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EMCBC-00470-07

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Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF THE FINAL CERTIFICATION REPORT FOR AREA 6E 20600-RP-0012, REVISION 1

Enclosed for your review and approval is the final Certification Report Letter for Area 6E, Revision 1 which reflects the incorporation of all agency comments received.

If you have any questions or require additional information, please contact me at (513) 648-3139.

Sincerely,

Johnny Reising

Johnny W. Reising
Director

Enclosure: As Stated

cc w/enclosure:
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CERTIFICATION REPORT FOR AREA 6E

FERNALD CLOSURE PROJECT
FERNALD, OHIO

APRIL 2007

U.S. DEPARTMENT OF ENERGY

20600-RP-0012
REVISION 1

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LIST OF ACRONYMS AND ABBREVIATIONS

ASCOC	area-specific constituent of concern
ASL	Analytical Support Level
CDL	Certification Design Letter
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	constituent of concern
CRDL	contract required detection limit
CU	certification unit
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
FCP	Fernald Closure Project
FRL	final remediation level
HAMDC	highest allowable minimum detectable concentration
MDC	minimum detectable concentration
µg/kg	micrograms per kilogram
MDL	minimum detectable level
mg/kg	milligrams per kilogram
OEPA	Ohio Environmental Protection Agency
OSDF	On-Site Disposal Facility
OU	Operable Unit
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyl
pCi/g	picoCuries per gram
ppm	parts per million
PSP	Project Specific Plan
RAWP	Remedial Action Work Plan
ROD	Record of Decision
SCQ	Sitewide CERCLA Quality Assurance Project Plan
SED	Sitewide Environmental Database
SEP	Sitewide Excavation Plan
SVOC	semi-volatile organic compound
SWRB	Storm Water Retention Basin
TPU	Total Propagated Uncertainty
UCL	upper confidence limit
UST	underground storage tank
V&V	verification and validation process
VOC	volatile organic compound
VSL	Validation Support Level
WAC	waste acceptance criteria

EXECUTIVE SUMMARY

This certification report presents the information and data used by the U.S. Department of Energy (DOE) to determine that the soil in Area 6E meets the certification requirements at the Fernald Closure Project (FCP).

This Certification Report includes details of the certification sampling, analysis, validation, and statistical analysis that took place in the areas covered by this document. All of the areas identified and presented in this certification report required extensive remedial actions. Consistent with the Sitewide Excavation Plan (SEP, DOE 1998), these areas underwent predesign, excavation, and precertification activities, including the use of real-time measurement systems as well as physical sampling and analysis. As a result of these activities, it was determined that no further remediation was necessary prior to certification.

Area 6E represents the southeastern edge of the Former Production Area where recent concrete crushing and soil screening activities took place. CU delineation for these areas is described in the Certification Design Letter and Certification Project Specific Plan for Area 6E (DOE 2006). Additionally, three CUs were constructed from samples obtained from the bottom of utility trenches to demonstrate that contamination had been removed from below the excavated utility. Certification sample results presented in this report demonstrate that the certification criteria were achieved for every CU. These criteria state that: 1) the mean concentration or activities of the primary area-specific constituents of concern (ASCOCs) within a CU must be less than the final remediation levels (FRLs) at the 95 percent upper confidence level (UCL) or the 90 percent UCL for the secondary ASCOCs; and 2) no certification result can exceed two times the FRL (i.e., the hotspot criterion). If either of these criteria is not met, then further investigation and possible excavation is required. If both of these criteria are met for a CU, then it can be released to restoration for development of the final land use.

Area 6E underwent the certification process in the fall of 2006. All samples related to this effort were collected in 2006 and analyzed at an off-site laboratory that is on the FCP Approved Laboratories List, per the Sitewide Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Quality Assurance Project Plan (SCQ, DOE 2003). The data were subjected to the required validation and verification process.

After the initial certification samples were collected, analyzed and validated, CUs 01, 02, 04, 08, 09, 11, 18, and Utility Trench CUs 01 and 03 initially failed the statistical requirements and/or hotspot criteria for radium-226, technetium-99, or total uranium. Additional excavation and sampling were required to remove the radium, technetium, and/or uranium contamination and pass the certification criteria.

However, CU18 still failed the UCL on the mean for radium-226 based on final laboratory data after the preliminary data had indicated passing conditions. Therefore, a risk assessment was performed for the residual radium-226 in CU18, which verified that the levels present are still below the acceptable risk of 10^{-4}. No further remediation was necessary for CU18. The certification details are provided in Section 2.0 and the evaluation of the data is in Section 5.0 of this document.

On the basis of this reported information and supporting project files, DOE has determined that no additional remedial actions are required in this portion of the site. The area will be considered certified when the U.S. Environmental Protection Agency and Ohio Environmental Protection Agency concur that certification criteria have been met. At that time, DOE intends to proceed with final land use activities as outlined in the Natural Resource Restoration Plan (DOE 2002).

DOE has restricted access to certified areas in order to maintain their integrity prior to final land use development. FCP procedure EP-0008 has been developed to implement the process that protects certified areas from becoming recontaminated.

1.0 INTRODUCTION

1.1 PURPOSE

This report presents the soil certification process and analytical data used by the U.S. Department of Energy (DOE) to demonstrate that the existing area-specific constituents of concern (ASCOCs) in Area 6E (Figure 1-1) meet the certification requirements of the Sitewide Excavation Plan (SEP, DOE 1998). Analytical results and statistical tests for the certification units (CUs) identified in the Certification Design Letter (CDL) and Certification Project Specific Plan (PSP) for Area 6E (DOE 2006), except where specified in this document (Section 3.2), indicate that this area does not require any additional soil remediation. Also presented are the certification results for samples collected from utility trench footprints within this area. Based on the information presented in this document, the DOE considers remedial goals achieved in the portion of the site addressed by this document.

1.2 BACKGROUND

In the Operable Unit (OU) 5 Record of Decision (ROD, DOE 1996a), DOE committed to excavating contaminated soil that exceeds health-based final remediation levels (FRLs), with final disposition of the excavated material in the On-Site Disposal Facility (OSDF) or an off-site disposal facility if the OSDF waste acceptance criteria (WAC) are exceeded. The OU5 Remedial Investigation Report (DOE 1995a) defined the potential extent of soil contamination exceeding the FRLs and, in general, indicated widespread contamination in approximately 430 acres of the 1,050-acre Fernald Closure Project (FCP).

In the OU5 Remedial Action Work Plan (RAWP, DOE 1996b), DOE committed to preparing the SEP to define the overall approach to implementing the soil and at- and below-grade debris cleanup obligations identified in the OU2 (DOE 1995b), OU3 (DOE 1996c), and OU5 RODs. In the SEP, the FCP was divided into ten remedial areas. This document addresses a portion of Remediation Area 6 identified as Area 6E (Figure 1-1).

After all necessary remediation is completed within each area or its associated phase, the soil will be sampled, analyzed and certified as attaining all clean up goals (i.e., FRLs). The SEP describes the general soil remediation and certification process at the FCP. As discussed in Section 4.1 of the SEP, Excavation Approach D is the appropriate remedial approach for contaminated material in Area 6E. The remediation details are presented in the CDL and Certification PSP for Area 6E.

1.3 AREA DESCRIPTION

The focus of this certification report is Area 6E, which represents the southeastern edge of the former production area where recent concrete crushing and soil screening activities took place. The boundary for this area is shown on Figure 1-1.

1.4 SCOPE

The scope of this Certification Report includes the details of certification sampling, analysis, validation and statistical evaluation for soil samples collected from Area 6E. This area was divided into 12 Group 1 CUs, two Group 2 CUs, five underground storage tank (UST) CUs, and three Utility Trench CUs. The certification design for these 22 CUs follows the general approach outlined in Section 3.4 of the SEP

1.5 OBJECTIVES

The objectives of this Certification Report are:

- Provide an overview of the precertification and remedial activities conducted in the Area 6E
- Describe the analytical methods, data validation processes, data reduction and statistical processes used to support the certification process
- Present the certification sampling results for the 19 CUs that make up the Area 6E and the three CUs that comprise samples collected from the bottom of utility trenches
- Present the statistical analysis showing that all 22 CUs have passed the certification criteria (i.e., FRL attainment and hotspot criteria)
- Describe access controls implemented to prevent recontamination.

1.6 REPORT FORMAT

This certification report is presented in five sections with supporting data and documentation in Appendices A and B. The sections of this report are as follows:

Section 1.0	Introduction: Purpose, background, area description, scope, and objectives of the report
Section 2.0	Certification Approach: The CU design and approach to sampling and analysis used for certification
Section 3.0	Overview of Field Activities: Area preparation/survey, sampling and changes to work scope
Section 4.0	Analytical Methodologies, Data Validation Processes and Data Reduction
Section 5.0	Certification Evaluation and Conclusions
Appendix A	Statistical Analysis of Sample Data - Initial Sampling
Appendix B	Statistical Analysis of Sample Data - Secondary Sampling

Appendix C Correction of 7-Day Radium-226 Results

Appendix D Real Time - Phase 3 Maps

Appendix E Risk Assessment Calculations

1.7 FCP CONTROLLED CERTIFICATION MAP

In order to track the status of certification at the FCP, DOE includes a site map showing the status of the soil remediation areas with all Certification Reports. This map is included as Figure 1-2, and it has been updated to reflect the status of the areas included in this document.

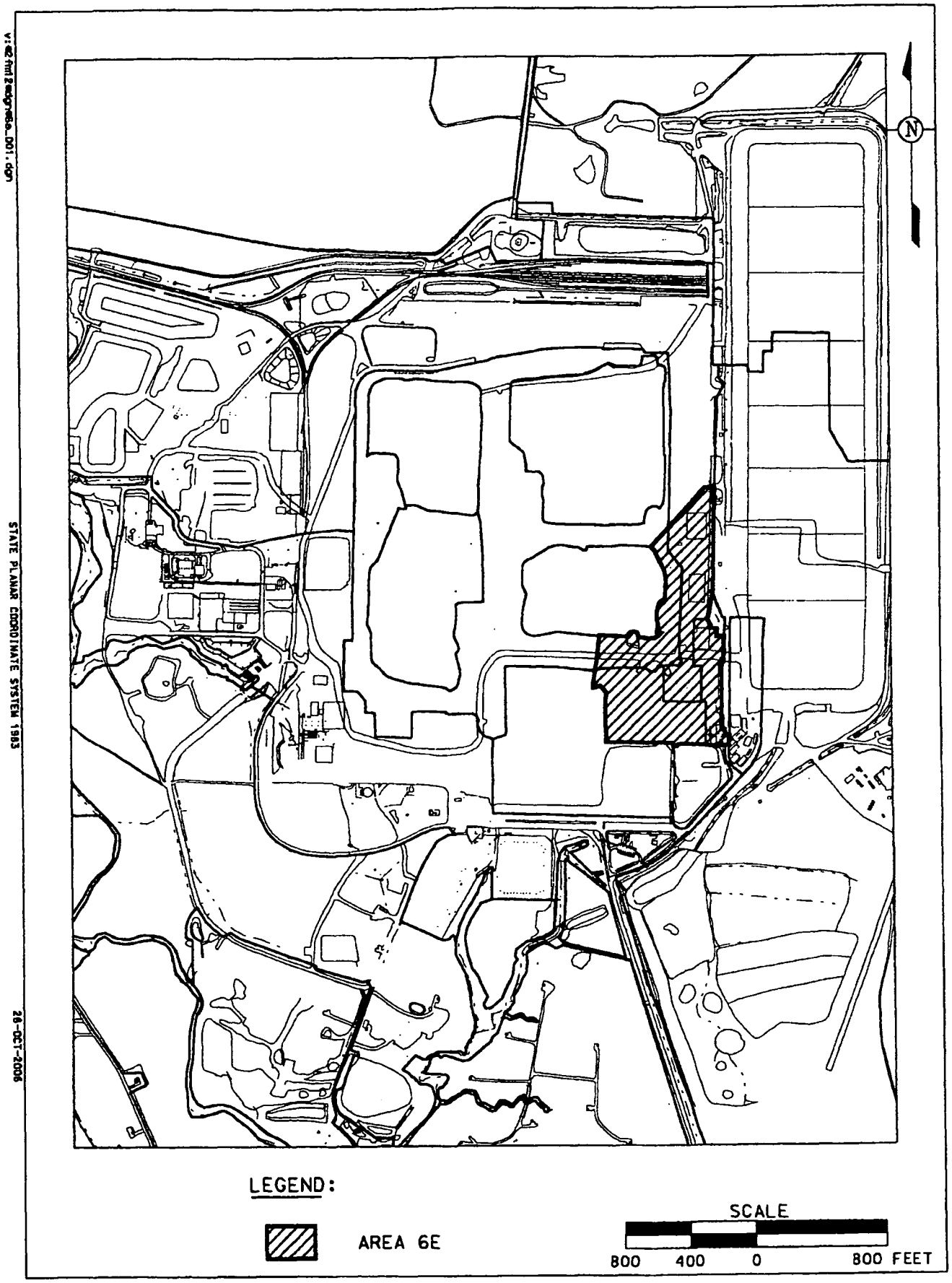
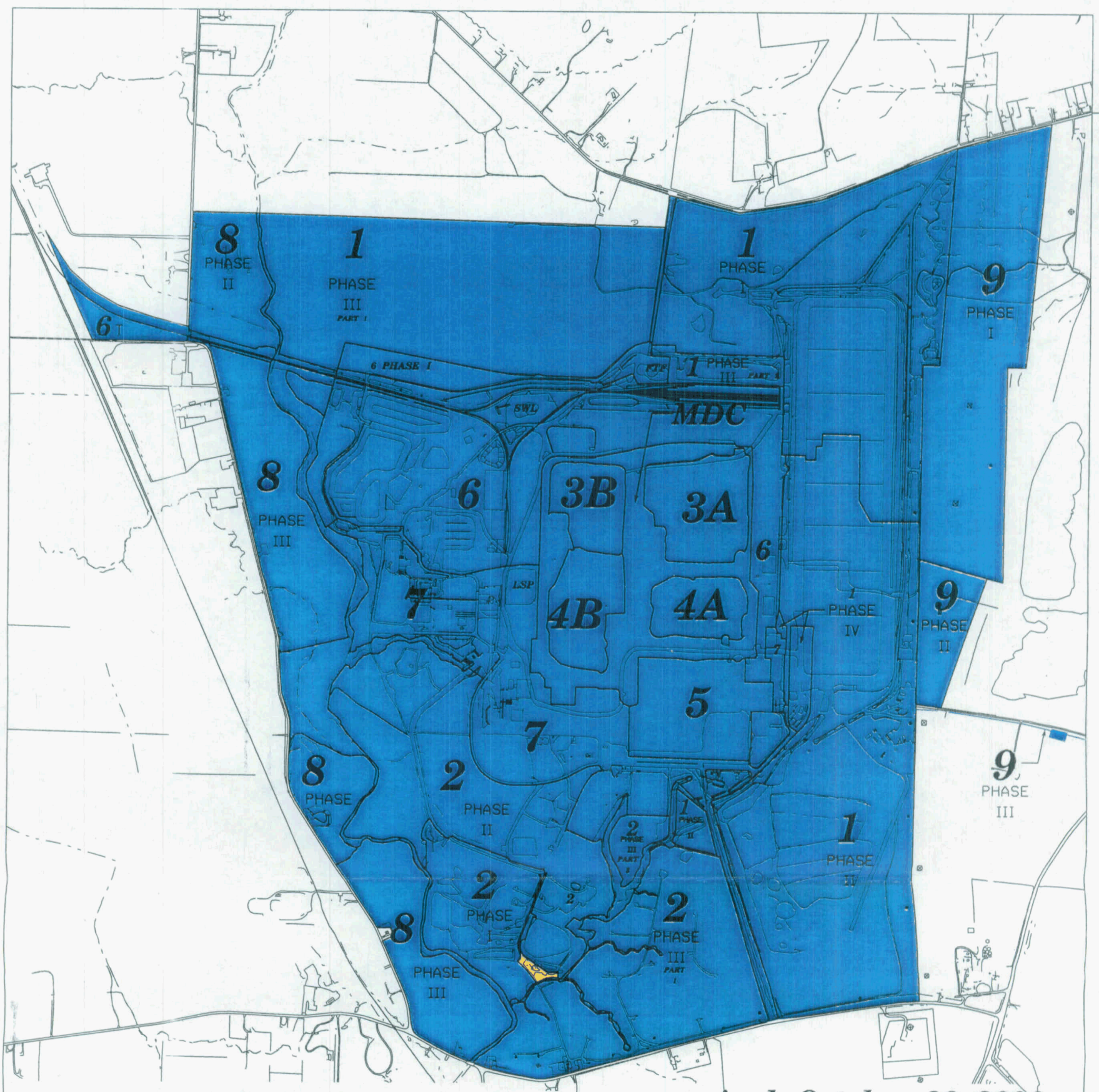


FIGURE 1-1. AREA 6E LOCATION MAP



revised October 28, 2006

AREAS	TOTAL ACRES	APPROVED CERT. ACRES	CERT. ACRES IN PROGRESS	REMEDIATION ACRES IN PROGRESS	PREDESIGN ACRES IN PROGRESS	REMAINING ACRES
AREA 1	395.1	395.1	0	0	0	0
AREA 2	173.9	173.9	0	0	0	0
AREA 3A/4A	29.3	29.3	0	0	0	0
AREA 3B/4B	25.4	25.4	0	0	0	0
AREA 5	26.9	26.9	0	0	0	0
AREA 6	149.5	149.5	0	0	0	0
AREA 7	77.0	77.0	0	0	0	0
AREA 8	98.9	98.9	0	0	0	0
MDC	39.8	39.8	0	0	0	0
PR/SSOD/PPDD	33.3	33.3	0	0	0	0
TOTAL ON SITE	1049.2	1049.2	0	0	0	0
AREA 9	85.6	85.6	0	0	0	0
TOTAL OFF SITE	85.6	85.6	0	0	0	0

AREA 10 INCLUDES PIPELINES RELATED TO GROUNDWATER REMEDIATION AND OTHER UTILITIES NOT SPECIFICALLY LISTED.

SCALE

1100 550 0 1100 FEET

FIGURE 1-2. FCP CONTROLLED CERTIFICATION MAP

V:\5ci31\dgn\bmp\cert\maps5.dgn
STATE PLANAR COORDINATE SYSTEM 1983
12-JAN-2007

2.0 CERTIFICATION APPROACH

2.1 CERTIFICATION STRATEGY

This section summarizes the ASCOC selection process and the certification approach, including CU establishment, sampling design, and statistical analysis. The general purpose of certification sampling is to verify that the post-remediation mean concentration or activity of each ASCOC in the soil is less than its FRL at the 95 percent upper confidence level (UCL) (primary ASCOC) or the 90 percent UCL (secondary ASCOCs). This certification process also includes the hotspot criterion, which states that if any ASCOC concentration exceeds two times its FRL, additional soil remediation and sampling are necessary to remove the hotspot and verify that the COC is below the hotspot limit. Details on these actions are discussed in Section 3.4.5 of the SEP. If the mean residual concentration or activity of all ASCOCs are below the FRLs within the respective confidence bounds, and the hotspot criterion is met, then the remedial objectives have been achieved for the CU and it can then be released for regrading, reseeding and development of a final land use. Additional discussion of the certification strategy is described in Section 3.4 of the SEP and in the CDL and Certification PSP for Area 6E.

2.1.1 Area-Specific Constituents of Concern

ASCOCs are selected based on screening criteria and requirements in the SEP.

2.1.2 ASCOC Selection Criteria

The selection process for retaining secondary ASCOCs for a remediation area is driven by applying the following set of decision criteria:

- It was retained as an ASCOC in adjacent FCP soil remediation areas;
- It is listed as a soil constituent of concern (COC) in the OU5 ROD, and it is listed as an ASCOC in Table 2-7 of the SEP for the Remediation Area of interest;
- Analytical results show that a contaminant is present above its FRL, and the above-FRL concentrations are not attributable to false positives or elevated contract-required detection limits (CRDLs);
- It can be traced to site use, either through process knowledge or known release of the constituent to the environment; and
- Physical characteristics of the contaminant, such as degradation rate and volatility, indicate it is likely to persist in the soil between time of release and remediation.

2.1.3 ASCOC Selection Process

As committed to in the SEP, total uranium, radium-226, radium-228, thorium-228, and thorium-232 (the sitewide primary ASCOCs) must be retained as ASCOCs. Several COCs were retained as secondary

ASCOCs, per the selection criteria noted above. Table 2-1 lists the ASCOCs retained for certification evaluation, the reason for their retention and the applicable FRL/benchmark toxicity values. Additionally, the ASCOCs for the samples collected in the various utility trenches were defined in variance 20810-PSP-0006-142 written to the Project Specific Plan For Excavation Control Of Areas 3b, 4b, And 5 (Supplement To 20300-PSP-0011). The constituents differ from the surface certification units as recent activities at the surface within this area (e.g. screening, crushing, stockpiling) carried many more ASCOCs into the area.

2.2 CERTIFICATION APPROACH

2.2.1 Certification Design

The intent of the certification effort is to certify that ASCOC concentrations in the Area 6E soil footprint meet the certification criteria in Section 3.4 of the SEP and the SEP Addendum (DOE 2001). The CU design is depicted on Figure 2-1 and the sample locations are shown on Figures 2-2 through 2-12. In order to demonstrate that no above-FRL conditions existed in trenches created by utility removal, samples were collected from the trench bottoms. Three trench CUs were added after the utility pipes were excavated and removed from the area. These utilities were removed after precertification had been completed. The data from this sampling effort along with a statistical evaluation (where necessary) are presented in Appendices A and B.

Several factors were taken into consideration when determining the boundaries for each CU within Area 6E: historical land use, proximity to other areas of the site, residual COC data, previously existing underground storage tanks, and the presence of high-leachability areas.

Since the northern portion of Area 6E falls within the Former Production Area (FPA), it is considered to be an impacted area, and will therefore be comprised of Group 1 CUs to allow for more concentrated sampling and to ensure excavation activities removed contaminated soil. The southern portion of Area 6E was not within the FPA historically as it was a trailer complex area and was not considered to be impacted; therefore this area is comprised of two Group 2 CUs (CUs 11 and 12). Although these are classified as Group 2 CUs, each one is considerably less than the typical size of a Group 2 CU, which can be as big as 250,000 square feet (ft^2), with CU 11 being approximately 158,305 ft^2 and CU 12 being approximately 95,952 ft^2, which provided a sampling density much higher than a typical Group 2 CU. However, as discussed in Section 3.2 a portion of CU 11 was later determined to contain elevated levels of radium-226 thus making it impacted, which warrants even higher sampling density. Section 5.1 contains the evaluation and response to this condition.

Two of the 12 group one CUs (CU 18 and CU 19) were defined around soil that was intentionally spread across the footprints of several underlying CUs. This soil originated from stockpiles of a soil and debris mixture, whereby the soil portion was previously precertified prior to excavating and stockpiling. The

excavation was necessary to remove man-made debris primarily from the substation area efficiently and effectively, however, the soil was not necessarily contaminated. Once these materials were stockpiled, the debris was mechanically removed leaving the precertified soil behind. In order to prove that the remaining soil was not chemically or radiologically contaminated, the piles were spread into an approximate 1-foot lift with the boundaries identified and made into discrete CUs.

2.2.2 Sample Selection Process

Certification sampling locations were selected according to Section 3.4.2 of the SEP. Each CU was first divided into 16 approximately equal sub-CUs. Sample locations were then generated by randomly selecting an easting and northing coordinate within the boundaries of each sub-CU, then testing those locations against the minimum distance criteria for the CU. If the minimum distance criteria were not met, an alternative random location was selected for that sub-CU, and all the locations were retested. This process continued until all 16 random locations met the minimum distance criteria.

All sub-CUs and planned certification sampling locations are shown on Figures 2-2 through 2-12. One sample location in the CU was designated with a "D", indicating a field duplicate sample collection location.

Prior to commencement of sampling activities, all locations were surveyed and field verified to make sure no surface obstacles would prevent sample collection at the planned location.

2.2.3 Certification Sampling

Samples were collected from the 0 to 6-inch surface soil interval at the designated and surveyed location, as described in Section 2.2.2 of this document. All collected samples were analyzed at an off-site laboratory for the five primary ASCOCs using the gamma spectrometry method. Additional information regarding the certification sampling and analysis, including the secondary ASCOCs for individual areas, may be obtained from the CDL/Certification PSP for Area 6E. Also, prior to and during the certification process, several issues arose which impacted certification sampling in Area 6E. These are described in more detail in Section 3.2 of this document.

2.2.4 Statistical Analysis

After data are entered into the Sitewide Environmental Database (SED) and validated, a statistical analysis is performed to evaluate the pass/fail criteria for the CUs. The SEP (Section 3.4.3 and Appendix G) notes that two criteria must be met for a CU to pass certification. If the data distribution is normal or lognormal, the first criterion compares the 95 percent UCL on the mean of each primary COC to its FRL, or the 90 percent UCL on the mean of each secondary ASCOC. On an individual CU basis, any ASCOC with the 95 percent UCL above the FRL for primary ASCOCs (or 90 percent UCL above the FRL for secondary COCs) results in that CU failing certification. If the data distribution is not normal or lognormal, the appropriate nonparametric approach discussed in Appendix G of the SEP will be used to evaluate this first criterion. The *a posteriori* test will be performed to determine whether the sample size is sufficient for a meaningful conclusion of this comparison. The second criterion is the hotspot criterion, which states that primary or secondary ASCOC results must not exceed two times the FRL. When the given UCL on the mean for each COC is less than its FRL and the hotspot criterion is met, the CU will be considered certified.

In the event that a CU passes the *a posteriori* test but fails certification, the following two scenarios will be evaluated: 1) localized contamination, and 2) widespread contamination. Details on the evaluation and responses to these possible outcomes are provided in Section 3.4.5 of the SEP.

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TABLE 2-1
ASCOC LIST FOR AREA 6E

ASCOC	Retained as ASCOC?	Justification	CU(s)
Radionuclides			
Total Uranium	Yes	Primary Radionuclide	All
Radium-226	Yes	Primary Radionuclide	All
Radium-228	Yes	Primary Radionuclide	All
Thorium-228	Yes	Primary Radionuclide	All
Thorium-232	Yes	Primary Radionuclide	All
Lead-210	Yes	Area 7 COC [a]	1 - 12, 18 and 19
Cesium-137	Yes	Area 4, 6, and 7 COC [a]	1 - 12, 18 and 19
Plutonium-238	No	Not detected at concentrations above the FRL	None
Strontium-90	No	Not detected at concentrations above the FRL	None
Technetium-99	Yes	Area 4, 6, and 7 COC [a]	1 - 12, 18 and 19
Thorium-230	Yes	Area 4, 6, and 7 COC [a]	1 - 12, 18 and 19
Inorganics			
Antimony	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Arsenic	Yes	Area 4, 5, 6, and 7 COC [a] Specific COC for USTs 5, 8, and 9	1 - 12, 14, 15, 18 and 19
Barium	Yes	Area 7 SWRB COC [a] Specific COC for USTs 1, 2, 5, 10, and 17	1 - 14, 16, 17, 18 and 19
Beryllium	Yes	Area 4, 5, 6 and 7 COC [a]	1 - 12, 18 and 19
Cadmium	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Chromium	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Fluoride	No	Not detected at concentrations above the FRL	None
Lead	Yes	Area 7 SWRB COC [a] Specific COC for USTs 1, 2, 5, and 10	1 - 14, 16, 18 and 19
Manganese	No	Not detected at concentrations above the FRL	None
Mercury	Yes	Area 7 SWRB COC [a] Specific COC for USTs 1, 2, and 5	1 - 14, 18 and 19
Molybdenum	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19

TABLE 2-1
ASCOC LIST FOR AREA 6E

ASCOC	Retained as ASCOC?	Justification	CU(s)
Inorganics (Continued)			
Selenium	Yes	Area 7 SWRB COC [a] Specific COC for USTs 5, 8, 9, and 17	1 - 12 14, 15, 17, 18 and 19
Silver	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Pesticides/PCBs			
Aroclor-1254	Yes	Area 4, 5, 6, and 7 COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Aroclor-1260	Yes	Area 4, 5, 6, and 7 COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Dieldrin	Yes	Area 4, 5, 6, and 7 COC [a]	1 - 12, 18 and 19
PAHs			
Benzo(a)anthracene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Benzo(a)pyrene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Benzo(b)fluoranthene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Benzo(g,h,i)perylene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Benzo(k)fluoranthene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Chrysene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Dibenzo(a,h)anthracene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Fluoranthene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Indeno(1,2,3-cd)pyrene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Phenanthrene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
Pyrene	Yes	Area 7 SWRB COC [a]	1 - 12, 18 and 19
VOCs			
1,1,1-Trichloroethane	Yes	Area 7 SWRB COC [a] Specific COC for USTs 5 and 17	1 - 12, 14, 17, 18 and 19
1,1-Dichloroethene	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
1,2-Dichloroethane	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19

TABLE 2-1
ASCOC LIST FOR AREA 6E

ASCOC	Retained as ASCOC?	Justification	CU(s)
VOCs (Continued)			
2-Butanone (MEK)	Yes	Specific COC for USTs 5, 8, and 9	14, 15
4-Methyl-2-Pentanone (MIK)	Yes	Area 7 SWRB COC [a]	1 - 12, 14, 18 and 19
Acetone	Yes	Area 7 SWRB COC [a] Specific COC for USTs 5, 8, 9, 10, and 17	1 - 12, 14 - 17, 18 and 19
Benzene	Yes	Area 7 SWRB COC [a] Specific COC for USTs 1, 2, 5, 8, and 9	1 - 15, 18 and 19
Bromodichloromethane	No	Not detected at concentrations above the FRL	None
Carbon Tetrachloride	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Cyclohexanone	Yes	Specific COC for UST 5	14
Ethylbenzene	Yes	Area 7 SWRB COC [a] Specific COC for USTs 1, 2, 5, 8, and 9	1 - 15, 18 and 19
Ethyl Ether	Yes	Specific COC for UST 5	14
Methylene Chloride	Yes	Area 7 SWRB COC [a] Specific COC for USTs 5 and 10	1 - 12, 14, 16, 18 and 19
Tetrachloroethene	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Toluene	Yes	Area 7 SWRB COC [a] Specific COC for USTs 1, 2, 5, 8, and 9	1 - 15, 18 and 19
Trichloroethene	Yes	Area 7 SWRB COC [a] Specific COC for UST 5	1 - 12, 14, 18 and 19
Trichlorofluoromethene	Yes	Specific COC for UST 10	16
Trifluorochloromethane	No	Specific COC for UST 5, but based on high volatility, it will not persist in the environment.	None
Xylenes, Total	Yes	Area 7 SWRB COC [a] Specific COC for USTs 1, 2, 5, 8, and 9	1 - 15, 18 and 19
Dioxins			
Heptachlorodibenzo-p-dioxins	No	Not detected at concentrations above the FRL	None
Octachlorodibenzo-p-dioxins	No	Not detected at concentrations above the FRL	None

[a] Material from one or more of these areas was staged in the Area 6E footprint, therefore this COC is being retained for certification.

CU 13 = USTs 1 and 2
CU 14 = UST 5
CU 15 = USTs 8 and 9
CU 16 = UST 10
CU 17 = UST 17

PAHs - polyaromatic hydrocarbons
PCBs - polychlorinated biphenyls

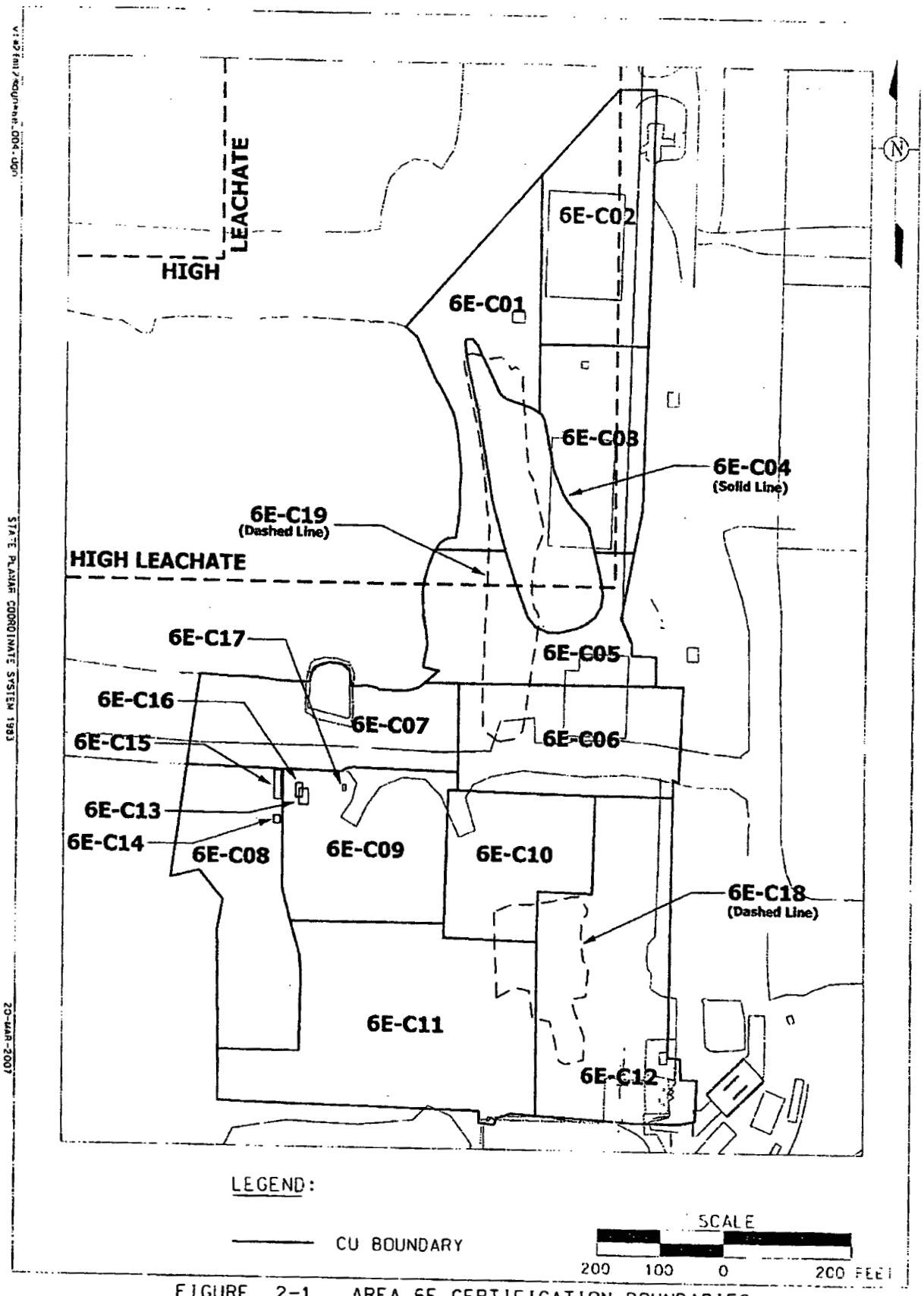

FIGURE 2-1. AREA 6E CERTIFICATION BOUNDARIES

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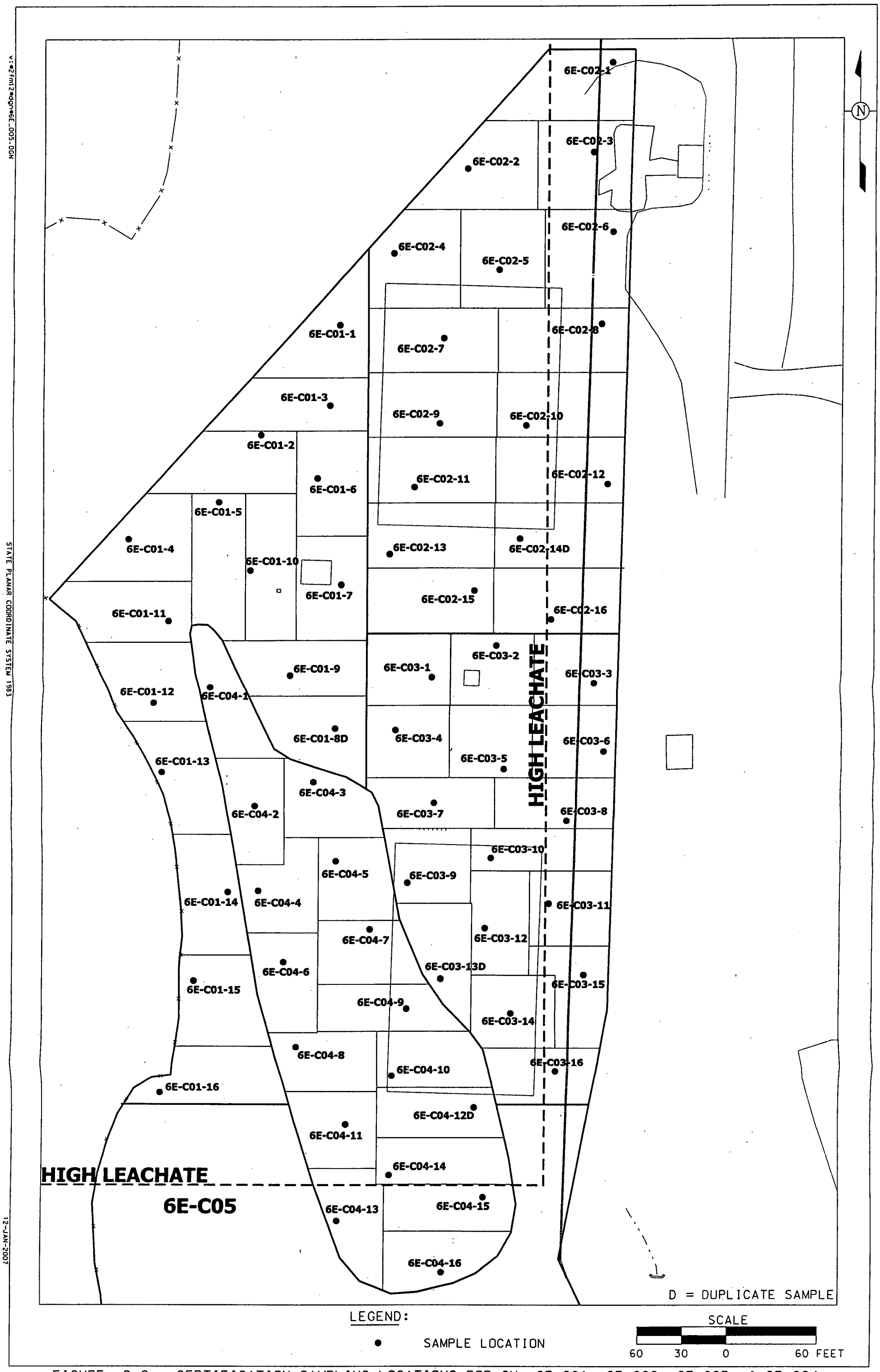
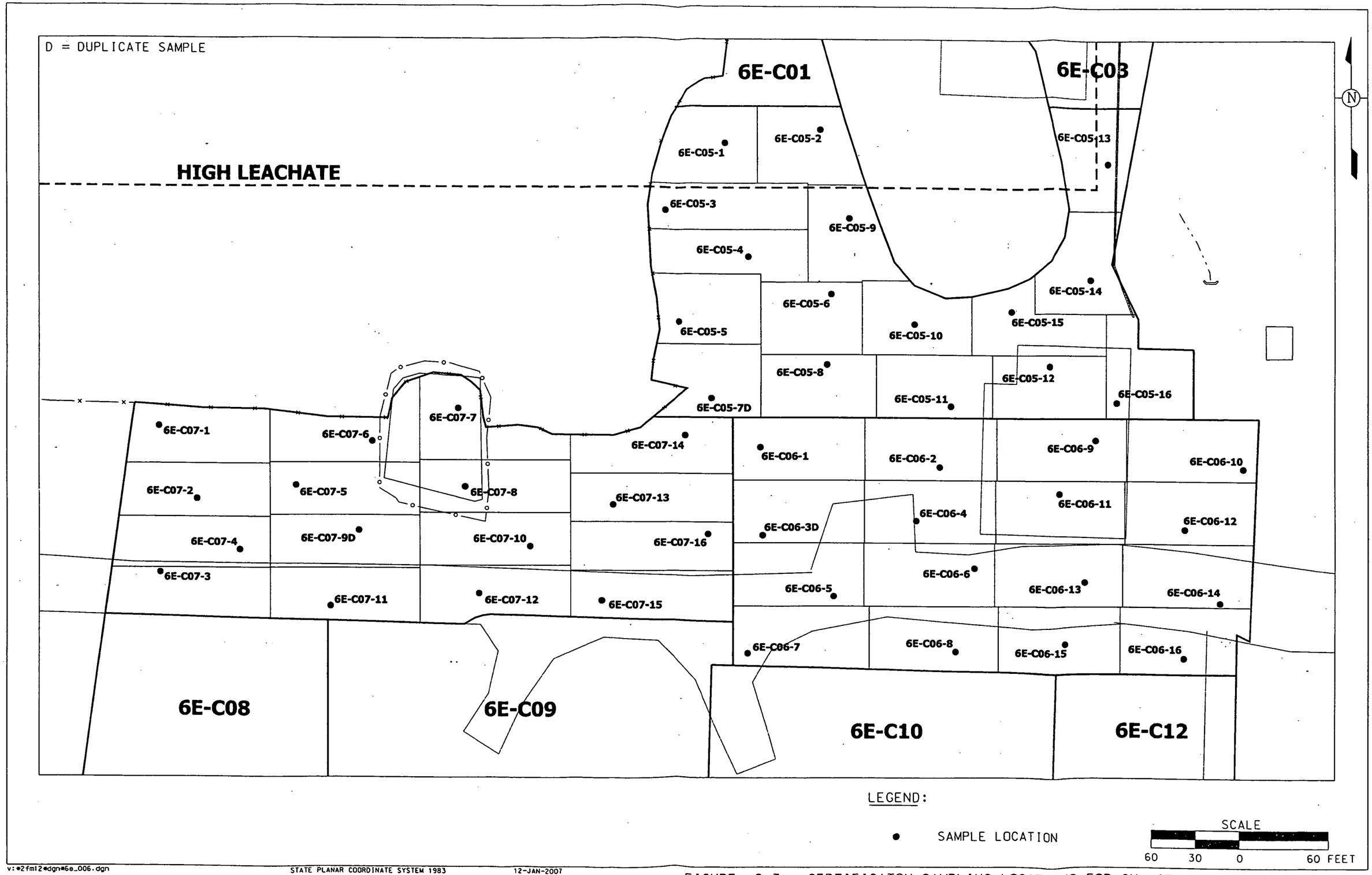


FIGURE 2-2. CERTIFICATION SAMPLING LOCATIONS FOR CUs 6E-C01, 6E-C02, 6E-C03, & 6E-C04



v:\2fm12\dgn\6e_006.dgn STATE PLANAR COORDINATE SYSTEM 1983 12-JAN-2007

FIGURE 2-3. CERTIFICATON SAMPLING LOCATIONS FOR CUs 6E-C05, 6E-C06, & 6E-C07

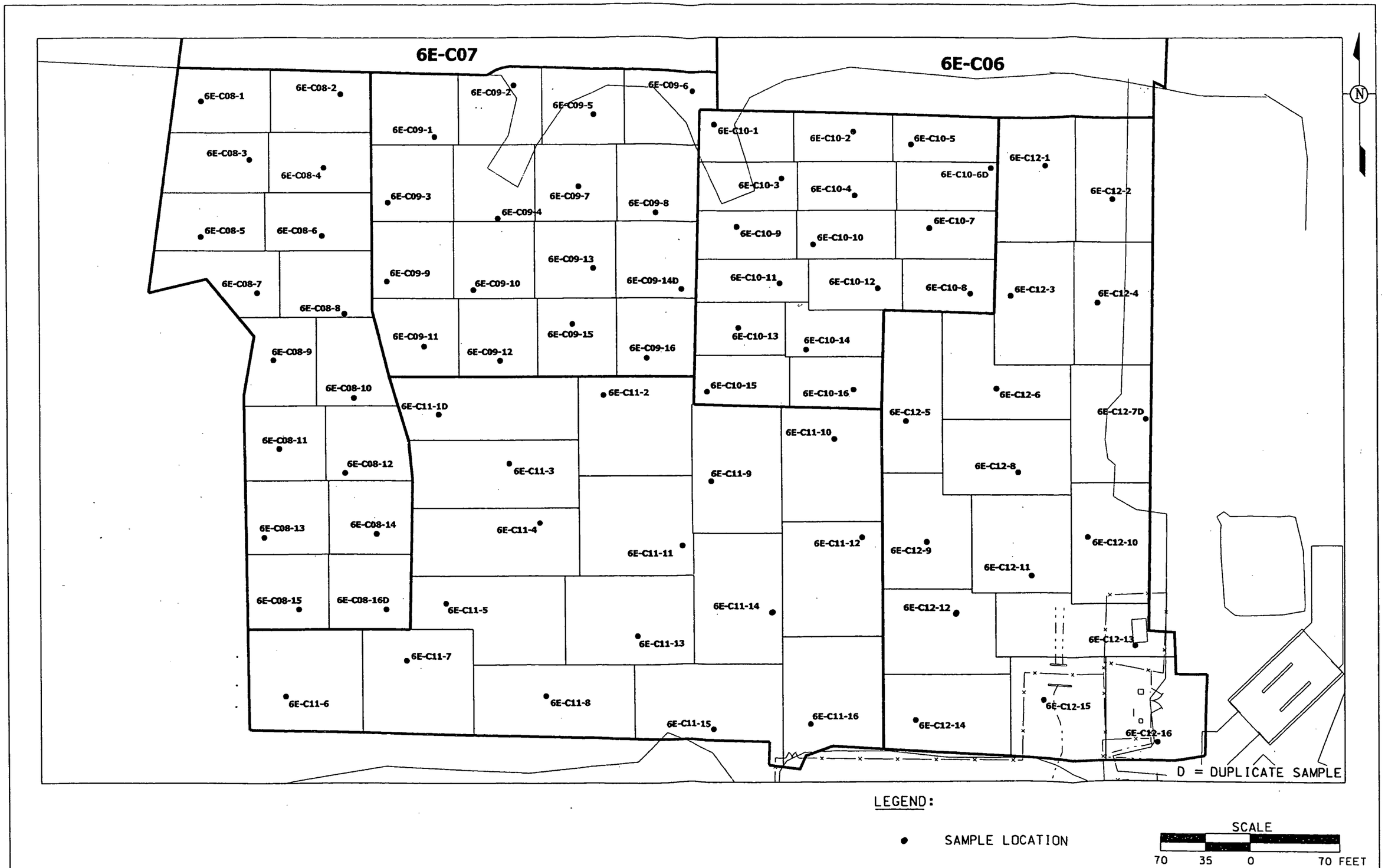


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FIGURE 2-4. CERTIFICATION SAMPLING LOCATIONS FOR CUs 6E-C08, 6E-C09, 6E-C10, 6E-C11, & 6E-C12

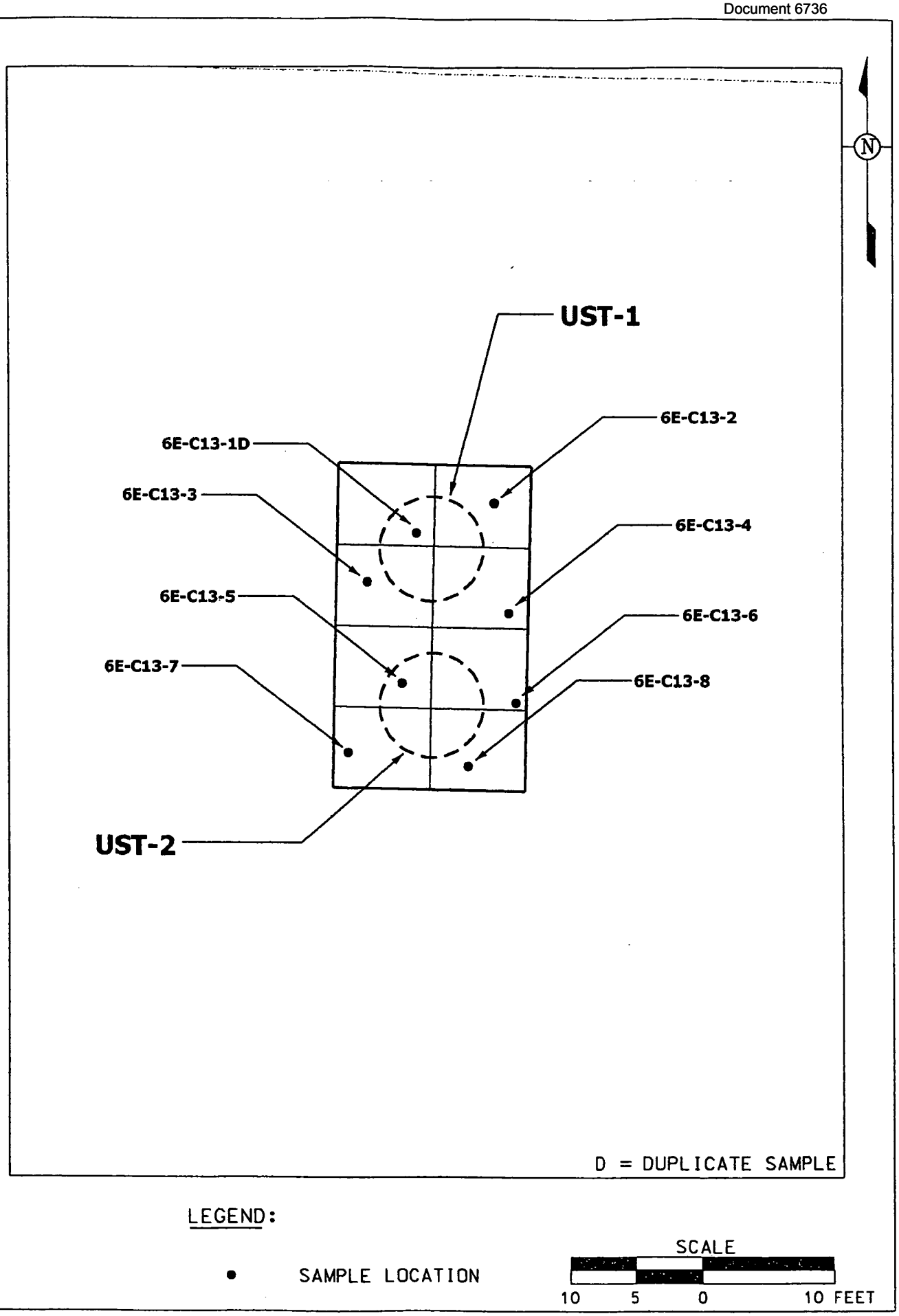

FIGURE 2-5. CERTIFICATION SAMPLING LOCATIONS FOR CU 6E-C13

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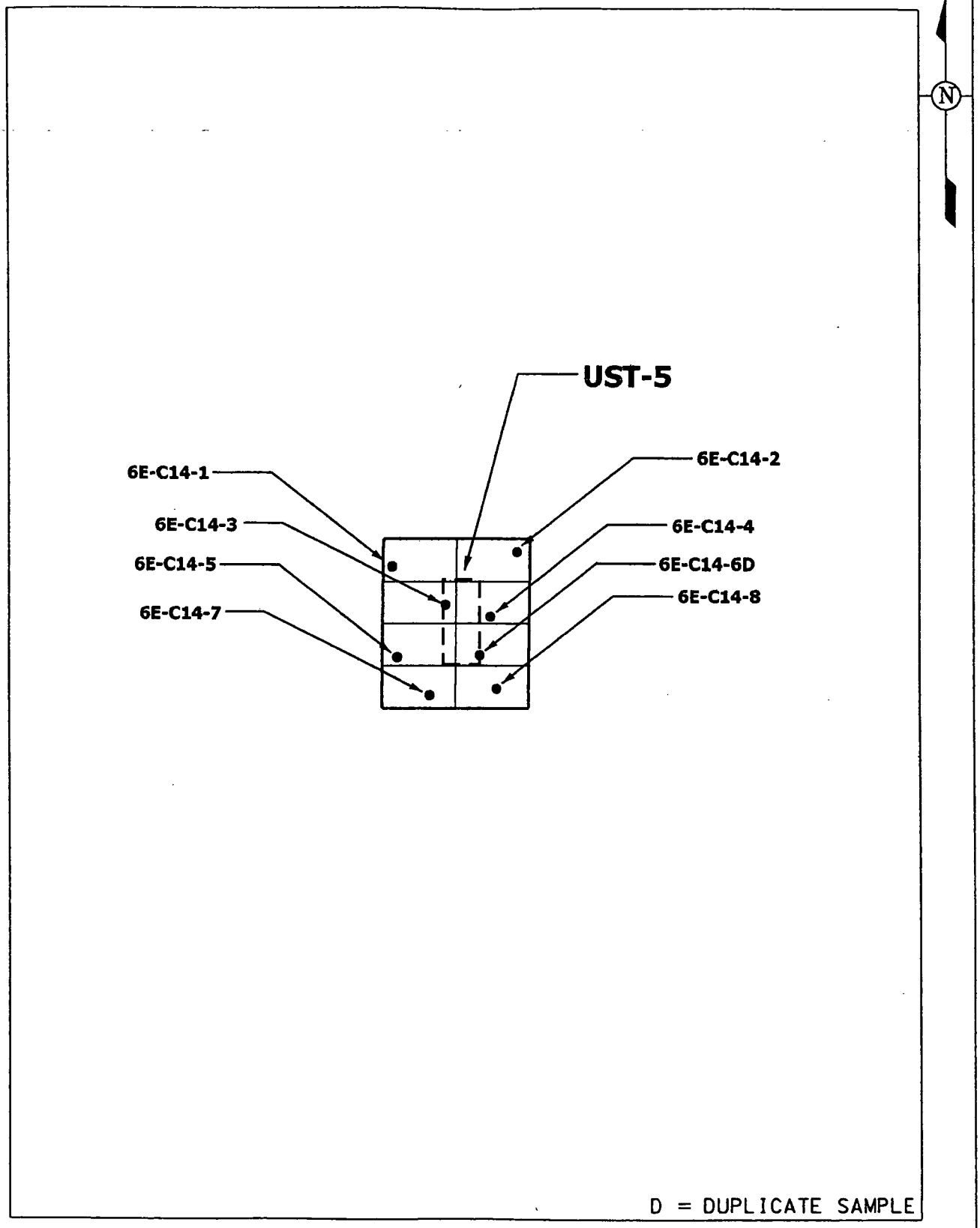
STATE PLANAR COORDINATE SYSTEM 1983
28-OCT-2006



LEGEND:

