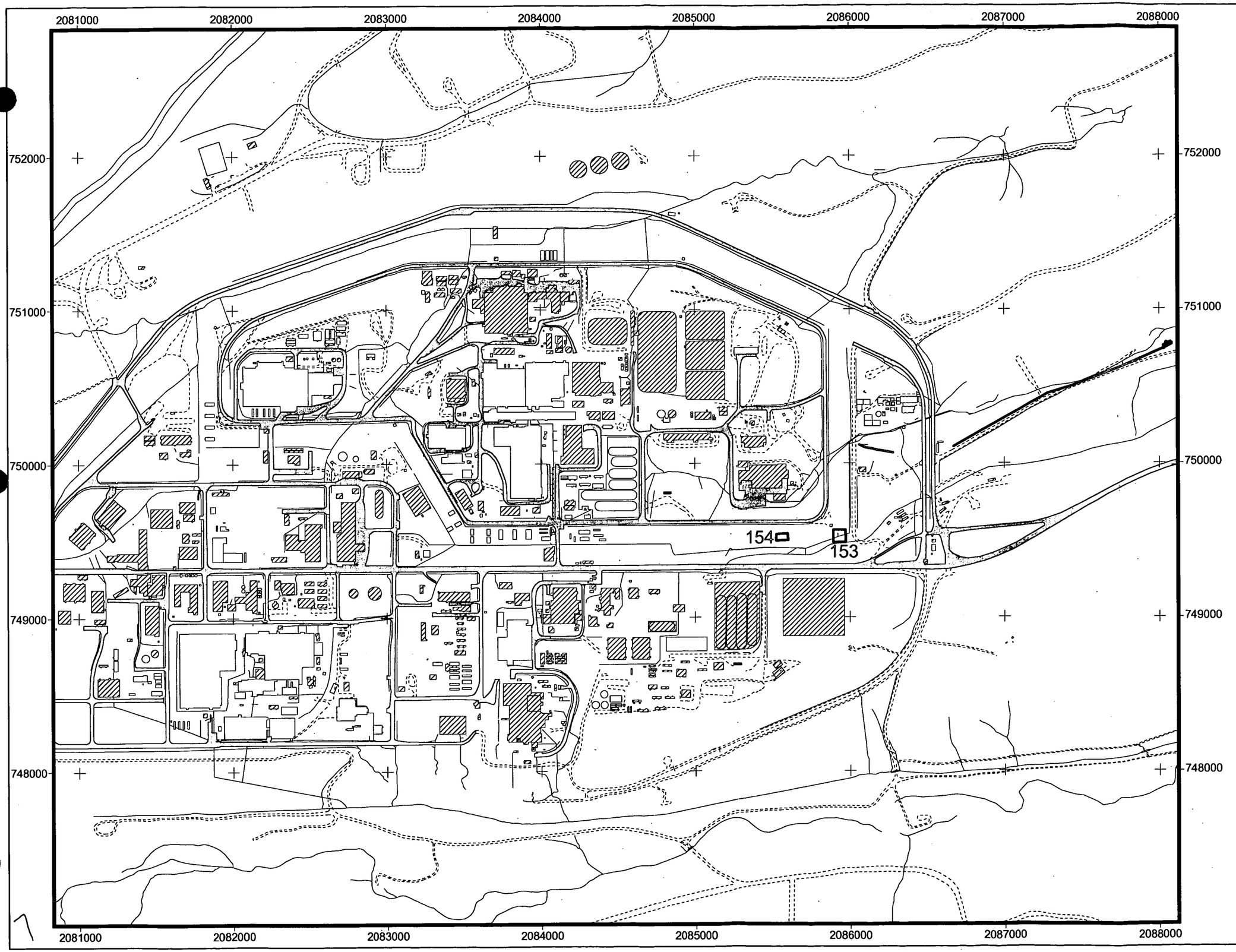


Figure 1

IHSS Group 900-2 (IHSSs 153 and 154) Location

Key

- IHSS
- Demolished structure
- Stucture
- Asphalt
- Dirt road
- Stream
- Interceptor Trench

DRAFT

N W E S

400 0 400 Feet

Scale = 1 : 7,000

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

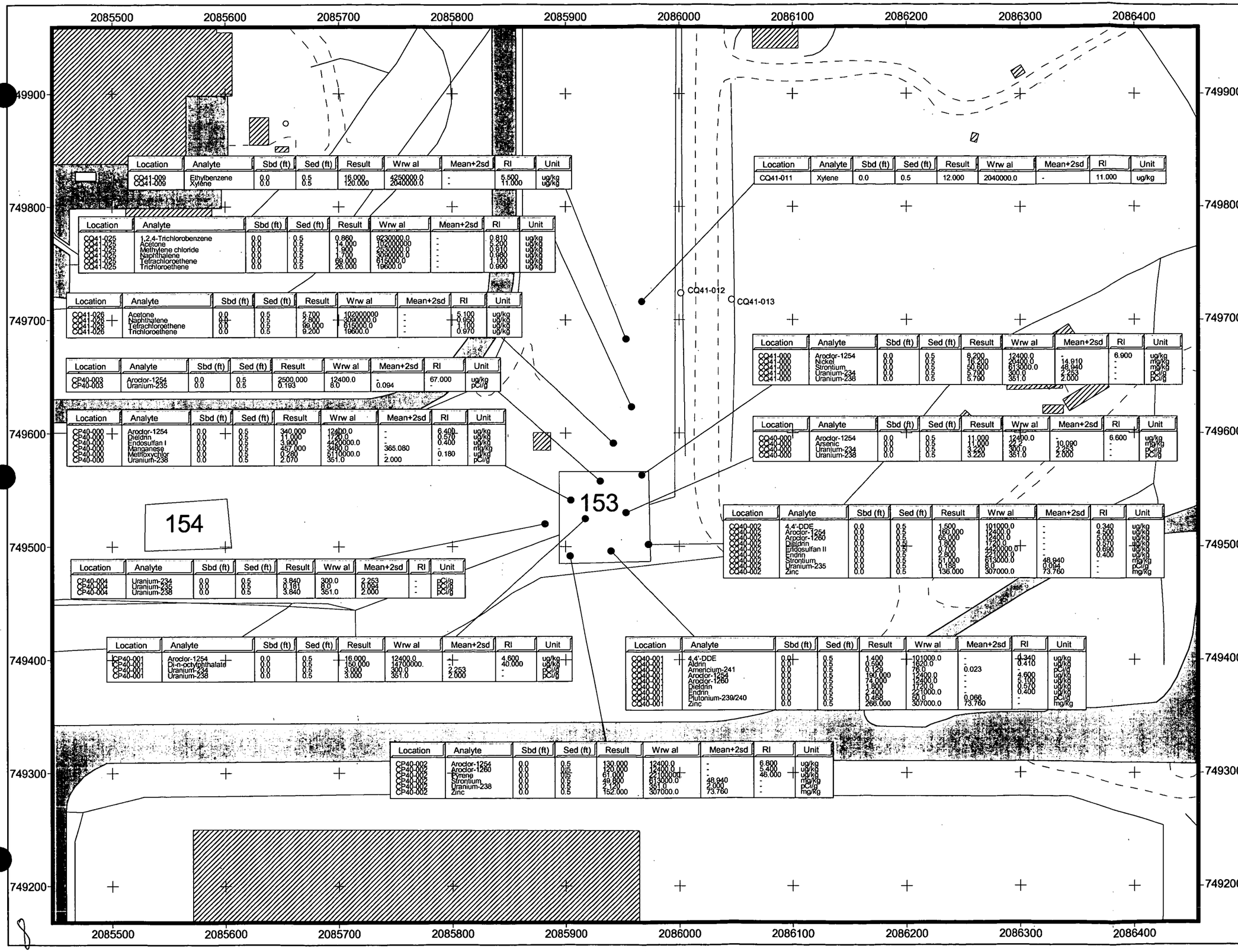
Prepared by: Date: 11-11-04

RADMS

Prepared for:

KAISER•HILL COMPANY

File: W:\Projects\Fy2004\900-2\Closeout\AV_Projects\900-2_ds_052004 gpp.apr



Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ41-009	Ethylbenzene	0.0	0.5	16.000	4250000.0	-	5.500	ug/kg
CQ41-009	Xylene	0.0	0.5	120.000	2040000.0	-	11.000	ug/kg

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ41-025	1,2,4-Trichlorobenzene	0.0	0.5	0.860	9230000.0	-	0.810	ug/kg
CQ41-025	Acetone	0.0	0.5	14.000	102000000	-	5.200	ug/kg
CQ41-025	Methylene chloride	0.0	0.5	1.900	2530000.0	-	0.910	ug/kg
CQ41-025	Naphthalene	0.0	0.5	1.700	3090000.0	-	0.980	ug/kg
CQ41-025	Tetrachloroethene	0.0	0.5	68.000	615000.0	-	1.100	ug/kg
CQ41-025	Trichloroethene	0.0	0.5	26.000	19600.0	-	0.990	ug/kg

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ41-026	Acetone	0.0	0.5	5.700	102000000	-	5.100	ug/kg
CQ41-026	Naphthalene	0.0	0.5	2.800	3090000.0	-	0.950	ug/kg
CQ41-026	Tetrachloroethene	0.0	0.5	99.000	615000.0	-	1.100	ug/kg
CQ41-026	Trichloroethene	0.0	0.5	9.200	19600.0	-	0.970	ug/kg

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CP40-003	Aroclor-1254	0.0	0.5	2500.000	12400.0	-	67.000	ug/kg
CP40-003	Uranium-235	0.0	0.5	0.193	8.0	0.094	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CP40-000	Aroclor-1254	0.0	0.5	340.000	12400.0	-	6.400	ug/kg
CP40-000	Dieldrin	0.0	0.5	11.000	1720.0	-	0.570	ug/kg
CP40-000	Endosulfan I	0.0	0.5	3.900	4420000.0	-	0.400	ug/kg
CP40-000	Manganese	0.0	0.5	457.000	3480.0	365.080	-	mg/kg
CP40-000	Methoxychlor	0.0	0.5	0.280	5110000.0	-	0.180	ug/kg
CP40-000	Uranium-238	0.0	0.5	2.070	351.0	2.000	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CP40-004	Uranium-234	0.0	0.5	3.840	300.0	2.253	-	pCi/g
CP40-004	Uranium-235	0.0	0.5	0.181	8.0	0.094	-	pCi/g
CP40-004	Uranium-238	0.0	0.5	3.840	351.0	2.000	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CP40-001	Aroclor-1254	0.0	0.5	16.000	12400.0	-	4.600	ug/kg
CP40-001	Di-n-octylphthalate	0.0	0.5	150.000	14700000.	-	40.000	ug/kg
CP40-001	Uranium-234	0.0	0.5	3.000	300.0	2.253	-	pCi/g
CP40-001	Uranium-238	0.0	0.5	3.000	351.0	2.000	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CP40-002	Aroclor-1254	0.0	0.5	130.000	12400.0	-	6.800	ug/kg
CP40-002	Aroclor-1260	0.0	0.5	120.000	12400.0	-	5.400	ug/kg
CP40-002	Pyrene	0.0	0.5	61.000	2210000.0	-	46.000	ug/kg
CP40-002	Strontium	0.0	0.5	49.800	613000.0	48.940	-	mg/kg
CP40-002	Uranium-238	0.0	0.5	2.120	351.0	2.000	-	pCi/g
CP40-002	Zinc	0.0	0.5	152.000	307000.0	73.760	-	mg/kg

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ41-011	Xylene	0.0	0.5	12.000	2040000.0	-	11.000	ug/kg

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ41-000	Aroclor-1254	0.0	0.5	8.200	12400.0	-	6.900	ug/kg
CQ41-000	Nickel	0.0	0.5	16.200	20400.0	14.910	-	mg/kg
CQ41-000	Strontium	0.0	0.5	50.600	613000.0	48.940	-	mg/kg
CQ41-000	Uranium-234	0.0	0.5	5.790	300.0	2.253	-	pCi/g
CQ41-000	Uranium-238	0.0	0.5	5.790	351.0	2.000	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ40-000	Aroclor-1254	0.0	0.5	11.000	12400.0	-	6.600	ug/kg
CQ40-000	Arsenic	0.0	0.5	11.000	22.5	10.090	-	mg/kg
CQ40-000	Uranium-234	0.0	0.5	3.220	300.0	2.253	-	pCi/g
CQ40-000	Uranium-238	0.0	0.5	3.220	351.0	2.000	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ40-002	4,4'-DDE	0.0	0.5	1.500	101000.0	-	0.340	ug/kg
CQ40-002	Aroclor-1254	0.0	0.5	160.000	12400.0	-	4.500	ug/kg
CQ40-002	Aroclor-1260	0.0	0.5	65.000	12400.0	-	5.000	ug/kg
CQ40-002	Dieldrin	0.0	0.5	1.800	1720.0	-	0.570	ug/kg
CQ40-002	Endosulfan II	0.0	0.5	0.700	4420000.0	-	0.690	ug/kg
CQ40-002	Endrin	0.0	0.5	2.800	221000.0	-	0.400	ug/kg
CQ40-002	Strontium	0.0	0.5	51.000	613000.0	48.940	-	mg/kg
CQ40-002	Uranium-235	0.0	0.5	0.188	8.0	0.094	-	pCi/g
CQ40-002	Zinc	0.0	0.5	136.000	307000.0	73.760	-	mg/kg

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	RI	Unit
CQ40-001	4,4'-DDE	0.0	0.5	1.400	101000.0	-	0.340	ug/kg
CQ40-001	Aldrin	0.0	0.5	0.590	1620.0	-	0.410	ug/kg
CQ40-001	Americium-241	0.0	0.5	0.19	76.0	0.023	-	pCi/g
CQ40-001	Aroclor-1254	0.0	0.5	190.000	12400.0	-	4.600	ug/kg
CQ40-001	Aroclor-1260	0.0	0.5	74.000	12400.0	-	5.100	ug/kg
CQ40-001	Dieldrin	0.0	0.5	1.800	1720.0	-	0.570	ug/kg
CQ40-001	Endrin	0.0	0.5	2.400	221000.0	-	0.400	ug/kg
CQ40-001	Plutonium-239/240	0.0	0.5	0.468	50.0	0.066	-	pCi/g
CQ40-001	Zinc	0.0	0.5	266.000	307000.0	73.760	-	mg/kg

Figure 2

IHSS 153 Surface Soil Results Greater than Background Means Plus Two Standard Deviations or RLs

Key

- ● Detected Below Action Levels
- ○ Detected Below Background Means Plus Two Standard Deviations of RLs
- IHSS
- Demolished structure
- Structure
- Asphalt
- Dirt road
- Stream

DRAFT

N W E S

60 0 60 Feet

Scale = 1 : 950

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: Date: 11-11-04

RADMS

Prepared for:

KAISER•HILL COMPANY

File: W:\Projects\Fy2004\900-2\Closeout\AV_Projects\900-2_ds_052004 gpp.apr

0HIS TARGET SHEET REPRESENTS AN
OVER-SIZED MAP / PLATE FOR THIS DOCUMENT:
(Ref: 04-RF-01171; KLW-042-04)

Draft Data Summary Report
IHSS Group 900-2
(IHSS 153, Oil Burn Pit No. 2 and IHSS 154, Pallet Burn Site)

November, 2004

Figure 3:

IHSS 153 Subsurface Soil Results Greater than Background Means Plus Two Standard Deviations or RLs

