Draft Closeout Report For IHSS Group 700-7

UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8,
PAC 700-1105, and Portions of
IHSS 000-101 and IHSS 000-121

Approval received from the Colorado Department of Public Health and Environment

( ).

Approval letter contained in the Administrative Record.

September 2004

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ADMIN RECORD

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ENCLOSURE

Compact Disc Containing Standardized Real and Quality Control Accelerated Action Data

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ACRONYMS

AAESE	Accelerated Action Ecological Screening Evaluation
ACM	asbestos containing material
AL	action level
Am	americium
AR	Administrative Record
CA	Contamination Area
CAS	Chemical Abstracts Service
CD	compact disc
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
CRA	Comprehensive Risk Assessment
cy	cubic yards
DOE	U.S. Department of Energy
dpm/100 cm^2	disintegrations per minute per 100 square centimeters
DQA	Data Quality Assessment
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation
ft	feet
FY	Fiscal Year
HPGe	high-purity germanium
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
K-H	Kaiser-Hill Company, L.L.C.
LCS	laboratory control sample
LLMW	low-level radioactive mixed waste
LLW	low-level radioactive waste
MDL	method detection limit
ug/100 cm^2	micrograms per 100 square centimeters
ug/kg	micrograms per kilogram
ug/L	microgram per liter
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
N/A	not applicable
nCi/g	nanocurie per gram
NFAA	No Further Accelerated Action
NLR	No Longer Representative
OPWL	Original Process Waste Lines

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OU	Operable unit
PAC	Potential Area of Concern
PARCCS	precision, accuracy, representativeness, completeness, comparability and sensitivity
PCB	polychlorinated biphenyl
pCi/g	picocuries per gram
POE	Point of Evaluation
Pu	plutonium
QA	quality assurance
QC	quality control
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFI/RI	RCRA Facility Investigation/Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
RL	reporting limit
RPD	relative percent difference
RSOP	RFCA Standard Operating Protocol
SAP	Sampling and Analysis Plan
SBD	sample beginning depth
SD	standard deviation
SED	sample end depth
SEP	Solar Evaporation Ponds
Site	Rocky Flats Environmental Technology Site
SOR	sum of ratios
SSRS	Subsurface Soil Risk Screen
SVOC	semivolatile organic compound
SWD	Soil Water Database
TSCA	Toxic Substances Control Act
UBC	under building contamination
UST	underground storage tank
V&V	verification and validation
VOC	volatile organic compound
WRW	wildlife refuge worker

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EXECUTIVE SUMMARY

This Closeout Report summarizes accelerated action activities conducted at Individual Hazardous Substance Site (IHSS) Group 700-7, which is located at the Rocky Flats Environmental Technology Site (RFETS). Activities were planned and executed in accordance with the Industrial Area (IA) Sampling and Analysis Plan (IASAP), IASAP Addendum #IA-03-15, and the Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol for Routine Soil Remediation (ER RSOP). Notification of the planned characterization and removal activities was provided in ER RSOP Notification #03-10.

Activities were conducted between September 30, 2003, and August 18, 2004, and included the following:

- Characterization of the 779 Under Building Contamination (UBC) Site, IHSSs within the Group, Potential Area of Concern 700-1105, including soil adjacent to and below the Original Process Waste Lines (OPWL);
- Removal of the Building 779 slab and other building structural features, including footer walls, the top 4 feet of the basement walls, waste trenches and pits, and other building slabs;
- Removal of water and waste lines, including OPWL and sanitary lines under the Building 779 slab, the Building 782 plenum drain lines, and the Building 779 foundation drain line;
- Removal of two diesel underground storage tanks;
- Removal of three concrete pads, two of which held transformers containing oils with polychlorinated biphenyls (PCBs), and surrounding soil; and
- Removal of other soil in conformance with RFCA requirements, including soil from under the Building 779 contamination area.

Building components remaining below ground surface include some Building 779 structural upgrade foundations (intact or lower portions), caissons for the Building 779 structural upgrade foundations and elevator pits, the lower portion of the Building 779 basement, the Building 779 sub-basement, and the Building 782 tunnel/utility corridor and pit. The Building 779 basement and sub-basement, and the Building 782 tunnel and pit were filled with flowable fill concrete to prevent area subsidence in the future, prevent groundwater intrusion, and immobilize any fixed contamination in the Building 779 sub-basement pits.

OPWL outside UBC 779 (P-36, P-37, P-38 and P-42) are also remaining, as well as sections of sanitary lines and storm drains. The ends of OPWL were exposed, and were disrupted, drained and grouted under the IHSS Group 000-2 project. All remaining sanitary and cooling water lines in IHSS Group 700-7 have been disrupted, drained and grouted to prevent their operation and the associated collection and movement of groundwater from the IHSS Group. Storm drains within the Group were not altered, but will be addressed as part of Sitewide storm drain removal.

Characterization analytical results indicate that contaminant concentrations in soil were less than the Wildlife Refuge Worker (WRW) action levels (ALs) at 104 sampling locations out of 117 locations. WRW AL exceedances are summarized below.

- Plutonium-239/240 activities exceeded the WRW AL (50 picocuries per gram [pCi/g]) at 2 locations in surface and subsurface intervals within UBC 779 and 3 locations in subsurface intervals within the area of the former Auxiliary Solar Evaporation Pond 2. Activities greater than the AL ranged from 52.6 to 670.3 pCi/g.

- Americium-241 activities exceeded the WRW AL (76 pCi/g) at 1 surface location within UBC 779. The concentration greater than the AL was 117.6 pCi/g.

- PCB concentrations exceeded the WRW AL (12,400 micrograms per kilogram [ug/kg]) at 6 locations in surface and subsurface intervals around the PCB transformer pads (PAC 700-1105). Concentrations greater than the AL ranged from 16,000 to 860,000 ug/kg.

- Arsenic concentrations exceeded the WRW AL (22.2 milligrams per kilogram [mg/kg]) at 2 subsurface locations. Concentrations greater than the AL were 24 and 25 mg/kg.

Elevated plutonium-239/240 and americium-241 activities and PCB concentrations resulted in soil removal and subsequent confirmation sampling. One of the elevated arsenic concentrations was removed during excavation of OPWL. The other elevated arsenic concentration and one of the elevated plutonium activities did not result in soil removal based on the Subsurface Soil Risk Screen (SSRS). Confirmation sampling results indicate that plutonium activities exceed the WRW AL (50 pCi/g) at seven subsurface locations. However, activities are less than 1 nanocurie per gram occurring at a depth greater than 3 feet from the ground surface. Based on RFCA and the SSRS, additional soil removal at these locations is not required. At another location, the plutonium activity also exceeded the WRW AL, but an additional foot of soil was subsequently removed, and the result is no longer representative. Results of the data quality assessment confirmed that the data collected and used were adequate for decision-making.

Clean fill was brought to the project site and used to backfill excavations and smooth out the surface to prevent any large-scale ponding of precipitation. Additional fill will be brought in to bring the area to final grade and ensure that all remaining structural features (i.e., remaining structural upgrades and the Building 782 tunnel) are 3 feet below final grade. This final grading and subsequent seeding will occur after the IHSS Group 700-3 accelerated action project is completed (by the end of Fiscal Year 05 3rd quarter).

Removal activities were consistent with and contributed to the ER RSOP overall long-term remedial action objectives for RFETS soil. The removal of contaminated building concrete, process and sanitary waste lines, transformer pads, contaminated soil, and asbestos containing material contributed to the protection of human health and the environment, because potential sources of contamination were removed. These actions

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also minimized the need for long-term maintenance and institutional or engineering controls. Best management practices were used to prevent the spread of contamination.

No IHSS Group-specific, near-term management techniques are required because of environmental conditions, with the exception of bringing in fill to ensure that all of the remaining footer wall is 3 feet below final grade and continuing water quality monitoring at GS32 and SW093. The broader source evaluation to investigate elevated actinide activities will also continue, and mitigative measures will be implemented as appropriate. In addition, excavation with the IHSS Group will continue to be controlled through the Site Soil Disturbance Permit process. Access will be restricted to minimize disturbance to newly revegetated areas. Site access and security controls and the Soil Disturbance Permit process will remain in place pending implementation of long-term controls.

The presence of residual radionuclides, metals, volatile organic compounds, semivolatile organic compounds, and PCBs in soil will be evaluated in the Sitewide Comprehensive Risk Assessment (CRA), which is part of the Facility Investigation/Remedial Investigation (RI/FS) that will be conducted for the Site. Potential ecological risk will be evaluated in the Accelerated Action Ecological Screening Evaluation and the ecological risk assessment portion of the CRA. The need for and extent of any more general, long-term stewardship activities will also be evaluated in the RI/FS and will be proposed as part of the preferred alternative in the Proposed Plan for the Site. Institutional controls and other long-term stewardship requirements for the Site will ultimately be contained in the Corrective Action Decision/Record of Decision, any post-closure Colorado Hazardous Waste Act permit that may be required, and any post-RFCA agreement.

No long-term stewardship activities are recommended for IHSS Group 700-7 beyond the generally applicable Site requirements that may be imposed on this area in the future. Institutional controls that will be used as appropriate for this area include prohibitions on construction of buildings in the IA, restrictions on excavation or other soil disturbance, and prohibitions on groundwater pumping in the area of IHSS Group 700-7.

No specific engineered controls or environmental monitoring are anticipated as a result of the conditions remaining in IHSS Group 700-7.

This Closeout Report and associated documentation will be retained as part of the Rocky Flats Administrative Record file. The specific long-term stewardship recommendations will also be summarized in the Rocky Flats Long-Term Stewardship Strategy.

Approval of this Closeout Report constitutes regulatory agency concurrence that this IHSS Group is a No Further Accelerated Action (NFAA) site. A NFAA decision is justified based on the following:

- NFAA required based on soil data;
- NFAA required based on the SSRS; and
- NFAA required based on the stewardship evaluation.

This information and NFAA determination will be documented in the Fiscal Year 2004 Historical Release Report.

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1.0 INTRODUCTION

This Closeout Report summarizes the characterization and accelerated action activities conducted at Individual Hazardous Substance Site (IHSS) Group 700-7 at the Rocky Flats Environmental Technology Site (RFETS or Site) in Golden, Colorado. IHSS Group 700-7 consists of the following the Under Building Contamination (UBC) site, IHSSs, and Potential Area of Concern (PAC):

- UBC 779, Main Plutonium Components Production Facility;
- IHSS 700-138, Building 779 Cooling Tower Blowdown;
- IHSS 700-150.6, Radioactive Site South of Building 779;
- IHSS 700-150.8, Radioactive Site Northeast of Building 779;
- PAC 700-1105, Transformer Leak – 779-1/779-2;
- IHSS 700-149.2, Effluent Line (part of Solar Evaporation Ponds [SEP]);
- Portion of IHSS 000-121, Original Process Waste Lines (OPWL), including Tank 19 (two 1,000-gallon concrete sumps), Tank 20 (two 8,000-gallon concrete sumps), and Tank 38 (one 1,000-gallon steel tank); and
- Portion of IHSS 000-101, SEP (area north and east of Building 779, including former Auxiliary Pond 2).

The location of IHSS Group 700-7 is shown on Figure 1, and the UBC site, IHSSs, and PAC are shown on Figure 2.

Accelerated action activities were planned and executed in accordance with the Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001), IASAP Addendum #IA-03-15 (DOE 2003a), and the Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) (DOE 2003b). Notification of planned activities was provided in ER RSOP Notification #03-10 (DOE 2003c), which was approved by the Colorado Department of Public Health and Environment (CDPHE) on October 22, 2003 (CDPHE 2003).

This report contains the information necessary to demonstrate attainment of cleanup objectives and closure of IHSS Group 700-7, including:

- Site characterization information
  - Description of site characterization activities, and
  - Site characterization data, including data tables and maps;
- Site accelerated action information
  - Description of the accelerated action,

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  - Map of the actual remediation area, including dates and durations of specific remedial activities, and
  - Photographs documenting site characterization, remediation, and reclamation activities;

- Confirmation sampling data, including data tables and location maps, as well as a comparison of the confirmation data to applicable cleanup goals;
- Description of deviations from the ER RSOP;
- Description of the Subsurface Soil Risk Screen (SSRS);
- Description of near-term stewardship actions and long-term stewardship recommendations;
- Disposition of wastes;
- Site reclamation;
- Table of No Longer Representative (NLR) sampling locations that have been remediated. These data will be used to mark database records so they are not used in the sitewide Comprehensive Risk Assessment (CRA) or other Site analyses; and
- Data Quality Assessment (DQA), including comparison of confirmation data with project data quality objectives (DQOs).

Approval of this Closeout Report constitutes regulatory agency concurrence that this IHSS Group is a No Further Accelerated Action (NFAA) site. This information and NFAA determination will be documented in the Fiscal Year (FY) 2004 (04) Historical Release Report.

2.0 SITE CHARACTERIZATION

IHSS Group 700-7 characterization information consists of historical knowledge and analytical data. Historical information for the Group was derived from previous studies (DOE 1992-2003, 1998, 2000a, 2000b, 2001a, 2002a and 2003a) and is summarized in Sections 2.1 through 2.6. Analytical data for IHSS Group 700-7 (pre-accelerated action and accelerated action data) are summarized in Sections 2.7 and 2.8, respectively. A compact disc (CD) that contains the accelerated action data set, including real and quality control (QC) data, is enclosed with this report.

Accelerated action analytical data were collected in accordance with IASAP Addendum #IA-03-15 (DOE 2003a). Sampling and analysis specifications, including media sampled, depth intervals and analytes, for the project are presented in Table 1. This includes characterization, in-process (during soil removal), and confirmation sampling and analysis. Deviations from the IASAP Addendum are also presented and explained in Table 1. A summary of all project sampling and analysis (characterization, in-process, and confirmation) is presented in Table 2.

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Table 1
IHSS Group 700-7 Sampling and Analysis Specifications and Deviations From the IASAP Addendum

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
UBC 779 Basement Pits	CH45-061	2084290.341	750505.513	NA	NA	NA	NA	NA	Biased location to target pits; replaced by CH45-112	NA
	CH45-062	2084300.966	750505.735	NA	NA	NA	NA	NA	Biased location to target pits; replaced by CH45-113	NA
	CH45-063	2084290.12	750488.027	NA	NA	NA	NA	NA	Biased location to target pits; replaced by CH45-115	NA
	CH45-064	2084301.187	750488.027	NA	NA	NA	NA	NA	Biased location to target pits; replaced by CH45-114	NA
	CH45-065	2084295.432	750496.881	NA	NA	NA	NA	NA	Biased location below sub-basement (center); deleted in accordance with agreement with CDPHE (Regulatory Contact Record dated July 21, 2004; Appendix A).	NA
	CH45-112	NA	NA	2084291.831	750517.469	Surface & Subsurface Soil	0.0 - 0.5 4.0 - 4.5 8.0 - 9.0 12.0 - 13.5 16.0 - 16.5 16.5 - 18.0 20.0 - 20.5 20.5 - 22.5 22.5 - 23.5 24.5 – 26.5	Radionuclides Metals (except 2nd, 5th & 7th intervals) SVOCs (except 2nd, 3rd, 5th & 7th intervals) VOCs (except 1st, 2nd, 3rd, 5th & 7th intervals)	Replaced CH45-061; sampled adjacent to basement down to below sub-basement elevation; some intervals had no or partial sample recovery. In some cases, recovery was insufficient to perform all planned analyses.	Fig 6
	CH45-113	NA	NA	2084311.592	750516.062	Surface & Subsurface Soil	0.0 - 0.5 6.5 - 8.5 8.5 - 10.5 14.5 - 16.5 16.5 - 18.5 18.5 - 20.5 20.5 - 22.5 22.5 - 24.0 24.5 - 26.5	Radionuclides Metals (except 2nd interval) SVOCs (except 2nd, 3rd & 4th intervals) VOCs (except 1st & 2nd intervals)	Replaced CH45-062; sampled adjacent to basement down to below sub-basement elevation; some intervals had no or partial sample recovery. In some cases, recovery was insufficient to perform all planned analyses.	Fig 6

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CH45-114	NA	NA	2084310.049	750481.502	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.0 2.5 - 3.0 6.5 - 7.5 10.5 - 11.5 17.5 - 18.5 18.5 - 20.5 20.5 - 22.5 24.5 - 26.5	Radionuclides Metals (except 2nd, 3rd, 4th, 5th & 6th intervals) SVOCs (except 2nd, 3rd, 4th, 5th & 6th intervals) VOCs (except 1st, 3rd, 4th & 5th intervals)	Replaced CH45-064; sampled adjacent to basement down to below sub-basement elevation; some intervals had no or partial sample recovery. In some cases, recovery was insufficient to perform all planned analyses.	Fig 6
	CH45-115	NA	NA	2084288.688	750480.551	Surface & Subsurface Soil	0.0 - 0.5 3.0 - 4.0 10.0 - 10.5 10.5 - 12.0 18.5 - 20.5 20.5 - 22.5 22.5 - 23.5 23.5 - 26.0	Radionuclides Metals (except 2nd, 3rd & 4th intervals) SVOCs(except 2nd & 3rd intervals) VOCs (except 1st, 2nd & 3rd intervals)	Replaced CH45-063; sampled adjacent to basement down to below sub-basement elevation; some intervals had no or partial sample recovery. In some cases, recovery was insufficient to perform all planned analyses.	Fig 6
UBC 779 Elevator Pits	CH46-017	2084215.736	750583.906	2084216.231	750583.797	Subsurface Soil	6.0 - 6.5 6.5 - 9.0	Radionuclides Metals SVOCs VOCs	Biased location to target pit; no significant change in location.	Fig 6
	CI45-006	2084377.567	750470.307	2084381.141	750476.269	Subsurface Soil	5.0 - 5.5 5.5 - 8.0	Radionuclides Metals SVOCs VOCs	Biased location to target pit; relocated 6 ft N and 3.5 ft E to sample target.	Fig 6
UBC 779 OPWL Cleanouts	CH46-020	2084294.841	750629.467	2084291.172	750628.783	Subsurface Soil	3.5 - 3.8	Radionuclides Metals VOCs	Biased location to target cleanout; relocated 0.7 ft S and 3.7 ft W to sample target; grab sample.	Fig 5
	CH46-021	2084283.68	750630.124	2084281.787	750629.293	Subsurface Soil	3.5 - 3.8	Radionuclides Metals VOCs	Biased location to target cleanout; relocated 0.8 ft S and 1.9 ft W to sample target; grab sample.	Fig 5
	CH46-022	2084286.306	750652.445	2084281.455	750647.98	Subsurface Soil	3.0 - 3.3	Radionuclides Metals VOCs	Biased location to target cleanout; relocated 4.5 ft S and 4.9 ft W to sample target; grab sample.	Fig 5
	CH46-023	2084288.275	750591.39	2084282.945	750587.002	Subsurface Soil	4.0 – 4.3	Radionuclides Metals VOCs	Biased location to target cleanout; relocated 4.4 ft S and 5.3 ft W to sample target; grab sample.	Fig 6

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CH46-024	2084279.741	750592.703	2084283.816	750572.07	Subsurface Soil	3.5 – 3.8	Radionuclides Metals VOCs	Biased location to target cleanout; relocated 21 ft S and 4.1 ft E to sample target; grab sample.	Fig 6
UBC 779 OPWL Under Slab	CH45-028	2084230.366	750477.146	2084230.366	750477.146	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location to target UBC and OPWL; no significant change in location.	Fig 6
	CH45-029	2084268.56	750501.451	2084268.56	750501.451	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.1 3.0 - 4.5 4.5 - 6.0	Radionuclides Metals VOCs	Biased location to target UBC and OPWL; no significant change in location; some intervals had partial sample recovery.	Fig 6
	CH45-031	2084332.796	750497.111	2084332.796	750497.111	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.8 2.5 - 3.5 4.5 - 5.0	Radionuclides Metals VOCs	Biased location to target UBC and OPWL; no significant change in location; some intervals had partial sample recovery.	Fig 6
	CH45-066	2084303.766	750496.848	2084311.994	750496.715	Surface & Subsurface Soil	0.0 - 0.5 0.5 – 1.0 2.5 - 3.5 4.5 – 5.5	Radionuclides Metals SVOCs VOCs	Biased location to target UBC and OPWL under slab; relocated 8 ft east to sample next to OPWL; depth of D interval reduced because of refusal.	Fig 6
	CH45-067	2084285.776	750482.267	2084285.799	750480.854	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 3.5 4.5 - 5.5	Radionuclides Metals SVOCs VOCs	Biased location to target UBC and OPWL under slab; relocated 1 ft south to avoid refusal; depth of D interval reduced because of refusal.	Fig 6
	CH46-026	2084224.289	750622.111	2084225.699	750631.68	Subsurface Soil	3.0 - 3.3 3.5 - 5.5'	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 9.6 ft N and 1.4 ft E to sample target; 1st interval was a grab sample. Location was originally planned to characterize UBC and OPWL using Intervals A - D. CH46-054 was added at original location to characterize UBC (B interval only) (Regulatory Contact Record dated March 3, 2004 in Appendix A).	Fig 5

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CH46-027	2084288.525	750609.958	2084283.122	750599.83	Subsurface Soil	3.0 - 3.3 3.5 - 5.5	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 10 ft S and 5.4 ft W to sample target; 1st interval was a grab sample. Location was originally planned to characterize UBC and OPWL using Intervals A - D. CH46-055 was added at original location to characterize UBC (B interval only) (Regulatory Contact Record dated March 3, 2004 in Appendix A).	Fig 5
	CI45-012	2084399.636	750495.375	2084394.873	750494.062	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location to target UBC and OPWL; relocated 1.3 ft S and 4.8 ft W to be adjacent to OPWL.	Fig 7
	CI46-006	2084344.081	750633.396	2084344.59	750630.454	Subsurface Soil	3.0 - 3.3 3.5 - 5.5	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 3 ft S to sample target; 1st interval was a grab sample. Location was originally supposed to characterize UBC and OPWL using Intervals A - D. CI46-040 was added at original location to characterize UBC (B interval only) (Regulatory Contact Record dated March 3, 2004 in Appendix A).	Fig 5
	CH46-054	NA	NA	2084224.277	750622.108	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs	Biased location added to target UBC; see CH46-026. Interval A was not sampled because it had been disturbed.	Fig 5
	CH46-055	NA	NA	2084288.585	750609.945	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs	Biased location added to target UBC; see CH46-027. Interval A was not sampled because it had been disturbed.	Fig 5
	CI46-040	NA	NA	2084344.133	750633.348	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs	Biased location added to target UBC; see CI46-006. Interval A was not sampled because it had been disturbed.	Fig 5

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CH46-051	NA	NA	2084315.383	750601.421	Subsurface Soil	3.0 - 3.3	Radionuclides Metals VOCs	Biased location added to target soil just under newly discovered section of OPWL; grab sample.	Fig 5
	CI46-039	NA	NA	2084346.304	750603.023	Subsurface Soil	3.5 - 3.8	Radionuclides Metals VOCs	Biased location added to target soil just under newly discovered section of OPWL; grab sample.	Fig 5
UBC 779 Pits Under Slab	CH45-011	2084267.776	750557.886	2084256.669	750560.123	Subsurface Soil	5.0 - 5.5 5.5 - 6.5	Radionuclides Metals SVOCs VOCs	Biased location to target pit; relocated 2.2 ft S and 11 ft W to sample target ; added 2nd interval; depth of interval reduced because of refusal.	Fig 6
	CI46-002	2084361.066	750568.674	2084366.656	750566.513	Subsurface Soil	9.0 - 9.5 9.5 - 11.5	Radionuclides Metals SVOCs VOCs	Biased location to target pit; relocated 2.2 ft S and 5.6 ft E to sample target; added 2nd interval.	Fig 6
UBC 779 Rm 131/133 Release Area	CH45-057	2084240.317	750523.664	2084240.317	750523.664	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.0	Radionuclides Metals VOCs	Biased location to target release area; no significant change in location; depth of B interval reduced because of refusal.	Fig 6
	CH45-058	2084251.827	750523.443	2084251.827	750523.443	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.0	Radionuclides Metals VOCs	Biased location to target release area; no significant change in location; depth of B interval reduced because of refusal.	Fig 6
	CH45-059	2084300.966	750523.443	2084300.988	750522.979	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.0	Radionuclides Metals VOCs	Biased location to target release area; no significant change in location; depth of B interval reduced because of refusal.	Fig 6
	CH45-060	2084314.026	750523.443	2084310.734	750520.868	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.0	Radionuclides Metals VOCs	Biased location to target release area; relocated 2.1 ft S and 3.3 ft W to sample target; depth of B interval reduced because of refusal.	Fig 6
	CH45-101	NA	NA	2084266.037	750511.920	Subsurface Soil	2.0 - 2.3	Radionuclides	Confirmation sample taken when soil under the 779 slab CA was being removed.	Fig 9
	CH45-102	NA	NA	2084267.878	750514.123	Subsurface Soil	2.0 - 2.3	Radionuclides	Confirmation sample taken when soil under the 779 slab CA was being removed.	Fig 9