• SAMPLE LOCATION

SCALE

10 5 0 10 FEET

FIGURE 2-6. CERTIFICATION SAMPLING LOCATIONS FOR CU 6E-C14

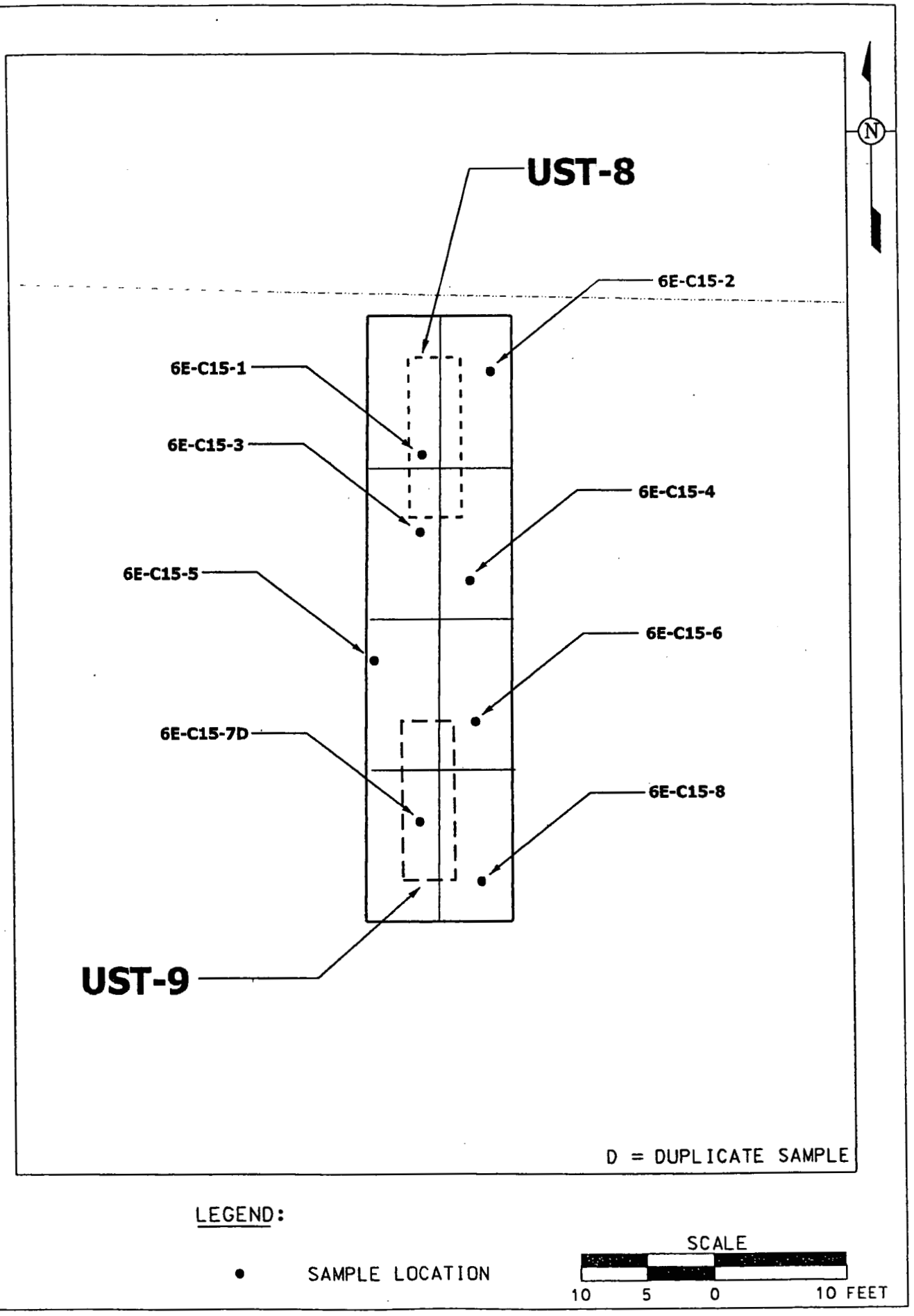


FIGURE 2-7. CERTIFICATION SAMPLING LOCATIONS FOR CU 6E-C15

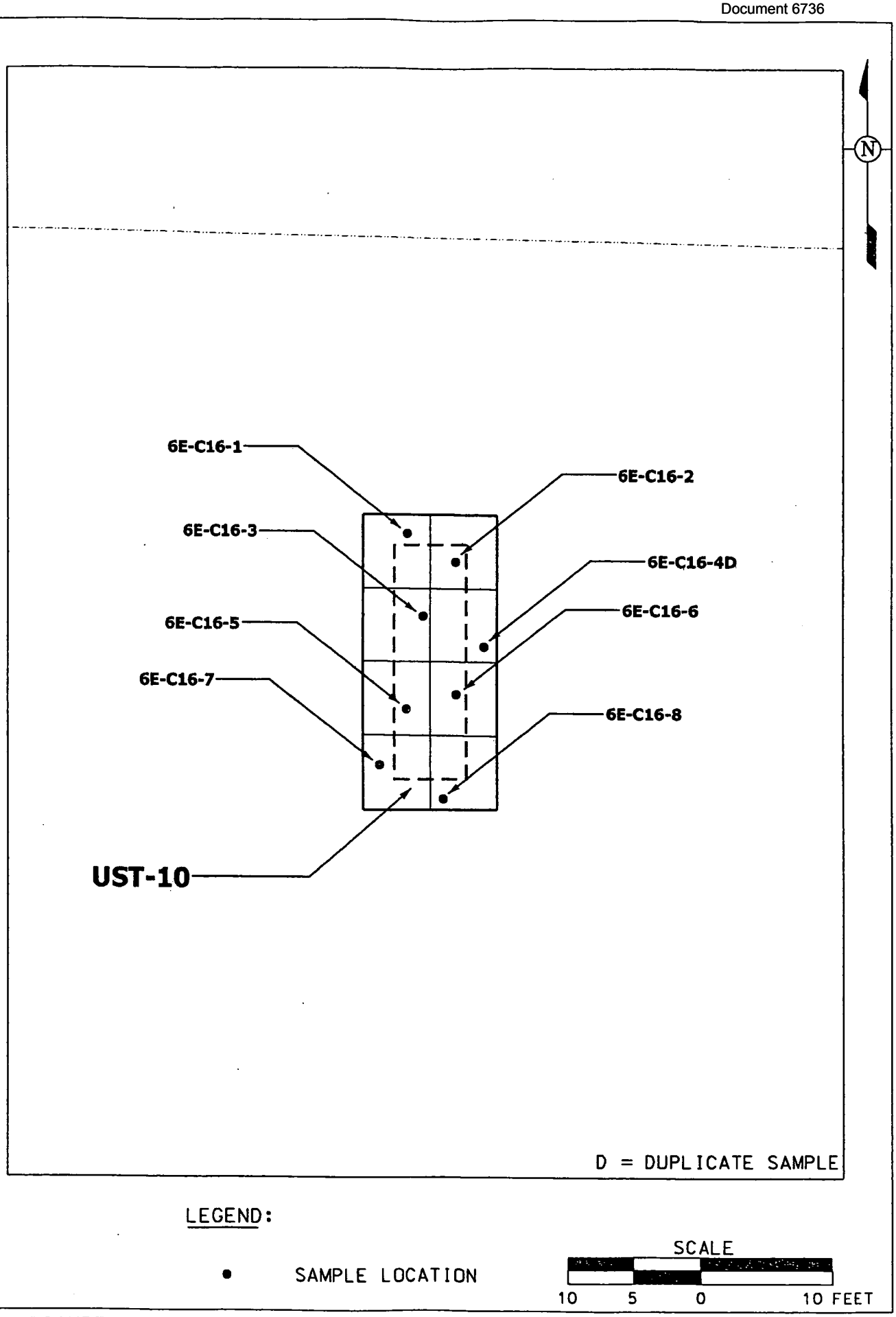


FIGURE 2-8. CERTIFICATION SAMPLING LOCATIONS FOR CU 6E-C16

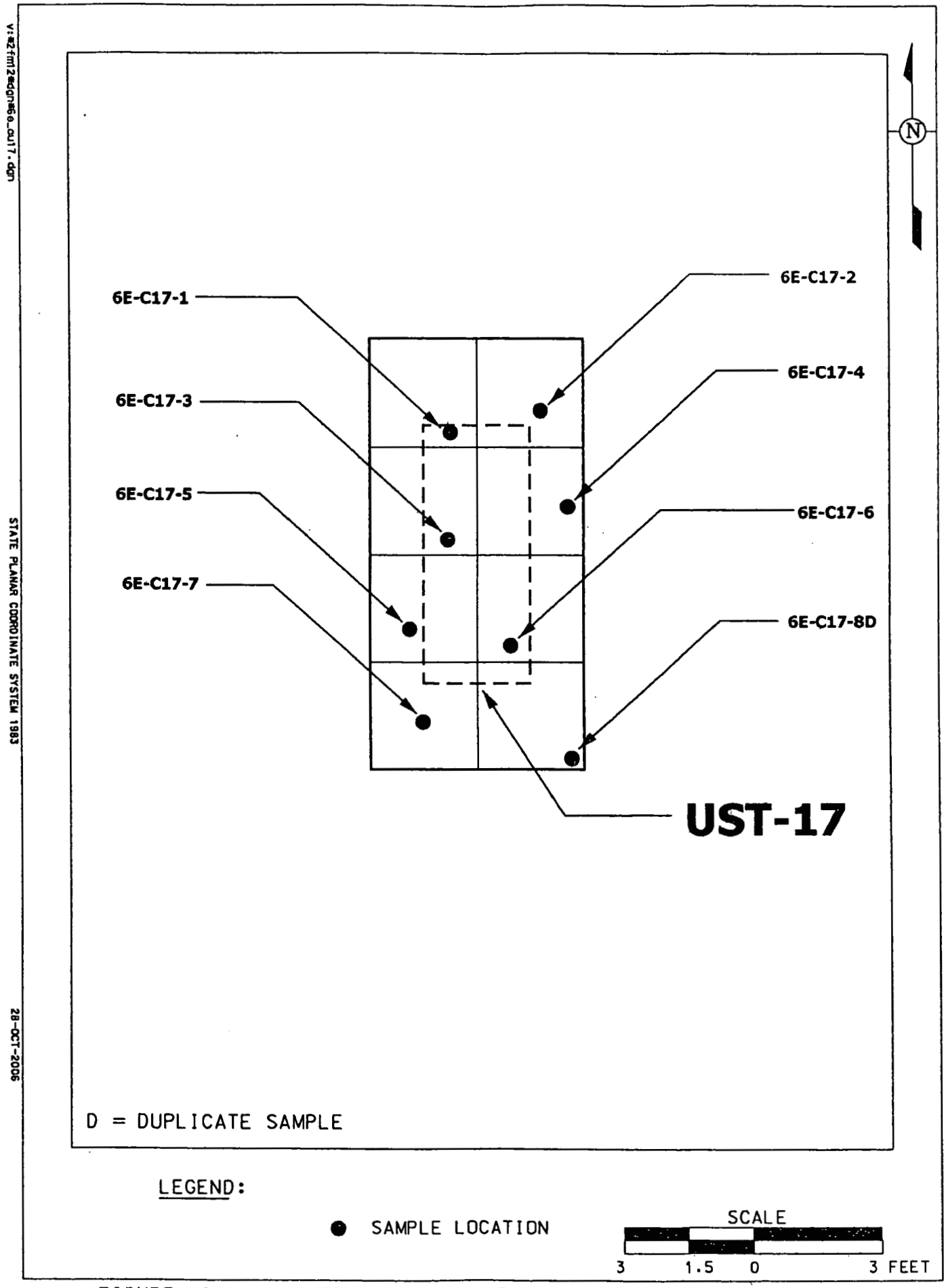


FIGURE 2-9. CERTIFICATION SAMPLING LOCATIONS FOR CU 6E-C17

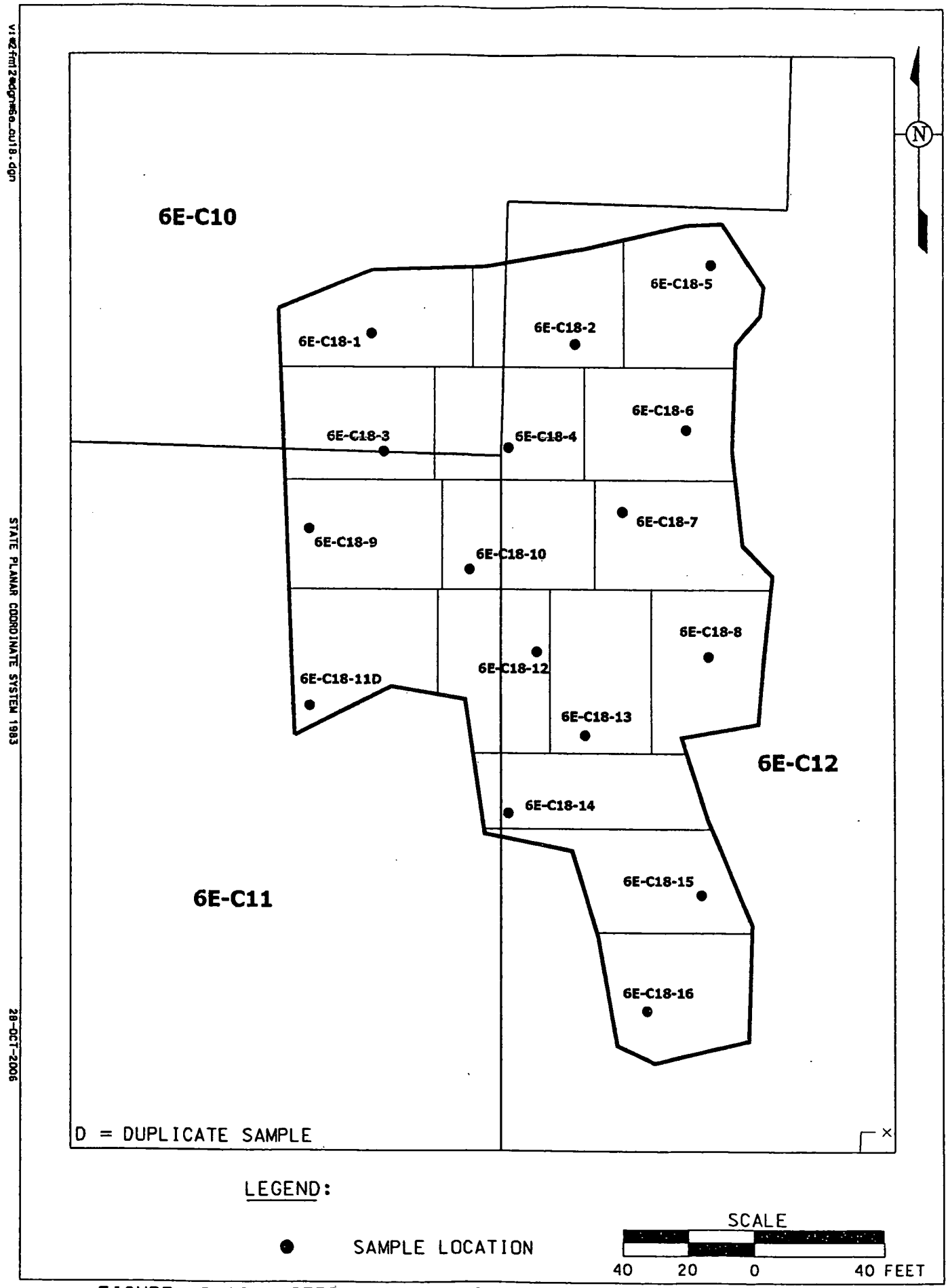


FIGURE 2-10. CERTIFICATION SAMPLING LOCATIONS FOR CU 6E-C18

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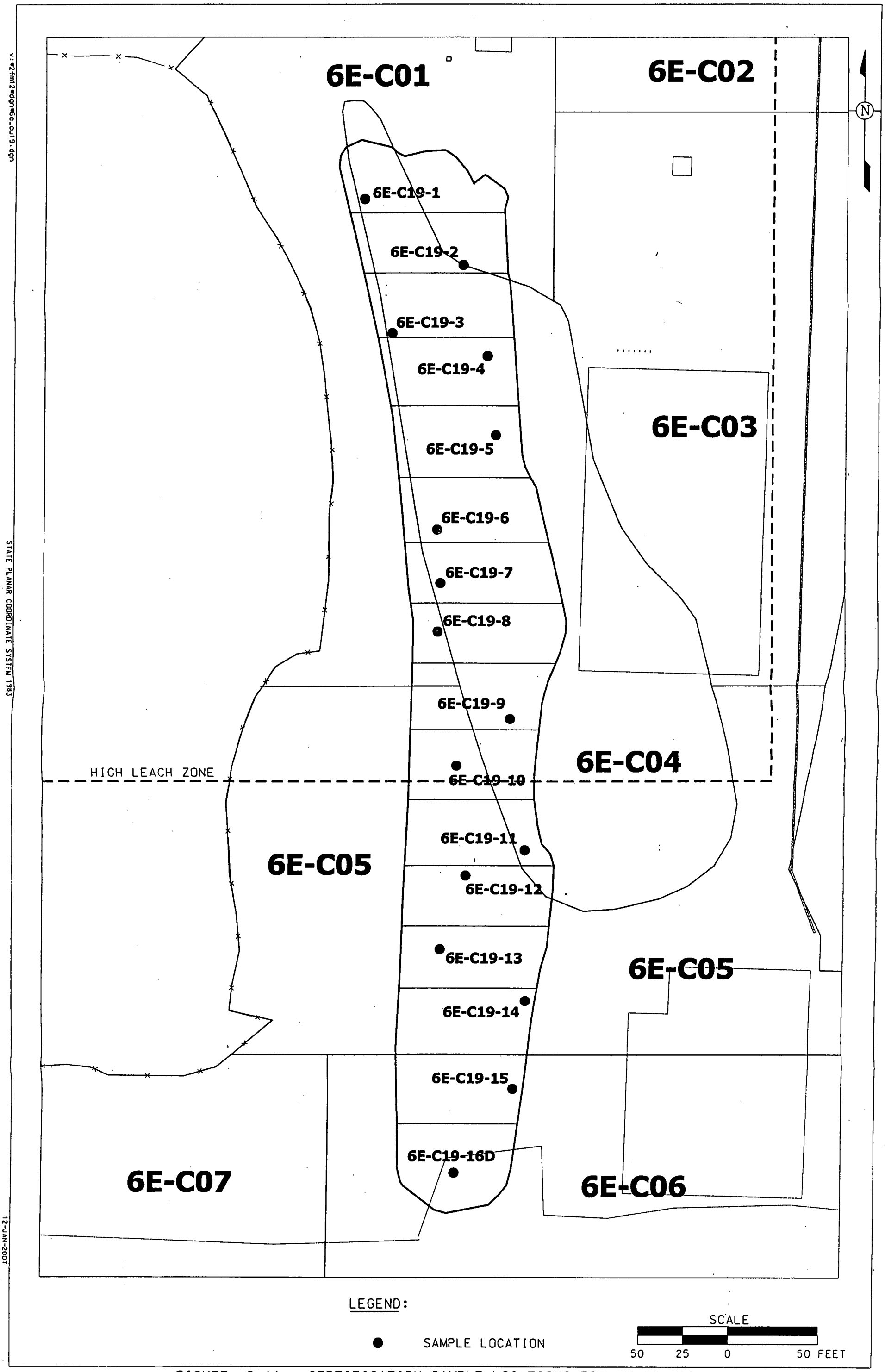
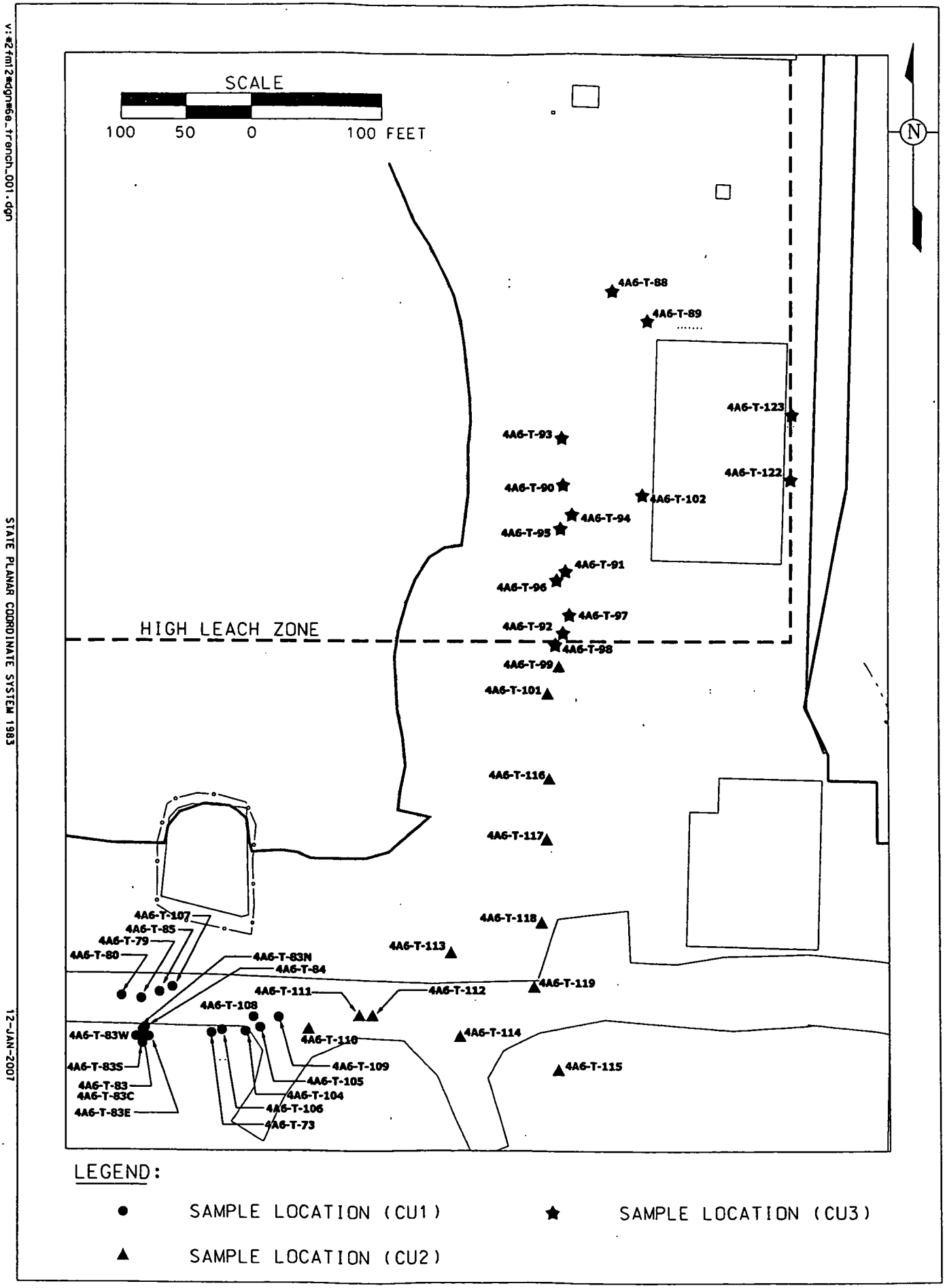


FIGURE 2-11. CERTIFICATION SAMPLE LOCATIONS FOR CU 6E-C19



v:\2fml2\dgn\6a_trench_001.dgn

STATE PLANAR COORDINATE SYSTEM 1983

12-JAN-2007

FIGURE 2-12. UTILITY TRENCH SAMPLE LOCATIONS

3.0 OVERVIEW OF FIELD ACTIVITIES

In accordance with the SEP, prior to conducting precertification and certification activities, all soil demonstrated to contain contamination above the associated FRLs is removed by excavation. Based on the initial remedial action and results from sampling and real-time scanning activities, summarized in Sections 3.1 and 3.2, it has been determined that no further remedial actions are necessary.

3.1 AREA PREPARATION AND PRECERTIFICATION

Precertification surveys were performed in the fall of 2006 per the PSP Guidelines for General Characterization for Sitewide Soil Remediation, Sections 3.0 and 6.0 (DOE 2005). Real-time survey results are presented in Appendix A of the CDL and Certification PSP. Data used to support the conclusion that the area is ready for certification consisted of the real-time surveys, predesign sample results for areas requiring no remedial action and precertification sample results from the excavated/remediated footprints.

3.2 CHANGES TO SCOPE OF WORK

The scope of work was documented in the final CDL and Certification PSPs. Throughout the certification process, preliminary sample results were reviewed and evaluated for potential contamination. As a result, immediate responsive excavations were performed in CUs 01, 02, 04, 08, 09, 11, 18, and Utility Trench CUs 01 and 03. With the fast paced iterations of excavations and re-sampling events, the typical use of V/FCNs was omitted, however the intent, accuracy, and data quality were maintained. Throughout the iterative excavations, additional sampling and constant real-time scanning activities took place as described below.

CU01

After the initial round of certification samples were evaluated, preliminary evaluations of the statistics demonstrated elevated uranium conditions. The two highest sample locations were excavated and re-sampled. Again, results showed high uranium results so another round of excavation and re-sampling was done. As a result of this last round of samples, the uranium concentration was brought to within acceptable limits. The evaluation of the data is further explained in section 5.

CU02

This CU had a hot-spot of greater than 5 pCi/g for radium-226. As such, this hot-spot was excavated and re-sampled, which demonstrated passing conditions for radium-226. The evaluation of the data is further explained in section 5.

CU04

This CU was one of several that crossed the high-leach boundary. Therefore, as a conservative measure, the lower FRL of 20 ppm was used for evaluation purposes. In doing so, one sample failed the hot-spot criterion for total uranium with a result of 71.3. This location was actually outside of the high leach zone but since the approach was to consider the entire CU as being within the high-leach zone, this sample location was remediated and re-sampled. The hot-spot was effectively removed with this excavation. The evaluation of the data is further explained in section 5.

CUs 08, 09, and 11

These CUs were found to have elevated radium-226 levels throughout a localized area that crossed the boundaries of all three CUs. At several locations within each of these CUs, the radium conditions either qualified as hot-spots with their concentrations being greater than 3.4 pCi/g or these locations contributed to a failing condition with the UCL on the mean being greater than the FRL of 1.7 pCi/g. As such, iterative excavations, re-sampling, as well as Phase III Real Time scanning events (See Appendix D) took place in an effort to remediate every hot-spot as well as to remediate elevated areas to bring the concentration of radium-226 in this area to within acceptable levels.

CU18

As discussed in Section 2.2.1, this CU was delineated around the footprint of a flattened screened soil pile. The samples from this CU were analyzed for radium-226 on-site for quick-turn "as-is" gamma analyses prior to being shipped to an offsite laboratory as it became increasingly evident that radium-226 was an issue in this area just south of the former 1st Street. However, as the on-site analysis was done upon collection and "as-is" (without dry, grind, and homogenization), the data had to be adjusted upward to account for ingrowth and expected moisture content. The receipt of the preliminary data confirmed the suspicions of elevated radium as several samples from within this CU showed elevated conditions. In response, repeated excavation attempts were made to address the preliminary results that were elevated for radium-226 with 40 samples subsequently collected from the CU to provide better coverage. Five of the new 40 samples were reported still with elevated radium-226. These five locations were excavated at roughly a 10-foot by 10-foot by 1-foot dimension consistent with other excavations throughout the site. As this CU was a pile that was spread in an approximate 1-foot thickness over existing CUs, which had already passed certification requirements, any removal of elevated conditions simply exposed the underlying certified CU. Therefore, post-excavation sampling was not performed as any data collected would bias the statistics low. This resulted in 35 samples to represent CU 18. After these excavations, the preliminary sample results of the 35 samples obtained from the on-site analyses demonstrated that CU18 would pass the certification criteria. Therefore, the samples were submitted to the off-site lab as appropriate and all excavation was halted. The data received from the off-site laboratory many days later were slightly elevated when compared to the preliminary data, thus causing this CU to fail the

certification criteria relative to the 95% UCL on the mean being 1.806 pCi/g. Subsequently, for restoration purposes in response to the persistent wet conditions, the entirety of this area was covered with approximately 2-feet of Type D rock to provide a suitable base along with approximately 2-feet of soil from the borrow area. The evaluation of the data and subsequent risk assessment for CU18 is further explained in section 5.

Utility Trench CU01

This CU had a hot-spot for technetium-99 with a value of 62.1 pCi/g. This hot-spot was excavated with 5 additional samples collected to verify remediation was complete. The evaluation of the data is further explained in section 5.

Utility Trench CU03

This CU had a hot-spots for total uranium with values of 46.4 ppm and 93.7 ppm as this CU is within the High Leachability Area. Both of these hot-spots were excavated and further re-sampled. The evaluation of the data is further explained in section 5.

4.0 ANALYTICAL METHODOLOGIES, DATA VALIDATION PROCESSES AND DATA REDUCTION

4.1 ANALYTICAL METHODOLOGIES

All samples collected for the certification effort were sent for off-site analysis. The laboratories complied with Sitewide Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Quality Assurance Project Plan (SCQ, DOE 2003) requirements. The SCQ is the source for analytical methodologies (Appendix G), data verification and validation, and analytical quality assurance/quality control requirements.

Laboratory analyses were conducted using approved analytical methods, as discussed in Appendix H of the SEP. Where possible, the minimum detection level (MDL) was set at 10 percent of the FRL and analyses were conducted to Analytical Support Level (ASL) D or E. ASL E is assigned when the MDL of 10 percent of the FRL is above the SCQ ASL detection level, but the analyses meet all other SCQ ASL D criteria. An ASL D data package was provided and all of the analytical results were validated and entered into the FCP SED. Final certification results are provided in Appendix A. A summary of the analytical methods follows.

4.1.1 Chemical Methods

Polychlorinated Biphenyl (PCBs)/Pesticides

Samples submitted for PCB and pesticide analysis were analyzed by gas chromatography.

Metals

Samples submitted for metals analyses were either analyzed by inductively coupled plasma-atomic emission spectrometry or inductively coupled plasma-mass spectrometry.

Volatile Organic Compounds (VOCs)

Samples submitted for VOC analyses were analyzed by gas chromatography/mass spectrometry.

Semi-Volatile Organic Compounds (SVOCs)

Samples submitted for SVOC analyses were analyzed by gas chromatography/mass spectrometry.

4.1.2 Radiochemical Methods

The radiochemical analytical methods use performance-based specification criteria, including highest allowable minimum detectable concentration (HAMDC), matrix spike, ASCOC concentrations in method blank, percent recovery of tracer, matrix spike and laboratory control sample, and percent recovery for duplicate samples were specified for each analyte. Laboratories were required to meet these specifications for the following radionuclides:

Uranium-238

Samples are analyzed for uranium-238 progeny using multiple gamma rays, and the error-weighted average of the emission lines is used to report uranium-238 activity. The uranium-238 activity is used to calculate the total uranium value as follows:

$$\text{Total Uranium (mg/kg)} = 2.998544 \text{ (mg/pCi * g/kg)} \times \text{Uranium-238 (pCi/g)}$$

The validation qualifier assigned to the total uranium value is the same as the uranium-238 qualifier.

Radium-226

Following a 7-day in-growth for radon-222 (Appendix C), radium-226 progeny are measured using multiple gamma rays, and the error-weighted average of the emission lines is used to report radium-226 activity.

Radium-228 and Thorium-232

Samples are analyzed for radium-228 and thorium-232 progeny using multiple gamma rays, and the error-weighted average of the emission lines is used to report radium-228 and thorium-232 activities. The identical activity is reported for radium-228 and thorium-232, as they are assumed to be in secular equilibrium with the measured daughter.

Thorium-228

Thorium-228 is quantified by direct measurement of its gamma emission lines, and the error-weighted average of the emission lines is used to report the activity.

Cesium-137

Cesium-137 is quantified by direct measurement of its gamma emission lines, and the error-weighted average of the emission lines is used to report the activity.

Technetium-99

Following a chemical separation, technetium-99 is quantified using a liquid Scintillation counter.

Thorium-230

Thorium-230 is quantified by measuring its characteristic alpha emission energies and correcting the activity based on the yield of a thorium-229 tracer.

Lead-210

Lead-210 progeny are measured using multiple gamma rays, and the error-weighted average of the emission lines is used to report lead-210 activity.

4.2 DATA VERIFICATION AND VALIDATION

Data verification and validation (V&V) processes are used to examine the quality of field sampling and handling procedures, laboratory analysis and reporting, and non-conformance and discrepancy resolution. Analytical data are qualified to the appropriate data decision level by assessing the precision, accuracy, completeness, comparability, and representativeness of the measurements. The U.S. Environmental Protection Agency (EPA) National Functional Guidelines for Data Review (Inorganic Data) (EPA 1994), as adapted and approved by EPA Region V, as well as the Section 11.2 and Appendix D of the SCQ, are the appropriate V&V reference documents.

The V&V process evaluated the following parameters:

- Specific field forms for sample collection and handling
- Chain of Custody Forms
- Completeness of laboratory data package
- Holding times
- Instrument calibrations
- Calculation of results
- Laboratory/field duplicate precision
- Field/Laboratory Blank contamination
- Dry weight correction for solid samples
- Correct detection limits reported
- Recovery of laboratory control samples and compliance with established limits.

Parameters unique to the evaluation of radiochemical analyses include:

- Calibration data for specific gamma and alpha energies
- Background checks
- Relative error ratios
- Detector efficiencies
- Background count correction.

For this project, all sample data were reviewed and validated for the criteria noted above. Per project requirements specified in the SEP and Data Quality Objectives SL-052, a minimum 10 percent of the certification data were validated to Validation Support Level (VSL) D, and the remaining data were validated to VSL B. VSL D is a rigorous data review that includes the review process for VSL B plus a systematic review of the raw data and recalculation of all results.

Following V&V, qualifier codes are applied to the results to reflect the level of confidence assigned to a particular datum. These codes can include the following:

- No qualification; the positive result or detection limit is confident as reported

J Positive result is estimated or imprecise; data point is usable for decision-making purposes. Positive results less than the contract required reporting limit are also qualified in this manner

R Positive result or detection limit is considered unreliable; data point should not be used for decision-making purposes

U Undetected result at the stated limit of detection

UJ Undetected result; detection limit is considered estimated or imprecise; the data point is usable for decision-making purposes

N Positive result is tentatively identified - that is, there is some question regarding the actual identification and quantification of the result. Compound reported is best professional judgment of the interpretation of the supporting data, such as mass spectra. Caution must be exercised with the use of this data

NJ Positive result is tentatively estimated; detection limit is considered estimated or imprecise

NV Not validated. The results for this sample were not validated

Z This result, or detection limit in this analysis is not the best one to use; another analysis (e.g., the dilution or re-analysis) contains a more confident and usable result.

The V&V of the data set in this certification report did not identify any analytical problems. All the results are qualified as acceptable (-), estimated (J) and/or non-detects (U). No results were rejected.

4.3 DATA REDUCTION

Each sample used to support the certification decision was entered in the FCP SED with the following information:

Field Information

- Sample Identification Number - A unique number assigned to each discrete sample point
- Coordinate Information - Northing and Easting locations
- Certification Unit - Each sample is assigned to a CU.

Laboratory Information

For each sample result the following information is entered:

- Laboratory Result - The laboratory reported analytical value.

- Laboratory Qualifier - The qualifier reported from the lab. (Note: radiological non-detect values are assigned a U qualifier by Fluor, because the lab does not).

- Total Propagated Uncertainty (TPU) - This value represents the uncertainty associated with the reported radiological result. TPU includes the counting error, as well as uncertainty from other laboratory measurements and data reduction.

- Units - The units for the reported laboratory result.

Validation Information

- Validation Result - The result based on the validation process. During the validation process, sample results may be adjusted. If the laboratory result is less than the requested minimum detectable concentration (MDC), the validation result becomes the MDC.

- Validation TPU - The TPU based on the validation process.

- Validation Qualifier - The qualifier assigned as a result of the data validation process.

- Validation Units - The units reported by the laboratory, unless corrected by the validation process.

Using the information above, the following actions are taken for data reduction of each CU data set.

1. All the data for each CU are queried from SED.
2. The data from the validation fields are used in the statistical calculations
3. Data with a qualifier of R or Z are not used in the statistical calculations
4. The higher of the two duplicate results is used in the statistical calculations
5. One half of the non-detect (U or UJ) value is used in the statistical calculations.

5.0 CERTIFICATION EVALUATION AND CONCLUSIONS

Certification success or failure is based on comparing sample data from the CU against criteria discussed in Section 2.2.4. Subsequent to the evaluation of preliminary data, full statistical analysis and evaluation are performed on all validated data that exceed the FRL. Final certification data are presented in Appendix A.

5.1 CERTIFICATION RESULTS AND EVALUATION

Below is a summary of the analytical results and statistical analyses of the data for each CU in Area 6E.

CU01

This CU passed the certification criteria as outlined in Section 2.2.4 for all COCs except for total uranium, which failed the *a posteriori* test and indicated that the UCL on the mean was slightly above the FRL. As this CU is within the high-leach zone, the lower FRL of 20 parts per million (ppm) was used for evaluation. After further review of the CU design relative to the border between this CU and CU05, it was realized that two points in CU05 (6E-C05-1 and 6E-C05-2) fell within the high leach zone due south of CU01 and should be evaluated against the lower FRL of 20 ppm along with CU01. Therefore, in addition to the original 16 points in CU01, the two points in CU05 were included in the evaluation of CU01. The highest three locations (sample points 6E-C01-7, 6E-C01-12, and 6E-C05-2) were excavated and resampled along with another random location within each sub-CU to demonstrate that there are no elevated conditions within the sub-CUs. The newly collected data was evaluated and the higher of the two results from these sub-CUs was used for statistical evaluation, similar to how duplicates are treated for evaluation. As a result, this all-inclusive high-leach CU passed all certification requirements. Final certification data are presented in Appendices A and B.

CU02

This CU passed the certification criteria as outlined in Section 2.2.4 for all COCs except for radium-226, which failed the a posteriori test. Additionally, the evaluation of preliminary excavation control data for sample point 6E-C02-7 indicated that there was a hotspot of over 5 picoCuries per gram (pCi/g) radium-226. In response, this area was excavated and resampled along with another random location within this sub-CU to demonstrate that there are no elevated conditions within the sub-CU. The newly collected data was evaluated and the higher of the two results from this sub-CU was used for statistical evaluation, similar to how duplicates are treated for evaluation. After excavation and resampling, this CU passed all certification requirements. Final certification data are presented in Appendices A and B.

CU03

This CU passed all certification requirements. Final certification data are presented in Appendix A.

CU04

This CU passed the certification criteria as outlined in Section 2.2.4 for all COCs except for total uranium, which failed the hotspot criterion with sample point 6E-C04-16 having a result of 71.3 ppm uranium. As the majority of this CU is within the high-leach zone, the lower FRL of 20 ppm was used for evaluation. This CU is one that also crosses the high-leach boundary and this sample point (6E-C04-16) actually falls outside of the high-leach area. However, as a conservative measure, this sample location was considered part of the high-leach CU and as such, held to the more restrictive criterion. Therefore, this location was excavated and resampled along with another random location within this sub-CU to demonstrate that there are no elevated conditions within the sub-CU. The newly collected data was evaluated and the higher of the two results from this sub-CU was used for statistical evaluation, similar to how duplicates are treated for evaluation. After excavation and resampling, this high-leach CU passed all certification requirements. Final certification data are presented in Appendices A and B.

CU05

As described earlier under CU01, two sample locations within this CU fall within the high-leach zone and were evaluated with CU01. The remainder of the sample locations in CU05 were evaluated as a unit. This CU passed all certification requirements. Final certification data are presented in Appendix A.

CU06 and CU07

These CUs passed all certification requirements. Final certification data are presented in Appendix A.

CU08, CU09 and CU11

These CUs passed the certification criteria as outlined in Section 2.2.4 for all COCs except for radium-226, where CU09 and CU11 failed the hotspot criterion and all three CUs failed the *a posteriori* test and indicated that the UCLs on the mean were above the FRL. The entire central section of CU08 was re-excavated in response to the elevated conditions. Similarly, a large portion of CU09 as well as the northwestern portion of CU11 was re-excavated. After reviewing this pattern of contamination it was clear that this footprint was the exact footprint used for months during the concrete crushing operation of materials from the Silos Area. This excavation demonstrated that the area of contamination, once removed, should be resampled and grouped into a single CU for evaluation. Therefore, a redefined CU (shown on Figure 5-1) was created that took into account portions of CU08 and CU11, and CU09. This area was resampled and the resulting data were evaluated as a single CU. The redefined CU, termed "CU08-09-11 Combined (NORTH)", was evaluated as a unit. This CU passed all certification requirements.

Based on the fact that the northern portion of CU08, CU09, and CU11 were redefined into a separate CU, the southern portions of the CUs were isolated. Therefore, the remainder of these CUs was then

combined into another distinct CU. This southern remainder was grouped and termed "CU08-11 Combined (SOUTH)". The resultant CU was evaluated and passed all certification requirements. Although the size of these redefined CUs is larger than a typical Group 1 CUs, the density across these CUs is greater than that of a typical Group 1 CU. Final certification data are presented in Appendix B.

CU10

This CU passed all certification requirements. Final certification data are presented in Appendix A.

CU12, CU13, CU14, CU15, CU16 and CU17

These CUs passed all certification requirements. Final certification data are presented in Appendix A.

CU18

After the initial round of sampling, this CU had a UCL on the mean slightly greater than the FRL (See Appendix A). Because of this condition, this widespread contamination was excavated throughout the CU targeting the highest concentration areas. In addition to that intensive excavation and as a conservative measure the CU with remaining soil was resampled at a much higher density (40 samples for this CU) to provide better coverage (Figure 5-2) and submitted for on-site gamma analysis. The resulting data were evaluated, which demonstrated that the 95% UCL on the mean still failing the certification requirements with a value of 1.726 pCi/g as compared to the FRL of 1.70 pCi/g. These preliminary statistics are shown in Appendix B. Further excavation of the five highest results was performed. With these concentrations removed from consideration the results from the remaining 35 preliminary samples were statistically evaluated, which demonstrated that this CU would pass all certification requirements (See Appendix B). Therefore, these samples were subsequently submitted to the off-site laboratory for analysis. Upon receipt of the off-site data, which showed differing results, a statistical evaluation was performed. This new statistical analysis demonstrated, once again, a failing condition for radium-226 with a 95% UCL on the mean of 1.806 pCi/g (See Appendix B). At this time, the infrastructure for further excavation was greatly reduced. Therefore, in an effort to demonstrate that this singular parameter does not provide an unacceptable risk to future land use, a separate residual risk assessment was performed. See section 5.2 below.

CU19

This CU passed all certification requirements. Final certification data are presented in Appendix A.

Utility Trench CUs

During utility removal, samples were collected from the bottom of the trenches to certify the soil footprint under the utilities. The data were partitioned into three CUs, and the results and statistical evaluation (if needed) are presented in Appendices A and B.

Utility Trench CU01

This CU passed the certification criteria as outlined in Section 2.2.4 for all COCs except for technetium-99, which failed the hotspot criterion with a result of 62.1 pCi/g, however, even with this high result the UCL on the mean and the a posteriori passed all certification requirements. Therefore, the hotspot was excavated with five additional locations collected. Four in the cardinal directions and one directly beneath the location with all samples being non-detect. The original data are presented in Appendix A, which show the hot-spot value for Tc-99. The final passing statistics are presented in Appendix B, which show the bounding samples as a result of the hot-spot excavation.

Utility Trench CU02

This CU passed all certification requirements. Final certification data are presented in Appendix A.

Utility Trench CU03

This CU passed the certification criteria as outlined in Section 2.2.4 for all COCs except for total uranium, which failed the hotspot criterion with sample points 4A6-T-94 and 4A6-T-97 of 46.4 ppm and 93.7 ppm respectively. As this CU is within the high-leach zone, the lower FRL of 20 ppm was used for evaluation. These points were excavated and additional samples were collected. After excavation and resampling, this high-leach CU passed all certification requirements. Final certification data are presented in Appendices A and B.

5.2 RISK EVALUATIONS FOR CU 18

Although repeated excavation attempts were made to remove residual radium-226 contamination from soil in CU 18, it did not pass the certification criterion for the 95 percent UCL being less than the FRL. The 95 percent UCL of the mean for radium-226 in CU 18 is 1.81 pCi/g, which is greater than the FRL of 1.7 pCi/g. However, the 1.81 value is only 0.31 pCi/g above the background radium-226 value of 1.5 pCi/g, which is approximately 6 percent of the allowable radium-226 activity of 5 pCi/g above background established in 40 CFR 192 (for inactive uranium tailings sites), as adopted by DOE Order 5400.5, for unrestricted release to the public. Additionally, no single sample result for radium-226 exceeds 30 times the FRL (51 pCi/g), which is the DOE Order 5400.5 hotspot criterion for free release. Therefore, for this special case, a risk assessment was performed for CU 18 in Area 6E (Figure 5-2) to demonstrate that the residual contamination values in the CU remain protective of human health and the environment, per Section 10.1.1 of the OU5 ROD.

CU 18 is taken as the exposure area where the undeveloped park user spends 100 percent of their time, which is a conservative assumption because this receptor is likely to traverse the entire area viewing birds

as they hike the trails. Worker receptors are unlikely to be exposed to CU18, as there is no basis for performing work in this specific area of the site. Additionally, the soil footprint in CU 18 was covered with approximately 2 feet of Type D rock and 2 feet of soil from the OSDF borrow area (total thickness of about 4 feet) to prepare the area for final restoration grading. Therefore, there is a large shielding factor from the 4 feet of material, but shielding credit in the risk calculation only includes the nominal 6 inches of topsoil placed in other restored areas.

The exposure parameters for the undeveloped park user evaluated in this assessment apply to a child, youth, adult and senior adult that visit the park to hike, picnic, and observe birds. These individuals inhale air that contains radon and soil particulate suspended by the wind, and they contact soil and surface water while hiking trails and sitting on the ground for a picnic. Contact with soil and surface water results in dermal exposure as well as incidental ingestion. The receptor is also exposed to external radiation from radioactive isotopes present in the environmental media. Exposure pathways and parameters are summarized in Table 5-1 on the following page. The rationale and reference for each exposure parameter are discussed below.

TABLE 5-1
EXPOSURE PARAMETERS FOR THE UNDEVELOPED PARK USER

Parameter (units)	Child (1 to 6 yr)	Youth (7 to 18 yr)	Adult (19 to 55 yr)	Senior Adult (56 to 70 yr)
Parameters applicable to all pathways, unless otherwise specified				
EF (day/yr)	20	40	20	40
ED (yr)	3	6	14	7
BW (kg)	15	47	70	70
AT_{nc} (day)	1095	2190	5110	2555
AT_c (day)	25550	25550	25550	25550
Pathway: inhalation of dust, volatiles & radon				
IR (m^3/hr)	1.0	1.0	1.0	1.0
ET (hr/day)	2	2	2	2
Pathway: incidental ingestion of soil				
IR (g/day)	0.2	0.1	0.1	0.1
FI (unitless)	1	1	1	1
Pathway: dermal contact with soil				
SA (cm^2)	2800	4370	5700	5700
AF (mg/cm^2)	0.2	0.2	0.07	0.07
ABS (unitless)	CSV	CSV	CSV	CSV
Pathway: external radiation				
$ET_{outdoors}$ (hr/day)	2	2	2	2
$ET_{indoors}$ (hr/day)	NA	NA	NA	NA
$SH_{outdoors}$ (unitless)	0.25	0.25	0.25	0.25
$SH_{indoors}$ (unitless)	NA	NA	NA	NA
Pathway: incidental ingestion of surface water				
IR (L/day)	.035	.035	.015	.015
EF (day/yr)	12	12	12	12
Pathway: dermal contact with surface water				
SA (cm^2)	2180	4470	6070	6070
DA (mg/cm^2/event)	CSV	CSV	CSV	CSV
EF (day/yr)	12	12	12	12
ET (hr/day)	1	1	1	1

EF = exposure frequency
ED = exposure duration
BW = body weight
AT_{nc} = averaging time for noncarcinogens
AT_c = averaging time for carcinogens
IR = inhalation or ingestion rate
ET = exposure time
FI = fraction of ingested soil that is contaminated
SA = surface area of skin
AF = adherence factor for skin
ABS = absorption factor
SH = shielding factor
DA = dose absorbed per event
CSV = chemical specific value

Exposure Frequency (EF): The number of days per year (d/yr) that a receptor visits the site is the EF. EF is assumed to be 20 d/yr, about every other week, for the child and adult. A higher frequency of 40 d/yr is assumed for the youth and senior adult to account for extra recreation time available to these age receptors. For example, the youth who can drive will be able to spend additional time at the park after school, relative to a working adult and young child.

Exposure Duration (ED): The ED is the number of years over which an individual will visit the park. EPA (1989a) notes that national trends show individuals do not live in a region of the country for more than 30 years. Therefore, 30 years is used as the sum across the age groups, with the years partitioned into 3 years for child, 6 for youth, 14 for adult and 7 for senior adult.

Body Weight (BW): EPA (1997) has tabulated BW for individuals. The adult and senior adult are equated to the mean BW in EPA Table 7-11, which is rounded to 70 kg. An average of mean values reported for ages 7 to 18 (EPA Table 7-3) is rounded to 47 kg for the youth. The child mean values reported for ages 0 to 6 (EPA Table 7-3) are used to derive an average weight of 15 kg.

Averaging Time for non-carcinogens (ATnc): Averaging time refers to the number of days over which the toxin acts on the body. EPA (1989a) defines the averaging time for non-carcinogen chemicals as the exposure duration multiplied by 365 days/yr.

Averaging Time for carcinogens (ATc): For carcinogenic compounds and radioactive isotopes, EPA (1989a) assumes the carcinogen acts over a 70-yr lifetime for the individual. Therefore, averaging time (days) for carcinogens is 70 yrs multiplied by 365 days/yr.

Inhalation Rate (IR): The volume of air which an individual breathes each hour is the IR. EPA (1997) reports the same value (1.0 m3/hr) for the child and adult receptors for short term exposure and light activities (EPA Table 5-23). Therefore, this value is used for all age groups. Short term exposure and light activities are applicable to a park visitor that spends an hour or two hiking trails and watching birds.

Exposure Time (ET) for Air: The amount of time the receptor spends at the park each visit. As the park is undeveloped, the assumption is made that the receptor will spend a fraction of a normal day (two hours) inhaling dust and radon gas on each day they visit the undeveloped park.

Ingestion Rate (IR) for Soil: The mass of soil that is ingested incidentally each day is the IR. EPA (1989b & 1997) estimates that a residential child will ingest 0.2 g/d, which is lowered to 0.1 g/d for the adult. The IR for the youth and senior adult is assumed to be similar to the adult.

Fraction of Ingested Soil that is Contaminated (FI): In some risk exposure scenarios, a receptor may pass in and out of contaminated soil zones, and only a fraction of the ingested soil will contain contaminants. For the IRRA, the receptor is assumed to spend 100 percent of their park time in a contamination zone, and FI is set equal to 1.0.

Surface Area (SA), Dermal Contact with Soil: The skin SA exposed to soil is assumed to be the head, hands, forearms and lower legs. All SA values for body parts are obtained from EPA (2004, Exhibit C-1), and the sum for these body parts appears in Table 5-1.

Adherence Factor (AF): The AF for soil to skin is taken from EPA (2004). For a residential scenario, the AF value is 0.2 for child and youth, and 0.07 for adult and senior.

Shielding Factor (SH): The SH accounts for material between the receptor and radiation source that can attenuate the external radiation received by an individual. For outdoor conditions on the site, the SH is taken as 0.25 to account for substantial surface-water coverage (water shields radiation emitted from the soil below the water) and the placement of clean topsoil over the remedial footprint (clean topsoil shields radiation emitted from soil below the topsoil).

Ingestion Rate (IR) for Surface Water: The 1997 EPA Exposure Factors Handbook does not contain guidance on the surface-water pathway. An older version of the handbook (EPA 1989) assigned 0.05 liter per hour (L/hr) for an adult swimmer. As swimming in the ponds on site is not allowed, the incidental ingestion is attributed to illegal wading and splashing in the water. This transient activity is assumed to generate an ingestion rate of 0.035 L/hr for the child and youth. The adult and senior adult receptors are assumed to receive approximately half this dose, or 0.015 L/hr.

Exposure Time (ET) for Surface Water: As swimming is not allowed in the ponds on the site, contact with water will be a transient activity of short duration. It is assumed that the receptor will spend one hour wading and splashing on each summer day spent at the undeveloped park.

Exposure Frequency (EF) for Surface Water: It is assumed that illegal wading in the surface water will take place only during the summer months. Therefore, the all receptors are assumed to spend one day each weekend of the 12 summer weeks (12 d/yr) contacting the water.

Surface Area (SA), Dermal Contact with Surface Water: The skin SA exposed to soil is assumed to be the face, hands, forearms, feet and lower legs. All SA values for body parts are obtained from EPA (2004, Exhibit C-1), and the sum for these body parts appears in Table 5-1.

Dose Absorbed (DA) per Event, Dermal Contact with Surface Water: This is a chemical specific value that is calculated from the permeability constant and chemical concentration in the water. All constants and chemical concentrations used in this calculation are tabulated in Appendix E.

Risk calculations were performed using the equations in the Comprehensive Response Action Risk Evaluation (CRARE;Appendix H of the Feasibility Study Report for OU5), which reflect the equations in EPA's Risk Assessment Guidance, Part A (EPA 1989b), the exposure parameters in Table 5-1, and the November 2006 cancer slope factors and reference doses obtained from the EPA website (radionuclide tables and the Integrated Risk Information System database) and the Oak Ridge Risk Assessment Information System (RAIS). The affected target receptor for these calculations is the undeveloped park user. All equations, slope factors, reference doses, and contaminant concentrations are provided in Appendix E.

In general, conservative assumptions were used in the calculations. First, the soil contaminant concentrations in CU 18 represent the 95 percent UCL or maximum value (if 95% UCL was unavailable) of each contaminant evaluated in CU 18 and water contaminant concentrations (Appendix E) represent the average value derived from pond samples collected in November of 2006. This is conservative because the soil footprint of CU 18 is covered with 2 feet of Type D rock and 2 feet of topsoil from the OSDF borrow area, where soil contaminant concentrations are lower. Second, if all soil sample results were below the detection limit for a given contaminant, the detection limit value was used, rather than one-half of the limit. However, if the average value for a non-radiological surface-water contaminant corresponded to a detection limit value (i.e., all results were at the detection limit) one-half of the detection limit was used in the risk calculation, due to the sensitive of dermal exposure in the surface-water pathway. Third, the receptor is assumed to spend 100 percent of their time in CU 18. Lastly, cancer slope factors reflect short-lived radioactive daughters in equilibrium with their parent isotope.

Risk calculations for every contaminant and each pathway are presented in Appendix E, and a summary of the cumulative results are presented in Table 5-2 in terms of the hazard quotient (HQ) and incremental lifetime cancer risk (ILCR) for each pathway and the sum of all pathways. Non-cancer health risks, due to exposure to non-radiological chemicals, are evaluated by application of a reference dose for oral and inhalation exposure routes. A reference dose estimates the upper bound chronic dose of a chemical that a human receptor can be exposed to without suffering ill effects. The contaminant intake for a receptor is divided by the appropriate reference dose factor to yield the HQ. If the HQ is greater than 1, a negative health impact to the receptor is anticipated. Cancer slope factors are published values that specify a cancer morbidity value (risk) to a receptor for a given quantity of contaminant intake, referred to as an ILCR. The resulting value determines whether post-remedial concentrations of contaminants will result in a cancer risk that is in compliance with CERCLA guidance and the OU5 ROD.

Results in Table 5-2 represent total risk (i.e., no background subtracted) and they indicate the undeveloped park user in CU 18 is in compliance with the CERCLA guidance and OU5 ROD (i.e., cumulative sum for HI is less than 1 and ILCR is less than 10-4). Each pathway in Table 5-2 yields a risk that is dependent on the contaminants present, and the contribution of each contaminant to the risk is provided in Appendix E. For the undeveloped park user, the pathways contributing the most to the sum HQ value are dermal surface water and ingest soil. Organic contaminants (using the default of one-half their detection limit) are the primary source for the HQ dermal surface water exposure, and uranium and arsenic are the primary contaminants responsible for the HQ dermal soil value. Total ILCR for the undeveloped park user is driven primarily by dermal exposure to surface water and, again, the organic contaminants are responsible for about two-thirds of the total ILCR value. Radon inhalation is the other primary contributor to the total ILCR value. Details for each pathway and contaminant are provide in Appendix E.

TABLE 5-2
SUMMARY OF RISK TO THE UNDEVELOPED PARK USER IN CU 18

PATHWAY	Undeveloped Park User	
	HQ	ILCR
Inhale	1.27E-04	1.50E-05
Dermal Soil	2.10E-03	7.83E-07
Ingest Soil	1.16E-02	4.22E-06
Dermal Surface Water	6.23E-02	5.35E-05
Ingest Surface Water	2.23E-03	1.89E-07
External Radiation	NA	4.09E-06
SUM OF ALL PATHS	**7.84E-02**	**7.78E-05**

NA = calculation not applicable for indicated pathway

5.3 CERTIFICATION CONCLUSIONS

Based on the certification analytical results, precertification data, statistical analysis, and risk assessment calculations, DOE has determined that the remedial objectives in the OU5 ROD have been achieved for Area 6E CU 18. Additionally, the Oak Ridge Institute for Science and Education (ORISE) conducted an independent radiological survey of the Fernald site and they concluded that the remedial actions were effective in meeting the established FRLs (ORISE 2006). Therefore, no further remedial actions are required and this portion of the FCP will be released for restoration and final land use upon EPA and OEPA concurrence.

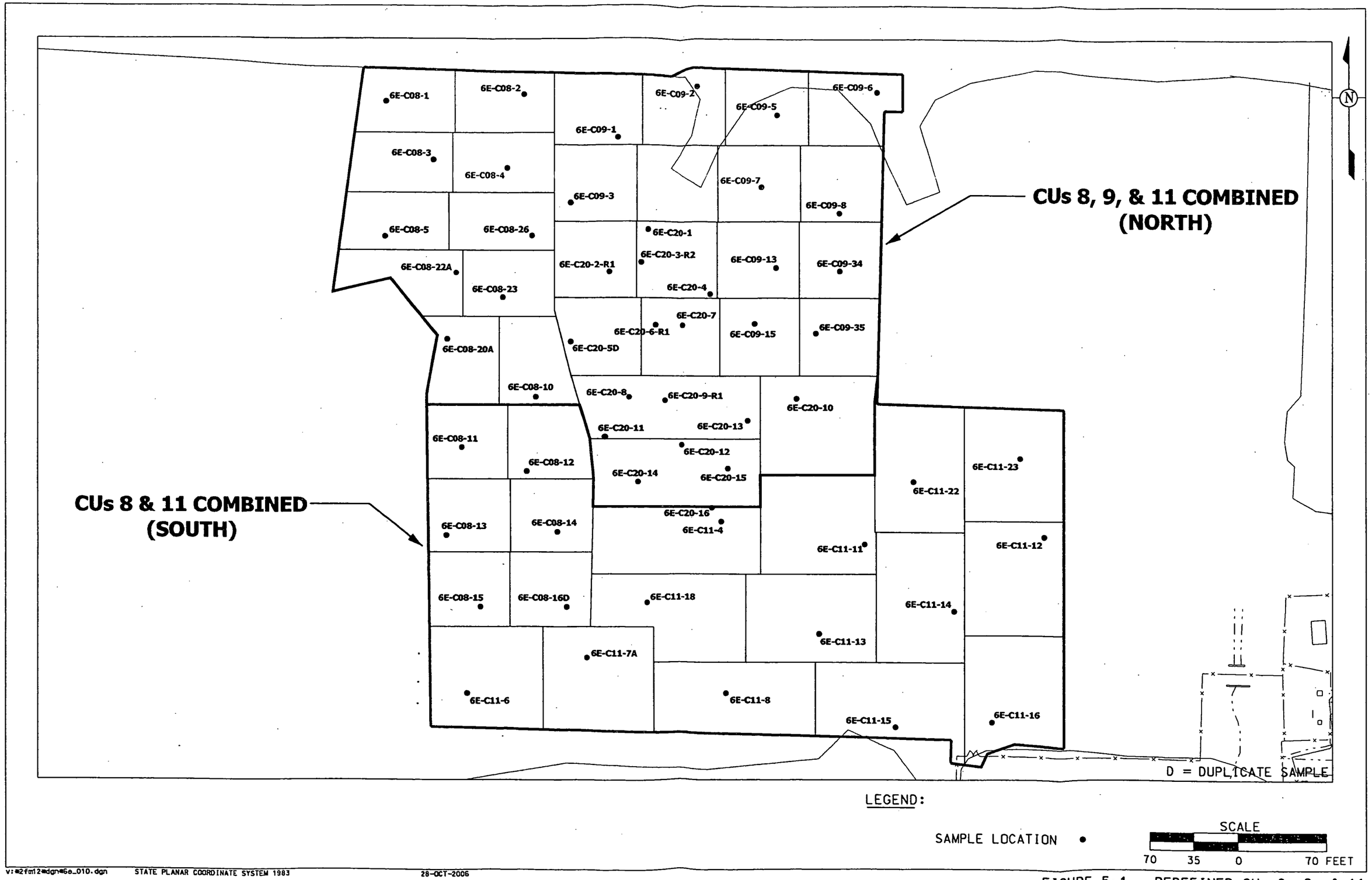
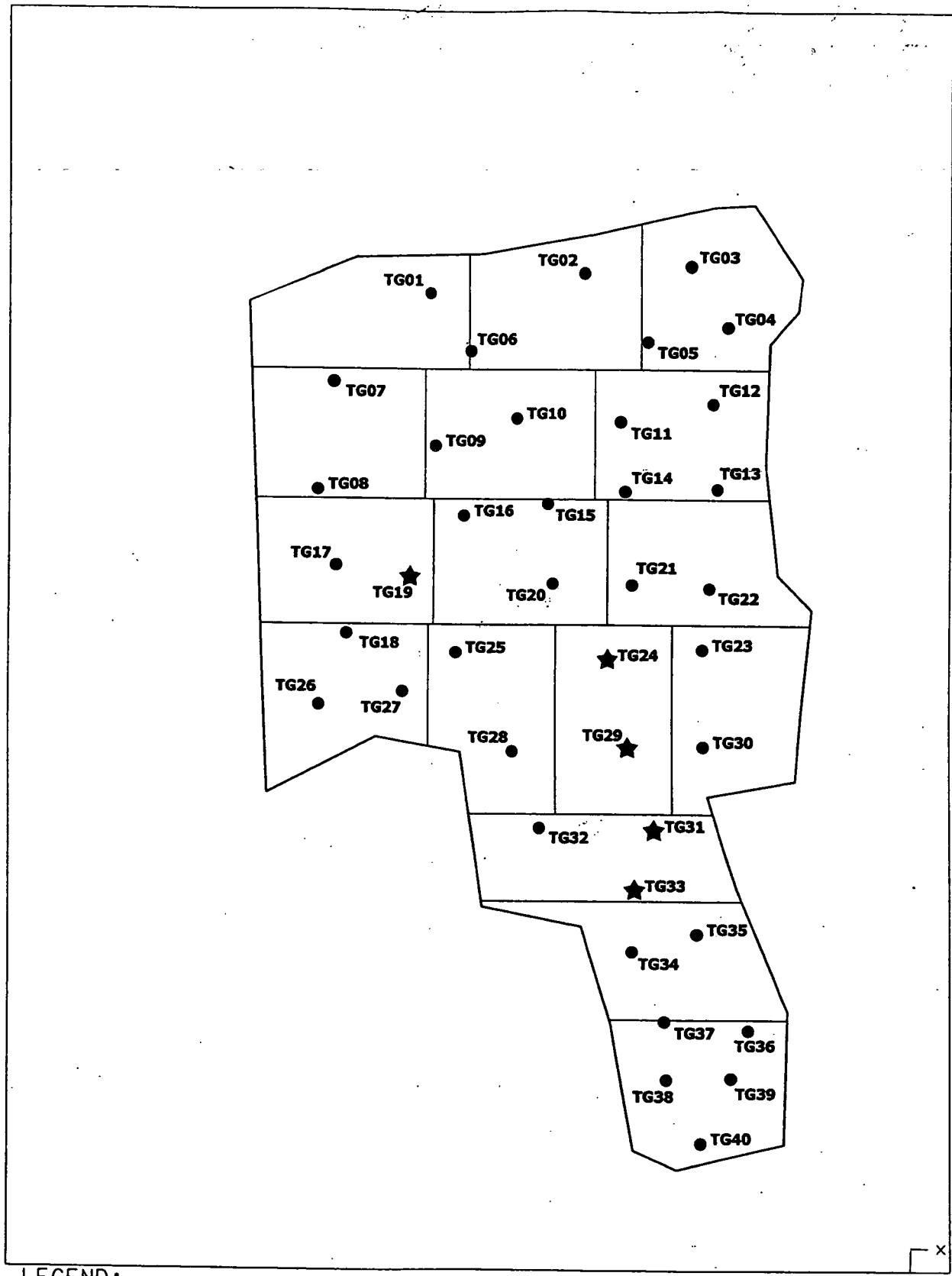


FIGURE 5-1. REDEFINED CUs 8, 9, & 11



LEGEND:

● SAMPLE LOCATION

★ SAMPLE LOCATION (EXCAVATED AFTER PRELIMINARY STATISTICS)

SCALE

40 20 0 40 FEET

FIGURE 5-2. CU18 HIGH DENSITY RESAMPLE (40 LOCATIONS)

v:\2fm12\dgn\6e_700.dgn
STATE PLANAR COORDINATE SYSTEM 1983
12-JAN-2007

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APPENDIX A

STATISTICAL ANALYSIS OF SAMPLE DATA
INITIAL SAMPLING

APPENDIX A
STATISTICAL ABBREVIATIONS AND SYMBOLS

The procedure used to determine if the data follow a normal or lognormal distribution is outlined in Section G.2.3 of Appendix G to the SEP. The second paragraph under "Step 3: Perform the Shapiro-Wilk Test to evaluate if the data are normally or lognormally distributed" states that "If the Shapiro-Wilk Test indicates both normal and lognormal distributions fit the data, the distribution with the highest p-value will be used in the Student's t-Test (Section G.2.2.2) to make the certification decision." Therefore, the distribution testing procedure is not a matter of transforming the data and then testing for lognormality only when the normality assumption fails as the comment seems to imply. The method is to test both normality and lognormality and select the distribution that "best" fits the data as defined by the test yielding the higher p-value above a minimum acceptable value. The minimum acceptable p-value for acceptance of a distribution was set at 0.05.

Abbreviations:

W-Statistic Probability - Shapiro-Wilk probability of the "better" fit - either normal or lognormal (note: a value less than 0.05 indicates that neither normality nor lognormality could be accepted, but the highest p-value is still shown.)

t-Test (N) - indicates that the normal distribution is best fit to data with a p-value greater than or equal to 0.05.

t-Test (LN) - indicates that the lognormal distribution is best fit to data with a p-value greater than or equal to 0.05.

Sign Test - the Sign test was used because one of the following situations occurred:

1. there were greater than 50 percent non-detects,
2. between 15 and 50 percent non-detects and data not symmetrically distributed,
3. less than 15 percent non-detects, but fails Shapiro-Wilk test for both normality and lognormality and data not symmetrically distributed.

Wilcoxon SR - the Wilcoxon Signed Rank procedure was used because of one of the following situations:

1. between 15 and 50 percent non-detects and data symmetrically distributed,
2. less than 15 percent non-detects, but fails Shapiro-Wilk test for both normality and lognormality and data symmetrically distributed.

Note: Data was considered to be "symmetrically distributed" if the Standardized Skewness had an Absolute Value of less than or equal to 2.00 (i.e., between -2.00 and 2.00).

Number of NDs - number of non-detects.