File: W\Projects\Fy2004\900-2\Closeout\AV_Projects\900-2_ds_052004 gpp.apr

November 11, 2004

CERCLA Administrative Record Document, BZ-A-000752

U.S. DEPARTEMENT OF ENERGY
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

GOLDEN, COLORADO

9

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	Rl	Unit
CO40-001	Aroclor-1260	0.00	0.50	16.000	12.400	-	5.400	ug/kg
CO40-001	Plutonium-239/240	0.00	0.50	0.205	50	0.066	-	pCi/g
CO40-001	Strontium	0.00	0.50	81.900	613.000	48.940	-	mg/kg
CO40-001	Copper	0.50	2.50	39.900	40.900	38.210	-	mg/kg
CO40-001	Methylene chloride	0.50	2.50	0.590	2.530.000	-	0.900	ug/kg
CO40-001	Tetrachloroethene	0.50	2.50	1.500	615.000	-	1.100	ug/kg
CO40-001	Uranium-235	0.50	2.50	0.149	8	0.120	-	pCi/g
CO40-001	Uranium-238	0.50	2.50	2.120	351	1.490	-	pCi/g
CO40-001	Acetone	2.50	4.50	6.400	102.000.000	-	5.300	ug/kg
CO40-001	Methylene chloride	2.50	4.50	1.400	2.530.000	-	0.910	ug/kg
CO40-001	Uranium-235	2.50	4.50	0.225	8	0.120	-	pCi/g
CO40-001	Methoxychlor	4.50	6.50	0.440	5.110.000	-	0.210	ug/kg
CO40-001	Methylene chloride	4.50	6.50	1.500	2.530.000	-	0.990	ug/kg
CO40-001	Uranium-235	4.50	6.50	0.160	8	0.120	-	pCi/g
CO40-001	Methylene chloride	6.50	8.50	1.000	2.530.000	-	0.900	ug/kg
CO40-001	Uranium-235	6.50	8.50	0.262	8	0.120	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	Rl	Unit
CN40-001	Aluminum	0.00	0.50	21.700.000	228.000	16.902.000	-	mg/kg
CN40-001	Aroclor-1260	0.00	0.50	10.000	12.400	-	5.300	ug/kg
CN40-001	Chromium	0.00	0.50	20.700	268	16.990	-	mg/kg
CN40-001	Lithium	0.00	0.50	13.200	20.400	11.550	-	mg/kg
CN40-001	Nickel	0.00	0.50	15.500	20.400	14.910	-	mg/kg
CN40-001	Strontium	0.00	0.50	60.400	613.000	48.940	-	mg/kg
CN40-001	Uranium-235	0.00	0.50	0.266	8	0.094	-	pCi/g
CN40-001	Vanadium	0.00	0.50	46.900	7.150	45.590	-	mg/kg
CN40-001	Acetone	0.50	2.50	5.700	102.000.000	-	5.000	ug/kg
CN40-001	Methylene chloride	0.50	2.50	1.200	2.530.000	-	0.870	ug/kg
CN40-001	Methylene chloride	2.50	4.50	1.400	2.530.000	-	0.990	ug/kg
CN40-001	Uranium-234	2.50	4.50	3.050	300	2.640	-	pCi/g
CN40-001	Uranium-238	2.50	4.50	3.050	351	1.490	-	pCi/g
CN40-001	**Arsenic**	**4.50**	**6.50**	**55.100**	22	**13.140**	-	mg/kg
CN40-001	Methylene chloride	4.50	6.50	1.300	2.530.000	-	0.910	ug/kg
CN40-001	Tetrachloroethene	4.50	6.50	1.400	615.000	-	1.100	ug/kg
CN40-001	Uranium-235	4.50	6.50	0.185	8	0.120	-	pCi/g
CN40-001	Uranium-238	4.50	6.50	2.070	351	1.490	-	pCi/g
CN40-001	Arsenic	6.50	8.50	15.300	22	13.140	-	mg/Kg
CN40-001	Methylene chloride	6.50	8.50	1.100	2.530.000	-	0.890	ug/kg
CN40-001	Methylene chloride	8.50	10.50	1.000	2.530.000	-	0.870	ug/kg
CN40-001	Uranium-235	8.50	10.50	0.132	8	0.120	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	Rl	Unit
CO40-003	Aroclor-1260	0.00	0.50	9.000	12.400	-	5.900	ug/kg
CO40-003	Lithium	0.00	0.50	12.600	20.400	11.550	-	mg/kg
CO40-003	Strontium	0.00	0.50	156.000	613.000	48.940	-	mg/kg
CO40-003	Uranium-234	0.00	0.50	2.380	300	2.253	-	pCi/g
CO40-003	Uranium-235	0.00	0.50	0.198	8	0.094	-	pCi/g
CO40-003	Uranium-238	0.00	0.50	2.360	351	2.000	-	pCi/g
CO40-003	Methylene chloride	0.50	2.50	1.700	2.530.000	-	0.900	ug/kg
CO40-003	Uranium-235	0.50	2.50	0.163	8	0.120	-	pCi/g
CO40-003	Arsenic	2.50	4.50	18.900	22	13.140	-	mg/kg
CO40-003	Methylene chloride	2.50	4.50	1.400	2.530.000	-	0.980	ug/kg
CO40-003	Uranium-238	2.50	4.50	2.430	351	1.490	-	pCi/g
CO40-003	Methylene chloride	4.50	6.50	1.300	2.530.000	-	1.000	ug/kg
CO40-003	Uranium-235	4.50	6.50	0.258	8	0.120	-	pCi/g
CO40-003	Acetone	6.50	8.00	15.000	102.000.000	-	5.400	ug/kg
CO40-003	Methylene chloride	6.50	8.00	1.200	2.530.000	-	0.940	ug/kg
CO40-003	Uranium-235	6.50	8.00	0.127	8	0.120	-	pCi/g
CO40-003	Uranium-238	6.50	8.00	1.930	351	1.490	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	Rl	Unit
CN40-000	4,4'-DDE	0.00	0.50	0.600	101.000	-	0.370	ug/kg
CN40-000	Aluminum	0.00	0.50	18.100.000	228.000	16.902.000	-	mg/kg
CN40-000	Aroclor-1260	0.00	0.50	63.000	12.400	-	5.500	ug/kg
CN40-000	Barium	0.00	0.50	154.000	26.400	141.260	-	mg/kg
CN40-000	Nickel	0.00	0.50	15.800	20.400	14.910	-	mg/kg
CN40-000	Strontium	0.00	0.50	62.500	613.000	48.940	-	mg/kg
CN40-000	Uranium-235	0.00	0.50	0.201	8	0.094	-	pCi/g
CN40-000	Vanadium	0.00	0.50	49.000	7.150	45.590	-	mg/kg
CN40-000	Methylene chloride	0.50	2.50	1.600	2.530.000	-	0.910	ug/kg
CN40-000	Uranium-235	0.50	2.50	0.175	8	0.120	-	pCi/g
CN40-000	Methylene chloride	2.50	4.50	1.700	2.530.000	-	0.940	ug/kg
CN40-000	Uranium-235	2.50	4.50	0.153	8	0.120	-	pCi/g
CN40-000	Uranium-238	2.50	4.50	2.070	351	1.490	-	pCi/g
CN40-000	Methylene chloride	4.50	6.50	1.700	2.530.000	-	0.930	ug/kg
CN40-000	Uranium-234	4.50	6.50	3.130	300	2.640	-	pCi/g
CN40-000	Uranium-235	4.50	6.50	0.281	8	0.120	-	pCi/g
CN40-000	Uranium-238	4.50	6.50	3.130	351	1.490	-	pCi/g
CN40-000	Acetone	6.50	8.50	21.000	102.000.000	-	5.200	ug/kg
CN40-000	Methylene chloride	6.50	8.50	2.200	2.530.000	-	0.910	ug/kg
CN40-000	Uranium-235	6.50	8.50	0.242	8	0.120	-	pCi/g
CN40-000	Uranium-238	6.50	8.50	2.170	351	1.490	-	pCi/g
CN40-000	Acetone	8.50	10.50	12.000	102.000.000	-	5.300	ug/kg
CN40-000	Methylene chloride	8.50	10.50	1.400	2.530.000	-	0.920	ug/kg
CN40-000	Uranium-238	8.50	10.50	2.030	351	1.490	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	Rl	Unit
CO40-002	Aroclor-1260	0.00	0.50	20.000	12.400	-	5.400	ug/kg
CO40-002	Methoxychlor	0.00	0.50	0.530	5.110.000	-	0.190	ug/kg
CO40-002	Strontium	0.00	0.50	68.200	613.000	48.940	-	mg/kg
CO40-002	Acetone	0.50	2.50	10.000	102.000.000	-	5.600	ug/kg
CO40-002	Methylene chloride	0.50	2.50	1.300	2.530.000	-	0.970	ug/kg
CO40-002	Uranium-238	0.50	2.50	1.330	351	1.490	-	pCi/g
CO40-002	Acetone	2.50	4.50	12.000	102.000.000	-	5.400	ug/kg
CO40-002	Methylene chloride	2.50	4.50	1.100	2.530.000	-	0.940	ug/kg
CO40-002	Uranium-234	2.50	4.50	3.235	300	2.640	-	pCi/g
CO40-002	Uranium-238	2.50	4.50	3.230	351	1.490	-	pCi/g
CO40-002	Acetone	4.50	6.50	7.600	102.000.000	-	5.600	ug/kg
CO40-002	Methoxychlor	4.50	6.50	0.390	5.110.000	-	0.200	ug/kg
CO40-002	Methylene chloride	4.50	6.50	1.100	2.530.000	-	0.970	ug/kg
CO40-002	Uranium-238	6.50	8.50	2.570	351	1.490	-	pCi/g

Location	Analyte	Sbd (ft)	Sed (ft)	Result	Wrw al	Mean+2sd	Rl	Unit
CO40-000	Methoxychlor	0.00	0.50	0.750	5.110.000	-	0.190	ug/kg
CO40-000	Strontium	0.00	0.50	64.300	613.000	48.940	-	mg/kg
CO40-000	Uranium-234	0.00	0.50	2.780	300	2.253	-	pCi/g
CO40-000	Uranium-238	0.00	0.50	2.780	351	2.000	-	pCi/g
CO40-000	Vanadium	0.00	0.50	53.200	7.150	45.590	-	mg/kg
CO40-000	Acetone	0.50	2.50	6.500	102.000.000	-	5.400	ug/kg
CO40-000	Methylene chloride	0.50	2.50	1.100	2.530.000	-	0.930	ug/kg
CO40-000	Uranium-238	0.50	2.50	2.070	351	1.490	-	pCi/g
CO40-000	Acetone	2.50	4.50	11.000	102.000.000	-	5.600	ug/kg
CO40-000	Methylene chloride	2.50	4.50	1.100	2.530.000	-	0.970	ug/kg
CO40-000	Uranium-235	2.50	4.50	0.130	8	0.120	-	pCi/g
CO40-000	Acetone	4.50	6.50	13.000	102.000.000	-	5.700	ug/kg
CO40-000	**Arsenic**	**4.50**	**6.50**	**24.100**	22	**13.140**	-	mg/kg
CO40-000	Lead	4.50	6.50	25.600	1.000	24.970	-	mg/kg
CO40-000	Methoxychlor	4.50	6.50	0.260	5.110.000	-	0.200	ug/kg
CO40-000	Methylene chloride	4.50	6.50	1.200	2.530.000	-	0.980	ug/kg
CO40-000	Vanadium	4.50	6.50	128.000	7.150	88.490	-	mg/kg
CO40-000	Acetone	6.50	8.50	9.900	102.000.000	-	5.500	ug/kg
CO40-000	Methoxychlor	6.50	8.50	0.470	5.110.000	-	0.200	ug/kg
CO40-000	Methylene chloride	6.50	8.50	1.200	2.530.000	-	0.960	ug/kg
CO40-000	Uranium-238	6.50	8.50	2.520	351	1.490	-	pCi/g
CO40-000	Uranium-238	8.50	8.51	2.490	351	1.490	-	pCi/g

Figure 4

IHSS 154 Surface and Subsurface Soil Results Greater than Background Means Plus Two Standard Deviations or RLs

Key

- Detected Above WRW Action Level
- Detected Below Action Levels
- IHSS
- Demolished structure
- Structure
- Asphalt
- Dirt road
- Stream

DRAFT

N W E S

50 0 50 Feet

Scale = 1 : 900

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: Date: 11-11-04

RADMS

Prepared for:

KAISER•HILL COMPANY

File: W:\Projects\Fy2004\900-2\Closeout\AV_Projects\900-2_ds_052004 gpp.apr

10

Table 1
IHSS Group 900-2 Characterization Sampling Deviations

IHSS	Location Code	Actual Northing	Actual Easting	Proposed Northing	Proposed Easting	Actual Media	Actual Depth Interval	Actual Analyte	Comment
153	CP40-000	749540.874	2085904.455	749552.946	2085895.226	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	Statistical sample location offset approximately 15 ft southeast because of utilities interference, deepest interval shortened because of refusal at 6.5 ft
	CP40-001	749524.341	2085917.340	749524.270	2085917.371	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 6.5 ft
	CP40-002	749491.678	2085903.785	749491.621	2085903.743	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 9.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 9.5 ft
	CP40-003	749557.503	2085930.473	749557.488	2085930.715	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 7.7'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 7.7 ft
	CP40-004	749519.940	2085881.880	N/A	N/A	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	pesticides, radionuclides	Step-out sample
	CP41-000	749586.290	2085908.670	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 5.7'	PCBs	Step-out sample, deepest interval shortened because of refusal at 7.7 ft
	CP41-001	749614.983	2085886.002	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	VOCs	Step-out sample
	CP41-002	749619.496	2085923.019	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 9.3'	PCBs, VOCs	Step-out sample, deepest interval shortened because of refusal at 9.3 ft
	CP41-RL-01	749586.290	2085908.670	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 5.5'	VOCs	Step-out sample, deepest interval shortened because of refusal at 5.5 ft

IHSS	Location Code	Actual Northing	Actual Easting	Proposed Northing	Proposed Easting	Actual Media	Actual Depth Interval	Actual Analyte	Comment
	CQ40-000	749529.641	2085953.144	749529.665	2085953.144	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.0	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 8.0'
	CQ40-001	749495.898	2085939.832	749495.879	2085939.800	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location and intervals
	CQ40-002	749501.550	2085972.931	749501.558	2085973.018	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 8.5'
	CQ40-003	749534.750	2085987.330	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5'	PCBs, VOCs	Step-out sample
	CQ41-000	749562.831	2085967.115	749562.882	2085967.056	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.0	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of to refusal at 8.0'
	CQ41-001	749591.300	2085944.990	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 5.8	PCBs, VOCs	Step-out sample, deepest interval shortened because of refusal at 5.8 ft
	CQ41-002	749593.772	2085986.649	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 5.6	PCBs, VOCs	Step-out sample, deepest interval shortened because of refusal at 5.6 ft
	CQ41-003	749568.149	2086013.473	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	PCBs, VOCs	Step-out sample
	CQ41-004	749626.460	2085992.775	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5'	PCBs, VOCs	Step-out sample, deepest interval shortened because of refusal at 8.5 ft
	CQ41-005	749623.017	2085961.189	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5	PCBs, VOCs	Step-out sample

IHSS	Location Code	Actual Northing	Actual Easting	Proposed Northing	Proposed Easting	Actual Media	Actual Depth Interval	Actual Analyte	Comment
	CQ41-006	749650.619	2085938.905	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 9.2'	PCBs, VOCs	Step-out sample, deepest interval shortened because of refusal at 9.2 ft
	CQ41-007	749656.983	2085974.516	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	PCBs, VOCs	Step-out sample
	CQ41-008	749669.656	2086039.391	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.0', 8.0' – 8.5'	VOCs	Step-out sample, deepest interval shortened because of refusal at 8.5 ft
	CQ41-009	749682.871	2085953.283	N/A	N/A	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.0', 8.0' – 8.5'	VOCs	Step-out sample, deepest interval shortened because of refusal at 8.5 ft
	CQ41-010	749690.933	2085987.820	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 9.5'	PCBs, VOCs	Step-out sample, deepest interval shortened because of refusal at 9.5 ft
	CQ41-011	749715.766	2085967.146	N/A	N/A	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	VOCs	Step-out sample
	CQ41-012	749723.545	2086001.420	N/A	N/A	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 9.0'	VOCs	Step-out sample, deepest interval shortened because of refusal at 9.0 ft
	CQ41-013	749718.131	2086046.180	N/A	N/A	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5'	VOCs	Step-out sample, deepest interval shortened because of refusal at 8.5 ft
	CQ41-025	749622.993	2085958.013	N/A	N/A	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.0', 8.5' – 10.0'	VOCs	Step-out sample, deepest interval shortened because of refusal at 10.0 ft

IHSS	Location Code	Actual Northing	Actual Easting	Proposed Northing	Proposed Easting	Actual Media	Actual Depth Interval	Actual Analyte	Comment
	CQ41-026	749591.029	2085941.897	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.0', 8.0' – 9.0'	VOCs	Step-out sample, deepest interval shortened because of refusal at 9.0 ft
	CQ42-000	749819.941	2086005.610	N/A	N/A	subsurface soil	0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 9.5'	VOCs	Step-out sample, deepest interval shortened because of refusal at 9.5 ft
154	CN40-000	749496.983	2085529.691	749496.959	2085529.733	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location and intervals
	CN40-001	749521.809	2085531.712	749521.796	2085531.803	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 10.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location and intervals
	CO40-000	749502.564	2085561.463	749502.478	2085561.469	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5', 8.5' – 8.51'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 8.51'
	CO40-001	749538.389	2085564.008	749538.354	2085563.884	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 8.5'
	CO40-002	749517.268	2085594.196	749517.312	2085594.241	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.5'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 8.5'
	CO40-003	749540.318	2085600.112	749540.424	2085600.105	surface and subsurface soil	0.0 – 0.5', 0.5 – 2.5', 2.5 – 4.5', 4.5 – 6.5', 6.5' – 8.0'	metals, PCBs, pesticides, radionuclides, SVOCs, VOCs	No significant difference in location, deepest interval shortened because of refusal at 8.0'

N/A = Not Applicable

Table 2
IHSS Group 900-2 Results Greater Than Background Means Plus Two Standard Deviations or RLs

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
153	CP40-000	749540.874	2085904.455	0.00	0.50	Aroclor-1254	340.000	12,400	-	6.400	ug/kg
	CP40-000	749540.874	2085904.455	0.00	0.50	Dieldrin	11.000	1,720	-	0.570	ug/kg
	CP40-000	749540.874	2085904.455	0.00	0.50	Endosulfan I	3.900	4,420,000	-	0.400	ug/kg
	CP40-000	749540.874	2085904.455	0.00	0.50	Manganese	457.000	3,480	365.080	-	mg/kg
	CP40-000	749540.874	2085904.455	0.00	0.50	Methoxychlor	0.280	5,110,000	-	0.180	ug/kg
	CP40-000	749540.874	2085904.455	0.00	0.50	Uranium-238	2.070	351	2.000	-	pCi/g
	CP40-000	749540.874	2085904.455	0.50	2.50	Aroclor-1254	11.000	12,400	-	6.600	ug/kg
	CP40-000	749540.874	2085904.455	0.50	2.50	Methylene chloride	1.800	2,530,000	-	0.890	ug/kg
	CP40-000	749540.874	2085904.455	0.50	2.50	Uranium-235	0.220	8	0.120	-	pCi/g
	CP40-000	749540.874	2085904.455	0.50	2.50	Uranium-238	2.210	351	1.490	-	pCi/g
	CP40-000	749540.874	2085904.455	2.50	4.50	Methylene chloride	1.600	2,530,000	-	0.850	ug/kg
	CP40-000	749540.874	2085904.455	2.50	4.50	Uranium-235	0.178	8	0.120	-	pCi/g
	CP40-000	749540.874	2085904.455	2.50	4.50	Uranium-238	2.270	351	1.490	-	pCi/g
	CP40-000	749540.874	2085904.455	4.50	6.50	Methylene chloride	1.900	2,530,000	-	0.930	ug/kg
	CP40-000	749540.874	2085904.455	4.50	6.50	Uranium-238	2.330	351	1.490	-	pCi/g
	CP40-001	749524.341	2085917.340	0.00	0.50	Aroclor-1254	16.000	12,400	-	4.600	ug/kg
	CP40-001	749524.341	2085917.340	0.00	0.50	Di-n-octylphthalate	150.000	14,700,000	-	40.000	ug/kg
	CP40-001	*749524.341*	*2085917.340*	*0.00*	*0.50*	*Uranium-234*	*3.000*	*300*	*2.253*	-	*pCi/g*
	CP40-001	749524.341	2085917.340	0.00	0.50	Uranium-238	3.000	351	2.000	-	pCi/g
	CP40-001	749524.341	2085917.340	0.50	2.50	4,4'-DDE	1.100	101,000	-	0.370	ug/kg
	CP40-001	749524.341	2085917.340	0.50	2.50	4,4'-DDT	0.790	100,000	-	0.380	ug/kg
	CP40-001	749524.341	2085917.340	0.50	2.50	Acetone	7.500	102,000,000	-	5.200	ug/kg
	CP40-001	749524.341	2085917.340	0.50	2.50	Aroclor-1254	180.000	12,400	-	4.900	ug/kg
	CP40-001	749524.341	2085917.340	0.50	2.50	Aroclor-1260	51.000	12,400	-	5.500	ug/kg
	CP40-001	749524.341	2085917.340	0.50	2.50	Dieldrin	1.400	1,720	-	0.620	ug/kg
	CP40-001	749524.341	2085917.340	0.50	2.50	Endrin	2.800	221,000	-	0.430	ug/kg
	CP40-001	*749524.341*	*2085917.340*	*0.50*	*2.50*	*Uranium-234*	*4.130*	*300*	*2.640*	-	*pCi/g*
	CP40-001	749524.341	2085917.340	0.50	2.50	Uranium-238	4.130	351	1.490	-	pCi/g
	CP40-001	749524.341	2085917.340	2.50	4.50	Acetone	8.200	102,000,000	-	4.800	ug/kg
	CP40-001	*749524.341*	*2085917.340*	*2.50*	*4.50*	*Uranium-234*	*4.000*	*300*	*2.640*	-	*pCi/g*
	CP40-001	749524.341	2085917.340	2.50	4.50	Uranium-235	0.200	8	0.120	-	pCi/g
	CP40-001	749524.341	2085917.340	2.50	4.50	Uranium-238	4.000	351	1.490	-	pCi/g
	CP40-001	749524.341	2085917.340	4.50	6.50	Acetone	9.400	102,000,000	-	5.000	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CP40-001	*749524.341*	*2085917.340*	*4.50*	*6.50*	*Uranium-234*	*4.000*	*300*	*2.640*	-	*pCi/g*
	CP40-001	749524.341	2085917.340	4.50	6.50	Uranium-238	4.000	351	1.490	-	pCi/g
	CP40-002	749491.678	2085903.785	0.00	0.50	Aroclor-1254	130.000	12,400	-	6.800	ug/kg
	CP40-002	749491.678	2085903.785	0.00	0.50	Aroclor-1260	120.000	12,400	-	5.400	ug/kg
	CP40-002	749491.678	2085903.785	0.00	0.50	Pyrene	61.000	22,100,000	-	46.000	ug/kg
	CP40-002	749491.678	2085903.785	0.00	0.50	Strontium	49.800	613,000	48.940	-	mg/kg
	CP40-002	749491.678	2085903.785	0.00	0.50	Uranium-238	2.120	351	2.000	-	pCi/g
	CP40-002	749491.678	2085903.785	0.00	0.50	Zinc	152.000	307,000	73.760	-	mg/kg
	CP40-002	749491.678	2085903.785	0.50	2.50	Acetone	5.900	102,000,000	-	5.000	ug/kg
	CP40-002	749491.678	2085903.785	2.50	4.50	Acetone	5.500	102,000,000	-	5.300	ug/kg
	CP40-002	749491.678	2085903.785	2.50	4.50	Uranium-235	0.211	8	0.120	-	pCi/g
	CP40-002	749491.678	2085903.785	4.50	6.50	1,2-Dichloroethane	2.200	106,000	-	1.200	ug/kg
	CP40-002	749491.678	2085903.785	4.50	6.50	Uranium-235	0.189	8	0.120	-	pCi/g
	CP40-002	749491.678	2085903.785	6.50	8.50	Methylene chloride	1.200	2,530,000	-	0.910	ug/kg
	CP40-002	749491.678	2085903.785	6.50	8.50	Uranium-238	2.310	351	1.490	-	pCi/g
	CP40-002	749491.678	2085903.785	8.50	9.50	Methylene chloride	1.100	2,530,000	-	0.850	ug/kg
	CP40-002	*749491.678*	*2085903.785*	*8.50*	*9.50*	*Uranium-234*	*3.080*	*300*	*2.640*	-	*pCi/g*
	CP40-002	749491.678	2085903.785	8.50	9.50	Uranium-235	0.239	8	0.120	-	pCi/g
	CP40-002	749491.678	2085903.785	8.50	9.50	Uranium-238	3.080	351	1.490	-	pCi/g
	CP40-003	749557.503	2085930.473	0.00	0.50	Aroclor-1254	2,500.000	12,400	-	67.000	ug/kg
	CP40-003	749557.503	2085930.473	0.00	0.50	Uranium-235	0.193	8	0.094	-	pCi/g
	CP40-003	749557.503	2085930.473	0.50	2.50	1,1,1-Trichloroethane	28.000	79,700,000	-	24.000	ug/kg
	CP40-003	749557.503	2085930.473	0.50	2.50	Acetone	590.000	102,000,000	-	300.000	ug/kg
	CP40-003	749557.503	2085930.473	0.50	2.50	Aroclor-1254	5,800.000	12,400	-	700.000	ug/kg
	CP40-003	749557.503	2085930.473	0.50	2.50	Carbon Disulfide	27.000	15,100,000	-	24.000	ug/kg
	CP40-003	749557.503	2085930.473	0.50	2.50	Tetrachloroethene	2,500.000	615,000	-	50.000	ug/kg
	CP40-003	749557.503	2085930.473	0.50	2.50	Trichloroethene	35.000	19,600	-	30.000	ug/kg
	CP40-003	749557.503	2085930.473	2.50	4.50	1,1,1-Trichloroethane	1,100.000	79,700,000	-	210.000	ug/kg
	CP40-003	749557.503	2085930.473	2.50	4.50	2-Methylnaphthalene	150.000	20,400,000	-	63.000	ug/kg
	CP40-003	749557.503	2085930.473	2.50	4.50	Aroclor-1254	4,000.000	12,400	-	650.000	ug/kg
	CP40-003	749557.503	2085930.473	2.50	4.50	bis(2-Ethylhexyl)phthalate	130.000	1,970,000	-	74.000	ug/kg
	CP40-003	749557.503	2085930.473	2.50	4.50	Tetrachloroethene	99,000.000	615,000	-	450.000	ug/kg
	CP40-003	749557.503	2085930.473	2.50	4.50	Trichloroethene	2,600.000	19,600	-	270.000	ug/kg
	CP40-003	*749557.503*	*2085930.473*	*2.50*	*4.50*	*Uranium-234*	*2.870*	*300*	*2.640*	-	*pCi/g*
	CP40-003	749557.503	2085930.473	2.50	4.50	Uranium-235	0.233	8	0.120	-	pCi/g
	CP40-003	749557.503	2085930.473	2.50	4.50	Uranium-238	2.870	351	1.490	-	pCi/g