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CH45-103	NA	NA	2084269.361	750511.980	Subsurface Soil	2.0 - 2.3	Radionuclides	Confirmation sample taken when soil under the 779 slab CA was being removed.	Fig 9
	CH45-104	NA	NA	2084272.277	750510.357	Subsurface Soil	2.0 - 2.3	Radionuclides	Confirmation sample taken when soil under the 779 slab CA was being removed.	Fig 9
	CH45-105	NA	NA	2084299.694	750523.892	Subsurface Soil	5.0 - 5.5	Radionuclides	Confirmation sample taken after soil under the 779 slab CA was removed.	Fig 9
	CH45-106	NA	NA	2084301.182	750512.096	Subsurface Soil	5.0 - 5.5	Radionuclides	Confirmation sample taken after soil under the 779 slab CA was removed.	Fig 9
	CH45-107	NA	NA	2084300.890	750506.277	Subsurface Soil	7.0 - 7.5	Radionuclides	Confirmation sample taken after soil under the 779 slab CA was removed.	Fig 9
	CH45-108	NA	NA	2084299.581	750518.569	Subsurface Soil	7.0 - 7.5	Radionuclides	Confirmation sample taken after soil under the 779 slab CA was removed.	Fig 9
	CH45-146	NA	NA	2084286.306	750524.848	Subsurface Soil	5.0 - 5.5	Radionuclides	Confirmation sampling location after soil under the 779 slab CA was removed.	Fig 9
	CH45-147	NA	NA	2084278.126	750503.284	Subsurface Soil	4.0 - 4.5	Radionuclides	Confirmation sampling location after soil under the 779 slab CA was removed.	Fig 9
UBC 779 Sanitary Drains	CI45-008	2084344.619	750551.869	2084346.07	750536.49	Subsurface Soil	2.0 - 2.5 2.5 - 4.5	Radionuclides Metals VOCs	Biased location to target drains; relocated 15 ft S and 1.5 E to get closer to target; added 2nd interval.	Fig 6
	CI46-005	2084342.662	750585.134	2084352.800	750583.210	Subsurface Soil	2.4 - 2.9 2.9 - 4.4	Radionuclides Metals VOCs	Biased location to target drains; relocated 2 ft S and 10 E to get closer to target; added 2nd interval.	Fig 6
	CH45-094	NA	NA	2084329.847	750569.101	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.0	Radionuclides	Biased location added adjacent to vertical drain pipe; grab samples; also see CH45-096.	Fig 6
	CH45-096	NA	NA	2084329.847	750569.101	Surface Soil	0.0 - 0.5	Metals VOCs	Biased location added adjacent to vertical drain pipe; also see CH45-094.	Fig 6
	CH46-059	NA	NA	2084282.625	750550.481	Subsurface Soil	3.0 - 3.5	Radionuclides Metals VOCs	Biased location added to target soil stain near "pot" drain.	Fig 6

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CH45-111	NA	NA	2084329.847	750569.101	Subsurface Soil	3.0 - 3.5	Radionuclides Metals VOCs	Confirmation sampling location associated with CH45-094 and -096; taken after soil removal.	Fig 9
UBC 779 Trenches and Floor Sink	CH45-013	2084304.372	750529.319	2084314.622	750529.4	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5	Radionuclides Metals VOCs	Biased location to target trenches; relocated 10 ft E to sample target; added 2nd interval.	Fig 6
	CH45-015	2084315.746	750540.152	2084319.58	750545.73	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5	Radionuclides Metals VOCs	Biased location to target trenches; relocated 5.6 ft N and 3.8 E to sample target; added 2nd interval.	Fig 6
	CH46-018	2084319.267	750564.796	2084331.99	750558.62	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5	Radionuclides Metals VOCs	Biased location to target trenches; relocated 6.2 ft S and 13 E to sample target; added 2nd interval.	Fig 6
	CH46-019	2084313.851	750582.127	2084325.4	750583.62	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5	Radionuclides Metals VOCs	Biased location to target trenches; relocated 1.5 ft N and 12 E to sample target; added 2nd interval.	Fig 6
	CH45-095	NA	NA	2084293.464	750557.537	Surface Soil	0.0 - 0.5'	Radionuclides Metals SVOCs VOCs	Biased location added to target floor sink.	Fig 6
IHSS 700-138	CJ45-010	2084564.396	750545.133	2084571.792	750544.089	Subsurface Soil	0.5 - 2.5 2.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location; relocated 1.0 ft S and 7.4 ft E to avoid water line.	Fig 7
	CJ45-011	2084541.517	750545.133	2084541.426	750545.108	Subsurface Soil	0.5 - 2.5 2.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location; no significant change in location. B interval began beneath 12" pad and 6" of fill; depth of D interval reduced due to refusal.	Fig 7
	CJ46-010	2084554.976	750578.779	2084554.948	750578.752	Subsurface Soil	0.5 - 1.5 2.5 - 3.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location; no significant change in location; two intervals had partial sample recovery.	Fig 7
	CJ46-011	2084580.547	750577.882	2084582.61	750577.162	Subsurface Soil	0.5 - 2.5 2.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location; offset 2 ft E to avoid underground metal object (probably a utility).	Fig 7
Area under 700-150.8 (where Auxiliary Pond 2 may have been located)	CI45-017	2084477.828	750541.360	2084477.843	750541.375	Subsurface Soil	1.8 - 2.5 2.5 - 4.5 5.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs	Biased location; no significant change in location; two intervals had partial sample recovery.	Fig 7

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CI46-027	2084386.180	750598.364	2084386.162	750598.382	Subsurface Soil	0.5 - 1.5 2.5 - 4.0 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs	Biased location; no significant change in location; two intervals had partial sample recovery.	Fig 5
	CI46-028	2084432.161	750586.397	2084432.145	750586.357	Subsurface Soil	0.5 - 2.0 2.5 - 4.5 4.9 - 6.1 6.7 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs	Biased location; no significant change in location; three intervals had partial sample recovery.	Fig 7
	CI46-029	2084477.198	750574.114	2084477.141	750574.124	Subsurface Soil	2.0 - 2.5 2.5 - 4.0 6.0 - 6.5 6.5 - 8.5 8.5 - 9.5	Radionuclides Metals VOCs	Biased location; no significant change in location; three intervals had partial sample recovery.	Fig 7
	CI46-043	NA	NA	2084479.471	750577.911	Subsurface Soil	3.5 - 4.0	Radionuclides	Confirmation sampling location associated with CI46-029 – taken after soil removal.	Fig 9
PAC 700-1105	CI45-000	2084400.287	750539.646	2084389.565	750531.113	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.0 2.5 - 4.5 5.0 - 5.3	Radionuclides (except last interval) PCBs	Biased location; field located to actual location around pad; B interval had partial recovery. Last interval is a confirmation sample taken after soil removal.	Figs 7, 9
	CI45-001	2084410.704	750548.76	2084395.442	750535.946	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.0 2.5 - 4.5 4.5 - 6.5 5.0 - 5.3	Radionuclides (except last interval) PCBs	Biased location; field located to actual location around pad; added D interval; B interval had partial recovery. Last interval is a confirmation sample taken after soil removal.	Figs 7, 9
	CI45-002	2084412.006	750535.739	2084389.716	750527.143	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.5 3.0 - 4.5 5.0 - 5.3	Radionuclides PCBs SVOCs VOCs (last interval only analyzed for PCBs)	Biased location; field located to actual location around pad; added SVOCs and VOCs; B and C intervals had partial recovery. Last interval is a confirmation sample taken after soil removal.	Figs 7, 9

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CI45-003	2084426.329	750539.646	2084404.615	750537.033	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.5 2.5 - 3.5 5.0 - 5.3	Radionuclides (except last interval) PCBs	Biased location; field located to actual location around pad; B and C intervals had partial recovery. The last interval is an in-process sample. A confirmation sample was collected at Location CI45-023.	Fig 7
	CI45-004	2084425.027	750526.625	2084405.014	750528.409	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.5 2.5 - 3.5 5.0 - 5.3	Radionuclides (except last interval) PCBs	Biased location; field located to actual location around pad; B and C intervals had partial recovery. The last interval is an in-process sample. A confirmation sample was collected at Location CI45-024.	Fig 7
	CI45-005	2084438.048	750533.135	2084407.43	750532.574	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.5 2.5 - 3.5 5.0 - 5.3	Radionuclides (except last interval) PCBs	Biased location; field located to actual location around pad; B and C intervals had partial recovery. The last interval is an in-process sample. A confirmation sample was collected at Location CI45-025.	Fig 7
	CI45-020	NA	NA	2084400.487	750533.736	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 5.0 - 5.3	Radionuclides (except last interval) PCBs	Biased location added to target trough. The last interval is an in-process sample. A confirmation sample was collected at Location CI45-022.	Fig 7
	CI45-021	NA	NA	2084400.565	750543.731	Surface & Subsurface Soil	0.0 - 0.5 1.5 - 2.5 4.5 - 5.0 5.0 - 5.3	Radionuclides (except last interval) PCBs	Biased location added to target NE corner of northern pad. B interval had partial sample recovery. Last interval is a confirmation sample taken after soil removal.	Figs 7, 9
	CI45-022	NA	NA	2084400.487	750533.736	Subsurface Soil	6.3 - 6.8	PCBs	Confirmation sampling location associated with CI45-020 – taken after soil removal.	Fig 9
	CI45-023	NA	NA	2084404.615	750537.033	Subsurface Soil	6.3 - 6.8	PCBs	Confirmation sampling location associated with CI45-003 – taken after soil removal.	Fig 9
	CI45-024	NA	NA	2084407.066	750532.962	Subsurface Soil	6.3 - 6.8	PCBs	Confirmation sampling location associated with CI45-005 – taken after soil removal.	Fig 9

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CI45-025	NA	NA	2084405.014	750528.409	Subsurface Soil	6.3 - 6.8	PCBs	Confirmation sampling location associated with CI45-004 – taken after soil removal.	Fig 9
	CI45-026	NA	NA	2084421.249	750542.792	Surface Soil Subsurface Soil	0.0 - 0.5 0.5 - 2.5	PCBs	Confirmation sampling location associated with SS481194 – taken after soil removal.	Fig 9
IHSS 000-121, OPWL Outside UBC 779, including IHSS 700-149.2	CH45-001	2084204.782	750523.181	2084204.764	750523.204	Subsurface Soil	2.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location to target OPWL; no significant change in location.	Fig 6
	CH46-011	2084200.918	750577.286	2084200.896	750577.277	Subsurface Soil	3.0 - 4.5 5.0 - 6.5	Radionuclides Metals VOCs	Biased location to target OPWL; no significant change in location; intervals had partial recovery.	Fig 6
	CH46-012	2084202.85	750646.844	2084203.058	750647.835	Subsurface Soil	3.5 - 4.5 5.5 - 6.5	Radionuclides Metals VOCs	Biased location to target OPWL; no significant change in location; intervals had partial recovery.	Fig 5
	CH46-013	2084177.732	750666.165	2084177.106	750673.158	Subsurface Soil	3.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 7.0 ft N and 0.6 ft W to sample target; B interval had partial recovery.	Fig 5
	CI46-000	2084444.71	750694.842	2084444.683	750694.85	Subsurface Soil	2.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location to target OPWL; no significant change in location.	Fig 5
	CI46-001	2084340.544	750694.842	2084340.546	750694.825	Subsurface Soil	3.5 - 4.5 4.5 - 6.5	Radionuclides Metals VOCs	Biased location to target OPWL; no significant change in location; B interval had partial recovery.	Fig 5
	CJ46-005	2084569.958	750695.147	2084569.404	750700.154	Subsurface Soil	2.5 - 3.5 5.5 - 6.5 3.5 - 4.0	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 5.0 ft N and 0.6 ft W to sample target; intervals had partial recovery. A confirmation sample was taken at 3.5 – 4.0' after soil removal; analyzed only via alpha spectroscopy.	Figs 4, 9
	CH46-036	NA	NA	2084152.497	750702.505	Subsurface Soil	3.5 - 4.0	Radionuclides Metals VOCs	Biased location added to target OPWL.	Fig 5
	CH46-047	NA	NA	2084146.151	750696.239	Subsurface Soil	3.5 - 4.0	Radionuclides Metals VOCs	Biased location added to target OPWL.	Fig 5

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CJ46-051	2084572.464	750699.634	2084573.532	750691.027	Subsurface Soil	4.0 - 4.5	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 8.6 ft S and 1 ft E to sample target.	Fig 4
	CJ46-052	2084569.362	750702.114	2084571.955	750704.844	Subsurface Soil	3.0 - 3.0	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 2.7 ft N and 2.6 E ft to sample target.	Fig 4
	CJ46-053	2084569.362	750698.080	2084565.722	750703.552	Subsurface Soil	3.0 - 3.0	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 5.5 ft N and 3.6 ft W to sample target.	Fig 4
	CJ46-054	2084571.427	750700.120	2084569.169	750700.901	Subsurface Soil	3.0 - 3.0	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 0.8 ft N and 2.3 ft W to sample target.	Fig 4
	CJ46-055	2084567.345	750700.120	2084569.248	750706.955	Subsurface Soil	3.0 - 3.0	Radionuclides Metals VOCs	Biased location to target OPWL; relocated 6.8 ft N and 1.9 ft E to sample target.	Fig 4
	CJ46-060	NA	NA	2084557.196	750701.117	Surface Soil	0.0 - 0.5	Radionuclides	Confirmation sample taken after contaminated soil pile was removed from NE corner of project site.	Fig 9
Portion of IHSS 000-101 Not Over Former Site Of Auxiliary Pond 2	CH45-017	2084296.143	750438.419	2084296.18	750438.43	Surface Soil	0.2 - 0.7	Radionuclides Metals	Biased location to target area south of the 779 slab; no significant change in location; sampled under asphalt.	Fig 6
	CH46-028	2084289.388	750664.512	2084289.401	750664.451	Surface Soil	0.3 - 0.8	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 5
	CH46-029	2084293.569	750700.268	2084293.647	750700.242	Surface Soil	0.5 - 1.0	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 5
	CH46-030	2084322.444	750678.769	2084321.763	750678.53	Surface Soil	0.5 - 1.0	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 5
	CH46-031	2084326.626	750714.525	2084326.652	750714.536	Surface Soil	0.1 - 0.6	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 5
	CI45-007	2084381.069	750436.168	2084381.118	750436.196	Surface Soil	0.3 - 0.8	Radionuclides Metals	Biased location to target area south of the 779 slab; no significant change in location; sampled under asphalt.	Fig 6

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CI45-013	2084516.209	750456.761	2084516.2	750456.802	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.0	Radionuclides Metals VOCs (B interval only)	Statistical location; no significant change in location; sampled under asphalt.	Fig 7
	CI45-014	2084520.390	750492.518	2084520.357	750492.54	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 7
	CI45-015	2084524.571	750528.274	2084524.614	750528.237	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 7
	CI45-016	2084528.541	750454.136	2084539.08	750466.281	Subsurface Soil	18.5 - 20.5 20.5 - 22.5	Radionuclides Metals VOCs	Biased location to target the Building 782 pit; relocated to NE corner of pit (outside of pit).	Fig 7
	CI46-007	2084351.320	750657.27	2084351.322	750657.181	Surface Soil	0.3 - 0.8	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 5
	CI46-008	2084355.501	750693.026	2084356.495	750687.64	Surface Soil	0.1 - 0.6	Radionuclides Metals	Statistical location; relocated 5.4 ft S and 1.0 ft E to avoid OPWL; sampled under asphalt.	Fig 5
	CJ45-012	2084545.084	750435.262	2084543.841	750431.787	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.5	Radionuclides Metals VOCs	Statistical location; relocated 3.5 ft S and 1.2 ft W to avoid thick concrete lip around the Building 782 basement; sampled under Building 782 slab.	Fig 7
	CJ45-013	2084549.265	750471.018	2084549.272	750470.975	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 1.5	Radionuclides Metals VOCs	Statistical location; no significant change in location; sampled under Building 782 slab.	Fig 7
	CJ45-014	2084553.446	750506.775	2084553.522	750506.717	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 7
	CJ45-016	2084578.14	750449.519	2084578.078	750449.556	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs	Statistical location; no significant change in location; sampled under Building 782 slab.	Fig 7
	CJ45-017	2084582.322	750485.275	2084582.249	750485.307	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 7
	CJ45-018	2084586.503	750521.032	2084586.504	750521.004	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 7
	CJ45-020	2084573.221	750414.686	2084573.224	750414.67	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs	Statistical location; no significant change in location; sampled under Building 782 slab.	Fig 7

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CJ45-021	2084539.724	750400.291	2084539.711	750400.283	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs	Statistical location; no significant change in location; sampled under Building 782 slab.	Fig 7
Portion of IHSS 000-101 Over Former Site of Auxiliary Pond 2	CI46-009	2084384.376	750671.527	2084384.413	750671.541	Surface Soil	0.3 - 0.8	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 5
	CI46-010	2084388.558	750707.283	2084387.386	750714.914	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; relocated 7.6 ft N and 1.2 ft W to stay clear of water line.	Fig 5
	CI46-011	2084409.07	750614.271	2084409.081	750614.236	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 5
	CI46-012	2084413.251	750650.028	2084413.281	750650.038	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs	Statistical location; no significant change in location.	Fig 5
	CI46-013	2084417.433	750685.784	2084417.398	750685.766	Surface Soil	1.1 - 1.6	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 5
	CI46-014	2084421.614	750721.54	2084421.642	750721.512	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; no significant change in location.	Fig 5
	CI46-015	2084442.127	750628.528	2084442.13	750628.552	Surface & Subsurface Soil	0.0 - 0.5 1.5 - 2.5 2.5 - 4.5 4.5 - 5.5 6.5 - 7.2 8.5 - 9.2	Radionuclides Metals VOCs (except A interval)	Statistical location; no significant change in location; some intervals had partial recovery.	Fig 5
	CI46-016	2084446.308	750664.285	2084446.312	750664.251	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 5
	CI46-017	2084450.489	750700.041	2084450.498	750700.017	Surface Soil	1.0 - 1.5	Radionuclides Metals	Statistical location; no significant change in location; sampled under asphalt.	Fig 4
	CI46-018	2084475.183	750642.785	2084475.19	750642.815	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 4

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CI46-019	2084479.365	750678.542	2084479.367	750678.512	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; no significant change in location.	Fig 4
	CI46-020	2084483.546	750714.298	2084483.516	750717.157	Surface Soil	0.6 - 1.1	Radionuclides Metals	Statistical location; relocated 2.9 ft N to sample target; sampled under asphalt.	Fig 4
	CI46-021	2084504.059	750621.286	2084504.033	750621.309	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 4
	CI46-022	2084508.24	750657.042	2084508.234	750657.031	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 4
	CI46-023	2084512.421	750692.799	2084512.455	750692.769	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 4
	CI46-024	2084528.752	750564.03	2084535.15	750565.598	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; relocated 1.6 ft N and 6.4 ft E to avoid water line.	Fig 7
	CI46-025	2084532.934	750599.787	2084532.947	750599.788	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 4
	CI46-026	2084473.899	750611.253	2084473.876	750611.255	Surface Soil	0.0 - 0.5	Radionuclides Metals	Biased location; no significant change in location.	Fig 4
	CJ45-019	2084590.684	750556.788	2084590.686	750556.782	Surface Soil	0.0 - 0.5	Radionuclides Metals	Statistical location; no significant change in location.	Fig 7
	CJ46-014	2084537.115	750635.543	2084539.159	750635.594	Surface & Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; relocated 2 ft E to sample target.	Fig 4
	CJ46-015	2084541.296	750671.299	2084541.272	750671.272	Surface Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; no significant change in location.	Fig 4

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CJ46-016	2084545.478	750707.056	2084543.985	750702.256	Surface Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; relocated 4.8 ft S and 1.5 ft W to stay clear of water line.	Fig 4
	CJ46-018	2084565.99	750614.044	2084569.611	750613.539	Surface Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; relocated 0.5 ft S and 3.6 ft E to avoid concrete slab.	Fig 4
	CJ46-019	2084570.172	750649.8	2084570.22	750649.794	Surface Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.0 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; no significant change in location; D interval had partial recovery.	Fig 4
	CJ46-020	2084574.353	750685.556	2084565.547	750680.813	Surface Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; relocated 4.7 ft S and 8.8 ft W to avoid concrete pad and process waste line.	Fig 4
	CJ46-021	2084578.534	750721.313	2084578.532	750721.296	Surface Subsurface Soil	0.0 - 0.5 0.5 - 2.5 2.5 - 4.5 4.5 - 6.5 6.5 - 8.5 8.5 - 10.5	Radionuclides Metals VOCs (except A interval)	Statistical location; no significant change in location.	Fig 4
	CI46-041	NA	NA	2084419.115	750685.409	Subsurface Soil	3.0 - 3.3	Radionuclides	Confirmation sampling location associated with CI46-013 – taken after soil removal.	Fig 9
	CI46-042	NA	NA	2084444.221	750720.753	Subsurface Soil	2.5 - 2.8	Radionuclides	Confirmation sampling location associated with CI46-014 – taken after soil removal. Inadvertenty located 23 ft east of CI46-014.	Fig 9

IHSS/PAC/UBC	Sampling Location	Planned Easting	Planned Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analyte	Comments	Figure Number
	CI46-044	NA	NA	2084424.679	750722.600	Subsurface Soil	3.4 – 3.6	Radionuclides	Confirmation sampling location associated with CI46-014 – taken after soil removal. Location not representative of the final CI46-014 "hot spot" excavation.	Fig 9
	CI46-046	NA	NA	2084420.190	750722.715	Subsurface Soil	3.5	Radionuclides	Confirmation (grab) sampling location associated with CI46-014 – taken after soil removal. Location representative of the final CI46-014 "hot spot" excavation.	Fig 9

PCB - Polychlorinated biphenyl
SVOC – Semi-volatile organic compound
VOC – Volatile organic compound

Table 2
IHSS Group 700-7 Sampling and Analysis Summary

Category	Planned Total	Actual Total
Number of Sampling Locations	100	139
Number of Samples	233	324
Number of Radionuclide Analyses	233	310
Number of Metal Analyses	233	255
Number of VOC Analyses	175	214
Number of SVOC Analyses	17	42
Number of PCB Analyses	18	39

2.1 UBC 779, Main Plutonium Components Production Facility

Building 779 was the former weapons research and development laboratory, built in 1965 to support plutonium (Pu) production and recovery processes. The building mission changed in 1989 to research and non-nuclear production support activities, such as liquid carbon dioxide cleaning, waste minimization and characterization, stockpile reliability evaluation, and surface analyses.

Research, development, and support operations consisted of process chemistry technology, physical metallurgy, machining and gauging, joining technology, and hydriding (Pu recovery) operations. The Process Chemistry Technology group engaged in weapons process development, stockpile reliability testing, testing of various material compatibilities, Pu aging under various environmental conditions, and methods development for recovering, separating, and purifying actinides from waste streams and residues. The Physical Metallurgy group conducted research on various metals, alloys and other materials, which involved tensile testing, study of casting dynamics, electron microscopy, x-ray analyses, hardness testing, and dimensional dynamics. The Machining and Gauging group was involved in manufacturing of special order parts and test components, and had two shops and a laboratory for tool making, maintenance operations, and high-precision machining for special orders and tests. The Joining group developed sophisticated joining techniques, including welding and brazing, for nuclear materials. The Hydriding group was involved in Pu recovery experiments.

Building 779 was demolished to its main foundation in FY00. Building components remaining included the building slab, an extensive network of OPWLs, process waste trenches, sanitary drains, and various site utilities (Figure 2). Process waste drains penetrating the foundation were filled to grade with grout. Pipe conduit openings in the building slab were plugged and grouted at the foundation level. Several pits were also present below the slab, including:

- Four pits (1A, 2A, 2B and the T5 tank pit) located below the basement, which is approximately 29 feet long by 20 feet wide by 20 feet deep (also referred to as T-19, T-20 and T-38; see Section 2.5);
- Two elevator shafts (approximately 6 feet long by 7 feet wide by 3 feet deep);
- One plenum deluge drain pit (approximately 6 feet long by 4 feet wide by 4 feet deep); and

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- One pump pit (approximately 6 feet long by 4 feet wide by 4 feet deep).

Contaminated groundwater was encountered in Pit 1A.

A 35-foot by 2.5-foot area of concrete slab was removed to soil at the northern sides of Rooms 131 and 133. Soil samples were collected from beneath the concrete prior to backfilling the area with grout. Pu-239/240 was detected in soil at activities of up to 97,320 picocuries per gram (pCi/g) (DOE 2000b), as shown on Figure 3 (Sampling Location SS7790399). No soil remediation was conducted at that time.

One 300-gallon diesel underground storage tank (UST) was located adjacent to the southern side of the former Building 779 loading dock area. The tank was closed in place in 1997 using polyurethane foam (DOE 1998). The concrete ramp area around the dock was backfilled with soil to the foundation grade.

The plenum building for Building 779 (Building 782) was also demolished to its foundation during FY00. Building components remaining included the building slab (approximately 6,200 square feet), a large pit under the slab (approximately 24 feet long by 23 feet wide by 20 feet deep), and an underground tunnel/utility corridor (approximately 30 feet long by 12 feet wide by 16 feet deep) leading to the southeastern corner of the Building 779 slab. Following demolition of Building 782, a cover was constructed over the pit area to provide access into the pit for sampling and removing groundwater. Preliminary data presented in the Building 779 Closeout Report (DOE 2000b) indicated that the groundwater contained low concentrations of chemical and radionuclide contamination.

In addition, components from various support building remained after the FY00 demolition (Figure 2).

- The Building 727, Emergency Diesel Generator Building, slab (approximately 384 square feet) and one 500-gallon diesel UST located adjacent to the western side of the Building 727 slab. The tank was closed in-place in 1997 using polyurethane foam.

- The Building 783, Cooling Tower Pump House, slab (approximately 700 square feet) and two pits below the slab (each approximately 22 feet long by 4 feet wide by 8 feet deep). A metal cover was placed over the access plates to the pits. A pre-cast concrete sump also exists under the Building 783 slab. Ground water was observed in the Building 783 pits.

- The Building 784, 785, 786, and 787 Cooling Tower slabs.

- The Building 780 and 780B slabs.

2.2 IHSS 700-138, Building 779 Cooling Tower Blowdown

IHSS 138 is associated with the cooling towers near Building 779. The original Building 779 cooling towers were built in 1964 east of Building 779, and were replaced in 1986 by new cooling towers (Buildings 784, 785, 786, and 787). Building 783 was the pump house associated with the replacement towers and contained much of the ancillary piping.