@ - maximum result was below the FRL indicating that no statistical result needed to be report

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99	Thorium-230
6E-C01-1	0.832 J	0.744 -	0.742 -	0.744 -	20 -	0.0468 U	5.15 U	1.71 U	1.33 -
6E-C01-2	1.3 J	0.883 -	0.918 -	0.883 -	12 -	0.0579 U	0.811 U	0.8 U	1.51 J
6E-C01-3	1.26 J	0.799 -	0.801 -	0.799 -	18.8 -	0.0445 U	9.54 U	1.69 U	2.3 -
6E-C01-4	0.853 J	0.735 -	0.736 -	0.735 -	4.86 -	0.0466 U	0.65 U	0.794 U	1.37 J
6E-C01-5	0.981 J	0.75 -	0.72 -	0.75 -	4.28 -	0.0353 U	7.68 U	0.799 U	1.42 J
6E-C01-6	0.987 J	0.641 -	0.608 -	0.641 -	15.6 -	0.0302 U	6.27 U	0.768 U	1.52 J
6E-C01-7	2.15 J	0.877 -	0.853 -	0.877 -	26.2 -	0.0595 U	2.39 -	1.79 U	1.75 -
6E-C01-8	1.12 J	0.935 -	0.943 -	0.935 -	17 -	0.0541 U	6.57 U	1.68 U	1.62 -
6E-C01-8-D	1.33 J	0.876 -	0.85 -	0.876 -	19.6 -	0.0477 U	5.42 J	1.76 U	1.72 -
6E-C01-9	1.33 J	0.721 -	0.673 -	0.721 -	22.4 -	0.0372 U	7.43 U	0.762 U	1.81 J
6E-C01-10	0.711 J	0.311 -	0.278 -	0.311 -	16.3 -	0.0532 U	4.8 U	0.765 U	1.53 J
6E-C01-11	1.49 J	0.7 -	0.719 -	0.7 -	12.1 -	0.0458 U	5.21 U	0.752 U	1.65 J
6E-C01-12	0.894 J	0.826 -	0.839 -	0.826 -	34.7 -	0.0551 U	0.84 U	1.01 -	1.5 J
6E-C01-13	1.11 J	0.882 -	0.808 -	0.882 -	23.7 -	0.0371 U	8.75 U	3.28 -	1.35 J
6E-C01-14	0.892 J	0.644 -	0.615 -	0.644 -	23.1 -	0.0376 U	7.39 U	0.74 U	1.67 J
6E-C01-15	0.827 -	0.624 -	0.614 -	0.624 -	6.55 J	0.0343 U	7.46 U	0.77 U	0.803 J
6E-C01-16	0.892 -	0.744 -	0.713 -	0.744 -	7.96 J	0.0393 U	7.48 U	0.8 U	1.19 -
6E-C05-1	0.816 -	0.714 -	0.65 -	0.714 -	5.36 J	0.0356 U	7.92 U	0.771 U	1.24 -
6E-C05-2	0.867 -	0.825 -	0.836 -	0.825 -	34 -	0.0555 U	1.04 J	1.92 U	1.49 -
Limit	1.7	1.8	1.7	1.5	20	1.4	38	30	280
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	2.15	0.935	0.943	0.935	34.7	0.0595 U	5.42	3.28	2.3
Max. > Limit	Yes	No	No	No	Yes	No	No	No	No
W-statistic Prob. #	5.0% (LN)	--	--	--	38.8% (N)	--	--	--	--
Test Procedure	Lognormal	--	--	--	Normal	--	--	--	--
Sample Size	18	18	18	18	18	18	18	18	18
Nondetects	0	0	0	0	0	18	15	16	0
% Nondetects	0%	0%	0%	0%	0%	100%	83%	89%	0%
Est. Mean*	1.084	--	--	--	17.1	--	--	--	--
UCL	1.23	--	--	--	20.94	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	Pass	--	--	--	Fail	--	--	--	--
a posteriori Sample	4	--	--	--	66	--	--	--	--
Size calculation	Pass	--	--	--	Fail	--	--	--	--

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SAMPLEID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum	Selenium	Silver
6E-C01-1	3 U	5 -	73.5 J	0.6 -	0.22 J	14.5 J	10.4 J	0.015 J	1.9 U	0.545 UJ	0.068 J
6E-C01-2	0.438 U	5.71 -	65.6 J	0.432 -	0.175 J	10.6 J	10.9 J	0.0215 U	1.42 -	1.88 U	0.139 U
6E-C01-3	4.2 U	4.9 -	73.8 J	0.62 -	0.27 J	16.8 J	10.8 J	0.025 J	0.93 U	0.559 UJ	0.092 J
6E-C01-4	0.46 U	5.16 -	78.7 J	0.379 -	0.138 J	10.2 J	8.98 J	0.0361 U	1.71 -	1.98 U	0.146 U
6E-C01-5	0.428 U	3.11 -	29.6 J	0.375 -	0.0971 J	10.3 J	8.04 J	0.0248 U	0.763 J	1.84 U	0.136 U
6E-C01-6	0.474 U	4.55 -	51.9 J	0.34 -	0.184 J	9.99 J	9.2 J	0.0247 U	1.73 -	2.04 U	0.151 U
6E-C01-7	2.4 U	5.9 -	81.4 J	0.7 -	0.3 J	16 J	13.6 J	0.052 J	1.2 U	0.551 UJ	0.09 J
6E-C01-8	0.441 UJ	4.4 -	88.1 J	0.63 -	0.32 J	18.9 J	12.1 J	0.032 J	0.8 U	0.573 UJ	0.1 J
6E-C01-8-D	2.9 U	5.7 -	92.6 J	0.71 -	0.33 J	19 J	13.2 J	0.034 J	0.97 U	0.558 UJ	0.1 J
6E-C01-9	0.425 U	7.28 -	138 J	0.707 -	0.139 J	15.4 J	10.7 J	0.0382 U	1.04 -	1.82 U	0.135 U
6E-C01-10	0.445 U	4.21 -	64.8 J	0.404 -	0.191 J	10 J	11.9 J	0.0422 U	0.89 J	1.91 U	0.141 U
6E-C01-11	0.449 U	6.3 -	70.7 J	0.444 -	0.139 J	10.5 J	11 J	0.0425 U	1.28 -	1.93 U	0.143 U
6E-C01-12	0.424 U	4.18 -	51.7 J	0.319 -	0.16 J	8.54 J	8.91 J	0.0243 U	1.46 -	1.82 U	0.135 U
6E-C01-13	0.425 U	7.63 -	77.4 J	0.497 -	0.281 J	12.1 J	20.5 J	0.0462 U	1.36 -	1.83 U	0.135 U
6E-C01-14	0.378 U	4.41 -	45.9 J	0.368 -	0.138 J	9.83 J	10.2 J	0.0197 U	1.21 -	1.62 U	0.12 U
6E-C01-15	0.429 U	6.01 -	54 J	0.497 -	0.166 J	12.5 J	11.8 J	0.0286 J	1.29 -	1.84 U	0.136 U
6E-C01-16	0.496 U	3.73 -	29.5 J	0.51 -	0.129 J	11.8 J	9.29 J	0.0192 J	1.37 -	2.13 U	0.158 U
6E-C05-1	0.435 U	4.43 -	40.5 J	0.518 -	0.115 J	10.8 J	9.59 J	0.0198 J	1.39 -	1.87 U	0.138 U
6E-C05-2	0.437 UJ	3.1 J	39.6 J	0.33 -	0.22 J	8.9 J	7.8 J	0.019 J	0.66 U	0.524 U	0.099 J
Limit	96	12	68000	1.5	82	300	400	7.5	2900	5400	29000
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	4.2 U	7.63	138	0.71	0.33	19	20.5	0.052	1.73	2.13 U	0.1
Max. > Limit	No	No	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--	--	--
Sample Size	18	18	18	18	18	18	18	18	18	18	18
Nondetects	18	0	0	0	0	0	0	10	5	18	13
% Nondetects	100%	0%	0%	0%	0%	0%	0%	56%	28%	100%	72%
Est. Mean*	--	--	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--	--	--

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rtification Unit 1

SAMPLEID	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene
6E-C01-1	36.3 U	36.3 U	36.3 U	36.3 U	36.3 U	36.3 U
6E-C01-2	38.5 U	38.5 U	50.4 J	38.5 U	38.5 U	38.5 U
6E-C01-3	37.4 U	43.1 J	76.5 J	37.4 U	37.4 U	47.7 J
6E-C01-4	35.5 U	35.5 U	35.5 U	35.5 U	35.5 U	35.5 U
6E-C01-5	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U
6E-C01-6	38 U	38 U	38 U	38 U	38 U	38 U
6E-C01-7	38 U	38 U	46.9 J	38 U	38 U	38 U
6E-C01-8	38.3 U	38.3 U	50 J	38.3 U	38.3 U	38.3 U
6E-C01-8-D	39 U	39 U	59.3 J	39 U	39 U	39 U
6E-C01-9	55.8 J	46.3 J	53.1 J	37.5 U	37.5 U	44.3 J
6E-C01-10	72.4 J	59.9 J	108 -	36.4 U	36.4 U	82.8 J
6E-C01-11	37.9 U	75.4 J	127 -	42.7 J	37.9 U	85.7 J
6E-C01-12	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U
6E-C01-13	42.2 U	42.2 U	42.2 U	42.2 U	42.2 U	42.2 U
6E-C01-14	38.8 U	38.8 U	38.8 U	38.8 U	38.8 U	38.8 U
6E-C01-15	147 -	182 J	246 J	182 -	41.7 U	148 -
6E-C01-16	80.9 J	137 J	136 J	165 -	49.5 U	75.4 J
6E-C05-1	49 U	102 J	72.4 J	124 -	49 U	49 U
6E-C05-2	36.6 U	36.6 U	47.7 J	36.6 U	36.6 U	36.6 U
Limit	20000	2000	20000	1000	200000	2000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	147	182	246	182	49.5 U	148
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	18	18	18	18	18	18
Nondetects	14	11	7	14	18	12
% Nondetects	78%	61%	39%	78%	100%	67%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation.	--	--	--	--	--	--

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SAMPLEID	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin
6E-C01-1	36.3 U	36.3 U	36.3 U	36.3 U	36.3 U	3.6 U	3.6 U	1.5 U
6E-C01-2	38.5 U	40.5 J	38.5 U	38.5 U	38.5 U	3.9 U	3.9 UJ	1.5 U
6E-C01-3	37.4 U	128 -	37.4 U	76.4 J	126 -	15.9 -	5.3 J	1.5 U
6E-C01-4	35.5 U	35.5 U	35.5 U	35.5 U	35.5 U	3.6 U	3.6 UJ	1.4 U
6E-C01-5	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U	3.7 U	3.7 UJ	1.5 U
6E-C01-6	38 U	38 U	38 U	38 U	38 U	3.9 J	3.8 UJ	1.5 U
6E-C01-7	38 U	57.4 J	38 U	38 U	62.3 J	19.2 -	4.3 J	1.5 U
6E-C01-8	38.3 U	71.6 J	38.3 U	41.2 J	68.2 J	12.8 J	4.1 J	1.5 U
6E-C01-8-D	39 U	59.1 J	39 U	39 U	64.3 J	3.9 U	3.9 U	1.6 U
6E-C01-9	37.5 U	70.8 J	37.5 U	40.1 J	66.2 J	5.1 J	3.8 UJ	1.5 U
6E-C01-10	36.4 U	171 -	36.4 U	109 J	140 -	3.6 U	3.6 UJ	1.5 U
6E-C01-11	37.9 U	134 -	41.5 J	58.7 J	126 -	5.3 J	3.8 UJ	1.5 U
6E-C01-12	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U	14.3 -	4.3 J	1.5 U
6E-C01-13	42.2 U	42.2 U	42.2 U	42.2 U	42.2 U	4.2 U	4.2 UJ	1.7 U
6E-C01-14	38.8 U	38.8 U	38.8 U	38.8 U	38.8 U	16.7 -	4.6 J	1.6 U
6E-C01-15	41.7 U	276 J	192 -	121 J	195 J	4.2 U	4.2 U	5 U
6E-C01-16	49.5 U	112 J	182 -	49.5 U	97.3 J	5 U	5 U	5.9 U
6E-C05-1	49 U	65.1 J	49 U	49 U	49 U	5.8 J	4.9 U	5.9 U
6E-C05-2	36.6 U	45.4 J	36.6 U	36.6 U	38.3 J	10.8 J	3.7 J	1.5 U
Limit	2000	10000	20000	5000	10000	130	130	15
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	49.5 U	276	192	121	195	19.2	5.3	5.9 U
Max. > Limit	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--
Sample Size	18	18	18	18	18	18	18	18
Nondetects	18	7	15	12	9	8	12	18
% Nondetects	100%	39%	83%	67%	50%	44%	67%	100%
Est. Mean*	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--

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.tification Unit 1

SAMPLEID	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone	Acetone	Benzene	Carbon Tetrachloride
6E-C01-1	1 U	1 U	1 U	4.8 U	4.8 U	1 U	1 U
6E-C01-2	0.9 U	0.9 U	0.9 U	4.3 U	4.3 U	0.9 U	0.9 U
6E-C01-3	0.9 U	0.9 U	0.9 U	4.4 U	4.4 U	0.9 U	0.9 U
6E-C01-4	1 U	1 U	1 U	4.8 U	8 J	1 U	1 U
6E-C01-5	0.9 U	0.9 U	0.9 U	4.7 U	4.7 U	0.9 U	0.9 U
6E-C01-6	1.2 U	1.2 U	1.2 U	6.1 U	9.8 J	1.2 U	1.2 U
6E-C01-7	0.8 U	1.1 J	0.8 U	4.1 U	4.1 U	0.8 U	0.8 U
6E-C01-8	0.9 U	0.9 U	0.9 U	4.7 U	4.7 U	0.9 U	0.9 U
6E-C01-8-D	1.1 U	1.1 U	1.1 U	5.3 U	5.3 U	1.1 U	1.1 U
6E-C01-9	0.9 U	2.1 J	0.9 U	4.7 U	4.7 U	0.9 U	0.9 U
6E-C01-10	1 U	1 U	1 U	5 U	5 U	1 U	1 U
6E-C01-11	0.9 U	0.9 U	0.9 U	4.4 U	4.4 U	0.9 U	0.9 U
6E-C01-12	1 U	1 U	1 U	4.8 U	4.8 U	1 U	1 U
6E-C01-13	1 U	1 U	1 U	5.2 U	5.2 U	1 U	1 U
6E-C01-14	2.5 J	1.1 U	1.1 U	5.4 U	5.4 U	1.1 U	1.1 U
6E-C01-15	1.3 U	1.3 U	1.3 U	6.6 U	6.6 U	1.3 U	1.3 U
6E-C01-16	1.8 U	1.8 U	1.8 U	9 U	21.3 J	1.8 U	1.8 U
6E-C05-1	1.4 U	1.4 U	1.4 U	7.2 U	8.9 J	1.4 U	1.4 U
6E-C05-2	1.1 U	1.1 U	1.1 U	5.5 U	5.5 U	1.1 U	1.1 U
Limit	4300	410	160	2500000	43000000	850000	2100
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.5	2.1	1.8 U	9 U	21.3	1.8 U	1.8 U
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	18	18	18	18	18	18	18
Nondetects	17	16	18	18	14	18	18
% Nondetects	94%	89%	100%	100%	78%	100%	100%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C01-1	1 U	4.8 U	1 U	1 U	1 U	1 U
6E-C01-2	0.9 U	4.3 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C01-3	0.9 U	4.4 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C01-4	1 U	4.8 U	1 U	3.2 J	1 U	1 U
6E-C01-5	0.9 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C01-6	1.2 U	6.1 U	1.2 U	1.7 J	1.2 U	1.2 U
6E-C01-7	0.8 U	4.1 U	0.8 U	0.8 U	0.8 U	0.8 U
6E-C01-8	0.9 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C01-8-D	1.1 U	5.3 U	1.1 J	1.1 U	1.1 U	1.1 U
6E-C01-9	0.9 U	4.7 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C01-10	1 U	5 U	1 U	1.4 J	1 U	1 U
6E-C01-11	0.9 U	4.4 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C01-12	1 U	4.8 U	1 U	1.3 J	1 U	1 U
6E-C01-13	1 U	5.2 U	1 U	1 U	1 U	1 U
6E-C01-14	1.1 U	5.4 U	1.1 U	1.1 U	6.9 J	1.1 U
6E-C01-15	1.3 U	6.6 U	1.3 U	3.7 J	1.3 U	1.3 U
6E-C01-16	1.8 U	9 U	1.8 U	1.8 U	1.8 U	1.8 U
6E-C05-1	1.4 U	7.2 U	1.4 U	1.4 U	1.4 U	1.4 U
6E-C05-2	1.1 U	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U
Limit	5100000	37000	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	1.8 U	9 U	1.1	3.7	6.9	1.8 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	18	18	18	18	18	18
Nondetects	18	18	17	13	17	18
% Nondetects	100%	100%	94%	72%	94%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C02-1	0.978 -	1.02 -	1.03 -	1.02 -	10 -	0.0458 U	6.78 U	2.04 U
6E-C02-2	1.06 -	1.01 -	1.01 -	1.01 -	8.32 J	0.0534 U	5.19 U	2.01 U
6E-C02-3	1.26 -	1.21 -	1.2 -	1.21 -	9.38 -	0.0694 U	7.01 U	2.21 U
6E-C02-4	0.837 -	0.722 -	0.721 -	0.722 -	3.88 J	0.0429 U	6.1 U	2.04 U
6E-C02-5	1.6 -	0.928 -	0.938 -	0.928 -	19.7 -	0.0572 U	5.33 U	2.07 U
6E-C02-6	0.847 -	0.936 -	0.951 -	0.936 -	6.39 -	0.0372 U	7.89 U	2.16 U
6E-C02-7	2.27 -	0.785 -	0.796 -	0.785 -	7.73 J	0.0429 U	7.85 U	2.03 U
6E-C02-8	0.944 -	0.869 -	0.831 -	0.869 -	5.91 -	0.0529 U	1.16 J	2.3 U
6E-C02-9	0.888 -	0.808 -	0.777 -	0.808 -	3.76 -	0.0501 U	6.03 U	2.11 U
6E-C02-10	2.64 -	0.877 -	0.861 -	0.877 -	12.3 -	0.0618 U	3.15 -	2.2 U
6E-C02-11	0.857 -	0.884 -	0.897 -	0.884 -	3.55 -	0.0497 U	5.16 U	2.22 U
6E-C02-12	0.86 -	0.903 -	0.916 -	0.903 -	3.56 -	0.052 U	5.31 U	2.07 U
6E-C02-13	1.86 -	0.993 -	1.03 -	0.993 -	14.8 -	0.0629 U	5.89 U	2.7 U
6E-C02-14	0.83 -	0.655 -	0.642 -	0.655 -	4.33 -	0.0447 U	3.44 J	2.19 U
6E-C02-14-D	0.815 -	0.677 -	0.662 -	0.677 -	2.99 -	0.0389 U	0.849 J	1.78 U
6E-C02-15	1.89 -	1.24 -	1.24 -	1.24 -	26.4 -	0.103 U	3.26 -	1.78 U
6E-C02-16	1.48 -	0.893 -	0.897 -	0.893 -	15.2 -	0.0434 U	7.33 U	1.99 U
Limit	1.7	1.8	1.7	1.5	20	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	0%	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	0.95	90%	90%	90%
Max. Result	2.64	1.24	1.24	1.24	26.4	0.103 U	3.44	2.7 U
Max. > Limit	Yes	No	No	No	Yes	No	No	No
W-statistic Prob. #	1.7% (LN)	--	--	--	39.1% (LN)	--	--	--
Test Procedure	Wilcoxon	--	--	--	Lognormal	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	16	11	16
% Nondetects	0%	0%	0%	0%	0%	100%	69%	100%
Est. Mean*	1.018	--	--	--	9.8	--	--	--
UCL	1.60	--	--	--	14.15	--	--	--
Prob. > Limit	0.0168	--	--	--	--	--	--	--
Pass / Fail	Pass	--	--	--	pass	--	--	--
a posteriori Sample	18	--	--	--	5	--	--	--
Size calculation	Fail	--	--	--	Pass	--	--	--

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Certification Unit 2

SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum
6E-C02-1	1.49 -	0.67 J	8.4 J	98.9 J	0.82 -	0.34 J	21.2 J	16.8 J	0.025 J	1 J
6E-C02-2	1.08 -	2.35 UJ	5.7 -	165 J	1.8 J	0.33 J	30.2 -	12.7 J	0.044 J	0.91 J
6E-C02-3	1.83 -	1 J	7.4 J	113 J	0.94 -	0.37 J	30.9 J	12.7 J	0.033 J	0.49 J
6E-C02-4	0.804 -	0.87 U	5.5 -	62.8 J	0.61 J	0.2 J	15.4 -	8.5 J	0.011 J	1.5 J
6E-C02-5	1.45 -	0.6 U	6.8 -	88.5 J	0.75 J	0.33 J	21.1 -	13.8 J	0.017 J	1.3 J
6E-C02-6	1.47 -	0.56 J	7.1 J	92.3 J	0.78 -	0.31 J	19.8 J	15.5 J	0.017 J	0.95 J
6E-C02-7	1.49 -	0.78 U	5.5 -	59.9 J	0.66 J	0.21 J	16.3 -	9.5 J	0.012 J	1.4 J
6E-C02-8	1.58 -	0.71 J	6.9 J	95.2 J	0.82 -	0.29 J	20.8 J	11.8 J	0.028 J	1.3 J
6E-C02-9	1.21 -	0.439 UJ	6.2 J	57.7 J	0.55 -	0.24 J	14.4 J	8.4 J	0.014 J	1.7 J
6E-C02-10	2.25 -	1.4 U	8.6 J	84.6 J	0.68 -	0.39 J	19.6 J	17.4 J	0.021 J	1.3 -
6E-C02-11	1.74 -	0.46 J	5.6 J	62.5 J	0.75 -	0.19 J	18.6 J	8.2 J	0.013 J	1.1 J
6E-C02-12	1.37 -	0.8 J	7.3 J	77.9 J	0.71 -	0.36 J	18.9 J	10.9 J	0.02 J	1.4 J
6E-C02-13	2.19 -	0.88 J	8.1 J	88.5 J	0.78 -	0.37 J	20.5 J	12.9 J	0.021 J	1.4 J
6E-C02-14	0.956 -	0.74 J	6.1 J	61.9 J	0.58 -	0.25 J	15.1 J	7.8 J	0.013 J	2 J
6E-C02-14-D	1.27 -	0.431 UJ	6.2 J	63.1 J	0.57 -	0.27 J	15.5 J	8 J	0.012 J	2 J
6E-C02-15	1.7 -	1 J	7.6 J	112 J	1 -	0.47 J	25.7 J	20.8 J	0.023 J	1.3 J
6E-C02-16	2.04 -	0.93 J	8.1 J	30.6 J	0.2 -	0.22 J	7.7 J	24.2 J	0.017 J	3.4 J
Limit	280	96	12	68000	1.5	82	300	400	7.5	2900
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.25	1	8.6	165	1.8	0 .47	30.9	24.2	0 .044	3.4
Max. > Limit	No	No	No	No	Yes	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	< 0.01% (LN)	--	--	--	--	--
Test Procedure	--	--	--	--	Median (Sign)	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16	16
Nondetects	0	6	0	0	0	0	0	0	0	0
% Nondetects	0%	38%	0%	0%	0%	0%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	0.75	--	--	--	--	--
UCL	--	--	--	--	0.82	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	Pass	--	--	--	--	--

a posteriori Sample	--	--	--	--	4	--	--	--	--	--
Size calculation	--	--	--	--	Pass	--	--	--	--	--

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SAMPLEID	Selenium	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
6E-C02-1	0.588 U	0.083 J	39.7 U	39.7 U	48.6 J	39.7 U
6E-C02-2	0.58 J	0.087 J	40.1 U	40.1 U	40.1 U	40.1 U
6E-C02-3	0.61 U	0.16 J	41.9 U	41.9 U	41.9 U	41.9 U
6E-C02-4	0.538 U	0.049 J	36.6 U	36.6 U	36.6 U	36.6 U
6E-C02-5	0.569 U	0.087 J	86.6 J	72.9 J	93.6 J	38.7 J
6E-C02-6	0.546 U	0.074 J	38.2 U	50.3 J	80.6 J	38.2 U
6E-C02-7	0.562 U	0.052 J	38.6 U	38.6 U	38.6 U	38.6 U
6E-C02-8	0.575 U	0.075 J	38.3 U	38.3 U	38.3 U	38.3 U
6E-C02-9	0.54 U	0.051 J	37 U	37 U	37 U	37 U
6E-C02-10	0.557 U	0.068 J	164 -	167 -	152 -	134 -
6E-C02-11	0.557 U	0.05 J	38.4 U	38.4 U	38.4 U	38.4 U
6E-C02-12	0.561 U	0.066 J	38.1 U	38.1 U	38.1 U	38.1 U
6E-C02-13	0.559 U	0.083 J	39.1 U	39.1 U	39.1 U	39.1 U
6E-C02-14	0.544 U	0.053 J	36.8 U	36.8 U	36.8 U	36.8 U
6E-C02-14-D	0.539 U	0.052 J	36.9 U	36.9 U	36.9 U	36.9 U
6E-C02-15	0.574 U	0.094 J	39.1 U	80.3 J	146 J	39.1 U
6E-C02-16	0.564 U	0.16 J	382 U	382 U	382 U	382 U
Limit	5400	29000	20000	2000	20000	1000
Units	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	0 .58	0 .16	164	167	152	134
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	15	0	15	14	12	14
% Nondetects	94%	0%	94%	88%	75%	88%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene
6E-C02-1	39.7 U	39.7 U	39.7 U	39.7 U	39.7 U	39.7 U
6E-C02-2	40.1 U	40.1 U	40.1 U	43.6 J	40.1 U	40.1 U
6E-C02-3	41.9 U	41.9 U	41.9 U	42.4 J	41.9 U	41.9 U
6E-C02-4	36.6 U	36.6 U	36.6 U	36.6 U	36.6 U	36.6 U
6E-C02-5	44.6 J	83 J	38.4 U	155 -	38.4 U	83.9 J
6E-C02-6	38.2 U	48.9 J	38.2 U	58.9 J	38.2 U	38.2 U
6E-C02-7	38.6 U	38.6 U	38.6 U	38.6 U	38.6 U	38.6 U
6E-C02-8	38.3 U	38.3 U	38.3 U	38.3 U	38.3 U	38.3 U
6E-C02-9	37 U	37 U	37 U	37 U	37 U	37 U
6E-C02-10	80.3 J	171 -	38.5 U	347 -	140 -	221 J
6E-C02-11	38.4 U	38.4 U	38.4 U	38.4 U	38.4 U	38.4 U
6E-C02-12	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U
6E-C02-13	39.1 U	41.2 J	39.1 U	78.9 J	39.1 U	53.4 J
6E-C02-14	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U
6E-C02-14-D	36.9 U	36.9 U	36.9 U	36.9 U	36.9 U	36.9 U
6E-C02-15	39.1 U	109 J	39.1 U	236 J	39.1 U	212 J
6E-C02-16	382 U	382 U	382 U	923 J	382 U	859 J
Limit	200000	2000000	2000	10000	20000	5000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	80.3	171	382 U	923	140	859
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	14	11	16	8	15	11
% Nondetects	88%	69%	100%	50%	94%	69%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane
6E-C02-1	39.7 U	4 U	4 U	1.6 U	1 U	1 U	1 U
6E-C02-2	40.1 U	4 U	4 U	1.6 U	1 U	1 U	1 U
6E-C02-3	47.2 J	8.4 J	4.2 U	1.7 U	1.1 U	1.1 U	1.1 U
6E-C02-4	36.6 U	3.7 U	3.7 U	1.5 U	1.1 U	1.1 U	1.1 U
6E-C02-5	131 -	4.5 J	3.8 U	1.5 U	1.1 U	1.1 U	1.1 U
6E-C02-6	62.6 J	3.8 U	3.8 U	1.5 U	1.3 U	1.3 U	1.3 U
6E-C02-7	38.6 U	3.9 U	3.9 U	1.6 U	1.1 U	2.4 J	1.1 U
6E-C02-8	38.3 U	3.8 U	3.8 U	1.5 U	1 U	1 U	1 U
6E-C02-9	37 U	3.7 U	3.7 U	1.5 U	1 U	1 U	1 U
6E-C02-10	239 J	37.2 J	9.2 J	1.5 U	1 U	1 U	1 U
6E-C02-11	38.4 U	3.8 U	3.8 U	1.5 U	0.9 U	0.9 U	0.9 U
6E-C02-12	38.1 U	3.8 U	3.8 U	1.5 U	1.1 U	1.1 U	1.1 U
6E-C02-13	71.6 J	18.4 -	3.9 U	1.6 U	1.2 U	1.2 U	1.2 U
6E-C02-14	36.8 U	3.7 U	3.7 U	1.5 U	1 U	1 U	1 U
6E-C02-14-D	36.9 U	3.7 U	3.7 U	1.5 U	1 U	1 U	1 U
6E-C02-15	217 J	16.4 -	3.9 U	1.6 U	1 U	1 U	1 U
6E-C02-16	1030 J	7.6 U	7.6 U	1.5 U	1 U	1 U	1 U
Limit	10000	130	130	15	4300	410	160
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	1030	37.2	9.2	1.7 U	1.3 U	2.4	1.3 U
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	9	11	14	16	16	15	16
% Nondetects	56%	69%	88%	100%	100%	94%	100%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	4-Methyl-2-pentanone	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride
6E-C02-1	5 U	5 U	1 U	1 U	1 U	5 U
6E-C02-2	5.2 U	5.4 J	1 U	1 U	1 U	5.2 U
6E-C02-3	5.5 U	5.5 U	1.1 U	1.1 U	1.1 U	5.5 U
6E-C02-4	5.6 U	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C02-5	5.6 U	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C02-6	6.5 U	6.5 U	1.3 U	1.3 U	1.3 U	6.5 U
6E-C02-7	5.5 U	11.2 J	1.1 U	1.1 U	1.1 U	5.5 U
6E-C02-8	4.9 U	4.9 U	1 U	1 U	1 U	4.9 U
6E-C02-9	4.9 U	5.8 U	1 U	1 U	1 U	4.9 U
6E-C02-10	5.2 U	5.2 U	1 U	1 U	1 U	5.2 U
6E-C02-11	4.4 U	4.4 U	0.9 U	0.9 U	0.9 U	4.4 U
6E-C02-12	5.5 U	13.9 U	1.1 U	1.1 U	1.1 U	5.5 U
6E-C02-13	5.8 U	5.8 U	1.2 U	1.2 U	1.2 U	5.8 U
6E-C02-14	5 U	5 U	1 U	1 U	1 U	5 U
6E-C02-14-D	4.9 U	4.9 U	1 U	1 U	1 U	4.9 U
6E-C02-15	5 U	11 U	1 U	1 U	1 U	5 U
6E-C02-16	4.9 U	4.9 U	1 U	1 U	1 U	4.9 U
Limit	2500000	43000000	850000	2100	5100000	37000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	6.5 U	11.2	1.3 U	1.3 U	1.3 U	6.5 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	14	16	16	16	16
% Nondetects	100%	88%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C02-1	1 U	1 U	1 U	1 U
6E-C02-2	1 U	1 U	1 U	1 U
6E-C02-3	1.1 U	1.1 U	1.1 U	1.1 U
6E-C02-4	1.1 U	1.1 U	1.1 U	1.1 U
6E-C02-5	1.1 U	1.1 U	1.1 U	1.1 U
6E-C02-6	1.3 U	1.3 J	1.3 U	1.3 U
6E-C02-7	1.1 U	1.1 U	1.1 U	1.1 U
6E-C02-8	1 U	1 U	1 U	1 U
6E-C02-9	1 U	1.1 J	1 U	1 U
6E-C02-10	1 U	1 U	1 U	1 U
6E-C02-11	0.9 U	0.9 U	0.9 U	0.9 U
6E-C02-12	1.1 U	1.1 U	1.1 U	1.1 U
6E-C02-13	1.2 U	1.2 U	1.2 U	1.2 U
6E-C02-14	1 U	1 J	1 U	1 U
6E-C02-14-D	1 U	1.4 J	1 U	1 U
6E-C02-15	1.6 J	1.7 J	1 U	1 J
6E-C02-16	1 U	1 U	1 U	1 U
Limit	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%
Max. Result	1.6	1.7	1.3 U	1
Max. > Limit	No	No	No	No
W-statistic Prob. #	--	--	--	--
Test Procedure	--	--	--	--
Sample Size	16	16	16	16
Nondetects	15	12	16	15
% Nondetects	94%	75%	100%	94%
Est. Mean*	--	--	--	--
UCL	--	--	--	--
Prob. > Limit	--	--	--	--
Pass / Fail	--	--	--	--

a posteriori Sample	--	--	--	--
Size calculation	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C03-1	1.21 -	1.07 -	1.04 -	1.07 -	12.2 -	0.0793 U	1.62 J	2.09 U
6E-C03-2	0.794 -	0.555 -	0.573 -	0.555 -	5.03 -	0.0298 U	5.39 U	1.96 U
6E-C03-3	0.948 -	0.963 -	0.963 -	0.963 -	8.91 -	0.0522 U	5.31 U	2.2 U
6E-C03-4	1.16 -	0.863 -	0.868 -	0.863 -	5.8 -	0.0634 U	9.34 U	2.16 U
6E-C03-5	1.88 -	0.832 -	0.819 -	0.832 -	12.8 -	0.0681 U	2.9 -	2.3 U
6E-C03-6	0.93 -	0.902 -	0.9 -	0.902 -	3.76 -	0.0543 U	6.19 U	2.34 U
6E-C03-7	0.77 -	0.566 -	0.557 -	0.566 -	4.46 -	0.0453 U	4.55 U	2.3 U
6E-C03-8	1.8 -	0.958 -	0.957 -	0.958 -	23.1 -	0.0695 U	6.62 U	2.25 U
6E-C03-9	1.43 -	0.799 -	0.776 -	0.799 -	11.1 -	0.0912 U	2.32 -	2.4 U
6E-C03-10	1.33 -	0.876 -	0.871 -	0.876 -	13.2 -	0.0477 U	1.33 -	2.2 U
6E-C03-11	1.25 -	0.826 -	0.815 -	0.826 -	12.8 -	0.0539 U	2.54 U	2.27 U
6E-C03-12	1.15 -	0.804 -	0.812 -	0.804 -	13.2 -	0.0774 U	1.75 J	2.28 U
6E-C03-13	0.915 J	0.448 -	0.407 -	0.448 -	7.91 -	0.0425 U	0.824 J	0.792 U
6E-C03-13-D	2.49 J	0.69 -	0.631 -	0.69 -	11.4 -	0.0363 U	8.56 U	0.773 U
6E-C03-14	1.65 -	0.84 -	0.843 -	0.84 -	14.6 -	0.0486 U	7.72 U	2.36 U
6E-C03-15	1.11 -	1.16 -	1.16 -	1.16 -	12.5 -	0.0614 J	5.17 U	2.39 U
6E-C03-16	0.885 -	0.465 -	0.473 -	0.465 -	6.05 -	0.0377 U	5.36 U	2.3 U
Limit	1.7	1.8	1.7	1.5	20	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%
Max. Result	2.49	1.16	1.16	1.16	23.1	0 .0614	2.9	2.4 U
Max. > Limit	Yes	No	No	No	Yes	No	No	No
W-statistic Prob. #	70.5% (LN)	--	--	--	9.1% (LN)	--	--	--
Test Procedure	Lognormal	--	--	--	Lognormal	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	15	10	16
% Nondetects	0%	0%	0%	0%	0%	94%	63%	100%
Est. Mean*	1.300	--	--	--	10.9	--	--	--
UCL	1.53	--	--	--	14.23	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	Pass	--	--	--	Pass	--	--	--

a posteriori Sample	8	--	--	--	5	--	--	--
Size calculation	Pass	--	--	--	Pass	--	--	--

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SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum
6E-C03-1	1.37 -	2.37 UJ	12 -	164 J	1.1 -	0.46 J	26.3 J	15.4 J	0.024 J	1.7 -
6E-C03-2	0.58 -	0.435 UJ	4.8 -	21.4 J	0.25 -	0.21 J	7.7 J	6.1 J	0.01 J	1.5 -
6E-C03-3	0.922 -	2.26 UJ	6.1 -	77.9 J	0.72 -	0.25 J	18.6 J	12.8 J	0.024 J	0.97 J
6E-C03-4	0.972 -	2.33 UJ	6 -	49.4 J	0.5 -	0.26 J	14.3 J	9.1 J	0.02 J	1.7 -
6E-C03-5	1.7 -	0.66 J	7 -	63.8 J	0.53 -	0.34 J	15.2 J	10.3 J	0.025 J	1 -
6E-C03-6	1.48 -	2.17 UJ	6.5 -	80.3 J	0.68 -	0.25 J	18 J	11.7 J	0.018 J	1.3 -
6E-C03-7	0.754 -	0.435 UJ	5.4 -	38.3 J	0.37 -	0.23 J	10.9 J	7.6 J	0.013 J	1.6 -
6E-C03-8	2.12 -	0.63 J	6.5 -	77.1 J	0.6 -	0.28 J	16.3 J	15.9 J	0.025 J	1.1 -
6E-C03-9	1.59 -	0.468 UJ	6.2 -	71.2 J	0.63 -	0.3 J	17.4 J	11.2 J	0.027 J	1.4 -
6E-C03-10	2.08 -	0.66 J	6.2 -	404 J	0.59 -	0.27 J	15.3 J	12.7 J	0.035 J	1.3 -
6E-C03-11	1.88 -	0.46 J	5.3 -	62.8 J	0.51 -	0.24 J	14 J	11.5 J	0.025 J	1.2 -
6E-C03-12	1.66 -	0.62 J	6.1 -	72.6 J	0.58 -	0.29 J	15.8 J	15.1 J	0.02 J	1.4 -
6E-C03-13	1.89 -	0.454 U	6.44 J	73.8 J	0.512 J	0.177 J	12.1 J	12.3 J	0.0117 J	1.47 -
6E-C03-13-D	1.7 -	0.4 U	6.6 J	72.8 J	0.502 J	0.204 J	10.9 J	15.5 J	0.0288 J	1.28 -
6E-C03-14	1.67 -	0.7 J	5.3 -	63.8 J	0.51 -	0.27 J	13.2 J	11.3 J	0.036 J	1 -
6E-C03-15	1.15 -	2.28 UJ	13.4 -	147 J	0.92 -	0.39 J	24.1 J	17.9 J	0.04 J	1.5 -
6E-C03-16	1.1 -	0.61 J	3.7 -	48.7 J	0.45 -	0.2 J	10 J	7.3 J	0.026 J	0.82 J
Limit	280	96	12	68000	1.5	82	300	400	7.5	2900
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.12	0.7	13.4	404	1.1	0.46	26.3	17.9	0.04	1.7
Max. > Limit	No	No	Yes	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	< 0.01% (LN)	--	--	--	--	--	--	--
Test Procedure	--	--	Median (Sign)	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16	16
Nondetects	0	9	0	0	0	0	0	0	0	0
% Nondetects	0%	56%	0%	0%	0%	0%	0%	0%	0%	0%
Est. Mean*	--	--	6.15	--	--	--	--	--	--	--
UCL	--	--	6.5	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	Pass	--	--	--	--	--	--	--
a posteriori Sample	--	--	7	--	--	--	--	--	--	--
Size calculation	--	--	Pass	--	--	--	--	--	--	--

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SAMPLEID	Selenium	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
6E-C03-1	0.597 U	0.087 J	41.2 U	41.2 U	41.2 U	41.2 U
6E-C03-2	0.538 U	0.0431 U	37.5 U	37.5 U	37.5 U	37.5 U
6E-C03-3	0.569 U	0.066 J	39 U	39 U	39 U	39 U
6E-C03-4	0.574 U	0.0459 U	38.9 U	38.9 U	38.9 U	38.9 U
6E-C03-5	0.559 U	0.067 J	38 U	68.2 J	122 J	45.5 J
6E-C03-6	0.534 U	0.056 J	36.8 U	36.8 U	36.8 U	36.8 U
6E-C03-7	0.546 U	0.0437 U	36.6 U	36.6 U	36.6 U	36.6 U
6E-C03-8	0.537 U	0.071 J	37.5 U	37.5 U	37.5 U	37.5 U
6E-C03-9	0.592 U	0.063 J	39.5 U	39.5 U	39.5 U	39.5 U
6E-C03-10	0.558 U	0.066 J	340 J	279 J	510 J	139 -
6E-C03-11	0.556 U	0.066 J	37.4 U	78.5 J	138 J	37.4 U
6E-C03-12	0.547 U	0.073 J	147 U	278 J	506 J	147 U
6E-C03-13	1.95 U	0.144 U	37.1 U	57 J	37.1 U	37.1 U
6E-C03-13-D	1.72 U	0.127 U	146 J	155 J	192 J	139 J
6E-C03-14	0.54 U	0.055 J	294 J	243 J	412 J	150 U
6E-C03-15	0.596 U	0.093 J	39.9 U	39.9 U	39.9 U	39.9 U
6E-C03-16	0.522 U	0.045 J	140 J	128 J	223 J	35.6 U
Limit	5400	29000	20000	2000	20000	1000
Units	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	1.95 U	0 .093	340	279	510	139
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	4	12	9	9	13
% Nondetects	100%	25%	75%	56%	56%	81%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

Document 6736

SAMPLEID	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene
6E-C03-1	41.2 U	41.2 U	41.2 U	41.2 U	41.2 U	41.2 U
6E-C03-2	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U
6E-C03-3	39 U	39 U	39 U	39 U	39 U	39 U
6E-C03-4	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U
6E-C03-5	38 U	87.3 J	38 U	137 J	38 U	75.6 J
6E-C03-6	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U
6E-C03-7	36.6 U	36.6 U	36.6 U	36.6 U	36.6 U	36.6 U
6E-C03-8	37.5 U	37.5 U	37.5 U	48.4 J	37.5 U	37.5 U
6E-C03-9	39.5 U	39.5 U	39.5 U	41.2 J	39.5 U	39.5 U
6E-C03-10	38 U	356 J	38 U	681 J	118 -	498 J
6E-C03-11	37.4 U	96.7 J	37.4 U	187 J	38.3 J	174 J
6E-C03-12	147 U	333 J	147 U	732 J	147 U	552 J
6E-C03-13	37.1 U	37.1 U	37.1 U	37.1 U	37.1 U	37.1 U
6E-C03-13-D	37.5 U	143 J	37.5 U	318 J	154 J	216 J
6E-C03-14	150 U	290 J	150 U	526 J	150 U	392 J
6E-C03-15	39.9 U	39.9 U	39.9 U	39.9 U	39.9 U	39.9 U
6E-C03-16	35.6 U	155 J	35.6 U	308 J	59.7 J	208 J
Limit	200000	2000000	2000	10000	20000	5000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	150 U	356	150 U	732	154	552
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	9	16	7	12	9
% Nondetects	100%	56%	100%	44%	75%	56%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane
6E-C03-1	41.2 U	4.1 U	4.1 U	1.7 U	1.2 U	1.2 U	1.2 U
6E-C03-2	37.5 U	3.8 U	3.8 U	1.5 U	1.1 U	1.1 U	1.1 U
6E-C03-3	39 U	3.9 U	3.9 U	1.6 U	0.9 U	0.9 U	0.9 U
6E-C03-4	38.9 U	39.1 -	17 J	1.6 U	1.1 U	1.1 U	1.1 U
6E-C03-5	146 J	7.7 J	4.6 J	1.5 U	1.1 U	1.1 U	1.1 U
6E-C03-6	36.8 U	3.7 U	3.7 U	1.5 U	1 U	1 U	1 U
6E-C03-7	36.6 U	3.7 U	3.7 U	1.5 U	0.9 U	0.9 U	0.9 U
6E-C03-8	47.9 J	10.5 J	7.3 J	1.5 U	1.2 U	1.2 U	1.2 U
6E-C03-9	39.5 U	4 U	4 U	1.6 U	1.9 J	1.2 U	1.2 U
6E-C03-10	581 J	11.5 J	7.8 J	1.5 U	0.9 U	0.9 U	0.9 U
6E-C03-11	169 J	7.5 U	7.5 U	1.5 U	1 U	1 U	1 U
6E-C03-12	712 J	13.5 -	9.5 J	1.5 U	1.2 U	3.1 J	1.2 U
6E-C03-13	37.1 U	3.7 U	3.7 U	1.5 U	1.1 U	1.1 U	1.1 U
6E-C03-13-D	194 J	8.2 J	5 J	1.5 U	1.2 U	1.2 U	1.2 U
6E-C03-14	549 J	16.7 -	9.1 J	1.5 U	1.4 U	1.6 J	1.4 U
6E-C03-15	39.9 U	4 U	4 U	1.6 U	1.1 U	1.1 U	1.1 U
6E-C03-16	285 J	8.9 J	7.1 U	1.4 U	1 U	1 U	1 U
Limit	10000	130	130	15	4300	410	160
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	712	39.1	17	1.7 U	1.9	3.1	1.4 U
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	8	8	9	16	15	14	16
% Nondetects	50%	50%	56%	100%	94%	88%	100%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	4-Methyl-2-pentanone	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride
6E-C03-1	6.1 U	11.7 J	1.2 U	1.2 U	1.2 UJ	6.1 U
6E-C03-2	5.5 U	6.4 J	1.1 U	1.1 U	1.1 UJ	5.5 U
6E-C03-3	4.7 U	4.7 U	0.9 U	0.9 U	0.9 UJ	4.7 U
6E-C03-4	5.7 U	5.9 J	1.1 U	1.1 U	1.1 UJ	5.7 U
6E-C03-5	5.3 U	5.3 U	1.1 U	1.1 U	1.1 UJ	5.3 U
6E-C03-6	4.8 U	7.3 J	1 U	1 U	1 UJ	4.8 U
6E-C03-7	4.5 U	5.2 J	0.9 U	0.9 U	0.9 UJ	4.5 U
6E-C03-8	5.8 U	5.8 U	1.2 U	1.2 U	1.2 UJ	5.8 U
6E-C03-9	5.9 U	11.9 J	1.2 U	1.2 U	1.2 UJ	5.9 U
6E-C03-10	4.7 U	47.9 J	0.9 U	0.9 U	0.9 UJ	4.7 U
6E-C03-11	4.9 U	37.7 J	1 U	1 U	1 UJ	4.9 U
6E-C03-12	5.9 U	229 J	1.2 U	1.2 U	1.2 UJ	5.9 U
6E-C03-13	5.5 U	12.4 U	1.1 U	1.1 U	1.1 U	5.5 U
6E-C03-13-D	5.9 U	5.9 U	1.2 U	1.2 U	1.2 U	5.9 U
6E-C03-14	7.2 U	111 J	1.4 U	1.4 U	1.4 UJ	7.2 U
6E-C03-15	5.6 U	6 J	1.1 U	1.1 U	1.1 UJ	5.6 U
6E-C03-16	5.1 U	5.1 U	1 U	1 U	1 UJ	5.1 U
Limit	2500000	43000000	850000	2100	5100000	37000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	7.2 U	229	1.4 U	1.4 U	1.4 UJ	7.2 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	5	16	16	16	16
% Nondetects	100%	31%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C03-1	1.2 U	1.4 J	1.2 U	1.2 UJ
6E-C03-2	1.1 U	1.1 U	1.1 U	1.1 UJ
6E-C03-3	0.9 U	1.4 J	0.9 U	0.9 UJ
6E-C03-4	1.1 U	1.2 J	1.1 U	1.1 UJ
6E-C03-5	1.1 U	1.1 U	1.1 U	1.1 UJ
6E-C03-6	1 U	1 J	1 U	1 UJ
6E-C03-7	36.1 J	1.2 J	1.3 J	0.9 UJ
6E-C03-8	1.2 U	1.2 U	1.2 U	1.2 UJ
6E-C03-9	1.2 U	1.8 J	1.2 U	1.2 UJ
6E-C03-10	0.9 U	0.9 U	0.9 U	0.9 UJ
6E-C03-11	1 U	1 U	1 U	1 UJ
6E-C03-12	1.2 U	4.3 J	1.2 U	1.4 J
6E-C03-13	1.1 U	1.2 J	1.1 U	1.1 U
6E-C03-13-D	1.2 U	1.3 J	1.2 U	1.2 U
6E-C03-14	1.4 U	1.5 J	1.4 U	2.2 J
6E-C03-15	1.1 U	1.1 U	1.1 U	1.1 UJ
6E-C03-16	1 U	1 J	1 U	1 UJ
Limit	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%
Max. Result	36.1	4.3	1.3	2.2
Max. > Limit	No	No	No	No
W-statistic Prob. #	--	--	--	--
Test Procedure	--	--	--	--
Sample Size	16	16	16	16
Nondetects	15	6	1	14
% Nondetects	94%	38%	6%	88%
Est. Mean*	--	--	--	--
UCL	--	--	--	--
Prob. > Limit	--	--	--	--
Pass / Fail	--	--	--	--

a posteriori Sample	--	--	--	--
Size calculation	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C04-1	1.85 J	0.696 -	0.714 -	0.696 -	12.7 -	0.0434 U	5.65 U	0.863 U
6E-C04-2	1.21 J	0.772 -	0.809 -	0.772 -	17.5 -	0.0458 U	5.6 U	0.851 U
6E-C04-3	1.22 J	1.29 -	1.36 -	1.29 -	4.86 -	0.053 U	0.956 J	0.941 U
6E-C04-4	0.746 J	0.675 -	0.696 -	0.675 -	24 -	0.0387 U	4.76 U	0.843 U
6E-C04-5	1.3 J	1.19 -	1.11 -	1.19 -	8.03 -	0.029 U	7.06 U	0.904 U
6E-C04-6	0.91 J	0.714 -	0.714 -	0.714 -	28.2 -	0.0623 U	5.97 U	0.889 U
6E-C04-7	1.14 J	0.879 -	0.938 -	0.879 -	15.8 -	0.0326 U	6.46 U	0.938 U
6E-C04-8	0.683 J	0.509 -	0.532 -	0.509 -	29 -	0.0681 U	5.59 U	0.817 U
6E-C04-9	0.856 J	0.486 -	0.524 -	0.486 -	6.72 -	0.0284 U	6.4 U	0.798 U
6E-C04-10	1.44 J	1.19 -	1.17 -	1.19 -	14.8 -	0.0645 U	5.98 U	0.844 U
6E-C04-11	1.09 J	0.883 -	0.903 -	0.883 -	18.7 -	0.0398 U	8.9 U	0.807 U
6E-C04-12	1.07 J	1.02 -	1.04 -	1.02 -	4.57 J	0.0642 U	5.92 U	0.801 U
6E-C04-12-D	0.987 J	0.926 -	0.951 -	0.926 -	5.6 -	0.0433 U	5.16 U	0.785 U
6E-C04-13	0.939 J	0.69 -	0.702 -	0.69 -	15.2 -	0.0639 U	5.62 U	0.822 U
6E-C04-14	0.931 -	0.864 -	0.87 -	0.864 -	5.08 -	0.0515 U	1.15 -	2.33 U
6E-C04-15	0.874 J	0.831 -	0.835 -	0.831 -	5.01 J	0.0458 U	5.36 U	0.806 U
6E-C04-16	0.972 J	0.827 -	0.804 -	0.827 -	71.3 -	0.0688 U	6.57 U	0.865 U
Limit	1.7	1.8	1.7	1.5	20	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%
Max. Result	1.85	1.29	1.36	1.29	71.3	0.0688 U	1.15	2.33 U
Max. > Limit	Yes	No	No	No	Yes	No	No	No
W-statistic Prob. #	91.9% (LN)	--	--	--	33.4% (LN)	--	--	--
Test Procedure	Lognormal	--	--	--	Lognormal	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	16	14	16
% Nondetects	0%	0%	0%	0%	0%	100%	88%	100%
Est. Mean*	1.077	--	--	--	17.7	--	--	--
UCL	1.21	--	--	--	28.40	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	Pass	--	--	--	Fail	--	--	--

a posteriori Sample	3	--	--	--	23	--	--	--
Size calculation	Pass	--	--	--	Fail	--	--	--

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SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium
6E-C04-1	1.74 -	0.643 U	8.2 -	72 J	0.558 -
6E-C04-2	1.48 -	0.444 U	7.91 -	76.8 J	0.545 -
6E-C04-3	1.46 -	0.487 U	2.09 -	95.9 J	1.07 -
6E-C04-4	1.12 -	0.414 U	3.88 -	58.6 J	0.448 -
6E-C04-5	1.6 -	0.499 U	6.14 -	145 J	1.19 -
6E-C04-6	1.54 -	0.421 U	5 -	51 J	0.359 -
6E-C04-7	1.81 -	0.564 J	9.58 -	69.5 J	0.746 -
6E-C04-8	1.62 -	0.423 J	6.69 -	64.9 J	0.512 -
6E-C04-9	1.19 J	0.471 U	6.57 J	46 J	0.349 J
6E-C04-10	1.54 -	0.508 U	8.11 J	86.3 J	0.611 J
6E-C04-11	1.16 -	0.508 U	7.66 -	86.9 J	0.68 -
6E-C04-12	1.36 J	0.49 U	5.88 J	77.3 J	0.941 J
6E-C04-12-D	1.56 -	0.375 U	10.4 J	91.5 J	0.664 J
6E-C04-13	1.64 -	0.488 U	6.73 -	58.6 J	0.39 -
6E-C04-14	1.52 -	1.2 U	7 J	87.9 J	0.72 -
6E-C04-15	1.3 J	0.44 U	6.94 J	76.1 J	0.478 J
6E-C04-16	1.62 -	0.744 J	10.6 -	86.1 J	0.677 -
Limit	280	96	12	68000	1.5
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.81	0 .744	10.6	145	1.19
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	13	0	0	0
% Nondetects	0%	81%	0%	0%	0%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Cadmium	Chromium	Lead	Mercury	Molybdenum
6E-C04-1	0.162 J	10.8 J	11.1 J	0.03 J	1.12 J
6E-C04-2	0.166 J	12 J	12.5 J	0.0251 J	1.18 J
6E-C04-3	0.296 J	18.9 J	14.7 J	0.0425 J	0.43 J
6E-C04-4	0.182 J	10.2 J	10.6 J	0.0231 J	0.901 J
6E-C04-5	0.373 J	21.1 J	17.1 J	0.0461 J	0.44 J
6E-C04-6	0.16 J	9.15 J	14.2 J	0.0206 J	0.992 J
6E-C04-7	0.157 J	15.1 J	13.2 J	0.0295 J	0.496 J
6E-C04-8	0.201 J	11.1 J	17.3 J	0.0268 J	1.13 J
6E-C04-9	0.184 J	9.08 J	8.45 J	0.0157 J	1.68 -
6E-C04-10	0.206 J	14.2 J	12.7 J	0.0234 J	1.47 -
6E-C04-11	0.22 J	14 J	15.8 J	0.0304 J	1.07 J
6E-C04-12	0.15 J	23 J	12.3 J	0.0201 J	1.17 J
6E-C04-12-D	0.367 J	16.2 J	13.9 J	0.0309 J	1.69 -
6E-C04-13	0.167 J	8.97 J	12.8 J	0.0379 J	0.656 J
6E-C04-14	0.29 J	19.3 J	17 J	0.019 J	0.91 -
6E-C04-15	0.181 J	13.1 J	11 J	0.0162 J	1.85 -
6E-C04-16	0.229 J	13.4 J	18.6 J	0.0204 J	1.43 -
Limit	82	300	400	7.5	2900
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0 .373	23	18.6	0 .0461	1.85
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	0	0	0
% Nondetects	0%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Selenium	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene
6E-C04-1	1.9 U	0.14 U	37.6 U	79 J	60.3 U
6E-C04-2	1.88 U	0.139 U	39.4 J	88.4 U	78.9 U
6E-C04-3	2.09 U	0.155 U	41.2 U	41.2 U	41.2 U
6E-C04-4	1.78 U	0.132 U	38.4 U	70.8 J	38.4 U
6E-C04-5	2.14 U	0.159 U	41.4 U	41.4 U	41.4 U
6E-C04-6	1.81 U	0.134 U	37.8 U	140 -	168 -
6E-C04-7	1.71 U	0.126 U	39.7 U	39.7 U	39.7 U
6E-C04-8	1.59 U	0.118 U	37.5 J	74.5 J	42.6 J
6E-C04-9	2.02 U	0.149 U	41.4 U	69.6 J	41.4 U
6E-C04-10	2.18 U	0.161 U	42.6 U	42.6 U	42.6 U
6E-C04-11	1.79 U	0.132 U	38.9 U	79.8 J	44 J
6E-C04-12	2.1 U	0.156 U	41.6 U	41.6 U	41.6 U
6E-C04-12-D	1.61 U	0.119 U	39.6 U	39.6 U	39.6 U
6E-C04-13	2.09 U	0.155 U	38.8 U	63.2 U	38.8 U
6E-C04-14	0.573 U	0.065 J	39.7 U	39.7 U	39.7 U
6E-C04-15	1.89 U	0.14 U	41.6 U	41.6 U	41.6 U
6E-C04-16	1.98 U	0.146 U	39.2 U	39.2 U	39.2 U
Limit	5400	29000	20000	2000	20000
Units	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	2.18 U	0 .065	39.4	140	168
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	15	14	10	13
% Nondetects	100%	94%	88%	63%	81%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene
6E-C04-1	98.1 U	37.6 U	37.6 U	37.6 U	65.7 U
6E-C04-2	99.3 U	39.4 J	50.9 U	39.4 U	82.5 J
6E-C04-3	41.2 U	41.2 U	41.2 U	41.2 U	41.2 U
6E-C04-4	91 J	38.4 U	38.4 U	38.4 U	43 J
6E-C04-5	41.4 U	41.4 U	41.4 U	41.4 U	41.4 U
6E-C04-6	127 -	37.8 U	131 -	37.8 U	240 -
6E-C04-7	39.7 U	39.7 U	39.7 U	39.7 U	39.7 U
6E-C04-8	91.7 J	36.7 U	41.1 J	36.7 U	61.6 J
6E-C04-9	41.4 U	41.4 U	41.4 U	41.4 U	45 J
6E-C04-10	42.6 U	42.6 U	42.6 U	42.6 U	42.6 U
6E-C04-11	95.6 J	38.9 U	38.9 U	38.9 U	52.9 J
6E-C04-12	41.6 U	41.6 U	41.6 U	41.6 U	41.6 U
6E-C04-12-D	39.6 U	39.6 U	39.6 U	39.6 U	39.6 U
6E-C04-13	38.8 U	38.8 U	38.8 U	38.8 U	38.8 U
6E-C04-14	39.7 U	39.7 U	39.7 U	39.7 U	39.7 U
6E-C04-15	41.6 U	41.6 U	41.6 U	41.6 U	41.6 U
6E-C04-16	39.2 U	39.2 U	39.2 U	39.2 U	39.2 U
Limit	1000	200000	2000000	2000	10000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	127	39.4	131	42.6 U	240
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	12	16	14	16	10
% Nondetects	75%	100%	88%	100%	63%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260
6E-C04-1	114 -	37.6 U	52.4 U	5.7 J	3.8 U
6E-C04-2	121 U	39.4 U	66.6 J	3.9 U	3.9 U
6E-C04-3	41.2 U	41.2 U	41.2 U	4.1 U	4.1 U
6E-C04-4	107 -	38.4 U	38.4 U	15.1 -	6.4 J
6E-C04-5	41.4 U	41.4 U	41.4 U	4.1 U	4.1 U
6E-C04-6	146 -	46.9 J	168 -	3.8 U	3.8 U
6E-C04-7	39.7 U	39.7 U	39.7 U	4 U	4 U
6E-C04-8	111 -	36.7 U	48.5 J	9.1 J	5.7 J
6E-C04-9	41.4 U	41.4 U	41.4 U	5.5 J	4.1 U
6E-C04-10	42.6 U	42.6 U	42.6 U	4.3 U	4.3 U
6E-C04-11	38.9 U	38.9 U	49.8 J	3.9 U	3.9 U
6E-C04-12	41.6 U	41.6 U	41.6 U	4.2 U	4.2 U
6E-C04-12-D	39.6 U	39.6 U	39.6 U	4 U	4 U
6E-C04-13	38.8 U	38.8 U	38.8 U	7.7 J	3.9 U
6E-C04-14	39.7 U	39.7 U	39.7 U	4 U	4 U
6E-C04-15	41.6 U	41.6 U	41.6 U	4.2 U	4.2 U
6E-C04-16	39.2 U	39.2 U	39.2 U	3.9 U	3.9 U
Limit	20000	5000	10000	130	130
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	146	46.9	168	15.1	6.4
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	12	15	12	11	14
% Nondetects	75%	94%	75%	69%	88%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone
6E-C04-1	1.5 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C04-2	1.6 U	1 U	1 U	1 U	4.9 U
6E-C04-3	1.7 U	1.3 U	1.3 U	1.3 U	6.3 U
6E-C04-4	1.5 U	1 U	1 U	1 U	5.1 U
6E-C04-5	1.7 U	1.2 U	1.2 U	1.2 U	6 U
6E-C04-6	1.5 U	0.9 U	0.9 U	0.9 U	4.3 U
6E-C04-7	1.6 U	1.1 U	1.1 U	1.1 U	5.5 U
6E-C04-8	1.5 U	1 U	1 U	1 U	4.8 U
6E-C04-9	1.7 U	1 U	1 U	1 U	4.9 U
6E-C04-10	1.7 U	1.3 U	1.3 U	1.3 U	6.7 U
6E-C04-11	1.6 U	1.2 U	1.2 U	1.2 U	5.9 U
6E-C04-12	1.7 U	1.1 U	2.4 J	1.1 U	5.6 U
6E-C04-12-D	1.6 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C04-13	1.6 U	0.9 U	0.9 U	0.9 U	4.5 U
6E-C04-14	1.6 U	1 U	2.8 J	1 U	4.8 U
6E-C04-15	1.7 U	1.4 U	1.4 U	1.4 U	7 U
6E-C04-16	1.6 U	1.2 U	1.2 U	1.2 U	5.9 U
Limit	15	4300	410	160	2500000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.7 U	1.4 U	2.8	1.4 U	7 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	14	16	16
% Nondetects	100%	100%	88%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride
6E-C04-1	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C04-2	4.9 U	1 U	1 U	1 U	4.9 U
6E-C04-3	28.9 J	1.3 U	1.3 U	1.3 U	6.3 U
6E-C04-4	5.1 U	1 U	1 U	1 U	5.1 U
6E-C04-5	55.2 J	1.2 U	1.2 U	1.2 U	6 U
6E-C04-6	4.3 U	0.9 U	0.9 U	0.9 U	4.3 U
6E-C04-7	5.5 U	1.1 U	1.1 U	1.1 U	5.5 U
6E-C04-8	4.8 U	1 U	1 U	1 U	4.8 U
6E-C04-9	4.9 U	1 U	1 U	1 U	4.9 U
6E-C04-10	15.8 U	1.3 U	1.3 U	1.3 U	6.7 U
6E-C04-11	5.9 U	1.2 U	1.2 U	1.2 U	5.9 U
6E-C04-12	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C04-12-D	5.4 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C04-13	4.5 U	0.9 U	0.9 U	0.9 U	4.5 U
6E-C04-14	6.6 J	1 U	1 U	1 U	4.8 U
6E-C04-15	7 U	1.4 U	1.4 U	1.4 U	7 U
6E-C04-16	5.9 U	1.2 U	1.2 U	1.2 U	5.9 U
Limit	43000000	850000	2100	5100000	37000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	55.2	1.4 U	1.4 U	1.4 U	7 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	13	16	16	16	16
% Nondetects	81%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C04-1	1.1 U	1.1 U	1.1 U	1.1 U
6E-C04-2	1 U	1 U	1 U	1 U
6E-C04-3	1.3 U	1.3 U	1.3 U	1.3 U
6E-C04-4	1 U	1 U	1 U	1 U
6E-C04-5	1.2 U	1.8 J	1.2 U	1.2 U
6E-C04-6	0.9 U	0.9 U	0.9 U	0.9 U
6E-C04-7	1.1 U	1.2 J	1.1 U	1.1 U
6E-C04-8	1 U	1 U	1 U	1 U
6E-C04-9	1 U	1.1 J	1 U	1 U
6E-C04-10	1.3 U	1.5 J	1.3 U	1.3 U
6E-C04-11	1.2 U	1.2 U	1.2 U	1.2 U
6E-C04-12	1.1 U	1.4 J	1.1 U	1.1 U
6E-C04-12-D	1.1 U	1.1 U	1.1 U	1.1 U
6E-C04-13	0.9 U	0.9 U	0.9 U	0.9 U
6E-C04-14	1 U	1 U	1 U	1 U
6E-C04-15	1.4 U	1.9 J	1.4 U	1.4 U
6E-C04-16	1.2 U	1.2 U	1.2 U	1.2 U
Limit	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%
Max. Result	1.4 U	1.9	1.4 U	1.4 U
Max. > Limit	No	No	No	No
W-statistic Prob. #	--	--	--	--
Test Procedure	--	--	--	--
Sample Size	16	16	16	16
Nondetects	16	10	16	16
% Nondetects	100%	63%	100%	100%
Est. Mean*	--	--	--	--
UCL	--	--	--	--
Prob. > Limit	--	--	--	--
Pass / Fail	--	--	--	--

a posteriori Sample	--	--	--	--
Size calculation	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C05-3	0.929 -	0.678 -	0.717 -	0.678 -	2.94 J	0.0532 U	0.743 U	0.859 U
6E-C05-4	0.968 -	0.863 -	0.935 -	0.863 -	7.25 J	0.0518 U	0.763 U	0.775 U
6E-C05-5	0.831 -	0.523 -	0.503 -	0.523 -	3.84 J	0.0313 U	5.74 U	0.758 U
6E-C05-6	0.941 -	0.9 -	0.894 -	0.9 -	19.9 -	0.0769 U	0.981 J	1.93 U
6E-C05-7	0.891 -	0.707 -	0.666 -	0.707 -	13.2 J	0.0375 U	8.72 U	0.926 U
6E-C05-7-D	0.987 -	0.726 -	0.75 -	0.726 -	16.8 J	0.0617 U	0.888 U	0.742 U
6E-C05-8	0.889 -	0.806 -	0.806 -	0.806 -	25.2 -	0.0483 U	1.13 J	1.93 U
6E-C05-9	0.872 -	0.874 -	0.858 -	0.874 -	35.7 -	0.0511 U	3.73 U	1.89 U
6E-C05-10	1.31 -	0.877 -	0.893 -	0.877 -	18.4 -	0.0654 U	1.92 -	2.35 U
6E-C05-11	1.12 -	1.01 -	1.03 -	1.01 -	12.6 -	0.0583 U	6.14 U	2.16 U
6E-C05-12	1.43 -	0.777 -	0.762 -	0.777 -	16 -	0.0615 U	5.2 U	2.56 UJ
6E-C05-13	1.1 -	0.886 -	0.874 -	0.886 -	18.6 -	0.0555 U	5.52 U	2.23 U
6E-C05-14	1.09 -	1.13 -	1.12 -	1.13 -	22 -	0.0576 U	6.06 U	1.89 U
6E-C05-15	1.18 -	0.742 -	0.722 -	0.742 -	20.1 -	0.0789 U	1.56 J	2.42 U
6E-C05-16	1.11 J	1.27 -	1.3 -	1.27 -	6.86 -	0.0588 U	1.01 J	1.88 U
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%
Max. Result	1.43	1.27	1.3	1.27	35.7	0.0789 U	1.92	2.56 UJ
Max. > Limit	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--
Sample Size	14	14	14	14	14	14	14	14
Nondetects	0	0	0	0	0	14	9	14
% Nondetects	0%	0%	0%	0%	0%	100%	64%	100%
Est. Mean*	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--

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SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum	Selenium
6E-C05-3	1.07 -	0.348 U	5.13 -	35 J	0.598 -	0.125 J	11.5 J	8.87 J	0.0178 J	2.08 -	1.5 U
6E-C05-4	0.894 J	0.49 U	6.04 -	36.5 J	0.511 -	0.144 J	12.1 J	9.62 J	0.0162 J	2.33 -	1.84 U
6E-C05-5	1.07 -	0.4 U	5.14 -	28.5 J	0.274 -	0.136 J	7.32 J	8 J	0.0182 J	3 -	1.72 U
6E-C05-6	1.39 -	0.63 U	5.6 J	104 J	0.71 -	0.31 J	17.5 J	12.7 J	0.021 J	0.93 U	0.568 U
6E-C05-7	1.21 -	0.492 U	6.16 -	50.1 J	0.366 -	0.153 J	9.57 J	9.61 J	0.0232 J	1.52 -	2.11 U
6E-C05-7-D	1.47 -	0.575 U	7.65 -	69.3 J	0.508 -	0.17 J	12.4 J	12.9 J	0.0346 J	1.56 -	2.47 U
6E-C05-8	1.81 -	0.6 U	4.7 J	69.3 J	0.62 -	0.25 J	14.6 J	9.5 J	0.012 J	1 U	0.559 U
6E-C05-9	1.28 -	0.55 U	8.9 J	94.8 J	0.81 -	0.35 J	21.3 J	12.5 J	0.025 J	1.1 U	0.53 U
6E-C05-10	0.814 J	0.71 J	13.4 J	56.1 J	0.26 -	0.14 J	7 J	7.6 J	0.015 J	0.64 U	0.558 U
6E-C05-11	1.79 J	2.26 UJ	6.9 J	88.1 J	0.68 -	0.35 J	19.2 J	12.3 J	0.027 J	1 -	0.585 U
6E-C05-12	1.92 -	0.46 J	5.4 J	57.5 J	0.39 -	0.22 J	11.6 J	10 J	0.017 J	0.96 J	0.549 U
6E-C05-13	1.63 J	2.2 UJ	8 J	79 J	0.57 -	0.31 J	16 J	16 J	0.03 J	1 J	0.552 U
6E-C05-14	1.34 J	2.46 UJ	4.9 J	113 J	0.78 -	0.33 J	21.5 J	14.1 J	0.043 J	0.48 U	0.605 U
6E-C05-15	1.39 J	0.435 UJ	8.8 J	69.6 J	0.52 -	0.27 J	14.6 J	12.5 J	0.023 J	0.96 J	0.55 U
6E-C05-16	2.1 -	2.44 UJ	13.1 -	89.4 J	0.9 -	0.31 J	22.8 J	12.5 J	0.031 J	1.4 U	0.598 UJ
Limit	280	96	12	68000	1.5	82	300	400	7.5	2900	5400
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.1	0.71	13.4	113	0.9	0.35	22.8	16	0.043	3	2.47 U
Max. > Limit	No	No	Yes	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	9.7% (LN)	--	--	--	--	--	--	--	--
Test Procedure	--	--	Lognormal	--	--	--	--	--	--	--	--
Sample Size	14	14	14	14	14	14	14	14	14	14	14
Nondetects	0	12	0	0	0	0	0	0	0	6	14
% Nondetects	0%	86%	0%	0%	0%	0%	0%	0%	0%	43%	100%
Est. Mean*	--	--	7.41	--	--	--	--	--	--	--	--
UCL	--	--	8.51	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	Pass	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	3	--	--	--	--	--	--	--	--
Size calculation	--	--	Pass	--	--	--	--	--	--	--	--

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SAMPLEID	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene
6E-C05-3	0.111 U	39.3 U	39.3 U	39.3 U	39.3 U	39.3 U
6E-C05-4	0.136 U	40.8 U	40.8 U	40.8 U	40.8 U	40.8 U
6E-C05-5	0.127 U	44.2 U	81 J	53.9 J	44.2 U	44.2 U
6E-C05-6	0.11 J	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U
6E-C05-7	0.156 U	43.7 U	43.7 U	43.7 U	43.7 U	43.7 U
6E-C05-7-D	0.183 U	59.9 J	109 J	109 J	44.3 U	44.3 U
6E-C05-8	0.085 J	185 -	130 -	262 -	68.5 J	37.8 U
6E-C05-9	0.12 J	36.1 U	36.1 U	36.1 U	36.1 U	36.1 U
6E-C05-10	0.0447 U	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U
6E-C05-11	0.081 B	39 U	39 U	39 U	39 U	39 U
6E-C05-12	0.049 J	37.2 U	38.7 J	68.6 J	37.2 U	37.2 U
6E-C05-13	0.071 J	1160 -	845 -	1320 -	316 -	38.3 U
6E-C05-14	0.11 J	41.5 U	41.5 U	41.5 U	41.5 U	41.5 U
6E-C05-15	0.065 J	37.8 U	37.8 U	37.8 U	37.8 U	37.8 U
6E-C05-16	0.11 J	41.9 U	41.9 U	41.9 U	41.9 U	41.9 U
Limit	29000	20000	2000	20000	1000	200000
Units	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	0 .12	1160	845	1320	316	44.3 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	14	14	14	14	14	14
Nondetects	5	11	9	9	12	14
% Nondetects	36%	79%	64%	64%	86%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

Document 6736

SAMPLEID	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Aroclor-1254
6E-C05-3	39.3 U	39.3 U	39.3 U	39.3 U	39.3 U	39.3 U	3.9 U
6E-C05-4	40.8 U	40.8 U	40.8 U	40.8 U	40.8 U	40.8 U	4.1 U
6E-C05-5	44.2 U	44.2 U	44.2 U	44.2 U	44.2 U	44.2 U	8.2 J
6E-C05-6	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U	5.3 J
6E-C05-7	43.7 U	43.7 U	43.7 U	43.7 U	43.7 U	43.7 U	11.8 J
6E-C05-7-D	68.6 J	44.3 U	115 J	44.3 U	152 J	145 J	9.5 J
6E-C05-8	196 -	37.8 U	276 -	63.3 J	38.5 J	289 -	9.4 J
6E-C05-9	36.1 U	36.1 U	36.1 U	36.1 U	36.1 U	36.1 U	6.9 J
6E-C05-10	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U	37.5 U	9.3 J
6E-C05-11	39 U	39 U	39 U	39 U	39 U	39 U	8.1 J
6E-C05-12	58.8 J	37.2 U	131 -	37.2 U	58.9 J	110 -	10.6 J
6E-C05-13	1030 -	38.3 U	1700 -	364 -	654 -	1570 -	8.6 J
6E-C05-14	41.5 U	41.5 U	46.8 J	41.5 U	42.6 J	41.5 U	4.2 U
6E-C05-15	37.8 U	37.8 U	37.8 U	37.8 U	37.8 U	37.8 U	12.8 J
6E-C05-16	41.9 U	41.9 U	41.9 U	41.9 U	41.9 U	41.9 U	8.5 J
Limit	2000000	2000	10000	20000	5000	10000	130
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	1030	44.3 U	1700	364	654	1570	12.8
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	14	14	14	14	14	14	14
Nondetects	10	14	9	12	9	10	3
% Nondetects	71%	100%	64%	86%	64%	71%	21%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