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CP40-003	749557.503	2085930.473	4.50	6.50	1,1,1-Trichloroethane	78.000	79,700,000	-	25.000	ug/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	1,2-Dichloroethane	35.000	106,000	-	26.000	ug/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	4-Methyl-2-pentanone	850.000	16,400,000	-	86.000	ug/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	Acetone	17,000.000	102,000,000	-	310.000	ug/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	Aroclor-1254	110.000	12,400	-	7.300	ug/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	Arsenic	14.900	22	13.140	-	mg/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	Tetrachloroethene	11,000.000	615,000	-	52.000	ug/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	Trichloroethene	150.000	19,600	-	32.000	ug/kg
	CP40-003	749557.503	2085930.473	4.50	6.50	Uranium-235	0.147	8	0.120	-	pCi/g
	CP40-003	749557.503	2085930.473	4.50	6.50	Uranium-238	1.760	351	1.490	-	pCi/g
	CP40-003	749557.503	2085930.473	4.50	6.50	Vanadium	92.400	7,150	88.490	-	mg/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	1,1,1-Trichloroethane	2,100.000	79,700,000	-	120.000	ug/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	Acetone	9,000.000	102,000,000	-	1,500.000	ug/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	Aroclor-1254	10,000.000	12,400	-	720.000	ug/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	Aroclor-1260	1,200.000	12,400	-	570.000	ug/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	Tetrachloroethene	54,000.000	615,000	-	260.000	ug/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	Toluene	350.000	31,300,000	-	220.000	ug/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	Trichloroethene	5,100.000	19,600	-	160.000	ug/kg
	CP40-003	749557.503	2085930.473	6.50	7.70	Uranium-238	1.910	351	1.490	-	pCi/g
	CP40-004	*749519.940*	*2085881.880*	*0.00*	*0.50*	*Uranium-234*	*3.840*	*300*	*2.253*	-	*pCi/g*
	CP40-004	749519.940	2085881.880	0.00	0.50	Uranium-235	0.181	8	0.094	-	pCi/g
	CP40-004	749519.940	2085881.880	0.00	0.50	Uranium-238	3.840	351	2.000	-	pCi/g
	CP41-000	749586.290	2085908.670	2.50	4.50	Aroclor-1254	27.000	12,400	-	4.600	ug/kg
	CP41-000	749586.290	2085908.670	4.50	5.70	Aroclor-1254	37.000	12,400	-	4.900	ug/kg
	CP41-001	749614.983	2085886.002	8.50	10.50	Carbon Tetrachloride	11.000	81,500	-	6.000	ug/kg
	CP41-001	749614.983	2085886.002	8.50	10.50	Trichloroethene	6.300	19,600	-	6.000	ug/kg
	CP41-002	749619.496	2085923.019	0.50	2.50	Aroclor-1254	290.000	12,400	-	5.000	ug/kg
	CP41-002	749619.496	2085923.019	0.50	2.50	Aroclor-1260	53.000	12,400	-	5.600	ug/kg
	CP41-RL-01	749586.290	2085908.670	2.50	4.50	1,1,1-Trichloroethane	170.000	79,700,000	-	5.200	ug/kg
	CP41-RL-01	749586.290	2085908.670	2.50	4.50	1,1-Dichloroethene	23.000	17,000	-	5.200	ug/kg
	CP41-RL-01	749586.290	2085908.670	2.50	4.50	Tetrachloroethene	120.000	615,000	-	10.000	ug/kg
	CP41-RL-01	749586.290	2085908.670	2.50	4.50	Trichloroethene	210.000	19,600	-	5.200	ug/kg
	CP41-RL-01	749586.290	2085908.670	4.50	5.50	1,1,1-Trichloroethane	12.000	79,700,000	-	5.600	ug/kg
	CP41-RL-01	749586.290	2085908.670	4.50	5.50	Tetrachloroethene	14.000	615,000	-	5.600	ug/kg
	CP41-RL-01	749586.290	2085908.670	4.50	5.50	Trichloroethene	12.000	19,600	-	5.600	ug/kg
	CQ40-000	749529.641	2085953.144	0.00	0.50	Aroclor-1254	11.000	12,400	-	6.600	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ40-000	749529.641	2085953.144	0.00	0.50	Arsenic	11.000	22	10.090	-	mg/kg
	CQ40-000	*749529.641*	*2085953.144*	*0.00*	*0.50*	*Uranium-234*	*3.220*	*300*	*2.253*	-	*pCi/g*
	CQ40-000	749529.641	2085953.144	0.00	0.50	Uranium-238	3.220	351	2.000	-	pCi/g
	CQ40-000	749529.641	2085953.144	0.50	2.50	1,1,1-Trichloroethane	27.000	79,700,000	-	1.100	ug/kg
	CQ40-000	749529.641	2085953.144	0.50	2.50	1,2-Dichloroethane	2.100	106,000	-	1.100	ug/kg
	CQ40-000	749529.641	2085953.144	0.50	2.50	Aroclor-1254	640.000	12,400	-	37.000	ug/kg
	CQ40-000	749529.641	2085953.144	0.50	2.50	Chloroform	120.000	19,200	-	1.000	ug/kg
	CQ40-000	749529.641	2085953.144	0.50	2.50	Methylene chloride	1.200	2,530,000	-	0.910	ug/kg
	CQ40-000	749529.641	2085953.144	0.50	2.50	Tetrachloroethene	81.000	615,000	-	5.700	ug/kg
	CQ40-000	749529.641	2085953.144	0.50	2.50	Trichloroethene	86.000	19,600	-	0.990	ug/kg
	CQ40-000	749529.641	2085953.144	0.50	2.50	Uranium-235	0.223	8	0.120	-	pCi/g
	CQ40-000	749529.641	2085953.144	2.50	4.50	1,2-Dichloroethane	4.100	106,000	-	1.100	ug/kg
	CQ40-000	749529.641	2085953.144	2.50	4.50	Aroclor-1254	3,500.000	12,400	-	340.000	ug/kg
	CQ40-000	749529.641	2085953.144	2.50	4.50	Chloroform	2.300	19,200	-	1.000	ug/kg
	CQ40-000	749529.641	2085953.144	2.50	4.50	Methylene chloride	1.000	2,530,000	-	0.920	ug/kg
	CQ40-000	749529.641	2085953.144	2.50	4.50	Tetrachloroethene	5.300	615,000	-	1.100	ug/kg
	CQ40-000	749529.641	2085953.144	2.50	4.50	Trichloroethene	1.200	19,600	-	1.000	ug/kg
	CQ40-000	*749529.641*	*2085953.144*	*2.50*	*4.50*	*Uranium-234*	*2.900*	*300*	*2.640*	-	*pCi/g*
	CQ40-000	749529.641	2085953.144	2.50	4.50	Uranium-238	2.900	351	1.490	-	pCi/g
	CQ40-000	749529.641	2085953.144	4.50	6.50	1,2,4-Trichlorobenzene	9,500.000	9,230,000	-	140.000	ug/kg
	CQ40-000	749529.641	2085953.144	4.50	6.50	1,2-Dichloroethane	1.700	106,000	-	1.100	ug/kg
	CQ40-000	**749529.641**	**2085953.144**	**4.50**	**6.50**	**Aroclor-1254**	**20,000.000**	**12,400**	**-**	**650.000**	**ug/kg**
	CQ40-000	**749529.641**	**2085953.144**	**4.50**	**6.50**	**Aroclor-1260**	**22,000.000**	**12,400**	**-**	**510.000**	**ug/kg**
	CQ40-000	749529.641	2085953.144	4.50	6.50	bis(2-Ethylhexyl)phthalate	390.000	1,970,000	-	73.000	ug/kg
	CQ40-000	749529.641	2085953.144	4.50	6.50	Chloroform	16.000	19,200	-	1.000	ug/kg
	CQ40-000	749529.641	2085953.144	4.50	6.50	Tetrachloroethene	70.000	615,000	-	1.100	ug/kg
	CQ40-000	749529.641	2085953.144	4.50	6.50	Trichloroethene	6.800	19,600	-	0.970	ug/kg
	CQ40-000	749529.641	2085953.144	4.50	6.50	Uranium-235	0.246	8	0.120	-	pCi/g
	CQ40-000	749529.641	2085953.144	4.50	6.50	Uranium-238	2.470	351	1.490	-	pCi/g
	CQ40-000	749529.641	2085953.144	6.50	8.00	1,2,4-Trichlorobenzene	1,300.000	9,230,000	-	26.000	ug/kg
	CQ40-000	749529.641	2085953.144	6.50	8.00	Acetone	680.000	102,000,000	-	410.000	ug/kg
	CQ40-000	749529.641	2085953.144	6.50	8.00	Aroclor-1254	2,500.000	12,400	-	340.000	ug/kg
	CQ40-000	749529.641	2085953.144	6.50	8.00	Aroclor-1260	2,800.000	12,400	-	270.000	ug/kg
	CQ40-000	749529.641	2085953.144	6.50	8.00	Chloroform	34.000	19,200	-	32.000	ug/kg
	CQ40-000	749529.641	2085953.144	6.50	8.00	n-Nitrosodipropylamine	450.000	5,470	-	97.000	ug/kg
	CQ40-000	749529.641	2085953.144	6.50	8.00	Tetrachloroethene	2,100.000	615,000	-	33.000	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ40-000	749529.641	2085953.144	6.50	8.00	Trichloroethene	51.000	19,600	-	33.000	ug/kg
	CQ40-001	749495.898	2085939.832	0.00	0.50	4,4'-DDE	1.400	101,000	-	0.340	ug/kg
	CQ40-001	749495.898	2085939.832	0.00	0.50	Aldrin	0.590	1,620	-	0.410	ug/kg
	CQ40-001	749495.898	2085939.832	0.00	0.50	Americium-241	0.129	76	0.023	-	pCi/g
	CQ40-001	749495.898	2085939.832	0.00	0.50	Aroclor-1254	190.000	12,400	-	4.600	ug/kg
	CQ40-001	749495.898	2085939.832	0.00	0.50	Aroclor-1260	74.000	12,400	-	5.100	ug/kg
	CQ40-001	749495.898	2085939.832	0.00	0.50	Dieldrin	1.800	1,720	-	0.570	ug/kg
	CQ40-001	749495.898	2085939.832	0.00	0.50	Endrin	2.400	221,000	-	0.400	ug/kg
	CQ40-001	*749495.898*	*2085939.832*	*0.00*	*0.50*	*Plutonium-239/240*	*0.468*	*50*	*0.066*	-	*pCi/g*
	CQ40-001	749495.898	2085939.832	0.00	0.50	Zinc	266.000	307,000	73.760	-	mg/kg
	CQ40-001	749495.898	2085939.832	0.50	2.50	4,4'-DDE	2.500	101,000	-	0.350	ug/kg
	CQ40-001	749495.898	2085939.832	0.50	2.50	Acetone	5.900	102,000,000	-	4.900	ug/kg
	CQ40-001	749495.898	2085939.832	0.50	2.50	Aroclor-1254	310.000	12,400	-	4.800	ug/kg
	CQ40-001	749495.898	2085939.832	0.50	2.50	Aroclor-1260	120.000	12,400	-	5.300	ug/kg
	CQ40-001	749495.898	2085939.832	0.50	2.50	Dieldrin	3.200	1,720	-	0.600	ug/kg
	CQ40-001	749495.898	2085939.832	0.50	2.50	Endosulfan II	0.910	4,420,000	-	0.730	ug/kg
	CQ40-001	749495.898	2085939.832	0.50	2.50	Endrin	4.500	221,000	-	0.420	ug/kg
	CQ40-001	*749495.898*	*2085939.832*	*0.50*	*2.50*	*Uranium-234*	*3.000*	*300*	*2.640*	-	*pCi/g*
	CQ40-001	749495.898	2085939.832	0.50	2.50	Uranium-235	0.200	8	0.120	-	pCi/g
	CQ40-001	749495.898	2085939.832	0.50	2.50	Uranium-238	3.000	351	1.490	-	pCi/g
	CQ40-001	749495.898	2085939.832	2.50	4.50	Acetone	7.900	102,000,000	-	5.000	ug/kg
	CQ40-001	*749495.898*	*2085939.832*	*2.50*	*4.50*	*Uranium-234*	*3.000*	*300*	*2.640*	-	*pCi/g*
	CQ40-001	749495.898	2085939.832	2.50	4.50	Uranium-235	0.200	8	0.120	-	pCi/g
	CQ40-001	749495.898	2085939.832	2.50	4.50	Uranium-238	3.000	351	1.490	-	pCi/g
	CQ40-001	749495.898	2085939.832	4.50	6.50	Acetone	6.900	102,000,000	-	4.800	ug/kg
	CQ40-001	*749495.898*	*2085939.832*	*4.50*	*6.50*	*Uranium-234*	*5.000*	*300*	*2.640*	-	*pCi/g*
	CQ40-001	749495.898	2085939.832	4.50	6.50	Uranium-235	0.218	8	0.120	-	pCi/g
	CQ40-001	749495.898	2085939.832	4.50	6.50	Uranium-238	5.000	351	1.490	-	pCi/g
	CQ40-001	749495.898	2085939.832	6.50	8.50	Acetone	5.200	102,000,000	-	5.200	ug/kg
	CQ40-001	*749495.898*	*2085939.832*	*6.50*	*8.50*	*Uranium-234*	*5.000*	*300*	*2.640*	-	*pCi/g*
	CQ40-001	749495.898	2085939.832	6.50	8.50	Uranium-235	0.200	8	0.120	-	pCi/g
	CQ40-001	749495.898	2085939.832	6.50	8.50	Uranium-238	5.000	351	1.490	-	pCi/g
	CQ40-001	749495.898	2085939.832	8.50	10.50	Acetone	5.400	102,000,000	-	5.000	ug/kg
	CQ40-001	*749495.898*	*2085939.832*	*8.50*	*10.50*	*Uranium-234*	*3.000*	*300*	*2.640*	-	*pCi/g*
	CQ40-001	749495.898	2085939.832	8.50	10.50	Uranium-238	3.000	351	1.490	-	pCi/g
	CQ40-002	749501.550	2085972.931	0.00	0.50	4,4'-DDE	1.500	101,000	-	0.340	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ40-002	749501.550	2085972.931	0.00	0.50	Aroclor-1254	160.000	12,400	-	4.500	ug/kg
	CQ40-002	749501.550	2085972.931	0.00	0.50	Aroclor-1260	65.000	12,400	-	5.000	ug/kg
	CQ40-002	749501.550	2085972.931	0.00	0.50	Dieldrin	1.800	1,720	-	0.570	ug/kg
	CQ40-002	749501.550	2085972.931	0.00	0.50	Endosulfan II	0.700	4,420,000	-	0.690	ug/kg
	CQ40-002	749501.550	2085972.931	0.00	0.50	Endrin	2.800	221,000	-	0.400	ug/kg
	CQ40-002	749501.550	2085972.931	0.00	0.50	Strontium	51.000	613,000	48.940	-	mg/kg
	CQ40-002	749501.550	2085972.931	0.00	0.50	Uranium-235	0.188	8	0.094	-	pCi/g
	CQ40-002	749501.550	2085972.931	0.00	0.50	Zinc	136.000	307,000	73.760	-	mg/kg
	CQ40-002	749501.550	2085972.931	0.50	2.50	Acetone	7.000	102,000,000	-	5.300	ug/kg
	CQ40-002	749501.550	2085972.931	0.50	2.50	Uranium-238	1.690	351	1.490	-	pCi/g
	CQ40-002	749501.550	2085972.931	2.50	4.50	Aroclor-1254	7.000	12,400	-	5.100	ug/kg
	CQ40-002	749501.550	2085972.931	4.50	6.50	Acetone	11.000	102,000,000	-	5.300	ug/kg
	CQ40-002	749501.550	2085972.931	4.50	6.50	Uranium-235	0.151	8	0.120	-	pCi/g
	CQ40-002	749501.550	2085972.931	6.50	8.50	Acetone	7.300	102,000,000	-	5.000	ug/kg
	CQ40-002	749501.550	2085972.931	6.50	8.50	Uranium-235	0.131	8	0.120	-	pCi/g
	CQ40-003	749534.750	2085987.330	0.50	2.50	Aroclor-1254	980.000	12,400	-	23.000	ug/kg
	CQ40-003	749534.750	2085987.330	0.50	2.50	Aroclor-1260	210.000	12,400	-	26.000	ug/kg
	CQ40-003	749534.750	2085987.330	0.50	2.50	Xylene	33.000	2,040,000	-	11.000	ug/kg
	CQ40-003	749534.750	2085987.330	2.50	4.50	Aroclor-1254	3,900.000	12,400	-	470.000	ug/kg
	CQ40-003	749534.750	2085987.330	2.50	4.50	Aroclor-1260	2,500.000	12,400	-	520.000	ug/kg
	CQ40-003	749534.750	2085987.330	4.50	6.50	Aroclor-1254	6,900.000	12,400	-	240.000	ug/kg
	CQ40-003	749534.750	2085987.330	4.50	6.50	Tetrachloroethene	14.000	615,000	-	5.600	ug/kg
	CQ41-000	749562.831	2085967.115	0.00	0.50	Aroclor-1254	8.200	12,400	-	6.900	ug/kg
	CQ41-000	749562.831	2085967.115	0.00	0.50	Nickel	16.200	20,400	14.910	-	mg/kg
	CQ41-000	749562.831	2085967.115	0.00	0.50	Strontium	50.600	613,000	48.940	-	mg/kg
	CQ41-000	*749562.831*	*2085967.115*	*0.00*	*0.50*	*Uranium-234*	*5.790*	*300*	*2.253*	-	*pCi/g*
	CQ41-000	749562.831	2085967.115	0.00	0.50	Uranium-238	5.790	351	2.000	-	pCi/g
	CQ41-000	749562.831	2085967.115	0.50	2.50	1,2-Dichloroethane	2.600	106,000	-	1.100	ug/kg
	CQ41-000	749562.831	2085967.115	0.50	2.50	Aroclor-1254	6.700	12,400	-	6.400	ug/kg
	CQ41-000	749562.831	2085967.115	0.50	2.50	Methylene chloride	1.700	2,530,000	-	0.850	ug/kg
	CQ41-000	749562.831	2085967.115	0.50	2.50	Uranium-235	0.250	8	0.120	-	pCi/g
	CQ41-000	749562.831	2085967.115	0.50	2.50	Uranium-238	2.510	351	1.490	-	pCi/g
	CQ41-000	749562.831	2085967.115	2.50	4.50	1,2-Dichloroethane	4.300	106,000	-	1.100	ug/kg
	CQ41-000	749562.831	2085967.115	2.50	4.50	Methylene chloride	2.100	2,530,000	-	0.860	ug/kg
	CQ41-000	*749562.831*	*2085967.115*	*2.50*	*4.50*	*Uranium-234*	*2.840*	*300*	*2.640*	-	*pCi/g*
	CQ41-000	749562.831	2085967.115	2.50	4.50	Uranium-238	2.840	351	1.490	-	pCi/g