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IHSS 138 is defined by two areas. The first area is a 50- by 50-foot area east of Building 779 and north of Building 727. On December 8, 1976, a leak occurred in an underground pipeline connected to the original cooling towers. This encompasses the 50- by 50-foot area. The leak discharged approximately 400 gallons of cooling tower effluent, which was released into a storm sewer east of Building 779 and northwest of Building 727. At the time, it was stated that the spilled effluent drained toward Trench No. 6. Trench No. 6 was part of the original surface water and shallow groundwater collection system north of the SEP. The line was excavated and repaired, and later removed when the original cooling towers were replaced. The cooling tower water was sampled following the incident and found to contain 50 milligrams per liter total chromium and approximately 3,000 disintegrations per minute per liter alpha activity. A radiological survey was conducted along the course of the spill. No readings above background were observed. Soil samples were collected in the area, however, analytical results are not known. Samples were also reportedly collected daily from Trench No. 6; however, analytical results are not known.

The second area is approximately 10 by 20 feet and east of Building 785. On December 8, 1990, an estimated 1,000 gallons of cooling tower water overflowed from the Building 785 Cooling Tower Number 2 onto the ground. The released water was sampled, however, analytical results are not known. There is no documentation to describe cleanup efforts for this spill.

Soil sampling and groundwater monitoring have been conducted in the area since the incidents. Soil sampling was conducted as part of the Operable Unit (OU) 8 Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation (RFI/RI). Pre-accelerated action soil and groundwater sampling results are summarized in IASAP Addendum #IA-03-15, and soil sampling results are summarized in Figure 3.

2.2 IHSS 700-150.6, Radioactive Site South of Building 779, and IHSS 700-150.8, Radioactive Site Northeast of Building 779

On June 22, 1969, a drum containing residual oil contaminated with unspecified radionuclides was cut apart near the Building 779 eastern dock. Contamination, measured at up to 50,000 disintegrations per minute per 100 square centimeter (dpm/100 cm^2) of gross alpha activity, was spread by pedestrian traffic across the first floor, dock, and surrounding outdoor areas south and east of Building 779. No incident report for this event was found. It is likely that one was not written because of the attention demanded by the May 11, 1969, fire in Buildings 776 and 777 and subsequent cleanup activities. However, one source indicated that following a release in 1969, an unknown number of drums of soil were removed for offsite disposal. It is not known whether all areas affected by this incident were included in cleanup activities. It is also not known whether the removal of soil was in response to the incident described above or a separate incident.

Review of aerial photographs and engineering drawings indicates that IHSSs 150.6 and 150.8 consist of both paved and unpaved areas. The eastern portion of the area outside Building 779 was paved before the 1969 incident. Portions of the IHSS that were unpaved or covered by gravel include the northernmost strip of the IHSS area, the area

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immediately adjacent to the north side of the building, and the southern portion of the IHSS directly adjacent to the southern side of the building. Some pavement to the south and east of the area was removed in 1979 to improve surface drainage. South 79 Drive, which runs north-south along the eastern side of the building, was repaved in 1984.

Soil sampling and groundwater monitoring have been conducted in the area since the incident. Soil sampling was conducted as part of the OU 8 Phase I RFI/RI. Soil and groundwater sampling results are summarized in IASAP Addendum #IA-03-15 (DOE 2003a), and soil sampling results are summarized in Figure 3.

2.4 PAC 700-1105, Transformer Leak – 779-1/779-2

Prior to 1987, dielectric fluid containing polychlorinated biphenyls (PCBs) leaked from Transformers 779-1 and 779-2, formerly located on the northeastern side of Building 779 adjacent to the southern side of the 779 loading dock. A surface soil sample from Sampling Location SS481194 indicated the presence of PCBs at 21,000 micrograms per kilogram (ug/kg). Pre-accelerated action surface soil samples were also collected at six locations around the transformer pads for PCB and isotopic analyses. Aroclor-1260 was detected in all six samples, from 15,000 to 680,000 ug/kg. Pu-239/240 was detected in all samples; the highest activity was 115 pCi/g. Analytical results are shown on Figure 3.

In 1987, the transformers were retrofilled with non-PCB dielectric fluid and then moved several feet east and north.

2.5 IHSS 000-121, OPWL, and IHSS 700-149.2, Effluent Line

OPWL (IHSS Group 000-2) are present north of UBC 779 (P-36, P-37 and P-38 running east to west), east of UBC 779 (P-42 running south to north), and under the building. The lines north of the building run through IHSS 000-101, SEP. Leaks are known to have occurred along P-36, P-37 and P-42, and are suspected to have occurred along P-38. Very limited information on leaks, their locations, and related responses/corrective actions are available. The area where leaks occurred along P-36 and P-37 has also been designated as IHSS 700-149.2 (IHSS Group 000-1). No subsurface waste lines were removed as part of the Building 779 demolition.

The IHSS 000-121 tanks (Tanks 19, 20, and 38) were located within the Building 779 basement area. It is believed that Tank 19 (two 1,000-gallon concrete process sumps) and Tank 20 (two 8,000-gallon concrete process sumps) constitute the four sub-basement pits (1A, 2A, 2B and T5 tank pit) (Section 2.1) and that Tank 38 (a 1,000-gallon steel tank) was also located in the sub-basement. Tank 38 was removed just prior to the FY00 building demolition. Inspection of the sub-basement during the accelerated action confirmed that no tanks were present. It is not known whether the tank or sumps leaked. Groundwater infiltrated the pits, and contaminated groundwater was encountered in Pit 1A.

2.6 IHSS 000-101, Solar Evaporation Ponds

A portion of IHSS 000-101 was transferred to IHSS Group 700-7. The area includes areas north, south and east of the Building 779 slab (Figure 2). The area east and north of

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UBC 779 was the former site of Auxiliary SEP 2, which was removed in 1962 (DOE 2002). OPWL P-36, P-37 and P-38 traverse the area (Figure 2). Various Building 779 support buildings also occupied this area (Section 2.1).

2.7 Pre-Accelerated Action Characterization Data

Pre-accelerated action characterization data are presented in Figure 3. Only data greater than background means plus two standard deviations (for radionuclides and metals), or method detection limits (MDL) or reporting limits (RL) (for organic compounds) are presented. The data show exceedances of RFCA wildlife refuge worker (WRW) action levels (ALs) associated with the release within Rooms 131 and 133 in Building 779 (Americium [Am]-241 and Pu-239/240) and the PCB transformers (Aroclor-1260). The purpose of these data was to help define potential contaminants of concern and accelerated action sampling locations.

2.8 Accelerated Action Characterization Data

Accelerated action soil sampling locations and analytical results for IHSS Group 700-7 are presented on Figures 4 through 7 and in Table 3. Only results greater than background means plus two standard deviations or RLs are shown. WRW AL exceedances are shown in bold in Table 3 and in red on Figures 4 through 7. Pu-239/240 and uranium (U)-234 activities based on high-purity germanium (HPGe) results (derived from Am-241 and U-238 gamma spectroscopy results, respectively) are shown in Table 3 in italics. Summary statistics for the project analytical results (characterization, in-process, and confirmation analysis) are presented in Tables 4 and 5 for surface soil and subsurface soil, respectively. All project data, retrieved from the RFETS Soil Water Database (SWD) on September 7, 2004, are provided on the enclosed CD. The CD contains standardized real and QC data (Chemical Abstracts Service [CAS] numbers, analyte names, and units).

Characterization data indicate that contaminant concentrations were less than RFCA WRW Als at 104 sampling locations out of 117 locations. Two sampling locations had all concentrations less than background means plus two standard deviations or RLs (CH46-051 and CJ45-016). WRW AL exceedances are summarized below.

- Pu-239/240 activities exceeded the WRW AL (50 pCi/g) at 2 locations in surface and subsurface intervals within UBC 779 (CH45-094 and CH45-112) and 3 locations in subsurface intervals within the area of the former Auxiliary Pond 2 (CI46-013, CI46-014 and CI46-029). Activities greater than the AL ranged from 52.6 to 670.3 pCi/g.

- Am-241 activities exceeded the WRW AL (76 pCi/g) at 1 surface location within UBC 779 (117.6 pCi/g at CH45-094).

- PCB concentrations exceeded the WRW AL (12.4 mg/kg) at 6 locations in surface and subsurface intervals located around the PCB transformer pads (PAC 700-1105). Surface concentrations greater than the AL ranged from 16,000 to 860,000 ug/kg. Subsurface concentrations greater than the AL ranged from 19,000 to 24,000 ug/kg.

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(Ref: 04-RF-00954; KLW-018-04)

Draft Closeout Report for IHSS Group 700-7

UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

September, 2004

Figure 4:

Characterization Sampling Locations and Results, Northeast Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Characterization\700-7 characterization-gk.apr

June 30, 2004

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UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

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Figure 5:

Characterization Sampling Locations and Results, Northwest Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Characterization\700-7 characterization-gk.apr

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UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

September, 2004

Figure 6:

Characterization Sampling Locations and Results, Southwest Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Characterization\700-7 characterization-gk.apr

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Draft Closeout Report for IHSS Group 700-7

UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

September, 2004

Figure 7:

Characterization Sampling Locations and Results, Southeast Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Characterization\700-7 characterization-gk.apr

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Table 3
IHSS Group 700-7 Accelerated Action Soil Characterization Data

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-001	750523.204	2084204.764	2.5	4.5	Toluene	7.500	ug/kg	5.750	31300000.0	-	Fig 6
CH45-001	*750523.204*	*2084204.764*	*2.5*	*4.5*	*Uranium-234*	*3.473*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-001	750523.204	2084204.764	2.5	4.5	Uranium-235	0.168	pCi/g	-	8.0	0.120	Fig 6
CH45-001	750523.204	2084204.764	2.5	4.5	Uranium-238	3.473	pCi/g	-	351.0	1.490	Fig 6
CH45-001	750523.204	2084204.764	4.5	6.5	Uranium-235	0.129	pCi/g	-	8.0	0.120	Fig 6
CH45-001	750523.204	2084204.764	4.5	6.5	Uranium-238	2.133	pCi/g	-	351.0	1.490	Fig 6
CH45-011	750560.123	2084256.669	5.0	5.5	2-Butanone	5.400	ug/kg	5.200	192000000.0	-	Fig 6
CH45-011	750560.123	2084256.669	5.0	5.5	Acetone	19.000	ug/kg	5.000	102000000.0	-	Fig 6
CH45-011	750560.123	2084256.669	5.5	6.5	Acetone	43.000	ug/kg	5.300	102000000.0	-	Fig 6
CH45-013	750529.400	2084314.622	0.0	0.5	Acetone	13.000	ug/kg	5.400	102000000.0	-	Fig 6
CH45-013	750529.400	2084314.622	0.0	0.5	Americium-241	0.113	pCi/g	-	76.0	0.023	Fig 6
CH45-013	750529.400	2084314.622	0.0	0.5	Plutonium-239/240	0.662	pCi/g	-	50.0	0.066	Fig 6
CH45-013	750529.400	2084314.622	0.0	0.5	Zinc	180.000	mg/kg	-	307000.0	73.760	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Aluminum	32000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Arsenic	11.000	mg/kg	-	22.2	10.090	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Beryllium	1.600	mg/kg	-	921.0	0.966	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Chromium	21.000	mg/kg	-	268.0	16.990	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Cobalt	11.000	mg/kg	-	1550.0	10.910	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Iron	20000.000	mg/kg	-	307000.0	18037.000	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Lithium	22.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Mercury	0.150	mg/kg	-	25200.0	0.134	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Naphthalene	2.900	ug/kg	1.000	3090000.0	-	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Nickel	22.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-015	750545.730	2084319.580	0.0	0.5	Vanadium	53.000	mg/kg	-	7150.0	45.590	Fig 6
CH45-015	750545.730	2084319.580	0.5	2.5	2-Butanone	6.900	ug/kg	5.500	192000000.0	-	Fig 6
CH45-015	750545.730	2084319.580	0.5	2.5	Acetone	56.000	ug/kg	5.400	102000000.0	-	Fig 6
CH45-015	750545.730	2084319.580	0.5	2.5	Lithium	54.000	mg/kg	-	20400.0	34.660	Fig 6
CH45-015	750545.730	2084319.580	0.5	2.5	Naphthalene	2.100	ug/kg	1.000	3090000.0	-	Fig 6
CH45-017	750438.430	2084296.180	0.2	0.7	Strontium	52.000	mg/kg	-	613000.0	48.940	Fig 6
CH45-017	*750438.430*	*2084296.180*	*0.2*	*0.7*	*Uranium-234*	*3.246*	*pCi/g*	-	*300.0*	*2.253*	*Fig 6*