Document 6736

SAMPLEID	Aroclor-1260	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone
6E-C05-3	3.9 U	4.7 U	1.3 U	1.3 U	1.3 U	6.6 U
6E-C05-4	4.1 U	1.6 U	1.2 U	1.2 U	1.2 U	6.1 U
6E-C05-5	4.4 U	1.8 U	1.5 U	1.5 U	1.5 U	7.4 U
6E-C05-6	3.8 UJ	1.5 U	2.6 U	2.6 U	2.6 U	12.8 U
6E-C05-7	4.4 U	5.3 U	2.2 U	2.2 U	2.2 U	10.8 U
6E-C05-7-D	4.4 U	5.3 U	1.4 U	1.4 U	1.4 U	6.8 U
6E-C05-8	3.8 UJ	1.5 U	0.8 U	0.8 U	0.8 U	4.2 U
6E-C05-9	3.6 UJ	1.4 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C05-10	4.5 J	1.5 U	1 U	1 U	1 U	5.2 U
6E-C05-11	3.9 U	1.6 U	1.3 U	1.3 U	1.3 U	6.7 U
6E-C05-12	4.6 J	1.5 U	0.9 U	0.9 U	0.9 U	4.7 U
6E-C05-13	9.7 J	1.5 U	0.9 U	0.9 U	0.9 U	4.5 U
6E-C05-14	4.2 U	1.7 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C05-15	6.1 J	1.5 U	1 U	1 U	1 U	5.1 U
6E-C05-16	4.2 U	1.7 U	1.1 U	1.1 U	1.1 U	5.6 U
Limit	130	15	4300	410	160	2500000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	9.7	5.3 U	2.6 U	2.6 U	2.6 U	12.8 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	14	14	14	14	14	14
Nondetects	10	14	14	14	14	14
% Nondetects	71%	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

Document 6736

SAMPLEID	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene
6E-C05-3	6.6 U	1.3 U	1.3 U	1.3 U	6.6 U	1.3 U	1.3 U
6E-C05-4	9.5 J	1.2 U	1.2 U	1.2 U	6.1 U	1.2 U	1.2 U
6E-C05-5	10.7 J	1.5 U	1.5 U	1.5 U	7.4 U	1.5 U	1.5 U
6E-C05-6	12.8 U	2.6 U	2.6 U	2.6 U	12.8 U	2.6 U	2.6 U
6E-C05-7	26.8 J	2.2 U	2.2 U	2.2 U	10.8 U	2.2 U	46.2 J
6E-C05-7-D	13.7 J	1.4 U	1.4 U	1.4 U	6.8 U	1.4 U	31.9 J
6E-C05-8	4.2 U	0.8 U	0.8 U	0.8 U	4.2 U	0.8 U	0.8 U
6E-C05-9	5.4 U	1.1 U	1.1 U	1.1 U	5.4 U	1.1 U	1.1 J
6E-C05-10	5.2 U	1 U	1 U	1 U	5.2 U	1 U	1 U
6E-C05-11	6.7 U	1.3 U	1.3 U	1.3 U	6.7 U	1.3 U	1.3 U
6E-C05-12	4.7 U	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U	0.9 U
6E-C05-13	4.5 U	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U	0.9 J
6E-C05-14	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U	1.1 U	1.1 U
6E-C05-15	6.8 J	1 U	1 U	1 U	5.1 U	1 U	1.6 J
6E-C05-16	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U	1.1 U	1.1 U
Limit	43000000	850000	2100	5100000	37000	3600	100000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	26.8	2.6 U	2.6 U	2.6 U	12.8 U	2.6 U	46.2
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	14	14	14	14	14	14	14
Nondetects	10	14	14	14	14	14	10
% Nondetects	71%	100%	100%	100%	100%	100%	71%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	Trichloroethene	Xylenes, Total
6E-C05-3	1.3 U	1.3 U
6E-C05-4	1.2 U	1.2 U
6E-C05-5	1.5 U	1.5 U
6E-C05-6	2.6 U	2.6 U
6E-C05-7	2.2 U	2.2 U
6E-C05-7-D	1.4 U	1.4 J
6E-C05-8	0.8 U	0.8 U
6E-C05-9	1.1 U	1.1 U
6E-C05-10	1 U	1 U
6E-C05-11	1.3 U	1.3 U
6E-C05-12	0.9 U	0.9 U
6E-C05-13	0.9 U	0.9 U
6E-C05-14	1.1 U	1.1 U
6E-C05-15	1 U	1 U
6E-C05-16	1.1 U	1.1 U
Limit	25000	920000000
Units	ug/kg	ug/kg
Conf. Level	90%	90%
Max. Result	2.6 U	1.4
Max. > Limit	No	No
W-statistic Prob. #	--	--
Test Procedure	--	--
Sample Size	14	14
Nondetects	14	13
% Nondetects	100%	93%
Est. Mean*	--	--
UCL	--	--
Prob. > Limit	--	--
Pass / Fail	--	--

a posteriori Sample	--	--
Size calculation	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C06-1	0.93 -	0.739 -	0.748 -	0.739 -	16.7 J	0.0536 U	0.866 J	2.08 U
6E-C06-2	1.38 -	0.757 -	0.724 -	0.757 -	14.2 J	0.0925 U	1.39 J	2.36 U
6E-C06-3	0.877 -	0.79 -	0.775 -	0.79 -	15.8 J	0.0365 U	2.39 U	2.49 U
6E-C06-3-D	1.03 -	0.832 -	0.828 -	0.832 -	19 J	0.082 U	1.01 U	2.34 U
6E-C06-4	1.38 -	0.776 -	0.778 -	0.776 -	15 J	0.0584 U	5.37 U	2.28 U
6E-C06-5	1.17 -	0.85 -	0.862 -	0.85 -	20 J	0.0512 U	6.78 U	2.37 U
6E-C06-6	1.24 -	0.748 -	0.743 -	0.748 -	12.5 J	0.057 U	5.73 U	2.29 U
6E-C06-7	2.59 -	0.782 -	0.758 -	0.782 -	14.4 J	0.0431 U	8.77 U	2.25 U
6E-C06-8	1.02 -	0.759 -	0.768 -	0.759 -	6.19 J	0.0541 U	6.7 U	2.35 U
6E-C06-9	1.3 -	0.875 -	0.867 -	0.875 -	13.4 J	0.0733 U	1.77 -	2.01 U
6E-C06-10	0.919 -	1.09 -	1.1 -	1.09 -	8.13 J	0.0549 U	5.75 U	2.27 U
6E-C06-11	1.28 -	0.836 -	0.827 -	0.836 -	11.9 J	0.0601 U	5.41 U	2.09 U
6E-C06-12	0.959 -	0.916 -	0.903 -	0.916 -	13.9 J	0.0687 U	0.983 J	2.43 U
6E-C06-13	1.99 -	0.785 -	0.775 -	0.785 -	12.5 J	0.0417 U	7.02 U	2.29 U
6E-C06-14	0.758 -	0.415 -	0.419 -	0.415 -	5.32 J	0.0323 U	2.17 U	2.28 U
6E-C06-15	0.817 -	0.733 -	0.721 -	0.733 -	12.5 J	0.0481 U	3.56 J	2.17 U
6E-C06-16	0.753 -	0.835 -	0.839 -	0.835 -	4.28 J	0.0574 U	7.85 U	2.14 U
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%
Max. Result	2.59	1.09	1.1	1.09	20	0.0925 U	3.56	2.49 U
Max. > Limit	Yes	No	No	No	No	No	No	No
W-statistic Prob. #	23.7% (LN)	--	--	--	--	--	--	--
Test Procedure	Lognormal	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	16	11	16
% Nondetects	0%	0%	0%	0%	0%	100%	69%	100%
Est. Mean*	1.218	--	--	--		--	--	--
UCL	1.44	--	--	--		--	--	--
Prob. > Limit	--	--	--	--		--	--	--
Pass / Fail	Pass	--	--	--		--	--	--

a posteriori Sample	6	--	--	--	--	--	--	--
Size calculation	Pass	--	--	--	--	--	--	--

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Certification Unit 6

SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum
6E-C06-1	1.3 J	2.3 U	4.5 J	54.1 J	0.41 -	0.25 J	10.8 J	8.2 J	0.016 J	1.3 -
6E-C06-2	2.08 -	2.15 UJ	5.8 J	70.1 J	0.58 -	0.25 J	15.5 J	13.9 J	0.02 J	1.3 -
6E-C06-3	1.5 J	2.11 UJ	5.2 J	110 J	0.52 -	0.21 J	12.9 J	10.5 J	0.015 J	1.3 -
6E-C06-3-D	1.5 J	3.2 U	5.4 J	59.8 J	0.63 -	0.22 J	15.4 J	110 J	0.036 J	1.3 -
6E-C06-4	1.89 -	2.21 UJ	6.4 J	67 J	0.56 -	0.24 J	14.1 J	11 J	0.022 J	1.3 -
6E-C06-5	1.3 J	2.4 U	6.4 J	71.3 J	0.58 -	0.24 J	15 J	12.2 J	0.026 J	1.2 -
6E-C06-6	1.29 J	3.1 U	6.7 J	80 J	0.62 -	0.27 J	15.4 J	12.3 J	0.019 J	1.2 -
6E-C06-7	1.68 -	4.4 U	5.7 J	61.4 J	0.52 -	0.23 J	13.1 J	10.5 J	0.013 J	1.3 -
6E-C06-8	1.25 J	2.8 U	6 J	65.4 J	0.59 -	0.25 J	16 J	10.9 J	0.017 J	1.3 -
6E-C06-9	1.31 J	3.9 U	7 J	87.4 J	0.73 -	0.3 J	19 J	17.6 J	0.024 J	1.1 -
6E-C06-10	1.76 -	2.46 UJ	6.6 J	143 J	1.1 -	0.53 J	22.9 J	15.6 J	0.04 J	0.62 -
6E-C06-11	2 -	3.2 U	6.2 J	80.3 J	0.54 -	0.22 J	14.1 J	10.7 J	0.019 J	1.3 -
6E-C06-12	1.3 J	2.28 UJ	5.8 J	87.9 J	0.84 -	0.26 J	21.4 J	11 J	0.025 J	0.86 J
6E-C06-13	1.7 -	2.06 UJ	5.8 J	69.2 J	0.57 -	0.26 J	15.2 J	21.5 J	0.024 J	1.2 -
6E-C06-14	1.33 J	4.1 U	11.4 J	23.9 J	0.31 -	0.15 J	8.3 J	6.7 J	0.0087 J	2.7 -
6E-C06-15	1.93 -	2.2 UJ	5.4 J	59 J	0.55 -	0.24 J	14.6 J	10.2 J	0.013 J	1.5 -
6E-C06-16	1.2 J	2.2 U	6 J	72.9 J	0.56 -	0.23 J	14.8 J	11.8 J	0.018 J	1 -
Limit	280	96	12	68000	1.5	82	300	400	7.5	2900
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.08	4.4 U	11.4	143	1.1	0 .53	22.9	110	0 .04	2.7
Max. > Limit	No	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16	16
Nondetects	0	16	0	0	0	0	0	0	0	0
% Nondetects	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--	--

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SAMPLEID	Selenium	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
6E-C06-1	0.545 U	0.0436 U	37.3 U	37.3 U	37.3 U	37.3 U
6E-C06-2	0.539 U	0.062 J	37.1 U	37.1 U	50.9 J	37.1 U
6E-C06-3	0.527 U	0.048 J	36.8 U	36.8 U	36.8 U	36.8 U
6E-C06-3-D	0.566 U	0.052 J	37.9 U	37.9 U	37.9 U	37.9 U
6E-C06-4	0.554 U	0.05 J	37.4 U	37.4 U	121 -	37.4 U
6E-C06-5	0.579 U	0.053 J	40.5 U	40.5 U	90.5 J	40.5 U
6E-C06-6	0.547 U	0.058 J	147 U	147 U	147 U	147 U
6E-C06-7	0.557 U	0.052 J	37.6 U	37.6 U	37.6 U	37.6 U
6E-C06-8	0.541 U	0.056 J	37.4 U	37.4 U	37.4 U	37.4 U
6E-C06-9	0.558 U	0.073 J	38.2 U	38.2 U	38.2 U	38.2 U
6E-C06-10	0.69 J	0.14 J	42.4 U	42.4 U	42.4 U	42.4 U
6E-C06-11	0.554 U	0.053 J	37.4 U	37.4 U	54.6 J	37.4 U
6E-C06-12	0.562 U	0.066 J	38.2 U	38.2 U	38.2 U	38.2 U
6E-C06-13	0.524 U	0.058 J	361 U	361 U	361 U	361 U
6E-C06-14	0.517 U	0.0414 U	140 U	140 U	140 U	140 U
6E-C06-15	0.554 U	0.046 J	37.3 U	37.3 U	37.3 U	37.3 U
6E-C06-16	0.516 U	0.049 J	99.2 J	124 -	253 -	78.1 J
Limit	5400	29000	20000	2000	20000	1000
Units	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	0 .69	0 .14	99.2	124	253	78.1
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	15	2	15	15	11	15
% Nondetects	94%	13%	94%	94%	69%	94%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene
6E-C06-1	37.3 U	37.3 U	37.3 U	37.3 U	37.3 U	37.3 U
6E-C06-2	37.1 U	37.1 U	37.1 U	44.5 J	37.1 U	37.1 U
6E-C06-3	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U	36.8 U
6E-C06-3-D	37.9 U	37.9 U	37.9 U	37.9 U	37.9 U	37.9 U
6E-C06-4	37.4 U	87.4 J	37.4 U	209 -	37.4 U	79.2 J
6E-C06-5	40.5 U	61.3 J	40.5 U	95.6 J	40.5 U	40.5 U
6E-C06-6	147 U	147 U	147 U	147 U	215 -	147 U
6E-C06-7	37.6 U	37.6 U	37.6 U	37.6 U	37.6 U	37.6 U
6E-C06-8	37.4 U	37.4 U	37.4 U	48.2 J	37.4 U	37.4 U
6E-C06-9	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U
6E-C06-10	42.4 U	42.4 U	42.4 U	42.4 U	42.4 U	42.4 U
6E-C06-11	37.4 U	38.9 J	37.4 U	62.5 J	63.5 J	37.4 U
6E-C06-12	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U
6E-C06-13	361 U	361 U	361 U	361 U	361 U	361 U
6E-C06-14	140 U	140 U	140 U	140 U	140 U	140 U
6E-C06-15	37.3 U	37.3 U	37.3 U	46.2 J	61.8 J	37.3 U
6E-C06-16	240 -	148 -	84.2 -	225 -	122 -	62.3 J
Limit	200000	2000000	2000	10000	20000	5000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	240	148	84.2	225	215	79.2
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	15	12	15	9	12	14
% Nondetects	94%	75%	94%	56%	75%	88%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane
6E-C06-1	37.3 U	5.8 J	3.73 U	1.49 U	1.1 U	1.1 U	1.1 U
6E-C06-2	42.2 J	6.7 J	3.71 U	1.48 U	1.1 U	1.1 U	1.1 U
6E-C06-3	36.8 U	4 J	3.68 U	1.47 U	1.1 U	1.1 U	1.1 U
6E-C06-3-D	37.9 U	6.5 J	3.79 U	1.52 U	1.2 U	1.2 U	1.2 U
6E-C06-4	157 -	6.6 J	3.74 UJ	1.5 U	1 U	1 U	1 U
6E-C06-5	92.6 J	6.1 J	4.05 U	1.62 U	0.9 U	0.9 U	0.9 U
6E-C06-6	147 U	5.8 J	3.68 U	1.47 U	1.1 U	1.7 J	1.1 U
6E-C06-7	37.6 U	11 J	3.76 U	1.5 U	1.2 U	1.2 U	1.2 U
6E-C06-8	37.4 U	3.74 U	3.74 U	1.5 U	0.9 U	1 J	0.9 U
6E-C06-9	38.2 U	7.7 J	3.82 U	1.53 U	1 U	1 U	1 U
6E-C06-10	42.4 U	4.24 U	4.24 U	1.69 U	1.1 U	1.5 J	1.1 U
6E-C06-11	47.9 J	9.4 J	3.74 U	1.49 U	1.3 U	1.3 U	1.3 U
6E-C06-12	38.2 U	3.82 U	3.82 U	1.53 U	1.3 U	1.3 U	1.3 U
6E-C06-13	361 U	9.9 J	3.61 U	1.44 U	1.1 U	1.1 U	1.1 U
6E-C06-14	140 U	3.51 U	3.51 U	1.4 U	1.3 U	1.3 U	1.3 U
6E-C06-15	37.3 U	6.7 J	4.7 J	1.49 U	1.1 U	1.1 U	1.1 U
6E-C06-16	172 -	8.6 J	3.6 U	1.44 U	1.5 U	1.5 U	1.5 U
Limit	10000	130	130	15	4300	410	160
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	172	11	4.7	1.69 U	1.5 U	1.7	1.5 U
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	11	4	15	16	16	13	16
% Nondetects	69%	25%	94%	100%	100%	81%	100%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	4-Methyl-2-pentanone	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride
6E-C06-1	5.3 U	5.3 U	1.1 U	1.1 U	1.1 U	5.3 U
6E-C06-2	5.3 U	5.3 U	1.1 U	1.1 U	1.1 U	5.3 U
6E-C06-3	5.3 U	6 J	1.1 U	1.1 U	1.1 U	5.3 U
6E-C06-3-D	5.9 U	5.9 U	1.2 U	1.2 U	1.2 U	5.9 U
6E-C06-4	5.1 U	5.1 U	1 U	1 U	1 U	5.1 U
6E-C06-5	4.5 U	8.5 J	0.9 U	0.9 U	0.9 U	4.5 U
6E-C06-6	5.4 U	5.4 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C06-7	6.2 U	6.2 U	1.2 U	1.2 U	1.2 U	6.2 U
6E-C06-8	4.3 U	16.7 J	0.9 U	0.9 U	0.9 U	4.3 U
6E-C06-9	5.1 U	5.1 U	1 U	1 U	1 U	5.1 U
6E-C06-10	5.6 U	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C06-11	6.3 U	6.3 U	1.3 U	1.3 U	1.3 U	6.3 U
6E-C06-12	6.5 U	6.5 U	1.3 U	1.3 U	1.3 U	6.5 U
6E-C06-13	5.6 U	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C06-14	6.5 U	6.5 U	1.3 U	1.3 U	1.3 U	6.5 U
6E-C06-15	5.6 U	14 J	1.1 U	1.1 U	1.1 U	5.6 U
6E-C06-16	7.4 U	14.5 J	1.5 U	1.5 U	1.5 U	7.4 U
Limit	2500000	43000000	850000	2100	5100000	37000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	7.4 U	16.7	1.5 U	1.5 U	1.5 U	7.4 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	11	16	16	16	16
% Nondetects	100%	69%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C06-1	1.1 U	1.4 J	1.1 U	1.1 U
6E-C06-2	1.1 U	1.1 U	1.1 U	1.1 U
6E-C06-3	1.1 U	1.6 J	1.1 U	1.1 U
6E-C06-3-D	1.2 U	2.3 J	1.2 U	1.2 U
6E-C06-4	1 U	1.5 J	1 U	1 U
6E-C06-5	0.9 U	1.4 J	0.9 U	0.9 U
6E-C06-6	1.1 U	1.9 J	1.1 U	1.1 U
6E-C06-7	1.2 U	1.2 U	1.2 U	1.2 U
6E-C06-8	0.9 U	1.5 J	0.9 U	0.9 U
6E-C06-9	1 U	1.3 J	1 U	1 U
6E-C06-10	1.1 U	2.2 J	1.1 U	1.1 U
6E-C06-11	1.3 U	1.3 U	1.3 U	1.3 U
6E-C06-12	1.3 U	1.9 J	1.3 U	1.3 U
6E-C06-13	1.1 U	1.1 U	1.1 U	1.1 U
6E-C06-14	1.3 U	1.3 U	1.3 U	1.3 U
6E-C06-15	1.1 U	2.2 J	1.1 U	1.1 U
6E-C06-16	1.5 U	3.1 J	1.5 U	1.5 U
Limit	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%
Max. Result	1.5 U	3.1	1.5 U	1.5 U
Max. > Limit	No	No	No	No
W-statistic Prob. #	--	--	--	--
Test Procedure	--	--	--	--
Sample Size	16	16	16	16
Nondetects	16	5	16	16
% Nondetects	100%	31%	100%	100%
Est. Mean*	--	--	--	--
UCL	--	--	--	--
Prob. > Limit	--	--	--	--
Pass / Fail	--	--	--	--

a posteriori Sample	--	--	--	--
Size calculation	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99	Thorium-230
6E-C07-1	1.01 -	0.854 -	0.854 -	0.854 -	2.53 U	0.0393 U	9.74 U	0.829 U	1.26 -
6E-C07-2	0.975 -	0.836 -	0.85 -	0.836 -	48.6 J	0.0674 U	7.61 U	2.7 -	1.67 -
6E-C07-3	1.27 -	1.22 -	1.21 -	1.22 -	9.15 J	0.0815 U	1.14 U	0.792 U	1.28 -
6E-C07-4	0.912 -	0.837 -	0.739 -	0.837 -	19.4 J	0.0443 U	8.69 U	0.78 U	1.18 -
6E-C07-5	0.944 -	0.87 -	0.862 -	0.87 -	15.9 J	0.0627 U	6.97 U	0.81 U	1.28 -
6E-C07-6	0.824 -	0.812 -	0.801 -	0.812 -	22.1 J	0.0543 U	6.93 U	0.767 U	1.15 -
6E-C07-7	0.854 -	0.812 -	0.823 -	0.812 -	7.69 J	0.0588 U	6.73 U	0.749 U	1.13 -
6E-C07-8	0.757 -	0.631 -	0.648 -	0.631 -	23.6 J	0.0461 U	6.39 U	0.765 U	0.95 -
6E-C07-9	1.03 -	0.81 -	0.771 -	0.81 -	27.5 J	0.0577 U	7.57 U	0.786 U	1.27 -
6E-C07-9-D	0.957 -	0.753 -	0.712 -	0.753 -	19.9 J	0.0618 U	7.43 U	0.783 U	1.27 -
6E-C07-10	0.951 -	0.735 -	0.68 -	0.735 -	20.3 J	0.0448 U	8.7 U	0.82 U	1.06 -
6E-C07-11	0.819 -	0.573 -	0.565 -	0.573 -	7.58 J	0.0394 U	8.66 U	0.773 U	1.45 -
6E-C07-12	0.657 -	0.686 -	0.699 -	0.686 -	17.2 J	0.0613 U	0.852 U	0.819 U	1.11 -
6E-C07-13	0.903 -	0.73 -	0.715 -	0.73 -	16.9 J	0.0581 U	0.864 U	0.821 U	1.23 -
6E-C07-14	0.802 -	0.543 -	0.502 -	0.543 -	22.5 J	0.0336 U	6.78 U	0.743 U	1.34 -
6E-C07-15	0.684 -	0.399 -	0.421 -	0.399 -	11.2 J	0.0297 U	7.13 U	0.755 U	1.26 J
6E-C07-16	0.881 -	0.675 -	0.736 -	0.675 -	13 J	0.07 U	0.981 U	0.76 U	1.01 -
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30	280
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	1.27	1.22	1.21	1.22	48.6	0.0815 U	9.74 U	2.7	1.67
Max. > Limit	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	1	16	16	15	0
% Nondetects	0%	0%	0%	0%	6%	100%	100%	94%	0%
Est. Mean*	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--

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SAMPLEID	Antimony	Arsenic	Barium	Beryllium	Cadmium
6E-C07-1	0.416 U	5.77 J	57.2 J	0.493 J	0.148 J
6E-C07-2	0.51 U	5.76 J	73.8 J	0.529 J	0.196 J
6E-C07-3	0.51 U	9.07 J	171 J	1.13 J	0.194 J
6E-C07-4	0.49 U	8.28 J	91.1 J	0.642 J	0.219 J
6E-C07-5	0.358 U	4.87 J	61.5 J	0.499 J	0.164 J
6E-C07-6	0.48 U	6.78 J	69.2 J	0.486 J	0.199 J
6E-C07-7	0.407 U	4.98 J	45.7 J	0.572 J	0.124 J
6E-C07-8	0.624 U	4.99 J	53.5 J	0.422 J	0.136 J
6E-C07-9	0.418 U	6.41 J	72.7 J	0.412 J	0.17 J
6E-C07-9-D	0.477 U	6.58 J	89.3 J	0.561 J	0.205 J
6E-C07-10	0.503 U	7.17 J	89.5 J	0.826 J	0.155 J
6E-C07-11	0.443 U	5.62 J	74.1 J	0.514 J	0.166 J
6E-C07-12	0.409 U	4.34 J	61 J	0.454 J	0.173 J
6E-C07-13	0.456 U	4.87 J	66.5 J	0.414 J	0.156 J
6E-C07-14	0.464 U	4.43 J	50.6 J	0.46 J	0.162 J
6E-C07-15	0.368 U	4.72 J	43.7 J	0.311 J	0.132 J
6E-C07-16	0.35 U	4.47 J	47.4 J	0.384 J	0.142 J
Limit	96	12	68000	1.5	82
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0.624 U	9.07	171	1.13	0 .219
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	0	0	0	0
% Nondetects	100%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Chromium	Lead	Mercury	Molybdenum	Selenium
6E-C07-1	12.4 J	10.5 J	0.0072 U	1.39 -	1.79 U
6E-C07-2	14.8 J	12.8 J	0.0234 U	1.4 -	2.19 U
6E-C07-3	25.6 J	17.3 J	0.0425 U	0.767 J	2.19 U
6E-C07-4	17.4 J	11.5 J	0.015 U	1.51 -	2.1 U
6E-C07-5	14.2 J	9.02 J	0.0062 U	1.34 -	1.54 U
6E-C07-6	13.7 J	10.6 J	0.0119 U	1.31 -	2.06 U
6E-C07-7	13.8 J	9.29 J	0.0079 U	1.28 -	1.75 U
6E-C07-8	9.83 J	7.94 J	0.0077 U	1.58 -	1.55 U
6E-C07-9	11.3 J	10.6 J	0.0205 U	1.04 J	1.8 U
6E-C07-9-D	15.6 J	12.8 J	0.0222 U	1.26 J	2.05 U
6E-C07-10	19.6 J	10.5 J	0.0139 U	1.84 -	2.16 U
6E-C07-11	13.5 J	10.3 J	0.0143 U	1.38 -	1.9 U
6E-C07-12	11.6 J	9.43 J	0.01 U	1.32 -	1.76 U
6E-C07-13	11.4 J	9.97 J	0.0158 U	1.41 -	1.96 U
6E-C07-14	12.2 J	10.4 J	0.0229 U	1.31 -	1.99 U
6E-C07-15	8.22 J	7.88 J	0.0202 U	1.26 -	1.58 U
6E-C07-16	11.5 J	8.07 J	0.0078 U	1.4 -	1.5 U
Limit	300	400	7.5	2900	5400
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	25.6	17.3	0.0425 U	1.84	2.19 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	16	0	16
% Nondetects	0%	0%	100%	0%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
6E-C07-1	0.132 U	40 U	53.8 J	40 U	40 U
6E-C07-2	0.162 U	92.1 J	85.7 J	112 -	52.5 J
6E-C07-3	0.162 U	41.5 U	41.5 U	41.5 U	41.5 U
6E-C07-4	0.156 U	38.4 U	49.4 J	38.4 U	38.4 U
6E-C07-5	0.114 U	38.2 U	38.2 U	38.2 U	38.2 U
6E-C07-6	0.152 U	40.6 U	40.6 U	40.6 U	40.6 U
6E-C07-7	0.129 U	43.8 U	43.8 U	43.8 U	43.8 U
6E-C07-8	0.115 U	36.5 U	36.5 U	36.5 U	36.5 U
6E-C07-9	0.133 U	41.8 J	38.9 U	38.9 U	38.9 U
6E-C07-9-D	0.151 U	37.9 U	73.3 J	50.5 J	94 J
6E-C07-10	0.16 U	39.3 U	39.3 U	39.3 U	39.3 U
6E-C07-11	0.141 U	38.7 U	38.7 U	38.7 U	38.7 U
6E-C07-12	0.13 U	36.5 U	36.5 U	36.5 U	36.5 U
6E-C07-13	0.145 U	41.1 U	170 -	306 -	77.5 J
6E-C07-14	0.147 U	36.8 U	116 -	150 -	77.9 J
6E-C07-15	0.117 U	34.9 U	34.9 U	34.9 U	34.9 U
6E-C07-16	0.111 U	38.4 U	38.4 U	38.4 U	38.4 U
Limit	29000	20000	2000	20000	1000
Units	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0.162 U	92.1	170	306	94
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	14	11	12	12
% Nondetects	100%	88%	69%	75%	75%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene
6E-C07-1	40 U	40 U	40 U	40 U	93.5 J
6E-C07-2	50.1 J	96.1 J	43.5 U	175 -	52.9 J
6E-C07-3	41.5 U	41.5 U	41.5 U	41.5 U	41.5 U
6E-C07-4	38.4 U	38.4 U	38.4 U	38.4 U	38.4 U
6E-C07-5	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U
6E-C07-6	40.6 U	40.6 U	40.6 U	40.6 U	40.6 U
6E-C07-7	43.8 U	43.8 U	43.8 U	43.8 U	43.8 U
6E-C07-8	36.5 U	36.5 U	36.5 U	36.5 U	36.5 U
6E-C07-9	38.9 U	38.9 U	38.9 U	56.5 J	38.9 U
6E-C07-9-D	37.9 U	37.9 U	37.9 U	43.6 J	102 J
6E-C07-10	63.5 J	39.3 U	39.3 U	73.9 J	39.3 U
6E-C07-11	38.7 U	38.7 U	38.7 U	38.7 U	38.7 U
6E-C07-12	55.8 J	36.5 U	36.5 U	50.9 J	36.5 U
6E-C07-13	41.1 U	205 -	41.1 U	343 -	70.8 J
6E-C07-14	91.2 J	142 -	36.8 U	352 -	57.1 J
6E-C07-15	34.9 U	34.9 U	34.9 U	34.9 U	34.9 U
6E-C07-16	38.4 U	38.4 U	38.4 U	38.4 U	38.4 U
Limit	200000	2000000	2000	10000	20000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	91.2	205	43.8 U	352	102
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	12	13	16	10	11
% Nondetects	75%	81%	100%	63%	69%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin
6E-C07-1	40 U	41.6 J	4 U	4 U	1.6 U
6E-C07-2	68.2 J	140 -	9.6 J	6.2 J	1.7 U
6E-C07-3	41.5 U	41.5 U	4.2 U	4.2 U	1.7 U
6E-C07-4	38.4 U	48 J	3.8 U	3.8 U	1.5 U
6E-C07-5	38.2 U	38.2 U	3.8 U	3.8 U	1.5 U
6E-C07-6	40.6 U	40.6 U	4.1 U	4.1 U	1.6 U
6E-C07-7	43.8 U	43.8 U	4.4 U	4.4 U	1.8 U
6E-C07-8	36.5 U	38.9 J	3.7 U	3.7 U	1.5 U
6E-C07-9	38.9 U	43.5 J	4.1 J	3.9 U	1.6 U
6E-C07-9-D	37.9 U	65.3 J	5.7 J	3.8 U	1.5 U
6E-C07-10	39.3 U	70.2 J	3.9 U	3.9 U	1.6 U
6E-C07-11	38.7 U	38.7 U	3.9 U	3.9 U	1.6 U
6E-C07-12	36.5 U	44.4 J	3.7 U	3.7 U	1.5 U
6E-C07-13	165 J	290 -	14.6 -	6.4 J	1.6 U
6E-C07-14	217 J	305 -	34.6 -	35.3 -	1.5 U
6E-C07-15	34.9 U	34.9 U	5.1 J	3.5 U	1.4 U
6E-C07-16	38.4 U	38.4 U	3.8 U	3.8 U	1.5 U
Limit	5000	10000	130	130	15
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	217	305	34.6	35.3	1.8 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	13	7	11	13	16
% Nondetects	81%	44%	69%	81%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone	Acetone
6E-C07-1	1.1 U	1.1 U	1.1 U	5.7 U	5.7 U
6E-C07-2	1.3 U	1.3 U	1.3 U	6.2 U	6.2 U
6E-C07-3	1.2 U	1.2 U	1.2 U	5.8 U	5.8 U
6E-C07-4	1.2 U	1.2 U	1.2 U	6 U	6 U
6E-C07-5	0.9 U	0.9 U	0.9 U	4.3 U	4.3 U
6E-C07-6	0.9 U	0.9 U	0.9 U	4.7 U	4.7 U
6E-C07-7	1 U	1 U	1 U	5 U	8.6 U
6E-C07-8	0.8 U	0.8 U	0.8 U	4.2 U	4.2 U
6E-C07-9	0.9 U	0.9 U	0.9 U	4.5 U	4.5 U
6E-C07-9-D	0.8 U	0.8 U	0.8 U	4 U	4 U
6E-C07-10	1.5 U	1.5 U	1.5 U	7.6 U	7.6 U
6E-C07-11	0.9 U	0.9 U	0.9 U	4.7 U	4.8 U
6E-C07-12	0.8 U	0.8 U	0.8 U	4 U	4 U
6E-C07-13	1.1 U	1.1 U	1.1 U	5.6 U	5.6 U
6E-C07-14	1.1 U	1.1 U	1.1 U	5.4 U	5.4 U
6E-C07-15	0.9 U	0.9 U	0.9 U	4.5 U	4.5 U
6E-C07-16	1.3 U	1.3 U	1.3 U	6.2 U	6.2 U
Limit	4300	410	160	2500000	43000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.5 U	1.5 U	1.5 U	7.6 U	8.6 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	16
% Nondetects	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride	Tetrachloroethene
6E-C07-1	1.1 U	1.1 U	1.1 U	5.7 U	1.1 U
6E-C07-2	1.3 U	1.3 U	1.3 U	6.2 U	1.3 U
6E-C07-3	1.2 U	1.2 U	1.2 U	5.8 U	1.2 U
6E-C07-4	1.2 U	1.2 U	1.2 U	6 U	1.2 U
6E-C07-5	0.9 U	0.9 U	0.9 U	4.3 U	0.9 U
6E-C07-6	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U
6E-C07-7	1 U	1 U	1 U	5 U	1 U
6E-C07-8	0.8 U	0.8 U	0.8 U	4.2 U	0.8 U
6E-C07-9	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
6E-C07-9-D	0.8 U	0.8 U	0.8 U	4 U	0.8 U
6E-C07-10	1.5 U	1.5 U	1.5 U	7.6 U	1.5 U
6E-C07-11	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U
6E-C07-12	0.8 U	0.8 U	0.8 U	4 U	0.8 U
6E-C07-13	1.1 U	1.1 U	1.1 U	5.6 U	1.1 U
6E-C07-14	1.1 U	1.1 U	1.1 U	5.4 U	1.1 U
6E-C07-15	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
6E-C07-16	1.3 U	1.3 U	1.3 U	6.2 U	1.3 U
Limit	850000	2100	5100000	37000	3600
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.5 U	1.5 U	1.5 U	7.6 U	1.5 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	16
% Nondetects	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	Toluene	Trichloroethene	Xylenes, Total
6E-C07-1	1.1 U	1.1 U	1.1 U
6E-C07-2	1.3 U	1.3 U	1.3 U
6E-C07-3	1.2 U	1.2 U	1.2 U
6E-C07-4	1.2 U	1.2 U	1.2 U
6E-C07-5	0.9 U	0.9 U	0.9 U
6E-C07-6	0.9 U	0.9 U	0.9 U
6E-C07-7	1 U	1 U	1 U
6E-C07-8	0.8 U	0.8 U	0.8 U
6E-C07-9	0.9 U	0.9 U	0.9 U
6E-C07-9-D	0.8 U	0.8 U	0.8 U
6E-C07-10	1.5 U	1.5 U	1.5 UJ
6E-C07-11	0.9 U	0.9 U	0.9 UJ
6E-C07-12	0.8 U	0.8 U	0.8 UJ
6E-C07-13	1.1 U	1.1 U	1.1 UJ
6E-C07-14	1.1 U	1.1 U	1.1 UJ
6E-C07-15	0.9 U	0.9 U	0.9 UJ
6E-C07-16	1.3 U	1.3 U	1.3 UJ
Limit	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%
Max. Result	1.5 U	1.5 U	1.5 UJ
Max. > Limit	No	No	No
W-statistic Prob. #	--	--	--
Test Procedure	--	--	--
Sample Size	16	16	16
Nondetects	16	16	16
% Nondetects	100%	100%	100%
Est. Mean*	--	--	--
UCL	--	--	--
Prob. > Limit	--	--	--
Pass / Fail	--	--	--

a posteriori Sample	--	--	--
Size calculation	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C08-1	0.984 -	0.72 J	0.7 J	0.72 J	9.37 -	0.0563 U	8.28 U	2.44 U
6E-C08-2	1.17 -	1.08 J	1.08 J	1.08 J	7.15 -	0.0745 U	1.8 -	2.48 U
6E-C08-3	0.884 -	0.968 J	0.977 J	0.968 J	7.26 -	0.0606 U	1.19 J	2.64 U
6E-C08-4	1.23 -	0.86 J	0.874 J	0.86 J	16 -	0.0401 U	7.59 U	2.5 U
6E-C08-5	1.01 -	0.788 J	0.777 J	0.788 J	5.03 -	0.0532 U	5.04 U	2.35 U
6E-C08-6	2.64 -	1 J	0.972 J	1 J	11.3 -	0.0674 U	6.83 U	2.55 U
6E-C08-7	3.3 -	0.855 J	0.804 J	0.855 J	14.6 -	0.0628 U	20.7 J	2.42 U
6E-C08-8	2.17 -	0.897 J	0.905 J	0.897 J	14.6 -	0.0629 U	7.76 U	2.39 U
6E-C08-9	2.01 -	0.892 J	0.896 J	0.892 J	13 -	0.0747 U	6.85 U	2.49 U
6E-C08-10	0.868 -	0.813 J	0.802 J	0.813 J	5 -	0.0508 U	5.35 U	2.46 U
6E-C08-11	1.29 -	1.02 J	1.01 J	1.02 J	40.8 -	0.0619 U	1.33 J	2.36 U
6E-C08-12	1.6 -	0.834 J	0.833 J	0.834 J	9.97 -	0.044 U	4.91 U	2.4 U
6E-C08-13	1.29 -	0.943 J	0.957 J	0.943 J	8.03 -	0.0505 U	7.23 U	2.44 U
6E-C08-14	2.47 -	0.903 J	0.916 J	0.903 J	10.2 -	0.0495 U	5.78 J	2.52 U
6E-C08-15	1.12 -	0.751 J	0.758 J	0.751 J	6.48 -	0.046 U	8.86 U	2.43 U
6E-C08-16	1.46 -	0.8 J	0.785 J	0.8 J	9.06 -	0.0539 U	6.35 U	2.4 U
6E-C08-16-D	1.44 -	0.809 J	0.787 J	0.809 J	9.91 -	0.0545 U	5.44 U	2.44 U
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%
Max. Result	3.3	1.08	1.08	1.08	40.8	0.0747 U	20.7	2.64 U
Max. > Limit	Yes	No	No	No	No	No	No	No
W-statistic Prob. #	31.9% (LN)	--	--	--	--	--	--	--
Test Procedure	Lognormal	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	16	11	16
% Nondetects	0%	0%	0%	0%	0%	100%	69%	100%
Est. Mean*	1.595	--	--	--	--	--	--	--
UCL	1.97	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	Fail	--	--	--	--	--	--	--

a posteriori Sample	49	--	--	--	--	--	--	--
Size calculation	Fail	--	--	--	--	--	--	--

Document 6736

SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium
6E-C08-1	1.06 -	0.442 UJ	7.6 -	67.1 J	0.4 -
6E-C08-2	1.23 -	2.28 UJ	5.8 -	135 J	0.59 -
6E-C08-3	1.6 -	1 J	7.2 -	104 J	0.7 -
6E-C08-4	2.19 -	0.61 J	6 -	85.7 J	0.44 -
6E-C08-5	1.44 -	0.43 UJ	6.7 -	114 J	0.5 -
6E-C08-6	1.25 -	0.5 J	6.7 -	94.9 J	0.52 -
6E-C08-7	2.38 -	0.447 UJ	7 -	106 J	0.59 -
6E-C08-8	1.58 -	0.436 UJ	5.7 -	85.4 J	0.45 -
6E-C08-9	0.905 -	2.13 UJ	6.9 -	117 J	0.57 -
6E-C08-10	1.55 -	0.78 J	7.2 -	111 J	0.72 -
6E-C08-11	1.07 J	0.67 J	7.7 -	119 J	0.64 -
6E-C08-12	1.87 -	2.02 UJ	12.1 -	144 J	0.82 -
6E-C08-13	1.26 -	0.51 J	6.8 -	114 J	0.58 -
6E-C08-14	1.7 -	0.81 J	7.6 -	117 J	0.64 -
6E-C08-15	1.16 -	0.446 UJ	5.8 -	71.3 J	0.41 -
6E-C08-16	1.65 -	0.46 J	6.8 -	93.7 J	0.61 -
6E-C08-16-D	1.73 -	0.83 J	6.2 -	69.1 J	0.47 -
Limit	280	96	12	68000	1.5
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	2.38	1	12.1	144	0 .82
Max. > Limit	No	No	Yes	No	No
W-statistic Prob. #	- -	- -	< 0.01% (LN)	- -	- -
Test Procedure	- -	- -	Median (Sign)	- -	- -
Sample Size	16	16	16	16	16
Nondetects	0	7	0	0	0
% Nondetects	0%	44%	0%	0%	0%
Est. Mean*	- -	- -	6.85	- -	- -
UCL	- -	- -	7.2	- -	- -
Prob. > Limit	- -	- -	- -	- -	- -
Pass / Fail	- -	- -	Pass	- -	- -

a posteriori Sample	- -	- -	4	- -	- -
Size calculation	- -	- -	Pass	- -	- -

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SAMPLEID	Cadmium	Chromium	Lead	Mercury	Molybdenum
6E-C08-1	0.62 -	14.4 J	8.5 J	0.041 J	1.3 -
6E-C08-2	0.47 J	23.5 J	12.1 J	0.026 J	1.1 -
6E-C08-3	0.4 J	21.5 J	13.9 J	0.029 J	1.1 -
6E-C08-4	0.33 J	15 J	10.3 J	0.022 J	1.3 -
6E-C08-5	0.3 J	17.8 J	11 J	0.018 J	1.4 -
6E-C08-6	0.38 J	19.9 J	13.4 J	0.029 J	1.1 -
6E-C08-7	0.38 J	20.3 J	20.7 J	0.046 J	1.6 -
6E-C08-8	0.37 J	15.6 J	10.5 J	0.12 J	1.4 -
6E-C08-9	0.36 J	21 J	12.7 J	0.029 J	1 -
6E-C08-10	0.46 J	22.1 J	15.5 J	0.045 J	1.4 -
6E-C08-11	0.44 J	22.6 J	12.9 J	0.027 J	1.2 -
6E-C08-12	0.47 J	26.3 J	15.6 J	0.028 J	1.2 -
6E-C08-13	0.43 J	18.4 J	13.2 J	0.036 J	1.2 -
6E-C08-14	0.5 J	20.7 J	15.5 J	0.032 J	1.2 -
6E-C08-15	0.25 J	14.5 J	9.6 J	0.016 J	1 -
6E-C08-16	0.34 J	19.3 J	14.5 J	0.025 J	1.3 -
6E-C08-16-D	0.28 J	15.4 J	10.4 J	0.032 J	0.89 J
Limit	82	300	400	7.5	2900
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0 .62	26.3	20.7	0 .12	1.6
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	0	0	0
% Nondetects	0%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Selenium	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene
6E-C08-1	0.549 U	0.083 J	80.6 J	122 -	134 -
6E-C08-2	0.585 U	0.13 J	39.8 U	39.8 U	39.8 U
6E-C08-3	0.585 U	0.12 J	40.5 U	72.9 J	40.5 U
6E-C08-4	0.539 U	0.089 J	37.3 U	68.5 J	37.3 U
6E-C08-5	0.527 U	0.098 J	85.7 J	139 -	174 -
6E-C08-6	0.563 U	0.12 J	56 J	97.2 J	84.9 J
6E-C08-7	0.555 U	0.12 J	76.7 J	109 -	108 -
6E-C08-8	0.531 U	0.11 J	52.2 J	95.1 J	90.3 J
6E-C08-9	0.555 U	0.11 J	41.3 J	71.9 J	46.6 J
6E-C08-10	0.578 U	0.13 J	152 U	196 -	200 -
6E-C08-11	0.54 U	0.12 J	52.9 J	110 -	88 J
6E-C08-12	0.503 U	0.15 J	140 U	140 U	140 U
6E-C08-13	0.575 U	0.11 J	71.3 J	113 -	125 -
6E-C08-14	0.546 U	0.13 J	113 J	132 -	161 -
6E-C08-15	0.564 U	0.07 J	37.9 U	62.8 J	37.9 U
6E-C08-16	0.557 U	0.1 J	99.6 J	139 -	172 -
6E-C08-16-D	0.546 U	0.082 J	229 J	231 -	392 -
Limit	5400	29000	20000	2000	20000
Units	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0.585 U	0 .15	229	231	392
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	0	6	2	5
% Nondetects	100%	0%	38%	13%	31%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene
6E-C08-1	130 J	37.6 U	81.4 J	37.6 U	134 -
6E-C08-2	39.8 U	39.8 U	39.8 U	39.8 U	39.8 U
6E-C08-3	40.5 U	40.5 U	40.5 U	40.5 U	70.2 J
6E-C08-4	94.9 J	37.3 U	37.3 U	37.3 U	41.5 J
6E-C08-5	139 J	36.5 U	101 J	36.5 U	154 -
6E-C08-6	103 J	38.4 U	51.9 J	38.4 U	109 -
6E-C08-7	120 J	38.8 U	70 J	38.8 U	162 -
6E-C08-8	37 U	37 U	59.5 J	37 U	105 -
6E-C08-9	85.8 J	37.1 U	37.1 U	37.1 U	101 -
6E-C08-10	168 J	78.9 J	150 U	38.7 U	338 -
6E-C08-11	122 J	43 J	59.8 J	37.6 U	97.4 J
6E-C08-12	140 U	140 U	140 U	140 U	140 U
6E-C08-13	121 J	38.7 U	71.2 J	38.7 U	155 -
6E-C08-14	122 -	37.4 U	115 J	37.4 U	250 -
6E-C08-15	37.9 U	37.9 U	37.9 U	37.9 U	37.9 U
6E-C08-16	37.6 U	37.6 U	97 J	37.6 U	219 -
6E-C08-16-D	204 J	38.2 U	234 J	38.2 U	683 -
Limit	1000	200000	2000000	2000	10000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	204	78.9	234	140 U	683
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	5	14	7	16	3
% Nondetects	31%	88%	44%	100%	19%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260
6E-C08-1	143 J	45.4 J	99.3 J	5.8 J	3.8 U
6E-C08-2	39.8 U	39.8 U	39.8 U	4 U	4 U
6E-C08-3	40.5 U	40.5 U	40.5 U	4.1 U	4.1 U
6E-C08-4	109 J	37.3 U	37.3 U	3.7 U	3.7 U
6E-C08-5	148 J	44.2 J	125 -	3.7 U	3.7 U
6E-C08-6	122 J	59.1 J	63.5 J	7.3 J	3.8 U
6E-C08-7	134 J	70.8 J	99.5 J	4.7 J	3.9 U
6E-C08-8	128 J	42 J	67.9 J	3.9 J	3.7 U
6E-C08-9	105 J	72.3 J	53 J	3.7 U	3.7 U
6E-C08-10	182 J	150 J	219 -	5.6 J	3.9 U
6E-C08-11	133 J	37.6 U	61.6 J	3.8 U	3.8 U
6E-C08-12	140 U	140 U	142 -	4.8 J	3.5 U
6E-C08-13	132 J	66.5 J	105 -	3.9 U	3.9 U
6E-C08-14	37.4 U	126 J	161 -	14.2 -	4.1 J
6E-C08-15	37.9 U	37.9 U	37.9 U	3.8 U	3.8 U
6E-C08-16	37.6 U	84.6 J	157 -	3.8 U	3.8 U
6E-C08-16-D	214 J	362 J	438 -	5.3 J	3.8 U
Limit	20000	5000	10000	130	130
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	214	362	438	14.2	4.1
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	5	6	4	8	15
% Nondetects	31%	38%	25%	50%	94%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone
6E-C08-1	1.5 U	0.8 U	0.8 U	0.8 U	4.2 U
6E-C08-2	1.6 U	1.3 U	1.3 U	1.3 U	6.3 U
6E-C08-3	1.6 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C08-4	1.5 U	1.2 U	1.2 U	1.2 U	6.1 U
6E-C08-5	1.5 U	1.1 U	1.1 U	1.1 U	5.2 U
6E-C08-6	1.5 U	0.9 U	0.9 U	0.9 U	4.7 U
6E-C08-7	1.6 U	1.2 U	1.2 U	1.2 U	6 U
6E-C08-8	1.5 U	0.8 U	0.8 U	0.8 U	4.2 U
6E-C08-9	1.5 U	0.9 U	0.9 U	0.9 U	4.4 U
6E-C08-10	1.6 U	1 U	1 U	1 U	5.2 U
6E-C08-11	1.5 U	1 U	1 U	1 U	4.8 U
6E-C08-12	1.4 U	1 U	1 U	1 U	5.2 U
6E-C08-13	1.6 U	0.9 U	0.9 U	0.9 U	4.6 U
6E-C08-14	1.5 U	1 U	1 U	1 U	4.9 U
6E-C08-15	1.5 U	1 U	1 U	1 U	4.8 U
6E-C08-16	1.5 U	0.9 U	0.9 U	0.9 U	4.5 U
6E-C08-16-D	1.5 U	1.1 U	1.1 U	1.1 U	5.4 U
Limit	15	4300	410	160	2500000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.6 U	1.3 U	1.3 U	1.3 U	6.3 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	16
% Nondetects	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride
6E-C08-1	4.2 U	0.8 U	0.8 U	0.8 U	4.2 U
6E-C08-2	23.6 U	1.3 U	1.3 U	1.3 U	6.3 U
6E-C08-3	8.9 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C08-4	6.1 U	1.2 U	1.2 U	1.2 U	6.1 U
6E-C08-5	5.2 U	1.1 U	1.1 U	1.1 U	5.2 U
6E-C08-6	4.7 U	0.9 U	0.9 U	0.9 U	4.7 U
6E-C08-7	6 U	1.2 U	1.2 U	1.2 U	6 U
6E-C08-8	4.2 U	0.8 U	0.8 U	0.8 U	4.2 U
6E-C08-9	4.4 U	0.9 U	0.9 U	0.9 U	4.4 U
6E-C08-10	5.2 U	1 U	1 U	1 U	5.2 U
6E-C08-11	4.8 U	1 U	1 U	1 U	4.8 U
6E-C08-12	21.5 U	1 U	1 U	1 U	5.2 U
6E-C08-13	4.6 U	0.9 U	0.9 U	0.9 U	4.6 U
6E-C08-14	80 J	1 U	1 U	1 U	4.9 U
6E-C08-15	4.8 U	1 U	1 U	1 U	4.8 U
6E-C08-16	4.5 U	0.9 U	0.9 U	0.9 U	4.5 U
6E-C08-16-D	5.4 U	1.1 U	1.1 U	1.1 U	5.4 U
Limit	43000000	850000	2100	5100000	37000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	80	1.3 U	1.3 U	1.3 U	6.3 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	16
% Nondetects	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C08-1	0.8 U	0.8 U	0.8 U	0.8 U
6E-C08-2	1.3 U	1.3 U	1.3 U	1.3 U
6E-C08-3	1.1 U	1.1 U	1.1 U	1.1 U
6E-C08-4	1.2 U	1.2 U	1.2 U	1.2 U
6E-C08-5	1.1 U	1.1 U	1.1 U	1.1 U
6E-C08-6	0.9 U	0.9 U	0.9 U	0.9 U
6E-C08-7	1.2 U	1.2 U	1.2 U	1.2 U
6E-C08-8	0.8 U	0.8 U	0.8 U	0.8 U
6E-C08-9	0.9 U	0.9 U	0.9 U	0.9 U
6E-C08-10	1 U	1 U	1 U	1 U
6E-C08-11	1 U	1 U	1 U	1 U
6E-C08-12	1 U	1 U	1 U	1 U
6E-C08-13	0.9 U	0.9 U	0.9 U	0.9 U
6E-C08-14	1 U	1 U	1 U	1 U
6E-C08-15	1 U	1 U	1 U	1 U
6E-C08-16	0.9 U	0.9 U	0.9 U	0.9 U
6E-C08-16-D	1.1 U	1.1 U	1.1 U	1.1 U
Limit	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%
Max. Result	1.3 U	1.3 U	1.3 U	1.3 U
Max. > Limit	No	No	No	No
W-statistic Prob. #	--	--	--	--
Test Procedure	--	--	--	--
Sample Size	16	16	16	16
Nondetects	16	16	16	16
% Nondetects	100%	100%	100%	100%
Est. Mean*	--	--	--	--
UCL	--	--	--	--
Prob. > Limit	--	--	--	--
Pass / Fail	--	--	--	--

a posteriori Sample	--	--	--	--
Size calculation	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99	Thorium-230
6E-C09-1	1.57 J	0.723 J	0.769 J	0.723 J	8.75 -	0.0793 U	1.25 U	0.777 U	1.84 -
6E-C09-2	0.981 J	0.711 J	0.72 J	0.711 J	8.53 J	0.0769 U	7.79 U	1.45 -	1.51 -
6E-C09-3	1.38 J	0.78 J	0.765 J	0.78 J	8.1 J	0.103 U	1.46 U	0.805 U	1.87 -
6E-C09-4	4.99 J	0.658 J	0.679 J	0.658 J	12 -	0.0897 U	10.2 UJ	0.744 U	2.76 -
6E-C09-5	1.03 J	0.714 J	0.735 J	0.714 J	4.96 -	0.0604 U	0.835 U	0.824 U	1.27 -
6E-C09-6	0.994 J	0.672 J	0.624 J	0.672 J	14 -	0.0842 U	7.47 U	0.786 U	1.32 -
6E-C09-7	1.33 J	0.612 J	0.566 J	0.612 J	11.3 -	0.111 U	1.45 U	0.786 U	1.69 -
6E-C09-8	1.11 J	0.719 J	0.676 J	0.719 J	9.75 -	0.0934 U	1.45 U	0.805 U	1.82 -
6E-C09-9	2.76 J	0.809 J	0.75 J	0.809 J	10.8 -	0.0443 U	9.3 U	0.828 U	1.5 -
6E-C09-10	2.95 J	0.659 J	0.627 J	0.659 J	6.17 -	0.0439 J	9.57 U	0.76 U	2.41 -
6E-C09-11	3.44 J	0.768 J	0.769 J	0.768 J	15.3 -	0.109 U	3.17 J	0.956 J	3.11 -
6E-C09-12	4.1 J	0.761 J	0.774 J	0.761 J	4.93 U	0.112 U	4.44 J	0.772 U	3.43 -
6E-C09-13	1.54 J	0.523 J	0.589 J	0.523 J	11.5 -	0.0578 U	6.86 U	0.774 U	1.84 -
6E-C09-14	1.09 J	0.758 J	0.734 J	0.758 J	14.2 -	0.0545 U	6.66 U	0.78 U	1.47 -
6E-C09-14-D	2.16 J	0.88 J	0.897 J	0.88 J	10.9 -	0.0662 U	7.61 U	2.63 -	1.87 -
6E-C09-15	1.45 J	0.841 J	0.853 J	0.841 J	15.5 -	0.0653 U	7.35 U	0.766 U	1.81 -
6E-C09-16	1.85 J	0.744 J	0.738 J	0.744 J	15.4 -	0.0592 U	7.01 U	0.772 U	1.67 -
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30	280
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	4.99	0 .88	0 .897	0 .88	15.5	0 .0439	4.44	2.63	3.43
Max. > Limit	Yes	No	No	No	No	No	No	No	No
W-statistic Prob. #	25.0% (LN)	--	--	--	--	--	--	--	--
Test Procedure	Lognormal	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	1	15	14	13	0
% Nondetects	0%	0%	0%	0%	6%	94%	88%	81%	0%
Est. Mean*	2.105	--	--	--	--	--	--	--	--
UCL	2.79	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	Fail	--	--	--	--	--	--	--	--
a posteriori Sample	291	--	--	--	--	--	--	--	--
Size calculation	Fail	--	--	--	--	--	--	--	--

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SAMPLEID	Antimony	Arsenic	Barium	Beryllium	Cadmium
6E-C09-1	0.454 U	6.81 J	94.7 J	0.554 -	0.214 J
6E-C09-2	0.445 U	5.12 J	57.4 J	0.412 -	0.163 J
6E-C09-3	0.376 U	6.71 J	77.6 J	0.527 -	0.168 J
6E-C09-4	0.487 U	7.17 J	73.3 J	0.522 -	0.148 J
6E-C09-5	0.46 U	4.37 J	53 J	0.44 -	0.126 J
6E-C09-6	0.381 U	6.06 J	64.6 J	0.414 -	0.16 J
6E-C09-7	0.561 J	6.66 J	88.4 J	0.56 -	0.192 J
6E-C09-8	0.479 U	5.86 J	68.3 J	0.449 -	0.155 J
6E-C09-9	0.524 U	8.02 J	89.9 J	0.647 -	0.236 J
6E-C09-10	0.453 U	5.65 J	61.5 J	0.449 -	0.166 J
6E-C09-11	0.546 J	6.08 J	60.1 J	0.449 -	0.128 J
6E-C09-12	0.443 U	5.75 J	66.1 J	0.523 -	0.152 J
6E-C09-13	0.457 U	6.17 J	70.9 J	0.523 -	0.164 J
6E-C09-14	0.435 U	5.3 J	67 J	0.42 -	0.128 J
6E-C09-14-D	0.471 U	6.36 J	95.4 J	0.668 -	0.139 J
6E-C09-15	0.469 U	5.2 J	64.9 J	0.488 -	0.136 J
6E-C09-16	0.484 U	5.28 J	69 J	0.513 -	0.143 J
Limit	96	12	68000	1.5	82
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0 .561	8.02	95.4	0 .668	0 .236
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--		--	--	--
Sample Size	16	16	16	16	16
Nondetects	14	0	0	0	0
% Nondetects	88%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Chromium	Lead	Mercury	Molybdenum	Selenium
6E-C09-1	13.4 J	13.4 J	0.0145 U	1.19 J	1.69 U
6E-C09-2	9.95 J	9.8 J	0.0324 U	1.16 J	1.91 U
6E-C09-3	12.7 J	15.4 J	0.0408 U	1.24 J	1.61 U
6E-C09-4	13.1 J	14.3 J	0.0348 U	1.22 J	2.09 U
6E-C09-5	11.4 J	7.39 J	0.0244 U	1.31 J	1.97 U
6E-C09-6	10.3 J	10 J	0.0335 U	1.56 J	1.64 U
6E-C09-7	15 J	15.4 J	0.0221 U	1.86 J	1.85 U
6E-C09-8	12.7 J	10.6 J	0.0389 U	1.31 J	2.06 U
6E-C09-9	14.5 J	15 J	0.0268 U	1.32 J	2.19 U
6E-C09-10	11.9 J	10.3 J	0.0547 J	1.02 J	1.94 U
6E-C09-11	11.7 J	12.2 J	0.0223 U	1.13 J	1.85 U
6E-C09-12	12.4 J	11.7 J	0.0244 U	1.06 J	1.9 U
6E-C09-13	13.2 J	11.8 J	0.0491 J	1.07 J	1.96 U
6E-C09-14	11.3 J	14.3 J	0.028 U	1.38 J	1.87 U
6E-C09-14-D	14.3 J	13 J	0.042 U	0.826 J	2.02 U
6E-C09-15	11.5 J	10.3 J	0.034 U	1.18 J	2.02 U
6E-C09-16	12.1 J	13.1 J	0.0302 U	1.15 J	2.08 U
Limit	300	400	7.5	2900	5400
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	15	15.4	0 .0547	1.86	2.19 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	14	0	16
% Nondetects	0%	0%	88%	0%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
6E-C09-1	0.125 U	93.4 J	138 -	163 -	147 J
6E-C09-2	0.141 U	159 J	219 -	268 -	205 J
6E-C09-3	0.119 U	53.6 J	101 -	88.4 J	38.9 U
6E-C09-4	0.155 U	100 J	114 -	122 -	110 J
6E-C09-5	0.146 U	38.7 U	73.1 J	47.2 J	38.7 U
6E-C09-6	0.121 U	174 J	177 -	248 -	145 J
6E-C09-7	0.137 U	166 J	180 -	190 -	131 J
6E-C09-8	0.152 U	48.6 J	96.8 J	56.4 J	40.9 U
6E-C09-9	0.162 U	61.3 J	98.1 J	93.2 J	38.5 U
6E-C09-10	0.144 U	47.3 J	82.3 J	51.5 J	35.5 U
6E-C09-11	0.137 U	51.5 J	79.1 J	70.2 J	35 U
6E-C09-12	0.141 U	110 J	134 -	166 -	37.6 U
6E-C09-13	0.145 U	87.1 J	118 -	94.5 J	118 J
6E-C09-14	0.138 U	120 J	132 -	149 -	112 J
6E-C09-14-D	0.15 U	68.1 J	118 -	131 -	40.2 U
6E-C09-15	0.149 U	64.1 J	95.8 J	91.3 J	103 J
6E-C09-16	0.154 U	3730 J	2560 -	4270 -	1230 J
Limit	29000	20000	2000	20000	1000
Units	mg/kg	ug/kg	mg/kg	ug/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0.162 U	3730	2560	4270	1230
Max. > Limit	No	No	Yes	No	Yes
W-statistic Prob. #	--	--	<0.01% (LN)	--	<0.01% (LN)
Test Procedure	--	--	Median (Sign)	--	Median (Sign)
Sample Size	16	16	16	16	16
Nondetects	16	1	0	0	7
% Nondetects	100%	6%	0%	0%	44%
Est. Mean*	--	--	116	--	106.5
UCL	--	--	138	--	131
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	Pass	--	Pass
a posteriori Sample	--	--	4	--	4
Size calculation	--	--	Pass	--	Pass