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ41-000	749562.831	2085967.115	4.50	6.50	1,1,1-Trichloroethane	100.000	79,700,000	-	22.000	ug/kg
	CQ41-000	749562.831	2085967.115	4.50	6.50	Acetone	730.000	102,000,000	-	280.000	ug/kg
	CQ41-000	749562.831	2085967.115	4.50	6.50	Chloroform	270.000	19,200	-	22.000	ug/kg
	CQ41-000	749562.831	2085967.115	4.50	6.50	Tetrachloroethene	240.000	615,000	-	47.000	ug/kg
	CQ41-000	749562.831	2085967.115	4.50	6.50	Trichloroethene	260.000	19,600	-	29.000	ug/kg
	CQ41-000	*749562.831*	*2085967.115*	*4.50*	*6.50*	*Uranium-234*	*5.160*	*300*	*2.640*	-	*pCi/g*
	CQ41-000	749562.831	2085967.115	4.50	6.50	Uranium-238	5.160	351	1.490	-	pCi/g
	CQ41-000	749562.831	2085967.115	6.50	8.00	1,2,4-Trichlorobenzene	2,000.000	9,230,000	-	21.000	ug/kg
	CQ41-000	749562.831	2085967.115	6.50	8.00	Aroclor-1254	9,000.000	12,400	-	630.000	ug/kg
	CQ41-000	749562.831	2085967.115	6.50	8.00	Aroclor-1260	9,600.000	12,400	-	500.000	ug/kg
	CQ41-000	749562.831	2085967.115	6.50	8.00	bis(2-Ethylhexyl)phthalate	82.000	1,970,000	-	74.000	ug/kg
	CQ41-000	749562.831	2085967.115	6.50	8.00	Methylene chloride	15.000	2,530,000	-	4.200	ug/kg
	CQ41-000	749562.831	2085967.115	6.50	8.00	Tetrachloroethene	7.900	615,000	-	5.200	ug/kg
	CQ41-000	749562.831	2085967.115	6.50	8.00	Uranium-235	0.165	8	0.120	-	pCi/g
	CQ41-000	749562.831	2085967.115	6.50	8.00	Uranium-238	1.520	351	1.490	-	pCi/g
	CQ41-001	749591.300	2085944.990	0.50	2.50	Aroclor-1254	11,000.000	12,400	-	270.000	ug/kg
	CQ41-001	749591.300	2085944.990	0.50	2.50	Aroclor-1260	3,500.000	12,400	-	300.000	ug/kg
	CQ41-001	749591.300	2085944.990	0.50	2.50	Tetrachloroethene	190,000.000	615,000	-	15,000.000	ug/kg
	CQ41-001	749591.300	2085944.990	2.50	4.50	Aroclor-1254	9,000.000	12,400	-	260.000	ug/kg
	CQ41-001	749591.300	2085944.990	2.50	4.50	Aroclor-1260	3,500.000	12,400	-	290.000	ug/kg
	CQ41-001	**749591.300**	**2085944.990**	**2.50**	**4.50**	**Tetrachloroethene**	**850,000.000**	**615,000**	**-**	**29,000.000**	**ug/kg**
	CQ41-001	749591.300	2085944.990	4.50	5.80	Aroclor-1254	9,300.000	12,400	-	230.000	ug/kg
	CQ41-001	749591.300	2085944.990	4.50	5.80	Aroclor-1260	3,500.000	12,400	-	250.000	ug/kg
	CQ41-001	749591.300	2085944.990	4.50	5.80	Tetrachloroethene	28,000.000	615,000	-	11,000.000	ug/kg
	CQ41-002	749593.772	2085986.649	0.50	2.50	Aroclor-1254	1,200.000	12,400	-	22.000	ug/kg
	CQ41-002	749593.772	2085986.649	0.50	2.50	Aroclor-1260	450.000	12,400	-	25.000	ug/kg
	CQ41-002	749593.772	2085986.649	2.50	4.50	Aroclor-1254	8.000	12,400	-	5.200	ug/kg
	CQ41-002	749593.772	2085986.649	4.50	5.60	Aroclor-1254	15.000	12,400	-	5.000	ug/kg
	CQ41-003	749568.149	2086013.473	0.50	2.50	Aroclor-1254	2,400.000	12,400	-	44.000	ug/kg
	CQ41-003	749568.149	2086013.473	0.50	2.50	Aroclor-1260	250.000	12,400	-	50.000	ug/kg
	CQ41-003	749568.149	2086013.473	2.50	4.50	Aroclor-1254	840.000	12,400	-	24.000	ug/kg
	CQ41-003	749568.149	2086013.473	2.50	4.50	Aroclor-1260	91.000	12,400	-	27.000	ug/kg
	CQ41-003	749568.149	2086013.473	4.50	6.50	Aroclor-1254	360.000	12,400	-	25.000	ug/kg
	CQ41-003	749568.149	2086013.473	6.50	8.50	Aroclor-1254	140.000	12,400	-	5.500	ug/kg
	CQ41-003	749568.149	2086013.473	6.50	8.50	Tetrachloroethene	16.000	615,000	-	6.800	ug/kg
	CQ41-003	749568.149	2086013.473	8.50	10.50	Tetrachloroethene	2,000.000	615,000	-	16.000	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ41-004	749626.460	2085992.775	0.50	2.50	Aroclor-1254	2,900.000	12,400	-	47.000	ug/kg
	CQ41-004	749626.460	2085992.775	0.50	2.50	Aroclor-1260	270.000	12,400	-	52.000	ug/kg
	CQ41-004	749626.460	2085992.775	0.50	2.50	Tetrachloroethene	66.000	615,000	-	27.000	ug/kg
	CQ41-004	749626.460	2085992.775	2.50	4.50	Aroclor-1254	3,600.000	12,400	-	49.000	ug/kg
	CQ41-004	749626.460	2085992.775	2.50	4.50	Aroclor-1260	1,500.000	12,400	-	54.000	ug/kg
	CQ41-004	749626.460	2085992.775	2.50	4.50	Tetrachloroethene	440.000	615,000	-	290.000	ug/kg
	CQ41-004	749626.460	2085992.775	4.50	6.50	Aroclor-1254	780.000	12,400	-	25.000	ug/kg
	CQ41-004	749626.460	2085992.775	4.50	6.50	Aroclor-1260	85.000	12,400	-	28.000	ug/kg
	CQ41-004	749626.460	2085992.775	6.50	8.50	Aroclor-1254	97.000	12,400	-	5.200	ug/kg
	CQ41-004	749626.460	2085992.775	6.50	8.50	Aroclor-1260	43.000	12,400	-	5.800	ug/kg
	CQ41-005	749623.017	2085961.189	0.50	2.50	1,1,1-Trichloroethane	30.000	79,700,000	-	29.000	ug/kg
	CQ41-005	749623.017	2085961.189	0.50	2.50	Aroclor-1254	1,800.000	12,400	-	26.000	ug/kg
	CQ41-005	749623.017	2085961.189	0.50	2.50	Aroclor-1260	830.000	12,400	-	29.000	ug/kg
	CQ41-005	749623.017	2085961.189	0.50	2.50	Tetrachloroethene	1,400.000	615,000	-	29.000	ug/kg
	CQ41-005	749623.017	2085961.189	0.50	2.50	Trichloroethene	700.000	19,600	-	29.000	ug/kg
	CQ41-005	749623.017	2085961.189	2.50	4.50	1,1,1-Trichloroethane	690,000.000	79,700,000	-	50,000.000	ug/kg
	CQ41-005	**749623.017**	**2085961.189**	**2.50**	**4.50**	**Aroclor-1254**	**21,000.000**	**12,400**	**-**	**530.000**	**ug/kg**
	CQ41-005	749623.017	2085961.189	2.50	4.50	Aroclor-1260	7,300.000	12,400	-	590.000	ug/kg
	CQ41-005	749623.017	2085961.189	2.50	4.50	Carbon Tetrachloride	56,000.000	81,500	-	50,000.000	ug/kg
	CQ41-005	**749623.017**	**2085961.189**	**2.50**	**4.50**	**Tetrachloroethene**	**27,000,000.000**	**615,000**	**-**	**50,000.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**2.50**	**4.50**	**Trichloroethene**	**3,700,000.000**	**19,600**	**-**	**50,000.000**	**ug/kg**
	CQ41-005	749623.017	2085961.189	4.50	6.50	1,1,1-Trichloroethane	210,000.000	79,700,000	-	100,000.000	ug/kg
	CQ41-005	**749623.017**	**2085961.189**	**4.50**	**6.50**	**Aroclor-1254**	**170,000.000**	**12,400**	**-**	**2,500.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**4.50**	**6.50**	**Aroclor-1260**	**62,000.000**	**12,400**	**-**	**2,800.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**4.50**	**6.50**	**Tetrachloroethene**	**11,000,000.000**	**615,000**	**-**	**100,000.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**4.50**	**6.50**	**Trichloroethene**	**1,400,000.000**	**19,600**	**-**	**100,000.000**	**ug/kg**
	CQ41-005	749623.017	2085961.189	6.50	8.50	Aroclor-1016	17,000.000	46,400	-	3,500.000	ug/kg
	CQ41-005	**749623.017**	**2085961.189**	**6.50**	**8.50**	**Aroclor-1254**	**160,000.000**	**12,400**	**-**	**4,500.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**6.50**	**8.50**	**Aroclor-1260**	**60,000.000**	**12,400**	**-**	**5,000.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**6.50**	**8.50**	**Tetrachloroethene**	**1,300,000.000**	**615,000**	**-**	**100,000.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**6.50**	**8.50**	**Trichloroethene**	**120,000.000**	**19,600**	**-**	**100,000.000**	**ug/kg**
	CQ41-005	749623.017	2085961.189	8.50	10.50	Aroclor-1016	1,500.000	46,400	-	390.000	ug/kg
	CQ41-005	**749623.017**	**2085961.189**	**8.50**	**10.50**	**Aroclor-1254**	**17,000.000**	**12,400**	**-**	**500.000**	**ug/kg**
	CQ41-005	749623.017	2085961.189	8.50	10.50	Aroclor-1260	6,000.000	12,400	-	560.000	ug/kg
	CQ41-005	**749623.017**	**2085961.189**	**8.50**	**10.50**	**Tetrachloroethene**	**1,900,000.000**	**615,000**	**-**	**100,000.000**	**ug/kg**
	CQ41-005	**749623.017**	**2085961.189**	**8.50**	**10.50**	**Trichloroethene**	**160,000.000**	**19,600**	**-**	**100,000.000**	**ug/kg**

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ41-006	749650.619	2085938.905	0.50	2.50	Aroclor-1254	330.000	12,400	-	5.100	ug/kg
	CQ41-006	749650.619	2085938.905	0.50	2.50	Aroclor-1260	180.000	12,400	-	5.700	ug/kg
	CQ41-006	749650.619	2085938.905	0.50	2.50	Tetrachloroethene	12.000	615,000	-	5.900	ug/kg
	CQ41-006	749650.619	2085938.905	2.50	4.50	Aroclor-1254	7.900	12,400	-	4.500	ug/kg
	CQ41-006	749650.619	2085938.905	4.50	6.50	Aroclor-1254	6.200	12,400	-	4.800	ug/kg
	CQ41-006	749650.619	2085938.905	4.50	6.50	Tetrachloroethene	6.700	615,000	-	5.400	ug/kg
	CQ41-006	749650.619	2085938.905	4.50	6.50	Trichloroethene	6.000	19,600	-	5.400	ug/kg
	CQ41-006	749650.619	2085938.905	6.50	8.50	Tetrachloroethene	23.000	615,000	-	5.800	ug/kg
	CQ41-006	749650.619	2085938.905	6.50	8.50	Trichloroethene	14.000	19,600	-	5.800	ug/kg
	CQ41-006	749650.619	2085938.905	8.50	9.20	Tetrachloroethene	3.000	615,000	-	2.900	ug/kg
	CQ41-006	749650.619	2085938.905	8.50	9.20	Trichloroethene	3.100	19,600	-	2.900	ug/kg
	CQ41-007	749656.983	2085974.516	0.50	2.50	Aroclor-1254	91.000	12,400	-	4.600	ug/kg
	CQ41-007	749656.983	2085974.516	0.50	2.50	Aroclor-1260	38.000	12,400	-	5.200	ug/kg
	CQ41-007	749656.983	2085974.516	2.50	4.50	Aroclor-1254	9.800	12,400	-	4.900	ug/kg
	CQ41-007	749656.983	2085974.516	8.50	10.50	1,1,1-Trichloroethane	30.000	79,700,000	-	30.000	ug/kg
	CQ41-007	749656.983	2085974.516	8.50	10.50	1,1-Dichloroethene	62.000	17,000	-	30.000	ug/kg
	CQ41-007	749656.983	2085974.516	8.50	10.50	Chloroform	40.000	19,200	-	30.000	ug/kg
	CQ41-007	749656.983	2085974.516	8.50	10.50	Tetrachloroethene	640.000	615,000	-	30.000	ug/kg
	CQ41-007	749656.983	2085974.516	8.50	10.50	Trichloroethene	1,100.000	19,600	-	30.000	ug/kg
	CQ41-008	749669.656	2086039.391	0.50	2.50	Methylene chloride	1.900	2,530,000	-	0.810	ug/kg
	CQ41-008	749669.656	2086039.391	2.50	4.50	Methylene chloride	2.200	2,530,000	-	0.820	ug/kg
	CQ41-008	749669.656	2086039.391	4.50	6.50	Methylene chloride	3.000	2,530,000	-	1.000	ug/kg
	CQ41-008	749669.656	2086039.391	6.50	8.00	Methylene chloride	2.700	2,530,000	-	0.950	ug/kg
	CQ41-008	749669.656	2086039.391	6.50	8.00	Tetrachloroethene	38.000	615,000	-	1.200	ug/kg
	CQ41-008	749669.656	2086039.391	6.50	8.00	Trichloroethene	10.000	19,600	-	1.000	ug/kg
	CQ41-008	749669.656	2086039.391	8.00	8.50	Methylene chloride	2.600	2,530,000	-	0.930	ug/kg
	CQ41-008	749669.656	2086039.391	8.00	8.50	Tetrachloroethene	11.000	615,000	-	1.200	ug/kg
	CQ41-008	749669.656	2086039.391	8.00	8.50	Trichloroethene	3.400	19,600	-	1.000	ug/kg
	CQ41-009	749682.871	2085953.283	0.00	0.50	Ethylbenzene	16.000	4,250,000	-	5.500	ug/kg
	CQ41-009	749682.871	2085953.283	0.00	0.50	Xylene	120.000	2,040,000	-	11.000	ug/kg
	CQ41-009	749682.871	2085953.283	8.00	8.50	Tetrachloroethene	38.000	615,000	-	28.000	ug/kg
	CQ41-010	749690.933	2085987.820	0.50	2.50	Acetone	5.200	102,000,000	-	5.100	ug/kg
	CQ41-010	749690.933	2085987.820	0.50	2.50	Aroclor-1254	32.000	12,400	-	4.800	ug/kg
	CQ41-010	749690.933	2085987.820	0.50	2.50	Methylene chloride	3.100	2,530,000	-	0.890	ug/kg
	CQ41-010	749690.933	2085987.820	2.50	4.50	Methylene chloride	2.400	2,530,000	-	0.860	ug/kg
	CQ41-010	749690.933	2085987.820	4.50	6.50	Methylene chloride	2.900	2,530,000	-	0.940	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ41-010	749690.933	2085987.820	6.50	8.50	Methylene chloride	2.300	2,530,000	-	0.860	ug/kg
	CQ41-010	749690.933	2085987.820	8.50	9.50	1,2,4-Trichlorobenzene	17.000	9,230,000	-	0.820	ug/kg
	CQ41-010	749690.933	2085987.820	8.50	9.50	Methylene chloride	2.800	2,530,000	-	0.930	ug/kg
	CQ41-010	749690.933	2085987.820	8.50	9.50	Tetrachloroethene	550.000	615,000	-	1.100	ug/kg
	CQ41-010	749690.933	2085987.820	8.50	9.50	Trichloroethene	2.100	19,600	-	1.000	ug/kg
	CQ41-011	749715.766	2085967.146	0.00	0.50	Xylene	12.000	2,040,000	-	11.000	ug/kg
	CQ41-011	749715.766	2085967.146	6.50	8.50	Tetrachloroethene	110.000	615,000	-	6.200	ug/kg
	CQ41-011	749715.766	2085967.146	6.50	8.50	Trichloroethene	94.000	19,600	-	6.200	ug/kg
	CQ41-012	749723.545	2086001.420	4.50	6.50	Tetrachloroethene	7.400	615,000	-	5.500	ug/kg
	CQ41-012	749723.545	2086001.420	6.50	8.50	Tetrachloroethene	350.000	615,000	-	130.000	ug/kg
	CQ41-012	749723.545	2086001.420	8.50	9.00	Tetrachloroethene	3,000.000	615,000	-	150.000	ug/kg
	CQ41-012	749723.545	2086001.420	8.50	9.00	Trichloroethene	1,900.000	19,600	-	150.000	ug/kg
	CQ41-025	749622.993	2085958.013	0.00	0.50	1,2,4-Trichlorobenzene	0.860	9,230,000	-	0.810	ug/kg
	CQ41-025	749622.993	2085958.013	0.00	0.50	Acetone	14.000	102,000,000	-	5.200	ug/kg
	CQ41-025	749622.993	2085958.013	0.00	0.50	Methylene chloride	1.900	2,530,000	-	0.910	ug/kg
	CQ41-025	749622.993	2085958.013	0.00	0.50	Naphthalene	1.700	3,090,000	-	0.980	ug/kg
	CQ41-025	749622.993	2085958.013	0.00	0.50	Tetrachloroethene	69.000	615,000	-	1.100	ug/kg
	CQ41-025	749622.993	2085958.013	0.00	0.50	Trichloroethene	26.000	19,600	-	0.990	ug/kg
	CQ41-025	749622.993	2085958.013	0.50	2.50	Tetrachloroethene	6,600.000	615,000	-	37.000	ug/kg
	CQ41-025	749622.993	2085958.013	0.50	2.50	Trichloroethene	190.000	19,600	-	37.000	ug/kg
	CQ41-025	749622.993	2085958.013	2.50	4.50	1,1,1-Trichloroethane	6,100.000	79,700,000	-	350.000	ug/kg
	CQ41-025	**749622.993**	**2085958.013**	**2.50**	**4.50**	**Tetrachloroethene**	**720,000.000**	**615,000**	**-**	**3,300.000**	**ug/kg**
	CQ41-025	**749622.993**	**2085958.013**	**2.50**	**4.50**	**Trichloroethene**	**72,000.000**	**19,600**	**-**	**660.000**	**ug/kg**
	CQ41-025	749622.993	2085958.013	4.50	6.50	Ethylbenzene	48.000	4,250,000	-	25.000	ug/kg
	CQ41-025	749622.993	2085958.013	4.50	6.50	Tetrachloroethene	310,000.000	615,000	-	6,100.000	ug/kg
	CQ41-025	749622.993	2085958.013	4.50	6.50	Trichloroethene	1,700.000	19,600	-	61.000	ug/kg
	CQ41-025	749622.993	2085958.013	6.50	8.00	Tetrachloroethene	490,000.000	615,000	-	3,100.000	ug/kg
	CQ41-025	749622.993	2085958.013	6.50	8.00	Trichloroethene	4,400.000	19,600	-	310.000	ug/kg
	CQ41-025	749622.993	2085958.013	8.50	10.00	1,1,1-Trichloroethane	22,000.000	79,700,000	-	340.000	ug/kg
	CQ41-025	749622.993	2085958.013	8.50	10.00	Carbon Tetrachloride	3,000.000	81,500	-	730.000	ug/kg
	CQ41-025	749622.993	2085958.013	8.50	10.00	Methylene chloride	1,600.000	2,530,000	-	1,600.000	ug/kg
	CQ41-025	**749622.993**	**2085958.013**	**8.50**	**10.00**	**Tetrachloroethene**	**3,400,000.000**	**615,000**	**-**	**16,000.000**	**ug/kg**
	CQ41-025	**749622.993**	**2085958.013**	**8.50**	**10.00**	**Trichloroethene**	**210,000.000**	**19,600**	**-**	**640.000**	**ug/kg**
	CQ41-026	749591.029	2085941.897	0.00	0.50	Acetone	5.700	102,000,000	-	5.100	ug/kg
	CQ41-026	749591.029	2085941.897	0.00	0.50	Naphthalene	2.800	3,090,000	-	0.950	ug/kg
	CQ41-026	749591.029	2085941.897	0.00	0.50	Tetrachloroethene	99.000	615,000	-	1.100	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CQ41-026	749591.029	2085941.897	0.00	0.50	Trichloroethene	9.200	19,600	-	0.970	ug/kg
	CQ41-026	749591.029	2085941.897	0.50	2.50	1,1,1-Trichloroethane	240.000	79,700,000	-	39.000	ug/kg
	CQ41-026	749591.029	2085941.897	0.50	2.50	Ethylbenzene	84.000	4,250,000	-	29.000	ug/kg
	CQ41-026	749591.029	2085941.897	0.50	2.50	Tetrachloroethene	340,000.000	615,000	-	1,800.000	ug/kg
	CQ41-026	749591.029	2085941.897	0.50	2.50	Trichloroethene	11,000.000	19,600	-	72.000	ug/kg
	CQ41-026	749591.029	2085941.897	2.50	4.50	1,1,1-Trichloroethane	71.000	79,700,000	-	20.000	ug/kg
	CQ41-026	749591.029	2085941.897	2.50	4.50	Acetone	660.000	102,000,000	-	470.000	ug/kg
	CQ41-026	749591.029	2085941.897	2.50	4.50	Tetrachloroethene	11,000.000	615,000	-	37.000	ug/kg
	CQ41-026	749591.029	2085941.897	2.50	4.50	Trichloroethene	2,200.000	19,600	-	37.000	ug/kg
	CQ41-026	749591.029	2085941.897	4.50	6.50	Tetrachloroethene	3,100.000	615,000	-	35.000	ug/kg
	CQ41-026	749591.029	2085941.897	6.50	8.00	Acetone	4.900	102,000,000	-	4.900	ug/kg
	CQ41-026	749591.029	2085941.897	6.50	8.00	Naphthalene	1.300	3,090,000	-	0.910	ug/kg
	CQ41-026	749591.029	2085941.897	6.50	8.00	Tetrachloroethene	6.500	615,000	-	1.100	ug/kg
	CQ41-026	749591.029	2085941.897	8.00	9.00	1,1,1-Trichloroethane	3.600	79,700,000	-	1.100	ug/kg
	CQ41-026	749591.029	2085941.897	8.00	9.00	Tetrachloroethene	29.000	615,000	-	1.100	ug/kg
	CQ41-026	749591.029	2085941.897	8.00	9.00	Trichloroethene	4.700	19,600	-	1.000	ug/kg
154	CN40-000	749496.983	2085529.691	0.00	0.50	4,4'-DDE	0.600	101,000	-	0.370	ug/kg
	CN40-000	749496.983	2085529.691	0.00	0.50	Aluminum	18,100.000	228,000	16,902.000	-	mg/kg
	CN40-000	749496.983	2085529.691	0.00	0.50	Aroclor-1260	63.000	12,400	-	5.500	ug/kg
	CN40-000	749496.983	2085529.691	0.00	0.50	Barium	154.000	26,400	141.260	-	mg/kg
	CN40-000	749496.983	2085529.691	0.00	0.50	Nickel	15.800	20,400	14.910	-	mg/kg
	CN40-000	749496.983	2085529.691	0.00	0.50	Strontium	62.900	613,000	48.940	-	mg/kg
	CN40-000	749496.983	2085529.691	0.00	0.50	Uranium-235	0.201	8	0.094	-	pCi/g
	CN40-000	749496.983	2085529.691	0.00	0.50	Vanadium	49.000	7,150	45.590	-	mg/kg
	CN40-000	749496.983	2085529.691	0.50	2.50	Methylene chloride	1.600	2,530,000	-	0.910	ug/kg
	CN40-000	749496.983	2085529.691	0.50	2.50	Uranium-235	0.175	8	0.120	-	pCi/g
	CN40-000	749496.983	2085529.691	2.50	4.50	Methylene chloride	1.700	2,530,000	-	0.940	ug/kg
	CN40-000	749496.983	2085529.691	2.50	4.50	Uranium-235	0.153	8	0.120	-	pCi/g
	CN40-000	749496.983	2085529.691	2.50	4.50	Uranium-238	2.070	351	1.490	-	pCi/g
	CN40-000	749496.983	2085529.691	4.50	6.50	Methylene chloride	1.700	2,530,000	-	0.930	ug/kg
	CN40-000	*749496.983*	*2085529.691*	*4.50*	*6.50*	*Uranium-234*	*3.130*	*300*	*2.640*	-	*pCi/g*
	CN40-000	749496.983	2085529.691	4.50	6.50	Uranium-235	0.281	8	0.120	-	pCi/g
	CN40-000	749496.983	2085529.691	4.50	6.50	Uranium-238	3.130	351	1.490	-	pCi/g
	CN40-000	749496.983	2085529.691	6.50	8.50	Acetone	21.000	102,000,000	-	5.200	ug/kg
	CN40-000	749496.983	2085529.691	6.50	8.50	Methylene chloride	2.200	2,530,000	-	0.910	ug/kg
	CN40-000	749496.983	2085529.691	6.50	8.50	Uranium-235	0.242	8	0.120	-	pCi/g