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-017	750438.430	2084296.180	0.2	0.7	Uranium-235	0.184	pCi/g	-	8.0	0.094	Fig 6
CH45-017	750438.430	2084296.180	0.2	0.7	Uranium-238	3.246	pCi/g	-	351.0	2.000	Fig 6
CH45-028	750477.146	2084230.366	0.0	0.5	Acetone	24.000	ug/kg	5.300	102000000.0	-	Fig 6
CH45-028	750477.146	2084230.366	0.0	0.5	Strontium	74.000	mg/kg	-	613000.0	48.940	Fig 6
CH45-028	750477.146	2084230.366	2.5	4.5	Acetone	6.300	ug/kg	4.900	102000000.0	-	Fig 6
CH45-028	750477.146	2084230.366	4.5	6.5	Acetone	6.500	ug/kg	5.400	102000000.0	-	Fig 6
CH45-029	750501.451	2084268.560	0.0	0.5	Aluminum	19000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-029	750501.451	2084268.560	0.0	0.5	Americium-241	0.249	pCi/g	-	76.0	0.023	Fig 6
CH45-029	*750501.451*	*2084268.560*	*0.0*	*0.5*	*Plutonium-239/240*	*1.418*	*pCi/g*	-	*50.0*	*0.066*	*Fig 6*
CH45-029	*750501.451*	*2084268.560*	*0.5*	*1.1*	*Uranium-234*	*3.379*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-029	750501.451	2084268.560	0.5	1.1	Uranium-235	0.204	pCi/g	-	8.0	0.120	Fig 6
CH45-029	750501.451	2084268.560	0.5	1.1	Uranium-238	3.379	pCi/g	-	351.0	1.490	Fig 6
CH45-029	*750501.451*	*2084268.560*	*3.0*	*4.5*	*Uranium-234*	*4.133*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-029	750501.451	2084268.560	3.0	4.5	Uranium-235	0.216	pCi/g	-	8.0	0.120	Fig 6
CH45-029	750501.451	2084268.560	3.0	4.5	Uranium-238	4.133	pCi/g	-	351.0	1.490	Fig 6
CH45-029	750501.451	2084268.560	4.5	6.0	Uranium-235	0.169	pCi/g	-	8.0	0.120	Fig 6
CH45-031	750497.111	2084332.796	0.0	0.5	Aluminum	23000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-031	750497.111	2084332.796	0.0	0.5	Americium-241	0.367	pCi/g	-	76.0	0.023	Fig 6
CH45-031	750497.111	2084332.796	0.0	0.5	Chromium	18.000	mg/kg	-	268.0	16.990	Fig 6
CH45-031	750497.111	2084332.796	0.0	0.5	Lithium	13.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-031	750497.111	2084332.796	0.0	0.5	Naphthalene	239.000	ug/kg	6.100	3090000.0	-	Fig 6
CH45-031	750497.111	2084332.796	0.0	0.5	Nickel	17.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-031	*750497.111*	*2084332.796*	*0.0*	*0.5*	*Plutonium-239/240*	*2.093*	*pCi/g*	-	*50.0*	*0.066*	*Fig 6*
CH45-031	750497.111	2084332.796	0.5	1.8	Naphthalene	58.900	ug/kg	6.440	3090000.0	-	Fig 6
CH45-031	*750497.111*	*2084332.796*	*0.5*	*1.8*	*Uranium-234*	*4.901*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-031	750497.111	2084332.796	0.5	1.8	Uranium-235	0.340	pCi/g	-	8.0	0.120	Fig 6
CH45-031	750497.111	2084332.796	0.5	1.8	Uranium-238	4.901	pCi/g	-	351.0	1.490	Fig 6
CH45-031	750497.111	2084332.796	2.5	3.5	Naphthalene	90.100	ug/kg	5.440	3090000.0	-	Fig 6
CH45-031	*750497.111*	*2084332.796*	*2.5*	*3.5*	*Uranium-234*	*4.471*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-031	750497.111	2084332.796	2.5	3.5	Uranium-235	0.223	pCi/g	-	8.0	0.120	Fig 6
CH45-031	750497.111	2084332.796	2.5	3.5	Uranium-238	4.471	pCi/g	-	351.0	1.490	Fig 6
CH45-031	750497.111	2084332.796	4.5	5.0	Naphthalene	20.700	ug/kg	6.200	3090000.0	-	Fig 6
CH45-031	750497.111	2084332.796	4.5	5.0	Uranium-235	0.191	pCi/g	-	8.0	0.120	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-057	750523.664	2084240.317	0.0	0.5	Aluminum	30000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Beryllium	1.500	mg/kg	-	921.0	0.966	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Chromium	29.000	mg/kg	-	268.0	16.990	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Copper	21.000	mg/kg	-	40900.0	18.060	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Iron	20000.000	mg/kg	-	307000.0	18037.000	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Lithium	19.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Mercury	0.280	mg/kg	-	25200.0	0.134	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Nickel	25.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Tin	4.100	mg/kg	-	613000.0	2.900	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Uranium-235	0.134	pCi/g	-	8.0	0.094	Fig 6
CH45-057	750523.664	2084240.317	0.0	0.5	Vanadium	54.000	mg/kg	-	7150.0	45.590	Fig 6
CH45-057	750523.664	2084240.317	0.5	2.0	Aluminum	39000.000	mg/kg	-	228000.0	35373.170	Fig 6
CH45-057	750523.664	2084240.317	0.5	2.0	Arsenic	19.000	mg/kg	-	22.2	13.140	Fig 6
CH45-057	*750523.664*	*2084240.317*	*0.5*	*2.0*	*Uranium-234*	*4.948*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-057	750523.664	2084240.317	0.5	2.0	Uranium-235	0.239	pCi/g	-	8.0	0.120	Fig 6
CH45-057	750523.664	2084240.317	0.5	2.0	Uranium-238	4.948	pCi/g	-	351.0	1.490	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Aluminum	39000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Americium-241	0.297	pCi/g	-	76.0	0.023	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Antimony	0.610	mg/kg	-	409.0	0.470	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Arsenic	16.000	mg/kg	-	22.2	10.090	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Beryllium	2.100	mg/kg	-	921.0	0.966	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Chromium	33.000	mg/kg	-	268.0	16.990	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Copper	21.000	mg/kg	-	40900.0	18.060	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Iron	25000.000	mg/kg	-	307000.0	18037.000	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Lithium	23.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Nickel	33.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-058	*750523.443*	*2084251.827*	*0.0*	*0.5*	*Plutonium-239/240*	*1.695*	*pCi/g*	-	*50.0*	*0.066*	*Fig 6*
CH45-058	750523.443	2084251.827	0.0	0.5	Tin	3.500	mg/kg	-	613000.0	2.900	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Uranium-235	0.182	pCi/g	-	8.0	0.094	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Uranium-238	2.151	pCi/g	-	351.0	2.000	Fig 6
CH45-058	750523.443	2084251.827	0.0	0.5	Vanadium	73.000	mg/kg	-	7150.0	45.590	Fig 6
CH45-058	750523.443	2084251.827	0.5	2.0	Aluminum	42000.000	mg/kg	-	228000.0	35373.170	Fig 6
CH45-058	750523.443	2084251.827	0.5	2.0	Arsenic	17.000	mg/kg	-	22.2	13.140	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-058	750523.443	2084251.827	0.5	2.0	Uranium-235	0.161	pCi/g	-	8.0	0.120	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Aluminum	26000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Americium-241	0.520	pCi/g	-	76.0	0.023	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Beryllium	1.100	mg/kg	-	921.0	0.966	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Chromium	24.000	mg/kg	-	268.0	16.990	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Lithium	16.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Nickel	23.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-059	*750522.979*	*2084300.988*	*0.0*	*0.5*	*Plutonium-239/240*	*2.966*	*pCi/g*	-	*50.0*	*0.066*	*Fig 6*
CH45-059	*750522.979*	*2084300.988*	*0.0*	*0.5*	*Uranium-234*	*4.849*	*pCi/g*	-	*300.0*	*2.253*	*Fig 6*
CH45-059	750522.979	2084300.988	0.0	0.5	Uranium-235	0.276	pCi/g	-	8.0	0.094	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Uranium-238	4.849	pCi/g	-	351.0	2.000	Fig 6
CH45-059	750522.979	2084300.988	0.0	0.5	Vanadium	48.000	mg/kg	-	7150.0	45.590	Fig 6
CH45-059	*750522.979*	*2084300.988*	*0.5*	*1.0*	*Uranium-234*	*4.549*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-059	750522.979	2084300.988	0.5	1.0	Uranium-235	0.245	pCi/g	-	8.0	0.120	Fig 6
CH45-059	750522.979	2084300.988	0.5	1.0	Uranium-238	4.549	pCi/g	-	351.0	1.490	Fig 6
CH45-060	750520.868	2084310.734	0.0	0.5	Aluminum	23000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-060	750520.868	2084310.734	0.0	0.5	Chromium	26.000	mg/kg	-	268.0	16.990	Fig 6
CH45-060	750520.868	2084310.734	0.0	0.5	Lithium	16.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-060	750520.868	2084310.734	0.0	0.5	Nickel	21.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-060	750520.868	2084310.734	0.0	0.5	Vanadium	47.000	mg/kg	-	7150.0	45.590	Fig 6
CH45-060	750520.868	2084310.734	0.5	1.0	Uranium-235	0.130	pCi/g	-	8.0	0.120	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Acetone	15.000	ug/kg	5.600	102000000.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Aluminum	29000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Benzo(a)anthracene	47.000	ug/kg	29.000	34900.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Chromium	22.000	mg/kg	-	268.0	16.990	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Chrysene	50.000	ug/kg	33.000	3490000.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Lithium	17.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Mercury	0.250	mg/kg	-	25200.0	0.134	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Methylene chloride	1.700	ug/kg	0.980	2530000.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Nickel	21.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-066	750496.715	2084311.994	0.0	0.5	Plutonium-239/240	0.234	pCi/g	-	50.0	0.066	Fig 6
CH45-066	750496.715	2084311.994	0.5	1.0	Acetone	17.000	ug/kg	5.500	102000000.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.5	1.0	Americium-241	0.255	pCi/g	-	76.0	0.020	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-066	750496.715	2084311.994	0.5	1.0	Benzo(a)anthracene	53.000	ug/kg	29.000	34900.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.5	1.0	Chrysene	58.000	ug/kg	32.000	3490000.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.5	1.0	Methylene chloride	1.700	ug/kg	0.960	2530000.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.5	1.0	Plutonium-239/240	1.680	pCi/g	-	50.0	0.020	Fig 6
CH45-066	750496.715	2084311.994	0.5	1.0	Tetrachloroethene	1.500	ug/kg	1.200	615000.0	-	Fig 6
CH45-066	750496.715	2084311.994	0.5	1.0	Uranium-235	0.421	pCi/g	-	8.0	0.120	Fig 6
CH45-066	750496.715	2084311.994	2.5	3.5	Acetone	22.000	ug/kg	5.800	102000000.0	-	Fig 6
CH45-066	750496.715	2084311.994	2.5	3.5	Plutonium-239/240	0.474	pCi/g	-	50.0	0.020	Fig 6
CH45-066	750496.715	2084311.994	2.5	3.5	Tetrachloroethene	1.300	ug/kg	1.200	615000.0	-	Fig 6
CH45-066	750496.715	2084311.994	2.5	3.5	Uranium-235	0.550	pCi/g	-	8.0	0.120	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Acetone	11.000	ug/kg	4.900	102000000.0	-	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Americium-241	0.182	pCi/g	-	76.0	0.020	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Benzo(a)anthracene	59.000	ug/kg	26.000	34900.0	-	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Chrysene	71.000	ug/kg	29.000	3490000.0	-	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Fluoranthene	140.000	ug/kg	23.000	27200000.0	-	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Methylene chloride	1.900	ug/kg	0.850	2530000.0	-	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Plutonium-239/240	0.411	pCi/g	-	50.0	0.020	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Pyrene	140.000	ug/kg	140.000	22100000.0	-	Fig 6
CH45-066	750496.715	2084311.994	4.5	5.5	Tetrachloroethene	1.300	ug/kg	1.100	615000.0	-	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Aluminum	21000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Benzo(a)anthracene	51.000	ug/kg	26.000	34900.0	-	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Beryllium	0.980	mg/kg	-	921.0	0.966	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Chrysene	52.000	ug/kg	30.000	3490000.0	-	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Fluoranthene	94.000	ug/kg	24.000	27200000.0	-	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Lithium	12.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-067	*750480.854*	*2084285.799*	*0.0*	*0.5*	*Uranium-234*	*2.834*	*pCi/g*	-	*300.0*	*2.253*	*Fig 6*
CH45-067	750480.854	2084285.799	0.0	0.5	Uranium-235	0.219	pCi/g	-	8.0	0.094	Fig 6
CH45-067	750480.854	2084285.799	0.0	0.5	Uranium-238	2.834	pCi/g	-	351.0	2.000	Fig 6
CH45-067	*750480.854*	*2084285.799*	*0.5*	*2.5*	*Uranium-234*	*3.857*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-067	750480.854	2084285.799	0.5	2.5	Uranium-235	0.201	pCi/g	-	8.0	0.120	Fig 6
CH45-067	750480.854	2084285.799	0.5	2.5	Uranium-238	3.857	pCi/g	-	351.0	1.490	Fig 6
CH45-067	750480.854	2084285.799	2.5	3.5	Fluoranthene	46.000	ug/kg	24.000	27200000.0	-	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-067	750480.854	2084285.799	2.5	3.5	Uranium-235	0.136	pCi/g	-	8.0	0.120	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Benzo(a)anthracene	63.000	ug/kg	25.000	34900.0	-	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Benzo(a)pyrene	51.000	ug/kg	41.000	3490.0	-	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Benzo(b)fluoranthene	40.000	ug/kg	30.000	34900.0	-	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Benzo(k)fluoranthene	54.000	ug/kg	33.000	349000.0	-	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Chrysene	67.000	ug/kg	28.000	3490000.0	-	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Fluoranthene	170.000	ug/kg	23.000	27200000.0	-	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Pyrene	150.000	ug/kg	140.000	22100000.0	-	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Uranium-235	0.167	pCi/g	-	8.0	0.120	Fig 6
CH45-067	750480.854	2084285.799	4.5	5.5	Uranium-238	1.965	pCi/g	-	351.0	1.490	Fig 6
CH45-094	**750569.101**	**2084329.847**	**0.0**	**0.5**	**Americium-241**	**117.600**	**pCi/g**	**-**	**76.0**	**0.023**	**Fig 6**
CH45-094	***750569.101***	***2084329.847***	***0.0***	***0.5***	***Plutonium-239/240***	***670.320***	***pCi/g***	**-**	***50.0***	***0.066***	***Fig 6***
CH45-094	750569.101	2084329.847	0.5	1.0	Americium-241	26.250	pCi/g	-	76.0	0.020	Fig 6
CH45-094	***750569.101***	***2084329.847***	***0.5***	***1.0***	***Plutonium-239/240***	***149.625***	***pCi/g***	**-**	***50.0***	***0.020***	***Fig 6***
CH45-094	750569.101	2084329.847	0.5	1.0	Uranium-235	0.249	pCi/g	-	8.0	0.120	Fig 6
CH45-095	750557.537	2084293.464	0.0	0.5	Chromium	20.000	mg/kg	-	268.0	16.990	Fig 6
CH45-095	750557.537	2084293.464	0.0	0.5	Copper	21.000	mg/kg	-	40900.0	18.060	Fig 6
CH45-095	750557.537	2084293.464	0.0	0.5	Iron	51000.000	mg/kg	-	307000.0	18037.000	Fig 6
CH45-095	750557.537	2084293.464	0.0	0.5	Lead	360.000	mg/kg	-	1000.0	54.620	Fig 6
CH45-095	750557.537	2084293.464	0.0	0.5	Lithium	180.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-096	750569.101	2084329.847	0.0	0.5	Aluminum	26000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-096	750569.101	2084329.847	0.0	0.5	Chromium	20.000	mg/kg	-	268.0	16.990	Fig 6
CH45-096	750569.101	2084329.847	0.0	0.5	Lithium	22.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-096	750569.101	2084329.847	0.0	0.5	Nickel	20.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-112	750517.469	2084291.831	0.0	0.5	Americium-241	52.470	pCi/g	-	76.0	0.023	Fig 6
CH45-112	750517.469	2084291.831	0.0	0.5	Benzo(a)anthracene	48.000	ug/kg	28.000	34900.0	-	Fig 6
CH45-112	750517.469	2084291.831	0.0	0.5	Benzo(b)fluoranthene	65.000	ug/kg	32.000	34900.0	-	Fig 6
CH45-112	750517.469	2084291.831	0.0	0.5	bis(2-Ethylhexyl)phthalate	360.000	ug/kg	80.000	1970000.0	-	Fig 6
CH45-112	750517.469	2084291.831	0.0	0.5	Chrysene	46.000	ug/kg	31.000	3490000.0	-	Fig 6
CH45-112	750517.469	2084291.831	0.0	0.5	Fluoranthene	120.000	ug/kg	25.000	27200000.0	-	Fig 6
CH45-112	***750517.469***	***2084291.831***	***0.0***	***0.5***	***Plutonium-239/240***	***299.079***	***pCi/g***	**-**	***50.0***	***0.066***	***Fig 6***
CH45-112	750517.469	2084291.831	0.0	0.5	Uranium-235	0.185	pCi/g	-	8.0	0.094	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-112	750517.469	2084291.831	4.0	4.5	Americium-241	1.717	pCi/g	-	76.0	0.020	Fig 6
CH45-112	*750517.469*	*2084291.831*	*4.0*	*4.5*	*Plutonium-239/240*	*9.787*	*pCi/g*	-	*50.0*	*0.020*	*Fig 6*
CH45-112	750517.469	2084291.831	4.0	4.5	Uranium-238	1.755	pCi/g	-	351.0	1.490	Fig 6
CH45-112	750517.469	2084291.831	8.0	9.0	Americium-241	1.301	pCi/g	-	76.0	0.020	Fig 6
CH45-112	750517.469	2084291.831	8.0	9.0	Manganese	1100.000	mg/kg	-	3480.0	901.620	Fig 6
CH45-112	*750517.469*	*2084291.831*	*8.0*	*9.0*	*Plutonium-239/240*	*7.416*	*pCi/g*	-	*50.0*	*0.020*	*Fig 6*
CH45-112	750517.469	2084291.831	8.0	9.0	Uranium-235	0.133	pCi/g	-	8.0	0.120	Fig 6
CH45-112	750517.469	2084291.831	8.0	9.0	Uranium-238	2.003	pCi/g	-	351.0	1.490	Fig 6
CH45-112	750517.469	2084291.831	12.0	13.5	Americium-241	20.910	pCi/g	-	76.0	0.020	Fig 6
CH45-112	750517.469	2084291.831	12.0	13.5	Benzo(a)anthracene	59.000	ug/kg	29.000	34900.0	-	Fig 6
CH45-112	750517.469	2084291.831	12.0	13.5	Benzo(a)pyrene	48.000	ug/kg	46.000	3490.0	-	Fig 6
CH45-112	750517.469	2084291.831	12.0	13.5	Benzo(b)fluoranthene	81.000	ug/kg	33.000	34900.0	-	Fig 6
CH45-112	750517.469	2084291.831	12.0	13.5	Chrysene	56.000	ug/kg	32.000	3490000.0	-	Fig 6
CH45-112	750517.469	2084291.831	12.0	13.5	Fluoranthene	140.000	ug/kg	26.000	27200000.0	-	Fig 6
CH45-112	***750517.469***	***2084291.831***	***12.0***	***13.5***	***Plutonium-239/240***	***119.187***	***pCi/g***	-	***50.0***	***0.020***	***Fig 6***
CH45-112	750517.469	2084291.831	16.0	16.5	Americium-241	1.627	pCi/g	-	76.0	0.020	Fig 6
CH45-112	*750517.469*	*2084291.831*	*16.0*	*16.5*	*Plutonium-239/240*	*9.274*	*pCi/g*	-	*50.0*	*0.020*	*Fig 6*
CH45-112	*750517.469*	*2084291.831*	*16.0*	*16.5*	*Uranium-234*	*6.358*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-112	750517.469	2084291.831	16.0	16.5	Uranium-235	0.395	pCi/g	-	8.0	0.120	Fig 6
CH45-112	750517.469	2084291.831	16.0	16.5	Uranium-238	6.358	pCi/g	-	351.0	1.490	Fig 6
CH45-112	750517.469	2084291.831	16.5	18.0	Americium-241	2.026	pCi/g	-	76.0	0.020	Fig 6
CH45-112	*750517.469*	*2084291.831*	*16.5*	*18.0*	*Plutonium-239/240*	*11.548*	*pCi/g*	-	*50.0*	*0.020*	*Fig 6*
CH45-112	750517.469	2084291.831	16.5	18.0	Uranium-235	0.159	pCi/g	-	8.0	0.120	Fig 6
CH45-112	*750517.469*	*2084291.831*	*20.0*	*20.5*	*Uranium-234*	*5.943*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-112	750517.469	2084291.831	20.0	20.5	Uranium-235	0.326	pCi/g	-	8.0	0.120	Fig 6
CH45-112	750517.469	2084291.831	20.0	20.5	Uranium-238	5.943	pCi/g	-	351.0	1.490	Fig 6
CH45-112	750517.469	2084291.831	20.5	22.5	Uranium, Total	3.200	mg/kg	-	2750.0	3.040	Fig 6
CH45-112	750517.469	2084291.831	20.5	22.5	Uranium-238	1.777	pCi/g	-	351.0	1.490	Fig 6
CH45-112	750517.469	2084291.831	20.5	22.5	Zinc	150.000	mg/kg	-	307000.0	139.100	Fig 6
CH45-112	750517.469	2084291.831	22.5	23.5	bis(2-Ethylhexyl)phthalate	160.000	ug/kg	89.000	1970000.0	-	Fig 6
CH45-112	750517.469	2084291.831	22.5	23.5	Fluoranthene	71.000	ug/kg	28.000	27200000.0	-	Fig 6
CH45-112	750517.469	2084291.831	22.5	23.5	Trichloroethene	13.800	ug/kg	6.790	19600.0	-	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-112	*750517.469*	*2084291.831*	*22.5*	*23.5*	*Uranium-234*	*5.440*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-112	750517.469	2084291.831	22.5	23.5	Uranium-235	0.334	pCi/g	-	8.0	0.120	Fig 6
CH45-112	750517.469	2084291.831	22.5	23.5	Uranium-238	5.440	pCi/g	-	351.0	1.490	Fig 6
CH45-112	750517.469	2084291.831	24.5	26.5	Americium-241	2.854	pCi/g	-	76.0	0.020	Fig 6
CH45-112	*750517.469*	*2084291.831*	*24.5*	*26.5*	*Plutonium-239/240*	*16.268*	*pCi/g*	-	*50.0*	*0.020*	*Fig 6*
CH45-113	750516.062	2084311.592	0.0	0.5	Aluminum	18000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Americium-241	0.343	pCi/g	-	76.0	0.023	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Anthracene	89.000	ug/kg	25.000	204000000.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Benzo(a)anthracene	200.000	ug/kg	26.000	34900.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Benzo(a)pyrene	130.000	ug/kg	42.000	3490.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Benzo(b)fluoranthene	250.000	ug/kg	30.000	34900.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Beryllium	1.000	mg/kg	-	921.0	0.966	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Chrysene	210.000	ug/kg	29.000	3490000.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Fluoranthene	470.000	ug/kg	24.000	27200000.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Indeno(1,2,3-cd)pyrene	62.000	ug/kg	24.000	34900.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Lithium	12.000	mg/kg	-	20400.0	11.550	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Nickel	15.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-113	*750516.062*	*2084311.592*	*0.0*	*0.5*	*Plutonium-239/240*	*1.953*	*pCi/g*	-	*50.0*	*0.066*	*Fig 6*
CH45-113	750516.062	2084311.592	0.0	0.5	Pyrene	390.000	ug/kg	140.000	22100000.0	-	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Uranium-235	0.135	pCi/g	-	8.0	0.094	Fig 6
CH45-113	750516.062	2084311.592	0.0	0.5	Uranium-238	2.163	pCi/g	-	351.0	2.000	Fig 6
CH45-113	750516.062	2084311.592	6.5	8.5	Americium-241	0.712	pCi/g	-	76.0	0.020	Fig 6
CH45-113	*750516.062*	*2084311.592*	*6.5*	*8.5*	*Plutonium-239/240*	*4.060*	*pCi/g*	-	*50.0*	*0.020*	*Fig 6*
CH45-113	750516.062	2084311.592	6.5	8.5	Uranium-235	0.229	pCi/g	-	8.0	0.120	Fig 6
CH45-113	750516.062	2084311.592	6.5	8.5	Uranium-238	2.177	pCi/g	-	351.0	1.490	Fig 6
CH45-113	*750516.062*	*2084311.592*	*8.5*	*10.5*	*Uranium-234*	*5.101*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-113	750516.062	2084311.592	8.5	10.5	Uranium-235	0.258	pCi/g	-	8.0	0.120	Fig 6
CH45-113	750516.062	2084311.592	8.5	10.5	Uranium-238	5.101	pCi/g	-	351.0	1.490	Fig 6
CH45-113	*750516.062*	*2084311.592*	*14.5*	*16.5*	*Uranium-234*	*4.317*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-113	750516.062	2084311.592	14.5	16.5	Uranium-235	0.345	pCi/g	-	8.0	0.120	Fig 6
CH45-113	750516.062	2084311.592	14.5	16.5	Uranium-238	4.317	pCi/g	-	351.0	1.490	Fig 6
CH45-113	750516.062	2084311.592	20.5	22.5	Arsenic	18.000	mg/kg	-	22.2	13.140	Fig 6
CH45-113	*750516.062*	*2084311.592*	*20.5*	*22.5*	*Uranium-234*	*4.410*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-113	750516.062	2084311.592	20.5	22.5	Uranium-235	0.293	pCi/g	-	8.0	0.120	Fig 6
CH45-113	750516.062	2084311.592	20.5	22.5	Uranium-238	4.410	pCi/g	-	351.0	1.490	Fig 6
CH45-113	750516.062	2084311.592	22.5	24.5	Trichloroethene	28.900	ug/kg	6.930	19600.0	-	Fig 6
CH45-113	750516.062	2084311.592	22.5	24.5	Uranium-235	0.219	pCi/g	-	8.0	0.120	Fig 6
CH45-113	750516.062	2084311.592	22.5	24.5	Uranium-238	2.407	pCi/g	-	351.0	1.490	Fig 6
CH45-113	750516.062	2084311.592	24.5	26.5	Benzo(a)anthracene	40.000	ug/kg	29.000	34900.0	-	Fig 6
CH45-113	750516.062	2084311.592	24.5	26.5	Fluoranthene	92.000	ug/kg	26.000	27200000.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Acenaphthene	50.000	ug/kg	32.000	40800000.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Anthracene	88.000	ug/kg	25.000	204000000.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Benzo(a)anthracene	250.000	ug/kg	26.000	34900.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Benzo(a)pyrene	290.000	ug/kg	42.000	3490.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Benzo(b)fluoranthene	180.000	ug/kg	30.000	34900.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Benzo(k)fluoranthene	280.000	ug/kg	33.000	349000.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Chrysene	310.000	ug/kg	29.000	3490000.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Fluoranthene	570.000	ug/kg	24.000	27200000.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Indeno(1,2,3-cd)pyrene	200.000	ug/kg	24.000	34900.0	-	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Pyrene	490.000	ug/kg	140.000	22100000.0	-	Fig 6
CH45-114	*750481.502*	*2084310.049*	*0.0*	*0.5*	*Uranium-234*	*4.269*	*pCi/g*	-	*300.0*	*2.253*	*Fig 6*
CH45-114	750481.502	2084310.049	0.0	0.5	Uranium-235	0.150	pCi/g	-	8.0	0.094	Fig 6
CH45-114	750481.502	2084310.049	0.0	0.5	Uranium-238	4.269	pCi/g	-	351.0	2.000	Fig 6
CH45-114	*750481.502*	*2084310.049*	*0.5*	*1.0*	*Uranium-234*	*4.678*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-114	750481.502	2084310.049	0.5	1.0	Uranium-235	0.331	pCi/g	-	8.0	0.120	Fig 6
CH45-114	750481.502	2084310.049	0.5	1.0	Uranium-238	4.678	pCi/g	-	351.0	1.490	Fig 6
CH45-114	*750481.502*	*2084310.049*	*6.5*	*7.5*	*Uranium-234*	*4.786*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-114	750481.502	2084310.049	6.5	7.5	Uranium-235	0.247	pCi/g	-	8.0	0.120	Fig 6
CH45-114	750481.502	2084310.049	6.5	7.5	Uranium-238	4.786	pCi/g	-	351.0	1.490	Fig 6
CH45-114	*750481.502*	*2084310.049*	*10.5*	*11.5*	*Uranium-234*	*4.553*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-114	750481.502	2084310.049	10.5	11.5	Uranium-235	0.228	pCi/g	-	8.0	0.120	Fig 6
CH45-114	750481.502	2084310.049	10.5	11.5	Uranium-238	4.553	pCi/g	-	351.0	1.490	Fig 6
CH45-114	*750481.502*	*2084310.049*	*17.5*	*18.5*	*Uranium-234*	*7.946*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH45-114	750481.502	2084310.049	17.5	18.5	Uranium-235	0.373	pCi/g	-	8.0	0.120	Fig 6
CH45-114	750481.502	2084310.049	17.5	18.5	Uranium-238	7.946	pCi/g	-	351.0	1.490	Fig 6
CH45-114	750481.502	2084310.049	18.5	20.5	Anthracene	48.000	ug/kg	30.000	204000000.0	-	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH45-114	750481.502	2084310.049	18.5	20.5	Benzo(a)anthracene	90.000	ug/kg	31.000	34900.0	-	Fig 6
CH45-114	750481.502	2084310.049	18.5	20.5	Chrysene	96.000	ug/kg	35.000	3490000.0	-	Fig 6
CH45-114	750481.502	2084310.049	18.5	20.5	Uranium-238	1.814	pCi/g	-	351.0	1.490	Fig 6
CH45-114	750481.502	2084310.049	20.5	22.5	Lead	31.000	mg/kg	-	1000.0	24.970	Fig 6
CH45-114	750481.502	2084310.049	20.5	22.5	Uranium-235	0.259	pCi/g	-	8.0	0.120	Fig 6
CH45-114	750481.502	2084310.049	20.5	22.5	Uranium-238	2.635	pCi/g	-	351.0	1.490	Fig 6
CH45-114	750481.502	2084310.049	20.5	22.5	Zinc	140.000	mg/kg	-	307000.0	139.100	Fig 6
CH45-114	750481.502	2084310.049	24.5	26.5	Lead	26.000	mg/kg	-	1000.0	24.970	Fig 6
CH45-114	750481.502	2084310.049	24.5	26.5	Uranium-235	0.180	pCi/g	-	8.0	0.120	Fig 6
CH45-114	750481.502	2084310.049	24.5	26.5	Uranium-238	1.623	pCi/g	-	351.0	1.490	Fig 6
CH45-114	750481.502	2084310.049	24.5	26.5	Zinc	150.000	mg/kg	-	307000.0	139.100	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Anthracene	42.000	ug/kg	25.000	204000000.0	-	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Antimony	0.530	mg/kg	-	409.0	0.470	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Benzo(a)anthracene	140.000	ug/kg	26.000	34900.0	-	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Beryllium	1.100	mg/kg	-	921.0	0.966	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Chromium	24.000	mg/kg	-	268.0	16.990	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Chrysene	160.000	ug/kg	29.000	3490000.0	-	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Fluoranthene	280.000	ug/kg	24.000	27200000.0	-	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Nickel	20.000	mg/kg	-	20400.0	14.910	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Pyrene	270.000	ug/kg	140.000	22100000.0	-	Fig 6
CH45-115	750480.551	2084288.688	0.0	0.5	Uranium-235	0.169	pCi/g	-	8.0	0.094	Fig 6
CH45-115	750480.551	2084288.688	10.5	12.0	Benzo(a)anthracene	64.000	ug/kg	30.000	34900.0	-	Fig 6
CH45-115	750480.551	2084288.688	10.5	12.0	Chrysene	72.000	ug/kg	33.000	3490000.0	-	Fig 6
CH45-115	750480.551	2084288.688	10.5	12.0	Fluoranthene	160.000	ug/kg	27.000	27200000.0	-	Fig 6
CH45-115	750480.551	2084288.688	18.5	20.5	Uranium-238	1.762	pCi/g	-	351.0	1.490	Fig 6
CH45-115	750480.551	2084288.688	20.5	22.5	Iron	44000.000	mg/kg	-	307000.0	41046.520	Fig 6
CH45-115	750480.551	2084288.688	20.5	22.5	Uranium-235	0.218	pCi/g	-	8.0	0.120	Fig 6
CH45-115	750480.551	2084288.688	20.5	22.5	Uranium-238	1.575	pCi/g	-	351.0	1.490	Fig 6
CH45-115	750480.551	2084288.688	20.5	22.5	Zinc	150.000	mg/kg	-	307000.0	139.100	Fig 6
CH45-115	750480.551	2084288.688	23.5	26.0	Uranium-235	0.190	pCi/g	-	8.0	0.120	Fig 6
CH46-011	*750577.277*	*2084200.896*	*5.0*	*6.5*	*Uranium-234*	*2.930*	*pCi/g*	-	*300.0*	*2.640*	*Fig 6*
CH46-011	750577.277	2084200.896	5.0	6.5	Uranium-235	0.202	pCi/g	-	8.0	0.120	Fig 6
CH46-011	750577.277	2084200.896	5.0	6.5	Uranium-238	2.930	pCi/g	-	351.0	1.490	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH46-012	750647.835	2084203.058	3.5	4.5	Toluene	26.300	ug/kg	5.150	31300000.0	-	Fig 5
CH46-012	*750647.835*	*2084203.058*	*3.5*	*4.5*	*Uranium-234*	*3.602*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CH46-012	750647.835	2084203.058	3.5	4.5	Uranium-235	0.251	pCi/g	-	8.0	0.120	Fig 5
CH46-012	750647.835	2084203.058	3.5	4.5	Uranium-238	3.602	pCi/g	-	351.0	1.490	Fig 5
CH46-012	750647.835	2084203.058	3.5	4.5	Xylene	29.900	ug/kg	10.300	2040000.0	-	Fig 5
CH46-012	750647.835	2084203.058	5.5	6.5	Iron	45000.000	mg/kg	-	307000.0	41046.520	Fig 5
CH46-012	750647.835	2084203.058	5.5	6.5	Naphthalene	36.200	ug/kg	5.360	3090000.0	-	Fig 5
CH46-012	*750647.835*	*2084203.058*	*5.5*	*6.5*	*Uranium-234*	*4.001*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CH46-012	750647.835	2084203.058	5.5	6.5	Uranium-235	0.239	pCi/g	-	8.0	0.120	Fig 5
CH46-012	750647.835	2084203.058	5.5	6.5	Uranium-238	4.001	pCi/g	-	351.0	1.490	Fig 5
CH46-013	*750673.158*	*2084177.106*	*3.5*	*4.5*	*Uranium-234*	*4.035*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CH46-013	750673.158	2084177.106	3.5	4.5	Uranium-235	0.271	pCi/g	-	8.0	0.120	Fig 5
CH46-013	750673.158	2084177.106	3.5	4.5	Uranium-238	4.035	pCi/g	-	351.0	1.490	Fig 5
CH46-013	750673.158	2084177.106	4.5	6.5	Uranium-238	2.005	pCi/g	-	351.0	1.490	Fig 5
CH46-017	750583.797	2084216.231	6.0	6.5	Acetone	20.000	ug/kg	5.900	102000000.0	-	Fig 6
CH46-017	750583.797	2084216.231	6.0	6.5	Barium	300.000	mg/kg	-	26400.0	289.380	Fig 6
CH46-017	750583.797	2084216.231	6.5	9.0	Acetone	17.000	ug/kg	5.400	102000000.0	-	Fig 6
CH46-017	750583.797	2084216.231	6.5	9.0	Trichloroethene	1.800	ug/kg	1.000	19600.0	-	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Acetone	25.000	ug/kg	5.400	102000000.0	-	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Aluminum	29000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Beryllium	1.300	mg/kg	-	921.0	0.966	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Chromium	21.000	mg/kg	-	268.0	16.990	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Cobalt	11.000	mg/kg	-	1550.0	10.910	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Lithium	32.000	mg/kg	-	20400.0	11.550	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Mercury	0.140	mg/kg	-	25200.0	0.134	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Naphthalene	1.500	ug/kg	1.000	3090000.0	-	Fig 6
CH46-018	750558.620	2084331.990	0.0	0.5	Nickel	21.000	mg/kg	-	20400.0	14.910	Fig 6
CH46-018	750558.620	2084331.990	0.5	2.5	Naphthalene	1.200	ug/kg	0.990	3090000.0	-	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Aluminum	36000.000	mg/kg	-	228000.0	16902.000	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Arsenic	15.000	mg/kg	-	22.2	10.090	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Beryllium	1.700	mg/kg	-	921.0	0.966	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Chromium	31.000	mg/kg	-	268.0	16.990	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Iron	23000.000	mg/kg	-	307000.0	18037.000	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH46-019	750583.620	2084325.400	0.0	0.5	Lithium	71.000	mg/kg	-	20400.0	11.550	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Mercury	0.150	mg/kg	-	25200.0	0.134	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Nickel	29.000	mg/kg	-	20400.0	14.910	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Plutonium-239/240	0.367	pCi/g	-	50.0	0.066	Fig 6
CH46-019	750583.620	2084325.400	0.0	0.5	Vanadium	65.000	mg/kg	-	7150.0	45.590	Fig 6
CH46-020	750628.783	2084291.172	3.5	3.8	Plutonium-239/240	0.187	pCi/g	-	50.0	0.020	Fig 5
CH46-020	750628.783	2084291.172	3.5	3.8	Uranium-235	0.278	pCi/g	-	8.0	0.120	Fig 5
CH46-021	750629.293	2084281.787	3.5	3.8	Acetone	6.000	ug/kg	5.600	102000000.0	-	Fig 5
CH46-022	750647.980	2084281.455	3.0	3.3	Uranium-235	0.131	pCi/g	-	8.0	0.120	Fig 5
CH46-023	750587.002	2084282.945	4.0	4.3	Acetone	7.900	ug/kg	5.300	102000000.0	-	Fig 6
CH46-023	750587.002	2084282.945	4.0	4.3	Methylene chloride	1.100	ug/kg	0.920	2530000.0	-	Fig 6
CH46-023	750587.002	2084282.945	4.0	4.3	Plutonium-239/240	0.297	pCi/g	-	50.0	0.020	Fig 6
CH46-024	750572.070	2084283.816	3.5	3.8	Methylene chloride	1.000	ug/kg	0.880	2530000.0	-	Fig 6
CH46-024	750572.070	2084283.816	3.5	3.8	Plutonium-239/240	0.091	pCi/g	-	50.0	0.020	Fig 6
CH46-026	750631.680	2084225.699	3.0	3.3	Acetone	7.400	ug/kg	6.000	102000000.0	-	Fig 5
CH46-026	750631.680	2084225.699	3.0	3.3	Plutonium-239/240	0.131	pCi/g	-	50.0	0.020	Fig 5
CH46-026	750631.680	2084225.699	3.5	5.5	Americium-241	0.425	pCi/g	-	76.0	0.020	Fig 5
CH46-026	750631.680	2084225.699	3.5	5.5	Plutonium-239/240	0.599	pCi/g	-	50.0	0.020	Fig 5
CH46-027	750599.830	2084283.122	3.0	3.3	Acetone	7.200	ug/kg	5.300	102000000.0	-	Fig 5
CH46-028	750664.451	2084289.401	0.3	0.8	Uranium-235	0.131	pCi/g	-	8.0	0.094	Fig 5
CH46-029	750700.242	2084293.647	0.5	1.0	Aluminum	24000.000	mg/kg	-	228000.0	16902.000	Fig 5
CH46-029	750700.242	2084293.647	0.5	1.0	Americium-241	0.641	pCi/g	-	76.0	0.023	Fig 5
CH46-029	750700.242	2084293.647	0.5	1.0	Beryllium	1.200	mg/kg	-	921.0	0.966	Fig 5
CH46-029	750700.242	2084293.647	0.5	1.0	Chromium	18.000	mg/kg	-	268.0	16.990	Fig 5
CH46-029	750700.242	2084293.647	0.5	1.0	Lithium	14.000	mg/kg	-	20400.0	11.550	Fig 5
CH46-029	750700.242	2084293.647	0.5	1.0	Nickel	17.000	mg/kg	-	20400.0	14.910	Fig 5
CH46-029	*750700.242*	*2084293.647*	*0.5*	*1.0*	*Plutonium-239/240*	*3.651*	*pCi/g*	-	*50.0*	*0.066*	*Fig 5*
CH46-029	*750700.242*	*2084293.647*	*0.5*	*1.0*	*Uranium-234*	*3.886*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CH46-029	750700.242	2084293.647	0.5	1.0	Uranium-235	0.261	pCi/g	-	8.0	0.094	Fig 5
CH46-029	750700.242	2084293.647	0.5	1.0	Uranium-238	3.886	pCi/g	-	351.0	2.000	Fig 5
CH46-030	750678.530	2084321.763	0.5	1.0	Aluminum	20000.000	mg/kg	-	228000.0	16902.000	Fig 5
CH46-030	750678.530	2084321.763	0.5	1.0	Beryllium	1.100	mg/kg	-	921.0	0.966	Fig 5
CH46-030	750678.530	2084321.763	0.5	1.0	Chromium	18.000	mg/kg	-	268.0	16.990	Fig 5