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SAMPLEID	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene
6E-C09-1	37.3 U	95.7 J	37.3 U	164 J	156 J
6E-C09-2	37.9 U	144 J	37.9 U	284 J	201 J
6E-C09-3	38.9 U	50 J	38.9 U	82.9 J	38.9 U
6E-C09-4	38.8 U	86 J	38.8 U	208 J	124 J
6E-C09-5	38.7 U	38.7 U	38.7 U	38.7 U	38.7 U
6E-C09-6	38.4 U	175 J	38.4 U	380 J	158 J
6E-C09-7	93.6 J	176 J	37.7 U	296 J	158 J
6E-C09-8	40.9 U	54 J	40.9 U	91.2 J	40.9 U
6E-C09-9	38.5 U	69.6 J	38.5 U	138 J	38.5 U
6E-C09-10	35.5 U	50.2 J	35.5 U	102 J	35.5 U
6E-C09-11	35 U	48.7 J	35 U	106 J	35 U
6E-C09-12	37.6 U	109 J	37.6 U	202 J	138 J
6E-C09-13	47.6 J	84.4 J	37.2 U	133 J	139 J
6E-C09-14	38 U	138 J	38 U	228 J	138 J
6E-C09-14-D	40.2 U	70.3 J	40.2 U	131 J	40.2 U
6E-C09-15	38 U	62.4 J	38 U	127 J	121 J
6E-C09-16	1330 -	3480 J	39.6 U	6680 J	1270 J
Limit	200000	2000000	2000	10000	20000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1330	3480	40.9 U	6680	1270
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	13	1	16	1	6
% Nondetects	81%	6%	100%	6%	38%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin
6E-C09-1	50.1 J	108 -	18.7 U	18.7 U	1.5 U
6E-C09-2	160 J	209 -	19 U	19 U	1.5 U
6E-C09-3	43.9 J	87.3 J	23.2 J	19.5 U	1.6 U
6E-C09-4	134 J	126 -	19.4 J	19.4 U	1.6 U
6E-C09-5	38.7 U	38.7 U	3.9 U	3.9 U	1.6 U
6E-C09-6	231 J	258 -	13.7 J	6.4 J	1.5 U
6E-C09-7	124 J	273 -	18.9 U	18.9 U	1.5 U
6E-C09-8	40.9 U	82.4 J	35.6 J	20.5 U	1.6 U
6E-C09-9	74.1 J	83.9 J	31 J	19.3 U	1.5 U
6E-C09-10	59.8 J	78.5 J	17.7 U	17.7 U	1.4 U
6E-C09-11	61 J	84 J	17.5 U	17.5 U	1.4 U
6E-C09-12	89.4 J	180 -	18.8 U	18.8 U	1.5 U
6E-C09-13	50.8 J	146 -	18.6 U	18.6 U	1.5 U
6E-C09-14	138 J	179 -	13.9 J	4.6 J	1.5 U
6E-C09-14-D	59.6 J	115 -	20.1 U	20.1 U	1.6 U
6E-C09-15	66.7 J	117 -	19 U	19 U	1.5 U
6E-C09-16	4490 -	4650 -	19.8 U	19.8 U	1.6 U
Limit	5000	10000	130	130	15
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	4490	4650	35.6	6.4	1.6 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	1	1	10	14	16
% Nondetects	6%	6%	63%	88%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone	Acetone
6E-C09-1	1 U	1 U	1 U	5.2 U	5.2 U
6E-C09-2	0.9 U	0.9 U	0.9 U	4.6 U	4.6 U
6E-C09-3	1 U	1 U	1 U	5.1 U	5.1 U
6E-C09-4	1.2 U	1.3 J	1.2 U	5.9 U	12.7 J
6E-C09-5	1.1 U	1.1 U	1.1 U	5.5 U	5.5 U
6E-C09-6	1 U	1 U	1 U	4.9 U	4.9 U
6E-C09-7	1 U	1 U	1 U	5.1 U	5.1 U
6E-C09-8	1.2 U	1.2 U	1.2 U	6 U	6 U
6E-C09-9	1.1 U	1.1 U	1.1 U	5.6 U	5.6 U
6E-C09-10	1 U	3.4 J	1 U	5.1 U	20.3 J
6E-C09-11	0.9 U	1.2 J	0.9 U	4.5 U	4.5 U
6E-C09-12	1.1 U	1.1 U	1.1 U	5.7 U	5.7 U
6E-C09-13	1.7 J	3 J	2 -	12.6 J	16 J
6E-C09-14	0.8 U	0.8 U	0.8 U	4.1 U	4.1 U
6E-C09-14-D	1.1 U	1.1 U	1.1 U	5.7 U	5.7 U
6E-C09-15	1.1 U	1.1 U	1.1 U	5.3 U	11.9 J
6E-C09-16	1.1 U	1.1 U	1.1 U	5.5 U	5.5 U
Limit	4300	410	160	2500000	43000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.7	3.4	2	12.6	20.3
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	15	12	15	15	12
% Nondetects	94%	75%	94%	94%	75%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride	Tetrachloroethene
6E-C09-1	1 U	1 U	1 U	5.2 U	1 U
6E-C09-2	0.9 U	0.9 U	0.9 U	4.6 U	0.9 U
6E-C09-3	1 U	1 U	1 U	5.1 U	1 U
6E-C09-4	1.2 U	1.2 U	1.2 U	5.9 U	1.2 U
6E-C09-5	1.1 U	1.1 U	1.1 U	5.5 U	1.1 U
6E-C09-6	1 U	1 U	1 U	4.9 U	1 U
6E-C09-7	1 U	1 U	1 U	5.1 U	1 U
6E-C09-8	1.2 U	1.2 U	1.2 U	6 U	1.2 U
6E-C09-9	1.1 U	1.1 U	1.1 U	5.6 U	2 J
6E-C09-10	1 U	1 U	1 U	5.1 U	1 U
6E-C09-11	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
6E-C09-12	1.1 U	1.1 U	1.1 U	5.7 U	1.1 U
6E-C09-13	1.8 J	1.5 J	1.8 J	4.9 U	1.8 J
6E-C09-14	0.8 U	0.8 U	0.8 U	4.1 U	0.8 U
6E-C09-14-D	1.1 U	1.1 U	1.1 U	5.7 U	1.1 U
6E-C09-15	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U
6E-C09-16	1.1 U	1.1 U	1.1 U	5.5 U	1.1 U
Limit	850000	2100	5100000	37000	3600
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.8	1.5	1.8	6 U	2
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	15	15	15	16	14
% Nondetects	94%	94%	94%	100%	88%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Toluene	Trichloroethene	Xylenes, Total
6E-C09-1	1 U	1 U	1 U
6E-C09-2	0.9 U	0.9 U	0.9 U
6E-C09-3	1 U	1 U	1 U
6E-C09-4	1.2 U	1.2 U	1.4 J
6E-C09-5	1.1 U	1.1 U	1.1 U
6E-C09-6	1 U	1 U	1 U
6E-C09-7	1 U	1 U	1 U
6E-C09-8	1.2 U	1.2 U	1.2 U
6E-C09-9	1.3 J	2.3 J	1.1 U
6E-C09-10	1 U	1 U	1 U
6E-C09-11	0.9 U	0.9 U	0.9 U
6E-C09-12	1.1 U	1.1 U	1.1 U
6E-C09-13	2.2 J	1.8 J	5.3 J
6E-C09-14	0.8 U	0.8 U	0.8 U
6E-C09-14-D	1.4 J	1.1 U	1.1 U
6E-C09-15	1.3 J	1.1 U	1.1 U
6E-C09-16	1.1 U	1.1 U	1.1 U
Limit	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%
Max. Result	2.2	2.3	5.3
Max. > Limit	No	No	No
W-statistic Prob. #	--	--	--
Test Procedure	--	--	--
Sample Size	16	16	16
Nondetects	12	14	14
% Nondetects	75%	88%	88%
Est. Mean*	--	--	--
UCL	--	--	--
Prob. > Limit	--	--	--
Pass / Fail	--	--	--

a posteriori Sample	--	--	--
Size calculation	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C10-1	0.953 -	0.617 J	0.638 J	0.617 J	12.1 -	0.0699 U	0.983 U	0.769 U
6E-C10-2	1.27 -	0.717 J	0.712 J	0.717 J	6.83 -	0.0914 U	1.27 U	0.748 U
6E-C10-3	1.37 -	0.721 J	0.69 J	0.721 J	12.8 -	0.0959 U	1.39 U	0.746 U
6E-C10-4	1.42 -	0.672 J	0.684 J	0.672 J	11.1 -	0.0905 U	1.31 U	0.749 U
6E-C10-5	0.8 -	0.639 J	0.625 J	0.639 J	2.99 U	0.0795 U	1.22 J	0.771 U
6E-C10-6	0.918 -	0.582 J	0.634 J	0.582 J	8.37 -	0.088 U	1.28 U	0.733 U
6E-C10-6-D	0.971 -	0.973 J	0.931 J	0.973 J	3.52 U	0.0928 U	1.3 U	0.74 U
6E-C10-7	0.837 -	0.661 J	0.637 J	0.661 J	6.6 -	0.0624 U	5.53 U	0.804 U
6E-C10-8	0.874 -	0.574 J	0.603 J	0.574 J	4.76 J	0.0703 U	5.39 U	0.761 U
6E-C10-9	1.06 -	0.686 J	0.685 J	0.686 J	13.2 -	0.0527 U	5.21 U	0.749 U
6E-C10-10	1.48 -	0.626 J	0.687 J	0.626 J	11.6 -	0.0531 U	5.42 U	0.731 U
6E-C10-11	1.34 -	0.852 J	0.881 J	0.852 J	7.36 -	0.0437 U	5.59 U	0.775 U
6E-C10-12	0.891 -	0.579 J	0.594 J	0.579 J	8.3 -	0.0432 U	4.91 U	0.799 U
6E-C10-13	0.987 -	0.609 J	0.577 J	0.609 J	10.4 -	0.0329 U	6.32 U	0.738 U
6E-C10-14	2.06 -	0.861 J	0.916 J	0.861 J	11.9 -	0.0432 U	5.86 U	0.756 U
6E-C10-15	1.84 -	0.878 J	0.885 J	0.878 J	9.7 -	0.0421 U	10.5 J	0.773 U
6E-C10-16	1.81 -	0.752 J	0.773 J	0.752 J	11.1 -	0.0462 U	5.61 U	0.764 U
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%
Max. Result	2.06	0 .973	0 .931	0 .973	13.2	0.0959 U	10.5	0.804 U
Max. > Limit	Yes	No	No	No	No	No	No	No
W-statistic Prob. #	29.3% (LN)	--	--	--	--	--	--	--
Test Procedure	Lognormal	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	1	16	16	16
% Nondetects	0%	0%	0%	0%	6%	100%	100%	100%
Est. Mean*	1.250	--	--	--	--	--	--	--
UCL	1.45	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	Pass	--	--	--	--	--	--	--
a posteriori Sample	6	--	--	--	--	--	--	--
Size calculation	Pass	--	--	--	--	--	--	--

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SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum	Selenium
6E-C10-1	1.19 -	0.459 U	4.78 -	108 J	0.942 -	0.199 J	9.06 J	9.84 J	0.0065 U	1.59 -	1.97 U
6E-C10-2	1.35 -	0.434 U	5.5 -	70.6 J	0.333 -	0.162 J	10.1 J	10.1 J	0.0294 U	1.69 -	1.86 U
6E-C10-3	1.74 -	0.416 U	4.31 -	48.1 J	0.258 -	0.157 J	7.46 J	8.48 J	0.0521 U	0.972 J	1.79 U
6E-C10-4	1.57 -	0.51 U	6.06 -	70.5 J	0.465 -	0.191 J	10.6 J	16.3 J	0.409 U	1.2 -	2.04 U
6E-C10-5	1.19 -	0.412 U	4.2 -	37.2 J	0.204 -	0.155 J	5.91 J	6.51 J	0.006 U	1.59 -	1.77 U
6E-C10-6	1.16 -	0.461 U	5.4 -	56.2 J	0.314 -	0.188 J	9.73 J	8.97 J	0.0178 U	1.84 -	1.98 U
6E-C10-6-D	1.09 J	0.436 U	5.15 -	60.1 J	0.318 -	0.182 J	10.1 J	8.62 J	0.0226 U	1.83 -	1.87 U
6E-C10-7	0.858 -	0.47 U	6.19 -	59.4 J	0.377 -	0.18 J	10.6 J	8.95 J	0.0236 U	1.94 -	2.02 U
6E-C10-8	0.99 -	0.402 U	5.2 -	49.1 J	0.296 -	0.201 J	8.71 J	8.67 J	0.0531 U	1.67 -	1.73 U
6E-C10-9	1.04 -	0.374 U	6.15 -	69.2 J	0.395 -	0.162 J	10.1 J	12.4 J	0.0471 U	1.27 -	1.61 U
6E-C10-10	1.47 -	0.42 U	6.05 -	72.2 J	0.688 -	0.155 J	9.16 J	10.5 J	0.0417 U	1.18 -	1.8 U
6E-C10-11	1.65 -	0.421 U	7.4 -	85.4 J	0.534 -	0.24 J	11 J	15.3 J	0.0368 U	1.29 -	1.81 U
6E-C10-12	1.46 -	0.406 U	5.47 -	68.9 J	0.329 -	0.175 J	8.71 J	8.29 J	0.0237 U	2.05 -	1.74 U
6E-C10-13	1.22 -	0.468 U	7.78 -	93.1 J	0.46 -	0.148 J	12.4 J	12.2 J	0.0113 U	1.15 J	1.91 U
6E-C10-14	1.36 -	0.446 U	6.69 -	73.8 J	0.446 -	0.167 J	11.4 J	12.7 J	0.0306 U	1.55 -	1.92 U
6E-C10-15	1.63 -	0.443 U	6.73 -	73.6 J	0.467 -	0.164 J	14.5 J	12.1 J	0.0456 U	1.11 -	1.9 U
6E-C10-16	2.01 -	0.475 U	7.14 -	80.4 J	0.494 -	0.155 J	11.3 J	13 J	0.0303 U	1.28 -	2.04 U
Limit	280	96	12	68000	1.5	82	300	400	7.5	2900	5400
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.01	0.51 U	7.78	108	0.942	0.24	14.5	16.3	0.409 U	2.05	2.04 U
Max. > Limit	No	No	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16	16	16
Nondetects	0	16	0	0	0	0	0	0	16	0	16
% Nondetects	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%
Est. Mean*	--	--	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--	--	--

SAMPLEID	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene
6E-C10-1	0.146 U	36.7 U	143 -	122 -	37.5 J	36.7 U
6E-C10-2	0.138 U	251 -	194 -	226 -	154 -	106 -
6E-C10-3	0.132 U	340 -	301 -	468 -	188 -	37.2 U
6E-C10-4	0.151 U	37.7 U	213 -	278 -	67.4 J	37.7 U
6E-C10-5	0.131 U	36.6 U	36.6 U	36.6 U	36.6 U	36.6 U
6E-C10-6	0.146 U	38.9 U	85.3 J	38.9 U	38.9 U	38.9 U
6E-C10-6-D	0.139 U	39.8 U	39.8 U	39.8 U	39.8 U	39.8 U
6E-C10-7	0.149 U	37.4 U	83.5 J	37.4 U	37.4 U	37.4 U
6E-C10-8	0.128 U	36.5 U	82.7 J	36.5 U	36.5 U	36.5 U
6E-C10-9	0.119 U	37.2 U	129 -	101 -	37.2 U	37.2 U
6E-C10-10	0.133 U	37 U	207 -	247 -	49.1 J	37 U
6E-C10-11	0.134 U	38.3 U	134 -	113 -	38.3 U	38.3 U
6E-C10-12	0.129 U	330 -	314 -	523 -	83.2 J	36.3 U
6E-C10-13	0.141 U	37.7 U	107 -	53.3 J	37.7 U	37.7 U
6E-C10-14	0.142 U	35.3 U	131 -	114 -	35.3 U	35.3 U
6E-C10-15	0.141 U	38 U	149 -	137 -	38 U	38 U
6E-C10-16	0.151 U	36 U	124 -	98.1 J	36 U	36 U
Limit	29000	20000	2000	20000	1000	200000
Units	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	0.151 U	340	314	523	188	106
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	14	1	4	10	15
% Nondetects	100%	88%	6%	25%	63%	94%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Aroclor-1254
6E-C10-1	90.5 J	36.7 U	284 -	36.7 U	150 J	214 -	10.7 J
6E-C10-2	243 -	36.9 U	576 -	167 -	216 J	549 -	13.6 -
6E-C10-3	307 -	37.2 U	728 -	205 -	537 -	557 -	8.4 J
6E-C10-4	181 -	37.7 U	380 -	67.2 J	288 J	365 -	9 J
6E-C10-5	36.6 U	36.6 U	67.7 J	36.6 U	36.6 U	36.6 U	3.7 U
6E-C10-6	38.9 U	38.9 U	70 J	38.9 U	38.9 U	38.9 U	3.9 U
6E-C10-6-D	39.8 U	39.8 U	71 J	39.8 U	39.8 U	39.8 U	4 U
6E-C10-7	37.4 U	37.4 U	75.2 J	37.4 U	37.4 U	37.4 U	3.7 U
6E-C10-8	36.5 U	36.5 U	73.7 J	36.5 U	36.5 U	36.5 U	3.7 U
6E-C10-9	59.6 J	37.2 U	175 -	37.2 U	62.7 J	124 -	12.2 J
6E-C10-10	127 -	37 U	320 -	48.2 J	159 J	263 -	8.2 J
6E-C10-11	74.9 J	38.3 U	189 -	38.3 U	87.1 J	116 -	7.6 J
6E-C10-12	281 -	36.3 U	616 -	82.1 J	384 J	565 -	20.8 -
6E-C10-13	37.7 U	37.7 U	124 -	37.7 U	47.9 J	65.3 J	8.2 J
6E-C10-14	60.4 J	35.3 U	168 -	35.3 U	71 J	124 -	5.1 J
6E-C10-15	73.4 J	38 U	168 -	38 U	62.3 J	132 -	7.6 U
6E-C10-16	52.6 J	36 U	144 -	36 U	38.3 J	91.5 J	7.6 J
Limit	2000000	2000	10000	20000	5000	10000	130
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	307	39.8 U	728	205	537	565	20.8
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	5	16	0	11	4	4	5
% Nondetects	31%	100%	0%	69%	25%	25%	31%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	Aroclor-1260	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone
6E-C10-1	4 J	1.5 U	0.9 U	0.9 U	0.9 U	4.7 U
6E-C10-2	5.6 J	1.5 U	1.1 U	1.1 U	1.1 U	5.6 U
6E-C10-3	3.8 J	1.5 U	1 U	1 U	1 U	5.1 U
6E-C10-4	3.8 J	1.5 U	1 U	1 U	1 U	5 U
6E-C10-5	3.7 U	1.5 U	1 U	1 U	1 U	4.8 U
6E-C10-6	3.9 U	1.6 U	0.9 U	0.9 U	0.9 U	4.7 U
6E-C10-6-D	4 U	1.6 U	0.9 U	0.9 U	0.9 U	4.3 U
6E-C10-7	3.7 U	1.5 U	0.9 U	0.9 U	0.9 U	4.7 U
6E-C10-8	3.7 U	1.5 U	0.9 U	0.9 U	0.9 U	4.6 U
6E-C10-9	8 J	1.5 U	1 U	1 U	1 U	4.8 U
6E-C10-10	3.9 J	1.5 U	1.1 U	1.1 U	1.1 U	5.5 U
6E-C10-11	3.8 U	1.5 U	1 U	1 U	1 U	4.8 U
6E-C10-12	6.5 J	1.5 U	0.9 U	0.9 U	0.9 U	4.3 U
6E-C10-13	3.8 U	1.5 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C10-14	3.5 U	1.4 U	1 U	1 U	1 U	4.9 U
6E-C10-15	7.6 U	1.5 U	1 U	1 U	1 U	5.1 U
6E-C10-16	3.6 U	1.4 U	0.9 U	0.9 U	0.9 U	4.7 U
Limit	130	15	4300	410	160	2500000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	8	1.6 U	1.1 U	1.1 U	1.1 U	5.6 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	9	16	16	16	16	16
% Nondetects	56%	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene
6E-C10-1	4.7 U	0.9 U	0.9 U	0.9 UJ	4.7 U	0.9 U	0.9 U
6E-C10-2	64.4 J	1.1 U	1.1 U	1.1 UJ	5.6 U	1.1 U	1.1 U
6E-C10-3	41.9 J	1 U	1 U	1 UJ	5.1 U	1 U	1 U
6E-C10-4	55.7 J	1 U	1 U	1 UJ	5 U	1 U	1 U
6E-C10-5	4.8 U	1 U	1 U	1 UJ	4.8 U	1 U	1 U
6E-C10-6	4.7 U	0.9 U	0.9 U	0.9 UJ	4.7 U	0.9 U	0.9 U
6E-C10-6-D	4.3 U	0.9 U	0.9 U	0.9 UJ	4.3 U	0.9 U	0.9 U
6E-C10-7	4.7 U	0.9 U	0.9 U	0.9 UJ	4.7 U	0.9 U	0.9 U
6E-C10-8	4.6 U	0.9 U	0.9 U	0.9 UJ	4.6 U	0.9 U	0.9 U
6E-C10-9	4.8 U	1 U	1 U	1 UJ	4.8 U	1 U	1 U
6E-C10-10	40.9 J	1.1 U	1.1 U	1.1 UJ	5.5 U	1.1 U	1.1 U
6E-C10-11	4.8 U	1 U	1 U	1 UJ	4.8 U	1 U	1 U
6E-C10-12	4.3 U	0.9 U	0.9 U	0.9 UJ	4.3 U	0.9 U	0.9 U
6E-C10-13	5.4 U	1.1 U	1.1 U	1.1 UJ	5.4 U	1.1 U	1.1 U
6E-C10-14	4.9 U	1 U	1 U	1 UJ	4.9 U	1 U	1 U
6E-C10-15	11.1 J	1 U	1 U	1 UJ	5.1 U	1 U	1 U
6E-C10-16	10.1 J	0.9 U	0.9 U	0.9 UJ	4.7 U	0.9 U	0.9 U
Limit	43000000	850000	2100	5100000	37000	3600	100000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	64.4	1.1 U	1.1 U	1.1 UJ	5.6 U	1.1 U	1.1 U
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	10	16	16	16	16	16	16
% Nondetects	63%	100%	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	Trichloroethene	Xylenes, Total
6E-C10-1	0.9 U	0.9 UJ
6E-C10-2	1.1 U	1.1 UJ
6E-C10-3	1 U	1 UJ
6E-C10-4	1 U	1 UJ
6E-C10-5	1 U	1 UJ
6E-C10-6	0.9 U	0.9 UJ
6E-C10-6-D	0.9 U	0.9 UJ
6E-C10-7	0.9 U	0.9 UJ
6E-C10-8	0.9 U	0.9 UJ
6E-C10-9	1 U	1 UJ
6E-C10-10	1.1 U	1.1 UJ
6E-C10-11	1 U	1 UJ
6E-C10-12	0.9 U	0.9 UJ
6E-C10-13	1.1 U	1.1 UJ
6E-C10-14	1 U	1 UJ
6E-C10-15	1 U	1 UJ
6E-C10-16	0.9 U	0.9 UJ
Limit	25000	920000000
Units	ug/kg	ug/kg
Conf. Level	90%	90%
Max. Result	1.1 U	1.1 UJ
Max. > Limit	No	No
W-statistic Prob. #	--	--
Test Procedure	--	--
Sample Size	16	16
Nondetects	16	16
% Nondetects	100%	100%
Est. Mean*	--	--
UCL	--	--
Prob. > Limit	--	--
Pass / Fail	--	--

a posteriori Sample	--	--
Size calculation	--	--

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Certification Unit 11

SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99
6E-C11-1	4.16 -	0.865 -	0.852 -	0.865 -	14.7 -	0.065 U	11 J	2.08 U
6E-C11-1-D	4.24 -	0.933 -	0.92 -	0.933 -	14.4 -	0.0697 U	5.61 -	2.01 U
6E-C11-2	3.24 -	0.952 -	0.955 -	0.952 -	14.5 -	0.0759 U	7.28 U	2.01 U
6E-C11-3	2.62 -	0.844 -	0.833 -	0.844 -	13.7 -	0.0519 U	7.37 U	2.1 U
6E-C11-4	1.46 -	0.931 -	0.883 -	0.931 -	10.4 -	0.0665 U	1.01 J	2.11 U
6E-C11-5	2.71 -	0.954 -	0.948 -	0.954 -	14.1 -	0.0695 U	2.93 -	2.19 U
6E-C11-6	1.26 -	0.786 -	0.771 -	0.786 -	7.65 -	0.0458 U	1.36 -	2.24 U
6E-C11-7	1.85 -	0.868 -	0.856 -	0.868 -	11.6 -	0.0451 U	5.19 U	2.12 U
6E-C11-8	1.04 -	0.826 -	0.828 -	0.826 -	9.52 -	0.0442 U	4.48 U	2.27 U
6E-C11-9	1.83 -	0.81 -	0.831 -	0.81 -	13.7 -	0.0454 U	4.15 U	2.21 U
6E-C11-10	1.76 -	0.895 -	0.909 -	0.895 -	13.1 -	0.048 U	7 J	2.12 U
6E-C11-11	1.16 -	0.795 -	0.761 -	0.795 -	7.66 -	0.0609 U	1.13 J	2.2 U
6E-C11-12	1.58 -	0.857 -	0.804 -	0.857 -	11.2 -	0.0511 U	2.96 U	2.05 U
6E-C11-13	1.64 -	0.886 -	0.901 -	0.886 -	10.5 -	0.0682 J	6.25 U	2.09 U
6E-C11-14	1.3 -	0.732 -	0.74 -	0.732 -	14.3 -	0.0496 U	1.56 -	2.2 U
6E-C11-15	0.854 -	1.01 -	1.02 -	1.01 -	7.33 -	0.109 J	6.85 U	2.1 U
6E-C11-16	1.29 -	0.846 -	0.84 -	0.846 -	11.6 -	0.0717 J	4.89 U	2.06 U
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%
Max. Result	4.24 -	1.01	1.02	1.01	14.7	0 .109	11	2.27 U
Max. > Limit	Yes	No	No	No	No	No	No	No
W-statistic Prob. #	61.6% (LN)	--	--	--	--	--	--	--
Test Procedure	Lognormal	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	13	9	16
% Nondetects	0%	0%	0%	0%	0%	81%	56%	100%
Est. Mean*	1.86	--	--	--	--	--	--	--
UCL	2.33	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	FAIL	--	--	--	--	--	--	--

a posteriori Sample	1002554	--	--	--	--	--	--	--
Size calculation	Fail	--	--	--	--	--	--	--

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SAMPLEID	Thorium-230	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum	Selenium
6E-C11-1	2.06 -	0.71 U	7.3 J	85.2 J	0.59 -	0.32 J	17.6 J	60.1 J	0.025 J	1.1 -	0.57 U
6E-C11-1-D	1.79 -	2.2 UJ	7.4 J	89.4 J	0.63 -	0.37 J	19.6 J	15 J	0.022 J	1.2 -	0.554 U
6E-C11-2	2.45 -	0.91 U	7.8 J	105 J	0.79 -	0.45 J	19.5 J	16.4 J	0.026 J	1.3 -	0.552 U
6E-C11-3	2.07 -	0.81 U	6 J	73.4 J	0.49 -	0.3 J	14.5 J	11.2 J	0.023 J	0.95 J	0.555 U
6E-C11-4	1.44 -	2.31 UJ	8.2 J	101 J	0.75 -	0.38 J	22.3 J	14.8 J	0.027 J	1.1 -	0.582 U
6E-C11-5	1.61 -	0.85 U	7.1 J	90.9 J	0.63 -	0.36 J	21.8 J	14.6 J	0.031 J	1.1 -	0.564 U
6E-C11-6	1.42 -	1.1 U	7.7 J	110 J	0.67 -	0.33 J	17.9 J	15.4 J	0.014 J	1.1 -	0.577 U
6E-C11-7	1.12 -	2.2 U	6.7 J	90.3 J	0.59 -	0.34 J	18 J	13.6 J	0.029 J	1.1 -	0.573 U
6E-C11-8	1.57 -	0.77 U	7.2 J	108 J	0.74 -	0.39 J	20.9 J	15.5 J	0.017 J	1.1 -	0.598 U
6E-C11-9	1.55 -	2.29 UJ	7 J	91 J	0.64 -	0.36 J	19.7 J	14.2 J	0.022 J	1.1 -	0.564 U
6E-C11-10	1.71 -	2.25 UJ	6.4 J	85.7 J	0.56 -	0.3 J	16.1 J	13.5 J	0.025 J	1 -	0.56 U
6E-C11-11	1.61 -	0.479 UJ	5.9 J	80.6 J	0.62 -	0.28 J	39.3 J	12.1 J	0.018 J	1.1 -	0.602 U
6E-C11-12	1.39 -	0.438 UJ	7 J	103 J	0.61 -	0.34 J	18 J	15.8 J	0.021 J	1.3 -	0.548 U
6E-C11-13	1.29 -	0.84 U	8.4 J	101 J	0.79 -	0.38 J	20.5 J	37.7 J	0.034 J	1.2 -	0.589 U
6E-C11-14	1.8 -	0.455 UJ	6.4 J	72.8 J	0.53 -	0.3 J	15.6 J	13 J	0.026 J	1.5 -	0.58 U
6E-C11-15	2.02 -	0.74 U	6.8 J	102 J	0.72 -	0.34 J	19.1 J	14.9 J	0.026 J	0.96 -	0.561 U
6E-C11-16	1.73 -	0.57 U	6.5 J	98.1 J	0.67 -	0.34 J	19 J	16.4 J	0.038 J	0.92 -	0.575 U
Limit	280	96	12	68000	1.5	82	300	400	7.5	2900	5400
Units	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.45	2.31 UJ	8.4	110	0.79	0.45	39.3	60.1	0.038	1.5	0.602 U
Max. > Limit	No	No	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16	16	16
Nondetects	0	16	0	0	0	0	0	0	0	0	16
% Nondetects	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Est. Mean*	--	--	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--	--	--

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SAMPLEID	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene
6E-C11-1	0.057 J	38.1 U	80.5 J	66.2 J	38.1 U	38.1 U
6E-C11-1-D	0.069 J	38.4 U	162 J	216 J	115 J	38.4 U
6E-C11-2	0.073 J	38.3 U	152 J	189 J	132 J	38.3 U
6E-C11-3	0.068 J	38.8 U	151 J	178 J	129 J	38.8 U
6E-C11-4	0.28 J	39.9 U	85.8 J	66.1 J	99.3 J	39.9 U
6E-C11-5	0.077 J	38.7 U	121 J	148 J	110 J	38.7 U
6E-C11-6	0.058 J	738 -	565 J	811 J	246 J	39.8 U
6E-C11-7	0.081 J	65.7 J	98.5 J	93 J	96.5 J	39 U
6E-C11-8	0.087 J	39.8 U	82.7 J	63.3 J	96.4 J	39.8 U
6E-C11-9	0.081 J	39.1 U	92.9 J	92.8 J	99.8 J	39.1 U
6E-C11-10	0.059 J	38.7 U	111 J	114 J	105 J	38.7 U
6E-C11-11	0.054 J	40.2 U	114 J	111 J	114 J	40.2 U
6E-C11-12	0.067 J	38.2 U	179 J	223 J	140 J	38.2 U
6E-C11-13	0.075 J	68.3 J	110 J	105 J	103 J	40.3 U
6E-C11-14	0.053 J	97.4 J	129 J	152 J	113 J	38.6 U
6E-C11-15	0.076 J	39.1 U	61.9 J	39.1 U	39.1 U	39.1 U
6E-C11-16	0.069 J	39.4 U	60.3 J	39.4 U	39.4 U	39.4 U
Limit	29000	20000	2000	20000	1000	200000
Units	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	0 .28	738	565	811	246	40.3 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	0	12	0	2	2	16
% Nondetects	0%	75%	0%	13%	13%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

Document 6736

SAMPLEID	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Aroclor-1254
6E-C11-1	44.8 J	38.1 U	73.3 J	100 -	38.1 U	90 J	6.3 J
6E-C11-1-D	158 J	38.4 U	365 J	120 -	263 J	242 J	7.2 J
6E-C11-2	99.6 J	38.3 U	201 J	141 -	94.9 J	172 J	9.9 J
6E-C11-3	120 J	38.8 U	286 J	146 -	141 J	205 J	9.5 J
6E-C11-4	46.7 J	39.9 U	109 J	108 -	66.9 J	97.5 J	4 U
6E-C11-5	103 J	38.7 U	220 J	122 -	108 J	192 J	5.9 J
6E-C11-6	603 J	39.8 U	2300 J	299 -	2330 J	1130 J	4.5 J
6E-C11-7	66.4 J	39 U	118 J	106 -	55 J	116 J	4.7 J
6E-C11-8	39.8 U	39.8 U	77.7 J	108 -	39.8 U	88.3 J	13.8 J
6E-C11-9	59.6 J	39.1 U	135 J	111 -	57.7 J	129 J	8.7 J
6E-C11-10	71.6 J	38.7 U	124 J	116 -	61.3 J	115 J	5.7 J
6E-C11-11	67.6 J	40.2 U	119 J	122 -	75.6 J	144 J	4 U
6E-C11-12	158 J	38.2 U	229 J	150 -	112 J	251 J	11.8 J
6E-C11-13	63.2 J	40.3 U	114 J	118 -	51 J	127 J	5 J
6E-C11-14	96.2 J	38.6 U	136 J	38.6 U	102 J	179 J	18.1 -
6E-C11-15	39.1 U	39.1 U	39.1 U	39.1 U	39.1 U	52.9 J	3.9 U
6E-C11-16	39.4 U	39.4 U	39.4 U	39.4 U	39.4 U	52.5 J	3.9 U
Limit	2000000	2000	10000	20000	5000	10000	130
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	603	40.3 U	2300	299	2330	1130	18.1
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	3	16	2	3	3	0	4
% Nondetects	19%	100%	13%	19%	19%	0%	25%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	Aroclor-1260	Dieldrin	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone
6E-C11-1	3.8 U	1.5 UJ	1.3 U	1.3 U	1.3 U	6.3 U
6E-C11-1-D	3.8 U	1.5 UJ	1.1 U	1.1 U	1.1 U	5.6 U
6E-C11-2	4.4 J	1.5 UJ	0.9 U	0.9 U	0.9 U	4.7 U
6E-C11-3	3.9 U	1.6 UJ	1.3 U	3.2 J	1.3 U	6.3 U
6E-C11-4	4 U	1.6 UJ	0.9 U	0.9 U	0.9 U	4.6 U
6E-C11-5	3.9 U	1.6 UJ	1.2 U	1.2 U	1.2 U	6.2 U
6E-C11-6	4 U	1.6 UJ	1 U	1 U	1 U	4.9 U
6E-C11-7	3.9 U	1.6 UJ	1.1 U	1.1 U	1.1 U	5.7 U
6E-C11-8	4.1 J	1.6 UJ	1.1 U	1.1 U	1.1 U	5.6 U
6E-C11-9	3.9 U	1.6 UJ	0.9 U	0.9 U	0.9 U	4.3 U
6E-C11-10	3.9 U	1.6 UJ	1.1 U	1.1 U	1.1 U	5.4 U
6E-C11-11	4 U	1.6 UJ	1.3 U	1.3 U	1.3 U	6.5 U
6E-C11-12	3.8 U	1.5 UJ	1 U	1 U	1 U	4.9 U
6E-C11-13	4 U	1.6 UJ	1 U	1 U	1 U	5 U
6E-C11-14	6.1 J	1.6 UJ	1.1 U	1.1 U	1.1 U	5.3 U
6E-C11-15	3.9 U	1.6 UJ	2.2 U	2.2 U	2.2 U	10.8 U
6E-C11-16	3.9 U	1.6 UJ	1.1 U	1.1 U	1.1 U	5.4 U
Limit	130	15	4300	410	160	2500000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	6.1	1.6 UJ	2.2 U	3.2	2.2 U	10.8 U
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	13	16	16	15	16	16
% Nondetects	81%	100%	100%	94%	100%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Acetone	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene
6E-C11-1	6.3 U	1.3 U	1.3 U	1.3 U	6.3 U	1.3 U	1.3 U
6E-C11-1-D	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U	1.1 U	1.1 U
6E-C11-2	4.7 U	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U	0.9 U
6E-C11-3	6.3 U	1.3 U	1.3 U	1.3 U	6.3 U	1.3 U	1.3 J
6E-C11-4	4.6 U	0.9 U	0.9 U	0.9 U	4.6 U	0.9 U	0.9 U
6E-C11-5	6.2 U	1.2 U	1.2 U	1.2 U	6.2 U	1.2 U	1.2 U
6E-C11-6	4.9 U	1 U	1 U	1 U	4.9 U	1 U	1 U
6E-C11-7	5.7 U	1.1 U	1.1 U	1.1 U	5.7 U	1.1 U	1.1 U
6E-C11-8	5.6 U	1.1 U	1.1 U	1.1 U	5.6 U	1.1 U	1.1 U
6E-C11-9	4.3 U	0.9 U	0.9 U	0.9 U	4.3 U	0.9 U	0.9 U
6E-C11-10	50.9 J	1.1 U	1.1 U	1.1 U	5.4 U	1.1 U	1.4 J
6E-C11-11	6.5 U	1.3 U	1.3 U	1.3 U	6.5 U	1.3 U	1.7 J
6E-C11-12	4.9 U	1 U	1 U	1 U	4.9 U	1 U	1 U
6E-C11-13	5 U	1 U	1 U	1 U	5 U	1 U	1 U
6E-C11-14	5.3 U	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U	1.3 J
6E-C11-15	10.8 U	2.2 U	2.2 U	2.2 U	10.8 U	2.2 U	2.2 U
6E-C11-16	20.7 J	1.1 U	1.1 U	1.1 U	5.4 U	1.1 U	1.6 J
Limit	43000000	850000	2100	5100000	37000	3600	100000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	50.9	2.2 U	2.2 U	2.2 U	10.8 U	2.2 U	1.7
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	14	16	16	16	16	16	11
% Nondetects	88%	100%	100%	100%	100%	100%	69%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	Trichloroethene	Xylenes, Total
6E-C11-1	1.3 U	1.3 U
6E-C11-1-D	1.1 U	1.1 U
6E-C11-2	0.9 U	0.9 U
6E-C11-3	1.3 U	1.3 U
6E-C11-4	0.9 U	0.9 U
6E-C11-5	1.2 U	1.2 U
6E-C11-6	1 U	1 U
6E-C11-7	1.1 U	1.1 U
6E-C11-8	1.1 U	1.1 U
6E-C11-9	0.9 U	0.9 U
6E-C11-10	1.1 U	1.1 U
6E-C11-11	1.3 U	1.3 U
6E-C11-12	1 U	1 U
6E-C11-13	1 U	1 U
6E-C11-14	1.1 U	1.1 J
6E-C11-15	2.2 U	2.2 U
6E-C11-16	1.1 U	1.1 U
Limit	25000	920000000
Units	ug/kg	ug/kg
Conf. Level	90%	90%
Max. Result	2.2 U	1.1
Max. > Limit	No	No
W-statistic Prob. #	--	--
Test Procedure	--	--
Sample Size	16	16
Nondetects	16	15
% Nondetects	100%	94%
Est. Mean*	--	--
UCL	--	--
Prob. > Limit	--	--
Pass / Fail	--	--

a posteriori Sample	--	--
Size calculation	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99	Thorium-230
6E-C12-1	0.805 -	0.757 -	0.786 -	0.757 -	19.4 -	0.281 -	1.13 U	0.797 U	1.28 -
6E-C12-2	1.07 J	0.757 J	0.778 J	0.757 J	9.71 -	0.0429 U	7.84 U	0.778 U	1.11 -
6E-C12-3	0.734 -	0.456 -	0.585 -	0.456 -	9.58 -	0.0675 U	0.971 U	0.931 U	1.04 -
6E-C12-4	1.12 -	0.95 -	0.947 -	0.95 -	6.86 -	0.116 J	7.55 U	0.824 U	1.34 -
6E-C12-5	1.22 -	0.672 -	0.648 -	0.672 -	7.25 -	0.0371 U	8.44 U	0.863 U	1.34 -
6E-C12-6	0.704 -	0.429 -	0.382 -	0.429 -	2.62 U	0.0687 U	0.915 U	0.831 U	1.07 -
6E-C12-7	0.995 J	0.791 J	0.854 J	0.791 J	6.34 -	0.0541 U	0.837 J	0.814 U	1.12 -
6E-C12-7-D	0.842 J	0.565 J	0.55 J	0.565 J	4.58 -	0.03 U	7.2 U	0.78 U	1.08 -
6E-C12-8	1.11 -	1.1 -	1.1 -	1.1 -	19.4 -	0.0863 U	1.29 U	0.864 U	1.99 -
6E-C12-9	1.79 -	0.699 -	0.662 -	0.699 -	7.51 -	0.0598 U	10.9 J	0.867 U	1.37 -
6E-C12-10	1.17 -	1.03 -	1.02 -	1.03 -	6.61 J	0.0993 J	6.94 U	0.88 U	1.76 -
6E-C12-11	1.08 -	1.06 -	1.07 -	1.06 -	36.1 -	0.393 -	7.43 U	0.884 U	1.93 -
6E-C12-12	1.25 -	1.11 -	1.15 -	1.11 -	26.7 -	0.155 -	7.92 J	1.23 -	1.42 -
6E-C12-13	0.954 -	0.738 -	0.72 -	0.738 -	5.27 -	0.0411 U	7.52 U	0.84 U	1.45 -
6E-C12-14	1.03 -	0.8 -	0.772 -	0.8 -	3.14 U	0.053 U	6.18 U	0.885 U	1.04 -
6E-C12-15	1.05 -	1.09 -	1.07 -	1.09 -	29.4 -	0.354 -	7.51 U	0.928 U	1.74 -
6E-C12-16	0.776 J	0.573 J	0.542 J	0.573 J	5.34 -	0.036 U	6.54 U	0.88 U	1.17 -
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30	280
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	1.79	1.11	1.15	1.11	36.1	0 .393	10.9	1.23	1.99
Max. > Limit	Yes	No	No	No	No	No	No	No	No
W-statistic Prob. #	35.4% (LN)	--	--	--	--	--	--	--	--
Test Procedure	Lognormal	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	1	10	13	15	0
% Nondetects	0%	0%	0%	0%	6%	63%	81%	94%	0%
Est. Mean*	1.054	--	--	--	--	--	--	--	--
UCL	1.18	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	Pass	--	--	--	--	--	--	--	--

a posteriori Sample	3	--	--	--	--	--	--	--	--
Size calculation	Pass	--	--	--	--	--	--	--	--

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SAMPLEID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Lead	Mercury	Molybdenum	Selenium	Silver
6E-C12-1	0.481 U	5.81 J	63 J	0.519 -	0.235 J	13.7 J	25.4 J	0.0083 U	1.56 -	2.06 U	0.153 U
6E-C12-2	0.412 U	6.09 J	65.2 J	0.55 J	0.143 J	13 J	11.1 J	0.0153 U	0.999 J	1.77 U	0.131 U
6E-C12-3	0.471 U	4.58 J	37.3 J	0.337 -	0.159 J	9.71 J	6.9 J	0.0078 U	1.67 -	2.02 U	0.15 U
6E-C12-4	0.49 U	11.6 J	168 J	0.959 -	0.187 J	23.9 J	27.6 J	0.0448 U	1.93 -	2.1 U	0.156 U
6E-C12-5	0.41 U	5.94 J	79.7 J	0.553 -	0.172 J	14.7 J	12.2 J	0.0215 U	1.27 -	1.76 U	0.13 U
6E-C12-6	0.378 U	5.67 J	29.9 J	0.336 -	0.169 J	10.7 J	7.54 J	0.0063 U	3.4 -	1.62 U	0.12 U
6E-C12-7	0.435 U	5.88 J	62.7 J	0.429 J	0.13 J	15.3 J	8.55 J	0.0117 U	1.21 -	1.87 U	0.138 U
6E-C12-7-D	0.399 U	5.52 J	47.8 J	0.367 J	0.114 J	11.7 J	7.6 J	0.0099 U	1.05 J	1.71 U	0.127 U
6E-C12-8	0.428 J	8.57 J	113 J	0.849 -	0.244 J	21.5 J	16.6 J	0.0337 U	0.968 -	1.61 U	0.119 U
6E-C12-9	0.376 U	3.81 J	66 J	0.295 -	0.121 J	9.42 J	7.73 J	0.0262 U	1.07 -	1.61 U	0.119 U
6E-C12-10	0.514 U	6.82 J	89.3 J	0.673 -	0.162 J	17.7 J	13.6 J	0.0215 U	1.15 J	2.21 U	0.163 U
6E-C12-11	0.498 U	11.3 J	118 J	0.913 -	0.322 J	23.3 J	19.2 J	0.0335 U	1.19 J	2.14 U	0.158 U
6E-C12-12	0.466 U	6.32 J	76.5 J	0.568 -	0.149 J	14.7 J	13.3 J	0.0212 U	0.995 J	2 U	0.167 J
6E-C12-13	0.61 U	14.5 J	86.2 J	0.619 -	0.2 J	17.2 J	26.7 J	0.0129 U	1.74 -	2.1 U	0.155 U
6E-C12-14	0.385 U	6.3 J	78.7 J	0.576 -	0.142 J	14.9 J	9.18 J	0.0161 U	1.23 -	1.65 U	0.122 U
6E-C12-15	0.491 U	7.16 J	112 J	0.803 -	0.272 J	18.8 J	21.7 J	0.0345 U	0.866 J	2.11 U	0.156 U
6E-C12-16	0.465 U	9.11 J	80.1 J	0.645 J	0.122 J	17.8 J	15 J	0.0165 U	1.33 -	2 U	0.148 U
Limit	96	12	68000	1.5	82	300	400	7.5	2900	5400	29000
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	0 .428	14.5	168	0 .959	0 .322	23.9	27.6	0.0448 U	3.4	2.21 U	0 .167
Max. > Limit	No	Yes	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	42.9% (LN)	--	--	--	--	--	--	--	--	--
Test Procedure	--	Lognormal	--	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16	16	16
Nondetects	16	0	0	0	0	0	0	16	0	16	15
% Nondetects	100%	0%	0%	0%	0%	0%	0%	100%	0%	100%	94%
Est. Mean*	--	7.47	--	--	--	--	--	--	--	--	--
UCL	--	8.51	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	pass	--	--	--	--	--	--	--	--	--

a posteriori Sample	--	3	--	--	--	--	--	--	--	--	--
Size calculation	--	Pass	--	--	--	--	--	--	--	--	--

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SAMPLEID	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene
6E-C12-1	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U	38.9 U
6E-C12-2	37.8 U	114 -	177 -	83.7 J	37.8 U	58.4 J
6E-C12-3	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U
6E-C12-4	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U
6E-C12-5	38.7 U	38.7 U	38.7 U	38.7 U	38.7 U	38.7 U
6E-C12-6	37.8 U	37.8 U	37.8 U	37.8 U	37.8 U	37.8 U
6E-C12-7	36.4 U	36.4 U	36.4 U	36.4 U	36.4 U	36.4 U
6E-C12-7-D	36.3 U	36.3 U	36.3 U	36.3 U	36.3 U	36.3 U
6E-C12-8	39.3 U	39.3 U	39.3 U	39.3 U	39.3 U	39.3 U
6E-C12-9	38.6 U	38.6 U	39.2 J	38.6 U	38.6 U	38.6 U
6E-C12-10	42.8 U	42.8 U	42.8 U	42.8 U	42.8 U	42.8 U
6E-C12-11	39.9 U	39.9 U	39.9 U	39.9 U	39.9 U	39.9 U
6E-C12-12	38.5 U	38.5 U	38.5 U	38.5 U	38.5 U	38.5 U
6E-C12-13	39.8 U	39.8 U	39.8 U	39.8 U	39.8 U	39.8 U
6E-C12-14	39.6 U	39.6 U	39.6 U	39.6 U	39.6 U	39.6 U
6E-C12-15	44.4 U	151 -	44.4 U	129 -	334 -	214 -
6E-C12-16	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U
Limit	20000	2000	20000	1000	200000	2000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	44.4 U	151	177	129	334	214
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	14	14	14	15	14
% Nondetects	100%	88%	88%	88%	94%	88%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin
6E-C12-1	38.9 U	43.7 J	38.9 U	38.9 U	38.9 U	3.9 U	3.9 U	1.6 U
6E-C12-2	37.8 U	74.2 J	75.9 J	37.8 U	75.4 J	3.8 U	3.8 U	1.5 U
6E-C12-3	38.1 U	38.1 U	38.1 U	38.1 U	38.1 U	3.8 U	3.8 U	1.5 U
6E-C12-4	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U	3.8 U	3.8 U	1.5 U
6E-C12-5	38.7 U	38.7 U	38.7 U	38.7 U	38.7 U	4.7 J	3.9 U	1.6 U
6E-C12-6	37.8 U	37.8 U	37.8 U	37.8 U	37.8 U	3.8 U	3.8 U	1.5 U
6E-C12-7	36.4 U	36.4 U	36.4 U	36.4 U	36.4 U	3.6 U	3.6 U	1.5 U
6E-C12-7-D	36.3 U	36.3 U	36.3 U	36.3 U	36.3 U	3.6 U	3.9 J	1.5 U
6E-C12-8	39.3 U	40.5 J	39.3 U	39.3 U	39.3 U	21.5 -	14.9 -	1.6 U
6E-C12-9	38.6 U	100 -	38.6 U	49.9 J	71.1 J	14.1 -	13.2 -	1.5 U
6E-C12-10	42.8 U	58.1 J	42.8 U	42.8 U	42.8 U	4.3 U	4.3 U	1.7 U
6E-C12-11	39.9 U	39.9 U	39.9 U	39.9 U	39.9 U	4 U	4 U	1.6 U
6E-C12-12	38.5 U	38.5 U	38.5 U	38.5 U	38.5 U	3.9 U	3.9 U	1.5 U
6E-C12-13	39.8 U	39.8 U	39.8 U	39.8 U	39.8 U	4 U	4 U	1.6 U
6E-C12-14	39.6 U	39.6 U	39.6 U	39.6 U	39.6 U	11.8 J	4 U	1.6 U
6E-C12-15	44.4 U	412 -	112 -	115 J	278 -	4.4 U	4.4 U	1.8 U
6E-C12-16	38.2 U	38.2 U	38.2 U	38.2 U	38.2 U	4.9 J	3.8 U	1.5 U
Limit	2000	10000	20000	5000	10000	130	130	15
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	44.4 U	412	112	115	278	21.5	14.9	1.8 U
Max. > Limit	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16
Nondetects	16	10	14	14	13	11	13	16
% Nondetects	100%	63%	88%	88%	81%	69%	81%	100%
Est. Mean*	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--

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SAMPLEID	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone	Acetone	Benzene	Carbon Tetrachloride
6E-C12-1	1.1 U	1.1 U	1.1 U	5.5 U	5.5 U	1.1 U	1.1 U
6E-C12-2	1.2 U	1.2 U	1.2 U	5.8 U	5.8 U	1.2 U	1.2 U
6E-C12-3	0.8 U	0.8 U	0.8 U	4.2 U	4.2 U	0.8 U	0.8 U
6E-C12-4	1 U	1 U	1 U	4.9 U	4.9 U	1 U	1 U
6E-C12-5	0.9 U	0.9 U	0.9 U	4.3 U	4.3 U	0.9 U	0.9 U
6E-C12-6	0.9 U	0.9 U	0.9 U	4.5 U	4.5 U	0.9 U	0.9 U
6E-C12-7	1 U	1 U	1 U	4.8 U	4.8 U	1 U	1 U
6E-C12-7-D	1 U	1 U	1 U	4.8 U	4.8 U	1 U	1 U
6E-C12-8	1 U	1 U	1 U	4.8 U	4.8 U	1 U	1 U
6E-C12-9	1 U	1 U	1 U	4.9 U	4.9 U	1 U	1 U
6E-C12-10	1.1 U	1.1 U	1.1 U	5.3 U	5.3 U	1.1 U	1.1 U
6E-C12-11	1.1 U	1.1 U	1.1 U	5.7 U	5.7 U	1.1 U	1.1 U
6E-C12-12	0.9 U	0.9 U	0.9 U	4.6 U	4.6 U	0.9 U	0.9 U
6E-C12-13	0.9 U	0.9 U	0.9 U	4.3 U	4.3 U	0.9 U	0.9 U
6E-C12-14	0.9 U	0.9 U	0.9 U	4.6 U	4.6 U	0.9 U	0.9 U
6E-C12-15	1.2 U	1.2 U	1.2 U	5.9 U	5.9 U	1.2 U	1.2 U
6E-C12-16	1 U	1 U	1 U	5.1 U	5.1 U	1 U	1 U
Limit	4300	410	160	2500000	43000000	850000	2100
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%
Max. Result	1.2 U	1.2 U	1.2 U	5.9 U	5.9 U	1.2 U	1.2 U
Max. > Limit	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16
Nondetects	15	16	16	16	16	16	16
% Nondetects	94%	100%	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--

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SAMPLEID	Ethylbenzene	Methylene chloride	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C12-1	1.1 U	5.5 U	1.1 U	1.1 U	1.1 U	1.1 U
6E-C12-2	1.2 U	5.8 U	1.2 U	1.2 U	1.2 U	1.2 UJ
6E-C12-3	0.8 U	4.2 U	0.8 U	0.8 U	0.8 U	0.8 U
6E-C12-4	1 U	4.9 U	1 U	1 U	1 U	1 U
6E-C12-5	0.9 U	4.3 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C12-6	0.9 U	4.5 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C12-7	1 U	4.8 U	1 U	1 U	1 U	1 UJ
6E-C12-7-D	1 U	4.8 U	1 U	1 U	1 U	1 UJ
6E-C12-8	1 U	4.8 U	1 U	1 U	1 U	1 U
6E-C12-9	1 U	4.9 U	1 U	1 U	1 U	1 U
6E-C12-10	1.1 U	5.3 U	1.1 U	1.1 U	1.1 U	1.1 U
6E-C12-11	1.1 U	5.7 U	1.1 U	1.1 U	1.1 U	1.1 U
6E-C12-12	0.9 U	4.6 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C12-13	0.9 U	4.3 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C12-14	0.9 U	4.6 U	0.9 U	0.9 U	0.9 U	0.9 U
6E-C12-15	1.2 U	5.9 U	1.2 U	1.2 U	1.2 U	1.2 U
6E-C12-16	1 U	5.1 U	1 U	1 U	1 U	1 UJ
Limit	5100000	37000	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%
Max. Result	1.2 U	5.9 U	1.2 U	1.2 U	1.2 U	1.2 UJ
Max. > Limit	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16
Nondetects	16	16	16	16	16	16
% Nondetects	100%	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--
UCL	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Barium	Lead	Mercury	Benzene	Ethylbenzene
6E-C13-1	1.05 J	0.885 -	0.904 -	0.885 -	9.45 -	68.5 J	8.87 J	0.0134 J	1 U	1 U
6E-C13-1-D	0.867 J	0.83 -	0.833 -	0.83 -	4.33 U	44.3 J	5.9 J	0.0122 J	1 U	1 U
6E-C13-2	0.902 J	0.5 -	0.47 -	0.5 -	5.97 J	53.5 J	8.3 J	0.0227 J	1 U	1 U
6E-C13-3	0.93 J	0.934 -	0.914 -	0.934 -	4.39 U	48.9 J	9.25 J	0.0179 J	1.1 U	1.1 U
6E-C13-4	0.948 J	0.833 -	0.827 -	0.833 -	4.5 U	67.7 J	10.6 J	0.0227 J	1 UJ	1 U
6E-C13-5	0.888 J	0.803 -	0.767 -	0.803 -	4.48 U	37.8 J	8.58 J	0.0168 J	0.9 U	0.9 U
6E-C13-6	0.916 J	0.926 -	0.953 -	0.926 -	4.17 U	74.7 J	10.7 J	0.0168 J	1 U	1 U
6E-C13-7	1.27 J	0.907 -	0.88 -	0.907 -	5.14 J	62.1 J	8.15 J	0.0438 J	1.1 U	1.1 U
6E-C13-8	0.962 J	1.07 -	1.04 -	1.07 -	4.25 U	107 J	10.1 J	0.0139 J	1.2 U	1.2 U
Limit	1.7	1.8	1.7	1.5	82	68000	400	7.5	850000	5100000
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%	90%
Max. Result	1.27	1.07	1.04	1.07	9.45	107	10.7	0 .0438	1.2 U	1.2 U
Max. > Limit	No	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--	--
Sample Size	8	8	8	8	8	8	8	8	8	8
Nondetects	0	0	0	0	6	0	0	0	8	8
% Nondetects	0%	0%	0%	0%	75%	0%	0%	0%	100%	100%
Est. Mean*	--	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--	--

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SAMPLEID	Toluene	Xylenes, Total
6E-C13-1	1 U	1 U
6E-C13-1-D	1 U	1 U
6E-C13-2	1.2 J	1 U
6E-C13-3	1.1 U	1.1 U
6E-C13-4	1.5 J	1 U
6E-C13-5	0.9 U	0.9 U
6E-C13-6	1 U	1 U
6E-C13-7	1.1 U	1.1 U
6E-C13-8	1.2 U	1.2 U
Limit	100000000	920000000
Units	mg/kg	mg/kg
Conf. Level	90%	90%
Max. Result	1.5	1.2 U
Max. > Limit	No	No
W-statistic Prob. #	- -	- -
Test Procedure	- -	- -
Sample Size	8	8
Nondetects		
% Nondetects	0%	0%
Est. Mean*	- -	- -
UCL	- -	- -
Prob. > Limit	- -	- -
Pass / Fail	- -	- -

a posteriori Sample	- -	- -
Size calculation	- -	- -

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury
6E-C14-1	0.657 -	0.529 -	0.555 -	0.529 -	4.2 -	4.97 -	62.6 J	0.159 J	11 J	8.65 J	0.0159 J
6E-C14-2	0.772 -	0.733 -	0.743 -	0.733 -	2.1 U	3.95 -	54.7 J	0.147 J	11.3 J	8.26 J	0.0179 J
6E-C14-3	0.915 -	0.926 -	0.935 -	0.926 -	3.33 J	3.93 -	64.6 J	0.167 J	12.5 J	9.72 J	0.0212 J
6E-C14-4	0.82 -	0.787 -	0.721 -	0.787 -	2.73 U	5.47 -	67.5 J	0.155 J	12.1 J	8.81 J	0.0133 J
6E-C14-5	0.822 -	0.754 -	0.813 -	0.754 -	2.57 U	5.44 -	66.2 J	0.203 J	12.4 J	10.2 J	0.0211 J
6E-C14-6	0.712 -	0.639 -	0.658 -	0.639 -	3.97 J	4.19 -	51 J	0.148 J	13.3 J	9.33 J	0.0148 J
6E-C14-6-D	0.713 -	0.649 -	0.65 -	0.649 -	2.37 U	3.54 -	45.8 J	0.101 J	12.4 J	7.39 J	0.0139 J
6E-C14-7	0.925 -	0.657 -	0.64 -	0.657 -	2.44 U	4.9 -	62.4 J	0.172 J	11.1 J	9.16 J	0.0181 J
6E-C14-8	0.89 -	0.772 -	0.768 -	0.772 -	3.28 J	4.35 -	58.1 J	0.112 J	12.1 J	8.53 J	0.0165 J
Limit	1.7	1.8	1.7	1.5	82	12	68000	82	300	400	7.5
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%	90%	90%
Max. Result	0 .925	0 .926	0 .935	0 .926	4.2	5.47	67.5	0 .203	13.3	10.2	0 .0212
Max. > Limit	No	No	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--	--	--
Sample Size	8	8	8	8	8	8	8	8	8	8	8
Nondetects	0	0	0	0	4	0	0	0	0	0	0
% Nondetects	0%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--	--	--
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Size calculation	--	--	--	--	--	--	--	--	--	--	--

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Certification Unit 14

SAMPLEID	Selenium	Silver	Aroclor-1254	Aroclor-1260	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	2-Butanone
6E-C14-1	1.78 U	0.132 U	3.8 U	3.8 U	0.9 U	0.9 U	0.9 U	4.6 U
6E-C14-2	2.06 U	0.152 U	3.9 U	3.9 U	0.9 U	0.9 U	2.7 -	4.5 U
6E-C14-3	1.88 U	0.139 U	3.7 U	3.7 U	1.2 U	2.3 J	7.4 -	5.9 U
6E-C14-4	1.52 U	0.112 U	3.8 U	3.8 U	0.9 U	0.9 U	0.9 U	4.7 U
6E-C14-5	1.98 U	0.146 U	4.9 J	4 U	1.1 U	1.1 U	1.1 U	5.3 U
6E-C14-6	1.66 U	0.123 U	3.8 U	3.8 U	1.2 U	1.2 U	1.2 U	6.1 U
6E-C14-6-D	1.72 U	0.127 U	3.8 U	3.8 U	1.1 U	1.1 U	1.1 U	5.4 U
6E-C14-7	1.77 U	0.131 U	3.8 U	3.8 U	1.2 U	1.2 U	1.2 U	5.8 U
6E-C14-8	1.71 U	0.127 U	3.8 U	3.8 U	1 U	1 U	1 U	5 U
Limit	5400	29000	130	130	4300	410	160	11900
Units	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	2.06 U	0.152 U	4.9	4 U	1.2 U	2.3	7.4	6.1 U
Max. > Limit	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--
Sample Size	8	8	8	8	8	8	8	8
Nondetects	8	8	7	8	8	7	6	8
% Nondetects	100%	100%	88%	100%	100%	88%	75%	100%
Est. Mean*	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--

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SAMPLEID	4-Methyl-2-pentanone	Acetone	Benzene	Carbon Tetrachloride	Cyclohexanone	Ethyl Ether	Ethylbenzene	Methylene chloride
6E-C14-1	4.6 U	4.6 U	0.9 U	0.9 U	46 U	0.9 U	0.9 U	4.6 U
6E-C14-2	4.5 U	4.6 J	0.9 U	0.9 U	45.4 U	0.9 U	0.9 U	4.5 U
6E-C14-3	5.9 U	5.9 U	1.2 U	1.2 U	58.5 U	1.2 U	1.2 U	5.9 U
6E-C14-4	4.7 U	4.7 U	0.9 U	0.9 U	47.4 U	0.9 U	0.9 U	4.7 U
6E-C14-5	5.3 U	8.6 J	1.1 U	1.1 U	53.1 U	1.1 U	1.1 U	5.3 U
6E-C14-6	6.1 U	6.9 J	1.2 U	1.2 U	60.9 U	1.2 U	1.2 U	6.1 U
6E-C14-6-D	5.4 U	5.4 U	1.1 U	1.1 U	54.2 U	1.1 U	1.1 U	5.4 U
6E-C14-7	5.8 U	9 J	1.2 U	1.2 U	57.5 U	1.2 U	1.2 U	5.8 U
6E-C14-8	5 U	5 U	1 U	1 U	49.6 U	1 U	1 U	5 U
Limit	2500000	43000000	850000	2100	100000000	1800000	5100000	37000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%	90%	90%	90%
Max. Result	6.1 U	9	1.2 U	1.2 U	60.9 U	1.2 U	1.2 U	6.1 U
Max. > Limit	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--
Sample Size	8	8	8	8	8	8	8	8
Nondetects	8	4	8	8	8	8	8	8
% Nondetects	100%	50%	100%	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--

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SAMPLEID	Tetrachloroethene	Toluene	Trichloroethene	Xylenes, Total
6E-C14-1	0.9 U	1.9 J	0.9 U	0.9 U
6E-C14-2	0.9 U	0.9 U	0.9 U	0.9 U
6E-C14-3	1.2 U	1.2 U	1.2 U	1.2 U
6E-C14-4	0.9 U	1.7 J	0.9 U	0.9 U
6E-C14-5	1.1 U	2.2 J	1.1 U	1.1 U
6E-C14-6	1.2 U	1.5 J	1.2 U	1.2 U
6E-C14-6-D	1.1 U	1.3 J	1.1 U	1.1 U
6E-C14-7	1.2 U	1.9 J	1.2 U	1.2 U
6E-C14-8	1 U	1 U	1 U	1 U
Limit	3600	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%
Max. Result	1.2 U	2.2	1.2 U	1.2 U
Max. > Limit	No	No	No	No
W-statistic Prob. #	--	--	--	--
Test Procedure	--	--	--	--
Sample Size	8	8	8	8
Nondetects	8	3	8	8
% Nondetects	100%	38%	100%	100%
Est. Mean*	--	--	--	--
UCL	--	--	--	--
Prob. > Limit	--	--	--	--
Pass / Fail	--	--	--	--

a posteriori Sample	--	--	--	--
Size calculation	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Arsenic	Selenium	2-Butanone	Acetone	Benzene
6E-C15-1	0.82 -	0.925 -	0.915 -	0.925 -	3.1 U	4.22 -	1.86 U	6 U	25.6 J	1.2 U
6E-C15-2	1.12 -	0.788 -	0.754 -	0.788 -	6.54 J	5.52 -	1.81 U	5.1 U	18.1 J	1 U
6E-C15-3	0.914 -	0.845 -	0.883 -	0.845 -	4.34 U	3.78 -	1.83 U	8.6 J	12.5 J	0.9 U
6E-C15-4	1.02 -	0.467 -	0.458 -	0.467 -	19.3 J	4.4 -	2.03 U	4.8 U	23.5 J	1 U
6E-C15-5	0.971 -	0.778 -	0.837 -	0.778 -	6.99 J	3.26 -	1.81 U	5.1 U	12.4 J	1 U
6E-C15-6	0.854 -	0.658 -	0.667 -	0.658 -	4.28 U	6.15 -	2.02 U	4.2 U	6.1 J	0.8 U
6E-C15-7	1.01 -	0.878 -	0.881 -	0.878 -	4.17 U	3.23 -	1.81 U	5.2 U	20 J	1 U
6E-C15-7-D	1 -	0.789 -	0.762 -	0.789 -	5.58 J	2.85 -	1.67 U	5.6 U	14.2 J	1.1 U
6E-C15-8	0.962 -	0.825 -	0.816 -	0.825 -	5.14 J	4.21 -	2.1 U	4.9 U	18.9 J	1 U
Limit	1.7	1.8	1.7	1.5	82	12	5400	11900	43000000	850000
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg	ug/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%	90%
Max. Result	1.12	0 .925	0 .915	0 .925	19.3	6.15	2.1 U	8.6	25.6	1.2 U
Max. > Limit	No	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--	--
Sample Size	8	8	8	8	8	8	8	8	8	8
Nondetects	0	0	0	0	3	0	8	7	0	8
% Nondetects	0%	0%	0%	0%	38%	0%	100%	88%	0%	100%
Est. Mean*	--	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--	--
a posteriori Sample	--	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--	--

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SAMPLEID	Ethylbenzene	Toluene	Xylenes, Total
6E-C15-1	1.2 UJ	2 J	1.2 UJ
6E-C15-2	1 U	1.6 J	1 U
6E-C15-3	0.9 UJ	16.6 J	0.9 UJ
6E-C15-4	1 U	1 U	1 U
6E-C15-5	1 U	1.6 J	1 U
6E-C15-6	0.8 U	1 J	0.8 U
6E-C15-7	1 U	1 U	1 U
6E-C15-7-D	1.1 U	1.5 J	1.1 U
6E-C15-8	1 U	1.8 J	1 U
Limit	5100000	100000000	920000000
Units	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%
Max. Result	1.2 UJ	16.6	1.2 UJ
Max. > Limit	No	No	No
W-statistic Prob. #	--	--	--
Test Procedure	--	--	--
Sample Size	8	8	8
Nondetects	8	1	8
% Nondetects	100%	13%	100%
Est. Mean*	--	--	--
UCL	--	--	--
Prob. > Limit	--	--	--
Pass / Fail	--	--	--

a posteriori Sample	--	--	--
Size calculation	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Barium	Lead	Acetone	Methylene chloride
6E-C16-1	0.978 -	0.658 J	0.672 -	0.658 J	3.63 U	71 J	9.96 J	4.7 U	4.7 U
6E-C16-2	0.833 -	0.833 J	0.851 -	0.833 J	3.73 U	36.9 J	9.51 J	9.9 J	5.4 U
6E-C16-3	0.956 -	0.77 J	0.805 -	0.77 J	5.82 J	57.5 J	9.37 J	10.2 J	5.3 U
6E-C16-4	0.931 -	0.823 J	0.802 -	0.823 J	7.04 J	113 J	12.7 J	18.4 J	5.3 U
6E-C16-4-D	1.05 -	0.641 J	0.636 -	0.641 J	3.19 U	97.5 J	11.7 J	82.8 J	6.2 U
6E-C16-5	0.819 -	0.601 J	0.55 -	0.601 J	2.58 U	98.1 J	9.93 J	4.9 J	4.8 U
6E-C16-6	0.778 -	0.846 J	0.936 -	0.846 J	3.64 J	58.2 J	8.91 J	4.7 U	4.7 U
6E-C16-7	0.934 -	0.7 J	0.749 -	0.7 J	2.85 U	47.7 J	7.92 J	10.4 J	4.3 U
6E-C16-8	1.09 -	0.706 J	0.683 -	0.706 J	3.03 U	37.3 J	10.2 J	10.1 J	4.6 U
Limit	1.7	1.8	1.7	1.5	82	68000	400	43000000	37000
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	1.09	0.846	0.936	0.846	7.04	113	12.7	82.8	6.2 U
Max. > Limit	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--
Sample Size	8	8	8	8	8	8	8	8	8
Nondetects	0	0	0	0	5	0	0	2	8
% Nondetects	0%	0%	0%	0%	63%	0%	0%	25%	100%
Est. Mean*	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--