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CN40-000	749496.983	2085529.691	6.50	8.50	Uranium-238	2.170	351	1.490	-	pCi/g
	CN40-000	749496.983	2085529.691	8.50	10.50	Acetone	12.000	102,000,000	-	5.300	ug/kg
	CN40-000	749496.983	2085529.691	8.50	10.50	Methylene chloride	1.400	2,530,000	-	0.920	ug/kg
	CN40-000	749496.983	2085529.691	8.50	10.50	Uranium-238	2.030	351	1.490	-	pCi/g
	CN40-001	749521.809	2085531.712	0.00	0.50	Aluminum	21,700.000	228,000	16,902.000	-	mg/kg
	CN40-001	749521.809	2085531.712	0.00	0.50	Aroclor-1260	10.000	12,400	-	5.300	ug/kg
	CN40-001	749521.809	2085531.712	0.00	0.50	Chromium	20.700	268	16.990	-	mg/kg
	CN40-001	749521.809	2085531.712	0.00	0.50	Lithium	13.200	20,400	11.550	-	mg/kg
	CN40-001	749521.809	2085531.712	0.00	0.50	Nickel	15.500	20,400	14.910	-	mg/kg
	CN40-001	749521.809	2085531.712	0.00	0.50	Strontium	60.400	613,000	48.940	-	mg/kg
	CN40-001	749521.809	2085531.712	0.00	0.50	Uranium-235	0.266	8	0.094	-	pCi/g
	CN40-001	749521.809	2085531.712	0.00	0.50	Vanadium	46.900	7,150	45.590	-	mg/kg
	CN40-001	749521.809	2085531.712	0.50	2.50	Acetone	5.700	102,000,000	-	5.000	ug/kg
	CN40-001	749521.809	2085531.712	0.50	2.50	Methylene chloride	1.200	2,530,000	-	0.870	ug/kg
	CN40-001	749521.809	2085531.712	2.50	4.50	Methylene chloride	1.400	2,530,000	-	0.990	ug/kg
	CN40-001	*749521.809*	*2085531.712*	*2.50*	*4.50*	*Uranium-234*	*3.050*	*300*	*2.640*	-	*pCi/g*
	CN40-001	749521.809	2085531.712	2.50	4.50	Uranium-238	3.050	351	1.490	-	pCi/g
	CN40-001	**749521.809**	**2085531.712**	**4.50**	**6.50**	**Arsenic**	**55.100**	**22**	**13.140**	-	**mg/kg**
	CN40-001	749521.809	2085531.712	4.50	6.50	Methylene chloride	1.300	2,530,000	-	0.910	ug/kg
	CN40-001	749521.809	2085531.712	4.50	6.50	Tetrachloroethene	1.400	615,000	-	1.100	ug/kg
	CN40-001	749521.809	2085531.712	4.50	6.50	Uranium-235	0.186	8	0.120	-	pCi/g
	CN40-001	749521.809	2085531.712	4.50	6.50	Uranium-238	2.070	351	1.490	-	pCi/g
	CN40-001	749521.809	2085531.712	6.50	8.50	Arsenic	15.300	22	13.140	-	mg/kg
	CN40-001	749521.809	2085531.712	6.50	8.50	Methylene chloride	1.100	2,530,000	-	0.890	ug/kg
	CN40-001	749521.809	2085531.712	8.50	10.50	Methylene chloride	1.000	2,530,000	-	0.870	ug/kg
	CN40-001	749521.809	2085531.712	8.50	10.50	Uranium-235	0.132	8	0.120	-	pCi/g
	CO40-000	749502.564	2085561.463	0.00	0.50	Methoxychlor	0.750	5,110,000	-	0.190	ug/kg
	CO40-000	749502.564	2085561.463	0.00	0.50	Strontium	64.300	613,000	48.940	-	mg/kg
	CO40-000	*749502.564*	*2085561.463*	*0.00*	*0.50*	*Uranium-234*	*2.780*	*300*	*2.253*	-	*pCi/g*
	CO40-000	749502.564	2085561.463	0.00	0.50	Uranium-238	2.780	351	2.000	-	pCi/g
	CO40-000	749502.564	2085561.463	0.00	0.50	Vanadium	53.200	7,150	45.590	-	mg/kg
	CO40-000	749502.564	2085561.463	0.50	2.50	Acetone	6.500	102,000,000	-	5.400	ug/kg
	CO40-000	749502.564	2085561.463	0.50	2.50	Methylene chloride	1.100	2,530,000	-	0.930	ug/kg
	CO40-000	749502.564	2085561.463	0.50	2.50	Uranium-238	2.070	351	1.490	-	pCi/g
	CO40-000	749502.564	2085561.463	2.50	4.50	Acetone	11.000	102,000,000	-	5.600	ug/kg
	CO40-000	749502.564	2085561.463	2.50	4.50	Methylene chloride	1.100	2,530,000	-	0.970	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CO40-000	749502.564	2085561.463	2.50	4.50	Uranium-235	0.130	8	0.120	-	pCi/g
	CO40-000	749502.564	2085561.463	4.50	6.50	Acetone	13.000	102,000,000	-	5.700	ug/kg
	CO40-000	**749502.564**	**2085561.463**	**4.50**	**6.50**	**Arsenic**	**24.100**	**22**	**13.140**	**-**	**mg/kg**
	CO40-000	749502.564	2085561.463	4.50	6.50	Lead	25.600	1,000	24.970	-	mg/kg
	CO40-000	749502.564	2085561.463	4.50	6.50	Methoxychlor	0.260	5,110,000	-	0.200	ug/kg
	CO40-000	749502.564	2085561.463	4.50	6.50	Methylene chloride	1.200	2,530,000	-	0.980	ug/kg
	CO40-000	749502.564	2085561.463	4.50	6.50	Vanadium	128.000	7,150	88.490	-	mg/kg
	CO40-000	749502.564	2085561.463	6.50	8.50	Acetone	9.900	102,000,000	-	5.500	ug/kg
	CO40-000	749502.564	2085561.463	6.50	8.50	Methoxychlor	0.470	5,110,000	-	0.200	ug/kg
	CO40-000	749502.564	2085561.463	6.50	8.50	Methylene chloride	1.200	2,530,000	-	0.960	ug/kg
	CO40-000	749502.564	2085561.463	6.50	8.50	Uranium-238	2.220	351	1.490	-	pCi/g
	CO40-000	749502.564	2085561.463	8.50	8.51	Uranium-238	2.490	351	1.490	-	pCi/g
	CO40-001	749538.389	2085564.008	0.00	0.50	Aroclor-1260	16.000	12,400	-	5.400	ug/kg
	CO40-001	*749538.389*	*2085564.008*	*0.00*	*0.50*	*Plutonium-239/240*	*0.205*	*50*	*0.066*	-	*pCi/g*
	CO40-001	749538.389	2085564.008	0.00	0.50	Strontium	81.900	613,000	48.940	-	mg/kg
	CO40-001	749538.389	2085564.008	0.50	2.50	Copper	39.900	40,900	38.210	-	mg/kg
	CO40-001	749538.389	2085564.008	0.50	2.50	Methylene chloride	0.990	2,530,000	-	0.900	ug/kg
	CO40-001	749538.389	2085564.008	0.50	2.50	Tetrachloroethene	1.500	615,000	-	1.100	ug/kg
	CO40-001	749538.389	2085564.008	0.50	2.50	Uranium-235	0.149	8	0.120	-	pCi/g
	CO40-001	749538.389	2085564.008	0.50	2.50	Uranium-238	2.120	351	1.490	-	pCi/g
	CO40-001	749538.389	2085564.008	2.50	4.50	Acetone	6.400	102,000,000	-	5.300	ug/kg
	CO40-001	749538.389	2085564.008	2.50	4.50	Methylene chloride	1.400	2,530,000	-	0.910	ug/kg
	CO40-001	749538.389	2085564.008	2.50	4.50	Uranium-235	0.225	8	0.120	-	pCi/g
	CO40-001	749538.389	2085564.008	4.50	6.50	Methoxychlor	0.440	5,110,000	-	0.210	ug/kg
	CO40-001	749538.389	2085564.008	4.50	6.50	Methylene chloride	1.500	2,530,000	-	0.990	ug/kg
	CO40-001	749538.389	2085564.008	4.50	6.50	Uranium-235	0.160	8	0.120	-	pCi/g
	CO40-001	749538.389	2085564.008	6.50	8.50	Methylene chloride	1.000	2,530,000	-	0.900	ug/kg
	CO40-001	749538.389	2085564.008	6.50	8.50	Uranium-235	0.262	8	0.120	-	pCi/g
	CO40-002	749517.268	2085594.196	0.00	0.50	Aroclor-1260	20.000	12,400	-	5.400	ug/kg
	CO40-002	749517.268	2085594.196	0.00	0.50	Methoxychlor	0.530	5,110,000	-	0.190	ug/kg
	CO40-002	749517.268	2085594.196	0.00	0.50	Strontium	68.200	613,000	48.940	-	mg/kg
	CO40-002	749517.268	2085594.196	0.50	2.50	Acetone	10.000	102,000,000	-	5.600	ug/kg
	CO40-002	749517.268	2085594.196	0.50	2.50	Methylene chloride	1.300	2,530,000	-	0.970	ug/kg
	CO40-002	749517.268	2085594.196	0.50	2.50	Uranium-238	1.930	351	1.490	-	pCi/g
	CO40-002	749517.268	2085594.196	2.50	4.50	Acetone	12.000	102,000,000	-	5.400	ug/kg
	CO40-002	749517.268	2085594.196	2.50	4.50	Methylene chloride	1.100	2,530,000	-	0.940	ug/kg

IHSS	Location Code	Actual Northing	Actual Easting	Depth Start (ft)	Depth End (ft)	Analyte	Result	WRW AL	Background Mean Plus 2 SD	RL	Unit
	CO40-002	*749517.268*	*2085594.196*	*2.50*	*4.50*	*Uranium-234*	*3.230*	*300*	*2.640*	-	*pCi/g*
	CO40-002	749517.268	2085594.196	2.50	4.50	Uranium-238	3.230	351	1.490	-	pCi/g
	CO40-002	749517.268	2085594.196	4.50	6.50	Acetone	7.600	102,000,000	-	5.600	ug/kg
	CO40-002	749517.268	2085594.196	4.50	6.50	Methoxychlor	0.390	5,110,000	-	0.200	ug/kg
	CO40-002	749517.268	2085594.196	4.50	6.50	Methylene chloride	1.100	2,530,000	-	0.970	ug/kg
	CO40-002	749517.268	2085594.196	6.50	8.50	Uranium-238	2.570	351	1.490	-	pCi/g
	CO40-003	749540.318	2085600.112	0.00	0.50	Aroclor-1260	9.000	12,400	-	5.900	ug/kg
	CO40-003	749540.318	2085600.112	0.00	0.50	Lithium	12.600	20,400	11.550	-	mg/kg
	CO40-003	749540.318	2085600.112	0.00	0.50	Strontium	156.000	613,000	48.940	-	mg/kg
	CO40-003	*749540.318*	*2085600.112*	*0.00*	*0.50*	*Uranium-234*	*2.380*	*300*	*2.253*	-	*pCi/g*
	CO40-003	749540.318	2085600.112	0.00	0.50	Uranium-235	0.198	8	0.094	-	pCi/g
	CO40-003	749540.318	2085600.112	0.00	0.50	Uranium-238	2.380	351	2.000	-	pCi/g
	CO40-003	749540.318	2085600.112	0.50	2.50	Methylene chloride	1.700	2,530,000	-	0.900	ug/kg
	CO40-003	749540.318	2085600.112	0.50	2.50	Uranium-235	0.163	8	0.120	-	pCi/g
	CO40-003	749540.318	2085600.112	2.50	4.50	Arsenic	18.900	22	13.140	-	mg/kg
	CO40-003	749540.318	2085600.112	2.50	4.50	Methylene chloride	1.400	2,530,000	-	0.980	ug/kg
	CO40-003	749540.318	2085600.112	2.50	4.50	Uranium-238	2.430	351	1.490	-	pCi/g
	CO40-003	749540.318	2085600.112	4.50	6.50	Methylene chloride	1.300	2,530,000	-	1.000	ug/kg
	CO40-003	749540.318	2085600.112	4.50	6.50	Uranium-235	0.258	8	0.120	-	pCi/g
	CO40-003	749540.318	2085600.112	6.50	8.00	Acetone	15.000	102,000,000	-	5.400	ug/kg
	CO40-003	749540.318	2085600.112	6.50	8.00	Methylene chloride	1.200	2,530,000	-	0.940	ug/kg
	CO40-003	749540.318	2085600.112	6.50	8.00	Uranium-235	0.127	8	0.120	-	pCi/g
	CO40-003	749540.318	2085600.112	6.50	8.00	Uranium-238	1.930	351	1.490	-	pCi/g

Bold denotes AL exceedance
Italic type denotes values derived from HPGe measurement

2.1 Analytical Results

Analytical results indicate that several analytes are present in subsurface soil at concentrations greater than the WRW ALs in IHSS Group 900-2 (Table 3).