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH46-030	750678.530	2084321.763	0.5	1.0	Lithium	13.000	mg/kg	-	20400.0	11.550	Fig 5
CH46-030	750678.530	2084321.763	0.5	1.0	Nickel	15.000	mg/kg	-	20400.0	14.910	Fig 5
CH46-030	*750678.530*	*2084321.763*	*0.5*	*1.0*	*Uranium-234*	*5.143*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CH46-030	750678.530	2084321.763	0.5	1.0	Uranium-235	0.304	pCi/g	-	8.0	0.094	Fig 5
CH46-030	750678.530	2084321.763	0.5	1.0	Uranium-238	5.143	pCi/g	-	351.0	2.000	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Cobalt	13.000	mg/kg	-	1550.0	10.910	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Copper	64.000	mg/kg	-	40900.0	18.060	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Iron	29000.000	mg/kg	-	307000.0	18037.000	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Lithium	13.000	mg/kg	-	20400.0	11.550	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Manganese	740.000	mg/kg	-	3480.0	365.080	Fig 5
CH46-031	*750714.536*	*2084326.652*	*0.1*	*0.6*	*Uranium-234*	*4.217*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CH46-031	750714.536	2084326.652	0.1	0.6	Uranium-235	0.194	pCi/g	-	8.0	0.094	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Uranium-238	4.217	pCi/g	-	351.0	2.000	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Vanadium	58.000	mg/kg	-	7150.0	45.590	Fig 5
CH46-031	750714.536	2084326.652	0.1	0.6	Zinc	78.000	mg/kg	-	307000.0	73.760	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Americium-241	0.830	pCi/g	-	76.0	0.020	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Copper	94.000	mg/kg	-	40900.0	38.210	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Naphthalene	15.000	ug/kg	1.000	3090000.0	-	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Plutonium-239/240	1.380	pCi/g	-	50.0	0.020	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Tetrachloroethene	2.800	ug/kg	1.200	615000.0	-	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Uranium, Total	5.900	mg/kg	-	2750.0	3.040	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Uranium-235	0.244	pCi/g	-	8.0	0.120	Fig 5
CH46-036	750702.505	2084152.497	3.5	4.0	Uranium-238	2.480	pCi/g	-	351.0	1.490	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	2-Butanone	9.100	ug/kg	5.700	192000000.0	-	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Acetone	40.000	ug/kg	5.600	102000000.0	-	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Americium-241	0.455	pCi/g	-	76.0	0.020	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Copper	53.000	mg/kg	-	40900.0	38.210	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Naphthalene	2.200	ug/kg	1.000	3090000.0	-	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Plutonium-239/240	0.756	pCi/g	-	50.0	0.020	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Tetrachloroethene	1.300	ug/kg	1.200	615000.0	-	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Uranium-235	0.133	pCi/g	-	8.0	0.120	Fig 5
CH46-047	750696.239	2084146.151	3.5	4.0	Zinc	140.000	mg/kg	-	307000.0	139.100	Fig 5
CH46-054	750622.108	2084224.277	0.5	2.5	Arsenic	14.000	mg/kg	-	22.2	13.140	Fig 5

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CH46-054	750622.108	2084224.277	0.5	2.5	Uranium-235	0.172	pCi/g	-	8.0	0.120	Fig 5
CH46-055	*750609.945*	*2084288.585*	*0.5*	*2.5*	*Uranium-234*	*3.105*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CH46-055	750609.945	2084288.585	0.5	2.5	Uranium-235	0.169	pCi/g	-	8.0	0.120	Fig 5
CH46-055	750609.945	2084288.585	0.5	2.5	Uranium-238	3.105	pCi/g	-	351.0	1.490	Fig 5
CH46-059	750550.481	2084282.625	3.0	3.5	Plutonium-239/240	0.342	pCi/g	-	50.0	0.020	Fig 6
CI45-000	**750531.113**	**2084389.565**	**0.0**	**0.5**	**Aroclor-1260**	**16000.000**	**ug/kg**	**320.000**	**12400.0**	**-**	**Fig 7**
CI45-000	*750531.113*	*2084389.565*	*0.0*	*0.5*	*Uranium-234*	*3.717*	*pCi/g*	-	*300.0*	*2.253*	*Fig 7*
CI45-000	750531.113	2084389.565	0.0	0.5	Uranium-235	0.188	pCi/g	-	8.0	0.094	Fig 7
CI45-000	750531.113	2084389.565	0.0	0.5	Uranium-238	3.717	pCi/g	-	351.0	2.000	Fig 7
CI45-000	750531.113	2084389.565	0.5	2.0	Americium-241	4.396	pCi/g	-	76.0	0.020	Fig 7
CI45-000	750531.113	2084389.565	0.5	2.0	Aroclor-1260	5200.000	ug/kg	140.000	12400.0	-	Fig 7
CI45-000	*750531.113*	*2084389.565*	*0.5*	*2.0*	*Plutonium-239/240*	*25.057*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI45-000	*750531.113*	*2084389.565*	*0.5*	*2.0*	*Uranium-234*	*3.964*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-000	750531.113	2084389.565	0.5	2.0	Uranium-238	3.964	pCi/g	-	351.0	1.490	Fig 7
CI45-000	750531.113	2084389.565	2.5	4.5	Aroclor-1260	200.000	ug/kg	6.200	12400.0	-	Fig 7
CI45-001	750535.946	2084395.442	0.0	0.5	Aroclor-1016	460.000	ug/kg	10.000	46400.0	-	Fig 7
CI45-001	**750535.946**	**2084395.442**	**0.0**	**0.5**	**Aroclor-1260**	**290000.000**	**ug/kg**	**6200.000**	**12400.0**	**-**	**Fig 7**
CI45-001	*750535.946*	*2084395.442*	*0.0*	*0.5*	*Uranium-234*	*5.691*	*pCi/g*	-	*300.0*	*2.253*	*Fig 7*
CI45-001	750535.946	2084395.442	0.0	0.5	Uranium-235	0.231	pCi/g	-	8.0	0.094	Fig 7
CI45-001	750535.946	2084395.442	0.0	0.5	Uranium-238	5.691	pCi/g	-	351.0	2.000	Fig 7
CI45-001	750535.946	2084395.442	0.5	2.5	Aroclor-1260	4500.000	ug/kg	370.000	12400.0	-	Fig 7
CI45-001	*750535.946*	*2084395.442*	*0.5*	*2.5*	*Uranium-234*	*4.394*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-001	750535.946	2084395.442	0.5	2.5	Uranium-235	0.266	pCi/g	-	8.0	0.120	Fig 7
CI45-001	750535.946	2084395.442	0.5	2.5	Uranium-238	4.394	pCi/g	-	351.0	1.490	Fig 7
CI45-001	750535.946	2084395.442	2.5	4.5	Aroclor-1016	24.000	ug/kg	2.100	46400.0	-	Fig 7
CI45-001	750535.946	2084395.442	2.5	4.5	Aroclor-1260	8800.000	ug/kg	330.000	12400.0	-	Fig 7
CI45-001	750535.946	2084395.442	4.5	6.5	Aroclor-1260	24.000	ug/kg	6.800	12400.0	-	Fig 7
CI45-002	750527.143	2084389.716	0.0	0.5	Aroclor-1260	1900.000	ug/kg	320.000	12400.0	-	Fig 7
CI45-002	750527.143	2084389.716	0.5	1.5	Americium-241	0.733	pCi/g	-	76.0	0.020	Fig 7
CI45-002	750527.143	2084389.716	0.5	1.5	Aroclor-1260	170.000	ug/kg	6.800	12400.0	-	Fig 7
CI45-002	750527.143	2084389.716	0.5	1.5	Di-n-butylphthalate	530.000	ug/kg	22.000	73700000.0	-	Fig 7
CI45-002	750527.143	2084389.716	0.5	1.5	Plutonium-239/240	6.270	pCi/g	-	50.0	0.020	Fig 7
CI45-003	**750537.033**	**2084404.615**	**0.0**	**0.5**	**Aroclor-1260**	**150000.000**	**ug/kg**	**2700.000**	**12400.0**	**-**	**Fig 7**

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI45-003	750537.033	2084404.615	0.5	1.5	Aroclor-1016	120.000	ug/kg	2.400	46400.0	-	Fig 7
CI45-003	**750537.033**	**2084404.615**	**0.5**	**1.5**	**Aroclor-1260**	**24000.000**	**ug/kg**	**730.000**	**12400.0**	**-**	**Fig 7**
CI45-003	*750537.033*	*2084404.615*	*0.5*	*1.5*	*Uranium-234*	*4.530*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-003	750537.033	2084404.615	0.5	1.5	Uranium-235	0.243	pCi/g	-	8.0	0.120	Fig 7
CI45-003	750537.033	2084404.615	0.5	1.5	Uranium-238	4.530	pCi/g	-	351.0	1.490	Fig 7
CI45-003	750537.033	2084404.615	2.5	3.5	Aroclor-1260	36.000	ug/kg	6.700	12400.0	-	Fig 7
CI45-003	*750537.033*	*2084404.615*	*2.5*	*3.5*	*Uranium-234*	*3.799*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-003	750537.033	2084404.615	2.5	3.5	Uranium-235	0.230	pCi/g	-	8.0	0.120	Fig 7
CI45-003	750537.033	2084404.615	2.5	3.5	Uranium-238	3.799	pCi/g	-	351.0	1.490	Fig 7
CI45-004	750528.409	2084405.014	0.0	0.5	Americium-241	0.667	pCi/g	-	76.0	0.023	Fig 7
CI45-004	750528.409	2084405.014	0.0	0.5	Aroclor-1260	6400.000	ug/kg	130.000	12400.0	-	Fig 7
CI45-004	*750528.409*	*2084405.014*	*0.0*	*0.5*	*Plutonium-239/240*	*3.804*	*pCi/g*	-	*50.0*	*0.066*	*Fig 7*
CI45-004	750528.409	2084405.014	0.0	0.5	Uranium-235	0.126	pCi/g	-	8.0	0.094	Fig 7
CI45-004	750528.409	2084405.014	0.5	1.5	Americium-241	3.655	pCi/g	-	76.0	0.020	Fig 7
CI45-004	750528.409	2084405.014	0.5	1.5	Aroclor-1260	4400.000	ug/kg	140.000	12400.0	-	Fig 7
CI45-004	*750528.409*	*2084405.014*	*0.5*	*1.5*	*Plutonium-239/240*	*20.834*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI45-004	750528.409	2084405.014	0.5	1.5	Uranium-235	0.255	pCi/g	-	8.0	0.120	Fig 7
CI45-004	750528.409	2084405.014	2.5	3.5	Aroclor-1260	1000.000	ug/kg	33.000	12400.0	-	Fig 7
CI45-004	750528.409	2084405.014	2.5	3.5	Uranium-235	0.144	pCi/g	-	8.0	0.120	Fig 7
CI45-005	**750532.574**	**2084407.430**	**0.0**	**0.5**	**Aroclor-1260**	**33000.000**	**ug/kg**	**630.000**	**12400.0**	**-**	**Fig 7**
CI45-005	*750532.574*	*2084407.430*	*0.0*	*0.5*	*Uranium-234*	*3.766*	*pCi/g*	-	*300.0*	*2.253*	*Fig 7*
CI45-005	750532.574	2084407.430	0.0	0.5	Uranium-235	0.234	pCi/g	-	8.0	0.094	Fig 7
CI45-005	750532.574	2084407.430	0.0	0.5	Uranium-238	3.766	pCi/g	-	351.0	2.000	Fig 7
CI45-005	750532.574	2084407.430	0.5	1.5	Aroclor-1260	140.000	ug/kg	7.800	12400.0	-	Fig 7
CI45-005	*750532.574*	*2084407.430*	*0.5*	*1.5*	*Uranium-234*	*4.917*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-005	750532.574	2084407.430	0.5	1.5	Uranium-235	0.161	pCi/g	-	8.0	0.120	Fig 7
CI45-005	750532.574	2084407.430	0.5	1.5	Uranium-238	4.917	pCi/g	-	351.0	1.490	Fig 7
CI45-005	750532.574	2084407.430	2.5	3.5	Aroclor-1260	10.000	ug/kg	7.000	12400.0	-	Fig 7
CI45-006	750476.269	2084381.141	5.0	5.5	2-Butanone	6.600	ug/kg	6.200	192000000.0	-	Fig 6
CI45-006	750476.269	2084381.141	5.0	5.5	Acetone	29.000	ug/kg	6.000	102000000.0	-	Fig 6
CI45-006	750476.269	2084381.141	5.0	5.5	Carbon Disulfide	1.200	ug/kg	1.200	15100000.0	-	Fig 6
CI45-006	750476.269	2084381.141	5.0	5.5	Tetrachloroethene	7.900	ug/kg	1.300	615000.0	-	Fig 6
CI45-006	750476.269	2084381.141	5.0	5.5	Trichloroethene	2.400	ug/kg	1.100	19600.0	-	Fig 6

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI45-006	750476.269	2084381.141	5.0	5.5	Uranium-235	0.193	pCi/g	-	8.0	0.120	Fig 6
CI45-006	750476.269	2084381.141	5.5	8.0	Tetrachloroethene	1.500	ug/kg	1.200	615000.0	-	Fig 6
CI45-007	750436.196	2084381.118	0.3	0.8	Aluminum	20000.000	mg/kg	-	228000.0	16902.000	Fig 6
CI45-007	750436.196	2084381.118	0.3	0.8	Barium	160.000	mg/kg	-	26400.0	141.260	Fig 6
CI45-007	750436.196	2084381.118	0.3	0.8	Lithium	19.000	mg/kg	-	20400.0	11.550	Fig 6
CI45-007	750436.196	2084381.118	0.3	0.8	Strontium	200.000	mg/kg	-	613000.0	48.940	Fig 6
CI45-007	*750436.196*	*2084381.118*	*0.3*	*0.8*	*Uranium-234*	*4.784*	*pCi/g*	-	*300.0*	*2.253*	*Fig 6*
CI45-007	750436.196	2084381.118	0.3	0.8	Uranium-238	4.784	pCi/g	-	351.0	2.000	Fig 6
CI45-008	750536.490	2084346.070	2.0	2.5	Naphthalene	1.100	ug/kg	1.100	3090000.0	-	Fig 6
CI45-012	750494.062	2084394.873	0.0	0.5	Acetone	2840.000	ug/kg	558.000	102000000.0	-	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Aluminum	41000.000	mg/kg	-	228000.0	16902.000	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Arsenic	15.000	mg/kg	-	22.2	10.090	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Beryllium	1.900	mg/kg	-	921.0	0.966	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Chromium	32.000	mg/kg	-	268.0	16.990	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Cobalt	11.000	mg/kg	-	1550.0	10.910	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Ethylbenzene	23.100	ug/kg	6.490	4250000.0	-	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Iron	24000.000	mg/kg	-	307000.0	18037.000	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Lithium	28.000	mg/kg	-	20400.0	11.550	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Mercury	0.150	mg/kg	-	25200.0	0.134	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Naphthalene	7.010	ug/kg	6.490	3090000.0	-	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Nickel	29.000	mg/kg	-	20400.0	14.910	Fig 7
CI45-012	*750494.062*	*2084394.873*	*0.0*	*0.5*	*Uranium-234*	*4.688*	*pCi/g*	-	*300.0*	*2.253*	*Fig 7*
CI45-012	750494.062	2084394.873	0.0	0.5	Uranium-235	0.223	pCi/g	-	8.0	0.094	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Uranium-238	4.688	pCi/g	-	351.0	2.000	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Vanadium	72.000	mg/kg	-	7150.0	45.590	Fig 7
CI45-012	750494.062	2084394.873	0.0	0.5	Xylene	115.000	ug/kg	13.000	2040000.0	-	Fig 7
CI45-012	750494.062	2084394.873	0.5	2.5	Aluminum	62000.000	mg/kg	-	228000.0	35373.170	Fig 7
CI45-012	**750494.062**	**2084394.873**	**0.5**	**2.5**	**Arsenic**	**24.000**	**mg/kg**	**-**	**22.2**	**13.140**	**Fig 7**
CI45-012	750494.062	2084394.873	0.5	2.5	Lithium	38.000	mg/kg	-	20400.0	34.660	Fig 7
CI45-012	750494.062	2084394.873	0.5	2.5	Uranium, Total	3.600	mg/kg	-	2750.0	3.040	Fig 7
CI45-012	750494.062	2084394.873	0.5	2.5	Uranium-235	0.173	pCi/g	-	8.0	0.120	Fig 7
CI45-012	750494.062	2084394.873	0.5	2.5	Vanadium	120.000	mg/kg	-	7150.0	88.490	Fig 7
CI45-012	750494.062	2084394.873	2.5	4.5	Arsenic	18.000	mg/kg	-	22.2	13.140	Fig 7

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI45-012	750494.062	2084394.873	2.5	4.5	Barium	290.000	mg/kg	-	26400.0	289.380	Fig 7
CI45-012	750494.062	2084394.873	2.5	4.5	Manganese	1600.000	mg/kg	-	3480.0	901.620	Fig 7
CI45-012	750494.062	2084394.873	4.5	6.5	Uranium-235	0.128	pCi/g	-	8.0	0.120	Fig 7
CI45-013	750456.802	2084516.200	0.0	0.5	Aluminum	21000.000	mg/kg	-	228000.0	16902.000	Fig 7
CI45-013	750456.802	2084516.200	0.0	0.5	Chromium	20.000	mg/kg	-	268.0	16.990	Fig 7
CI45-013	750456.802	2084516.200	0.0	0.5	Lithium	16.000	mg/kg	-	20400.0	11.550	Fig 7
CI45-013	750456.802	2084516.200	0.0	0.5	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 7
CI45-013	750456.802	2084516.200	0.0	0.5	Plutonium-239/240	0.549	pCi/g	-	50.0	0.066	Fig 7
CI45-013	750456.802	2084516.200	0.0	0.5	Strontium	84.000	mg/kg	-	613000.0	48.940	Fig 7
CI45-013	750456.802	2084516.200	0.5	1.0	1,2,4-Trichlorobenzene	1.500	ug/kg	0.890	9230000.0	-	Fig 7
CI45-013	750456.802	2084516.200	0.5	1.0	Acetone	8.900	ug/kg	5.800	102000000.0	-	Fig 7
CI45-013	750456.802	2084516.200	0.5	1.0	Americium-241	0.271	pCi/g	-	76.0	0.020	Fig 7
CI45-013	750456.802	2084516.200	0.5	1.0	Methylene chloride	1.600	ug/kg	1.000	2530000.0	-	Fig 7
CI45-013	750456.802	2084516.200	0.5	1.0	Naphthalene	3.300	ug/kg	1.100	3090000.0	-	Fig 7
CI45-013	750456.802	2084516.200	0.5	1.0	Plutonium-239/240	0.723	pCi/g	-	50.0	0.020	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Antimony	1.900	mg/kg	-	409.0	0.470	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Chromium	32.000	mg/kg	-	268.0	16.990	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Copper	19.000	mg/kg	-	40900.0	18.060	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Lead	110.000	mg/kg	-	1000.0	54.620	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Strontium	62.000	mg/kg	-	613000.0	48.940	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Uranium-235	0.182	pCi/g	-	8.0	0.094	Fig 7
CI45-014	750492.540	2084520.357	0.0	0.5	Zinc	160.000	mg/kg	-	307000.0	73.760	Fig 7
CI45-015	750528.237	2084524.614	0.0	0.5	Americium-241	0.197	pCi/g	-	76.0	0.023	Fig 7
CI45-015	750528.237	2084524.614	0.0	0.5	Antimony	2.200	mg/kg	-	409.0	0.470	Fig 7
CI45-015	750528.237	2084524.614	0.0	0.5	Chromium	22.000	mg/kg	-	268.0	16.990	Fig 7
CI45-015	750528.237	2084524.614	0.0	0.5	Copper	33.000	mg/kg	-	40900.0	18.060	Fig 7
CI45-015	750528.237	2084524.614	0.0	0.5	Plutonium-239/240	0.380	pCi/g	-	50.0	0.066	Fig 7
CI45-015	750528.237	2084524.614	0.0	0.5	Uranium-235	0.211	pCi/g	-	8.0	0.094	Fig 7
CI45-015	750528.237	2084524.614	0.0	0.5	Zinc	120.000	mg/kg	-	307000.0	73.760	Fig 7
CI45-016	750466.281	2084539.080	18.5	20.5	Americium-241	0.178	pCi/g	-	76.0	0.020	Fig 7
CI45-016	750466.281	2084539.080	18.5	20.5	Plutonium-239/240	0.911	pCi/g	-	50.0	0.020	Fig 7
CI45-016	750466.281	2084539.080	18.5	20.5	Toluene	4.500	ug/kg	0.970	31300000.0	-	Fig 7

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI45-017	750541.375	2084477.843	1.8	2.5	Americium-241	2.521	pCi/g	-	76.0	0.020	Fig 7
CI45-017	*750541.375*	*2084477.843*	*1.8*	*2.5*	*Plutonium-239/240*	*14.370*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI45-017	750541.375	2084477.843	1.8	2.5	Uranium-238	1.569	pCi/g	-	351.0	1.490	Fig 7
CI45-017	750541.375	2084477.843	2.5	4.5	Lead	25.000	mg/kg	-	1000.0	24.970	Fig 7
CI45-017	750541.375	2084477.843	5.5	6.5	Americium-241	2.022	pCi/g	-	76.0	0.020	Fig 7
CI45-017	*750541.375*	*2084477.843*	*5.5*	*6.5*	*Plutonium-239/240*	*11.525*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI45-017	*750541.375*	*2084477.843*	*6.5*	*8.5*	*Uranium-234*	*4.860*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-017	750541.375	2084477.843	6.5	8.5	Uranium-235	0.131	pCi/g	-	8.0	0.120	Fig 7
CI45-017	750541.375	2084477.843	6.5	8.5	Uranium-238	4.860	pCi/g	-	351.0	1.490	Fig 7
CI45-017	750541.375	2084477.843	8.5	10.5	Trichloroethene	5.850	ug/kg	5.780	19600.0	-	Fig 7
CI45-017	*750541.375*	*2084477.843*	*8.5*	*10.5*	*Uranium-234*	*2.984*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-017	750541.375	2084477.843	8.5	10.5	Uranium-238	2.984	pCi/g	-	351.0	1.490	Fig 7
CI45-020	750533.736	2084400.487	0.0	0.5	Americium-241	0.678	pCi/g	-	76.0	0.023	Fig 7
CI45-020	750533.736	2084400.487	0.0	0.5	Aroclor-1016	5400.000	ug/kg	220.000	46400.0	-	Fig 7
CI45-020	**750533.736**	**2084400.487**	**0.0**	**0.5**	**Aroclor-1260**	**860000.000**	**ug/kg**	**20000.000**	**12400.0**	**-**	**Fig 7**
CI45-020	*750533.736*	*2084400.487*	*0.0*	*0.5*	*Plutonium-239/240*	*3.863*	*pCi/g*	-	*50.0*	*0.066*	*Fig 7*
CI45-020	*750533.736*	*2084400.487*	*0.0*	*0.5*	*Uranium-234*	*4.325*	*pCi/g*	-	*300.0*	*2.253*	*Fig 7*
CI45-020	750533.736	2084400.487	0.0	0.5	Uranium-235	0.224	pCi/g	-	8.0	0.094	Fig 7
CI45-020	750533.736	2084400.487	0.0	0.5	Uranium-238	4.325	pCi/g	-	351.0	2.000	Fig 7
CI45-020	750533.736	2084400.487	0.5	2.5	Aroclor-1016	130.000	ug/kg	2.300	46400.0	-	Fig 7
CI45-020	**750533.736**	**2084400.487**	**0.5**	**2.5**	**Aroclor-1260**	**25000.000**	**ug/kg**	**710.000**	**12400.0**	**-**	**Fig 7**
CI45-020	*750533.736*	*2084400.487*	*0.5*	*2.5*	*Uranium-234*	*4.686*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-020	750533.736	2084400.487	0.5	2.5	Uranium-235	0.342	pCi/g	-	8.0	0.120	Fig 7
CI45-020	750533.736	2084400.487	0.5	2.5	Uranium-238	4.686	pCi/g	-	351.0	1.490	Fig 7
CI45-020	750533.736	2084400.487	2.5	4.5	Aroclor-1016	120.000	ug/kg	2.100	46400.0	-	Fig 7
CI45-020	**750533.736**	**2084400.487**	**2.5**	**4.5**	**Aroclor-1260**	**20000.000**	**ug/kg**	**650.000**	**12400.0**	**-**	**Fig 7**
CI45-020	750533.736	2084400.487	4.5	6.5	Aroclor-1260	1800.000	ug/kg	120.000	12400.0	-	Fig 7
CI45-020	*750533.736*	*2084400.487*	*4.5*	*6.5*	*Uranium-234*	*6.836*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI45-020	750533.736	2084400.487	4.5	6.5	Uranium-235	0.203	pCi/g	-	8.0	0.120	Fig 7
CI45-020	750533.736	2084400.487	4.5	6.5	Uranium-238	6.836	pCi/g	-	351.0	1.490	Fig 7
CI45-021	750543.731	2084400.565	0.0	0.5	Aroclor-1260	2200.000	ug/kg	63.000	12400.0	-	Fig 7
CI45-021	750543.731	2084400.565	1.5	2.5	Aroclor-1260	200.000	ug/kg	7.000	12400.0	-	Fig 7
CI45-021	750543.731	2084400.565	1.5	2.5	Uranium-235	0.169	pCi/g	-	8.0	0.120	Fig 7