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SAMPLEID	Trichlorofluoromethane
6E-C16-1	0.9 U
6E-C16-2	1.1 U
6E-C16-3	1.1 U
6E-C16-4	1.1 U
6E-C16-4-D	1.2 U
6E-C16-5	1 U
6E-C16-6	0.9 U
6E-C16-7	0.9 U
6E-C16-8	0.9 U
Limit	355000
Units	ug/kg
Conf. Level	90%
Max. Result	1.2 U
Max. > Limit	No
W-statistic Prob. #	- -
Test Procedure	- -
Sample Size	8
Nondetects	8
% Nondetects	100%
Est. Mean*	- -
UCL	- -
Prob. > Limit	- -
Pass / Fail	- -

a posteriori Sample	- -
Size calculation	- -

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Barium	Selenium	1,1,1-Trichloroethane	Acetone
6E-C17-1	0.693 -	0.485 J	0.483 J	0.485 J	3.14 U	39.1 J	20.1 U	1 U	4.9 U
6E-C17-2	0.632 -	0.536 J	0.518 J	0.536 J	3.5 U	58.7 J	17.9 U	0.8 U	4 U
6E-C17-3	0.777 -	0.692 J	0.674 J	0.692 J	4.37 U	91.3 J	20.1 U	0.9 U	4.5 U
6E-C17-4	0.846 -	0.584 J	0.572 J	0.584 J	6.47 J	42.2 J	20.8 U	1 U	8.4 J
6E-C17-5	0.946 -	0.675 J	0.706 J	0.675 J	4.8 J	61.3 J	19.6 U	0.9 U	5.2 J
6E-C17-6	0.797 -	0.806 J	0.814 J	0.806 J	4.37 U	64.9 J	23.4 U	0.9 U	4.7 U
6E-C17-7	0.785 -	0.772 J	0.783 J	0.772 J	4.44 U	99.5 J	19 U	1 U	4.8 U
6E-C17-8	0.962 -	0.829 -	0.859 J	0.829 -	3.14 -	276 J	0.68 J	0.9 U	20.9 J
6E-C17-8-D	0.954 -	0.859 -	0.861 J	0.859 -	3.55 -	37.8 J	3.28 U	0.9 U	12.7 J
Limit	1.7	1.8	1.7	1.5	82	68000	5400	4300	43000000
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	mg/kg	mg/kg	ug/kg	ug/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	0 .962	0 .859	0 .861	0 .859	6.47	276	0 .68	1 U	20.9
Max. > Limit	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--
Sample Size	8	8	8	8	8	8	8	8	8
Nondetects	0	0	0	0	5	0	7	8	5
% Nondetects	0%	0%	0%	0%	63%	0%	88%	100%	63%
Est. Mean*	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99	Thorium-230
6E-C18-1	1.69 -	0.729 -	0.729 -	0.729 -	11.3 -	0.051 U	1.72 J	0.743 U	1.54 -
6E-C18-2	1.71 -	0.738 -	0.68 -	0.738 -	11.4 -	0.0324 U	7.86 U	0.727 U	1.58 -
6E-C18-3	1.97 -	0.734 -	0.717 -	0.734 -	14 -	0.0375 U	7.36 U	0.744 U	1.33 -
6E-C18-4	1.74 -	0.783 -	0.817 -	0.783 -	13.1 -	0.0528 U	0.809 U	1.91 -	1.4 -
6E-C18-5	1.73 -	0.718 -	0.69 -	0.718 -	8.22 -	0.0354 U	9.39 J	0.751 U	1.81 -
6E-C18-6	1.67 -	0.722 -	0.673 -	0.722 -	9.55 -	0.033 U	7 U	0.757 U	1.46 -
6E-C18-7	1.79 -	0.585 -	0.57 -	0.585 -	8.93 -	0.0371 U	6.54 U	0.731 U	1.84 -
6E-C18-8	1.72 -	0.61 -	0.634 -	0.61 -	8.97 -	0.0594 U	7.41 U	0.764 U	1.41 -
6E-C18-9	1.69 -	0.858 -	0.883 -	0.858 -	16 -	0.0637 U	8.24 U	0.763 U	1.56 -
6E-C18-10	1.79 -	0.802 -	0.796 -	0.802 -	10.8 -	0.0584 U	7.09 U	0.746 U	1.79 -
6E-C18-11	1.69 -	0.833 -	0.897 -	0.833 -	6.55 J	0.0658 U	8.72 U	1.09 -	1.64 -
6E-C18-11-D	1.77 -	0.713 -	0.755 -	0.713 -	11.8 -	0.0639 U	7.51 U	0.75 U	1.47 -
6E-C18-12	2.13 -	0.732 -	0.751 -	0.732 -	6.81 -	0.0682 U	7.22 U	0.741 U	1.8 -
6E-C18-13	2.03 -	0.798 -	0.766 -	0.798 -	12.4 -	0.0702 U	7.91 U	0.757 U	1.53 -
6E-C18-14	2.05 -	0.826 -	0.802 -	0.826 -	14.5 -	0.108 J	7.55 U	0.795 U	1.8 -
6E-C18-15	1.75 -	0.862 -	0.881 -	0.862 -	16.1 -	0.0589 U	7.87 U	0.735 U	1.53 -
6E-C18-16	2.08 -	0.836 -	0.852 -	0.836 -	13.6 -	0.0603 U	6.88 U	0.756 U	1.69 -
Limit	1.7	1.8	1.7	1.5	82	1.4	38	30	280
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	2.13	0 .862	0 .897	0 .862	16.1	0 .108	9.39	1.91	1.84
Max. > Limit	Yes	No	No	No	No	No	No	No	No
W-statistic Prob. #	< 0.01% (LN)	--	--	--	--	--	--	--	--
Test Procedure	Wilcoxon	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	15	14	14	0
% Nondetects	0%	0%	0%	0%	0%	94%	88%	88%	0%
Est. Mean*	1.764	--	--	--	--	--	--	--	--
UCL	1.97	--	--	--	--	--	--	--	--
Prob. > Limit	0	--	--	--	--	--	--	--	--
Pass / Fail	Fail	--	--	--	--	--	--	--	--

a posteriori Sample	12	--	--	--	--	--	--	--	--
Size calculation	Pass	--	--	--	--	--	--	--	--

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SAMPLEID	Antimony	Arsenic	Barium	Beryllium	Cadmium
6E-C18-1	0.422 U	6.77 -	84 J	0.54 -	0.179 J
6E-C18-2	0.442 U	7.03 -	86.5 J	0.547 -	0.167 J
6E-C18-3	0.438 U	6.22 -	80.1 J	0.525 -	0.16 J
6E-C18-4	0.463 U	6.23 -	81.6 J	0.553 -	0.177 J
6E-C18-5	0.394 U	6.83 -	75.7 J	0.516 -	0.164 J
6E-C18-6	0.48 U	6.67 -	85.6 J	0.502 -	0.186 J
6E-C18-7	0.363 U	7.01 -	106 J	0.54 -	0.179 J
6E-C18-8	0.444 U	7.32 -	84 J	0.565 -	0.199 J
6E-C18-9	0.351 U	5.21 -	72.4 J	0.481 -	0.148 J
6E-C18-10	0.473 U	12.6 -	119 J	0.697 -	0.251 J
6E-C18-11	0.362 U	5.85 -	77.2 J	0.523 -	0.162 J
6E-C18-11-D	0.413 U	6.69 -	99 J	0.59 -	0.168 J
6E-C18-12	0.454 U	8.97 -	75.7 J	0.485 -	0.156 J
6E-C18-13	0.362 U	5.91 -	75.3 J	0.469 -	0.165 J
6E-C18-14	0.478 U	6.69 -	83.7 J	0.553 -	0.17 J
6E-C18-15	0.456 U	6.14 -	69.8 J	0.505 -	0.165 J
6E-C18-16	0.428 U	6.62 -	71.5 J	0.531 -	0.159 J
Limit	96	12	68000	1.5	82
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0.48 U	12.6	119	0 .697	0 .251
Max. > Limit	No	Yes	No	No	No
W-statistic Prob. #	- -	< 0.01% (LN)	- -	- -	- -
Test Procedure	- -	Median (Sign)	- -	- -	- -
Sample Size	16	16	16	16	16
Nondetects	16	0	0	0	0
% Nondetects	100%	0%	0%	0%	0%
Est. Mean*	- -	6.69	- -	- -	- -
UCL	- -	7.01	- -	- -	- -
Prob. > Limit	- -	- -	- -	- -	- -
Pass / Fail	- -	Pass	- -	- -	- -
a posteriori Sample	- -	4	- -	- -	- -
Size calculation	- -	Pass	- -	- -	- -

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SAMPLEID	Chromium	Lead	Mercury	Molybdenum	Selenium
6E-C18-1	14.1 J	20.2 J	0.0435 U	1.4 -	1.81 U
6E-C18-2	14.6 J	12.7 J	0.0368 U	2.19 -	1.9 U
6E-C18-3	17.4 J	12.3 J	0.0376 U	1.34 -	1.88 U
6E-C18-4	14 J	12 J	0.0356 U	1.26 -	1.99 U
6E-C18-5	13.9 J	12 J	0.0365 U	1.54 -	1.69 U
6E-C18-6	14.6 J	13 J	0.0448 U	1.31 -	2.06 U
6E-C18-7	14.1 J	12.9 J	0.0458 U	1.34 -	1.56 U
6E-C18-8	13.9 J	13.4 J	0.0373 U	1.53 -	1.9 U
6E-C18-9	13.9 J	10.6 J	0.0434 U	1.05 -	1.51 U
6E-C18-10	15.6 J	16.4 J	0.0349 U	1.6 -	2.03 U
6E-C18-11	13.6 J	11.6 J	0.0304 U	1.55 -	1.55 U
6E-C18-11-D	15.9 J	13.5 J	0.0373 U	1.39 -	1.77 U
6E-C18-12	14.3 J	13.2 J	0.0331 U	1.36 -	1.95 U
6E-C18-13	13.4 J	11.9 J	0.0286 U	1.23 -	1.56 U
6E-C18-14	14.8 J	14.8 J	0.0234 U	1.35 -	2.05 U
6E-C18-15	13.9 J	11.1 J	0.0337 U	1.19 -	1.96 U
6E-C18-16	14.6 J	12.8 J	0.0296 U	1.44 -	1.84 U
Limit	300	400	7.5	2900	5400
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	17.4	20.2	0.0458 U	2.19	2.06 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	16	0	16
% Nondetects	0%	0%	100%	0%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
6E-C18-1	0.134 U	158 J	144 -	173 -	83.5 J
6E-C18-2	0.14 U	77.3 J	68.6 J	115 -	38 U
6E-C18-3	0.139 U	64.4 J	67.5 J	86.5 J	37.7 U
6E-C18-4	0.147 U	45.8 J	38.4 U	80 J	38.4 U
6E-C18-5	0.317 J	158 J	137 -	251 -	80.8 J
6E-C18-6	0.152 U	139 J	128 -	240 -	37.9 U
6E-C18-7	0.115 U	93.8 J	92.1 J	158 -	62.1 J
6E-C18-8	0.141 U	142 J	37.1 U	230 -	69 J
6E-C18-9	0.111 U	126 J	115 -	211 -	37.9 U
6E-C18-10	0.15 U	139 J	141 -	256 -	71.3 J
6E-C18-11	0.115 U	119 J	109 -	194 -	38.4 U
6E-C18-11-D	0.131 U	38.5 U	86 J	156 -	38.5 U
6E-C18-12	0.144 U	240 J	199 -	317 -	81.1 J
6E-C18-13	0.115 U	51 J	87.6 J	57.6 J	38.4 U
6E-C18-14	0.152 U	197 J	193 -	290 -	130 -
6E-C18-15	0.145 U	76.3 J	76 J	152 -	38 U
6E-C18-16	0.136 U	144 J	128 -	244 -	62.5 J
Limit	29000	20000	2000	20000	1000
Units	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0 .317	240	199	317	130
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	15	0	2	0	8
% Nondetects	94%	0%	13%	0%	50%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene
6E-C18-1	93.3 J	177 -	38.2 U	348 -	38.2 U
6E-C18-2	38 U	76.8 J	38 U	142 -	38 U
6E-C18-3	40.3 J	72.7 J	37.7 U	127 -	37.7 U
6E-C18-4	38.4 U	50.7 J	38.4 U	79.4 J	38.4 U
6E-C18-5	38.4 U	161 -	38.4 U	295 -	38.4 U
6E-C18-6	37.9 U	133 -	37.9 U	226 -	37.9 U
6E-C18-7	38.1 U	110 -	38.1 U	192 -	38.1 U
6E-C18-8	37.1 U	137 -	37.1 U	272 -	61.9 J
6E-C18-9	37.9 U	129 -	37.9 U	224 -	62.2 J
6E-C18-10	37.9 U	165 -	37.9 U	276 -	66.1 J
6E-C18-11	38.4 U	124 -	38.4 U	260 -	52 J
6E-C18-11-D	38.5 U	111 -	38.5 U	194 -	38.5 U
6E-C18-12	38.3 U	248 -	38.3 U	609 -	72.7 J
6E-C18-13	38.4 U	52.4 J	38.4 U	115 -	38.4 U
6E-C18-14	37.3 U	183 -	37.3 U	486 -	151 -
6E-C18-15	38 U	88.4 J	38 U	140 -	38 U
6E-C18-16	37.5 U	163 -	37.5 U	273 -	60.2 J
Limit	200000	2000000	2000	10000	20000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	93.3	248	38.5 U	609	151
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	14	0	16	0	9
% Nondetects	88%	0%	100%	0%	56%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin
6E-C18-1	174 J	360 J	4.7 J	3.8 U	1.5 UJ
6E-C18-2	77.6 J	148 J	3.9 J	3.8 U	1.5 UJ
6E-C18-3	62.4 J	135 J	5.9 J	3.8 U	1.5 UJ
6E-C18-4	48.4 J	94.1 J	6.7 J	3.8 U	1.5 UJ
6E-C18-5	175 J	309 J	5.7 J	3.8 U	1.5 UJ
6E-C18-6	129 J	286 J	6.7 J	3.8 U	1.5 UJ
6E-C18-7	120 J	204 J	8.6 J	3.8 U	1.5 UJ
6E-C18-8	153 J	284 J	8.1 J	3.7 U	1.5 UJ
6E-C18-9	140 J	228 J	10.5 J	3.8 U	1.5 UJ
6E-C18-10	183 J	299 J	8 J	3.8 U	1.5 UJ
6E-C18-11	203 J	344 J	7.6 J	3.8 U	1.5 UJ
6E-C18-11-D	114 J	197 J	10 J	3.9 U	1.5 UJ
6E-C18-12	736 -	713 J	5.5 J	3.8 U	1.5 UJ
6E-C18-13	49.8 J	64.3 J	16.6 -	4.4 J	1.5 UJ
6E-C18-14	388 J	432 J	6.8 J	3.7 U	1.5 UJ
6E-C18-15	65.6 J	155 J	7.2 J	3.8 U	1.5 UJ
6E-C18-16	187 J	274 J	5.5 J	3.8 U	1.5 UJ
Limit	5000	10000	130	130	15
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	736	713	16.6	4.4	1.5 UJ
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	0	15	16
% Nondetects	0%	0%	0%	94%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone	Acetone
6E-C18-1	0.9 U	0.9 U	0.9 U	4.5 U	4.5 U
6E-C18-2	0.9 U	0.9 U	0.9 U	4.7 U	4.7 U
6E-C18-3	0.9 U	0.9 U	0.9 U	4.6 U	11.8 J
6E-C18-4	0.9 U	0.9 U	0.9 U	4.5 U	5.7 J
6E-C18-5	0.9 U	0.9 U	0.9 U	4.3 U	4.3 U
6E-C18-6	1 U	1 U	1 U	5.2 U	5.2 U
6E-C18-7	1 U	1 U	1 U	5 U	5 U
6E-C18-8	0.9 U	0.9 U	0.9 U	4.4 U	4.4 U
6E-C18-9	1.1 U	1.1 U	1.1 U	5.4 U	15.2 J
6E-C18-10	1 U	1 U	1 U	5.2 U	11.6 J
6E-C18-11	0.9 U	0.9 U	0.9 U	4.7 U	18 J
6E-C18-11-D	1 U	1 U	1 U	4.9 U	23.3 J
6E-C18-12	0.9 U	0.9 U	0.9 U	4.6 U	37.2 J
6E-C18-13	0.9 U	0.9 U	0.9 U	4.4 U	4.4 U
6E-C18-14	1.1 U	1.1 U	1.1 U	5.7 U	8.3 J
6E-C18-15	0.9 U	0.9 U	0.9 U	4.5 U	4.5 U
6E-C18-16	0.9 U	0.9 U	0.9 U	4.5 U	4.5 U
Limit	4300	410	160	2500000	43000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%.
Max. Result	1.1 U	1.1 U	1.1 U	5.7 U	37.2
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	9
% Nondetects	100%	100%	100%	100%	56%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride	Tetrachloroethene
6E-C18-1	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
6E-C18-2	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U
6E-C18-3	0.9 U	0.9 U	0.9 U	4.6 U	0.9 U
6E-C18-4	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
6E-C18-5	0.9 U	0.9 U	0.9 U	4.3 U	0.9 U
6E-C18-6	1 U	1 U	1 U	5.2 U	1 U
6E-C18-7	1 U	1 U	1 U	5 U	1 U
6E-C18-8	0.9 U	0.9 U	0.9 U	4.4 U	0.9 U
6E-C18-9	1.1 U	1.1 U	1.1 U	5.4 U	1.1 U
6E-C18-10	1 U	1 U	1 U	5.2 U	1 U
6E-C18-11	0.9 U	0.9 U	0.9 U	4.7 U	0.9 U
6E-C18-11-D	1 U	1 U	1 U	4.9 U	1 U
6E-C18-12	0.9 U	0.9 U	0.9 U	4.6 U	0.9 U
6E-C18-13	0.9 U	0.9 U	0.9 U	4.4 U	0.9 U
6E-C18-14	1.1 U	1.1 U	1.1 U	5.7 U	1.1 U
6E-C18-15	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
6E-C18-16	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
Limit	850000	2100	5100000	37000	3600
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.1 U	1.1 U	1.1 U	5.7 U	1.1 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	16
% Nondetects	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--
a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Toluene	Trichloroethene	Xylenes, Total
6E-C18-1	0.9 U	0.9 U	0.9 U
6E-C18-2	0.9 U	0.9 U	0.9 U
6E-C18-3	0.9 U	0.9 U	0.9 U
6E-C18-4	0.9 U	0.9 U	0.9 U
6E-C18-5	0.9 U	0.9 U	0.9 U
6E-C18-6	1 U	1 U	1 U
6E-C18-7	1 U	1 U	1 U
6E-C18-8	0.9 U	0.9 U	0.9 U
6E-C18-9	1.1 U	1.1 U	1.1 U
6E-C18-10	1 U	1 U	1 U
6E-C18-11	0.9 U	0.9 U	0.9 U
6E-C18-11-D	1 U	1 U	1 U
6E-C18-12	0.9 U	0.9 U	0.9 U
6E-C18-13	0.9 U	0.9 U	0.9 U
6E-C18-14	1.1 U	1.1 U	1.1 U
6E-C18-15	0.9 U	0.9 U	0.9 U
6E-C18-16	0.9 U	0.9 U	0.9 U
Limit	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%
Max. Result	1.1 U	1.1 U	1.1 U
Max. > Limit	No	No	No
W-statistic Prob. #	--	--	--
Test Procedure	--	--	--
Sample Size	16	16	16
Nondetects	16	16	16
% Nondetects	100%	100%	100%
Est. Mean*	--	--	--
UCL	--	--	--
Prob. > Limit	--	--	--
Pass / Fail	--	--	--

a posteriori Sample	--	--	--
Size calculation	--	--	--

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SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Cesium-137	Lead-210	Technetium-99	Thorium-230
6E-C19-1	1.2 J	0.63 J	0.713 J	0.63 J	15.7 -	0.127 U	2.29 J	0.752 U	1.33 -
6E-C19-2	1.1 J	0.528 J	0.533 J	0.528 J	10.3 -	0.0305 U	6.57 U	0.757 U	1.98 -
6E-C19-3	1.21 J	0.651 J	0.598 J	0.651 J	12.5 -	0.0327 U	7.52 U	0.696 U	1.46 -
6E-C19-4	1.21 J	0.759 J	0.763 J	0.759 J	8.81 -	0.0674 U	0.892 U	0.767 U	1.49 -
6E-C19-5	1.25 J	0.732 J	0.766 J	0.732 J	14.3 -	0.0525 U	1.63 J	0.742 U	1.8 -
6E-C19-6	1.21 J	0.565 J	0.57 J	0.565 J	10.3 -	0.0886 U	1.19 U	0.771 U	1.85 -
6E-C19-7	1.08 J	0.57 J	0.557 J	0.57 J	9.67 -	0.0437 U	9.6 U	0.737 U	1.75 -
6E-C19-8	1.21 J	0.711 J	0.675 J	0.711 J	11.3 -	0.102 U	1.97 J	0.744 U	1.88 -
6E-C19-9	1.3 J	0.748 J	0.744 J	0.748 J	13.4 -	0.097 U	1.47 U	3.91 -	1.47 -
6E-C19-10	1.14 J	0.564 J	0.546 J	0.564 J	8.19 -	0.037 U	8.35 U	0.799 U	1.71 -
6E-C19-11	1.22 J	0.595 J	0.572 J	0.595 J	12.3 -	0.0369 U	8.37 U	0.76 U	1.38 -
6E-C19-12	1.16 J	0.718 J	0.684 J	0.718 J	8.63 -	0.0906 U	1.3 U	0.744 U	1.42 -
6E-C19-13	1.02 J	0.702 J	0.699 J	0.702 J	14.4 -	0.0976 U	1.33 U	0.742 U	1.38 -
6E-C19-14	1.25 J	0.566 J	0.635 J	0.566 J	11.8 -	0.0423 U	8.36 U	0.756 U	1.53 -
6E-C19-15	1.38 J	0.77 J	0.803 J	0.77 J	13.8 -	0.0968 U	1.35 U	0.755 U	1.71 -
6E-C19-16	1.45 J	0.637 J	0.692 J	0.637 J	15.4 -	0.0584 U	7.26 U	0.773 U	1.74 -
6E-C19-16-D	1.33 J	0.945 J	0.971 J	0.945 J	13.6 -	0.105 U	1.37 U	0.743 U	1.6 -
Limit	1.7	1.8	1.7	1.5	20	1.4	38	30	280
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	pCi/g	pCi/g	pCi/g
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	1.45	0 .945	0 .971	0 .945	15.7	0.127 U	2.29	3.91	1.98
Max. > Limit	No	No	No	No	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--	--	--	--	--
Test Procedure	--	--	--	--	--	--	--	--	--
Sample Size	16	16	16	16	16	16	16	16	16
Nondetects	0	0	0	0	0	16	13	15	0
% Nondetects	0%	0%	0%	0%	0%	100%	81%	94%	0%
Est. Mean*	--	--	--	--	--	--	--	--	--
UCL	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	--	--	--	--	--

a posteriori Sample	--	--	--	--	--	--	--	--	--
Size calculation	--	--	--	--	--	--	--	--	--

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SAMPLEID	Antimony	Arsenic	Barium	Beryllium	Cadmium
6E-C19-1	0.528 U	5.64 J	69.4 J	0.412 J	0.176 J
6E-C19-2	0.399 U	6.64 J	122 J	0.39 J	0.222 J
6E-C19-3	0.444 U	5.78 J	67.8 J	0.4 J	0.179 J
6E-C19-4	0.423 U	6.56 J	72.9 J	0.45 J	0.17 J
6E-C19-5	0.454 U	6.16 J	71.3 J	0.472 J	0.223 J
6E-C19-6	0.439 U	6.5 J	73.2 J	0.485 J	0.193 J
6E-C19-7	0.409 U	5.85 J	64.7 J	0.427 J	0.147 J
6E-C19-8	0.49 U	5.92 J	77.5 J	0.523 J	0.195 J
6E-C19-9	0.477 U	5.49 J	80.1 J	0.415 J	0.159 J
6E-C19-10	0.403 U	6.01 J	75.6 J	0.605 J	0.175 J
6E-C19-11	0.434 U	6.07 J	61.4 J	0.388 J	0.175 J
6E-C19-12	0.425 U	6.48 J	78.5 J	0.462 J	0.171 J
6E-C19-13	0.427 U	6.29 J	88.1 J	0.657 J	0.167 J
6E-C19-14	0.422 U	5.7 J	72.2 J	0.468 J	0.18 J
6E-C19-15	0.472 U	6.5 J	69.4 J	0.47 J	0.172 J
6E-C19-16	0.39 U	8.63 J	92.5 J	0.779 J	0.165 J
6E-C19-16-D	0.415 U	6.69 J	76.4 J	0.496 J	0.173 J
Limit	96	12	68000	1.5	82
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0.528 U	8.63	122	0 .779	0 .223
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	0	0	0	0
% Nondetects	100%	0%	0%	0%	0%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Chromium	Lead	Mercury	Molybdenum	Selenium
6E-C19-1	11.5 J	12.3 J	0.0175 J	1.38 -	1.74 U
6E-C19-2	9.82 J	11 J	0.0238 J	1.8 -	1.71 U
6E-C19-3	13.9 J	32.7 J	0.0361 J	1.58 -	1.91 U
6E-C19-4	11.5 J	12.3 J	0.0317 J	1.39 -	1.82 U
6E-C19-5	11.9 J	12.1 J	0.0316 J	1.44 -	1.95 U
6E-C19-6	12.3 J	15.2 J	0.0324 J	1.51 -	1.88 U
6E-C19-7	10.4 J	11.9 J	0.03 J	1.19 -	1.76 U
6E-C19-8	12.2 J	12.6 J	0.0303 J	1.33 -	1.52 U
6E-C19-9	10.1 J	10.2 J	0.0379 J	1.07 J	2.05 U
6E-C19-10	12.2 J	11.9 J	0.0305 J	1.31 -	1.73 U
6E-C19-11	11 J	38.3 J	0.0344 J	1.14 -	1.86 U
6E-C19-12	11.3 J	12.4 J	0.0464 J	1.22 -	1.82 U
6E-C19-13	11.4 J	11.7 J	0.0467 J	1.3 -	1.83 U
6E-C19-14	11.2 J	12.2 J	0.0381 J	1.27 -	1.81 U
6E-C19-15	12 J	13.5 J	0.0392 J	1.22 J	2.02 U
6E-C19-16	12.9 J	13.6 J	0.0362 J	1.29 -	1.68 U
6E-C19-16-D	12 J	30.5 J	0.0332 J	1.33 -	1.78 U
Limit	300	400	7.5	2900	5400
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	13.9	38.3	0 .0467	1.8	2.05 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	0	0	16
% Nondetects	0%	0%	0%	0%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Silver	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
6E-C19-1	0.129 U	288 J	315 J	479 J	283 J
6E-C19-2	0.127 U	149 U	258 J	405 J	149 U
6E-C19-3	0.141 U	149 U	400 J	603 J	149 U
6E-C19-4	0.134 U	151 U	510 J	802 J	264 J
6E-C19-5	0.144 U	154 U	154 U	154 U	154 U
6E-C19-6	0.139 U	503 J	393 J	660 J	187 J
6E-C19-7	0.13 U	146 U	220 J	379 J	146 U
6E-C19-8	0.112 U	231 J	220 J	350 J	144 U
6E-C19-9	0.151 U	151 U	151 U	306 J	151 U
6E-C19-10	0.128 U	150 U	150 U	279 J	150 U
6E-C19-11	0.138 U	149 U	475 J	758 J	149 U
6E-C19-12	0.135 U	295 J	236 J	419 J	149 U
6E-C19-13	0.136 U	153 U	169 J	290 J	153 U
6E-C19-14	0.134 U	400 J	351 J	586 J	223 J
6E-C19-15	0.15 U	152 U	367 J	590 J	253 J
6E-C19-16	0.124 U	147 U	262 J	393 J	171 J
6E-C19-16-D	0.132 U	345 J	298 J	490 J	191 J
Limit	29000	20000	2000	20000	1000
Units	mg/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	0.151 U	503	510	802	283
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	10	3	1	10
% Nondetects	100%	63%	19%	6%	63%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Indeno(1,2,3-cd)pyrene
6E-C19-1	37.1 U	317 J	37.1 U	647 J	265 J
6E-C19-2	149 U	290 J	149 U	546 J	149 U
6E-C19-3	149 U	449 J	149 U	705 J	149 U
6E-C19-4	151 U	614 J	151 U	1070 J	151 U
6E-C19-5	154 U	154 U	154 U	192 J	154 U
6E-C19-6	152 U	545 J	152 U	1010 J	152 U
6E-C19-7	146 U	282 J	146 U	505 J	146 U
6E-C19-8	144 U	236 J	144 U	397 J	144 U
6E-C19-9	151 U	202 J	151 U	335 J	151 U
6E-C19-10	150 U	167 J	150 U	360 J	150 U
6E-C19-11	149 U	431 J	149 U	799 J	256 J
6E-C19-12	149 U	280 J	149 U	507 J	149 U
6E-C19-13	153 U	184 J	153 U	358 J	153 U
6E-C19-14	146 U	415 J	146 U	657 J	204 J
6E-C19-15	152 U	408 J	152 U	652 J	203 J
6E-C19-16	147 U	221 J	147 U	330 J	154 J
6E-C19-16-D	144 U	352 J	144 U	541 J	166 J
Limit	200000	2000000	2000	10000	20000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	154 U	614	154 U	1070	265
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	1	16	0	11
% Nondetects	100%	6%	100%	0%	69%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

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SAMPLEID	Phenanthrene	Pyrene	Aroclor-1254	Aroclor-1260	Dieldrin
6E-C19-1	360 J	518 J	26.7 J	31 J	1.5 U
6E-C19-2	433 J	525 J	11.4 J	3.7 UJ	1.5 U
6E-C19-3	644 J	1020 J	20.9 J	5.7 J	1.5 U
6E-C19-4	1240 J	1430 J	14.4 J	5 J	1.5 U
6E-C19-5	162 J	208 J	12.3 J	5 J	1.5 U
6E-C19-6	690 J	928 J	10 J	3.8 UJ	1.5 U
6E-C19-7	302 J	524 J	14.2 J	4.5 J	1.5 U
6E-C19-8	335 J	375 J	16 J	4.8 J	1.4 U
6E-C19-9	251 J	326 J	17.1 J	4.3 J	1.5 U
6E-C19-10	321 J	316 J	9.5 J	3.7 UJ	1.5 U
6E-C19-11	458 J	792 J	11.3 J	4 J	1.5 U
6E-C19-12	444 J	529 J	10.8 J	3.7 UJ	1.5 U
6E-C19-13	304 J	364 J	7.2 J	3.8 UJ	1.5 U
6E-C19-14	485 J	757 J	12 J	4.4 J	1.5 U
6E-C19-15	549 J	816 J	14.1 J	7.6 J	1.5 U
6E-C19-16	229 J	382 J	15.7 J	9.4 J	1.5 U
6E-C19-16-D	412 J	622 J	13 J	3.9 J	1.4 U
Limit	5000	10000	130	130	15
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1240	1430	26.7	31	1.5 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	0	0	0	5	16
% Nondetects	0%	0%	0%	31%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	1,1,1-Trichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	4-Methyl-2-pentanone	Acetone
6E-C19-1	1.2 U	1.2 U	1.2 U	6.1 U	23.6 J
6E-C19-2	1.1 U	1.1 U	1.1 U	5.3 U	129 J
6E-C19-3	1.2 U	1.2 U	1.2 U	6.1 U	6.5 J
6E-C19-4	0.9 U	0.9 U	0.9 U	4.5 U	73.1 J
6E-C19-5	1 U	1 U	1 U	5.1 U	164 J
6E-C19-6	1.1 U	1.1 U	1.1 U	5.3 U	144 J
6E-C19-7	1.1 U	1.1 U	1.1 U	5.3 U	82.8 J
6E-C19-8	1 U	1 U	1 U	5 U	10 J
6E-C19-9	1.4 U	1.4 U	1.4 U	6.8 U	149 J
6E-C19-10	1 U	1 U	1 U	4.8 U	4.8 U
6E-C19-11	1 U	1 U	1 U	4.9 U	6.2 J
6E-C19-12	1 U	1 U	1 U	4.9 U	4.9 U
6E-C19-13	1.1 U	1.1 U	1.1 U	5.6 U	5.9 J
6E-C19-14	1.2 U	1.2 U	1.2 U	5.9 U	5.9 U
6E-C19-15	1 U	1 U	1 U	5 U	5 U
6E-C19-16	1 U	1 U	1 U	4.8 U	4.8 U
6E-C19-16-D	1.2 U	1.2 U	1.2 U	5.7 U	27.7 J
Limit	4300	410	160	2500000	43000000
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.4 U	1.4 U	1.4 U	6.8 U	164
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	4
% Nondetects	100%	100%	100%	100%	25%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	Benzene	Carbon Tetrachloride	Ethylbenzene	Methylene chloride	Tetrachloroethene
6E-C19-1	1.2 U	1.2 U	1.2 U	6.1 U	1.2 U
6E-C19-2	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U
6E-C19-3	1.2 U	1.2 U	1.2 U	6.1 U	1.2 U
6E-C19-4	0.9 U	0.9 U	0.9 U	4.5 U	0.9 U
6E-C19-5	1 U	1 U	1 U	5.1 U	1 U
6E-C19-6	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U
6E-C19-7	1.1 U	1.1 U	1.1 U	5.3 U	1.1 U
6E-C19-8	1 U	1 U	1 U	5 U	1 U
6E-C19-9	1.4 U	1.4 U	1.4 U	6.8 U	1.4 U
6E-C19-10	1 U	1 U	1 U	4.8 U	1 U
6E-C19-11	1 U	1 U	1 U	4.9 U	1 U
6E-C19-12	1 U	1 U	1 U	4.9 U	1 U
6E-C19-13	1.1 U	1.1 U	1.1 U	5.6 U	1.1 U
6E-C19-14	1.2 U	1.2 U	1.2 U	5.9 U	1.2 U
6E-C19-15	1 U	1 U	1 U	5 U	1 U
6E-C19-16	1 U	1 U	1 U	4.8 U	1 U
6E-C19-16-D	1.2 U	1.2 U	1.2 U	5.7 U	1.2 U
Limit	850000	2100	5100000	37000	3600
Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%	90%	90%
Max. Result	1.4 U	1.4 U	1.4 U	6.8 U	1.4 U
Max. > Limit	No	No	No	No	No
W-statistic Prob. #	--	--	--	--	--
Test Procedure	--	--	--	--	--
Sample Size	16	16	16	16	16
Nondetects	16	16	16	16	16
% Nondetects	100%	100%	100%	100%	100%
Est. Mean*	--	--	--	--	--
UCL	--	--	--	--	--
Prob. > Limit	--	--	--	--	--
Pass / Fail	--	--	--	--	--

a posteriori Sample	--	--	--	--	--
Size calculation	--	--	--	--	--

Document 6736

SAMPLEID	Toluene	Trichloroethene	Xylenes, Total
6E-C19-1	1.2 U	1.2 U	1.2 U
6E-C19-2	1.1 U	1.1 U	1.1 J
6E-C19-3	1.2 U	1.2 U	1.2 U
6E-C19-4	2.1 J	0.9 U	1.8 J
6E-C19-5	1.3 J	1 U	1.6 J
6E-C19-6	1.9 J	1.1 U	1.7 J
6E-C19-7	1.1 U	1.1 U	1.1 U
6E-C19-8	1 U	1 U	1 U
6E-C19-9	1.4 U	1.4 U	1.4 U
6E-C19-10	1.5 J	1 U	1.6 J
6E-C19-11	1 U	1 U	1 U
6E-C19-12	1 U	1 U	1 U
6E-C19-13	1.1 U	1.1 U	1.1 U
6E-C19-14	1.2 U	1.2 U	1.2 U
6E-C19-15	1 J	1 U	1 U
6E-C19-16	1.3 J	1 U	1 U
6E-C19-16-D	1.2 U	1.2 U	1.2 U
Limit	100000000	25000	920000000
Units	ug/kg	ug/kg	ug/kg
Conf. Level	90%	90%	90%
Max. Result	2.1	1.4 U	1.8
Max. > Limit	No	No	No
W-statistic Prob. #	--	--	--
Test Procedure	--	--	--
Sample Size	16	16	16
Nondetects	10	16	11
% Nondetects	63%	100%	69%
Est. Mean*	--	--	--
UCL	--	--	--
Prob. > Limit	--	--	--
Pass / Fail	--	--	--

a posteriori Sample	--	--	--
Size calculation	--	--	--

Document 6736

SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Technetium-99	Beryllium	Aroclor-1254	Aroclor-1260
4A6-T-73	1.05 -	0.96 -	0.998 -	0.96 -	34.3 -	3.34 -	0.64 -	32.8 J	38.2 -
4A6-T-79	1.25 -	1.02 -	1 -	1.02 -	11.8 -	2.01 U	0.47 -	3.6 U	3.6 U
4A6-T-80	0.887 -	0.763 -	0.758 -	0.763 -	5.6 -	2.07 U	0.58 -	3.6 U	3.6 U
4A6-T-83	0.86 -	0.806 -	0.823 -	0.806 -	8.02 -	62.1 -	0.44 -	4.4 J	3.5 U
4A6-T-84	0.854 -	0.79 -	0.798 -	0.79 -	6.48 -	2.02 U	0.59 -	3.7 U	3.7 U
4A6-T-85	0.914 -	0.708 -	0.727 -	0.708 -	28.1 -	1.76 U	0.37 -	3.9 U	3.9 U
4A6-T-104	1.05 -	0.828 -	0.817 -	0.828 -	11 J	2.05 U	0.53 J	4 U	4 U
4A6-T-105	0.961 -	0.845 -	0.872 -	0.845 -	7.74 J	2.21 U	0.58 J	4.1 U	4.1 U
4A6-T-106	0.8 -	0.701 -	0.714 -	0.701 -	3.42 J	2.29 U	0.6 J	3.8 U	3.8 U
4A6-T-107	0.844 -	0.811 -	0.793 -	0.811 -	3.8 J	2.13 U	0.49 J	3.8 U	3.8 U
4A6-T-108	0.824 -	0.542 -	0.518 -	0.542 -	15.2 -	2.13 U	0.19 J	4.5 J	3.4 U
4A6-T-109	0.743 -	0.503 -	0.488 -	0.503 -	8.39 -	2.13 U	0.23 J	7.9 J	3.6 U
Limit	1.7	1.8	1.7	1.5	82	30	1.5	130	130
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	mg/kg	ug/kg	ug/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	1.25	1.02	1	1.02	34.3	62.1	0 .64	32.8	38.2
Max. > Limit	No	No	No	No	No	Yes	No	No	No
W-statistic Prob. #	--	--	--	--	--	< 0.01% (LN)	--	--	--
Test Procedure	--	--	--	--	--	Proportions (Sign)	--	--	--
Sample Size	12	12	12	12	12	12	12	12	12
Nondetects	0	0	0	0	0	10	0	8	11
% Nondetects	0%	0%	0%	0%	0%	83%	0%	67%	92%
Est. Mean*	--	--	--	--	--	1.1	--	--	--
UCL	--	--	--	--	--	--	--	--	--
Prob. > Limit	--	--	--	--	--	0.004687418	--	--	--
Pass / Fail	--	--	--	--	--	Pass	--	--	--

a posteriori Sample	--	--	--	--	--	5	--	--	--
Size calculation	--	--	--	--	--	Pass	--	--	--

Document 6736

SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Technetium-99	Beryllium	Aroclor-1254	Aroclor-1260
4A6-T-99	0.723 -	0.528 -	0.528 -	0.528 -	88.2 -	2.06 U	0.24 -	27.5 -	9.8 J
4A6-T-101	0.846 -	0.645 -	0.654 -	0.645 -	8.16 -	2.06 U	0.28 -	3.7 J	4 J
4A6-T-110	0.939 -	0.97 -	0.977 -	0.97 -	10.3 -	2.17 U	0.44 J	5.2 J	3.8 U
4A6-T-111	0.857 -	0.578 -	0.563 -	0.578 -	26 -	2.24 U	0.2 J	4.6 J	3.6 U
4A6-T-112	0.95 -	1.05 -	1.04 -	1.05 -	80.6 -	6.88 -	0.3 J	35.1 -	16.5 -
4A6-T-113	0.849 -	0.66 -	0.657 -	0.66 -	20.2 -	3.56 -	0.19 J	18.3 -	11.2 J
4A6-T-114	0.908 -	0.701 -	0.697 -	0.701 -	21.5 -	2.23 U	0.28 J	54.9 -	25.8 -
4A6-T-115	0.731 -	0.43 -	0.427 -	0.43 -	5.84 -	2.1 U	0.21 J	3.6 U	3.6 U
4A6-T-116	0.897 -	0.658 -	0.611 -	0.658 -	11 -	1.89 U	0.24 J	3.7 U	3.7 U
4A6-T-117	0.909 -	0.757 -	0.768 -	0.757 -	7.41 -	1.94 U	0.38 J	3.5 U	3.5 U
4A6-T-118	0.961 -	0.864 -	0.874 -	0.864 -	6.22 -	1.95 U	0.43 J	3.5 U	3.5 U
4A6-T-119	0.836 -	0.732 -	0.75 -	0.732 -	9.95 -	2.04 U	0.35 J	5.8 J	3.5 U
Limit	1.7	1.8	1.7	1.5	82	30	1.5	130	130
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	mg/kg	ug/kg	ug/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	0.961	1.05	1.04	1.05	88.2	6.88	0.44	54.9	25.8
Max. > Limit	No	No	No	No	Yes	No	No	No	No
W-statistic Prob. #	--	--	--	--	6.3% (LN)	--	--	--	--
Test Procedure	--	--	--	--	Lognormal	--	--	--	--
Sample Size	12	12	12	12	12	12	12	12	12
Nondetects	0	0	0	0	0	10	0	4	7
% Nondetects	0%	0%	0%	0%	0%	83%	0%	33%	58%
Est. Mean*	--	--	--	--	23.8	--	--	--	--
UCL	--	--	--	--	51.79	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	--	--	--	--	Pass	--	--	--	--

a posteriori Sample	--	--	--	--	4	--	--	--	--
Size calculation	--	--	--	--	Pass	--	--	--	--

Document 6736

SAMPLEID	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Technetium-99	Beryllium	Aroclor-1254	Aroclor-1260
4A6-T-88	0.964 -	0.797 -	0.827 -	0.797 -	15.1 -	3.24 -	0.18 -	6.9 J	3.7 U
4A6-T-89	1.03 -	1.07 J	1.06 J	1.07 J	6.8 -	2.45 J	0.56 J	4.1 U	4.1 U
4A6-T-90	0.805 -	0.707 J	0.652 J	0.707 J	20.4 -	2.13 U	0.87 J	4.3 U	4.3 U
4A6-T-91	0.858 -	0.696 J	0.709 J	0.696 J	11.4 -	2.1 J	0.5 J	4.1 U	4.1 U
4A6-T-92	0.848 -	0.892 J	0.885 J	0.892 J	20.7 -	3.92 -	0.67 J	4.3 U	4.3 U
4A6-T-93	0.792 -	0.566 -	0.588 -	0.566 -	26.1 -	2.21 U	0.18 -	9.4 J	5.7 J
4A6-T-94	1.3 -	1.25 -	1.25 -	1.25 -	46.4 -	2.28 U	0.58 -	3.6 U	3.6 U
4A6-T-95	1 -	0.788 -	0.798 -	0.788 -	7.13 -	2.37 U	0.4 -	3.5 U	3.5 U
4A6-T-96	0.991 -	0.777 -	0.794 -	0.777 -	31.2 -	2.27 U	0.57 -	13.1 -	7.7 J
4A6-T-97	1.37 -	1.19 -	1.22 -	1.19 -	93.7 -	2.15 U	0.81 -	3.6 U	3.6 U
4A6-T-98	0.76 -	0.568 -	0.572 -	0.568 -	12.8 -	0.79 U	0.772 -	3.7 UJ	11.3 J
4A6-T-102	0.875 -	0.685 -	0.684 -	0.685 -	6.07 -	2.15 U	0.5 -	3.6 U	3.6 U
4A6-T-120	1.14 -	0.948 -	0.885 -	0.948 -	12.1 -	0.842 U	1.07 U	30.4 J	34 J
4A6-T-121	1.22 -	1.13 -	1.17 -	1.13 -	10.2 -	0.919 U	1.05 U	4.7 J	3.8 U
4A6-T-122	0.634 -	0.397 -	0.4 -	0.397 -	5 -	0.832 U	0.336 U	9.9 J	3.6 U
4A6-T-123	0.653 -	0.464 -	0.475 -	0.464 -	5.67 J	0.905 U	0.196 U	20.7 J	3.5 U
4A6-T-124	1.06 -	0.736 -	0.762 -	0.736 -	4.46 -	0.847 U	0.417 U	3.5 U	3.5 U
4A6-T-125	0.955 -	0.772 -	0.798 -	0.772 -	3.36 U	0.85 U	0.452 U	5 J	4 U
4A6-T-126	2.72 -	0.711 -	0.73 -	0.711 -	9.39 -	0.799 U	0.811 U	3.8 U	3.8 U
Limit	1.7	1.8	1.7	1.5	20	30	1.5	130	130
Units	pCi/g	pCi/g	pCi/g	pCi/g	mg/kg	pCi/g	mg/kg	ug/kg	ug/kg
Conf. Level	95%	95%	95%	95%	95%	90%	90%	90%	90%
Max. Result	2.72	1.25	1.25	1.25	93.7	3.92	0 .87	30.4	34
Max. > Limit	Yes	No	No	No	Yes	No	No	No	No
W-statistic Prob. #	1.7% (LN)	--	--	--	96.7% (LN)	--	--	--	--
Test Procedure	Median (Sign)	--	--	--	Lognormal	--	--	--	--
Sample Size	19	19	19	19	19	19	19	19	19
Nondetects	0	0	0	0	1	15	7	11	15
% Nondetects	0%	0%	0%	0%	5%	79%	37%	58%	79%
Est. Mean*	0.964	--	--	--	18.2	--	--	--	--
UCL	1.06	--	--	--	31.52	--	--	--	--
Prob. > Limit	--	--	--	--	--	--	--	--	--
Pass / Fail	Pass	--	--	--	Fail	--	--	--	--

a posteriori Sample	6	--	--	--	21	--	--	--	--
Size calculation	Pass	--	--	--	Fail	--	--	--	--

Document 6736

APPENDIX B

SAMPLING RESULTS AND STATISTICS
SECONDARY SAMPLING

Certification Unit 1 - Uranium

SAMPLEID	Uranium, Total
6E-C01-1	20 -
6E-C01-2	12 -
6E-C01-3	18.8 -
6E-C01-4	4.86 -
6E-C01-5	4.28 -
6E-C01-6	15.6 -
6E-C01-8	17 -
6E-C01-8-D	19.6 -
6E-C01-9	22.4 -
6E-C01-10	16.3 -
6E-C01-11	12.1 -
6E-C01-13	23.7 -
6E-C01-14	23.1 -
6E-C01-15	6.55 J
6E-C01-16	7.96 J
6E-C01-19	21.8 -
6E-C01-20	13 -
6E-C05-1	5.36 J
6E-C05-17	8.75 J
Limit	20
Units	mg/kg
Conf. Level	95%
Max. Result	23.7 -
Max. > Limit	Yes
W-statistic Prob. #	15.4% (N)
Test Procedure	Normal
Sample Size	18
Nondetects	0
% Nondetects	0%
Est. Mean*	14.231
UCL	17.02
Prob. > Limit	- -
Pass / Fail	Pass

a posteriori Sample Size calculation	10 Pass

Certification Unit 2 - Radium-226

SAMPLEID	Radium-226
6E-C02-1	0.978 -
6E-C02-2	1.06 -
6E-C02-3	1.26 -
6E-C02-4	0.837 -
6E-C02-5	1.6 -
6E-C02-6	0.847 -
6E-C02-8	0.944 -
6E-C02-9	0.888 -
6E-C02-10	2.64 -
6E-C02-11	0.857 -
6E-C02-12	0.86 -
6E-C02-13	1.86 -
6E-C02-14	0.83 -
6E-C02-14-D	0.815 -
6E-C02-15	1.89 -
6E-C02-16	1.48 -
6E-C02-17	1.22 J
Limit	1.7
Units	mg/kg
Conf. Level	95%
Max. Result	2.64
Max. > Limit	Yes
W-statistic Prob. #	2.5% (LN)
Test Procedure	Median (Sign)
Sample Size	16
Nondetects	0
% Nondetects	0%
Est. Mean*	1.018
UCL	1.48
Prob. > Limit	- -
Pass / Fail	Pass
a posteriori Sample Size calculation	14 Pass

Certification Unit 4 - Uranium

SAMPLEID	Uranium, Total
6E-C04-1	12.7 -
6E-C04-2	17.5 -
6E-C04-3	4.86 -
6E-C04-4	24 -
6E-C04-5	8.03 -
6E-C04-6	28.2 -
6E-C04-7	15.8 -
6E-C04-8	29 -
6E-C04-9	6.72 -
6E-C04-10	14.8 -
6E-C04-11	18.7 -
6E-C04-12	4.57 J
6E-C04-12-D	5.6 -
6E-C04-13	15.2 -
6E-C04-14	5.08 -
6E-C04-15	5.01 J
6E-C04-17	16.7 J
Limit	20
Units	mg/kg
Conf. Level	95%
Max. Result	29
Max. > Limit	Yes
W-statistic Prob. #	10.5% (N)
Test Procedure	Normal
Sample Size	16
Nondetects	0
% Nondetects	0%
Est. Mean*	14.244
UCL	17.78
Prob. > Limit	- -
Pass / Fail	Pass
a posteriori Sample	14
Size calculation	Pass

Certification Units 8, 9, and 11 North - Radium-226

SAMPLEID	Radium-226
6E-C20-1	1.817 -
6E-C20-2-R1	1.343 -
6E-C20-3R2	2.322 -
6E-C20-4	1.269 -
6E-C20-5A	1.659 -
6E-C20-6R1A	1.480 -
6E-C20-7	1.564 -
6E-C20-8	1.448 -
6E-C20-9R1A	1.543 -
6E-C20-10	1.280 -
6E-C20-11	2.238 -
6E-C20-12	1.511 -
6E-C20-13	1.416 -
6E-C20-14	2.417 -
6E-C20-15	1.416 -
6E-C20-16	1.009 -
6E-C08-10^RMPS	0.868 -
6E-C08-20A^R	1.469 -
6E-C08-22A^R	3.112 -
6E-C08-23^R	2.469 -
6E-C08-26^R	1.364 -
6E-C08-5^RMPS	1.014 -
6E-C09-1^RMPS	1.574 J
6E-C09-2^RMPS	0.981 J
6E-C09-3^RMPS	1.385 J
6E-C09-5^RMPS	1.027 J
6E-C09-6^RMPS	0.994 J
6E-C09-7^RMPS	1.332 J
6E-C09-8^RMPS	1.111 J
6E-C09-13^RMPS	1.543 J
6E-C09-15^RMPS	1.448 J
6E-C09-34^R	2.438 -
6E-C09-35^R	2.248 -
6E-C08-1^RMPS	0.984 -
6E-C08-2^RMPS	1.174 -
6E-C08-3^RMPS	0.884 -
6E-C08-4^RMPS	1.227 -
Limit	1.7
Units	mg/kg
Conf. Level	95%
Max. Result	3.112
Max. > Limit	Yes
W-statistic Prob. #	8.1% (LN)
Test Procedure	Lognormal
Sample Size	37
Nondetects	0
% Nondetects	0%
Est. Mean*	1.522
UCL	1.67
Prob. > Limit	- -
Pass / Fail	Pass

a posteriori Sample	26
Size calculation	Pass

Certification Units 8 and 11 South - Radium-226

SAMPLEID	Radium-226
6E-C11-22	1.606 -
6E-C11-23	1.690 -
6E-C11-11	1.164 -
6E-C11-12	1.585 -
6E-C11-13	1.638 -
6E-C11-14	1.301 -
6E-C11-15	0.854 -
6E-C11-16	1.290 -
6E-C11-27	1.764 J
6E-C11-4	1.459 -
6E-C11-6	1.259 -
6E-C11-7A	1.438 J
6E-C11-8	1.037 -
6E-C08-11	1.290 -
6E-C08-12	1.595 -
6E-C08-13	1.290 -
6E-C08-14	2.469 -
6E-C08-15	1.122 -
6E-C08-16	1.459 -
Limit	1.7
Units	mg/kg
Conf. Level	95%
Max. Result	2.469
Max. > Limit	Yes
W-statistic Prob. #	63.6% (LN)
Test Procedure	Lognormal
Sample Size	19
Nondetects	0
% Nondetects	0%
Est. Mean*	1.439
UCL	1.59
Prob. > Limit	- -
Pass / Fail	Pass
a posteriori Sample Size calculation	11 Pass

Utility Certification Unit 1 - Technetium-99

SAMPLEID	Technetium-99
4A6-T-73	3.34 -
4A6-T-79	2.01 U
4A6-T-80	2.07 U
4A6-T-83C	0.774 U
4A6-T-83E	0.772 U
4A6-T-83N	0.756 U
4A6-T-83S	0.757 U
4A6-T-83W	0.812 U
4A6-T-84	2.02 U
4A6-T-85	1.76 U
4A6-T-104	2.05 U
4A6-T-105	2.21 U
4A6-T-106	2.29 U
4A6-T-107	2.13 U
4A6-T-108	2.13 U
4A6-T-109	2.13 U
Limit	30
Units	pCi/g
Conf. Level	90%
Max. Result	3.34
Max. > Limit	Yes
W-statistic Prob. #	- -
Test Procedure	- -
Sample Size	16
Nondetects	15
% Nondetects	94%
Est. Mean*	- -
UCL	- -
Prob. > Limit	- -
Pass / Fail	- -

a posteriori Sample	- -
Size calculation	- -

Utility Certification Unit 3 - Uranium

SAMPLEID	Uranium, Total
4A6-T-94-1	4.93 -
4A6-T-97-1	1.43 -
4A6-T-88	15.1 -
4A6-T-89	6.8 -
4A6-T-90	20.4 -
4A6-T-91	11.4 -
4A6-T-92	20.7 -
4A6-T-93	26.1 -
4A6-T-95	7.13 -
4A6-T-96	31.2 -
4A6-T-98	12.8 -
4A6-T-102	6.07 -
4A6-T-120	12.1 -
4A6-T-121	10.2 -
4A6-T-122	5 -
4A6-T-123	5.67 J
4A6-T-124	4.46 -
4A6-T-125	3.36 U
4A6-T-126	9.39 -
Limit	20
Units	mg/kg
Conf. Level	95%
Max. Result	31.2 -
Max. > Limit	Yes
W-statistic Prob. #	49.4% (LN)
Test Procedure	Lognormal
Sample Size	19
Nondetects	1
% Nondetects	5%
Est. Mean*	11.897
UCL	18.96
Prob. > Limit	- -
Pass / Fail	Pass
a posteriori Sample Size calculation	8 Pass

CU18 - Radium-226 High Density Sampling

All 40 Samples
Preliminary Results From On-Site Lab

ID	DATA
6E-C18-TG01	1.264 -
6E-C18-TG02	1.338 -
6E-C18-TG03	1.794 -
6E-C18-TG04	1.035 -
6E-C18-TG05	1.376 -
6E-C18-TG06	1.524 -
6E-C18-TG07	1.622 -
6E-C18-TG08	1.317 -
6E-C18-TG09	1.136 -
6E-C18-TG10	1.46 -
6E-C18-TG11	1.812 -
6E-C18-TG12	1.521 -
6E-C18-TG13	1.344 -
6E-C18-TG14	1.884 -
6E-C18-TG15	1.108 -
6E-C18-TG16	1.446 -
6E-C18-TG17	1.453 -
6E-C18-TG18	1.397 -
6E-C18-TG19	3.324 -
6E-C18-TG20	1.648 -
6E-C18-TG21	1.387 -
6E-C18-TG22	1.402 -
6E-C18-TG23	1.47 -
6E-C18-TG24	2.095 -
6E-C18-TG25	0.874 -
6E-C18-TG26	1.773 -
6E-C18-TG27	1.459 -
6E-C18-TG28	1.703 -
6E-C18-TG29	2.401 -
6E-C18-TG30	1.905 -
6E-C18-TG31	2.146 -
6E-C18-TG32	1.574 -
6E-C18-TG33	2.532 -
6E-C18-TG34	1.425 -
6E-C18-TG35	1.623 -
6E-C18-TG36	1.409 -
6E-C18-TG37	1.367 -
6E-C18-TG38	1.741 -
6E-C18-TG39	1.565 -
6E-C18-TG40	1.861 -
Limit	1.70
Units	0.00
Conf. Level	0.95
Max. Result	3.324
Max. >= Limit	Yes
W-statistic Prob. #	31.4% (LN)
Test Procedure	Lognormal
Sample Size	40.00
Nondetects	0.00
% Nondetects	0.00
Est. Mean*	1.61
UCL	1.73
Prob. > Limit	- -
Pass / Fail	FAIL

a posteriori Sample Size calculation	55 Fail

35 Samples
Preliminary Results From On-Site Lab

ID	DATA
6E-C18-TG01	1.264 -
6E-C18-TG02	1.338 -
6E-C18-TG03	1.794 -
6E-C18-TG04	1.035 -
6E-C18-TG05	1.376 -
6E-C18-TG06	1.524 -
6E-C18-TG07	1.622 -
6E-C18-TG08	1.317 -
6E-C18-TG09	1.136 -
6E-C18-TG10	1.460 -
6E-C18-TG11	1.812 -
6E-C18-TG12	1.521 -
6E-C18-TG13	1.344 -
6E-C18-TG14	1.884 -
6E-C18-TG15	1.108 -
6E-C18-TG16	1.446 -
6E-C18-TG17	1.453 -
6E-C18-TG18	1.397 -
excavated	
6E-C18-TG20	1.648 -
6E-C18-TG21	1.387 -
6E-C18-TG22	1.402 -
6E-C18-TG23	1.470 -
excavated	
6E-C18-TG25	0.874 -
6E-C18-TG26	1.773 -
6E-C18-TG27	1.459 -
6E-C18-TG28	1.703 -
excavated	
6E-C18-TG30	1.905 -
excavated	
6E-C18-TG32	1.574 -
excavated	
6E-C18-TG34	1.425 -
6E-C18-TG35	1.623 -
6E-C18-TG36	1.409 -
6E-C18-TG37	1.367 -
6E-C18-TG38	1.741 -
6E-C18-TG39	1.565 -
6E-C18-TG40	1.861 -
Limit	1.70
Units	pCi/g
Conf. Level	95%
Max. Result	1.905
Max. >= Limit	Yes
W-statistic Prob. #	47.6% (N)
Test Procedure	Normal
Sample Size	35
Nondetects	0
% Nondetects	0.0%
Est. Mean*	1.486
UCL	1.555
Prob. > Limit	- -
Pass / Fail	pass

a posteriori Sample Size calculation	10 Pass

35 Samples
FINAL Results From OFF-SITE Lab

ID	DATA
6E-C18-TG01	1.069 -
6E-C18-TG02	1.785 -
6E-C18-TG03	1.806 -
6E-C18-TG04	0.941 -
6E-C18-TG05	1.617 -
6E-C18-TG06	1.522 -
6E-C18-TG07	1.869 -
6E-C18-TG08	1.606 -
6E-C18-TG09	1.690 -
6E-C18-TG10	1.890 -
6E-C18-TG11	1.827 -
6E-C18-TG12	1.543 -
6E-C18-TG13	1.595 -
6E-C18-TG14	1.985 -
6E-C18-TG15	1.648 -
6E-C18-TG16	1.701 -
6E-C18-TG17	1.911 -
6E-C18-TG18	2.133 -
excavated	
6E-C18-TG20	1.806 -
6E-C18-TG21	1.406 J
6E-C18-TG22	1.680 J
6E-C18-TG23	1.553 J
excavated	
6E-C18-TG25	1.564 J
6E-C18-TG26	1.659 J
6E-C18-TG27	1.859 J
6E-C18-TG28	1.838 J
excavated	
6E-C18-TG30	1.743 J
excavated	
6E-C18-TG32	1.606 J
excavated	
6E-C18-TG34	2.080 J
6E-C18-TG35	1.648 J
6E-C18-TG36	1.711 J
6E-C18-TG37	1.711 J
6E-C18-TG38	2.133 J
6E-C18-TG39	1.564 J
6E-C18-TG40	2.069 J
Limit	1.70
Units	pCi/g
Conf. Level	95%
Max. Result	2.133
Max. >= Limit	Yes
W-statistic Prob. #	2.3% (N)
Test Procedure	Median (Sign)
Sample Size	35
Nondetects	0
% Nondetects	0.0%
Est. Mean*	1.701
UCL	1.806
Prob. > Limit	- -
Pass / Fail	FAIL

a posteriori Sample Size calculation	7572 Fail

Note: Est. Mean = Estimated measure of central tendency(Normal: Mean; LogNormal: Est. Mean; Non-Parametric: Median)
The maximum value of the two duplicates was used in all statistical equations.
#: This is the highest reported probability of the Shapiro-Wilk W-statistic for tests for the validity of the normality assumption.
The test is performed on the raw data (untransformed) data (N) and the log-transformed data (LN) to test for lognormality.

APPENDIX C

CORRECTION OF 7-DAY RADIUM-226 RESULTS

APPENDIX C
CORRECTION OF 7-DAY RADIUM-226 RESULTS

On July 10, 2006, OEPA approved DOE's July 6, 2006 request to reduce the in-growth period for radon, with the stipulation that additional soil samples would be collected from non-certified areas to verify initial assumptions and finalize the documentation of the process. This attachment to the certification report presents the analytical results for 7- and 21-day in-growth periods for samples collected from non-certified areas, as described in Variance 20810-PSP-0004-36.

Figure 1 summarizes the results for 48 samples collected from non-certified areas. A regression of the data ($R^2 = 0.9969$) yields the following equation for the estimate of the 21-day value:

21-day value = 1.053*7-day value - 0.0156

This correction will be applied to 7-day analytical results to yield an estimate of the 21-day result. If statistical calculations are performed in the certification report, the estimate for 21-day results will be used to determine the pass/fail criteria for the certification units.