Table 3
IHSS Group 900-2 WRW AL Exceedances

IHSS Site	Location	Analyte	Result	WRW AL (mg/kg)	Start Depth	End Depth
IHSS 153	CQ40-000	Aroclor-1254	20,000.00	12,400.00	4.50	6.50
	CQ40-000	Aroclor-1260	22,000.00	12,400.00	4.50	6.50
	CQ41-001	Tetrachloroethene	850,000.00	615,000.00	2.50	4.50
	CQ41-005	Aroclor-1254	21,000.00	12,400.00	2.50	4.50
	CQ41-005	Tetrachloroethene	27,000,000.00	615,000.00	2.50	4.50
	CQ41-005	Trichloroethene	3,700,000.00	19,600.00	2.50	4.50
	CQ41-005	Aroclor-1254	170,000.00	12,400.00	4.50	6.50
	CQ41-005	Aroclor-1260	62,000.00	12,400.00	4.50	6.50
	CQ41-005	Tetrachloroethene	11,000,000.00	615,000.00	4.50	6.50
	CQ41-005	Trichloroethene	1,400,000.00	19,600.00	4.50	6.50
	CQ41-005	Aroclor-1254	160,000.00	12,400.00	6.50	8.50
	CQ41-005	Aroclor-1260	60,000.00	12,400.00	6.50	8.50
	CQ41-005	Tetrachloroethene	1,300,000.00	615,000.00	6.50	8.50
	CQ41-005	Trichloroethene	120,000.00	19,600.00	6.50	8.50
	CQ41-005	Aroclor-1254	17,000.00	12,400.00	8.50	10.50
	CQ41-005	Tetrachloroethene	1,900,000.00	615,000.00	8.50	10.50
	CQ41-005	Trichloroethene	160,000.00	19,600.00	8.50	10.50
	CQ41-025	Tetrachloroethene	720,000.00	615,000.00	2.50	4.50
	CQ41-025	Trichloroethene	72,000.00	19,600.00	2.50	4.50
	CQ41-025	Tetrachloroethene	3,400,000.00	615,000.00	8.50	10.00
	CQ41-025	Trichloroethene	210,000.00	19,600.00	8.50	10.00
IHSS 154	CN40-001	Arsenic	55.100	22.20	4.50	6.50
	CO40-000	Arsenic	24.100	22.20	4.50	6.50

2.2 Sum of Ratios

Sum of ratios (SORs) for surface soil (0 to 3 ft) radionuclides were calculated for IHSS Group 900-2 sampling locations based on the accelerated action analytical data for the COCs and WRW ALs. Radionuclide SORS were calculated for all locations with analytical results greater than background means plus two standard deviations for americium-241, plutonium-239/241, uranium-234, uranium-235, and uranium-238. Plutonium-239/240 activities are derived from americium-241 activities (that is, plutonium-239/240 activity = americium-241 gamma spectroscopy activity x 5.7) when americium-241 is measured using high-purity germanium (HPGe) detection analysis. SORs for radionuclides are presented in Table 4. As shown, all SORs for radionuclides in surface soil are less than 1. SORs for non-radionuclides were calculated for all surface soil locations where analyte concentrations were 10 percent or more of a contaminant's WRW AL. SORs for non-radionuclides are presented in Table 5. As shown, all SORs for non-radionuclides in surface soil are less than 1.

29

Table 4
IHSS Group 900-2 RFCA SORs for Surface Soil
Radionuclide Activities

Location	Start Depth	End Depth	SOR
CN40-000	0.0	0.5	0.025
CN40-000	0.5	2.5	0.022
CN40-001	0.0	0.5	0.033
CO40-000	0.0	0.5	0.017
CO40-000	0.5	2.5	0.006
CO40-001	0.0	0.5	0.002
CO40-001	0.5	2.5	0.025
CO40-002	0.5	2.5	0.005
CO40-003	0.0	0.5	0.039
CO40-003	0.5	2.5	0.020
CP40-000	0.0	0.5	0.006
CP40-000	0.5	2.5	0.034
CP40-001	0.0	0.5	0.019
CP40-001	0.5	2.5	0.026
CP40-002	0.0	0.5	0.006
CP40-003	0.0	0.5	0.024
CP40-004	0.0	0.5	0.046
CQ40-000	0.0	0.5	0.020
CQ40-000	0.5	2.5	0.028
CQ40-001	0.0	0.5	0.006
CQ40-001	0.5	2.5	0.044
CQ40-002	0.0	0.5	0.024
CQ40-002	0.5	2.5	0.005
CQ41-000	0.0	0.5	0.036
CQ41-000	0.5	2.5	0.038

Table 5
IHSS Group 900-2 RFCA SORs for Surface Soil
Non-Radionuclide Concentrations

Location	Start Depth	End Depth	SOR
CP40-003	0.0	0.5	0.202

2.3 Summary Statistics

Summary statistics, by analyte, were calculated for the IHSS Group 900-2 sampling locations (Tables 6 and 7). These summaries are based on detected concentrations only.

30

Table 6
Surface Soil Summary Statistics

Analyte	Number of Samples	Detection Frequency	Average Concentration	Maximum Concentration	WRW AL	Bkg + 2SD	Unit	Maximum vs WRW
1,2,4-Trichlorobenzene	20	5.00%	0.860	0.860	9230000	-	ug/kg	0.0000000932
4,4'-DDE	14	21.43%	1.167	1.500	101000	-	ug/kg	0.0000148515
Acetone	6	33.33%	9.850	14.000	102000000	-	ug/kg	0.0000001373
Aldrin	14	7.14%	0.590	0.590	1620	-	ug/kg	0.0003641975
Aluminum	14	14.29%	19,900.000	21,700.000	228000	16,902.000	mg/kg	0.0951754386
Americium-241	15	6.67%	0.129	0.129	76	0.023	pCi/g	0.0016973684
Aroclor-1254	14	57.14%	419.400	2,500.000	12400	-	ug/kg	0.2016129032
Aroclor-1260	14	57.14%	47.125	120.000	12400	-	ug/kg	0.0096774194
Arsenic	14	7.14%	11.000	11.000	22.2	10.090	mg/kg	0.4954954955
Barium	14	7.14%	154.000	154.000	26400	141.260	mg/kg	0.0058333333
Chromium	14	7.14%	20.700	20.700	268	16.990	mg/kg	0.0772388060
Di-n-octylphthalate	14	7.14%	150.000	150.000	14700000	-	ug/kg	0.0000102041
Dieldrin	14	21.43%	4.867	11.000	1720	-	ug/kg	0.0063953488
Endosulfan I	14	7.14%	3.900	3.900	4420000	-	ug/kg	0.0000008824
Endosulfan II	14	7.14%	0.700	0.700	4420000	-	ug/kg	0.0000001584
Endrin	14	14.29%	2.600	2.800	221000	-	ug/kg	0.0000126697
Ethylbenzene	6	16.67%	16.000	16.000	4250000	-	ug/kg	0.0000037647
Lithium	14	14.29%	12.900	13.200	20400	11.550	mg/kg	0.0006470588
Manganese	14	7.14%	457.000	457.000	3480	365.080	mg/kg	0.1313218391
Methoxychlor	14	21.43%	0.520	0.750	5110000	-	ug/kg	0.0000001468
Methylene chloride	6	16.67%	1.900	1.900	2530000	-	ug/kg	0.0000007510
Naphthalene	20	10.00%	2.250	2.800	3090000	-	ug/kg	0.0000009061
Nickel	14	21.43%	15.833	16.200	20400	14.910	mg/kg	0.0007941176
Plutonium-239/240	15	13.33%	0.337	0.468	50	0.066	pCi/g	0.0093600000
Pyrene	14	7.14%	61.000	61.000	22100000	-	ug/kg	0.0000027602
Strontium	14	64.29%	71.678	156.000	613000	48.940	mg/kg	0.0002544861
Tetrachloroethene	6	33.33%	84.000	99.000	615000	-	ug/kg	0.0001609756
Trichloroethene	6	33.33%	17.600	26.000	19600	-	ug/kg	0.0013265306
Uranium-234	15	40.00%	3.502	5.790	300	2.253	pCi/g	0.0193000000
Uranium-235	15	40.00%	0.204	0.266	8	0.094	pCi/g	0.0332500000
Uranium-238	15	53.33%	3.150	5.790	351	2.000	pCi/g	0.0164957265
Vanadium	14	21.43%	49.700	53.200	7150	45.590	mg/kg	0.0074405594
Xylene	6	33.33%	66.000	120.000	2040000	-	ug/kg	0.0000588235
Zinc	14	21.43%	184.667	266.000	307000	73.760	mg/kg	0.0008664495

Table 7
Subsurface Soil Summary Statistics

Analyte	Number of Samples	Detection Frequency	Average Concentration	Maximum Concentration	WRW AL	Bkg + 2SD	Unit	Maximum vs WRW
1,1,1-Trichloroethane	141	12.06%	54,828.800	690,000.000	79700000	-	ug/kg	0.0086574655
1,1-Dichloroethene	141	1.42%	42.500	62.000	17000	-	ug/kg	0.0036470588
1,2,4-Trichlorobenzene	141	2.84%	3,204.250	9,500.000	9230000	-	ug/kg	0.0010292524
1,2-Dichloroethane	141	4.96%	7.429	35.000	106000	-	ug/kg	0.0003301887
2-Methylnaphthalene	54	1.85%	150.000	150.000	20400000	-	ug/kg	0.0000073529
4,4'-DDE	59	3.39%	1.800	2.500	101000	-	ug/kg	0.0000247525
4,4'-DDT	59	1.69%	0.790	0.790	100000	-	ug/kg	0.0000079000
4-Methyl-2-pentanone	141	0.71%	850.000	850.000	16400000	-	ug/kg	0.0000518293
Acetone	141	23.40%	875.555	17,000.000	102000000	-	ug/kg	0.0001666667
Aroclor-1016	100	2.00%	9,250.000	17,000.000	46400	-	ug/kg	0.3663793103
Aroclor-1254	**100**	**45.00%**	**10,669.236**	**170,000.000**	**12400**	**-**	**ug/kg**	**13.7096774194**
Aroclor-1260	**100**	**26.00%**	**7,233.500**	**62,000.000**	**12400**	**-**	**ug/kg**	**5.0000000000**
Arsenic	**55**	**9.09%**	**25.660**	**55.100**	**22.2**	**13.140**	**mg/kg**	**2.4819819820**
bis(2-Ethylhexyl)phthalate	54	5.56%	200.667	390.000	1970000	-	ug/kg	0.0001979695
Carbon Disulfide	141	0.71%	27.000	27.000	15100000	-	ug/kg	0.0000017881
Carbon Tetrachloride	141	2.13%	19,670.333	56,000.000	81500	-	ug/kg	0.6871165644
Chloroform	141	4.26%	80.383	270.000	19200	-	ug/kg	0.0140625000
Copper	55	1.82%	39.900	39.900	40900	38.210	mg/kg	0.0009755501
Dieldrin	59	3.39%	2.300	3.200	1720	-	ug/kg	0.0018604651
Endosulfan II	59	1.69%	0.910	0.910	4420000	-	ug/kg	0.0000002059
Endrin	59	3.39%	3.650	4.500	221000	-	ug/kg	0.0000203620
Ethylbenzene	141	1.42%	66.000	84.000	4250000	-	ug/kg	0.0000197647
Lead	55	1.82%	25.600	25.600	1000	24.970	mg/kg	0.0256000000
Methoxychlor	59	6.78%	0.390	0.470	5110000	-	ug/kg	0.0000000920
Methylene chloride	141	32.62%	36.689	1,600.000	2530000	-	ug/kg	0.0006324111
n-Nitrosodipropylamine	54	1.85%	450.000	450.000	5470	-	ug/kg	0.0822669104
Naphthalene	141	0.71%	1.300	1.300	3090000	-	ug/kg	0.0000004207
Tetrachloroethene	**141**	**35.46%**	**954,532.034**	**27,000,000.000**	**615000**	**-**	**ug/kg**	**43.9024390244**
Toluene	141	0.71%	350.000	350.000	31300000	-	ug/kg	0.0000111821
Trichloroethene	**141**	**24.11%**	**167,466.047**	**3,700,000.000**	**19600**	**-**	**ug/kg**	**188.7755102041**
Uranium-234	59	27.12%	3.587	5.160	300	2.640	pCi/g	0.0172000000
Uranium-235	59	54.24%	0.195	0.281	8	0.120	pCi/g	0.0351250000
Uranium-238	59	64.41%	2.749	5.160	351	1.490	pCi/g	0.0147008547
Vanadium	55	3.64%	110.200	128.000	7150	88.490	mg/kg	0.0179020979
Xylene	141	0.71%	33.000	33.000	2040000	-	ug/kg	0.0000161765

2.4 Discussion

Analytical results from sampling at IHSS Group 900-2 indicate that concentrations of one or more of the following compounds: polychlorinated biphenyls (PCBs), tetrachloroethene, or trichloroethene; are present above WRW ALs at four locations in IHSS 153. Concentrations of arsenic are greater than the WRW AL at two locations in IHSS 154. All other contaminant concentrations in IHSS Group 900-2 are below WRW ALs.

3.0 SUBSURFACE SOIL RISK SCREEN

The Subsurface Soil Risk Screen (SSRS) follows the steps identified on Figure 3 in Attachment 5 of RFCA (DOE et al. 2003):

Screen 1 – Are the contaminant of concern (COC) concentrations below Table 3 WRW Soil Action Levels?

No. Analytical results indicate that the following COCs are above WRW ALs: arsenic, Aroclor-1254, Aroclor-1260, tetrachloroethene, and trichloroethene. All other COCs are below WRW ALs.

Screen 2 – Is there potential for subsurface soil to become surface soil (landslide and erosion areas identified on Figure 1)?

No. IHSS Group 900-2 is not located in an area subject to erosion or landslides in accordance with Figure 1 of RFCA (DOE et al, 2003).

Screen 3 – Does subsurface soil radiological contamination exceed criteria in Section 5.3 and Attachment 14?

No.

Screen 4 – Is there an environmental pathway and sufficient quantity of COCs that would cause exceedance of the surface water standards?

Contamination migration via erosion and groundwater are the two possible pathways whereby surface water could become contaminated by IHSS Group 900-2. However, based on the review of Figure 1 in Attachment 5 of RFCA (DOE, et al. 2003), IHSSs 153 and 154 are located in a stable area that is not prone to landslides or high erosion. Consequently, surface water contamination via erosion is unlikely. Additionally, current Site reconfiguration plans indicate that this area is not a proposed cut area.

Groundwater in the area flows northeast towards South Walnut Creek where it is captured and treated by the Mound Site Plume Treatment System. Results of a June 2003 sampling of groundwater monitoring well 11897, located approximately 425 feet northeast of IHSS 153, indicate that tetrachloroethene and trichlorethene are present at concentrations of 730 micrograms per liter (ug/L) and 100 ug/L, respectively. The RFCA Tier I and Tier II ALs for these analytes in groundwater are 500 ug/L and 5 ug/L, respectively. No other analytes were detected in groundwater at concentrations greater

than the RFCA Tier I and Tier II ALs. Additional groundwater monitoring in this area will be addressed as part of the Integrated Monitoring Plan (IMP).

4.0 NFAA SUMMARY

Although several contaminants were reported at concentrations above WRW ALs, based upon the SSRS, NFAA is justified for IHSS Group 900-2. The highest arsenic and PCBs concentrations are found at depths greater than 4.5 feet below ground surface and are limited to two sampling locations. Additionally, PCBs and related contaminants in soil are relatively immobile and do not tend to migrate into surface water or groundwater. Based on historical Site data, PCBs and related contaminants are not considered COCs for surface water and groundwater. Groundwater from this area is captured and treated by the Mound Site Plume Treatment System. As previously stated, the IMP will address the need for further groundwater monitoring and groundwater remediation alternatives will be addressed in the Groundwater Interim Measure/Interim Remedial Action (IM/IRA). Approval of this Data Summary Report constitutes regulatory agency concurrence of this IHSS Group as an NFAA. This information and NFAA determination will be documented in the FY05 HRR. Ecological factors will be evaluated in the Comprehensive Risk Assessment (CRA).

5.0 DATA QUALITY ASSESSMENT

The Data Quality Objectives (DQOs) for this project are described in the BZSAP (DOE 2002a). All DQOs for this project were achieved based on the following:

- Regulatory agency-approved sampling program design (BZSAP Addendum 02-01 [DOE 2002b]), modified, due to field conditions, in accordance with the BZSAP (DOE 2002a);
- Collection of samples in accordance with the IASAP (DOE 2001); and
- Results of the Data Quality Assessment (DQA) as described in the following sections.

5.1 Data Quality Assessment Process

The DQA process ensures that the type, quantity and quality of environmental data used in decision making are defensible, and is based on the following guidance and requirements:

- U.S. Environmental Protection Agency (EPA) QA/G-4, 1994a, Guidance for the Data Quality Objective Process;
- EPA QA/G-9, 1998, Guidance for the Data Quality Assessment Process, Practical Methods for Data Analysis; and

34

- U.S. Department of Energy (DOE) Order 414.1A, 1999, Quality Assurance.

Verification and validation (V&V) of data are the primary components of the DQA. The final data are compared with original project DQOs and evaluated with respect to project decisions; uncertainty within the decisions; and quality criteria required for the data, specifically precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS). Validation criteria are consistent with the following RFETS-specific documents and industry guidelines:

- EPA 540/R-94/012, 1994b, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review;
- EPA 540/R-94/013, 1994c, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review;
- Kaiser-Hill Company, L.L.C. (K-H) V&V Guidelines:
  - General Guidelines for Data Verification and Validation, DA-GR01-v1, 2002a
  - V&V Guidelines for Isotopic Determinations by Alpha Spectrometry, DA-RC01-v2, 2002b
  - V&V Guidelines for Volatile Organics, DA-SS01-v3, 2002c
  - V&V Guidelines for Semivolatile Organics, DA-SS02-v3, 2002d
  - V&V Guidelines for Metals, DA-SS05-v3, 2002e
- Lockheed-Martin, 1997, Evaluation of Radiochemical Data Usability, ES/ER/MS-5.

This report will be submitted to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Record (AR) for permanent storage 30 days after being provided to the Colorado Department of Public Health and Environment (CDPHE) and/or EPA.

5.2 Verification and Validation of Results

Verification ensures that data produced and used by the project are documented and traceable in accordance with quality requirements. Validation consists of a technical review of all data that directly support the project decisions so that any limitations of the data relative to project goals are delineated and the associated data are qualified. The V&V process defines the criteria that constitute data quality, namely PARCCS parameters. Data traceability and archival are also addressed. V&V criteria include the following:

- Chain-of-custody;
- Preservation and hold times;
- Instrument calibrations;

35

- Preparation blanks;
- Interference check samples (metals);
- Matrix spikes/matrix spike duplicates (MS/MSDs);
- Laboratory control samples (LCSs);
- Field duplicate measurements;
- Chemical yield (radiochemistry);
- Required quantitation limits/minimum detectable activities (sensitivity of chemical and radiochemical measurements, respectively); and
- Sample analysis and preparation methods.

Evaluation of V&V criteria ensures that PARCCS parameters are satisfactory (i.e., within tolerances acceptable to the project). Satisfactory V&V of laboratory quality controls are captured through application of validation "flags" or qualifiers to individual records.

Raw hard-copy data (for example, individual analytical data packages) are currently filed by report identification number and maintained by K-H Analytical Services Division (ASD). Older hard copies may reside in the Federal Center in Lakewood, Colorado. Electronic data are stored in the RFETS Soil Water Database (SWD). Standardized real and QC data are included on the enclosed CD.

5.2.1 Accuracy

The following measures of accuracy were evaluated:

- LCSs;
- Surrogates;
- Field blanks; and
- Sample MSs.