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI45-021	750543.731	2084400.565	1.5	2.5	Uranium-238	1.824	pCi/g	-	351.0	1.490	Fig 7
CI45-021	750543.731	2084400.565	4.5	5.0	Americium-241	0.401	pCi/g	-	76.0	0.020	Fig 7
CI45-021	750543.731	2084400.565	4.5	5.0	Aroclor-1016	110.000	ug/kg	2.100	46400.0	-	Fig 7
CI45-021	**750543.731**	**2084400.565**	**4.5**	**5.0**	**Aroclor-1260**	**19000.000**	**ug/kg**	**660.000**	**12400.0**	**-**	**Fig 7**
CI45-021	*750543.731*	*2084400.565*	*4.5*	*5.0*	*Plutonium-239/240*	*2.287*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI45-021	750543.731	2084400.565	4.5	5.0	Uranium-235	0.131	pCi/g	-	8.0	0.120	Fig 7
CI46-000	750694.850	2084444.683	2.5	4.5	Americium-241	1.001	pCi/g	-	76.0	0.020	Fig 5
CI46-000	*750694.850*	*2084444.683*	*2.5*	*4.5*	*Plutonium-239/240*	*5.706*	*pCi/g*	-	*50.0*	*0.020*	*Fig 5*
CI46-000	750694.850	2084444.683	2.5	4.5	Toluene	6.280	ug/kg	5.560	31300000.0	-	Fig 5
CI46-000	*750694.850*	*2084444.683*	*2.5*	*4.5*	*Uranium-234*	*4.995*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CI46-000	750694.850	2084444.683	2.5	4.5	Uranium-235	0.331	pCi/g	-	8.0	0.120	Fig 5
CI46-000	750694.850	2084444.683	2.5	4.5	Uranium-238	4.995	pCi/g	-	351.0	1.490	Fig 5
CI46-000	750694.850	2084444.683	2.5	4.5	Xylene	19.200	ug/kg	11.100	2040000.0	-	Fig 5
CI46-000	*750694.850*	*2084444.683*	*4.5*	*6.5*	*Uranium-234*	*2.780*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CI46-000	750694.850	2084444.683	4.5	6.5	Uranium-235	0.181	pCi/g	-	8.0	0.120	Fig 5
CI46-000	750694.850	2084444.683	4.5	6.5	Uranium-238	2.780	pCi/g	-	351.0	1.490	Fig 5
CI46-001	750694.825	2084340.546	3.5	4.5	Aluminum	44000.000	mg/kg	-	228000.0	35373.170	Fig 5
CI46-001	**750694.825**	**2084340.546**	**3.5**	**4.5**	**Arsenic**	**25.000**	**mg/kg**	**-**	**22.2**	**13.140**	**Fig 5**
CI46-001	750694.825	2084340.546	3.5	4.5	Uranium-235	0.123	pCi/g	-	8.0	0.120	Fig 5
CI46-001	750694.825	2084340.546	3.5	4.5	Uranium-238	1.793	pCi/g	-	351.0	1.490	Fig 5
CI46-001	750694.825	2084340.546	3.5	4.5	Vanadium	100.000	mg/kg	-	7150.0	88.490	Fig 5
CI46-001	*750694.825*	*2084340.546*	*4.5*	*6.5*	*Uranium-234*	*3.175*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CI46-001	750694.825	2084340.546	4.5	6.5	Uranium-238	3.175	pCi/g	-	351.0	1.490	Fig 5
CI46-002	750566.513	2084366.656	9.0	9.5	Acetone	6.700	ug/kg	6.000	102000000.0	-	Fig 6
CI46-002	750566.513	2084366.656	9.0	9.5	Fluoranthene	80.000	ug/kg	29.000	27200000.0	-	Fig 6
CI46-002	750566.513	2084366.656	9.5	11.5	Acetone	13.000	ug/kg	5.900	102000000.0	-	Fig 6
CI46-002	750566.513	2084366.656	9.5	11.5	Plutonium-239/240	0.390	pCi/g	-	50.0	0.020	Fig 6
CI46-002	750566.513	2084366.656	9.5	11.5	Xylene	3.800	ug/kg	3.600	2040000.0	-	Fig 6
CI46-005	750583.210	2084352.800	2.4	2.9	Americium-241	0.540	pCi/g	-	76.0	0.020	Fig 6
CI46-005	750583.210	2084352.800	2.4	2.9	Plutonium-239/240	5.210	pCi/g	-	50.0	0.020	Fig 6
CI46-005	750583.210	2084352.800	2.9	4.4	Lithium	42.000	mg/kg	-	20400.0	34.660	Fig 6
CI46-005	750583.210	2084352.800	2.9	4.4	Plutonium-239/240	0.621	pCi/g	-	50.0	0.020	Fig 6
CI46-006	750630.454	2084344.590	3.0	3.3	Acetone	5.800	ug/kg	5.300	102000000.0	-	Fig 5

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-006	750630.454	2084344.590	3.0	3.3	Uranium-235	0.173	pCi/g	-	8.0	0.120	Fig 5
CI46-007	*750657.181*	*2084351.322*	*0.3*	*0.8*	*Uranium-234*	*3.696*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CI46-007	750657.181	2084351.322	0.3	0.8	Uranium-235	0.318	pCi/g	-	8.0	0.094	Fig 5
CI46-007	750657.181	2084351.322	0.3	0.8	Uranium-238	3.696	pCi/g	-	351.0	2.000	Fig 5
CI46-007	750657.181	2084351.322	0.3	0.8	Zinc	380.000	mg/kg	-	307000.0	73.760	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Aluminum	33000.000	mg/kg	-	228000.0	16902.000	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Beryllium	1.500	mg/kg	-	921.0	0.966	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Chromium	23.000	mg/kg	-	268.0	16.990	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Iron	20000.000	mg/kg	-	307000.0	18037.000	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Lithium	16.000	mg/kg	-	20400.0	11.550	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Nickel	20.000	mg/kg	-	20400.0	14.910	Fig 5
CI46-008	*750687.640*	*2084356.495*	*0.1*	*0.6*	*Uranium-234*	*4.164*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CI46-008	750687.640	2084356.495	0.1	0.6	Uranium-235	0.235	pCi/g	-	8.0	0.094	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Uranium-238	4.164	pCi/g	-	351.0	2.000	Fig 5
CI46-008	750687.640	2084356.495	0.1	0.6	Vanadium	47.000	mg/kg	-	7150.0	45.590	Fig 5
CI46-009	750671.541	2084384.413	0.3	0.8	Aluminum	20000.000	mg/kg	-	228000.0	16902.000	Fig 5
CI46-009	750671.541	2084384.413	0.3	0.8	Chromium	19.000	mg/kg	-	268.0	16.990	Fig 5
CI46-009	750671.541	2084384.413	0.3	0.8	Lithium	17.000	mg/kg	-	20400.0	11.550	Fig 5
CI46-009	750671.541	2084384.413	0.3	0.8	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 5
CI46-009	*750671.541*	*2084384.413*	*0.3*	*0.8*	*Uranium-234*	*4.020*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CI46-009	750671.541	2084384.413	0.3	0.8	Uranium-235	0.248	pCi/g	-	8.0	0.094	Fig 5
CI46-009	750671.541	2084384.413	0.3	0.8	Uranium-238	4.020	pCi/g	-	351.0	2.000	Fig 5
CI46-010	750714.914	2084387.386	0.0	0.5	Americium-241	0.424	pCi/g	-	76.0	0.023	Fig 5
CI46-010	*750714.914*	*2084387.386*	*0.0*	*0.5*	*Plutonium-239/240*	*2.415*	*pCi/g*	-	*50.0*	*0.066*	*Fig 5*
CI46-010	750714.914	2084387.386	0.0	0.5	Uranium-235	0.163	pCi/g	-	8.0	0.094	Fig 5
CI46-011	750614.236	2084409.081	0.0	0.5	Chromium	17.000	mg/kg	-	268.0	16.990	Fig 5
CI46-011	750614.236	2084409.081	0.0	0.5	Strontium	72.000	mg/kg	-	613000.0	48.940	Fig 5
CI46-011	750614.236	2084409.081	0.0	0.5	Zinc	120.000	mg/kg	-	307000.0	73.760	Fig 5
CI46-012	750650.038	2084413.281	0.0	0.5	Acetone	19.000	ug/kg	5.900	102000000.0	-	Fig 5
CI46-012	750650.038	2084413.281	0.0	0.5	Lithium	12.000	mg/kg	-	20400.0	11.550	Fig 5
CI46-012	750650.038	2084413.281	0.0	0.5	Plutonium-239/240	0.762	pCi/g	-	50.0	0.066	Fig 5
CI46-013	750685.766	2084417.398	1.1	1.6	Aluminum	22000.000	mg/kg	-	228000.0	16902.000	Fig 5
CI46-013	750685.766	2084417.398	1.1	1.6	Americium-241	43.400	pCi/g	-	76.0	0.023	Fig 5

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-013	750685.766	2084417.398	1.1	1.6	Beryllium	1.100	mg/kg	-	921.0	0.966	Fig 5
CI46-013	750685.766	2084417.398	1.1	1.6	Chromium	18.000	mg/kg	-	268.0	16.990	Fig 5
CI46-013	750685.766	2084417.398	1.1	1.6	Lithium	25.000	mg/kg	-	20400.0	11.550	Fig 5
CI46-013	750685.766	2084417.398	1.1	1.6	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 5
CI46-013	***750685.766***	***2084417.398***	***1.1***	***1.6***	***Plutonium-239/240***	***247.380***	***pCi/g***	-	***50.0***	***0.066***	***Fig 5***
CI46-013	*750685.766*	*2084417.398*	*1.1*	*1.6*	*Uranium-234*	*4.249*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CI46-013	750685.766	2084417.398	1.1	1.6	Uranium-235	0.241	pCi/g	-	8.0	0.094	Fig 5
CI46-013	750685.766	2084417.398	1.1	1.6	Uranium-238	4.249	pCi/g	-	351.0	2.000	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Aluminum	25000.000	mg/kg	-	228000.0	16902.000	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Americium-241	3.705	pCi/g	-	76.0	0.023	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Barium	210.000	mg/kg	-	26400.0	141.260	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Chromium	30.000	mg/kg	-	268.0	16.990	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Lithium	16.000	mg/kg	-	20400.0	11.550	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Mercury	0.590	mg/kg	-	25200.0	0.134	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 5
CI46-014	*750721.512*	*2084421.642*	*0.0*	*0.5*	*Plutonium-239/240*	*21.119*	*pCi/g*	-	*50.0*	*0.066*	*Fig 5*
CI46-014	750721.512	2084421.642	0.0	0.5	Strontium	77.000	mg/kg	-	613000.0	48.940	Fig 5
CI46-014	*750721.512*	*2084421.642*	*0.0*	*0.5*	*Uranium-234*	*4.303*	*pCi/g*	-	*300.0*	*2.253*	*Fig 5*
CI46-014	750721.512	2084421.642	0.0	0.5	Uranium-235	0.254	pCi/g	-	8.0	0.094	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Uranium-238	4.303	pCi/g	-	351.0	2.000	Fig 5
CI46-014	750721.512	2084421.642	0.0	0.5	Vanadium	54.000	mg/kg	-	7150.0	45.590	Fig 5
CI46-014	750721.512	2084421.642	0.5	2.5	Americium-241	49.950	pCi/g	-	76.0	0.020	Fig 5
CI46-014	***750721.512***	***2084421.642***	***0.5***	***2.5***	***Plutonium-239/240***	***284.715***	***pCi/g***	-	***50.0***	***0.020***	***Fig 5***
CI46-014	*750721.512*	*2084421.642*	*0.5*	*2.5*	*Uranium-234*	*4.735*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CI46-014	750721.512	2084421.642	0.5	2.5	Uranium-235	0.324	pCi/g	-	8.0	0.120	Fig 5
CI46-014	750721.512	2084421.642	0.5	2.5	Uranium-238	4.735	pCi/g	-	351.0	1.490	Fig 5
CI46-014	750721.512	2084421.642	2.5	4.5	Aluminum	56000.000	mg/kg	-	228000.0	35373.170	Fig 5
CI46-014	750721.512	2084421.642	2.5	4.5	Americium-241	0.558	pCi/g	-	76.0	0.020	Fig 5
CI46-014	750721.512	2084421.642	2.5	4.5	Arsenic	15.000	mg/kg	-	22.2	13.140	Fig 5
CI46-014	750721.512	2084421.642	2.5	4.5	Lithium	39.000	mg/kg	-	20400.0	34.660	Fig 5
CI46-014	*750721.512*	*2084421.642*	*2.5*	*4.5*	*Plutonium-239/240*	*3.182*	*pCi/g*	-	*50.0*	*0.020*	*Fig 5*
CI46-014	*750721.512*	*2084421.642*	*2.5*	*4.5*	*Uranium-234*	*3.183*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CI46-014	750721.512	2084421.642	2.5	4.5	Uranium-235	0.242	pCi/g	-	8.0	0.120	Fig 5

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-014	750721.512	2084421.642	2.5	4.5	Uranium-238	3.183	pCi/g	-	351.0	1.490	Fig 5
CI46-014	750721.512	2084421.642	4.5	6.5	Americium-241	0.755	pCi/g	-	76.0	0.020	Fig 5
CI46-014	750721.512	2084421.642	4.5	6.5	Plutonium-239/240	4.302	pCi/g	-	50.0	0.020	Fig 5
CI46-014	750721.512	2084421.642	4.5	6.5	Uranium-234	4.171	pCi/g	-	300.0	2.640	Fig 5
CI46-014	750721.512	2084421.642	4.5	6.5	Uranium-235	0.184	pCi/g	-	8.0	0.120	Fig 5
CI46-014	750721.512	2084421.642	4.5	6.5	Uranium-238	4.171	pCi/g	-	351.0	1.490	Fig 5
CI46-014	750721.512	2084421.642	6.5	8.5	Americium-241	3.130	pCi/g	-	76.0	0.020	Fig 5
CI46-014	750721.512	2084421.642	6.5	8.5	Plutonium-239/240	17.841	pCi/g	-	50.0	0.020	Fig 5
CI46-014	750721.512	2084421.642	6.5	8.5	Uranium-234	3.241	pCi/g	-	300.0	2.640	Fig 5
CI46-014	750721.512	2084421.642	6.5	8.5	Uranium-238	3.241	pCi/g	-	351.0	1.490	Fig 5
CI46-014	750721.512	2084421.642	8.5	10.5	Americium-241	1.002	pCi/g	-	76.0	0.020	Fig 5
CI46-014	750721.512	2084421.642	8.5	10.5	Arsenic	17.000	mg/kg	-	22.2	13.140	Fig 5
CI46-014	750721.512	2084421.642	8.5	10.5	Plutonium-239/240	5.711	pCi/g	-	50.0	0.020	Fig 5
CI46-014	750721.512	2084421.642	8.5	10.5	Uranium-238	1.580	pCi/g	-	351.0	1.490	Fig 5
CI46-015	750628.552	2084442.130	0.0	0.5	Strontium	120.000	mg/kg	-	613000.0	48.940	Fig 5
CI46-015	750628.552	2084442.130	0.0	0.5	Uranium-234	3.536	pCi/g	-	300.0	2.253	Fig 5
CI46-015	750628.552	2084442.130	0.0	0.5	Uranium-235	0.174	pCi/g	-	8.0	0.094	Fig 5
CI46-015	750628.552	2084442.130	0.0	0.5	Uranium-238	3.536	pCi/g	-	351.0	2.000	Fig 5
CI46-015	750628.552	2084442.130	1.5	2.5	Uranium-234	6.257	pCi/g	-	300.0	2.640	Fig 5
CI46-015	750628.552	2084442.130	1.5	2.5	Uranium-238	6.257	pCi/g	-	351.0	1.490	Fig 5
CI46-015	750628.552	2084442.130	2.5	4.5	Americium-241	1.053	pCi/g	-	76.0	0.020	Fig 5
CI46-015	750628.552	2084442.130	2.5	4.5	Plutonium-239/240	6.002	pCi/g	-	50.0	0.020	Fig 5
CI46-015	750628.552	2084442.130	2.5	4.5	Uranium-234	3.900	pCi/g	-	300.0	2.640	Fig 5
CI46-015	750628.552	2084442.130	2.5	4.5	Uranium-235	0.201	pCi/g	-	8.0	0.120	Fig 5
CI46-015	750628.552	2084442.130	2.5	4.5	Uranium-238	3.900	pCi/g	-	351.0	1.490	Fig 5
CI46-015	750628.552	2084442.130	4.5	5.5	Americium-241	1.085	pCi/g	-	76.0	0.020	Fig 5
CI46-015	750628.552	2084442.130	4.5	5.5	Plutonium-239/240	6.185	pCi/g	-	50.0	0.020	Fig 5
CI46-015	750628.552	2084442.130	4.5	5.5	Uranium-234	4.249	pCi/g	-	300.0	2.640	Fig 5
CI46-015	750628.552	2084442.130	4.5	5.5	Uranium-238	4.249	pCi/g	-	351.0	1.490	Fig 5
CI46-015	750628.552	2084442.130	6.5	7.2	Uranium-234	3.462	pCi/g	-	300.0	2.640	Fig 5
CI46-015	750628.552	2084442.130	6.5	7.2	Uranium-235	0.227	pCi/g	-	8.0	0.120	Fig 5
CI46-015	750628.552	2084442.130	6.5	7.2	Uranium-238	3.462	pCi/g	-	351.0	1.490	Fig 5
CI46-015	750628.552	2084442.130	8.5	9.2	Uranium-234	4.589	pCi/g	-	300.0	2.640	Fig 5