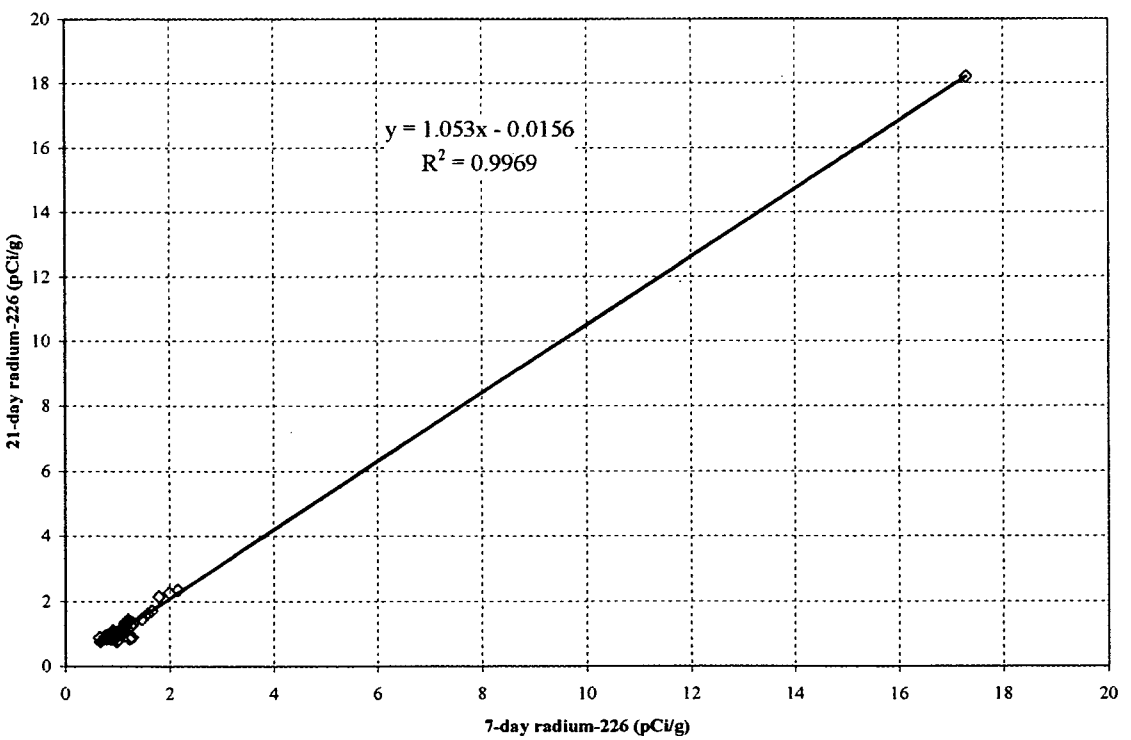


FIGURE 1. Regression analysis of radium-226 data based on 7- and 21-day in-growth period for radon-222

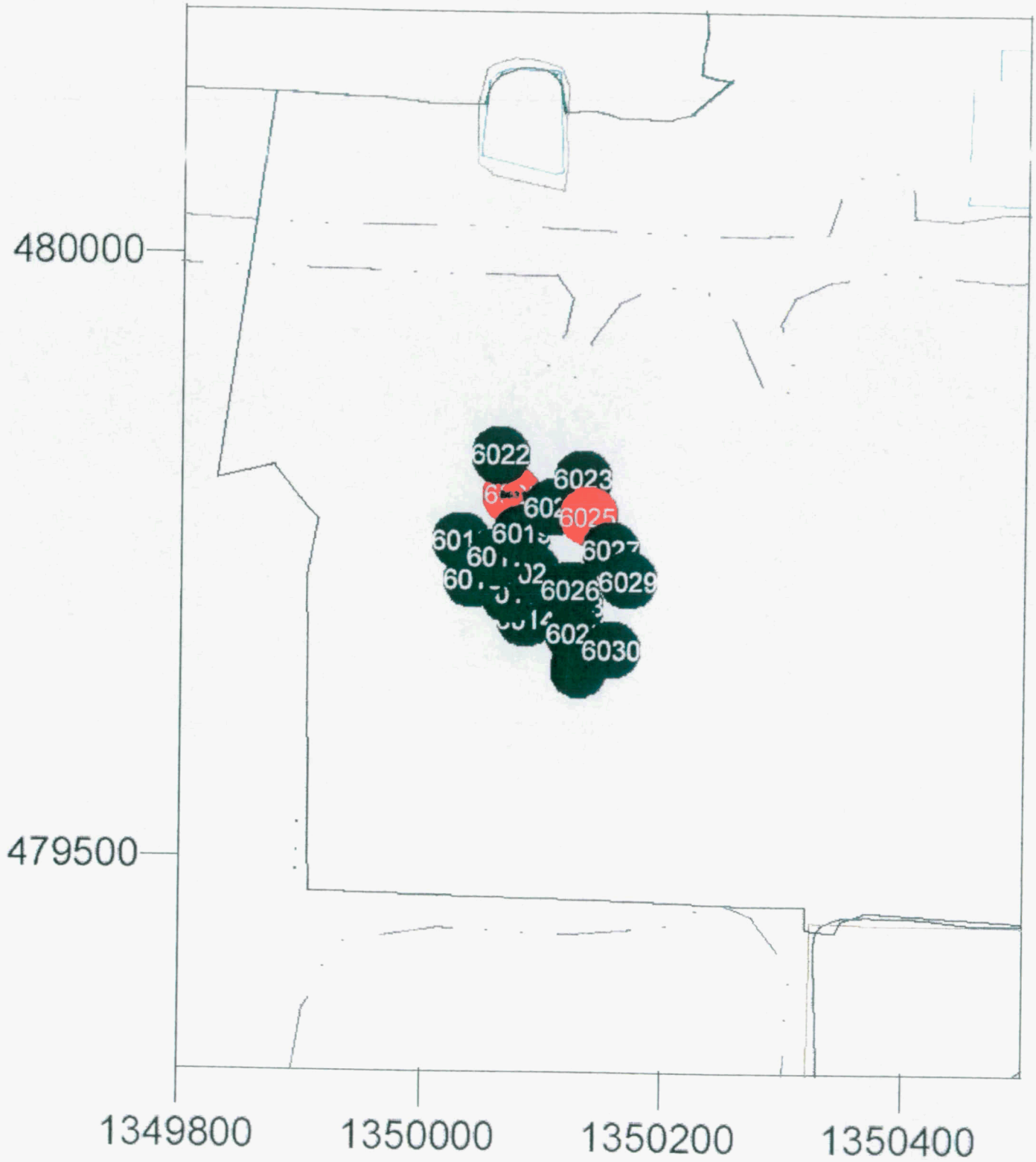
APPENDIX D

REAL TIME - PHASE 3 FIGURES

Figure D-1, Area 6E - Phase 1 Moisture Corrected Radium-226

Data Groups: 40227_10-21-2006, 30687_10-21-2006

Measurement Date: 10-21-2006



High Leachability boundary

CDL Boundary

Sub Area Boundary

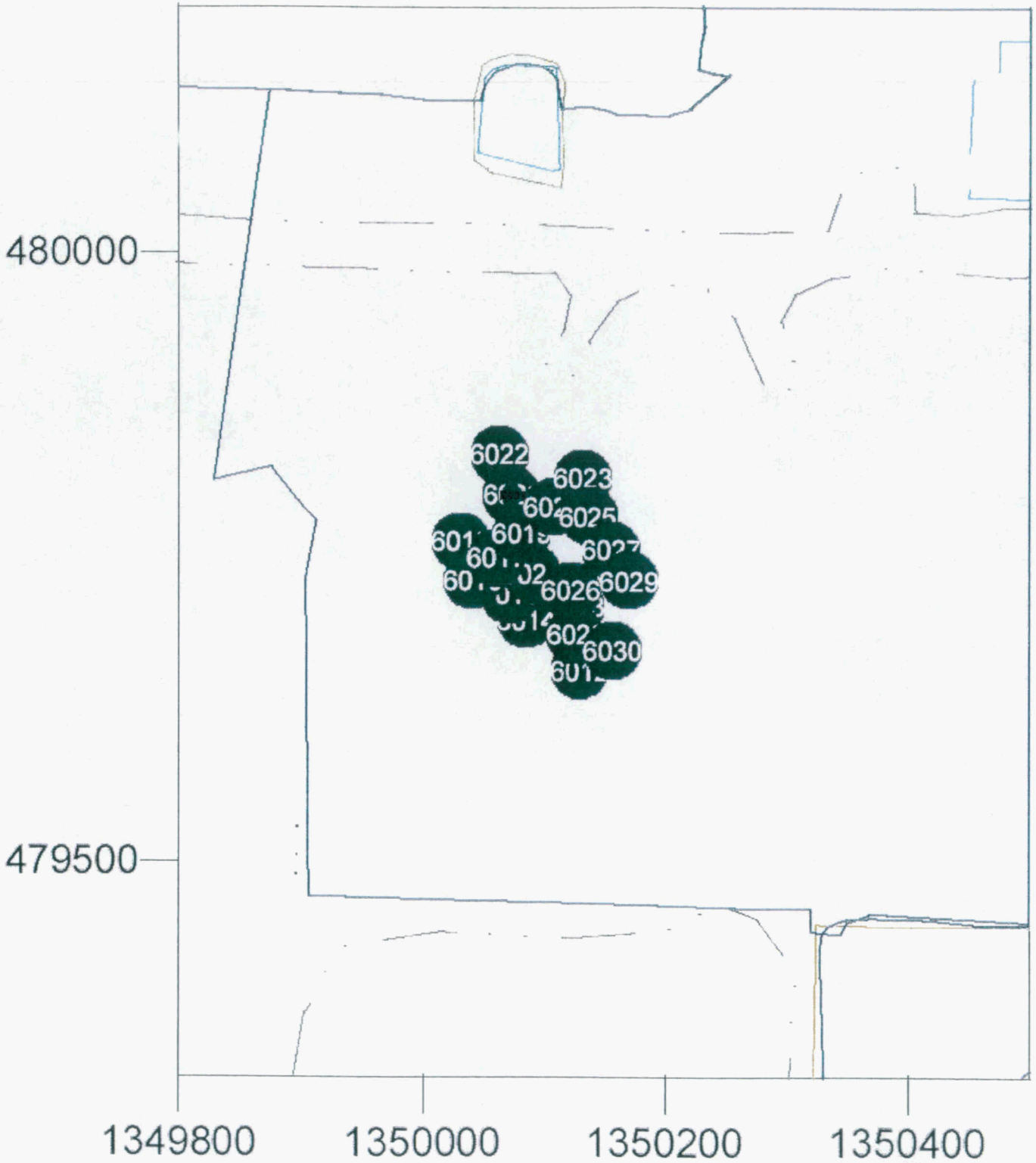
HPGe Ra-226 pCi/g
- 0 to 5.1
- 5.1 to 9999

RTIMP DWG ID: A6E_P1_RA_10-21-2006.srf
Project ID: Gen Char Site Soil Rem 20300-PSP-0011
Prepared: Joe Nikstenas 10-25-2006
Support Data: A6E_P1_10-21-2006.xls

Figure D-2, Area 6E, - Phase 1 Moisture Corrected Thorium-232

Data Groups: 40227_10-21-2006, 30687_10-21-2006

Measurement Date: 10-21-2006



High Leachability boundary

CDL Boundary

Sub Area Boundary

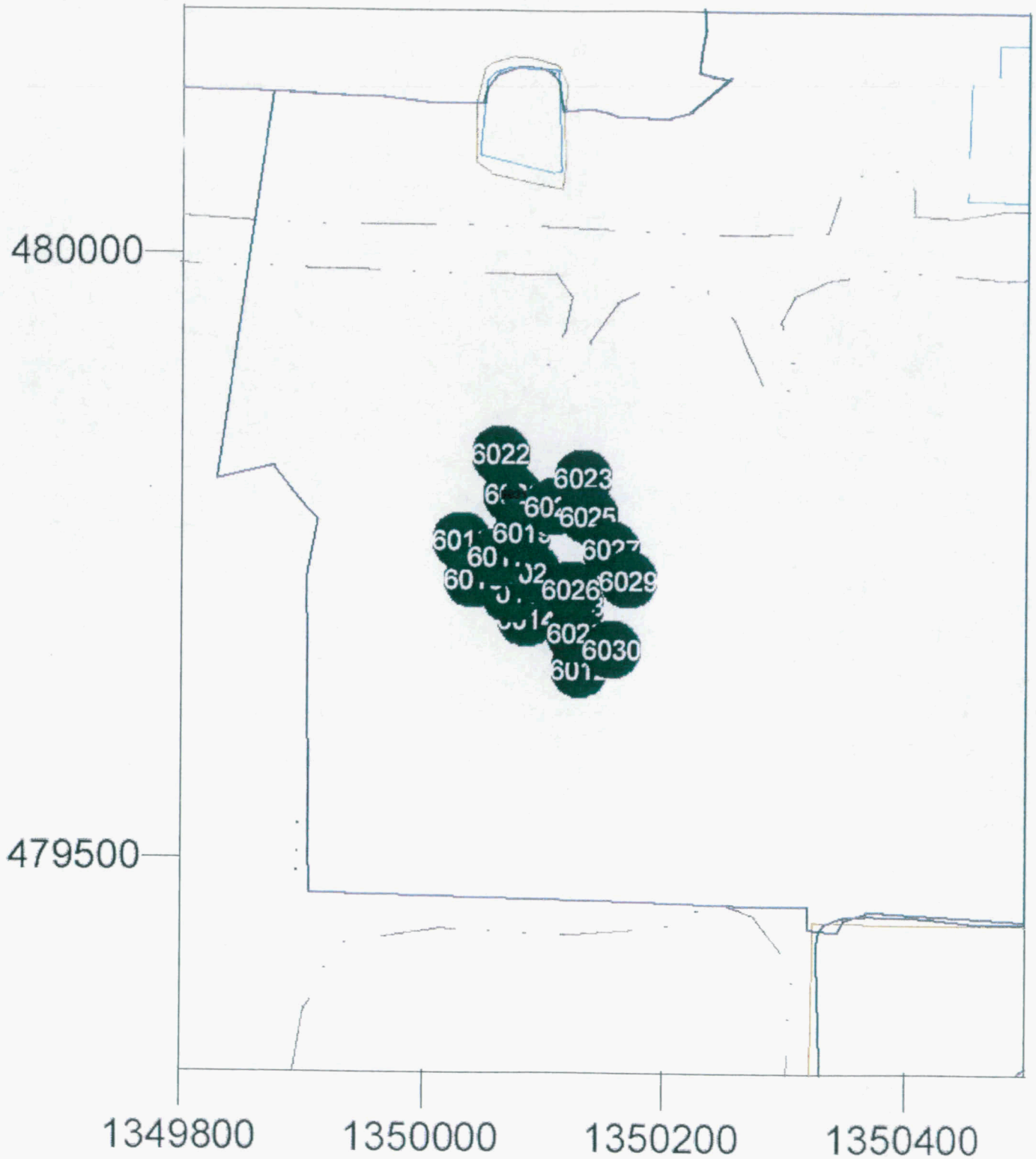
HPGe Th-232 pCi/g
- 0 to 4.5
- 4.5 to 9999

RTIMP DWG ID: A6E_P1_TH_10-21-2006.srf
Project ID: Gen Char Site Soil Rem 20300-PSP-0011
Prepared: Joe Nikstenas 10-25-2006
Support Data: A6E_P1_10-21-2006.xls

Figure D-3, Area 6E, - Phase 1 Moisture Corrected Total Uranium

Data Groups: 40227_10-21-2006, 30687_10-21-2006

Measurement Date: 10-21-2006



High Leachability boundary

CDL Boundary

Sub Area Boundary

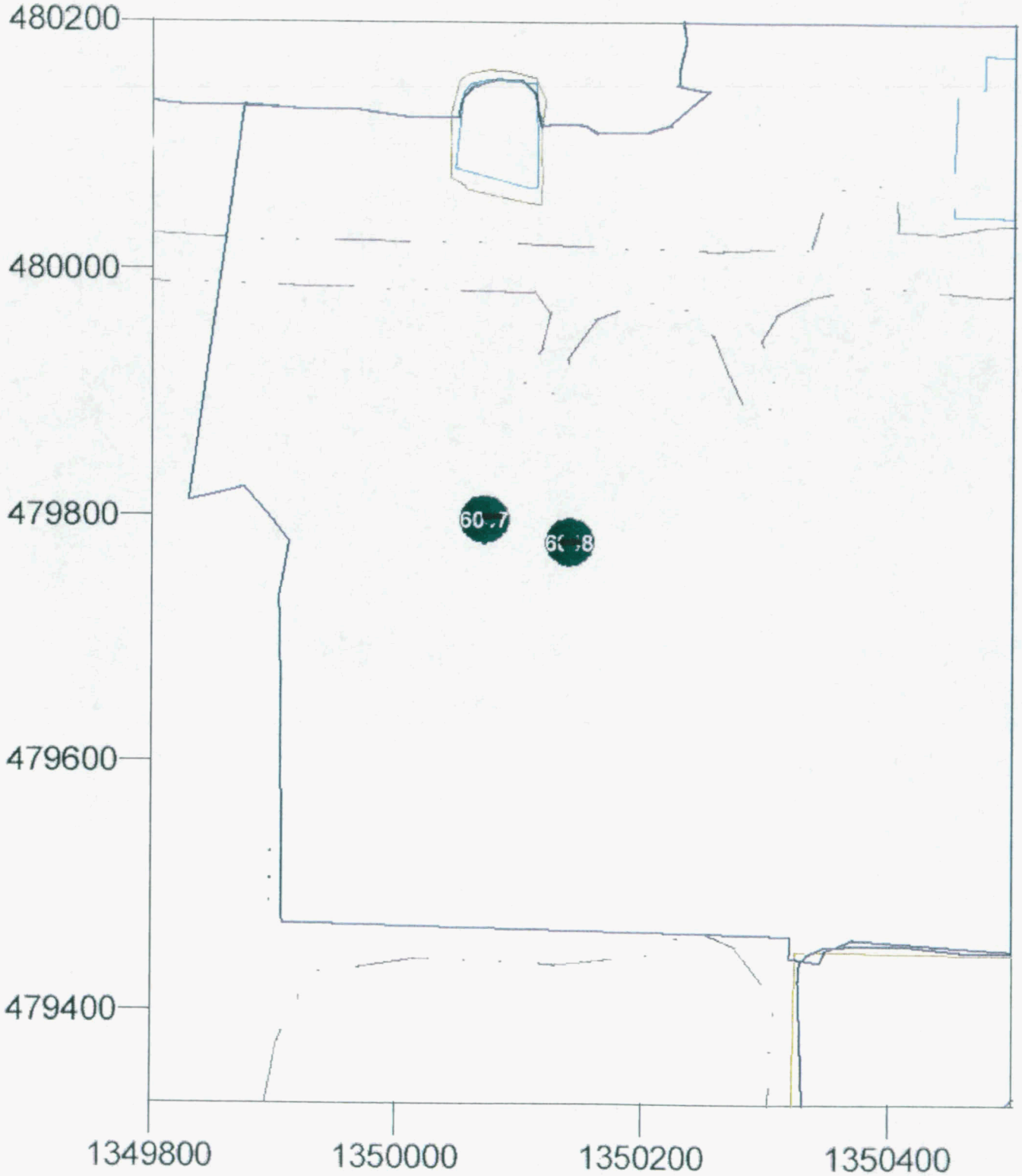
HPGe
Total Uranium ppm
0 to 246
246 to 9999

RTIMP DWG ID: A6E_P1_TU_10-21-2006.srf
Project ID: Gen Char Site Soil Rem 20300-PSP-0011
Prepared: Joe Nikstenas 10-25-2006
Support Data: A6E_P1_10-21-2006.xls

Figure D-4, Area 6E, - Phase 3 Moisture Corrected Radium-226

Data Group: 30699_10-22-2006

Measurement Date: 10-22-2006



High Leachability boundary

CDL Boundary

Sub Area Boundary

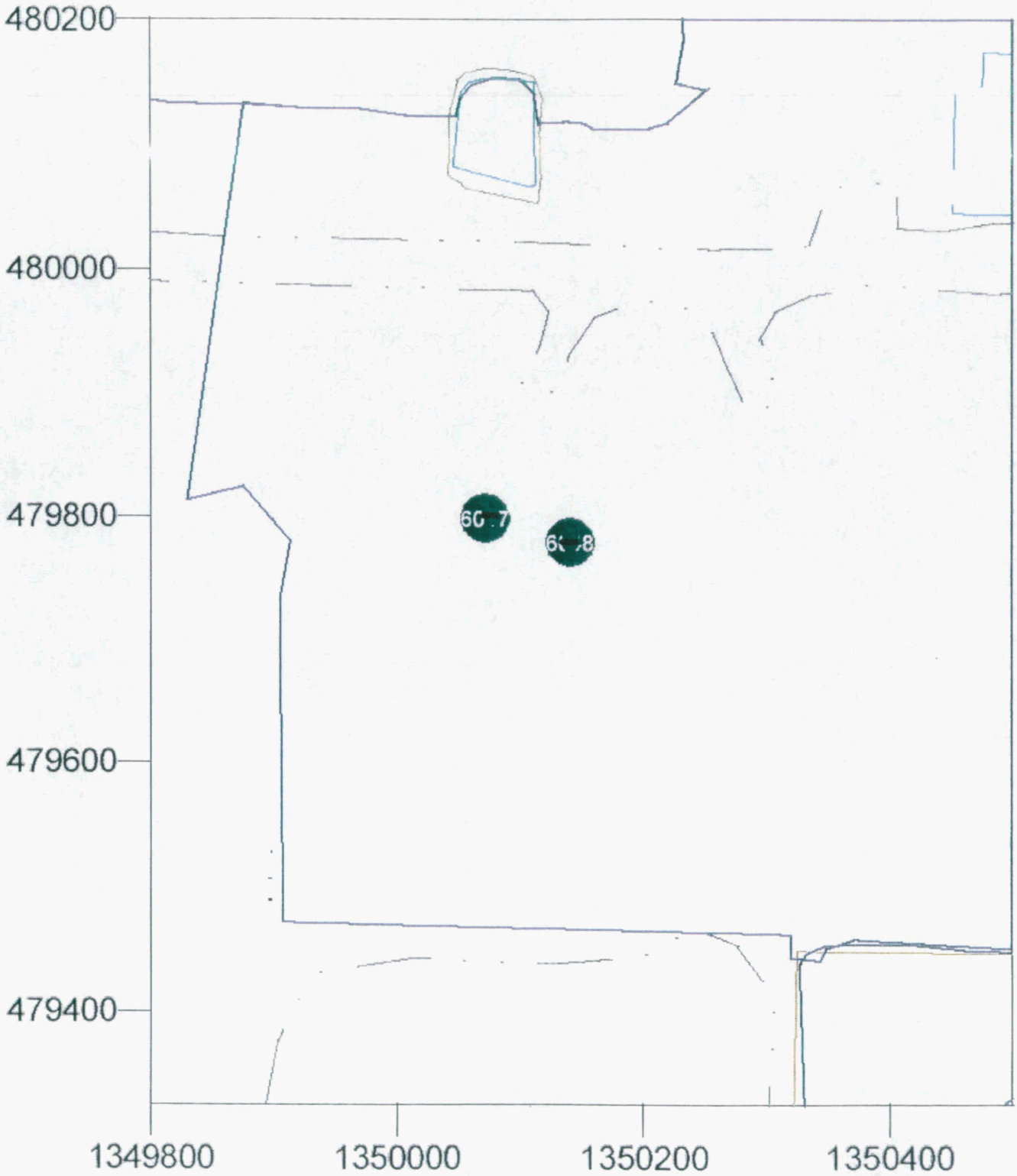
HPGe Ra-226 pCi/g
- 0 to 5.1
- 5.1 to 9999

RTIMP DWG ID: A6E_P3_RA_10-22-2006.srf
Project ID: Gen Char Site Soil Rem 20300-PSP-0011
Prepared: Joe Nikstenas 10-25-2006
Support Data: A6E_P3_10-22-2006.xls

Figure D-5, Area 6E, - Phase 3 Moisture Corrected Thorium-232

Data Group: 30699_10-22-2006

Measurement Date: 10-22-2006



High Leachability boundary

CDL Boundary

Sub Area Boundary

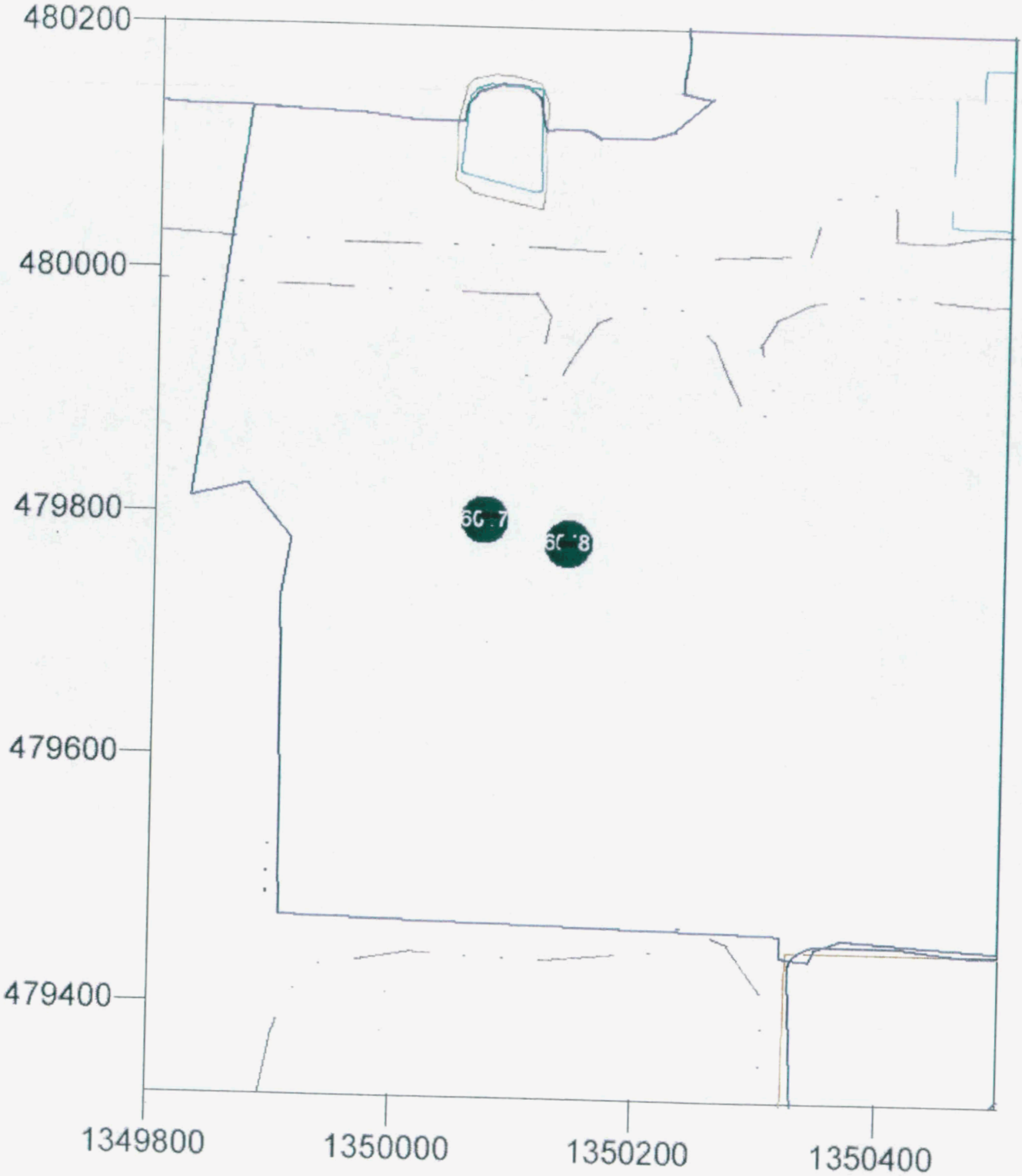
HPGe Th-232 pCi/g
- 0 to 4.5
- 4.5 to 9999

RTIMP DWG ID: A6E_P3_TH_10-22-2006.srf
Project ID: Gen Char Site Soil Rem 20300-PSP-0011
Prepared: Joe Nikstenas 10-25-2006
Support Data: A6E_P3_10-22-2006.xls

Figure D-6, Area 6E, - Phase 3 Moisture Corrected Total Uranium

Data Group: 30699_10-22-2006

Measurement Date: 10-22-2006



High Leachability boundary

CDL Boundary

Sub Area Boundary

HPGe
Total Uranium ppm
0 to 246
246 to 9999

RTIMP DWG ID: A6E_P3_TU_10-22-2006.srf
Project ID: Gen Char Site Soil Rem 20300-PSP-0011
Prepared: Joe Nikstenas 10-25-2006
Support Data: A6E_P3_10-22-2006.xls

APPENDIX E

RISK ASSESSMENT CALCULATIONS

Appendix E

Risk Assessment Calculations

This appendix provides risk calculations for the undeveloped park user that spends 100% of their time exposed to contaminants in CU 18 via the pathways of inhalation (particulate and gases), dermal contact (soil and surface water), ingestion (soil and surface water) and external radiation. The exposure parameters for this receptor are discussed in Section 5.2, and CU 18 is shown on Figure 5.2. Soil COC concentrations represent the 95% UCL (if a statistical calculation was performed for the COC) or the maximum value, as defined in Appendix A for CU 18. If a contaminant was not present in the COC list comprising CU 18, it was assigned a value of zero in the risk calculation. The average COC concentrations in surface water were calculated from samples obtained from ponds within CU 18 (Table E-1). Air COC concentrations (ug/m^3) are calculated by multiplying the soil COC concentration (ug/g) by a conversion factor of 26E-6 g/m3 (the conversion factor is the particulate value obtained from air-monitoring results at background location AMS-12, 2005 Sitewide Environmental Report, DOE 2006). The radon-222 activity (pCi/m^3) is obtained by multiplying the soil radium-226 activity (pCi/g) by a conversion factor of 267 g/m^3. The conversion factor is derived by dividing the background radon value (400 pCi//m^3) reported in the 2005 SER (DOE 2006) by the background radium-226 value (1.5 pCi/g) reported in the Addendum to the CERCLA/RCRA Background Soil Study (DOE 2001). Slope factors and reference doses reflect the November 2006 values found on the EPA and Oak Ridge RAIS web sites, as discussed in Section 5.2.

There are 10 calculation sheets for the undeveloped park user: inhalation of chemicals, dermal soil for chemicals, ingest soil for chemicals, dermal surface water for chemicals, ingest surface water for chemicals, inhalation of radionuclides, ingest soil for radionuclides, ingest surface water for radionuclides, external radiation, and a summation page. Data are not available to evaluate the dermal exposure routes for radionuclides. Each page contains the intake equation and defined parameters, exposure parameters, COC concentrations, slope factors, reference doses, HQ and ILCR values, and a summation result for the pathway. The summation page tabulates the total HQ and ILCR for each pathway, the sum across all pathways and the total HQ and ILCR for each COC for all pathways.

TABLE E-1

Analytical results for a composite sample collected from ponds in Area 6E

Constituent	Value	Unit
Cesium-137	**6.60E-02**	pCi/L
Lead-210	**1.56E+00**	pCi/L
Neptunium-237	NA	pCi/L
Plutonium-238	*2.52E-02*	pCi/L
Plutonium-239/240	NA	pCi/L
Radium-226	4.50E-01	pCi/L
Radium-228	*3.25E+00*	pCi/L
Strontium-90	NA	pCi/L
Technetium-99	*7.55E+00*	pCi/L
Thorium-228	*3.25E+00*	pCi/L
Thorium-230	*1.23E-01*	pCi/L
Thorium-232	*3.25E+00*	pCi/L
Uranium-234	1.52E+01	pCi/L
Uranium-235	6.94E-01	pCi/L
Uranium-238	1.49E+01	pCi/L
Antimony	NA	mg/L
Arsenic	7.70E-03	mg/L
Barium	1.74E-01	mg/L
Beryllium	1.00E-03	mg/L
Boron	8.71E-02	mg/L
Cadmium	NA	mg/L
Chromium (VI)	2.37E-02	mg/L
Cobalt	9.90E-03	mg/L
Copper	2.00E-02	mg/L
Fluoride	4.81E-01	mg/L
Lead	1.37E-02	mg/L
Manganese	6.54E-01	mg/L
Mercury	NA	mg/L
Molybdenum	1.21E-02	mg/L
Nickel	2.45E-02	mg/L
Selenium	NA	mg/L
Silver	NA	mg/L
Thallium	NA	mg/L
Uranium	4.46E-02	mg/L
Vanadium	3.63E-02	mg/L
Zinc	7.45E-02	mg/L
Acetone	*5.00E-03*	mg/L
Aroclor-1254	*1.00E-04*	mg/L
Aroclor-1260	*1.00E-04*	mg/L
Benzene	*1.00E-03*	mg/L
Benzo(a)anthracene	*1.00E-03*	mg/L
Benzo(a)pyrene	*1.00E-03*	mg/L
Benzo(b)fluoranthene	*1.00E-03*	mg/L
Benzo(k)fluoranthene	*1.00E-03*	mg/L
Bis(2-chloroisopropyl)ether	*1.00E-02*	mg/L
Bis(2-ethylhexyl)phthalate	*1.00E-02*	mg/L
Bromodichloromethane	*1.00E-03*	mg/L

Constituent	Value	Unit
Bromoform	*1.00E-03*	mg/L
Bromomethane	*1.00E-03*	mg/L
2-Butanone	*5.00E-03*	mg/L
Carbazole	*1.00E-02*	mg/L
Carbon disulfide	*5.00E-03*	mg/L
Carbon tetrachloride	*1.00E-03*	mg/L
Chlordane	*2.00E-05*	mg/L
Chlorobenzene	*1.00E-03*	mg/L
Chloroform	*1.00E-03*	mg/L
Chrysene	*1.00E-03*	mg/L
Cyanide	*1.50E-03*	mg/L
Cyclohexanone	*5.00E-02*	mg/L
Dibenzo(a,h)anthracene	*1.00E-03*	mg/L
3,3-Dichlorobenzidine	*1.00E-02*	mg/L
1,2-dichloroethane	*1.00E-03*	mg/L
1,1-Dichloroethylene	*1.00E-03*	mg/L
Dieldrin	*4.00E-05*	mg/L
Di-n-octylphthalate	*1.00E-02*	mg/L
Ethylbenzene	*1.00E-03*	mg/L
Ethyl ether	*1.00E-03*	mg/L
Heptachlorodibenzofuran	*NA*	mg/L
Heptachlorodibenzo-p-dioxin	*NA*	mg/L
Hexachlorodibenzofuran	*NA*	mg/L
Hexachlorodibenzo-p-dioxin	*NA*	mg/L
Indeno(1,2,3-cd)pyrene	*1.00E-03*	mg/L
Methanol	*1.00E+00*	mg/L
Methyl-2-pentanone	*5.00E-03*	mg/L
Methylene chloride	*5.00E-03*	mg/L
4-Methylphenol	*1.00E-02*	mg/L
4-Nitroanaline	*1.00E-02*	mg/L
N-nitrosodiphenylamine	*1.00E-02*	mg/L
N-nitrosodipropylamine	*1.00E-02*	mg/L
Octachlorodibenzofuran	*NA*	mg/L
Octochlorodibenzo-p-dioxin	*NA*	mg/L
Pentachlorodibenzofuran	*NA*	mg/L
Pentachlorodibenzo-p-dioxin	*NA*	mg/L
Pentachlorophenol	*1.00E-02*	mg/L
Phenanthrene	*1.00E-03*	mg/L
Tetrachlorodibenzofuran	*NA*	mg/L
Tetrachlorodibenzo-p-dioxin	*NA*	mg/L
Tetrachloroethylene	*1.00E-03*	mg/L
Toluene	*1.00E-03*	mg/L
Tributyl phosphate	*1.00E-02*	mg/L
1,1,2-Trichloroethane	*1.00E-03*	mg/L
Trichloroethylene	*1.00E-03*	mg/L
Trifluorochloromethane	*NA*	mg/L
Vinyl chloride	*1.00E-03*	mg/L
Xylenes	*1.00E-03*	mg/L

NA indicates the COC was not analyzed because it was not a COC of concern in Area 6E.
Bold values represent background values, which were used when the COC was present for soil results but not for surface water.
Italic values represent reported detection limits, and one-half of the reported detection limit was used in risk calculations for non-radiological COCs.

TABLE E-2
Area 6E CU18 Risk Assessment - InhaleChem

Undeveloped Park User - Inhalation of Gases & Particulates
Risk calculation for A6E-CU18

Intake Equation:			UNITS	Assigned Values			
				child	youth	adult	senior
	CDI =	(CS*EF*ED*IR*ET)/(BW*AT)					
	CDI =	Chronic Daily Intake	mg/kgday				
	CA =	Concentration of chemical in air	mg/m^3	see table of COCs below			
	EF =	Exposure frequency	days/yr	20	40	20	40
	ED =	Exposure duration	yrs	3	6	14	7
	IR =	Inhalation rate	m^3/hr	1	1	1	1
	ET =	Exposure time	hrs/day	2	2	2	2
	BW =	Body weight	kg	15	47	70	70
	ATc =	Average time for carcinogens	days	25550	25550	25550	25550
	ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555

COC	conc	RfDi	CSFi	CHILD				YOUTH				ADULT				SENIOR				SUM			
				CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/m^3	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
1,1,2-Trichloroethane	2.86E-11	NA	5.60E-02	2.089E-13	NA	8.955E-15	5.01E-16	1.334E-13	NA	1.143E-14	6.40E-16	4.477E-14	NA	8.955E-15	5.01E-16	8.955E-14	NA	8.955E-15	5.01E-16	8.94E-14	NA	3.83E-14	2.14E-15
1,1-Dichloroethylene	2.86E-11	5.71E-02	1.75E-01	2.089E-13	3.66E-12	8.955E-15	1.57E-15	1.334E-13	2.34E-12	1.143E-14	2.00E-15	4.477E-14	7.84E-13	8.955E-15	1.57E-15	8.955E-14	1.57E-12	8.955E-15	1.57E-15	8.94E-14	1.56E-12	3.83E-14	6.70E-15
1,2-dichloroethane	2.86E-11	NA	9.10E-02	2.089E-13	NA	8.955E-15	8.15E-16	1.334E-13	NA	1.143E-14	1.04E-15	4.477E-14	NA	8.955E-15	8.15E-16	8.955E-14	NA	8.955E-15	8.15E-16	8.94E-14	NA	3.83E-14	3.49E-15
2-Butanone	NA	1.43E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroanaline	NA	1.14E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	9.67E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	1.25E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor-1254	4.32E-10	NA	2.00E+00	NA	NA	1.351E-13	2.70E-13	NA	NA	1.725E-13	3.45E-13	NA	NA	1.351E-13	2.70E-13	NA	NA	1.351E-13	2.70E-13	NA	NA	5.78E-13	1.16E-12
Aroclor-1260	1.14E-10	NA	2.00E+00	NA	NA	3.582E-14	7.16E-14	NA	NA	4.573E-14	9.15E-14	NA	NA	3.582E-14	7.16E-14	NA	NA	3.582E-14	7.16E-14	NA	NA	1.53E-13	3.06E-13
Arsenic	1.82E-07	NA	1.51E+01	NA	NA	5.707E-11	8.62E-10	NA	NA	7.285E-11	1.10E-09	NA	NA	5.707E-11	8.62E-10	NA	NA	5.707E-11	8.62E-10	NA	NA	2.44E-10	3.69E-09
Barium	3.09E-06	1.43E-04	NA	2.26E-08	1.58E-04	NA	NA	1.443E-08	1.01E-04	NA	NA	4.844E-09	3.39E-05	NA	NA	9.688E-09	6.77E-05	NA	NA	9.67E-09	6.76E-05	NA	NA
Benzene	2.86E-11	8.57E-03	2.73E-02	2.089E-13	2.44E-11	8.955E-15	2.44E-16	1.334E-13	1.56E-11	1.143E-14	3.12E-16	4.477E-14	5.22E-12	8.955E-15	2.44E-16	8.955E-14	1.04E-11	8.955E-15	2.44E-16	8.94E-14	1.04E-11	3.83E-14	1.05E-15
Benzo(a)anthracene	6.24E-09	NA	3.08E-01	NA	NA	1.954E-12	6.02E-13	NA	NA	2.494E-12	7.68E-13	NA	NA	1.954E-12	6.02E-13	NA	NA	1.954E-12	6.02E-13	NA	NA	8.36E-12	2.57E-12
Benzo(a)pyrene	5.17E-09	NA	3.08E-01	NA	NA	1.62E-12	4.99E-13	NA	NA	2.068E-12	6.37E-13	NA	NA	1.62E-12	4.99E-13	NA	NA	1.62E-12	4.99E-13	NA	NA	6.93E-12	2.13E-12
Benzo(b)fluoranthene	6.24E-09	NA	3.08E+00	NA	NA	2.581E-12	7.95E-12	NA	NA	3.294E-12	1.01E-11	NA	NA	2.581E-12	7.95E-12	NA	NA	2.581E-12	7.95E-12	NA	NA	1.10E-11	3.40E-11
Benzo(k)fluoranthene	2.43E-09	NA	3.08E-02	NA	NA	7.595E-13	2.34E-14	NA	NA	9.696E-13	2.99E-14	NA	NA	7.595E-13	2.34E-14	NA	NA	7.595E-13	2.34E-14	NA	NA	3.25E-12	1.00E-13
Beryllium	1.81E-08	5.71E-06	8.40E+00	1.324E-10	2.32E-05	5.674E-12	4.77E-11	8.451E-11	1.48E-05	7.244E-12	6.08E-11	2.837E-11	4.97E-06	5.674E-12	4.77E-11	5.674E-11	9.94E-06	5.674E-12	4.77E-11	5.66E-11	9.92E-06	2.43E-11	2.04E-10
Bis(2-chloroisopropyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	NA	5.71E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	3.85E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	1.43E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	6.53E-09	NA	6.30E+00	NA	NA	2.043E-12	1.29E-11	NA	NA	2.609E-12	1.64E-11	NA	NA	2.043E-12	1.29E-11	NA	NA	2.043E-12	1.29E-11	NA	NA	8.74E-12	5.51E-11
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	2.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	2.86E-11	NA	5.25E-02	NA	NA	8.955E-15	4.70E-16	NA	NA	1.143E-14	6.00E-16	NA	NA	8.955E-15	4.70E-16	NA	NA	8.955E-15	4.70E-16	NA	NA	3.83E-14	2.01E-15
Chlordane	NA	2.00E-04	3.50E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	1.43E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	8.05E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	4.52E-07	2.86E-05	4.20E+01	3.305E-09	1.16E-04	1.417E-10	5.95E-09	2.11E-09	7.38E-05	1.808E-10	7.59E-09	7.083E-10	2.48E-05	1.417E-10	5.95E-09	1.417E-09	4.95E-05	1.417E-10	5.95E-09	1.41E-09	4.94E-05	6.06E-10	2.54E-08
Chrysene	6.45E-09	NA	3.08E-03	NA	NA	2.019E-12	6.22E-15	NA	NA	2.577E-12	7.94E-15	NA	NA	2.019E-12	6.22E-15	NA	NA	2.019E-12	6.22E-15	NA	NA	8.63E-12	2.66E-14
Cobalt	NA	5.71E-06	9.80E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	1.00E-09	NA	3.08E+00	NA	NA	3.134E-13	9.65E-13	NA	NA	4.001E-13	1.23E-12	NA	NA	3.134E-13	9.65E-13	NA	NA	3.134E-13	9.65E-13	NA	NA	1.34E-12	4.13E-12
Dieldrin	3.90E-11	NA	1.61E+01	NA	NA	1.221E-14	1.97E-13	NA	NA	1.559E-14	2.51E-13	NA	NA	1.221E-14	1.97E-13	NA	NA	1.221E-14	1.97E-13	NA	NA	5.22E-14	8.41E-13
Di-n-octylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE E-2
Area 6E CU18 Risk Assessment - InhaleChem

Undeveloped Park User - Inhalation of Gases & Particulates
Risk calculation for A6E-CU18

Intake Equation:

		UNITS	Assigned Values			
			child	youth	adult	senior
CDI =	(CS*EF*ED*IR*ET)/(BW*AT)					
CDI =	Chronic Daily Intake	mg/kgday				
CA =	Concentration of chemical in air	mg/m³	see table of COCs below			
EF =	Exposure frequency	days/yr	20	40	20	40
ED =	Exposure duration	yrs	3	6	14	7
IR =	Inhalation rate	m³/hr	1	1	1	1
ET =	Exposure time	hrs/day	2	2	2	2
BW =	Body weight	kg	15	47	70	70
ATc =	Average time for carcinogens	days	25550	25550	25550	25550
ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555

COC	conc	RfDi	CSFi	CHILD				YOUTH				ADULT				SENIOR				SUM			
				CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/m³	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
Ethyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	2.86E-11	2.86E-01	3.85E-03	2.089E-13	7.31E-13	8.955E-15	3.45E-17	1.334E-13	4.66E-13	1.143E-14	4.40E-17	4.477E-14	1.57E-13	8.955E-15	3.45E-17	8.955E-14	3.13E-13	8.955E-15	3.45E-17	8.94E-14	3.12E-13	3.83E-14	1.47E-16
Fluoride	8.32E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran	NA	NA	1.16E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin	NA	NA	1.16E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran	NA	NA	1.16E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin	NA	NA	1.16E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	3.93E-09	NA	3.08E-01	NA	NA	1.229E-12	3.79E-13	NA	NA	1.569E-12	4.83E-13	NA	NA	1.229E-12	3.79E-13	NA	NA	1.229E-12	3.79E-13	NA	NA	5.26E-12	1.62E-12
Lead	5.25E-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	1.43E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	1.19E-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methanol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-2-pentanone	1.48E-10	8.57E-01	NA	1.083E-12	1.26E-12	NA	NA	6.911E-13	8.06E-13	NA	NA	2.32E-13	2.71E-13	NA	NA	4.64E-13	5.41E-13	NA	NA	4.63E-13	5.40E-13	NA	NA
Methylene chloride	1.48E-10	8.57E-01	1.65E-03	1.083E-12	1.26E-12	4.64E-14	7.66E-17	6.911E-13	8.06E-13	5.924E-14	9.77E-17	2.32E-13	2.71E-13	4.64E-14	7.66E-17	4.64E-13	5.41E-13	4.64E-14	7.66E-17	4.63E-13	5.40E-13	1.98E-13	3.27E-16
Molybdenum	5.69E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodipropylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octochlorodibenzofuran	NA	NA	1.16E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octochlorodibenzo-p-dioxin	NA	NA	1.16E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran	NA	NA	5.78E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin	NA	NA	5.78E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	1.91E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1.77E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	8.24E-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran	NA	NA	1.16E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo-p-dioxin	NA	NA	1.16E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	2.86E-11	1.71E-01	2.07E-02	2.089E-13	1.22E-12	8.955E-15	1.85E-16	1.334E-13	7.80E-13	1.143E-14	2.37E-16	4.477E-14	2.62E-13	8.955E-15	1.85E-16	8.955E-14	5.24E-13	8.955E-15	1.85E-16	8.94E-14	5.23E-13	3.83E-14	7.93E-16
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	2.86E-11	1.43E+00	NA	2.089E-13	1.46E-13	NA	NA	1.334E-13	9.33E-14	NA	NA	4.477E-14	3.13E-14	NA	NA	8.955E-14	6.26E-14	NA	NA	8.94E-14	6.25E-14	NA	NA
Tributyl phosphate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene	2.86E-11	1.14E-02	4.00E-01	2.089E-13	1.83E-11	8.955E-15	3.58E-15	1.334E-13	1.17E-11	1.143E-14	4.57E-15	4.477E-14	3.93E-12	8.955E-15	3.58E-15	8.955E-14	7.86E-12	8.955E-15	3.58E-15	8.94E-14	7.84E-12	3.83E-14	1.53E-14
Trifluorochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	4.19E-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	2.86E-02	3.08E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	2.86E-11	2.86E-02	NA	2.089E-13	7.31E-12	NA	NA	1.334E-13	4.66E-12	NA	NA	4.477E-14	1.57E-12	NA	NA	8.955E-14	3.13E-12	NA	NA	8.94E-14	3.12E-12	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
																				total =	1.27E-04	total =	2.94E-06

Air particulate is 26 ug/m3, the 2005 SER background average from monitor AMS-12.

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TABLE E-2
Area 6E CU18 Risk Assessment - DermalSoilChem

Undeveloped Park User - Dermal Contact with Soil/Sediment
Risk calculation for A6E-CU18

Intake Equation:			UNITS	Assigned Values			
				child	youth	adult	senior
	CDI =	(CS*AB*SA*EF*ED*AF*CF)/(BW*AT)					
	CDI =	Chronic Daily Intake	mg/kgday				
	CS =	Concentration of chemical in soil	mg/kg	see table of COCs below			
	AB	Absorption factor	–	see table of COCs below			
	SA	Surface area of exposed skin	cm^2/day	2800	4370	5700	5700
	EF =	Exposure frequency	days/yr	20	40	20	40
	ED =	Exposure duration	yrs	3	6	14	7
	AF =	Adherence factor	mg/cm^2	0.2	0.2	0.07	0.07
	CF =	Conversion factor	kg/mg	1.00E-06	1.00E-06	1.00E-06	1.00E-06
	BW =	Body weight	kg	15	47	70	70
	ATc =	Average time for carcinogens	days	25550	25550	25550	25550
	ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555

COC	conc	AB	RfDd	CSFd	CHILD				YOUTH				ADULT				SENIOR				SUM			
					CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/kg	unitless	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
1,1,2-Trichloroethane	1.10E-03	1.00E-02	3.24E-03	7.04E-02	2.25E-11	6.95E-09	9.644E-13	6.79E-14	2.242E-11	6.92E-09	1.921E-12	1.35E-13	3.436E-12	1.06E-09	6.871E-13	4.84E-14	6.871E-12	2.12E-09	6.871E-13	4.84E-14	9.94E-12	3.07E-09	4.26E-12	3.00E-13
1,1-Dichloroethylene	1.10E-03	1.00E-02	5.00E-02	6.00E-01	2.25E-11	4.50E-10	9.644E-13	5.79E-13	2.242E-11	4.48E-10	1.921E-12	1.15E-12	3.436E-12	6.87E-11	6.871E-13	4.12E-13	6.871E-12	1.37E-10	6.871E-13	4.12E-13	9.94E-12	1.99E-10	4.26E-12	2.56E-12
1,2-dichloroethane	1.10E-03	1.00E-02	2.00E-02	9.10E-02	2.25E-11	1.13E-09	9.644E-13	8.78E-14	2.242E-11	1.12E-09	1.921E-12	1.75E-13	3.436E-12	1.72E-10	6.871E-13	6.25E-14	6.871E-12	3.44E-10	6.871E-13	6.25E-14	9.94E-12	4.97E-10	4.26E-12	3.88E-13
2-Butanone	NA	1.00E-02	4.80E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	1.00E-02	NA	9.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	1.00E-02	3.25E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroanaline	NA	1.00E-02	2.40E-03	2.63E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	3.72E-02	1.00E-02	7.47E-01	NA	7.61E-10	1.02E-09	3.261E-11	NA	7.581E-10	1.01E-09	6.498E-11	NA	1.162E-10	1.56E-10	2.324E-11	NA	2.324E-10	3.11E-10	2.324E-11	NA	3.36E-10	4.50E-10	1.44E-10	NA
Antimony	4.80E-01	1.00E-03	8.00E-06	NA	9.819E-10	1.23E-04	4.208E-11	NA	9.782E-10	1.22E-04	8.384E-11	NA	1.499E-10	1.87E-05	2.998E-11	NA	2.998E-10	3.75E-05	2.998E-11	NA	4.34E-10	5.42E-05	1.86E-10	NA
Aroclor-1254	1.66E-02	1.40E-01	1.80E-05	2.22E+00	4.754E-09	2.64E-04	2.037E-10	4.52E-10	4.736E-09	2.63E-04	4.059E-10	9.01E-10	7.259E-10	4.03E-05	1.452E-10	3.22E-10	1.452E-09	8.07E-05	1.452E-10	3.22E-10	2.10E-09	1.17E-04	9.00E-10	2.00E-09
Aroclor-1260	4.40E-03	1.40E-01	1.80E-05	2.22E+00	1.26E-09	7.00E-05	5.401E-11	1.20E-10	1.255E-09	6.97E-05	1.076E-10	2.39E-10	1.924E-10	1.07E-05	3.848E-11	8.54E-11	3.848E-10	2.14E-05	3.848E-11	8.54E-11	5.57E-10	3.09E-05	2.39E-10	5.30E-10
Arsenic	7.01E+00	3.00E-02	1.23E-04	3.66E+00	4.302E-07	3.50E-03	1.844E-08	6.75E-08	4.288E-07	3.48E-03	3.673E-08	1.34E-07	6.568E-08	5.34E-04	1.314E-08	4.81E-08	1.314E-07	1.07E-03	1.314E-08	4.81E-08	1.90E-07	1.55E-03	8.14E-08	2.98E-07
Barium	1.19E+02	1.00E-03	1.40E-02	NA	2.434E-07	1.74E-05	1.043E-08	NA	2.425E-07	1.73E-05	2.079E-08	NA	3.717E-08	2.65E-06	7.433E-09	NA	7.433E-08	5.31E-06	7.433E-09	NA	1.08E-07	7.68E-06	4.61E-08	NA
Benzene	1.10E-03	1.00E-02	3.88E-03	5.67E-02	2.25E-11	5.80E-09	9.644E-13	5.47E-14	2.242E-11	5.78E-09	1.921E-12	1.09E-13	3.436E-12	8.85E-10	6.871E-13	3.90E-14	6.871E-12	1.77E-09	6.871E-13	3.90E-14	9.94E-12	2.56E-09	4.26E-12	2.42E-13
Benzo(a)anthracene	2.40E-01	1.30E-01	NA	2.35E+00	6.382E-08	NA	2.735E-09	6.43E-09	6.358E-08	NA	5.45E-09	1.28E-08	9.745E-09	NA	1.949E-09	4.58E-09	1.949E-08	NA	1.949E-09	4.58E-09	2.82E-08	NA	1.21E-08	2.84E-08
Benzo(a)pyrene	1.99E-01	1.30E-01	NA	2.35E+01	5.292E-08	NA	2.268E-09	5.33E-08	5.272E-08	NA	4.519E-09	1.06E-07	8.08E-09	NA	1.616E-09	3.80E-08	1.616E-08	NA	1.616E-09	3.80E-08	2.34E-08	NA	1.00E-08	2.35E-07
Benzo(b)fluoranthene	3.17E-01	1.30E-01	NA	2.35E+00	8.43E-08	NA	3.613E-09	8.49E-09	8.398E-08	NA	7.198E-09	1.69E-08	1.287E-08	NA	2.574E-09	6.05E-09	2.574E-08	NA	2.574E-09	6.05E-09	3.72E-08	NA	1.60E-08	3.75E-08
Benzo(k)fluoranthene	9.33E-02	1.30E-01	NA	2.35E-01	2.481E-08	NA	1.063E-09	2.50E-10	2.472E-08	NA	2.119E-09	4.98E-10	3.788E-09	NA	7.576E-10	1.78E-10	7.576E-09	NA	7.576E-10	1.78E-10	1.10E-08	NA	4.70E-09	1.10E-09
Beryllium	6.97E-01	1.00E-03	2.00E-05	4.30E+02	1.426E-09	7.13E-05	6.111E-11	2.63E-08	1.42E-09	7.10E-05	1.217E-10	5.24E-08	2.177E-10	1.09E-05	4.354E-11	1.87E-08	4.354E-10	2.18E-05	4.354E-11	1.87E-08	6.30E-10	3.15E-05	2.70E-10	1.16E-07
Bis(2-chloroisopropyl)ether	NA	1.00E-02	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	1.00E-02	3.80E-03	7.37E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	NA	1.00E-03	1.80E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	1.00E-02	1.96E-02	6.33E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	1.00E-02	1.20E-02	1.32E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	1.00E-02	1.12E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.51E-01	1.00E-03	1.00E-05	NA	5.135E-10	5.13E-05	2.201E-11	NA	5.115E-10	5.12E-05	4.384E-11	NA	7.839E-11	7.84E-06	1.568E-11	NA	1.568E-10	1.57E-05	1.568E-11	NA	2.27E-10	2.27E-05	9.72E-11	NA
Carbazole	NA	1.00E-02	NA	2.66E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	2.50E-01	6.30E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	1.10E-03	1.00E-02	4.55E-04	2.00E-01	2.25E-11	4.95E-08	9.644E-13	1.93E-13	2.242E-11	4.93E-08	1.921E-12	3.84E-13	3.436E-12	7.55E-09	6.871E-13	1.37E-13	6.871E-12	1.51E-08	6.871E-13	1.37E-13	9.94E-12	2.18E-08	4.26E-12	8.52E-13
Chlordane	NA	4.00E-02	2.50E-04	7.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	1.00E-02	6.20E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	1.00E-02	2.00E-03	3.05E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	1.74E+01	1.00E-03	6.00E-05	NA	3.559E-08	5.93E-04	1.525E-09	NA	3.546E-08	5.91E-04	3.039E-09	NA	5.435E-09	9.06E-05	1.087E-09	NA	1.087E-08	1.81E-04	1.087E-09	NA	1.57E-08	2.62E-04	6.74E-09	NA
Chrysene	2.48E-01	1.30E-01	NA	2.35E-02	6.595E-08	NA	2.827E-09	6.64E-11	6.57E-08	NA	5.632E-09	1.32E-10	1.007E-08	NA	2.014E-09	4.73E-11	2.014E-08	NA	2.014E-09	4.73E-11	2.91E-08	NA	1.25E-08	2.93E-10
Cobalt	NA	1.00E-03	1.60E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	1.00E-03	1.20E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	NA	1.00E-02	3.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexanone	NA	1.00E-02	4.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	3.85E-02	1.30E-01	NA	2.35E+01	1.024E-08	NA	4.388E-10	1.03E-08	1.02E-08	NA	8.743E-10	2.05E-08	1.563E-09	NA	3.126E-10	7.35E-09	3.126E-09	NA	3.126E-10	7.35E-09	4.52E-09	NA	1.94E-09	4.56E-08
Dieldrin	1.50E-03	1.00E-02	2.50E-05	3.20E+01	3.068E-11	1.23E-06	1.315E-12	4.21E-11	3.057E-11	1.22E-06	2.62E-12	8.38E-11	4.685E-12	1.87E-07	9.37E-13	3.00E-11	9.37E-12	3.75E-07	9.37E-13	3.00E-11	1.38E-11	5.42E-07	5.81E-12	1.86E-10
Di-n-octylphthalate	NA	1.00E-02	3.60E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE E-2
Area 6E CU18 Risk Assessment - DermalSoilChem

Undeveloped Park User - Dermal Contact with Soil/Sediment
Risk calculation for A6E-CU18

Intake Equation:			UNITS	Assigned Values			
				child	youth	adult	senior
	CDI =	(CS*AB*SA*EF*ED*AF*CF)/(BW*AT)					
	CDI =	Chronic Daily Intake	mg/kgday				
	CS =	Concentration of chemical in soil	mg/kg	see table of COCs below			
	AB	Absorption factor	–	see table of COCs below			
	SA	Surface area of exposed skin	cm^2/day	2800	4370	5700	5700
	EF =	Exposure frequency	days/yr	20	40	20	40
	ED =	Exposure duration	yrs	3	6	14	7
	AF =	Adherence factor	mg/cm^2	0.2	0.2	0.07	0.07
	CF =	Conversion factor	kg/mg	1.00E-06	1.00E-06	1.00E-06	1.00E-06
	BW =	Body weight	kg	15	47	70	70
	ATc =	Average time for carcinogens	days	25550	25550	25550	25550
	ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555

COC	conc	AB	RfDd	CSFd	CHILD				YOUTH				ADULT				SENIOR				SUM			
					CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/kg	unitless	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
Ethyl ether	NA	1.00E-02	1.60E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.10E-03	1.00E-02	9.70E-02	NA	2.25E-11	2.32E-10	9.644E-13	NA	2.242E-11	2.31E-10	1.921E-12	NA	3.436E-12	3.54E-11	6.871E-13	NA	6.871E-12	7.08E-11	6.871E-13	NA	9.94E-12	1.02E-10	4.26E-12	NA
Fluoride	3.20E+00	1.00E-03	5.82E-02	NA	6.546E-09	1.12E-07	2.805E-10	NA	6.521E-09	1.12E-07	5.59E-10	NA	9.995E-10	1.72E-08	1.999E-10	NA	1.999E-09	3.43E-08	1.999E-10	NA	2.89E-09	4.97E-08	1.24E-09	NA
Heptachlorodibenzofuran	NA	1.00E-02	NA	3.00E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin	NA	3.00E-02	NA	3.00E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran	NA	1.00E-02	NA	3.00E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin	NA	3.00E-02	NA	3.00E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.51E-01	1.30E-01	NA	2.35E+00	4.016E-08	NA	1.721E-09	4.04E-09	4E-08	NA	3.429E-09	8.06E-09	6.131E-09	NA	1.226E-09	2.88E-09	1.226E-08	NA	1.226E-09	2.88E-09	1.77E-08	NA	7.60E-09	1.79E-08
Lead	2.02E+01	1.00E-03	NA	NA	4.132E-08	NA	1.771E-09	NA	4.117E-08	NA	3.528E-09	NA	6.309E-09	NA	1.262E-09	NA	1.262E-08	NA	1.262E-09	NA	1.83E-08	NA	7.82E-09	NA
Manganese	NA	1.00E-03	5.60E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	4.58E-02	1.00E-03	2.10E-05	NA	9.369E-11	4.46E-06	4.015E-12	NA	9.334E-11	4.44E-06	8E-12	NA	1.43E-11	6.81E-07	2.861E-12	NA	2.861E-11	1.36E-06	2.861E-12	NA	4.14E-11	1.97E-06	1.77E-11	NA
Methanol	NA	1.00E-02	4.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-2-pentanone	5.70E-03	1.00E-02	6.40E-02	NA	1.166E-10	1.82E-09	4.997E-12	NA	1.162E-10	1.81E-09	9.957E-12	NA	1.78E-11	2.78E-10	3.561E-12	NA	3.561E-11	5.56E-10	3.561E-12	NA	5.15E-11	8.05E-10	2.21E-11	NA
Methylene chloride	5.70E-03	1.00E-02	5.70E-02	7.89E-03	1.166E-10	2.05E-09	4.997E-12	3.94E-14	1.162E-10	2.04E-09	9.957E-12	7.86E-14	1.78E-11	3.12E-10	3.561E-12	2.81E-14	3.561E-11	6.25E-10	3.561E-12	2.81E-14	5.15E-11	9.04E-10	2.21E-11	1.74E-13
Molybdenum	2.19E+00	1.00E-03	1.90E-03	NA	4.48E-09	2.36E-06	1.92E-10	NA	4.463E-09	2.35E-06	3.825E-10	NA	6.84E-10	3.60E-07	1.368E-10	NA	1.368E-09	7.20E-07	1.368E-10	NA	1.98E-09	1.04E-06	8.48E-10	NA
Nickel	NA	1.00E-03	5.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodiphenylamine	NA	1.00E-02	5.00E-03	1.98E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodipropylamine	NA	1.00E-02	NA	2.80E+01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzofuran	NA	1.00E-02	NA	3.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octochlorodibenzo-p-dioxin	NA	3.00E-02	NA	3.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran	NA	1.00E-02	NA	1.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin	NA	3.00E-02	NA	1.50E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	2.50E-01	3.00E-02	1.20E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	7.36E-01	1.00E-02	NA	NA	1.506E-08	NA	6.453E-10	NA	1.5E-08	NA	1.288E-09	NA	2.299E-09	NA	4.597E-10	NA	4.597E-09	NA	4.597E-10	NA	6.65E-09	NA	2.85E-09	NA
Selenium	6.60E-01	1.00E-03	2.20E-03	NA	1.391E-09	6.32E-07	5.962E-11	NA	1.388E-09	6.30E-07	1.188E-10	NA	2.124E-10	9.65E-08	4.248E-11	NA	4.248E-10	1.93E-07	4.248E-11	NA	6.14E-10	2.79E-07	2.63E-10	NA
Silver	3.17E-01	1.00E-03	9.00E-04	NA	6.485E-10	7.21E-07	2.779E-11	NA	6.46E-10	7.18E-07	5.537E-11	NA	9.901E-11	1.10E-07	1.98E-11	NA	1.98E-10	2.20E-07	1.98E-11	NA	2.86E-10	3.18E-07	1.23E-10	NA
Tetrachlorodibenzofuran	NA	1.00E-02	NA	3.00E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo-p-dioxin	NA	3.00E-02	NA	3.00E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	1.10E-03	1.00E-02	1.00E-02	5.40E-01	2.25E-11	2.25E-09	9.644E-13	5.21E-13	2.242E-11	2.24E-09	1.921E-12	1.04E-12	3.436E-12	3.44E-10	6.871E-13	3.71E-13	6.871E-12	6.87E-10	6.871E-13	3.71E-13	9.94E-12	9.94E-10	4.26E-12	2.30E-12
Thallium	NA	1.00E-03	1.80E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.10E-03	1.00E-02	6.40E-02	NA	2.25E-11	3.52E-10	9.644E-13	NA	2.242E-11	3.50E-10	1.921E-12	NA	3.436E-12	5.37E-11	6.871E-13	NA	6.871E-12	1.07E-10	6.871E-13	NA	9.94E-12	1.55E-10	4.26E-12	NA
Tributyl phosphate	NA	1.00E-02	1.00E-01	1.08E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene	1.10E-03	1.00E-02	4.50E-05	2.67E+00	2.25E-11	5.00E-07	9.644E-13	2.57E-12	2.242E-11	4.98E-07	1.921E-12	5.13E-12	3.436E-12	7.63E-08	6.871E-13	1.83E-12	6.871E-12	1.53E-07	6.871E-13	1.83E-12	9.94E-12	2.21E-07	4.26E-12	1.14E-11
Trifluorochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	1.61E+01	1.00E-03	5.10E-04	NA	3.294E-08	6.46E-05	1.412E-09	NA	3.261E-08	6.43E-05	2.812E-09	NA	5.028E-09	9.88E-06	1.006E-09	NA	1.006E-08	1.97E-05	1.006E-09	NA	1.45E-08	2.85E-05	6.24E-09	NA
Vanadium	NA	1.00E-03	7.00E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	1.00E-02	3.00E-03	1.50E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	1.10E-03	1.00E-02	1.84E-01	NA	2.25E-11	1.22E-10	9.644E-13	NA	2.242E-11	1.22E-10	1.921E-12	NA	3.436E-12	1.87E-11	6.871E-13	NA	6.871E-12	3.73E-11	6.871E-13	NA	9.94E-12	5.40E-11	4.26E-12	NA
Zinc	NA	1.00E-03	6.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
																					total =	2.10E-03	total =	7.83E-07

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TABLE E-2
Area 6E CU18 Risk Assessment - IngestSoilChem

Undeveloped Park User - Ingestion of Soil
Risk calculation for A6E-CU18

Intake Equation:

			Assigned Values			
CDI =	(CS*EF*ED*IR*FI*CF)/(BW*AT)	UNITS	child	youth	adult	senior
CDI =	Chronic Daily Intake	mg/kgday				
CS =	Concentration of chemical in soil	mg/kg	see table of COCs below			
EF =	Exposure frequency	days/yr	20	40	20	40
ED =	Exposure duration	yrs	3	6	14	7
IR =	Ingestion rate	mg/day	200	100	100	100
FI =	Fraction of contaminated soil	unitless	1	1	1	1
CF =	Conversion factor	kg/mg	1.00E-06	1.00E-06	1.00E-06	1.00E-06
BW =	Body weight	kg	15	47	70	70
ATc =	Average time for carcinogens	days	25550	25550	25550	25550
ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555