Results are compared to method requirements and project goals. The results of these comparisons are summarized for RFCA COCs where the result could impact project decisions. Particular attention is paid to those values near ALs when QC results could indicate unacceptable levels of uncertainty for decision-making purposes.

Laboratory Control Sample Evaluation

The frequency of LCS measurements is presented in Table 8. As shown in Table 8, LCS analyses were run for all methods except for gamma spectroscopy. The onsite laboratories are not required to provide this data.

Table 8
LCS Frequency

Test Method Name	Laboratory Batch	Laboratory Control Standards
ALPHA SPEC	255453	Yes
ALPHA SPEC	255458	Yes
ALPHA SPEC	257269	Yes
SW-846 6010/6010B	2126185	Yes
SW-846 6010/6010B	2126455	Yes

36

Test Method Name	Laboratory Batch	Laboratory Control Standards
SW-846 6010/6010B	2127220	Yes
SW-846 6010/6010B	2127422	Yes
SW-846 6010/6010B	2129233	Yes
SW-846 6010/6010B	2129348	Yes
SW-846 6010/6010B	2143354	Yes
SW-846 6010/6010B	2148397	Yes
SW-846 6010/6010B	2148518	Yes
SW-846 6010/6010B	2148519	Yes
SW-846 6010/6010B	2185127	Yes
SW-846 6010/6010B	2186320	Yes
SW-846 8081A	2127115	Yes
SW-846 8081A	2128146	Yes
SW-846 8081A	2128329	Yes
SW-846 8081A	2143176	Yes
SW-846 8081A	2148175	Yes
SW-846 8081A	2185102	Yes
SW-846 8081A	2233243	Yes
SW-846 8082	2127116	Yes
SW-846 8082	2128148	Yes
SW-846 8082	2128332	Yes
SW-846 8082	2143173	Yes
SW-846 8082	2148178	Yes
SW-846 8082	2185104	Yes
SW-846 8082	2232148	Yes
SW-846 8082	2235231	Yes
SW-846 8082	2238221	Yes
SW-846 8082	2254198	Yes
SW-846 8260	2130293	Yes
SW-846 8260	2133458	Yes
SW-846 8260	2134373	Yes
SW-846 8260	2144395	Yes
SW-846 8260	2149310	Yes
SW-846 8260	2150433	Yes
SW-846 8260	2151331	Yes
SW-846 8260	2155312	Yes
SW-846 8260	2155367	Yes
SW-846 8260	2191418	Yes
SW-846 8260	2261469	Yes
SW-846 8260	2262339	Yes
SW-846 8260	4028502	Yes
SW-846 8260	4029518	Yes
SW-846 8260	4029570	Yes
SW-846 8260	MS1 VOA_020822B	Yes
SW-846 8260	MS1 VOA_020822C	Yes
SW-846 8260	MS2 VOA_020819A	Yes
SW-846 8260	MS2 VOA_020828C	Yes
SW-846 8260	MS2 VOA_021008B	Yes
SW-846 8260	MS2 VOA_021009B	Yes
SW-846 8260	MS2 VOA_021010A	Yes
SW-846 8260	MS2 VOA_021014A	Yes
SW-846 8260	MS2 VOA_021022A	Yes
SW-846 8260	MS2 VOA_021023A	Yes
SW-846 8260	MS2 VOA_021023B	Yes
SW-846 8260	MS2 VOA_021024A	Yes
SW-846 8270B	2127119	Yes
SW-846 8270B	2128129	Yes
SW-846 8270B	2130131	Yes

37

Test Method Name	Laboratory Batch	Laboratory Control Standards
SW-846 8270B	2142145	Yes
SW-846 8270B	2143169	Yes
SW-846 8270B	2148174	Yes
SW-846 8270B	2186175	Yes

Minimum and maximum LCS results are tabulated by chemical for the entire project in Table 9. LCS results that were outside of tolerances were reviewed to determine whether a potential bias might be indicated. LCS recoveries are not indicative of matrix effects because they are not prepared using Site samples. LCS results do indicate whether the laboratory may be introducing a bias in the results. Recoveries reported above the upper limit may indicate the actual sample results are less than reported. Because this is environmentally conservative, no further action is needed.

Potentially unacceptable low LCS recoveries were evaluated in the following manner. If the maximum sample result divided by the lowest LCS recovery for that analyte is less than the WRW AL, no further action is taken because any indicated bias is not great enough to correct the false low result to one above the AL. All metal and VOC LCS recoveries for IHSS Group 900-2 passed the criterion; therefore, LCS recoveries did not impact project decisions.

Any qualifications of individual results because the LCS performance exceeding upper or lower tolerance limits are also captured in the V&V flags, described in Section 5.2.3.

Table 9
LCS Evaluation Summary

Test Method Name	CAS Number	Analyte	Min Result	Max Result	Result Unit	Number of Laboratory Samples	Number of Laboratory Batches
SW-846 8260	71-55-6	1,1,1-Trichloroethane	81.2	136.4	%REC	12	12
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	79	121	%REC	12	12
SW-846 8260	79-00-5	1,1,2-Trichloroethane	87	109.6	%REC	12	12
SW-846 8260	75-34-3	1,1-Dichloroethane	88.61	131.8	%REC	12	12
SW-846 8260	75-35-4	1,1-Dichloroethene	83	149.3	%REC	36	24
SW-846 8270B	120-82-1	1,2,4-Trichlorobenzene	62	67	%REC	9	7
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	87	133.8	%REC	12	12
SW-846 8260	95-50-1	1,2-Dichlorobenzene	83	106.7	%REC	12	12
SW-846 8260	107-06-2	1,2-Dichloroethane	80.55	128.1	%REC	12	12
SW-846 8260	78-87-5	1,2-Dichloropropane	88	115.4	%REC	12	12
SW-846 8270B	106-46-7	1,4-Dichlorobenzene	59	65	%REC	9	7
SW-846 8260	106-46-7	1,4-Dichlorobenzene	84	113.1	%REC	12	12
SW-846 8270B	121-14-2	2,4-Dinitrotoluene	66	81	%REC	9	7
SW-846 8260	78-93-3	2-Butanone	79.67	123.7	%REC	12	12
SW-846 8270B	95-57-8	2-Chlorophenol	65	75	%REC	9	7
SW-846 8081A	50-29-3	4,4'-DDT	81	105	%REC	7	7
SW-846 8260	108-10-1	4-Methyl-2-pentanone	72.16	122	%REC	12	12
SW-846 8270B	100-02-7	4-Nitrophenol	57	68	%REC	9	7
SW-846 8270B	83-32-9	Acenaphthene	61	68	%REC	9	7
SW-846 8260	67-64-1	Acetone	40.01	151.8	%REC	12	12
SW-846 8081A	309-00-2	Aldrin	81	94	%REC	7	7
SW-846 6010/6010B	7429-90-5	Aluminum	89	100	%REC	7	6
SW-846 6010/6010B	7440-36-0	Antimony	90	98	%REC	7	6

38

Test Method Name	CAS Number	Analyte	Min Result	Max Result	Result Unit	Number of Laboratory Samples	Number of Laboratory Batches
SW-846 8082	12674-11-2	Aroclor-1016	80	107	%REC	13	10
SW-846 8082	11096-82-5	Aroclor-1260	82	109	%REC	13	10
SW-846 6010/6010B	7440-38-2	Arsenic	93	98	%REC	7	6
SW-846 6010/6010B	7440-39-3	Barium	96	105	%REC	7	6
SW-846 8260	71-43-2	Benzene	85	141.5	%REC	36	24
SW-846 6010/6010B	7440-41-7	Beryllium	94	100	%REC	7	6
SW-846 8260	75-27-4	Bromodichloromethane	88	109.3	%REC	12	12
SW-846 8260	75-25-2	Bromoform	87	118	%REC	12	12
SW-846 8260	74-83-9	Bromomethane	70	155.6	%REC	12	12
SW-846 6010/6010B	7440-43-9	Cadmium	94	99	%REC	7	6
SW-846 8260	75-15-0	Carbon Disulfide	79	142.5	%REC	12	12
SW-846 8260	56-23-5	Carbon Tetrachloride	78.04	134.3	%REC	12	12
SW-846 8260	108-90-7	Chlorobenzene	85	113.2	%REC	36	24
SW-846 8260	75-00-3	Chloroethane	74	129.3	%REC	12	12
SW-846 8260	67-66-3	Chloroform	87.17	126	%REC	12	12
SW-846 8260	74-87-3	Chloromethane	60	216.7	%REC	12	12
SW-846 6010/6010B	7440-47-3	Chromium	95	100	%REC	7	6
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	88.98	109.9	%REC	12	12
SW-846 6010/6010B	7440-48-4	Cobalt	92	98	%REC	7	6
SW-846 6010/6010B	7440-50-8	Copper	92	102	%REC	7	6
SW-846 8260	124-48-1	Dibromochloromethane	73.13	112	%REC	12	12
SW-846 8081A	60-57-1	Dieldrin	83	96	%REC	7	7
SW-846 8081A	72-20-8	Endrin	90	103	%REC	7	7
SW-846 8260	100-41-4	Ethylbenzene	86	114.3	%REC	12	12
SW-846 8081A	58-89-9	gamma-BHC	80	93	%REC	7	7
SW-846 8081A	76-44-8	Heptachlor	83	100	%REC	7	7
SW-846 8260	87-68-3	Hexachlorobutadiene	80	125.5	%REC	12	12
SW-846 6010/6010B	7439-89-6	Iron	91	101	%REC	7	6
SW-846 6010/6010B	7439-92-1	Lead	94	100	%REC	7	6
SW-846 6010/6010B	7439-93-2	Lithium	90	104	%REC	7	6
SW-846 6010/6010B	7439-96-5	Manganese	96	101	%REC	7	6
SW-846 6010/6010B	7439-97-6	Mercury	97	104	%REC	7	6
SW-846 8260	75-09-2	Methylene chloride	87	128.2	%REC	12	12
SW-846 6010/6010B	7439-98-7	Molybdenum	93	97	%REC	7	6
SW-846 8270B	621-64-7	n-Nitrosodipropylamine	64	81	%REC	9	7
SW-846 8260	91-20-3	Naphthalene	83	125	%REC	12	12
SW-846 6010/6010B	7440-02-0	Nickel	94	100	%REC	7	6
SW-846 8270B	87-86-5	Pentachlorophenol	45	64	%REC	9	7
SW-846 8270B	108-95-2	Phenol	66	76	%REC	9	7
SW-846 8270B	129-00-0	Pyrene	59	67	%REC	9	7
SW-846 6010/6010B	7782-49-2	Selenium	87	97	%REC	7	6
SW-846 6010/6010B	7440-22-4	Silver	94	110	%REC	7	6
SW-846 6010/6010B	7440-24-6	Strontium	94	103	%REC	7	6
SW-846 8260	100-42-5	Styrene	91	122	%REC	12	12
SW-846 8260	127-18-4	Tetrachloroethene	87	112.9	%REC	13	13
SW-846 6010/6010B	7440-31-5	Tin	91	96	%REC	7	6
SW-846 8260	108-88-3	Toluene	77	118.6	%REC	36	24
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	84	116.1	%REC	12	12
SW-846 8260	79-01-6	Trichloroethene	82	115.3	%REC	36	24
SW-846 6010/6010B	11-09-6	Uranium, Total	95	108	%REC	7	6
SW-846 6010/6010B	7440-62-2	Vanadium	94	101	%REC	7	6
SW-846 8260	75-01-4	Vinyl chloride	66	172.4	%REC	12	12
SW-846 8260	1330-20-7	Xylene	82.69	106.1	%REC	12	12
SW-846 6010/6010B	7440-66-6	Zinc	92	96	%REC	7	6

39

Surrogate Evaluation

The frequency of surrogate measurements, relative to each laboratory batch, is given in Table 10. The minimum and maximum surrogate results are tabulated, by chemical, for the entire project. Surrogates are added to every SVOC and VOC sample, and therefore, surrogate recoveries only impact individual samples. Unacceptable surrogate recoveries can indicate potential matrix effects. Surrogate recoveries reported above 100 percent may indicate the actual sample results are less than reported. Because this is environmentally conservative, no further action is needed. Therefore, only the lowest recoveries were evaluated. If the maximum sample result divided by the lowest surrogate recovery is less than the WRW AL for that analyte, no further action is taken because any indicated bias is not great enough to correct a false low sample result to one above the AL. All VOC analytes passed this criterion. Therefore, for IHSS Group 900-2 surrogate recoveries did not impact project decisions. Any qualifications of results due to surrogate results are captured in the V&V flags, described in Section 5.3.

Table 10
Surrogate Recovery Summary

SVOC – Surrogate Recoveries				
Number of Samples	**Analyte**	**Minimum Concentration**	**Maximum Concentration**	**Unit**
67	2-Fluorobiphenyl	51	85	%REC
67	2-Fluorophenol	57	78	%REC
67	Deuterated Nitrobenzene	56	80	%REC
67	p-Terphenyl-d14	53	83	%REC
VOC – Surrogate Recoveries				
Number of Samples	**Analyte**	**Minimum Concentration**	**Maximum Concentration**	**Unit**
140	4-Bromofluorobenzene	87	117	%REC
140	Deuterated 1,2-dichloroethane	78	126	%REC
140	Deuterated Toluene	85	123	%REC

Field Blank Evaluation

Results of the field blank analyses are shown in Table 11. Detectable (non-"U" laboratory qualified) amounts of contaminants within the blanks, which could indicate possible cross-contamination of samples, are evaluated if the same contaminant is detected in the associated real samples. Evaluation consists of multiplying the field blank results by 10 (for laboratory contaminants) or by 5 (for non-laboratory contaminants) and comparing them to the WRW ALs. To be conservative, a factor of 10 is used in this evaluation. When corrected field blank result is less than the WRW AL the associated real results are considered acceptable. None of the chemicals were detected in the blanks at concentrations greater than one-tenth the WRW AL. Therefore, no significant impact on decisions due to blank contamination is indicated.

40

Table 11
Field Blank Summary

Sample QC Code	Laboratory	CAS No.	Analyte	Detected Result	Unit
TB	URS	78-93-3	2-Butanone	10	ug/L
TB	URS	67-64-1	Acetone	30	ug/L
FB	URS	91-20-3	Naphthalene	0.9	ug/L
TB	URS	91-20-3	Naphthalene	0.9	ug/L
FB	URS	127-18-4	Tetrachloroethene	2	ug/L
RNS	URS	127-18-4	Tetrachloroethene	2	ug/L
TB	URS	127-18-4	Tetrachloroethene	1	ug/L
EB	URS	15117-96-1	Uranium-235	0.143	pCi/g
RNS	URS	15117-96-1	Uranium-235	0.215	pCi/g
EB	URS	7440-61-1	Uranium-238	2.41	pCi/g
RNS	URS	7440-61-1	Uranium-238	2.55	pCi/g

Field blank (EB = equipment, FB = field, RNS = rinse, TB = trip) results greater than detection limits (not U-qualified)

Sample Matrix Spike Evaluation

The minimum and maximum MS results are summarized by chemical for the project in Table 12. Organic analytes with unacceptably low matrix spike recoveries resulted in a review of the LCS recoveries. According to the EPA data validation guidelines (1994b), if organic MS recoveries are low, then the LCS recovery is to be checked and, if acceptable, no action is to be taken. Fo this project, LCS recoveries for 4,4'-DDT, aldrin, Aroclor-1016, Aroclor-1260, dieldrin, endrin, gamma-BHC, and heptachlor were low (zero percent recovery). However, these checks for organic analytes indicate the WRW AL was at least a factor of three times higher than the highest sample result; therefore, decisions were not impacted and no action was taken.

For inorganics with MS recoveries greater than zero, the maximum sample results were divided by the lowest percent recovery for each analyte. If the resulting number is less than the WRW AL, decisions were not impacted, and no action was taken. For this project, all results for inorganic analytes were acceptable. Iron and manganese had zero percent recovery as a low. For these analytes, the WRW AL was at least a factor of three times greater than the highest sample result; therefore, decisions were not impacted.

Table 12
Sample Matrix Spike Summary

Test Method Name	CAS No.	Analyte	Min of Result	Max of Result	Result Unit	Number of Samples	Number of Lab Batches
SW-846 8260	71-55-6	1,1,1-Trichloroethane	73.88	109.2	%REC	5	5
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	65.4	112.7	%REC	5	5
SW-846 8260	79-00-5	1,1,2-Trichloroethane	88	105.4	%REC	5	5
SW-846 8260	75-34-3	1,1-Dichloroethane	78.98	102.6	%REC	5	5
SW-846 8260	75-35-4	1,1-Dichloroethene	70.88	99	%REC	8	8
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	65.96	94	%REC	5	5
SW-846 8270B	120-82-1	1,2,4-Trichlorobenzene	60	62	%REC	2	2
SW-846 8260	95-50-1	1,2-Dichlorobenzene	83.82	97.45	%REC	5	5
SW-846 8260	107-06-2	1,2-Dichloroethane	79.41	122.3	%REC	5	5
SW-846 8260	78-87-5	1,2-Dichloropropane	87.47	95.06	%REC	5	5

41

Test Method Name	CAS No.	Analyte	Min of Result	Max of Result	Result Unit	Number of Samples	Number of Lab Batches
SW-846 8260	106-46-7	1,4-Dichlorobenzene	80.59	96	%REC	5	5
SW-846 8270B	106-46-7	1,4-Dichlorobenzene	59	60	%REC	2	2
SW-846 8270B	121-14-2	2,4-Dinitrotoluene	68	77	%REC	2	2
SW-846 8260	78-93-3	2-Butanone	88.43	116.75	%REC	5	5
SW-846 8270B	95-57-8	2-Chlorophenol	63	64	%REC	2	2
SW-846 8081A	50-29-3	4,4'-DDT	0	106	%REC	6	6
SW-846 8260	108-10-1	4-Methyl-2-pentanone	92	136.7	%REC	5	5
SW-846 8270B	100-02-7	4-Nitrophenol	49	63	%REC	2	2
SW-846 8270B	83-32-9	Acenaphthene	60	64	%REC	2	2
SW-846 8260	67-64-1	Acetone	61.31	212.7	%REC	5	5
SW-846 8081A	309-00-2	Aldrin	0	91	%REC	6	6
SW-846 6010/6010B	7429-90-5	Aluminum	250	5500	%REC	5	5
SW-846 6010/6010B	7440-36-0	Antimony	28	46	%REC	5	5
SW-846 8082	12674-11-2	Aroclor-1016	0	88	%REC	5	5
SW-846 8082	11096-82-5	Aroclor-1260	0	98	%REC	5	5
SW-846 6010/6010B	7440-38-2	Arsenic	89	93	%REC	5	5
SW-846 6010/6010B	7440-39-3	Barium	102	125	%REC	5	5
SW-846 8260	71-43-2	Benzene	72.51	106	%REC	8	8
SW-846 6010/6010B	7440-41-7	Beryllium	88	96	%REC	5	5
SW-846 8260	75-27-4	Bromodichloromethane	92.35	112.5	%REC	5	5
SW-846 8260	75-25-2	Bromoform	92	118.2	%REC	5	5
SW-846 8260	74-83-9	Bromomethane	63.61	101.2	%REC	5	5
SW-846 6010/6010B	7440-43-9	Cadmium	80	96	%REC	5	5
SW-846 8260	75-15-0	Carbon Disulfide	74.18	82.96	%REC	5	5
SW-846 8260	56-23-5	Carbon Tetrachloride	74.14	106.8	%REC	5	5
SW-846 8260	108-90-7	Chlorobenzene	81	108	%REC	8	8
SW-846 8260	75-00-3	Chloroethane	75	99.04	%REC	5	5
SW-846 8260	67-66-3	Chloroform	80.59	107.5	%REC	5	5
SW-846 8260	74-87-3	Chloromethane	52.24	86.25	%REC	5	5
SW-846 6010/6010B	7440-47-3	Chromium	95	147	%REC	5	5
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	86.45	107.5	%REC	5	5
SW-846 6010/6010B	7440-48-4	Cobalt	82	96	%REC	5	5
SW-846 6010/6010B	7440-50-8	Copper	90	109	%REC	5	5
SW-846 8260	124-48-1	Dibromochloromethane	92	141.6	%REC	5	5
SW-846 8081A	60-57-1	Dieldrin	0	91	%REC	6	6
SW-846 8081A	72-20-8	Endrin	0	97	%REC	6	6
SW-846 8260	100-41-4	Ethylbenzene	80	101	%REC	5	5
SW-846 8081A	58-89-9	gamma-BHC	0	93	%REC	6	6
SW-846 8081A	76-44-8	Heptachlor	0	96	%REC	6	6
SW-846 8260	87-68-3	Hexachlorobutadiene	70.71	95	%REC	5	5
SW-846 6010/6010B	7439-89-6	Iron	0	1530	%REC	5	5
SW-846 6010/6010B	7439-92-1	Lead	85	96	%REC	5	5
SW-846 6010/6010B	7439-93-2	Lithium	95	107	%REC	5	5
SW-846 6010/6010B	7439-96-5	Manganese	0	173	%REC	5	5
SW-846 6010/6010B	7439-97-6	Mercury	96	100	%REC	5	5
SW-846 8260	75-09-2	Methylene chloride	79.24	93.82	%REC	5	5
SW-846 6010/6010B	7439-98-7	Molybdenum	81	88	%REC	5	5
SW-846 8270B	621-64-7	n-Nitrosodipropylamine	65	67	%REC	2	2
SW-846 8260	91-20-3	Naphthalene	78.79	87	%REC	5	5
SW-846 6010/6010B	7440-02-0	Nickel	88	95	%REC	5	5
SW-846 8270B	87-86-5	Pentachlorophenol	37	56	%REC	2	2
SW-846 8270B	108-95-2	Phenol	66	68	%REC	2	2
SW-846 8270B	129-00-0	Pyrene	61	63	%REC	2	2
SW-846 6010/6010B	7782-49-2	Selenium	82	92	%REC	5	5