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-015	750628.552	2084442.130	8.5	9.2	Uranium-235	0.211	pCi/g	-	8.0	0.120	Fig 5
CI46-015	750628.552	2084442.130	8.5	9.2	Uranium-238	4.589	pCi/g	-	351.0	1.490	Fig 5
CI46-016	750664.251	2084446.312	0.0	0.5	Antimony	0.980	mg/kg	-	409.0	0.470	Fig 5
CI46-016	750664.251	2084446.312	0.0	0.5	Uranium-235	0.144	pCi/g	-	8.0	0.094	Fig 5
CI46-016	750664.251	2084446.312	0.0	0.5	Zinc	360.000	mg/kg	-	307000.0	73.760	Fig 5
CI46-017	750700.017	2084450.498	1.0	1.5	Aluminum	25000.000	mg/kg	-	228000.0	16902.000	Fig 4
CI46-017	750700.017	2084450.498	1.0	1.5	Americium-241	1.513	pCi/g	-	76.0	0.023	Fig 4
CI46-017	750700.017	2084450.498	1.0	1.5	Beryllium	1.200	mg/kg	-	921.0	0.966	Fig 4
CI46-017	750700.017	2084450.498	1.0	1.5	Chromium	19.000	mg/kg	-	268.0	16.990	Fig 4
CI46-017	750700.017	2084450.498	1.0	1.5	Lithium	14.000	mg/kg	-	20400.0	11.550	Fig 4
CI46-017	750700.017	2084450.498	1.0	1.5	Nickel	18.000	mg/kg	-	20400.0	14.910	Fig 4
CI46-017	*750700.017*	*2084450.498*	*1.0*	*1.5*	*Plutonium-239/240*	*8.624*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CI46-017	750700.017	2084450.498	1.0	1.5	Uranium-235	0.133	pCi/g	-	8.0	0.094	Fig 4
CI46-017	750700.017	2084450.498	1.0	1.5	Uranium-238	2.076	pCi/g	-	351.0	2.000	Fig 4
CI46-018	750642.815	2084475.190	0.0	0.5	Chromium	18.000	mg/kg	-	268.0	16.990	Fig 4
CI46-018	750642.815	2084475.190	0.0	0.5	Copper	21.000	mg/kg	-	40900.0	18.060	Fig 4
CI46-018	750642.815	2084475.190	0.0	0.5	Lithium	16.000	mg/kg	-	20400.0	11.550	Fig 4
CI46-018	750642.815	2084475.190	0.0	0.5	Uranium-235	0.137	pCi/g	-	8.0	0.094	Fig 4
CI46-019	750678.512	2084479.367	0.0	0.5	Aluminum	18000.000	mg/kg	-	228000.0	16902.000	Fig 4
CI46-019	750678.512	2084479.367	0.0	0.5	Americium-241	0.982	pCi/g	-	76.0	0.023	Fig 4
CI46-019	750678.512	2084479.367	0.0	0.5	Chromium	18.000	mg/kg	-	268.0	16.990	Fig 4
CI46-019	750678.512	2084479.367	0.0	0.5	Lithium	13.000	mg/kg	-	20400.0	11.550	Fig 4
CI46-019	750678.512	2084479.367	0.0	0.5	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 4
CI46-019	*750678.512*	*2084479.367*	*0.0*	*0.5*	*Plutonium-239/240*	*5.595*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CI46-019	*750678.512*	*2084479.367*	*0.0*	*0.5*	*Uranium-234*	*4.197*	*pCi/g*	-	*300.0*	*2.253*	*Fig 4*
CI46-019	750678.512	2084479.367	0.0	0.5	Uranium-235	0.217	pCi/g	-	8.0	0.094	Fig 4
CI46-019	750678.512	2084479.367	0.0	0.5	Uranium-238	4.197	pCi/g	-	351.0	2.000	Fig 4
CI46-019	750678.512	2084479.367	0.5	2.5	Americium-241	5.000	pCi/g	-	76.0	0.020	Fig 4
CI46-019	*750678.512*	*2084479.367*	*0.5*	*2.5*	*Plutonium-239/240*	*28.500*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CI46-019	*750678.512*	*2084479.367*	*0.5*	*2.5*	*Uranium-234*	*3.788*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CI46-019	750678.512	2084479.367	0.5	2.5	Uranium-235	0.269	pCi/g	-	8.0	0.120	Fig 4
CI46-019	750678.512	2084479.367	0.5	2.5	Uranium-238	3.788	pCi/g	-	351.0	1.490	Fig 4
CI46-019	750678.512	2084479.367	2.5	4.5	Americium-241	1.890	pCi/g	-	76.0	0.020	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-019	*750678.512*	*2084479.367*	*2.5*	*4.5*	*Plutonium-239/240*	*10.773*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CI46-019	750678.512	2084479.367	2.5	4.5	Uranium-235	0.177	pCi/g	-	8.0	0.120	Fig 4
CI46-019	750678.512	2084479.367	2.5	4.5	Uranium-238	1.783	pCi/g	-	351.0	1.490	Fig 4
CI46-019	750678.512	2084479.367	4.5	6.5	Uranium-238	1.559	pCi/g	-	351.0	1.490	Fig 4
CI46-019	750678.512	2084479.367	6.5	8.5	Uranium-235	0.152	pCi/g	-	8.0	0.120	Fig 4
CI46-019	750678.512	2084479.367	6.5	8.5	Uranium-238	2.000	pCi/g	-	351.0	1.490	Fig 4
CI46-019	750678.512	2084479.367	8.5	10.5	Uranium-235	0.166	pCi/g	-	8.0	0.120	Fig 4
CI46-019	750678.512	2084479.367	8.5	10.5	Uranium-238	2.229	pCi/g	-	351.0	1.490	Fig 4
CI46-020	750717.157	2084483.516	0.6	1.1	Aluminum	27000.000	mg/kg	-	228000.0	16902.000	Fig 4
CI46-020	750717.157	2084483.516	0.6	1.1	Beryllium	1.100	mg/kg	-	921.0	0.966	Fig 4
CI46-020	750717.157	2084483.516	0.6	1.1	Chromium	23.000	mg/kg	-	268.0	16.990	Fig 4
CI46-020	750717.157	2084483.516	0.6	1.1	Lithium	19.000	mg/kg	-	20400.0	11.550	Fig 4
CI46-020	750717.157	2084483.516	0.6	1.1	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 4
CI46-020	750717.157	2084483.516	0.6	1.1	Uranium-235	0.160	pCi/g	-	8.0	0.094	Fig 4
CI46-020	750717.157	2084483.516	0.6	1.1	Vanadium	50.000	mg/kg	-	7150.0	45.590	Fig 4
CI46-021	750621.309	2084504.033	0.0	0.5	Americium-241	0.466	pCi/g	-	76.0	0.023	Fig 4
CI46-021	750621.309	2084504.033	0.0	0.5	Antimony	0.780	mg/kg	-	409.0	0.470	Fig 4
CI46-021	750621.309	2084504.033	0.0	0.5	Copper	24.000	mg/kg	-	40900.0	18.060	Fig 4
CI46-021	*750621.309*	*2084504.033*	*0.0*	*0.5*	*Plutonium-239/240*	*2.657*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CI46-021	750621.309	2084504.033	0.0	0.5	Uranium-235	0.210	pCi/g	-	8.0	0.094	Fig 4
CI46-021	750621.309	2084504.033	0.0	0.5	Zinc	110.000	mg/kg	-	307000.0	73.760	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Arsenic	17.000	mg/kg	-	22.2	10.090	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Cobalt	12.000	mg/kg	-	1550.0	10.910	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Copper	26.000	mg/kg	-	40900.0	18.060	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Iron	22000.000	mg/kg	-	307000.0	18037.000	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Lithium	14.000	mg/kg	-	20400.0	11.550	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Manganese	370.000	mg/kg	-	3480.0	365.080	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Nickel	23.000	mg/kg	-	20400.0	14.910	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Strontium	100.000	mg/kg	-	613000.0	48.940	Fig 4
CI46-022	750657.031	2084508.234	0.0	0.5	Vanadium	69.000	mg/kg	-	7150.0	45.590	Fig 4
CI46-023	750692.769	2084512.455	0.0	0.5	Aluminum	17000.000	mg/kg	-	228000.0	16902.000	Fig 4
CI46-023	750692.769	2084512.455	0.0	0.5	Americium-241	0.536	pCi/g	-	76.0	0.023	Fig 4
CI46-023	750692.769	2084512.455	0.0	0.5	Nickel	15.000	mg/kg	-	20400.0	14.910	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-023	*750692.769*	*2084512.455*	*0.0*	*0.5*	*Plutonium-239/240*	*3.053*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CI46-023	750692.769	2084512.455	0.0	0.5	Uranium-235	0.148	pCi/g	-	8.0	0.094	Fig 4
CI46-024	750565.598	2084535.150	0.0	0.5	Americium-241	0.678	pCi/g	-	76.0	0.023	Fig 7
CI46-024	*750565.598*	*2084535.150*	*0.0*	*0.5*	*Plutonium-239/240*	*3.863*	*pCi/g*	-	*50.0*	*0.066*	*Fig 7*
CI46-024	*750565.598*	*2084535.150*	*0.0*	*0.5*	*Uranium-234*	*4.209*	*pCi/g*	-	*300.0*	*2.253*	*Fig 7*
CI46-024	750565.598	2084535.150	0.0	0.5	Uranium-235	0.247	pCi/g	-	8.0	0.094	Fig 7
CI46-024	750565.598	2084535.150	0.0	0.5	Uranium-238	4.209	pCi/g	-	351.0	2.000	Fig 7
CI46-024	750565.598	2084535.150	0.5	2.5	Americium-241	1.260	pCi/g	-	76.0	0.020	Fig 7
CI46-024	*750565.598*	*2084535.150*	*0.5*	*2.5*	*Plutonium-239/240*	*7.182*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI46-024	*750565.598*	*2084535.150*	*0.5*	*2.5*	*Uranium-234*	*3.565*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI46-024	750565.598	2084535.150	0.5	2.5	Uranium-238	3.565	pCi/g	-	351.0	1.490	Fig 7
CI46-024	750565.598	2084535.150	0.5	2.5	Xylene	20.100	ug/kg	9.940	2040000.0	-	Fig 7
CI46-024	750565.598	2084535.150	2.5	4.5	Americium-241	1.233	pCi/g	-	76.0	0.020	Fig 7
CI46-024	*750565.598*	*2084535.150*	*2.5*	*4.5*	*Plutonium-239/240*	*7.028*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI46-024	750565.598	2084535.150	4.5	6.5	Uranium-235	0.126	pCi/g	-	8.0	0.120	Fig 7
CI46-024	*750565.598*	*2084535.150*	*8.5*	*10.5*	*Uranium-234*	*3.527*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI46-024	750565.598	2084535.150	8.5	10.5	Uranium-235	0.165	pCi/g	-	8.0	0.120	Fig 7
CI46-024	750565.598	2084535.150	8.5	10.5	Uranium-238	3.527	pCi/g	-	351.0	1.490	Fig 7
CI46-025	750599.788	2084532.947	0.0	0.5	Cobalt	12.000	mg/kg	-	1550.0	10.910	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Copper	54.000	mg/kg	-	40900.0	18.060	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Iron	26000.000	mg/kg	-	307000.0	18037.000	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Manganese	540.000	mg/kg	-	3480.0	365.080	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Strontium	110.000	mg/kg	-	613000.0	48.940	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Uranium-235	0.181	pCi/g	-	8.0	0.094	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Uranium-238	2.172	pCi/g	-	351.0	2.000	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Vanadium	60.000	mg/kg	-	7150.0	45.590	Fig 4
CI46-025	750599.788	2084532.947	0.0	0.5	Zinc	81.000	mg/kg	-	307000.0	73.760	Fig 4
CI46-026	750611.255	2084473.876	0.0	0.5	Americium-241	1.635	pCi/g	-	76.0	0.023	Fig 4
CI46-026	750611.255	2084473.876	0.0	0.5	Copper	35.000	mg/kg	-	40900.0	18.060	Fig 4
CI46-026	750611.255	2084473.876	0.0	0.5	Lithium	12.000	mg/kg	-	20400.0	11.550	Fig 4
CI46-026	*750611.255*	*2084473.876*	*0.0*	*0.5*	*Plutonium-239/240*	*9.320*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CI46-026	750611.255	2084473.876	0.0	0.5	Uranium-235	0.133	pCi/g	-	8.0	0.094	Fig 4
CI46-027	*750598.382*	*2084386.162*	*0.5*	*1.5*	*Uranium-234*	*4.183*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-027	750598.382	2084386.162	0.5	1.5	Uranium-235	0.175	pCi/g	-	8.0	0.120	Fig 5
CI46-027	750598.382	2084386.162	0.5	1.5	Uranium-238	4.183	pCi/g	-	351.0	1.490	Fig 5
CI46-027	*750598.382*	*2084386.162*	*2.5*	*4.0*	*Uranium-234*	*3.262*	*pCi/g*	-	*300.0*	*2.640*	*Fig 5*
CI46-027	750598.382	2084386.162	2.5	4.0	Uranium-238	3.262	pCi/g	-	351.0	1.490	Fig 5
CI46-027	750598.382	2084386.162	4.5	6.5	Uranium-235	0.185	pCi/g	-	8.0	0.120	Fig 5
CI46-027	750598.382	2084386.162	4.5	6.5	Uranium-238	2.372	pCi/g	-	351.0	1.490	Fig 5
CI46-027	750598.382	2084386.162	6.5	8.5	Uranium-235	0.166	pCi/g	-	8.0	0.120	Fig 5
CI46-027	750598.382	2084386.162	6.5	8.5	Uranium-238	1.648	pCi/g	-	351.0	1.490	Fig 5
CI46-027	750598.382	2084386.162	8.5	10.5	Uranium-235	0.158	pCi/g	-	8.0	0.120	Fig 5
CI46-028	750586.357	2084432.145	0.5	2.0	Aluminum	43000.000	mg/kg	-	228000.0	35373.170	Fig 7
CI46-028	750586.357	2084432.145	0.5	2.0	Americium-241	1.240	pCi/g	-	76.0	0.020	Fig 7
CI46-028	750586.357	2084432.145	0.5	2.0	Arsenic	16.000	mg/kg	-	22.2	13.140	Fig 7
CI46-028	750586.357	2084432.145	0.5	2.0	Lithium	64.000	mg/kg	-	20400.0	34.660	Fig 7
CI46-028	750586.357	2084432.145	0.5	2.0	Methylene chloride	1.500	ug/kg	0.820	2530000.0	-	Fig 7
CI46-028	750586.357	2084432.145	0.5	2.0	Naphthalene	2.000	ug/kg	0.890	3090000.0	-	Fig 7
CI46-028	750586.357	2084432.145	0.5	2.0	Plutonium-239/240	11.700	pCi/g	-	50.0	0.020	Fig 7
CI46-028	750586.357	2084432.145	0.5	2.0	Uranium-235	0.336	pCi/g	-	8.0	0.120	Fig 7
CI46-028	750586.357	2084432.145	2.5	4.5	Acetone	31.000	ug/kg	6.000	102000000.0	-	Fig 7
CI46-028	750586.357	2084432.145	2.5	4.5	Methylene chloride	2.500	ug/kg	1.000	2530000.0	-	Fig 7
CI46-028	750586.357	2084432.145	2.5	4.5	Naphthalene	1.300	ug/kg	1.100	3090000.0	-	Fig 7
CI46-028	750586.357	2084432.145	2.5	4.5	Plutonium-239/240	0.117	pCi/g	-	50.0	0.020	Fig 7
CI46-028	750586.357	2084432.145	2.5	4.5	Uranium-234	3.550	pCi/g	-	300.0	2.640	Fig 7
CI46-028	750586.357	2084432.145	4.9	6.1	Acetone	7.800	ug/kg	5.000	102000000.0	-	Fig 7
CI46-028	750586.357	2084432.145	4.9	6.1	Methylene chloride	2.200	ug/kg	0.870	2530000.0	-	Fig 7
CI46-028	750586.357	2084432.145	4.9	6.1	Plutonium-239/240	0.212	pCi/g	-	50.0	0.020	Fig 7
CI46-028	750586.357	2084432.145	6.7	8.5	Americium-241	0.419	pCi/g	-	76.0	0.020	Fig 7
CI46-028	750586.357	2084432.145	6.7	8.5	Methylene chloride	2.100	ug/kg	0.850	2530000.0	-	Fig 7
CI46-028	750586.357	2084432.145	6.7	8.5	Plutonium-239/240	0.146	pCi/g	-	50.0	0.020	Fig 7
CI46-028	750586.357	2084432.145	8.5	10.5	Methylene chloride	2.100	ug/kg	0.910	2530000.0	-	Fig 7
CI46-028	750586.357	2084432.145	8.5	10.5	Plutonium-239/240	1.730	pCi/g	-	50.0	0.020	Fig 7
CI46-029	750574.124	2084477.141	2.0	2.5	Americium-241	9.228	pCi/g	-	76.0	0.020	Fig 7
CI46-029	***750574.124***	***2084477.141***	***2.0***	***2.5***	***Plutonium-239/240***	***52.600***	***pCi/g***	***-***	***50.0***	***0.020***	***Fig 7***
CI46-029	*750574.124*	*2084477.141*	*2.0*	*2.5*	*Uranium-234*	*3.458*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CI46-029	750574.124	2084477.141	2.0	2.5	Uranium-235	0.188	pCi/g	-	8.0	0.120	Fig 7
CI46-029	750574.124	2084477.141	2.0	2.5	Uranium-238	3.458	pCi/g	-	351.0	1.490	Fig 7
CI46-029	750574.124	2084477.141	2.5	4.0	Americium-241	0.983	pCi/g	-	76.0	0.020	Fig 7
CI46-029	*750574.124*	*2084477.141*	*2.5*	*4.0*	*Plutonium-239/240*	*5.602*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI46-029	*750574.124*	*2084477.141*	*2.5*	*4.0*	*Uranium-234*	*4.745*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI46-029	750574.124	2084477.141	2.5	4.0	Uranium-235	0.137	pCi/g	-	8.0	0.120	Fig 7
CI46-029	750574.124	2084477.141	2.5	4.0	Uranium-238	4.745	pCi/g	-	351.0	1.490	Fig 7
CI46-029	750574.124	2084477.141	6.0	6.5	Americium-241	4.840	pCi/g	-	76.0	0.020	Fig 7
CI46-029	*750574.124*	*2084477.141*	*6.0*	*6.5*	*Plutonium-239/240*	*27.588*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CI46-029	750574.124	2084477.141	6.0	6.5	Uranium-235	0.207	pCi/g	-	8.0	0.120	Fig 7
CI46-029	750574.124	2084477.141	6.0	6.5	Uranium-238	2.603	pCi/g	-	351.0	1.490	Fig 7
CI46-029	*750574.124*	*2084477.141*	*6.5*	*8.5*	*Uranium-234*	*3.991*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI46-029	750574.124	2084477.141	6.5	8.5	Uranium-238	3.991	pCi/g	-	351.0	1.490	Fig 7
CI46-029	*750574.124*	*2084477.141*	*8.5*	*9.5*	*Uranium-234*	*4.622*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CI46-029	750574.124	2084477.141	8.5	9.5	Uranium-235	0.139	pCi/g	-	8.0	0.120	Fig 7
CI46-029	750574.124	2084477.141	8.5	9.5	Uranium-238	4.622	pCi/g	-	351.0	1.490	Fig 7
CI46-039	750603.023	2084346.304	3.5	3.8	Acetone	7.800	ug/kg	5.600	102000000.0	-	Fig 5
CI46-039	750603.023	2084346.304	3.5	3.8	Plutonium-239/240	0.211	pCi/g	-	50.0	0.020	Fig 5
CI46-039	750603.023	2084346.304	3.5	3.8	Uranium-235	0.198	pCi/g	-	8.0	0.120	Fig 5
CI46-040	750633.348	2084344.133	0.5	2.5	Uranium-235	0.146	pCi/g	-	8.0	0.120	Fig 5
CI46-040	750633.348	2084344.133	0.5	2.5	Uranium-238	1.497	pCi/g	-	351.0	1.490	Fig 5
CJ45-010	750544.089	2084571.792	0.5	2.5	Americium-241	1.092	pCi/g	-	76.0	0.020	Fig 7
CJ45-010	*750544.089*	*2084571.792*	*0.5*	*2.5*	*Plutonium-239/240*	*6.224*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CJ45-010	*750544.089*	*2084571.792*	*0.5*	*2.5*	*Uranium-234*	*4.756*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CJ45-010	750544.089	2084571.792	0.5	2.5	Uranium-235	0.237	pCi/g	-	8.0	0.120	Fig 7
CJ45-010	750544.089	2084571.792	0.5	2.5	Uranium-238	4.756	pCi/g	-	351.0	1.490	Fig 7
CJ45-010	750544.089	2084571.792	2.5	4.5	Americium-241	2.137	pCi/g	-	76.0	0.020	Fig 7
CJ45-010	*750544.089*	*2084571.792*	*2.5*	*4.5*	*Plutonium-239/240*	*12.181*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CJ45-010	750544.089	2084571.792	2.5	4.5	Uranium-235	0.146	pCi/g	-	8.0	0.120	Fig 7
CJ45-010	750544.089	2084571.792	4.5	6.5	Americium-241	1.069	pCi/g	-	76.0	0.020	Fig 7
CJ45-010	*750544.089*	*2084571.792*	*4.5*	*6.5*	*Plutonium-239/240*	*6.093*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CJ45-010	750544.089	2084571.792	4.5	6.5	Uranium-238	1.618	pCi/g	-	351.0	1.490	Fig 7
CJ45-011	750545.108	2084541.426	0.5	2.5	Americium-241	0.361	pCi/g	-	76.0	0.020	Fig 7

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ45-011	*750545.108*	*2084541.426*	*0.5*	*2.5*	*Plutonium-239/240*	*2.055*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CJ45-012	750431.787	2084543.841	0.0	0.5	Acetone	19.000	ug/kg	5.600	102000000.0	-	Fig 7
CJ45-012	750431.787	2084543.841	0.0	0.5	Aluminum	17000.000	mg/kg	-	228000.0	16902.000	Fig 7
CJ45-012	750431.787	2084543.841	0.0	0.5	Americium-241	0.397	pCi/g	-	76.0	0.023	Fig 7
CJ45-012	750431.787	2084543.841	0.0	0.5	Methylene chloride	1.300	ug/kg	0.970	2530000.0	-	Fig 7
CJ45-012	750431.787	2084543.841	0.0	0.5	Plutonium-239/240	0.648	pCi/g	-	50.0	0.066	Fig 7
CJ45-012	750431.787	2084543.841	0.5	1.5	Acetone	9.600	ug/kg	5.800	102000000.0	-	Fig 7
CJ45-012	750431.787	2084543.841	0.5	1.5	Methylene chloride	1.300	ug/kg	1.000	2530000.0	-	Fig 7
CJ45-012	750431.787	2084543.841	0.5	1.5	Plutonium-239/240	0.592	pCi/g	-	50.0	0.020	Fig 7
CJ45-013	750470.975	2084549.272	0.0	0.5	Chromium	210.000	mg/kg	-	268.0	16.990	Fig 7
CJ45-013	750470.975	2084549.272	0.0	0.5	Nickel	94.000	mg/kg	-	20400.0	14.910	Fig 7
CJ45-013	750470.975	2084549.272	0.5	1.5	Uranium-235	0.141	pCi/g	-	8.0	0.120	Fig 7
CJ45-014	750506.717	2084553.522	0.0	0.5	Plutonium-239/240	1.560	pCi/g	-	50.0	0.066	Fig 7
CJ45-014	750506.717	2084553.522	0.0	0.5	Uranium-235	0.188	pCi/g	-	8.0	0.094	Fig 7
CJ45-017	750485.307	2084582.249	0.0	0.5	Americium-241	0.431	pCi/g	-	76.0	0.023	Fig 7
CJ45-017	750485.307	2084582.249	0.0	0.5	Antimony	1.400	mg/kg	-	409.0	0.470	Fig 7
CJ45-017	*750485.307*	*2084582.249*	*0.0*	*0.5*	*Plutonium-239/240*	*2.454*	*pCi/g*	-	*50.0*	*0.066*	*Fig 7*
CJ45-017	750485.307	2084582.249	0.0	0.5	Zinc	83.000	mg/kg	-	307000.0	73.760	Fig 7
CJ45-018	750521.004	2084586.504	0.0	0.5	Americium-241	1.310	pCi/g	-	76.0	0.023	Fig 7
CJ45-018	750521.004	2084586.504	0.0	0.5	Copper	23.000	mg/kg	-	40900.0	18.060	Fig 7
CJ45-018	*750521.004*	*2084586.504*	*0.0*	*0.5*	*Plutonium-239/240*	*7.467*	*pCi/g*	-	*50.0*	*0.066*	*Fig 7*
CJ45-018	750521.004	2084586.504	0.0	0.5	Zinc	210.000	mg/kg	-	307000.0	73.760	Fig 7
CJ45-019	750556.782	2084590.686	0.0	0.5	Americium-241	0.908	pCi/g	-	76.0	0.023	Fig 7
CJ45-019	*750556.782*	*2084590.686*	*0.0*	*0.5*	*Plutonium-239/240*	*5.173*	*pCi/g*	-	*50.0*	*0.066*	*Fig 7*
CJ45-019	750556.782	2084590.686	0.0	0.5	Uranium-235	0.122	pCi/g	-	8.0	0.094	Fig 7
CJ45-019	750556.782	2084590.686	0.0	0.5	Zinc	74.000	mg/kg	-	307000.0	73.760	Fig 7
CJ45-020	750414.670	2084573.224	0.0	0.5	1,1,1-Trichloroethane	5.880	ug/kg	5.650	79700000.0	-	Fig 7
CJ45-020	750414.670	2084573.224	0.0	0.5	Americium-241	0.347	pCi/g	-	76.0	0.023	Fig 7
CJ45-020	*750414.670*	*2084573.224*	*0.0*	*0.5*	*Plutonium-239/240*	*1.978*	*pCi/g*	-	*50.0*	*0.066*	*Fig 7*
CJ45-020	750414.670	2084573.224	0.0	0.5	Strontium	50.000	mg/kg	-	613000.0	48.940	Fig 7
CJ45-021	750400.283	2084539.711	0.0	0.5	Copper	31.000	mg/kg	-	40900.0	18.060	Fig 7
CJ45-021	750400.283	2084539.711	0.0	0.5	Strontium	65.000	mg/kg	-	613000.0	48.940	Fig 7
CJ46-005	750700.154	2084569.404	2.5	3.5	Americium-241	4.820	pCi/g	-	76.0	0.020	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-005	750700.154	2084569.404	2.5	3.5	Cadmium	2.300	mg/kg	-	962.0	1.700	Fig 4
CJ46-005	750700.154	2084569.404	2.5	3.5	Ethylbenzene	6.800	ug/kg	1.200	4250000.0	-	Fig 4
CJ46-005	750700.154	2084569.404	2.5	3.5	Methylene chloride	1.200	ug/kg	0.830	2530000.0	-	Fig 4
CJ46-005	750700.154	2084569.404	2.5	3.5	Plutonium-239/240	8.990	pCi/g	-	50.0	0.020	Fig 4
CJ46-005	750700.154	2084569.404	2.5	3.5	Toluene	1.200	ug/kg	0.810	31300000.0	-	Fig 4
CJ46-005	750700.154	2084569.404	2.5	3.5	Xylene	81.000	ug/kg	2.900	2040000.0	-	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Acetone	9.400	ug/kg	5.800	102000000.0	-	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Aluminum	53000.000	mg/kg	-	228000.0	35373.170	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Americium-241	4.140	pCi/g	-	76.0	0.020	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Arsenic	22.000	mg/kg	-	22.2	13.140	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Ethylbenzene	1.900	ug/kg	1.500	4250000.0	-	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Methylene chloride	1.500	ug/kg	1.000	2530000.0	-	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Plutonium-239/240	1.180	pCi/g	-	50.0	0.020	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Uranium-235	0.162	pCi/g	-	8.0	0.120	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Vanadium	110.000	mg/kg	-	7150.0	88.490	Fig 4
CJ46-005	750700.154	2084569.404	5.5	6.5	Xylene	20.000	ug/kg	3.500	2040000.0	-	Fig 4
CJ46-010	750578.752	2084554.948	0.5	1.5	Americium-241	4.117	pCi/g	-	76.0	0.020	Fig 7
CJ46-010	*750578.752*	*2084554.948*	*0.5*	*1.5*	*Plutonium-239/240*	*23.467*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CJ46-010	750578.752	2084554.948	2.5	3.5	Americium-241	2.684	pCi/g	-	76.0	0.020	Fig 7
CJ46-010	*750578.752*	*2084554.948*	*2.5*	*3.5*	*Plutonium-239/240*	*15.299*	*pCi/g*	-	*50.0*	*0.020*	*Fig 7*
CJ46-010	*750578.752*	*2084554.948*	*2.5*	*3.5*	*Uranium-234*	*3.197*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CJ46-010	750578.752	2084554.948	2.5	3.5	Uranium-235	0.214	pCi/g	-	8.0	0.120	Fig 7
CJ46-010	750578.752	2084554.948	2.5	3.5	Uranium-238	3.197	pCi/g	-	351.0	1.490	Fig 7
CJ46-010	750578.752	2084554.948	2.5	3.5	Zinc	140.000	mg/kg	-	307000.0	139.100	Fig 7
CJ46-010	*750578.752*	*2084554.948*	*4.5*	*6.5*	*Uranium-234*	*3.986*	*pCi/g*	-	*300.0*	*2.640*	*Fig 7*
CJ46-010	750578.752	2084554.948	4.5	6.5	Uranium-238	3.986	pCi/g	-	351.0	1.490	Fig 7
CJ46-011	750577.162	2084582.610	0.5	2.5	Acetone	7.000	ug/kg	5.100	102000000.0	-	Fig 7
CJ46-011	750577.162	2084582.610	0.5	2.5	Americium-241	1.350	pCi/g	-	76.0	0.020	Fig 7
CJ46-011	750577.162	2084582.610	0.5	2.5	Plutonium-239/240	11.300	pCi/g	-	50.0	0.020	Fig 7
CJ46-011	750577.162	2084582.610	2.5	4.5	Acetone	7.400	ug/kg	5.700	102000000.0	-	Fig 7
CJ46-011	750577.162	2084582.610	2.5	4.5	Americium-241	1.540	pCi/g	-	76.0	0.020	Fig 7
CJ46-011	750577.162	2084582.610	2.5	4.5	Plutonium-239/240	9.910	pCi/g	-	50.0	0.020	Fig 7
CJ46-011	750577.162	2084582.610	2.5	4.5	Uranium-235	0.193	pCi/g	-	8.0	0.120	Fig 7