				CHILD				YOUTH				ADULT				SENIOR				SUM			
COC	conc	RfDo	CSFo	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/kg	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
1,1,2-Trichloroethane	1.10E-03	4.00E-03	5.70E-02	8.04E-10	2.01E-07	3.44E-11	1.96E-12	2.565E-10	6.41E-08	2.198E-11	1.25E-12	8.61E-11	2.15E-08	1.72E-11	9.82E-13	1.72E-10	4.31E-08	1.72E-11	9.82E-13	2.12E-10	5.30E-08	9.09E-11	5.18E-12
1,1-Dichloroethylene	1.10E-03	5.00E-02	6.00E-01	8.04E-10	1.61E-08	3.44E-11	2.07E-11	2.565E-10	5.13E-09	2.20E-11	1.32E-11	8.61E-11	1.72E-09	1.72E-11	1.03E-11	1.72E-10	3.44E-09	1.72E-11	1.03E-11	2.12E-10	4.24E-09	9.09E-11	5.45E-11
1,2-dichloroethane	1.10E-03	2.00E-02	9.10E-02	8.04E-10	4.02E-08	3.44E-11	3.13E-12	2.565E-10	1.28E-08	2.20E-11	2.00E-12	8.61E-11	4.31E-09	1.72E-11	1.57E-12	1.72E-10	8.61E-09	1.72E-11	1.57E-12	2.12E-10	1.06E-08	9.09E-11	8.27E-12
2-Butanone	NA	6.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	4.50E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	5.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	3.00E-03	2.10E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	3.72E-02	9.00E-01	NA	2.72E-08	3.02E-08	NA	NA	8.674E-09	9.64E-09	NA	NA	2.91E-09	3.24E-09	NA	NA	5.82E-09	6.47E-09	NA	NA	7.17E-09	7.97E-09	NA	NA
Antimony	4.60E-01	4.00E-04	NA	3.51E-07	8.77E-04	NA	NA	1.119E-07	2.80E-04	NA	NA	3.76E-08	9.39E-05	NA	NA	7.51E-08	1.88E-04	NA	NA	9.25E-08	2.31E-04	NA	NA
Aroclor-1254	1.66E-02	2.00E-05	2.00E+00	1.21E-08	6.06E-04	5.20E-10	1.04E-09	3.871E-09	1.94E-04	3.32E-10	6.64E-10	1.30E-09	6.50E-05	2.60E-10	5.20E-10	2.60E-09	1.30E-04	2.60E-10	5.20E-10	3.20E-09	1.60E-04	1.37E-09	2.74E-09
Aroclor-1260	4.40E-03	2.00E-05	2.00E+00	3.21E-09	1.61E-04	1.38E-10	2.76E-10	1.026E-09	5.13E-05	8.79E-11	1.76E-10	3.44E-10	1.72E-05	6.89E-11	1.38E-10	6.89E-10	3.44E-05	6.89E-11	1.38E-10	8.48E-10	4.24E-05	3.63E-10	7.27E-10
Arsenic	7.01E+00	3.00E-04	1.50E+00	5.12E-06	1.71E-02	2.19E-07	3.29E-07	1.635E-06	5.45E-03	1.40E-07	2.10E-07	5.49E-07	1.83E-03	1.10E-07	1.65E-07	1.10E-06	3.66E-03	1.10E-07	1.65E-07	1.35E-06	4.50E-03	5.79E-07	8.69E-07
Barium	1.19E+02	2.00E-01	NA	8.69E-05	4.35E-04	NA	NA	2.775E-05	1.39E-04	NA	NA	9.32E-06	4.66E-05	NA	NA	1.86E-05	9.32E-05	NA	NA	2.29E-05	1.15E-04	NA	NA
Benzene	1.10E-03	4.00E-03	5.50E-02	8.04E-10	2.01E-07	3.44E-11	1.89E-12	2.565E-10	6.41E-08	2.20E-11	1.21E-12	8.61E-11	2.15E-08	1.72E-11	9.47E-13	1.72E-10	4.31E-08	1.72E-11	9.47E-13	2.12E-10	5.30E-08	9.09E-11	5.00E-12
Benzo(a)anthracene	2.40E-01	NA	7.30E-01	NA	NA	7.51E-09	5.49E-09	NA	NA	4.80E-09	3.50E-09	NA	NA	3.76E-09	2.74E-09	NA	NA	3.76E-09	2.74E-09	NA	NA	1.98E-08	1.45E-08
Benzo(a)pyrene	1.99E-01	NA	7.30E+00	NA	NA	6.23E-09	4.55E-08	NA	NA	3.98E-09	2.90E-08	NA	NA	3.12E-09	2.27E-08	NA	NA	3.12E-09	2.27E-08	NA	NA	1.64E-08	1.20E-07
Benzo(b)fluoranthene	3.17E-01	NA	7.30E-01	NA	NA	9.93E-09	7.25E-09	NA	NA	6.34E-09	4.62E-09	NA	NA	4.96E-09	3.62E-09	NA	NA	4.96E-09	3.62E-09	NA	NA	2.62E-08	1.91E-08
Benzo(k)fluoranthene	9.33E-02	NA	7.30E-02	NA	NA	2.92E-09	2.13E-10	NA	NA	1.86E-09	1.36E-10	NA	NA	1.46E-09	1.07E-10	NA	NA	1.46E-09	1.07E-10	NA	NA	7.71E-09	5.63E-10
Beryllium	6.97E-01	2.00E-03	4.30E+00	5.09E-07	2.55E-04	2.18E-08	9.38E-08	1.625E-07	8.13E-05	1.39E-08	5.99E-08	5.46E-08	2.73E-05	1.09E-08	4.69E-08	1.09E-07	5.46E-05	1.09E-08	4.69E-08	1.34E-07	6.72E-05	5.76E-08	2.48E-07
Bis(2-chloroisopropyl)ether	NA	4.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	2.00E-02	1.40E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	NA	2.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	2.00E-02	6.20E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	2.00E-02	7.90E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	1.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	2.51E-01	1.00E-03	NA	1.83E-07	1.83E-04	NA	NA	5.853E-08	5.85E-05	NA	NA	1.96E-08	1.96E-05	NA	NA	3.93E-08	3.93E-05	NA	NA	4.84E-08	4.84E-05	NA	NA
Carbazole	NA	NA	2.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	1.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	1.10E-03	7.00E-04	1.30E-01	8.04E-10	1.15E-06	3.44E-11	4.48E-12	2.565E-10	3.66E-07	2.20E-11	2.86E-12	8.61E-11	1.23E-07	1.72E-11	2.24E-12	1.72E-10	2.46E-07	1.72E-11	2.24E-12	2.12E-10	3.03E-07	9.09E-11	1.18E-11
Chlordane	NA	5.00E-04	3.50E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	1.00E-02	6.10E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	1.74E+01	3.00E-03	NA	1.27E-05	4.24E-03	NA	NA	4.057E-06	1.35E-03	NA	NA	1.36E-06	4.54E-04	NA	NA	2.72E-06	9.08E-04	NA	NA	3.35E-06	1.12E-03	NA	NA
Chrysene	2.48E-01	NA	7.30E-03	NA	NA	7.77E-09	5.67E-11	NA	NA	4.96E-09	3.62E-11	NA	NA	3.88E-09	2.83E-11	NA	NA	3.88E-09	2.83E-11	NA	NA	2.05E-08	1.50E-10
Cobalt	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	4.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexanone	NA	5.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	3.85E-02	NA	7.30E+00	NA	NA	1.21E-09	8.80E-09	NA	NA	7.69E-10	5.62E-09	NA	NA	6.03E-10	4.40E-09	NA	NA	6.03E-10	4.40E-09	NA	NA	3.18E-09	2.32E-08
Dieldrin	1.50E-03	5.00E-05	1.60E+01	1.10E-09	2.19E-05	4.70E-11	7.51E-10	3.498E-10	7.00E-06	3.00E-11	4.80E-10	1.17E-10	2.35E-06	2.35E-11	3.76E-10	2.35E-10	4.70E-06	2.35E-11	3.76E-10	2.89E-10	5.78E-06	1.24E-10	1.98E-09
Di-n-octylphthalate	NA	4.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE E-2
Area 6E CU18 Risk Assessment - IngestSoilChem

Undeveloped Park User - Ingestion of Soil
Risk calculation for A6E-CU18

Intake Equation:

		UNITS	Assigned Values			
			child	youth	adult	senior
CDI =	(CS*EF*ED*IR*FI*CF)/(BW*AT)	UNITS				
CDI =	Chronic Daily Intake	mg/kgday				
CS =	Concentration of chemical in soil	mg/kg	see table of COCs below			
EF =	Exposure frequency	days/yr	20	40	20	40
ED =	Exposure duration	yrs	3	6	14	7
IR =	Ingestion rate	mg/day	200	100	100	100
FI =	Fraction of contaminated soil	unitless	1	1	1	1
CF =	Conversion factor	kg/mg	1.00E-06	1.00E-06	1.00E-06	1.00E-06
BW =	Body weight	kg	15	47	70	70
ATc =	Average time for carcinogens	days	25550	25550	25550	25550
ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555

COC	conc	RfDo	CSFo	CHILD				YOUTH				ADULT				SENIOR				SUM			
				CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/kg	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
Ethyl ether	NA	2.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	1.10E-03	1.00E-01	NA	8.04E-10	8.04E-09	NA	NA	2.565E-10	2.56E-09	NA	NA	8.61E-11	8.61E-10	NA	NA	1.72E-10	1.72E-09	NA	NA	2.12E-10	2.12E-09	NA	NA
Fluoride	3.20E+00	6.00E-02	NA	2.34E-06	3.90E-05	NA	NA	7.461E-07	1.24E-05	NA	NA	2.50E-07	4.17E-06	NA	NA	5.01E-07	8.35E-06	NA	NA	6.17E-07	1.03E-05	NA	NA
Heptachlorodibenzofuran	NA	NA	1.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin	NA	NA	1.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran	NA	NA	1.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin	NA	NA	1.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	1.51E-01	NA	7.30E-01	NA	NA	4.73E-09	3.45E-09	NA	NA	3.02E-09	2.20E-09	NA	NA	2.36E-09	1.73E-09	NA	NA	2.36E-09	1.73E-09	NA	NA	1.25E-08	9.11E-09
Lead	2.02E+01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	1.40E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	4.58E-02	3.00E-04	NA	3.35E-08	1.12E-04	NA	NA	1.068E-08	3.56E-05	NA	NA	3.59E-09	1.20E-05	NA	NA	7.17E-09	2.39E-05	NA	NA	8.83E-09	2.94E-05	NA	NA
Methanol	NA	5.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl-2-pentanone	5.70E-03	8.00E-02	NA	4.16E-09	5.21E-08	NA	NA	1.329E-09	1.66E-08	NA	NA	4.46E-10	5.58E-09	NA	NA	8.92E-10	1.12E-08	NA	NA	1.10E-09	1.37E-08	NA	NA
Methylene chloride	5.70E-03	6.00E-02	7.50E-03	4.16E-09	6.94E-08	1.78E-10	1.34E-12	1.329E-09	2.22E-08	1.14E-10	8.54E-13	4.46E-10	7.44E-09	8.92E-11	6.69E-13	8.92E-10	1.49E-08	8.92E-11	6.69E-13	1.10E-09	1.83E-08	4.71E-10	3.53E-12
Molybdenum	2.19E+00	5.00E-03	NA	1.60E-06	3.20E-04	NA	NA	5.106E-07	1.02E-04	NA	NA	1.71E-07	3.43E-05	NA	NA	3.43E-07	6.86E-05	NA	NA	4.22E-07	8.44E-05	NA	NA
Nickel	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodiphenylamine	NA	2.00E-02	4.90E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodipropylamine	NA	NA	7.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzofuran	NA	NA	1.50E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octochlorodibenzo-p-dioxin	NA	NA	1.50E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran	NA	NA	7.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin	NA	NA	7.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	3.00E-02	1.20E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	7.36E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	6.60E-01	5.00E-03	NA	4.97E-07	9.94E-05	NA	NA	1.586E-07	3.17E-05	NA	NA	5.32E-08	1.06E-05	NA	NA	1.06E-07	2.13E-05	NA	NA	1.31E-07	2.62E-05	NA	NA
Silver	3.17E-01	5.00E-03	NA	2.32E-07	4.63E-05	NA	NA	7.391E-08	1.48E-05	NA	NA	2.48E-08	4.96E-06	NA	NA	4.96E-08	9.93E-06	NA	NA	6.11E-08	1.22E-05	NA	NA
Tetrachlorodibenzofuran	NA	NA	1.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo-p-dioxin	NA	NA	1.50E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	1.10E-03	1.00E-02	5.40E-01	8.04E-10	8.04E-08	3.44E-11	1.86E-11	2.565E-10	2.56E-08	2.20E-11	1.19E-11	8.61E-11	8.61E-09	1.72E-11	9.30E-12	1.72E-10	1.72E-08	1.72E-11	9.30E-12	2.12E-10	2.12E-08	9.09E-11	4.91E-11
Thallium	NA	9.00E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.10E-03	8.00E-02	NA	8.04E-10	1.00E-08	NA	NA	2.565E-10	3.21E-09	NA	NA	8.61E-11	1.08E-09	NA	NA	1.72E-10	2.15E-09	NA	NA	2.12E-10	2.65E-09	NA	NA
Tributyl phosphate	NA	2.00E-01	5.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene	1.10E-03	3.00E-04	4.00E-01	8.04E-10	2.68E-06	3.44E-11	1.38E-11	2.565E-10	8.55E-07	2.20E-11	8.79E-12	8.61E-11	2.87E-07	1.72E-11	6.89E-12	1.72E-10	5.74E-07	1.72E-11	6.89E-12	2.12E-10	7.07E-07	9.09E-11	3.63E-11
Trifluorochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	1.61E+01	6.00E-04	NA	1.18E-05	1.96E-02	NA	NA	3.754E-06	6.26E-03	NA	NA	1.26E-06	2.10E-03	NA	NA	2.52E-06	4.20E-03	NA	NA	3.10E-06	5.17E-03	NA	NA
Vanadium	NA	7.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	3.00E-03	1.50E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	1.10E-03	2.00E-01	NA	8.04E-10	4.02E-09	NA	NA	2.565E-10	1.28E-09	NA	NA	8.61E-11	4.31E-10	NA	NA	1.72E-10	8.61E-10	NA	NA	2.12E-10	1.08E-09	NA	NA
Zinc	NA	3.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
																				total =	1.16E-02	total =	1.31E-06

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TABLE E-2
Area 6E CU18 Risk Assessment - DermalSWchem

Undeveloped Park User - Dermal Contact with Surface Water
Risk calculation for A6E-CU18

			UNITS	Assigned Values child	youth	adult	senior
Intake Equation:	CDI =	(DA*EF*ED*SA)/(BW*AT)					
	CDI =	Chronic Daily Intake	mg/kgday	calculated below			
	DA =	Dermal absorption dose	mg/cm²day	see COC list below			
	EF =	Exposure frequency	days/yr	12	12	12	12
	ED =	Exposure duration	yrs	3	6	14	7
	SA =	Surface area of skin	cm²	2180	4470	6070	6070
	BW =	Body weight	kg	15	47	70	70
	ATc =	Average time for carcinogens	days	25550	25550	25550	25550
	ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555
where:	DA = C_v*K_p*CF*ET						
	C_v =	concentation of ith contaminant in surface water	mg/L	see COC list below			
	K_p =	permeability constant for ith contaminant	cm/hr	see COC list below			
	CF =	conversion factor	L/cm³	0.001	0.001	0.001	0.001
	ET =	exposure time	hr/d	1	1	1	1

COC	C_v	K_p	DA	RfDd	CSFd	CHILD CDI	CHILD HQ	CHILD CDI	CHILD ILCR	YOUTH CDI	YOUTH HQ	YOUTH CDI	YOUTH ILCR	ADULT CDI	ADULT HQ	ADULT CDI	ADULT ILCR	SENIOR CDI	SENIOR HQ	SENIOR CDI	SENIOR ILCR	SUM CDI	SUM HQ	SUM CDI	SUM ILCR
	mg/L	cm/hr	mg/cm²day	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
1,1,2-Trichloroethane	5.00E-04	6.43E-03	3.22E-09	3.24E-03	7.04E-02	1.54E-08	4.74E-06	6.58E-10	4.63E-11	1.01E-08	3.10E-06	8.62E-10	6.07E-11	9.17E-09	2.83E-06	1.83E-09	1.29E-10	9.17E-09	2.83E-06	9.17E-10	6.45E-11	9.96E-09	3.07E-06	4.27E-09	3.01E-10
1,1-Dichloroethylene	5.00E-04	1.59E-02	7.95E-09	5.00E-02	6.00E-01	3.80E-08	7.60E-07	1.63E-09	9.77E-10	2.49E-08	4.97E-07	2.13E-09	1.28E-09	2.27E-08	4.53E-07	4.53E-09	2.72E-09	2.27E-08	4.53E-07	2.27E-09	1.36E-09	2.46E-08	4.93E-07	1.06E-08	6.33E-09
1,2-dichloroethane	5.00E-04	5.34E-03	2.67E-09	2.00E-02	9.10E-02	1.26E-08	6.38E-07	5.47E-10	4.98E-11	8.35E-09	4.17E-07	7.16E-10	6.51E-11	7.61E-09	3.81E-07	1.52E-09	1.39E-10	7.61E-09	3.81E-07	7.61E-10	6.93E-11	8.27E-09	4.14E-07	3.55E-09	3.23E-10
2-Butanone	NA	1.11E-03	NA	4.80E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	1.69E-02	NA	NA	9.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	9.95E-03	NA	3.25E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	2.66E-03	NA	2.40E-03	2.63E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	2.50E-03	5.69E-04	1.42E-09	7.47E-01	NA	6.60E-09	9.10E-09	NA	NA	4.45E-09	5.95E-09	NA	NA	4.06E-09	5.43E-09	NA	NA	4.06E-09	5.43E-09	NA	NA	4.41E-09	5.90E-09	NA	NA
Antimony	2.50E-04	1.00E-03	2.50E-10	8.00E-06	NA	1.19E-09	1.49E-04	NA	NA	7.82E-10	9.77E-05	NA	NA	7.13E-10	8.91E-05	NA	NA	7.13E-10	8.91E-05	NA	NA	7.75E-10	9.68E-05	NA	NA
Aroclor-1254	5.00E-05	1.29E+00	6.45E-08	1.80E-05	2.22E+00	3.08E-07	1.71E-02	1.32E-08	2.93E-08	2.02E-07	1.12E-02	1.73E-08	3.84E-08	1.84E-07	1.02E-02	3.68E-08	8.16E-08	1.84E-07	1.02E-02	1.84E-08	4.08E-08	2.00E-07	1.11E-02	8.57E-08	1.90E-07
Aroclor-1260	5.00E-05	5.48E+00	2.74E-07	1.80E-05	2.22E+00	1.31E-06	7.27E-02	5.61E-08	1.25E-07	8.57E-07	4.76E-02	7.34E-08	1.63E-07	7.81E-07	4.34E-02	1.56E-07	3.47E-07	7.81E-07	4.34E-02	7.81E-08	1.73E-07	8.49E-07	4.72E-02	3.64E-07	8.08E-07
Arsenic	7.70E-03	1.00E-03	7.70E-09	1.23E-04	3.66E+00	3.68E-08	2.99E-04	1.58E-09	5.77E-09	2.41E-08	1.96E-04	2.06E-09	7.55E-09	2.20E-08	1.78E-04	4.39E-09	1.61E-08	2.20E-08	1.78E-04	2.20E-09	8.03E-09	2.39E-08	1.94E-04	1.02E-08	3.74E-08
Barium	1.74E-01	1.00E-03	1.74E-07	1.40E-02	NA	8.31E-07	5.94E-05	NA	NA	5.44E-07	3.89E-05	NA	NA	4.96E-07	3.54E-05	NA	NA	4.96E-07	3.54E-05	NA	NA	5.39E-07	3.85E-05	NA	NA
Benzene	5.00E-04	2.07E-02	1.04E-08	3.88E-03	5.87E-02	4.95E-08	1.27E-05	2.12E-09	1.20E-10	3.24E-08	8.34E-06	2.77E-09	1.57E-10	2.95E-08	7.60E-06	5.90E-09	3.35E-10	2.95E-08	7.60E-06	2.95E-09	1.67E-10	3.21E-08	8.27E-06	1.37E-08	7.79E-10
Benzo(a)anthracene	5.00E-04	9.48E-01	4.74E-07	NA	2.35E+00	NA	NA	9.71E-08	2.28E-07	NA	NA	1.27E-07	2.99E-07	NA	NA	2.70E-07	6.35E-07	NA	NA	1.35E-07	3.18E-07	NA	NA	6.29E-07	1.48E-06
Benzo(a)pyrene	5.00E-04	1.24E+00	6.20E-07	NA	2.35E+01	NA	NA	1.27E-07	2.98E-06	NA	NA	1.66E-07	3.90E-06	NA	NA	3.54E-07	8.31E-06	NA	NA	1.77E-07	4.15E-06	NA	NA	8.23E-07	1.93E-05
Benzo(b)fluoranthene	5.00E-04	6.99E-01	3.50E-07	NA	2.35E+00	NA	NA	7.15E-08	1.68E-07	NA	NA	9.37E-08	2.20E-07	NA	NA	1.99E-07	4.68E-07	NA	NA	9.96E-08	2.34E-07	NA	NA	4.64E-07	1.09E-06
Benzo(k)fluoranthene	5.00E-04	1.20E+00	6.00E-07	NA	2.35E-01	NA	NA	1.23E-07	2.89E-08	NA	NA	1.61E-07	3.78E-08	NA	NA	3.42E-07	8.04E-08	NA	NA	1.71E-07	4.02E-08	NA	NA	7.97E-07	1.87E-07
Beryllium	1.00E-03	1.00E-03	1.00E-09	2.00E-05	4.30E+02	4.78E-09	2.39E-04	2.05E-10	8.81E-08	3.13E-09	1.56E-04	2.68E-10	1.15E-07	2.85E-09	1.43E-04	5.70E-10	2.45E-07	2.85E-09	1.43E-04	2.85E-10	1.23E-07	3.10E-09	1.55E-04	1.33E-09	5.71E-07
Bis(2-chloroisopropyl)ether	NA	7.63E-02	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	1.97E+00	NA	3.80E-03	7.37E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	NA	1.00E-03	NA	1.80E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	5.02E-03	NA	1.96E-02	6.33E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	2.77E-03	NA	1.20E-02	1.32E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	3.51E-03	NA	1.12E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5.00E-05	1.00E-03	5.00E-11	1.00E-05	NA	2.39E-10	2.39E-05	NA	NA	1.56E-10	1.56E-05	NA	NA	1.43E-10	1.43E-05	NA	NA	1.43E-10	1.43E-05	NA	NA	1.55E-10	1.55E-05	NA	NA
Carbazole	NA	7.97E-02	NA	NA	2.86E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	1.56E-02	NA	6.30E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	5.00E-04	2.24E-02	1.12E-08	4.55E-04	2.00E-01	5.35E-08	1.18E-04	2.29E-09	4.59E-10	3.50E-08	7.70E-05	3.00E-09	6.00E-10	3.19E-08	7.02E-05	6.39E-09	1.28E-09	3.19E-08	7.02E-05	3.19E-09	6.39E-10	3.47E-08	7.63E-05	1.49E-08	2.97E-09
Chlordane	NA	1.57E-01	NA	2.50E-04	7.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	4.07E-02	NA	6.20E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	8.92E-03	NA	2.00E-03	3.05E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	2.37E-02	2.00E-03	4.74E-08	6.00E-05	NA	2.26E-07	3.77E-03	NA	NA	1.48E-07	2.47E-03	NA	NA	1.35E-07	2.25E-03	NA	NA	1.35E-07	2.25E-03	NA	NA	1.47E-07	2.45E-03	NA	NA
Chrysene	5.00E-04	1.03E+00	5.15E-07	NA	2.35E-02	NA	NA	1.05E-07	2.48E-09	NA	NA	1.38E-07	3.24E-09	NA	NA	2.94E-07	6.90E-09	NA	NA	1.47E-07	3.45E-09	NA	NA	6.84E-07	1.61E-08
Cobalt	NA	4.00E-04	NA	1.60E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	1.00E-03	NA	1.20E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	NA	1.00E-03	NA	3.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexanone	NA	1.80E-03	NA	4.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	5.00E-04	1.68E+00	8.40E-07	NA	2.35E+01	NA	NA	1.72E-07	4.04E-06	NA	NA	2.25E-07	5.29E-06	NA	NA	4.79E-07	1.13E-05	NA	NA	2.39E-07	5.63E-06	NA	NA	1.12E-06	2.62E-05
Dieldrin	2.00E-05	4.45E-02	8.90E-10	2.50E-05	3.20E+01	4.25E-09	1.70E-04	1.82E-10	5.83E-09	2.78E-09	1.11E-04	2.39E-10	7.63E-09	2.54E-09	1.01E-04	5.07E-10	1.62E-08	2.54E-09	1.01E-04	2.54E-10	8.12E-09	2.76E-09	1.10E-04	1.18E-09	3.78E-08
Di-n-octylphthalate	NA	4.45E+00	NA	3.60E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE E-2
Area 6E CU18 Risk Assessment - DermalSWchem

Undeveloped Park User - Dermal Contact with Surface Water
Risk calculation for A6E-CU18

			UNITS	Assigned Values			
				child	youth	adult	senior
Intake Equation:	CDI =	(DA*EF*ED*SA)/(BW*AT)					
	CDI =	Chronic Daily Intake	mg/kgday	calculated below			
	DA =	Dermal absorption dose	mg/cm²day	see COC list below			
	EF =	Exposure frequency	days/yr	12	12	12	12
	ED =	Exposure duration	yrs	3	6	14	7
	SA =	Surface area of skin	cm²	2180	4470	6070	6070
	BW =	Body weight	kg	15	47	70	70
	ATc =	Average time for carcinogens	days	25550	25550	25550	25550
	ATn =	Average time for non-carcinogens	days	1095	2190	5110	2555
where:	DA = C_v*K_p*CF*ET						
	C_v =	concentation of ith contaminant in surface water	mg/L	see COC list below			
	K_p =	permeability constant for ith contaminant	cm/hr	see COC list below			
	CF =	conversion factor	L/cm³	0.001	0.001	0.001	0.001
	ET =	exposure time	hr/d	1	1	1	1

COC	C_v	K_p	DA	RfDd	CSFd	CHILD				YOUTH				ADULT				SENIOR				SUM			
						CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/L	cm/hr	mg/cm²day	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
Ethyl ether	NA	2.88E-03	NA	1.60E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5.00E-04	7.39E-02	3.70E-08	9.70E-02	NA	1.77E-07	1.82E-06	NA	NA	1.16E-07	1.19E-06	NA	NA	1.05E-07	1.09E-06	NA	NA	1.05E-07	1.09E-06	NA	NA	1.14E-07	1.16E-06	NA	NA
Fluoride	4.09E-01	1.00E-03	4.09E-07	5.82E-02	NA	1.95E-06	3.35E-05	NA	NA	1.28E-06	2.19E-05	NA	NA	1.16E-06	2.00E-05	NA	NA	1.16E-06	2.00E-05	NA	NA	1.27E-06	2.18E-05	NA	NA
Heptachlorodibenzofuran	NA	2.55E+00	NA	NA	3.00E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin	NA	3.22E+00	NA	NA	3.00E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran	NA	2.38E+00	NA	NA	3.00E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin	NA	5.29E+00	NA	NA	3.00E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.00E-04	2.23E+00	1.12E-08	NA	2.35E+00	NA	NA	2.28E-07	5.37E-07	NA	NA	2.99E-07	7.02E-07	NA	NA	6.36E-07	1.49E-06	NA	NA	3.18E-07	7.47E-07	NA	NA	1.48E-06	3.48E-06
Lead	1.37E-02	1.00E-04	1.37E-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	1.00E-03	NA	1.84E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	3.00E-05	1.00E-03	3.00E-11	2.10E-05	NA	1.43E-10	6.83E-06	NA	NA	9.38E-11	4.47E-06	NA	NA	8.55E-11	4.07E-06	NA	NA	8.55E-11	4.07E-06	NA	NA	9.30E-11	4.43E-06	NA	NA
Methanol	NA	3.45E-04	NA	4.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	2.50E-03	3.97E-03	9.93E-09	6.40E-02	NA	4.74E-08	7.41E-07	NA	NA	3.10E-08	4.85E-07	NA	NA	2.83E-08	4.42E-07	NA	NA	2.83E-08	4.42E-07	NA	NA	3.08E-08	4.81E-07	NA	NA
Methylene chloride	2.50E-03	4.46E-03	1.12E-08	5.70E-02	7.69E-03	5.33E-08	9.35E-07	2.28E-09	1.80E-11	3.49E-08	6.12E-07	2.99E-09	2.36E-11	3.18E-08	5.58E-07	6.36E-09	5.02E-11	3.18E-08	5.58E-07	3.18E-09	2.51E-11	3.46E-08	6.06E-07	1.48E-08	1.17E-10
Molybdenum	1.21E-02	1.00E-03	1.21E-08	1.90E-03	NA	5.78E-08	3.04E-05	NA	NA	3.78E-08	1.99E-05	NA	NA	3.45E-08	1.82E-05	NA	NA	3.45E-08	1.82E-05	NA	NA	3.75E-08	1.97E-05	NA	NA
Nickel	NA	2.00E-04	NA	5.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodiphenylamine	NA	1.96E-02	NA	5.00E-03	1.96E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodipropylamine	NA	2.83E-03	NA	NA	2.80E+01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzofuran	NA	4.78E+00	NA	NA	3.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octochlorodibenzo-p-dioxin	NA	1.65E+01	NA	NA	3.00E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran	NA	1.06E+00	NA	NA	1.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin	NA	3.79E-01	NA	NA	1.50E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	1.95E-01	NA	3.00E-02	1.20E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	5.00E-04	2.29E-01	1.15E-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1.25E-03	1.00E-03	1.25E-09	2.20E-03	NA	5.97E-09	2.71E-06	NA	NA	3.91E-09	1.78E-06	NA	NA	3.56E-09	1.62E-06	NA	NA	3.56E-09	1.62E-06	NA	NA	3.87E-09	1.76E-06	NA	NA
Silver	1.00E-04	6.00E-04	6.00E-11	9.00E-04	NA	2.87E-10	3.19E-07	NA	NA	1.88E-10	2.08E-07	NA	NA	1.71E-10	1.90E-07	NA	NA	1.71E-10	1.90E-07	NA	NA	1.86E-10	2.07E-07	NA	NA
Tetrachlorodibenzofuran	NA	1.12E+00	NA	NA	3.00E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo-p-dioxin	NA	1.39E+00	NA	NA	3.00E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	5.00E-04	4.81E-02	2.41E-08	1.00E-02	5.40E-01	1.15E-07	1.15E-05	4.92E-09	2.66E-09	7.52E-08	7.52E-06	6.45E-09	3.48E-09	6.86E-08	6.86E-06	1.37E-08	7.40E-09	6.86E-08	6.86E-06	6.86E-09	3.70E-09	7.45E-08	7.45E-06	3.19E-08	1.72E-08
Thallium	NA	1.00E-03	NA	1.80E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	5.00E-04	4.53E-02	2.27E-08	6.40E-02	NA	1.08E-07	1.69E-06	NA	NA	7.08E-08	1.11E-06	NA	NA	6.46E-08	1.01E-06	NA	NA	6.46E-08	1.01E-06	NA	NA	7.02E-08	1.10E-06	NA	NA
Tributyl phosphate	NA	3.13E-02	NA	1.00E-01	1.08E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene	5.00E-04	1.57E-02	7.85E-09	4.50E-05	2.87E+00	3.75E-08	8.34E-04	1.61E-09	4.29E-09	2.45E-08	5.45E-04	2.10E-09	5.62E-09	2.24E-08	4.97E-04	4.48E-09	1.20E-08	2.24E-08	4.97E-04	2.24E-09	5.98E-09	2.43E-08	5.41E-04	1.04E-08	2.78E-08
Trifluorochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	4.46E-02	1.00E-03	4.46E-08	5.10E-04	NA	2.13E-07	4.18E-04	NA	NA	1.39E-07	2.73E-04	NA	NA	1.27E-07	2.49E-04	NA	NA	1.27E-07	2.49E-04	NA	NA	1.38E-07	2.71E-04	NA	NA
Vanadium	NA	1.00E-03	NA	7.00E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	1.13E-02	NA	3.00E-03	1.50E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	5.00E-04	7.04E-02	3.52E-08	1.84E-01	NA	1.68E-07	9.14E-07	NA	NA	1.10E-07	5.98E-07	NA	NA	1.00E-07	5.45E-07	NA	NA	1.00E-07	5.45E-07	NA	NA	1.09E-07	5.93E-07	NA	NA
Zinc	NA	6.00E-04	NA	6.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
																						total =	6.23E-02	total =	8.35E-05

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TABLE E-2
Area 6E CU18 Risk Assessment - IngestSWchem

Undeveloped Park User - Ingestion of Surface Water
Risk calculation for A6E-CU18

Intake Equation:

			UNITS	Assigned Values			
				child	youth	adult	senior
CDI =	(CW*EF*ED*IR)/(BW*AT)	Chronic Daily Intake	mg/kgday				
CW =		Concentration of chemical in water	mg/L	see COC table below			
EF =		Exposure frequency	days/yr	12	12	12	12
ED =		Exposure duration	yrs	3	6	14	7
IR =		Ingestion rate	L/day	0.035	0.035	0.015	0.015
BW =		Body weight	kg	15	47	70	70
ATc =		Average time for carcinogens	days	25550	25550	25550	25550
ATn =		Average time for non-carcinogens	days	1095	2190	5110	2555

COC	CW	RfDo	CSFo	CHILD				YOUTH				ADULT				SENIOR				SUM			
				CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/L	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
1,1,2-Trichloroethane	5.00E-04	4.00E-03	5.70E-02	3.84E-08	9.59E-06	1.64E-09	9.37E-11	1.22E-08	3.06E-06	1.05E-09	5.98E-11	3.52E-09	8.81E-07	7.05E-10	4.02E-11	3.52E-09	8.81E-07	3.52E-10	2.01E-11	8.75E-09	2.19E-06	3.75E-09	2.14E-10
1,1-Dichloroethylene	5.00E-04	5.00E-02	6.00E-01	3.84E-08	7.67E-07	1.64E-09	9.85E-10	1.22E-08	2.45E-07	1.05E-09	6.30E-10	3.52E-09	7.05E-08	7.05E-10	4.23E-10	3.52E-09	7.05E-08	3.52E-10	2.11E-10	8.75E-09	1.75E-07	3.75E-09	2.25E-09
1,2-dichloroethane	5.00E-04	2.00E-02	9.10E-02	3.84E-08	1.92E-06	1.64E-09	1.50E-10	1.22E-08	6.12E-07	1.05E-09	9.55E-11	3.52E-09	1.76E-07	7.05E-10	6.41E-11	3.52E-09	1.76E-07	3.52E-10	3.21E-11	8.75E-09	4.37E-07	3.75E-09	3.41E-10
2-Butanone	NA	6.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3-Dichlorobenzidine	NA	NA	4.50E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	5.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	3.00E-03	2.10E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	2.50E-03	9.00E-01	NA	1.92E-07	2.13E-07	NA	NA	6.12E-08	6.80E-08	NA	NA	1.76E-08	1.96E-08	NA	NA	1.76E-08	1.96E-08	NA	NA	4.37E-08	4.86E-08	NA	NA
Antimony	2.50E-04	4.00E-04	NA	1.92E-08	4.79E-05	NA	NA	6.12E-09	1.53E-05	NA	NA	1.76E-09	4.40E-06	NA	NA	1.76E-09	4.40E-06	NA	NA	4.37E-09	1.09E-05	NA	NA
Aroclor-1254	5.00E-05	2.00E-05	4.00E-01	3.84E-09	1.92E-04	1.64E-10	6.58E-11	1.22E-09	6.12E-05	1.05E-10	4.20E-11	3.52E-10	1.76E-05	7.05E-11	2.82E-11	3.52E-10	1.76E-05	3.52E-11	1.41E-11	8.75E-10	4.37E-05	3.75E-10	1.50E-10
Aroclor-1260	5.00E-05	2.00E-05	4.00E-01	3.84E-09	1.92E-04	1.64E-10	6.58E-11	1.22E-09	6.12E-05	1.05E-10	4.20E-11	3.52E-10	1.76E-05	7.05E-11	2.82E-11	3.52E-10	1.76E-05	3.52E-11	1.41E-11	8.75E-10	4.37E-05	3.75E-10	1.50E-10
Arsenic	7.70E-03	3.00E-04	1.50E+00	5.91E-07	1.97E-03	2.53E-06	3.80E-06	1.89E-07	6.28E-04	1.62E-08	2.42E-08	5.42E-08	1.81E-04	1.08E-08	1.63E-08	5.42E-08	1.81E-04	5.42E-09	8.14E-09	1.35E-07	4.49E-04	5.77E-08	8.66E-08
Barium	1.74E-01	2.00E-01	NA	1.33E-05	6.67E-05	NA	NA	4.26E-06	2.13E-05	NA	NA	1.23E-06	6.13E-06	NA	NA	1.23E-06	6.13E-06	NA	NA	3.04E-06	1.52E-05	NA	NA
Benzene	5.00E-04	4.00E-03	5.50E-02	3.84E-08	9.59E-06	1.64E-09	9.04E-11	1.22E-08	3.06E-06	1.05E-09	5.77E-11	3.52E-09	8.81E-07	7.05E-10	3.87E-11	3.52E-09	8.81E-07	3.52E-10	1.94E-11	8.75E-09	2.19E-06	3.75E-09	2.06E-10
Benzo(a)anthracene	5.00E-04	NA	7.30E-01	NA	NA	1.64E-09	1.20E-09	NA	NA	1.05E-09	7.66E-10	NA	NA	7.05E-10	5.14E-10	NA	NA	3.52E-10	2.57E-10	NA	NA	3.75E-09	2.74E-09
Benzo(a)pyrene	5.00E-04	NA	7.30E+00	NA	NA	1.64E-09	1.20E-08	NA	NA	1.05E-09	7.66E-09	NA	NA	7.05E-10	5.14E-09	NA	NA	3.52E-10	2.57E-09	NA	NA	3.75E-09	2.74E-08
Benzo(b)fluoranthene	5.00E-04	NA	7.30E-01	NA	NA	1.64E-09	1.20E-09	NA	NA	1.05E-09	7.66E-10	NA	NA	7.05E-10	5.14E-10	NA	NA	3.52E-10	2.57E-10	NA	NA	3.75E-09	2.74E-09
Benzo(k)fluoranthene	5.00E-04	NA	7.30E-02	NA	NA	1.64E-09	1.20E-10	NA	NA	1.05E-09	7.66E-11	NA	NA	7.05E-10	5.14E-11	NA	NA	3.52E-10	2.57E-11	NA	NA	3.75E-09	2.74E-10
Beryllium	1.00E-03	2.00E-03	4.30E+00	7.67E-08	3.84E-05	3.29E-09	1.41E-08	2.45E-08	1.22E-05	2.10E-09	9.02E-09	7.05E-09	3.52E-06	1.41E-09	6.06E-09	7.05E-09	3.52E-06	7.05E-10	3.03E-09	1.75E-08	8.75E-06	7.50E-09	3.22E-08
Bis(2-chloroisopropyl)ether	NA	4.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	2.00E-02	1.40E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	NA	2.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	2.00E-02	6.20E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	NA	2.00E-02	7.90E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	NA	1.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	5.00E-05	1.00E-03	NA	3.84E-09	3.84E-06	NA	NA	1.22E-09	1.22E-06	NA	NA	3.52E-10	3.52E-07	NA	NA	3.52E-10	3.52E-07	NA	NA	8.75E-10	8.75E-07	NA	NA
Carbazole	NA	NA	2.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	NA	1.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	5.00E-04	7.00E-04	1.30E-01	3.84E-08	5.48E-05	1.64E-09	2.14E-10	1.22E-08	1.75E-05	1.05E-09	1.36E-10	3.52E-09	5.03E-06	7.05E-10	9.16E-11	3.52E-09	5.03E-06	3.52E-10	4.58E-11	8.75E-09	1.25E-05	3.75E-09	4.67E-10
Chlordane	NA	5.00E-04	3.50E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	1.00E-02	6.10E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	2.37E-02	3.00E-03	NA	1.82E-06	6.06E-04	NA	NA	5.80E-07	1.93E-04	NA	NA	1.67E-07	5.57E-05	NA	NA	1.67E-07	5.57E-05	NA	NA	4.15E-07	1.38E-04	NA	NA
Chrysene	5.00E-04	NA	7.30E-03	NA	NA	1.64E-09	1.20E-11	NA	NA	1.05E-09	7.66E-12	NA	NA	7.05E-10	5.14E-12	NA	NA	3.52E-10	2.57E-12	NA	NA	3.75E-09	2.74E-11
Cobalt	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	NA	4.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexanone	NA	5.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzo(a,h)anthracene	5.00E-04	NA	7.30E+00	NA	NA	1.64E-09	1.20E-08	NA	NA	1.05E-09	7.66E-09	NA	NA	7.05E-10	5.14E-09	NA	NA	3.52E-10	2.57E-09	NA	NA	3.75E-09	2.74E-08
Dieldrin	2.00E-05	5.00E-05	1.60E+01	1.53E-09	3.07E-05	6.58E-11	1.05E-09	4.90E-10	9.79E-06	4.20E-11	6.72E-10	1.41E-10	2.82E-06	2.82E-11	4.51E-10	1.41E-10	2.82E-06	1.41E-11	2.25E-10	3.50E-10	7.00E-06	1.50E-10	2.40E-09
Di-n-octylphthalate	NA	4.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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TABLE E-2
Area 6E CU18 Risk Assessment - IngestSWchem

Undeveloped Park User - Ingestion of Surface Water
Risk calculation for A6E-CU18

Intake Equation:

			UNITS	Assigned Values			
				child	youth	adult	senior
CDI =	(CW*EF*ED*IR)/(BW*AT)						
CDI =	Chronic Daily Intake		mg/kgday				
CW =	Concentration of chemical in water		mg/L	see COC table below			
EF =	Exposure frequency		days/yr	12	12	12	12
ED =	Exposure duration		yrs	3	6	14	7
IR =	Ingestion rate		L/day	0.035	0.035	0.015	0.015
BW =	Body weight		kg	15	47	70	70
ATc =	Average time for carcinogens		days	25550	25550	25550	25550
ATn =	Average time for non-carcinogens		days	1095	2190	5110	2555

COC	CW	RfDo	CSFo	CHILD				YOUTH				ADULT				SENIOR				SUM			
				CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR	CDI	HQ	CDI	ILCR
	mg/L	mg/kgday	kgday/mg	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF	mg/kgday	CDI/RfD	mg/kgday	CDI*CSF
Ethyl ether	NA	2.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5.00E-04	1.00E-01	NA	3.84E-08	3.84E-07	NA	NA	1.22E-08	1.22E-07	NA	NA	3.52E-09	3.52E-08	NA	NA	3.52E-09	3.52E-08	NA	NA	8.75E-09	8.75E-08	NA	NA
Fluoride	4.09E-01	6.00E-02	NA	3.13E-05	5.22E-04	NA	NA	1.00E-05	1.67E-04	NA	NA	2.88E-06	4.80E-05	NA	NA	2.88E-06	4.80E-05	NA	NA	7.15E-06	1.19E-04	NA	NA
Heptachlorodibenzofuran	NA	NA	1.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin	NA	NA	1.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran	NA	NA	1.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin	NA	NA	1.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.00E-04	NA	7.30E-01	NA	NA	1.64E-09	1.20E-09	NA	NA	1.05E-09	7.66E-10	NA	NA	7.05E-10	5.14E-10	NA	NA	3.52E-10	2.57E-10	NA	NA	3.75E-09	2.74E-09
Lead	1.37E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	4.60E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	3.00E-05	3.00E-04	NA	2.30E-09	7.67E-06	NA	NA	7.34E-10	2.45E-06	NA	NA	2.11E-10	7.05E-07	NA	NA	2.11E-10	7.05E-07	NA	NA	5.25E-10	1.75E-06	NA	NA
Methanol	NA	5.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	2.50E-03	5.00E-02	NA	1.92E-07	2.40E-06	NA	NA	6.12E-08	7.65E-07	NA	NA	1.76E-08	2.20E-07	NA	NA	1.76E-08	2.20E-07	NA	NA	4.37E-08	5.47E-07	NA	NA
Methylene chloride	2.50E-03	6.00E-02	7.50E-03	1.92E-07	3.20E-06	8.22E-09	6.16E-11	6.12E-08	1.02E-06	5.25E-09	3.93E-11	1.76E-08	2.94E-07	3.52E-09	2.64E-11	1.76E-08	2.94E-07	1.76E-09	1.32E-11	4.37E-08	7.29E-07	1.87E-08	1.41E-10
Molybdenum	1.21E-02	5.00E-03	NA	9.28E-07	1.86E-04	NA	NA	2.96E-07	5.92E-05	NA	NA	8.52E-08	1.70E-05	NA	NA	8.52E-08	1.70E-05	NA	NA	2.12E-07	4.23E-05	NA	NA
Nickel	NA	2.00E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodiphenylamine	NA	2.00E-02	4.90E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-nitrosodipropylamine	NA	NA	7.00E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octachlorodibenzofuran	NA	NA	1.50E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Octochlorodibenzo-p-dioxin	NA	NA	1.50E+02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran	NA	NA	7.50E+03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin	NA	NA	7.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	3.00E-02	1.20E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	5.00E-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	1.25E-03	5.00E-03	NA	9.59E-08	1.92E-05	NA	NA	3.06E-08	6.12E-06	NA	NA	8.81E-09	1.76E-06	NA	NA	8.81E-09	1.76E-06	NA	NA	2.19E-08	4.37E-06	NA	NA
Silver	1.00E-04	5.00E-03	NA	7.67E-09	1.53E-06	NA	NA	2.45E-09	4.90E-07	NA	NA	7.05E-10	1.41E-07	NA	NA	7.05E-10	1.41E-07	NA	NA	1.75E-09	3.50E-07	NA	NA
Tetrachlorodibenzofuran	NA	NA	1.50E+04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo-p-dioxin	NA	NA	1.50E+05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethylene	5.00E-04	1.00E-02	5.40E-01	3.84E-08	3.84E-06	1.64E-09	8.88E-10	1.22E-08	1.22E-06	1.05E-09	5.67E-10	3.52E-09	3.52E-07	7.05E-10	3.80E-10	3.52E-09	3.52E-07	3.52E-10	1.90E-10	8.75E-09	8.75E-07	3.75E-09	2.02E-09
Thallium	NA	9.00E-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	5.00E-04	6.00E-02	NA	3.84E-08	4.79E-07	NA	NA	1.22E-08	1.53E-07	NA	NA	3.52E-09	4.40E-08	NA	NA	3.52E-09	4.40E-08	NA	NA	8.75E-09	1.09E-07	NA	NA
Tributyl phosphate	NA	2.00E-01	5.40E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene	5.00E-04	3.00E-04	4.00E-01	3.84E-08	1.28E-04	1.64E-09	6.56E-10	1.22E-08	4.08E-05	1.05E-09	4.20E-10	3.52E-09	1.17E-05	7.05E-10	2.82E-10	3.52E-09	1.17E-05	3.52E-10	1.41E-10	8.75E-09	2.92E-05	3.75E-09	1.50E-09
Trifluorochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Uranium	4.46E-02	6.00E-04	NA	3.42E-06	5.70E-03	NA	NA	1.09E-06	1.82E-03	NA	NA	3.14E-07	5.24E-04	NA	NA	3.14E-07	5.24E-04	NA	NA	7.81E-07	1.30E-03	NA	NA
Vanadium	NA	7.00E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	NA	3.00E-03	1.50E+00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes	5.00E-04	2.00E-01	NA	3.84E-08	1.92E-07	NA	NA	1.22E-08	6.12E-08	NA	NA	3.52E-09	1.76E-08	NA	NA	3.52E-09	1.76E-08	NA	NA	8.75E-09	4.37E-08	NA	NA
Zinc	NA	3.00E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
																				total =	2.23E-03	total =	1.89E-07

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TABLE E-2
Area 6E CU18 Risk Assessment - InhaleRad

Undeveloped Park User - Inhalation of Gases & Particulates
Risk calculation for A6E-CU18

Intake Equation:			UNITS	Assigned Values			
				child	youth	adult	senior
	CDI =	(CA*EF*ED*IR*ET)					
	CDI =	Chronic Daily Intake	pCi				
	CA =	Concentration of radionuclide in air	pCi/m^3	see table of COCs below			
	EF =	Exposure frequency	days/yr	20	40	20	40
	ED =	Exposure duration	yrs	3	6	14	7
	IR =	Inhalation rate	m^3/hr	1.0	1.0	1.0	1.0
	ET =	Exposure time	hrs/day	2	2	2	2

COC	conc	CSFi	CHILD		YOUTH		ADULT		SENIOR		SUM	
			CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR
	pCi/m^3	1/pCi	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF
Cesium-137 + D	2.81E-06	1.19E-11	3.37E-04	4.01E-15	1.35E-03	1.60E-14	1.57E-03	1.87E-14	1.57E-03	1.87E-14	4.83E-03	5.75E-14
Lead-210 + D	2.44E-04	1.39E-08	2.93E-02	4.07E-10	1.17E-01	1.63E-09	1.37E-01	1.90E-09	1.37E-01	1.90E-09	4.20E-01	5.84E-09
Neptunium-237 + D	NA	1.77E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-238	NA	3.36E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-239/240	NA	3.33E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium-226 + D	4.71E-05	1.16E-08	5.65E-03	6.55E-11	2.26E-02	2.62E-10	2.64E-02	3.06E-10	2.64E-02	3.06E-10	8.09E-02	9.39E-10
Radium-228 + D	2.24E-05	5.23E-09	2.69E-03	1.41E-11	1.08E-02	5.63E-11	1.26E-02	6.56E-11	1.26E-02	6.56E-11	3.85E-02	2.02E-10
Radon-222+ D	4.83E+02	1.80E-11	5.80E+04	1.04E-06	2.32E+05	4.18E-06	2.71E+05	4.87E-06	2.71E+05	4.87E-06	8.31E+05	1.50E-05
Strontium-90 + D	NA	1.13E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Technetium-99	4.97E-05	1.41E-11	5.96E-03	8.40E-14	2.38E-02	3.36E-13	2.78E-02	3.92E-13	2.78E-02	3.92E-13	8.54E-02	1.20E-12
Thorium-228 + D	2.33E-05	1.43E-07	2.80E-03	4.00E-10	1.12E-02	1.60E-09	1.31E-02	1.87E-09	1.31E-02	1.87E-09	4.01E-02	5.74E-09
Thorium-230	4.78E-05	2.85E-08	5.74E-03	1.64E-10	2.30E-02	6.54E-10	2.68E-02	7.64E-10	2.68E-02	7.64E-10	8.23E-02	2.35E-09
Thorium-232	2.24E-05	4.33E-08	2.69E-03	1.16E-10	1.08E-02	4.66E-10	1.26E-02	5.43E-10	1.26E-02	5.43E-10	3.85E-02	1.67E-09
Uranium-234	1.43E-04	1.14E-08	1.71E-02	1.95E-10	6.86E-02	7.82E-10	8.00E-02	9.12E-10	8.00E-02	9.12E-10	2.46E-01	2.80E-09
Uranium-235 + D	6.51E-06	1.01E-08	7.81E-04	7.89E-12	3.12E-03	3.16E-11	3.65E-03	3.68E-11	3.65E-03	3.68E-11	1.12E-02	1.13E-10
Uranium-238 + D	1.40E-04	9.35E-09	1.67E-02	1.57E-10	6.70E-02	6.26E-10	7.81E-02	7.31E-10	7.81E-02	7.31E-10	2.40E-01	2.24E-09
											total =	**1.50E-05**

Air particulate is 26 ug/m3, the 2005 SER background average from monitor AMS-12.
Rn-222 is derived by multiplying the soil Ra-226 value by 267 g/m3. This conversion factor is based on Rn-222 air background and Ra-226 soil background (i.e., 400 pCi/m3 divided by 1.5 pCi/g)

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TABLE E-2
Area 6E CU18 Risk Assessment - IngestSoilRad

Undeveloped Park User - Ingestion of Soil
Risk calculation for A6ECU-18

Intake Equation:			UNITS	Assigned Values			
				child	youth	adult	senior
	CDI =	(CS*EF*ED*IR*FI)	pCi				
	CDI =	Chronic Daily Intake	pCi				
	CS =	Concentration of radionuclide in soil	pCi/g	see table of COCs below			
	EF =	Exposure frequency	days/yr	20	40	20	40
	ED =	Exposure duration	yrs	3	6	14	7
	IR =	Ingestion rate	g/day	0.2	0.1	0.1	0.1
	FI =	Fraction of contaminated soil	unitless	1	1	1	1

COC	conc	CSFos	CHILD		YOUTH		ADULT		SENIOR		SUM	
			CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR
	pCi/g	1/pCi	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF
Cesium-137 + D	1.08E-01	4.33E-11	1.30E+00	5.61E-11	2.59E+00	1.12E-10	3.02E+00	1.31E-10	3.02E+00	1.31E-10	9.94E+00	4.30E-10
Lead-210 + D	9.39E+00	2.66E-09	1.13E+02	3.00E-07	2.25E+02	5.99E-07	2.63E+02	6.99E-07	2.63E+02	6.99E-07	8.64E+02	2.30E-06
Neptunium-237 + D	NA	1.62E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-238	NA	2.72E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-239/240	NA	2.76E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium-226 + D	1.81E+00	7.30E-10	2.17E+01	1.59E-08	4.34E+01	3.17E-08	5.07E+01	3.70E-08	5.07E+01	3.70E-08	1.67E+02	1.22E-07
Radium-228 + D	8.62E-01	2.29E-09	1.03E+01	2.37E-08	2.07E+01	4.74E-08	2.41E+01	5.53E-08	2.41E+01	5.53E-08	7.93E+01	1.82E-07
Radon-222+ D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Strontium-90 + D	NA	1.44E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Technetium-99	1.91E+00	7.66E-12	2.29E+01	1.76E-10	4.58E+01	3.51E-10	5.35E+01	4.10E-10	5.35E+01	4.10E-10	1.76E+02	1.35E-09
Thorium-228 + D	8.97E-01	8.09E-10	1.08E+01	8.71E-09	2.15E+01	1.74E-08	2.51E+01	2.03E-08	2.51E+01	2.03E-08	8.25E+01	6.68E-08
Thorium-230	1.84E+00	2.02E-10	2.21E+01	4.46E-09	4.42E+01	8.92E-09	5.15E+01	1.04E-08	5.15E+01	1.04E-08	1.69E+02	3.42E-08
Thorium-232	8.62E-01	2.31E-10	1.03E+01	2.39E-09	2.07E+01	4.78E-09	2.41E+01	5.58E-09	2.41E+01	5.58E-09	7.93E+01	1.83E-08
Uranium-234	5.49E+00	1.58E-10	6.59E+01	1.04E-08	1.32E+02	2.08E-08	1.54E+02	2.43E-08	1.54E+02	2.43E-08	5.06E+02	7.99E-08
Uranium-235 + D	2.50E-01	1.63E-10	3.00E+00	4.90E-10	6.01E+00	9.80E-10	7.01E+00	1.14E-09	7.01E+00	1.14E-09	2.30E+01	3.75E-09
Uranium-238 + D	5.37E+00	2.10E-10	6.44E+01	1.35E-08	1.29E+02	2.70E-08	1.50E+02	3.16E-08	1.50E+02	3.16E-08	4.94E+02	1.04E-07
											total =	**2.91E-06**

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TABLE E-2
Area 6E CU18 Risk Assessment - IngestSWrad

Undeveloped Park User - Ingestion of Surface Water
Risk calculation for A6E-CU18

Intake Equation:			UNITS	Assigned Values			
				child	youth	adult	senior
	CDI =	(CW*EF*ED*IR)/(BW*AT)	pCi				
	CDI =	Chronic Daily Intake	pCi				
	CW =	Concentration of radionuclide in water	pCi/L	see COC table below			
	EF =	Exposure frequency	days/yr	12	12	12	12
	ED =	Exposure duration	yrs	3	6	14	7
	IR =	Ingestion rate	L/day	0.035	0.035	0.015	0.015

COC	conc	CSF	CHILD		YOUTH		ADULT		SENIOR		SUM	
			CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR
	pCi/L	1/pCi	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF	pCi	CDI*CSF
Cesium-137 + D	6.60E-02	3.04E-11	8.32E-02	2.53E-12	1.66E-01	5.06E-12	1.66E-01	5.06E-12	8.32E-02	2.53E-12	4.99E-01	1.52E-11
Lead-210 + D	1.56E+00	1.27E-09	1.97E+00	2.50E-09	3.93E+00	4.99E-09	3.93E+00	4.99E-09	1.97E+00	2.50E-09	1.18E+01	1.50E-08
Neptunium-237 + D	NA	6.74E-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-238	NA	1.31E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-239/240	NA	1.35E-10	NA	NA.	NA	NA	NA	NA	NA	NA	NA	NA
Radium-226 + D	4.50E-01	3.86E-10	5.67E-01	2.19E-10	1.13E+00	4.38E-10	1.13E+00	4.38E-10	5.67E-01	2.19E-10	3.40E+00	1.31E-09
Radium-228 + D	3.25E+00	1.04E-09	4.10E+00	4.26E-09	8.19E+00	8.52E-09	8.19E+00	8.52E-09	4.10E+00	4.26E-09	2.46E+01	2.56E-08
Radon-222+ D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Strontium-90 + D	NA	7.40E-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Technetium-99	7.55E+00	2.75E-12	9.51E+00	2.62E-11	1.90E+01	5.23E-11	1.90E+01	5.23E-11	9.51E+00	2.62E-11	5.71E+01	1.57E-10
Thorium-228 + D	3.25E+00	3.00E-10	4.10E+00	1.23E-09	8.19E+00	2.46E-09	8.19E+00	2.46E-09	4.10E+00	1.23E-09	2.46E+01	7.37E-09
Thorium-230	1.23E-01	9.10E-11	1.55E-01	1.41E-11	3.10E-01	2.82E-11	3.10E-01	2.82E-11	1.55E-01	1.41E-11	9.30E-01	8.46E-11
Thorium-232	3.25E+00	1.01E-10	4.10E+00	4.14E-10	8.19E+00	8.27E-10	8.19E+00	8.27E-10	4.10E+00	4.14E-10	2.46E+01	2.48E-09
Uranium-234	1.52E+01	7.07E-11	1.92E+01	1.36E-09	3.84E+01	2.71E-09	3.84E+01	2.71E-09	1.92E+01	1.36E-09	1.15E+02	8.14E-09
Uranium-235 + D	6.94E-01	7.18E-11	8.74E-01	6.28E-11	1.75E+00	1.26E-10	1.75E+00	1.26E-10	8.74E-01	6.28E-11	5.25E+00	3.77E-10
Uranium-238 + D	1.49E+01	8.71E-11	1.87E+01	1.63E-09	3.75E+01	3.27E-09	3.75E+01	3.27E-09	1.87E+01	1.63E-09	1.12E+02	9.80E-09
											total =	**7.03E-08**

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TABLE E-2
Area 6E CU18 Risk Assessment - ExternalRad

Undeveloped Park User - External Radiation
Risk calculation for A6E-CU18

Intake Equation:			UNITS	Assigned Values			
				child	youth	adult	senior
	CDI =	(CS*EF*ED*ET_o*(1-SH_o))	yr pCi/g				
	CDI =	Chronic Daily Intake	yr pCi/g				
	CS =	Concentration of radionuclide in soil	pCi/g	see table of COCs below			
	EF =	Fraction of year exposed to radiation	--	0.055	0.11	0.055	0.11
	ED =	Exposure duration	yrs	3	6	14	7
	ET_o =	Fraction of day spent outdoors	--	0.083	0.083	0.083	0.083
	ET_i =	Fraction of day spent indoors	--	NA	NA	NA	NA
	SH_o =	Shield factor outdoors	--	0.25	0.25	0.25	0.25
	SH_i =	Shield factor indoors	--	NA	NA	NA	NA

COC	conc	CSFx	CHILD		YOUTH		ADULT		SENIOR		SUM	
			CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR	CDI	ILCR
	pCi/g	g/pCi yr	yr pCi/g	CDI*CSF	yr pCi/g	CDI*CSF	yr pCi/g	CDI*CSF	yr pCi/g	CDI*CSF	yr pCi/g	CDI*CSF
Cesium-137 + D	1.08E-01	2.55E-06	1.11E-03	2.83E-09	4.44E-03	1.13E-08	5.18E-03	1.32E-08	5.18E-03	1.32E-08	1.59E-02	4.06E-08
Lead-210 + D	9.39E+00	4.21E-09	9.65E-02	4.06E-10	3.86E-01	1.62E-09	4.50E-01	1.90E-09	4.50E-01	1.90E-09	1.38E+00	5.82E-09
Neptunium-237 + D	NA	7.97E-07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-238	NA	7.22E-11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Plutonium-239/240	NA	2.00E-10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium-226 + D	1.81E+00	8.49E-06	1.86E-02	1.58E-07	7.44E-02	6.32E-07	8.68E-02	7.37E-07	8.68E-02	7.37E-07	2.67E-01	2.26E-06
Radium-228 + D	8.62E-01	4.53E-06	8.86E-03	4.01E-08	3.54E-02	1.60E-07	4.13E-02	1.87E-07	4.13E-02	1.87E-07	1.27E-01	5.75E-07
Radon-222+ D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Strontium-90 + D	NA	1.96E-08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Technetium-99	1.91E+00	8.14E-11	1.96E-02	1.60E-12	7.85E-02	6.39E-12	9.16E-02	7.45E-12	9.16E-02	7.45E-12	2.81E-01	2.29E-11
Thorium-228 + D	8.97E-01	7.76E-06	9.22E-03	7.15E-08	3.69E-02	2.86E-07	4.30E-02	3.34E-07	4.30E-02	3.34E-07	1.32E-01	1.03E-06
Thorium-230	1.84E+00	8.19E-10	1.89E-02	1.55E-11	7.56E-02	6.19E-11	8.82E-02	7.23E-11	8.82E-02	7.23E-11	2.71E-01	2.22E-10
Thorium-232	8.62E-01	3.42E-10	8.86E-03	3.03E-12	3.54E-02	1.21E-11	4.13E-02	1.41E-11	4.13E-02	1.41E-11	1.27E-01	4.34E-11
Uranium-234	5.49E+00	2.52E-10	5.65E-02	1.42E-11	2.26E-01	5.69E-11	2.63E-01	6.64E-11	2.63E-01	6.64E-11	8.09E-01	2.04E-10
Uranium-235 + D	2.50E-01	5.43E-07	2.57E-03	1.40E-09	1.03E-02	5.59E-09	1.20E-02	6.52E-09	1.20E-02	6.52E-09	3.69E-02	2.00E-08
Uranium-238 + D	5.37E+00	1.14E-07	5.51E-02	6.29E-09	2.21E-01	2.51E-08	2.57E-01	2.93E-08	2.57E-01	2.93E-08	7.90E-01	9.01E-08
											total =	**4.02E-06**

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TABLE E-2

Area 6E CU18 Risk Assessment - SumPaths

Undeveloped Park User - Summation of all Pathways

Risk calculation for A6E-CU18

	HQ	ILCR	rad only ILCR
Inhale	1.27E-04	1.50E-05	1.50E-05
Dermal Soil	2.10E-03	7.83E-07	NA
Ingest Soil	1.16E-02	4.22E-06	2.91E-06
Dermal Surface Water	6.23E-02	5.35E-05	NA
Ingest Surface Water	2.23E-03	1.89E-07	7.03E-08
External Radiation	NA	4.09E-06	4.02E-06
SUM	**7.84E-02**	**7.78E-05**	**2.20E-05**

Summation of all paths for individual nuclides

	ILCR
Cesium-137 + D	4.10E-08
Lead-210 + D	2.32E-06
Neptunium-237 + D	NA
Plutonium-238	NA
Plutonium-239/240	NA
Radium-226 + D	2.39E-06
Radium-228 + D	7.82E-07
Radon-222+ D	1.50E-05
Strontium-90 + D	NA
Technetium-99	1.53E-09
Thorium-228 + D	1.10E-06
Thorium-230	3.68E-08
Thorium-232	2.25E-08
Uranium-234	9.10E-08
Uranium-235 + D	2.43E-08
Uranium-238 + D	2.06E-07
	2.20E-05

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TABLE E-2

Area 6E CU18 Risk Assessment - SumPaths

Summation of all paths for individual chemicals

	ILCR	HQ
1,1,2-Trichloroethane	5.35E-10	5.32E-06
1,1-Dichloroethylene	8.64E-09	6.72E-07
1,2-dichloroethane	6.73E-10	8.62E-07
2-Butanone	no CSFs	NA
3,3-Dichlorobenzidine	NA	no RfDs
4-Methylphenol	no CSFs	NA
4-Nitroanaline	NA	NA
Acetone	no CSFs	6.29E-08
Antimony	no CSFs	3.93E-04
Aroclor-1254	1.95E-07	1.14E-02
Aroclor-1260	8.09E-07	4.73E-02
Arsenic	1.29E-06	6.69E-03
Barium	no CSFs	2.44E-04
Benzene	9.91E-10	1.05E-05
Benzo(a)anthracene	1.52E-06	no RfDs
Benzo(a)pyrene	1.97E-05	no RfDs
Benzo(b)fluoranthene	1.15E-06	no RfDs
Benzo(k)fluoranthene	1.89E-07	no RfDs
Beryllium	9.67E-07	2.72E-04
Bis(2-chloroisopropyl)ether	no CSFs	NA
Bis(2-ethylhexyl)phthalate	NA	NA
Boron	no CSFs	NA
Bromodichloromethane	NA	NA
Bromoform	NA	NA
Bromomethane	no CSFs	NA
Cadmium	5.51E-11	8.74E-05
Carbazole	NA	no RfDs
Carbon disulfide	no CSFs	NA
Carbon tetrachloride	3.47E-09	8.91E-05
Chlordane	NA	NA
Chlorobenzene	no CSFs	NA
Chloroform	NA	NA
Chromium (VI)	2.54E-08	4.02E-03
Chrysene	1.65E-08	no RfDs
Cobalt	NA	NA
Copper	no CSFs	NA
Cyanide	no CSFs	NA
Cyclohexanone	no CSFs	NA
Dibenzo(a,h)anthracene	2.63E-05	no RfDs
Dieldrin	4.24E-08	1.24E-04
Di-n-octylphthalate	no CSFs	NA

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TABLE E-2

Area 6E CU18 Risk Assessment - SumPaths

Ethyl ether	no CSFs	NA
Ethylbenzene	1.47E-16	1.27E-06
Fluoride	no CSFs	NA
Heptachlorodibenzofuran	NA	no RfDs
Heptachlorodibenzo-p-dioxin	NA	no RfDs
Hexachlorodibenzofuran	NA	no RfDs
Hexachlorodibenzo-p-dioxin	NA	no RfDs
Indeno(1,2,3-cd)pyrene	3.51E-06	no RfDs
Lead	no CSFs	no RfDs
Manganese	no CSFs	NA
Mercury	no CSFs	3.76E-05
Methanol	no CSFs	NA
Methyl-2-pentanone	no CSFs	1.04E-06
Methylene chloride	2.61E-10	1.35E-06
Molybdenum	no CSFs	1.48E-04
Nickel	no CSFs	NA
N-nitrosodiphenylamine	NA	NA
N-nitrosodipropylamine	NA	no RfDs
Octachlorodibenzofuran	NA	no RfDs
Octochlorodibenzo-p-dioxin	NA	no RfDs
Pentachlorodibenzofuran	no CSFs	no RfDs
Pentachlorodibenzo-p-dioxin	NA	no RfDs
Pentachlorophenol	NA	NA
Phenanthrene	no CSFs	no RfDs
Selenium	no CSFs	3.26E-05
Silver	no CSFs	1.31E-05
Tetrachlorodibenzofuran	no CSFs	no RfDs
Tetrachlorodibenzo-p-dioxin	no CSFs	no RfDs
Tetrachloroethylene	1.93E-08	8.35E-06
Thallium	no CSFs	no RfDs
Toluene	no CSFs	1.21E-06
Tributyl phosphate	NA	NA
Trichloroethylene	2.94E-08	5.71E-04
Trifluorochloromethane	no CSFs	no RfDs
Uranium	no CSFs	6.77E-03
Vanadium	no CSFs	NA
Vinyl chloride	NA	NA
Xylenes	no CSFs	6.38E-07
Zinc	no CSFs	NA
	5.58E-05	**7.82E-02**

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