42

Test Method Name	CAS No.	Analyte	Min of Result	Max of Result	Result Unit	Number of Samples	Number of Lab Batches
SW-846 6010/6010B	7440-22-4	Silver	89	104	%REC	5	5
SW-846 6010/6010B	7440-24-6	Strontium	99	107	%REC	5	5
SW-846 8260	100-42-5	Styrene	79.43	102	%REC	5	5
SW-846 8260	127-18-4	Tetrachloroethene	7.5	95.76	%REC	5	5
SW-846 6010/6010B	7440-31-5	Tin	83	88	%REC	5	5
SW-846 8260	108-88-3	Toluene	79.41	106	%REC	8	8
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	87.23	109.6	%REC	5	5
SW-846 8260	79-01-6	Trichloroethene	87	115.1	%REC	8	8
SW-846 6010/6010B	11-09-6	Uranium, Total	89	100	%REC	5	5
SW-846 6010/6010B	7440-62-2	Vanadium	91	160	%REC	5	5
SW-846 8260	75-01-4	Vinyl chloride	65	85.35	%REC	5	5
SW-846 8260	1330-20-7	Xylene	89.64	115.48	%REC	5	5
SW-846 6010/6010B	7440-66-6	Zinc	77	97	%REC	5	5

5.2.2 Precision

Precision is measured by evaluating both MSDs and field duplicates, as described in the following sections.

Sample Matrix Spike Duplicate Evaluation

Laboratory precision is measured through use of MSDs. Table 13 lists the maximum RPD for each analyte. Analytes with the highest relative percent differences (RPDs) (greater than 35 percent) were reviewed by comparing the highest sample result to the WRW AL. For analytes with RPDs greater than 35 percent, if the highest sample results were sufficiently below the ALs, no further action was needed. If the highest samples were sufficiently below the WRW AL, no further action is needed. For this project, the reviews indicated decisions were not impacted. While some RPDs appear to be high, they would not result in rejection of data that affects project decisions.

Table 13
Sample Matrix Spike Duplicate Summary

Test Method Name	CAS No.	Analyte	Max of RPD (%)
SW-846 8260	71-55-6	1,1,1-Trichloroethane	3.48
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	30.82
SW-846 8260	79-00-5	1,1,2-Trichloroethane	6.59
SW-846 8260	75-34-3	1,1-Dichloroethane	4.28
SW-846 8260	75-35-4	1,1-Dichloroethene	42.91
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	4.13
SW-846 8270B	120-82-1	1,2,4-Trichlorobenzene	8.00
SW-846 8260	95-50-1	1,2-Dichlorobenzene	8.89
SW-846 8260	107-06-2	1,2-Dichloroethane	4.77
SW-846 8260	78-87-5	1,2-Dichloropropane	7.73
SW-846 8270B	106-46-7	1,4-Dichlorobenzene	8.00
SW-846 8260	106-46-7	1,4-Dichlorobenzene	4.00
SW-846 8270B	121-14-2	2,4-Dinitrotoluene	11.04
SW-846 8260	78-93-3	2-Butanone	19.08
SW-846 8270B	95-57-8	2-Chlorophenol	9.09

43

Test Method Name	CAS No.	Analyte	Max of RPD (%)
SW-846 8081A	50-29-3	4,4'-DDT	7.69
SW-846 8260	108-10-1	4-Methyl-2-pentanone	25.67
SW-846 8270B	100-02-7	4-Nitrophenol	13.33
SW-846 8270B	83-32-9	Acenaphthene	7.52
SW-846 8260	67-64-1	Acetone	36.73
SW-846 8081A	309-00-2	Aldrin	5.65
SW-846 6010/6010B	7429-90-5	Aluminum	65.36
SW-846 6010/6010B	7440-36-0	Antimony	16.39
SW-846 8082	12674-11-2	Aroclor-1016	8.38
SW-846 8082	11096-82-5	Aroclor-1260	4.44
SW-846 6010/6010B	7440-38-2	Arsenic	6.45
SW-846 6010/6010B	7440-39-3	Barium	19.30
SW-846 8260	71-43-2	Benzene	13.33
SW-846 6010/6010B	7440-41-7	Beryllium	15.71
SW-846 8260	75-27-4	Bromodichloromethane	5.41
SW-846 8260	75-25-2	Bromoform	6.10
SW-846 8260	74-83-9	Bromomethane	16.67
SW-846 6010/6010B	7440-43-9	Cadmium	16.22
SW-846 8260	75-15-0	Carbon Disulfide	32.28
SW-846 8260	56-23-5	Carbon Tetrachloride	6.33
SW-846 8260	108-90-7	Chlorobenzene	17.72
SW-846 8260	75-00-3	Chloroethane	121.56
SW-846 8260	67-66-3	Chloroform	8.42
SW-846 8260	74-87-3	Chloromethane	59.39
SW-846 6010/6010B	7440-47-3	Chromium	39.32
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	4.81
SW-846 6010/6010B	7440-48-4	Cobalt	13.64
SW-846 6010/6010B	7440-50-8	Copper	28.35
SW-846 8260	124-48-1	Dibromochloromethane	4.75
SW-846 8081A	60-57-1	Dieldrin	6.82
SW-846 8081A	72-20-8	Endrin	6.98
SW-846 8260	100-41-4	Ethylbenzene	7.61
SW-846 8081A	58-89-9	gamma-BHC	6.67
SW-846 8081A	76-44-8	Heptachlor	6.45
SW-846 8260	87-68-3	Hexachlorobutadiene	4.66
SW-846 6010/6010B	7439-89-6	Iron	21.57
SW-846 6010/6010B	7439-92-1	Lead	20.90
SW-846 6010/6010B	7439-93-2	Lithium	8.60
SW-846 6010/6010B	7439-96-5	Manganese	116.33
SW-846 6010/6010B	7439-97-6	Mercury	2.99
SW-846 8260	75-09-2	Methylene chloride	2.34
SW-846 6010/6010B	7439-98-7	Molybdenum	2.44
SW-846 8270B	621-64-7	n-Nitrosodipropylamine	7.19
SW-846 8260	91-20-3	Naphthalene	11.40
SW-846 6010/6010B	7440-02-0	Nickel	20.00
SW-846 8270B	87-86-5	Pentachlorophenol	7.41
SW-846 8270B	108-95-2	Phenol	7.09
SW-846 8270B	129-00-0	Pyrene	5.04
SW-846 6010/6010B	7782-49-2	Selenium	3.55
SW-846 6010/6010B	7440-22-4	Silver	3.35
SW-846 6010/6010B	7440-24-6	Strontium	21.28
SW-846 8260	100-42-5	Styrene	4.00
SW-846 8260	127-18-4	Tetrachloroethene	193.19
SW-846 6010/6010B	7440-31-5	Tin	2.35

44

Test Method Name	CAS No.	Analyte	Max of RPD (%)
SW-846 8260	108-88-3	Toluene	16.15
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	6.42
SW-846 8260	79-01-6	Trichloroethene	23.29
SW-846 6010/6010B	11-09-6	Uranium, Total	2.20
SW-846 6010/6010B	7440-62-2	Vanadium	43.52
SW-846 8260	75-01-4	Vinyl chloride	40.01
SW-846 8260	1330-20-7	Xylene	7.40
SW-846 6010/6010B	7440-66-6	Zinc	51.16

Field Duplicate Evaluation

Field duplicate results reflect sampling precision, or overall repeatability of the sampling process. The frequency of field duplicate collection should exceed 1 field duplicate per 20 real samples, or 5 percent across the BZ. While the 5-percent limit is held for the BZ, individual IHSS are allowed to be less than 5 percent. Table 14 indicates that duplicate frequencies were less than the project goal with respect to all analytical test methods.

Table 14
Field Duplicate Sample Frequency Summary

Test Method Name	Number of Real Samples	Number of Duplicate Samples	% Duplicate Samples
Alpha Spectroscopy	3	0	0.00%
Gamma Spectroscopy	77	0	0.00%
SW-846 6010/6010B	69	0	0.00%
SW-846 8081A	73	0	0.00%
SW-846 8082	114	1	0.88%
SW-846 8260	147	1	0.68%
SW-846 8270B	68	0	0.00%

Duplicate sample RPDs indicate how much variation exists in the field duplicate analyses. The EPA data validation guidelines state "there are no required review criteria for field duplicate analyses comparability" (EPA 1994b). For the DQA, the highest maximum RPDs (greater than 35 percent) are normally reviewed. Analytes with the highest maximum RPDs are further evaluated by comparing maximum analytical results with the WRW AL. If the highest sample concentration is sufficiently below the AL (less than 10 percent), no further action is required. Duplicate sample RPDs are provided in Table 15. For this project, none of the corrected numbers were greater than the action level; therefore, project decisions were not impacted.

Table 15
Duplicate Relative Percent Difference Summary

Lab Code	Test Method	Analyte	Max of Result RPD
STLDEN	SW-846 8082	Aroclor-1016	5.26
STLDEN	SW-846 8082	Aroclor-1221	5.26

45

Lab Code	Test Method	Analyte	Max of Result RPD
STLDEN	SW-846 8082	Aroclor-1232	5.26
STLDEN	SW-846 8082	Aroclor-1242	5.26
STLDEN	SW-846 8082	Aroclor-1260	131.80

5.2.3 Completeness

Based on original project DQOs, a minimum of 25 percent of Environmental Restoration (ER) Program analytical (and radiological) results must be formally verified and validated. Of that percentage, no more than 10 percent of the results may be rejected, which ensures that analytical laboratory practices are consistent with quality requirements. Table 16 shows the number and percentage of validated records (codes without "1"), the number and percentage of verified records (codes with "1"), and the percentage of rejected records for each analyte group. Validation of gamm spectroscopy data were less than 5 percent. This is because some of the analyses are "dry" data and were not validated. Because the frequency of validation is within project quality requirements and in compliance with the RFETS validation goal of 25 percent of all analytical records the results indicate that these data are adequate.

Table 16
Verification and Validation Summary

Validation Qualifier Code	Total of CAS Number	Alpha Spectroscopy	Gamma Spectroscopy	SW-846 6010/6010B	SW-846 8081A	SW-846 8082	SW-846 8260	SW-846 8270B
No V&V	678	0	174	0	0	0	504	0
1	250	0	15	0	0	7	175	53
J	199	0	0	179	16	1	3	0
J1	239	0	0	227	1	1	10	0
JB	12	0	0	0	0	0	12	0
JB1	29	0	0	0	4	0	25	0
R1	11	0	0	11	0	0	0	0
U	3	0	0	0	0	0	3	0
UJ	105	0	0	62	0	0	12	31
UJ1	609	0	0	38	5	0	544	22
V	3713	15	9	449	511	216	870	1643
V1	6988	0	33	621	704	573	3134	1923
Total	12836	15	231	1587	1241	798	5292	3672
Validated	4032	15	9	690	527	217	900	1674
% Validated	31.41%	100.00%	3.90%	43.48%	42.47%	27.19%	17.01%	45.59%
Verified	8126	0	48	897	714	581	3888	1998
% Verified	63.31%	0.00%	20.78%	56.52%	57.53%	72.81%	73.47%	54.41%
Rejected	11	0	0	11	0	0	0	0
% Rejected	0.09%	0.00%	0.00%	0.69%	0.00%	0.00%	0.00%	0.00%

Notes: **Validated qualifiers:** J = estimated, JB = estimated with possible laboratory contamination, R = rejected, UJ = estimated detection limit, V = validated
Verified qualifiers: J1 = estimated, JB1 = estimated with possible laboratory contamination, R1 = rejected, UJ1 estimated detection limit, V1 = verified

46

5.2.4 Sensitivity

Reporting limits, in units of micrograms per kilogram (ug/kg) for organics, milligrams per kilogram (mg/kg) for metals, and picocuries per gram (pCi/g) for radionuclides, were compared with proposed RFCA WRW ALs. Adequate sensitivities of analytical methods were attained for all COCs that affect project decisions. "Adequate" sensitivity is defined as an RL less than an analyte's associated AL, typically less than one-half the AL.

5.3 Summary of Data Quality

RPDs greater than 35 percent indicate the sampling precision limits of some analytes have been exceeded. No records were rejected. Compliance with the project quality requirements and RFETS validation goal of 25 percent of all analytical records indicates these data are adequate. If additional V&V information is received, IHSS Group 900-2 records will be updated in the SWD. Data qualified as a result of additional data will be assessed as part of the CRA process. Data collected and used for IHSS Group 900-2 are adequate for decision making.

6.0 REFERENCES

DOE, 1999a, Annual Update for the Historical Release Report, RF/RMS-99-428.UN, September.

DOE, 1999b, DOE Order 414.1A, Quality Assurance.

DOE, 2002a, Buffer Zone Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, March.

DOE, 2002b, Buffer Zone Sampling and Analysis Plan Addendum #BZ-02-01, Rocky Flats Environmental Technology Site, Golden, Colorado, April.

DOE, CDPHE and EPA, 2003, RFCA Modification, Rocky Flats Environmental Technology Site, June.

EPA QA/G-4, 1994a, Guidance for the Data Quality Objective Process.

EPA 540/R-94/012, 1994b, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review.

EPA 540/R-94/013, 1994c, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

EPA QA/G-9, 1998, Guidance for the Data Quality Assessment Process; Practical Methods for Data Analysis.

Kaiser-Hill (K-H), 2002a, General Guidelines for Data Verification and Validation, DA-GR01-v1, October.

47

K-H, 2002b, V&V Guidelines for Isotopic Determinations by Alpha Spectrometry, DA-RC01-v1, October.

K-H, 2002c, V&V Guidelines for Volatile Organics, DA-SS01-v1, October.

K-H, 2002d, V&V Guidelines for Semivolatile Organics, DA-SS02-v1, October.

K-H, 2002e, V&V Guidelines for Metals, DA-SS05-v1, October.

48
48

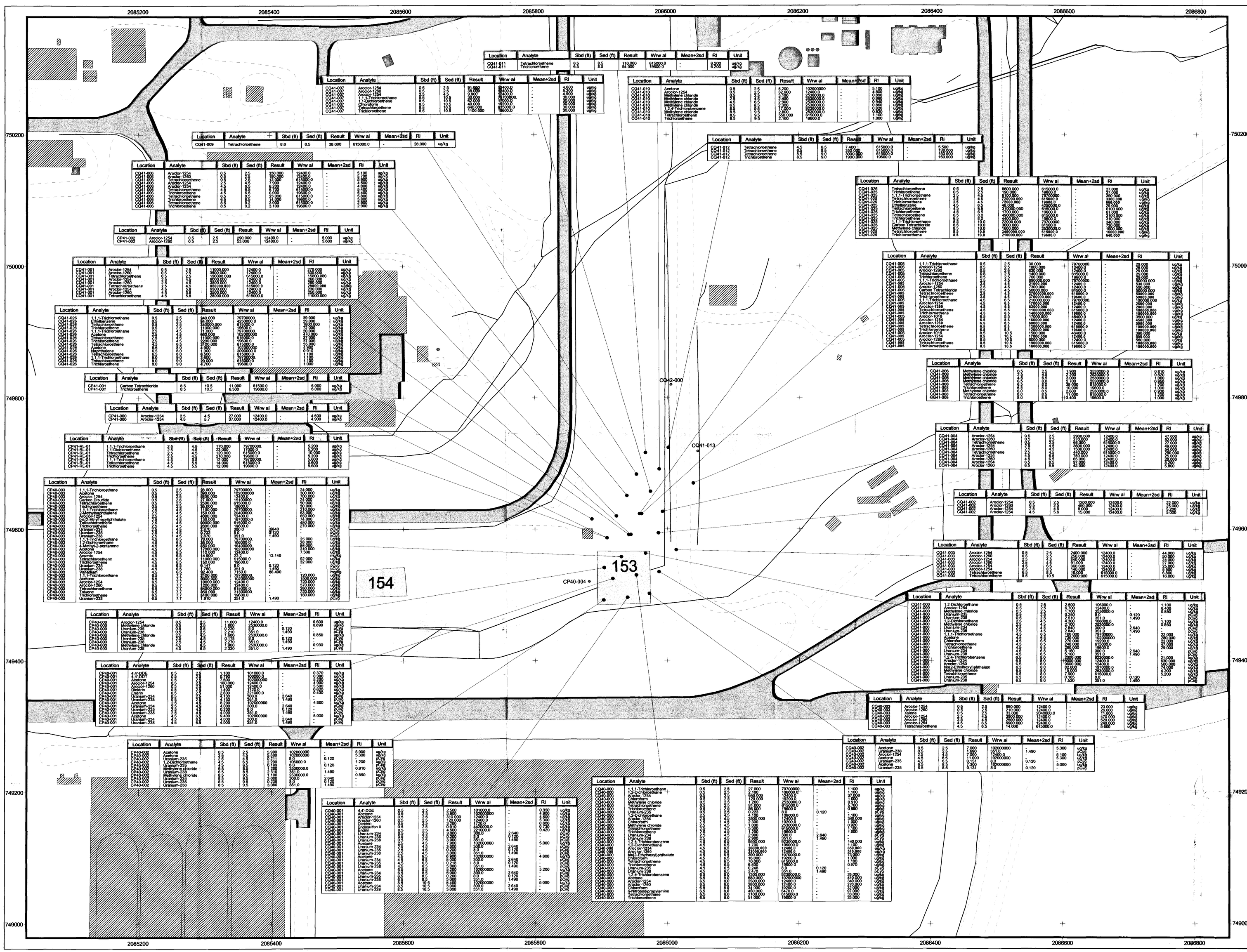


Figure 3

IHSS 153 Subsurface Soil Results Greater than Background Means PlusTwo Standard Deviations or RLs

Key

- Detected Above WRW AL
- Detected Below Action Levels
- Detected Below Background Means Plus Two Standard Deviations or RLs
- IHSS
- Demolished structure
- Structure
- Asphalt
- Dirt road
- Stream

DRAFT

N
W E
S

100 0 100 Feet

Scale = 1 : 800

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: Date: 11-11-04

RADMS

Prepared for:

KAISER•HILL COMPANY

File: W:\Projects\Fy2004\900-2\Closeout\AV_Projects\900-2_ds_052004 gpp.apr