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-011	750577.162	2084582.610	4.5	6.5	Acetone	5.700	ug/kg	5.000	102000000.0	-	Fig 7
CJ46-011	750577.162	2084582.610	4.5	6.5	Plutonium-239/240	0.187	pCi/g	-	50.0	0.020	Fig 7
CJ46-014	750635.594	2084539.159	0.0	0.5	Americium-241	0.676	pCi/g	-	76.0	0.023	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Antimony	1.900	mg/kg	-	409.0	0.470	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Chromium	18.000	mg/kg	-	268.0	16.990	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Cobalt	11.000	mg/kg	-	1550.0	10.910	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Copper	45.000	mg/kg	-	40900.0	18.060	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Iron	22000.000	mg/kg	-	307000.0	18037.000	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Manganese	580.000	mg/kg	-	3480.0	365.080	Fig 4
CJ46-014	*750635.594*	*2084539.159*	*0.0*	*0.5*	*Plutonium-239/240*	*3.855*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CJ46-014	750635.594	2084539.159	0.0	0.5	Strontium	71.000	mg/kg	-	613000.0	48.940	Fig 4
CJ46-014	*750635.594*	*2084539.159*	*0.0*	*0.5*	*Uranium-234*	*3.684*	*pCi/g*	-	*300.0*	*2.253*	*Fig 4*
CJ46-014	750635.594	2084539.159	0.0	0.5	Uranium-235	0.237	pCi/g	-	8.0	0.094	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Uranium-238	3.684	pCi/g	-	351.0	2.000	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Vanadium	48.000	mg/kg	-	7150.0	45.590	Fig 4
CJ46-014	750635.594	2084539.159	0.0	0.5	Zinc	150.000	mg/kg	-	307000.0	73.760	Fig 4
CJ46-014	750635.594	2084539.159	0.5	2.5	Americium-241	1.741	pCi/g	-	76.0	0.020	Fig 4
CJ46-014	*750635.594*	*2084539.159*	*0.5*	*2.5*	*Plutonium-239/240*	*9.924*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-014	750635.594	2084539.159	0.5	2.5	Uranium-235	0.167	pCi/g	-	8.0	0.120	Fig 4
CJ46-014	750635.594	2084539.159	0.5	2.5	Uranium-238	1.624	pCi/g	-	351.0	1.490	Fig 4
CJ46-014	750635.594	2084539.159	2.5	4.5	Americium-241	1.277	pCi/g	-	76.0	0.020	Fig 4
CJ46-014	*750635.594*	*2084539.159*	*2.5*	*4.5*	*Plutonium-239/240*	*7.279*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-014	*750635.594*	*2084539.159*	*2.5*	*4.5*	*Uranium-234*	*3.795*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-014	750635.594	2084539.159	2.5	4.5	Uranium-235	0.210	pCi/g	-	8.0	0.120	Fig 4
CJ46-014	750635.594	2084539.159	2.5	4.5	Uranium-238	3.795	pCi/g	-	351.0	1.490	Fig 4
CJ46-014	750635.594	2084539.159	4.5	6.5	Arsenic	18.000	mg/kg	-	22.2	13.140	Fig 4
CJ46-014	*750635.594*	*2084539.159*	*4.5*	*6.5*	*Uranium-234*	*4.850*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-014	750635.594	2084539.159	4.5	6.5	Uranium-238	4.850	pCi/g	-	351.0	1.490	Fig 4
CJ46-014	750635.594	2084539.159	6.5	8.5	Uranium-238	2.278	pCi/g	-	351.0	1.490	Fig 4
CJ46-014	*750635.594*	*2084539.159*	*8.5*	*10.5*	*Uranium-234*	*2.722*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-014	750635.594	2084539.159	8.5	10.5	Uranium-235	0.207	pCi/g	-	8.0	0.120	Fig 4
CJ46-014	750635.594	2084539.159	8.5	10.5	Uranium-238	2.722	pCi/g	-	351.0	1.490	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Aluminum	28000.000	mg/kg	-	228000.0	16902.000	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-015	750671.272	2084541.272	0.0	0.5	Americium-241	2.545	pCi/g	-	76.0	0.023	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Antimony	0.690	mg/kg	-	409.0	0.470	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Arsenic	14.000	mg/kg	-	22.2	10.090	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Beryllium	1.200	mg/kg	-	921.0	0.966	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Chromium	29.000	mg/kg	-	268.0	16.990	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Copper	19.000	mg/kg	-	40900.0	18.060	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Iron	21000.000	mg/kg	-	307000.0	18037.000	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Lithium	21.000	mg/kg	-	20400.0	11.550	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Nickel	26.000	mg/kg	-	20400.0	14.910	Fig 4
CJ46-015	*750671.272*	*2084541.272*	*0.0*	*0.5*	*Plutonium-239/240*	*14.507*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CJ46-015	750671.272	2084541.272	0.0	0.5	Strontium	62.000	mg/kg	-	613000.0	48.940	Fig 4
CJ46-015	*750671.272*	*2084541.272*	*0.0*	*0.5*	*Uranium-234*	*4.525*	*pCi/g*	-	*300.0*	*2.253*	*Fig 4*
CJ46-015	750671.272	2084541.272	0.0	0.5	Uranium-235	0.278	pCi/g	-	8.0	0.094	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Uranium-238	4.525	pCi/g	-	351.0	2.000	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Vanadium	59.000	mg/kg	-	7150.0	45.590	Fig 4
CJ46-015	750671.272	2084541.272	0.0	0.5	Zinc	86.000	mg/kg	-	307000.0	73.760	Fig 4
CJ46-015	750671.272	2084541.272	0.5	2.5	Americium-241	2.005	pCi/g	-	76.0	0.020	Fig 4
CJ46-015	*750671.272*	*2084541.272*	*0.5*	*2.5*	*Plutonium-239/240*	*11.429*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-015	*750671.272*	*2084541.272*	*0.5*	*2.5*	*Uranium-234*	*4.915*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-015	750671.272	2084541.272	0.5	2.5	Uranium-235	0.239	pCi/g	-	8.0	0.120	Fig 4
CJ46-015	750671.272	2084541.272	0.5	2.5	Uranium-238	4.915	pCi/g	-	351.0	1.490	Fig 4
CJ46-015	*750671.272*	*2084541.272*	*2.5*	*4.5*	*Uranium-234*	*5.644*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-015	750671.272	2084541.272	2.5	4.5	Uranium-235	0.311	pCi/g	-	8.0	0.120	Fig 4
CJ46-015	750671.272	2084541.272	2.5	4.5	Uranium-238	5.644	pCi/g	-	351.0	1.490	Fig 4
CJ46-015	*750671.272*	*2084541.272*	*4.5*	*6.5*	*Uranium-234*	*4.605*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-015	750671.272	2084541.272	4.5	6.5	Uranium-238	4.605	pCi/g	-	351.0	1.490	Fig 4
CJ46-015	*750671.272*	*2084541.272*	*6.5*	*8.5*	*Uranium-234*	*2.912*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-015	750671.272	2084541.272	6.5	8.5	Uranium-238	2.912	pCi/g	-	351.0	1.490	Fig 4
CJ46-015	750671.272	2084541.272	8.5	10.5	Manganese	1400.000	mg/kg	-	3480.0	901.620	Fig 4
CJ46-015	750671.272	2084541.272	8.5	10.5	Uranium-235	0.150	pCi/g	-	8.0	0.120	Fig 4
CJ46-015	750671.272	2084541.272	8.5	10.5	Uranium-238	1.724	pCi/g	-	351.0	1.490	Fig 4
CJ46-016	750702.256	2084543.985	0.0	0.5	Aluminum	23000.000	mg/kg	-	228000.0	16902.000	Fig 4
CJ46-016	750702.256	2084543.985	0.0	0.5	Americium-241	0.634	pCi/g	-	76.0	0.023	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-016	750702.256	2084543.985	0.0	0.5	Antimony	0.630	mg/kg	-	409.0	0.470	Fig 4
CJ46-016	750702.256	2084543.985	0.0	0.5	Beryllium	1.100	mg/kg	-	921.0	0.966	Fig 4
CJ46-016	750702.256	2084543.985	0.0	0.5	Chromium	20.000	mg/kg	-	268.0	16.990	Fig 4
CJ46-016	750702.256	2084543.985	0.0	0.5	Lithium	16.000	mg/kg	-	20400.0	11.550	Fig 4
CJ46-016	750702.256	2084543.985	0.0	0.5	Nickel	19.000	mg/kg	-	20400.0	14.910	Fig 4
CJ46-016	*750702.256*	*2084543.985*	*0.0*	*0.5*	*Plutonium-239/240*	*3.611*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CJ46-016	750702.256	2084543.985	0.5	2.5	Americium-241	0.712	pCi/g	-	76.0	0.020	Fig 4
CJ46-016	*750702.256*	*2084543.985*	*0.5*	*2.5*	*Plutonium-239/240*	*4.060*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-016	750702.256	2084543.985	0.5	2.5	Uranium-238	1.586	pCi/g	-	351.0	1.490	Fig 4
CJ46-016	750702.256	2084543.985	2.5	4.5	Americium-241	0.473	pCi/g	-	76.0	0.020	Fig 4
CJ46-016	*750702.256*	*2084543.985*	*2.5*	*4.5*	*Plutonium-239/240*	*2.697*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-016	750702.256	2084543.985	2.5	4.5	Zinc	490.000	mg/kg	-	307000.0	139.100	Fig 4
CJ46-016	750702.256	2084543.985	4.5	6.5	Americium-241	0.325	pCi/g	-	76.0	0.020	Fig 4
CJ46-016	*750702.256*	*2084543.985*	*4.5*	*6.5*	*Plutonium-239/240*	*1.850*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-016	750702.256	2084543.985	4.5	6.5	Uranium-235	0.158	pCi/g	-	8.0	0.120	Fig 4
CJ46-016	750702.256	2084543.985	4.5	6.5	Uranium-238	2.039	pCi/g	-	351.0	1.490	Fig 4
CJ46-016	*750702.256*	*2084543.985*	*6.5*	*8.5*	*Uranium-234*	*4.006*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-016	750702.256	2084543.985	6.5	8.5	Uranium-235	0.142	pCi/g	-	8.0	0.120	Fig 4
CJ46-016	750702.256	2084543.985	6.5	8.5	Uranium-238	4.006	pCi/g	-	351.0	1.490	Fig 4
CJ46-016	750702.256	2084543.985	8.5	10.5	Uranium-235	0.137	pCi/g	-	8.0	0.120	Fig 4
CJ46-016	750702.256	2084543.985	8.5	10.5	Uranium-238	1.610	pCi/g	-	351.0	1.490	Fig 4
CJ46-018	750613.539	2084569.611	0.0	0.5	Americium-241	1.013	pCi/g	-	76.0	0.023	Fig 4
CJ46-018	750613.539	2084569.611	0.0	0.5	Antimony	0.960	mg/kg	-	409.0	0.470	Fig 4
CJ46-018	750613.539	2084569.611	0.0	0.5	Cadmium	1.700	mg/kg	-	962.0	1.612	Fig 4
CJ46-018	750613.539	2084569.611	0.0	0.5	Chromium	19.000	mg/kg	-	268.0	16.990	Fig 4
CJ46-018	750613.539	2084569.611	0.0	0.5	Copper	39.000	mg/kg	-	40900.0	18.060	Fig 4
CJ46-018	*750613.539*	*2084569.611*	*0.0*	*0.5*	*Plutonium-239/240*	*5.774*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CJ46-018	750613.539	2084569.611	0.0	0.5	Strontium	67.000	mg/kg	-	613000.0	48.940	Fig 4
CJ46-018	*750613.539*	*2084569.611*	*0.0*	*0.5*	*Uranium-234*	*3.833*	*pCi/g*	-	*300.0*	*2.253*	*Fig 4*
CJ46-018	750613.539	2084569.611	0.0	0.5	Uranium-235	0.262	pCi/g	-	8.0	0.094	Fig 4
CJ46-018	750613.539	2084569.611	0.0	0.5	Uranium-238	3.833	pCi/g	-	351.0	2.000	Fig 4
CJ46-018	750613.539	2084569.611	0.0	0.5	Zinc	190.000	mg/kg	-	307000.0	73.760	Fig 4
CJ46-018	750613.539	2084569.611	0.5	2.5	Americium-241	0.502	pCi/g	-	76.0	0.020	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-018	*750613.539*	*2084569.611*	*0.5*	*2.5*	*Plutonium-239/240*	*2.860*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-018	750613.539	2084569.611	2.5	4.5	Aluminum	50000.000	mg/kg	-	228000.0	35373.170	Fig 4
CJ46-018	750613.539	2084569.611	2.5	4.5	Arsenic	21.000	mg/kg	-	22.2	13.140	Fig 4
CJ46-018	750613.539	2084569.611	2.5	4.5	Uranium-235	0.144	pCi/g	-	8.0	0.120	Fig 4
CJ46-018	750613.539	2084569.611	2.5	4.5	Vanadium	95.000	mg/kg	-	7150.0	88.490	Fig 4
CJ46-018	750613.539	2084569.611	6.5	8.5	Uranium-235	0.128	pCi/g	-	8.0	0.120	Fig 4
CJ46-018	750613.539	2084569.611	6.5	8.5	Uranium-238	1.782	pCi/g	-	351.0	1.490	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Cobalt	12.000	mg/kg	-	1550.0	10.910	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Copper	47.000	mg/kg	-	40900.0	18.060	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Iron	24000.000	mg/kg	-	307000.0	18037.000	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Manganese	460.000	mg/kg	-	3480.0	365.080	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Nickel	16.000	mg/kg	-	20400.0	14.910	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Strontium	87.000	mg/kg	-	613000.0	48.940	Fig 4
CJ46-019	*750649.794*	*2084570.220*	*0.0*	*0.5*	*Uranium-234*	*4.151*	*pCi/g*	-	*300.0*	*2.253*	*Fig 4*
CJ46-019	750649.794	2084570.220	0.0	0.5	Uranium-238	4.151	pCi/g	-	351.0	2.000	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Vanadium	63.000	mg/kg	-	7150.0	45.590	Fig 4
CJ46-019	750649.794	2084570.220	0.0	0.5	Zinc	100.000	mg/kg	-	307000.0	73.760	Fig 4
CJ46-019	750649.794	2084570.220	0.5	2.5	Americium-241	0.741	pCi/g	-	76.0	0.020	Fig 4
CJ46-019	*750649.794*	*2084570.220*	*0.5*	*2.5*	*Plutonium-239/240*	*4.226*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-019	750649.794	2084570.220	0.5	2.5	Uranium-238	1.958	pCi/g	-	351.0	1.490	Fig 4
CJ46-019	750649.794	2084570.220	2.5	4.0	Americium-241	0.356	pCi/g	-	76.0	0.020	Fig 4
CJ46-019	*750649.794*	*2084570.220*	*2.5*	*4.0*	*Plutonium-239/240*	*2.029*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-019	750649.794	2084570.220	2.5	4.0	Uranium-235	0.151	pCi/g	-	8.0	0.120	Fig 4
CJ46-019	750649.794	2084570.220	2.5	4.0	Zinc	280.000	mg/kg	-	307000.0	139.100	Fig 4
CJ46-019	750649.794	2084570.220	4.5	6.5	Uranium-235	0.256	pCi/g	-	8.0	0.120	Fig 4
CJ46-019	750649.794	2084570.220	4.5	6.5	Uranium-238	2.583	pCi/g	-	351.0	1.490	Fig 4
CJ46-019	*750649.794*	*2084570.220*	*6.5*	*8.5*	*Uranium-234*	*2.978*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-019	750649.794	2084570.220	6.5	8.5	Uranium-235	0.283	pCi/g	-	8.0	0.120	Fig 4
CJ46-019	750649.794	2084570.220	6.5	8.5	Uranium-238	2.978	pCi/g	-	351.0	1.490	Fig 4
CJ46-019	*750649.794*	*2084570.220*	*8.5*	*10.5*	*Uranium-234*	*3.935*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-019	750649.794	2084570.220	8.5	10.5	Uranium-235	0.194	pCi/g	-	8.0	0.120	Fig 4
CJ46-019	750649.794	2084570.220	8.5	10.5	Uranium-238	3.935	pCi/g	-	351.0	1.490	Fig 4
CJ46-020	750680.813	2084565.547	0.0	0.5	Aluminum	22000.000	mg/kg	-	228000.0	16902.000	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-020	750680.813	2084565.547	0.0	0.5	Americium-241	1.360	pCi/g	-	76.0	0.023	Fig 4
CJ46-020	750680.813	2084565.547	0.0	0.5	Beryllium	1.000	mg/kg	-	921.0	0.966	Fig 4
CJ46-020	750680.813	2084565.547	0.0	0.5	Chromium	19.000	mg/kg	-	268.0	16.990	Fig 4
CJ46-020	750680.813	2084565.547	0.0	0.5	Lithium	14.000	mg/kg	-	20400.0	11.550	Fig 4
CJ46-020	750680.813	2084565.547	0.0	0.5	Nickel	18.000	mg/kg	-	20400.0	14.910	Fig 4
CJ46-020	*750680.813*	*2084565.547*	*0.0*	*0.5*	*Plutonium-239/240*	*7.752*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CJ46-020	750680.813	2084565.547	0.5	2.5	Americium-241	2.142	pCi/g	-	76.0	0.020	Fig 4
CJ46-020	*750680.813*	*2084565.547*	*0.5*	*2.5*	*Plutonium-239/240*	*12.209*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-020	750680.813	2084565.547	0.5	2.5	Uranium-238	1.624	pCi/g	-	351.0	1.490	Fig 4
CJ46-020	750680.813	2084565.547	2.5	4.5	Aluminum	36000.000	mg/kg	-	228000.0	35373.170	Fig 4
CJ46-020	750680.813	2084565.547	2.5	4.5	Americium-241	1.149	pCi/g	-	76.0	0.020	Fig 4
CJ46-020	750680.813	2084565.547	2.5	4.5	Naphthalene	10.400	ug/kg	6.100	3090000.0	-	Fig 4
CJ46-020	*750680.813*	*2084565.547*	*2.5*	*4.5*	*Plutonium-239/240*	*6.549*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-020	*750680.813*	*2084565.547*	*2.5*	*4.5*	*Uranium-234*	*4.483*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-020	750680.813	2084565.547	2.5	4.5	Uranium-235	0.279	pCi/g	-	8.0	0.120	Fig 4
CJ46-020	750680.813	2084565.547	2.5	4.5	Uranium-238	4.483	pCi/g	-	351.0	1.490	Fig 4
CJ46-020	*750680.813*	*2084565.547*	*4.5*	*6.5*	*Uranium-234*	*3.956*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-020	750680.813	2084565.547	4.5	6.5	Uranium-235	0.182	pCi/g	-	8.0	0.120	Fig 4
CJ46-020	750680.813	2084565.547	4.5	6.5	Uranium-238	3.956	pCi/g	-	351.0	1.490	Fig 4
CJ46-020	750680.813	2084565.547	6.5	8.5	Americium-241	0.266	pCi/g	-	76.0	0.020	Fig 4
CJ46-020	*750680.813*	*2084565.547*	*6.5*	*8.5*	*Plutonium-239/240*	*1.515*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-020	750680.813	2084565.547	8.5	10.5	Manganese	1200.000	mg/kg	-	3480.0	901.620	Fig 4
CJ46-020	750680.813	2084565.547	8.5	10.5	Uranium-235	0.135	pCi/g	-	8.0	0.120	Fig 4
CJ46-021	750721.296	2084578.532	0.0	0.5	Americium-241	0.601	pCi/g	-	76.0	0.023	Fig 4
CJ46-021	750721.296	2084578.532	0.0	0.5	Chromium	17.000	mg/kg	-	268.0	16.990	Fig 4
CJ46-021	*750721.296*	*2084578.532*	*0.0*	*0.5*	*Plutonium-239/240*	*3.427*	*pCi/g*	-	*50.0*	*0.066*	*Fig 4*
CJ46-021	*750721.296*	*2084578.532*	*0.0*	*0.5*	*Uranium-234*	*4.706*	*pCi/g*	-	*300.0*	*2.253*	*Fig 4*
CJ46-021	750721.296	2084578.532	0.0	0.5	Uranium-235	0.168	pCi/g	-	8.0	0.094	Fig 4
CJ46-021	750721.296	2084578.532	0.0	0.5	Uranium-238	4.706	pCi/g	-	351.0	2.000	Fig 4
CJ46-021	750721.296	2084578.532	0.5	2.5	Americium-241	1.068	pCi/g	-	76.0	0.020	Fig 4
CJ46-021	*750721.296*	*2084578.532*	*0.5*	*2.5*	*Plutonium-239/240*	*6.088*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-021	750721.296	2084578.532	0.5	2.5	Uranium-235	0.131	pCi/g	-	8.0	0.120	Fig 4
CJ46-021	750721.296	2084578.532	2.5	4.5	Aluminum	43000.000	mg/kg	-	228000.0	35373.170	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-021	750721.296	2084578.532	2.5	4.5	Americium-241	1.580	pCi/g	-	76.0	0.020	Fig 4
CJ46-021	750721.296	2084578.532	2.5	4.5	Arsenic	17.000	mg/kg	-	22.2	13.140	Fig 4
CJ46-021	750721.296	2084578.532	2.5	4.5	Lithium	36.000	mg/kg	-	20400.0	34.660	Fig 4
CJ46-021	*750721.296*	*2084578.532*	*2.5*	*4.5*	*Plutonium-239/240*	*9.006*	*pCi/g*	-	*50.0*	*0.020*	*Fig 4*
CJ46-021	*750721.296*	*2084578.532*	*2.5*	*4.5*	*Uranium-234*	*4.846*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-021	750721.296	2084578.532	2.5	4.5	Uranium-235	0.357	pCi/g	-	8.0	0.120	Fig 4
CJ46-021	750721.296	2084578.532	2.5	4.5	Uranium-238	4.846	pCi/g	-	351.0	1.490	Fig 4
CJ46-021	750721.296	2084578.532	4.5	6.5	Aluminum	41000.000	mg/kg	-	228000.0	35373.170	Fig 4
CJ46-021	*750721.296*	*2084578.532*	*4.5*	*6.5*	*Uranium-234*	*5.165*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-021	750721.296	2084578.532	4.5	6.5	Uranium-235	0.293	pCi/g	-	8.0	0.120	Fig 4
CJ46-021	750721.296	2084578.532	4.5	6.5	Uranium-238	5.165	pCi/g	-	351.0	1.490	Fig 4
CJ46-021	*750721.296*	*2084578.532*	*6.5*	*8.5*	*Uranium-234*	*4.015*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-021	750721.296	2084578.532	6.5	8.5	Uranium-235	0.227	pCi/g	-	8.0	0.120	Fig 4
CJ46-021	750721.296	2084578.532	6.5	8.5	Uranium-238	4.015	pCi/g	-	351.0	1.490	Fig 4
CJ46-021	*750721.296*	*2084578.532*	*8.5*	*10.5*	*Uranium-234*	*4.320*	*pCi/g*	-	*300.0*	*2.640*	*Fig 4*
CJ46-021	750721.296	2084578.532	8.5	10.5	Uranium-235	0.193	pCi/g	-	8.0	0.120	Fig 4
CJ46-021	750721.296	2084578.532	8.5	10.5	Uranium-238	4.320	pCi/g	-	351.0	1.490	Fig 4
CJ46-051	750691.027	2084573.532	4.0	4.5	1,2,4-Trichlorobenzene	1.800	ug/kg	0.850	9230000.0	-	Fig 4
CJ46-051	750691.027	2084573.532	4.0	4.5	Acetone	40.000	ug/kg	5.500	102000000.0	-	Fig 4
CJ46-051	750691.027	2084573.532	4.0	4.5	Americium-241	1.240	pCi/g	-	76.0	0.020	Fig 4
CJ46-051	750691.027	2084573.532	4.0	4.5	Naphthalene	3.000	ug/kg	1.000	3090000.0	-	Fig 4
CJ46-051	750691.027	2084573.532	4.0	4.5	Plutonium-239/240	3.010	pCi/g	-	50.0	0.020	Fig 4
CJ46-052	750704.844	2084571.955	3.0	3.0	Acetone	50.000	ug/kg	5.100	102000000.0	-	Fig 4
CJ46-052	750704.844	2084571.955	3.0	3.0	Americium-241	1.550	pCi/g	-	76.0	0.020	Fig 4
CJ46-052	750704.844	2084571.955	3.0	3.0	Methylene chloride	1.100	ug/kg	0.890	2530000.0	-	Fig 4
CJ46-052	750704.844	2084571.955	3.0	3.0	Naphthalene	1.300	ug/kg	0.960	3090000.0	-	Fig 4
CJ46-052	750704.844	2084571.955	3.0	3.0	Plutonium-239/240	10.600	pCi/g	-	50.0	0.020	Fig 4
CJ46-053	750703.552	2084565.722	3.0	3.0	Acetone	24.000	ug/kg	5.200	102000000.0	-	Fig 4
CJ46-053	750703.552	2084565.722	3.0	3.0	Americium-241	1.110	pCi/g	-	76.0	0.020	Fig 4
CJ46-053	750703.552	2084565.722	3.0	3.0	Methylene chloride	1.300	ug/kg	0.900	2530000.0	-	Fig 4
CJ46-053	750703.552	2084565.722	3.0	3.0	Naphthalene	3.600	ug/kg	0.970	3090000.0	-	Fig 4
CJ46-053	750703.552	2084565.722	3.0	3.0	Plutonium-239/240	6.470	pCi/g	-	50.0	0.020	Fig 4
CJ46-053	750703.552	2084565.722	3.0	3.0	Uranium-235	0.135	pCi/g	-	8.0	0.120	Fig 4

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Unit	RL	WRW AL	Background	Figure Number
CJ46-054	750700.901	2084569.169	3.0	3.0	Acetone	11.000	ug/kg	5.900	102000000.0	-	Fig 4
CJ46-054	750700.901	2084569.169	3.0	3.0	Americium-241	2.900	pCi/g	-	76.0	0.020	Fig 4
CJ46-054	750700.901	2084569.169	3.0	3.0	Methylene chloride	2.200	ug/kg	1.000	2530000.0	-	Fig 4
CJ46-054	750700.901	2084569.169	3.0	3.0	Naphthalene	1.400	ug/kg	1.100	3090000.0	-	Fig 4
CJ46-054	750700.901	2084569.169	3.0	3.0	Plutonium-239/240	17.100	pCi/g	-	50.0	0.020	Fig 4
CJ46-055	750706.955	2084569.248	3.0	3.0	Acetone	8.900	ug/kg	4.900	102000000.0	-	Fig 4
CJ46-055	750706.955	2084569.248	3.0	3.0	Americium-241	0.484	pCi/g	-	76.0	0.020	Fig 4
CJ46-055	750706.955	2084569.248	3.0	3.0	Methylene chloride	1.100	ug/kg	0.850	2530000.0	-	Fig 4
CJ46-055	750706.955	2084569.248	3.0	3.0	Plutonium-239/240	3.410	pCi/g	-	50.0	0.020	Fig 4

NA – not applicable
SBD – Soil Begin Depth
SED – Soil End Depth
Bold denotes AL exceedance.
Italic type denotes values derived from HPGe measurement.

Table 4 IHSS Group 700-7 Surface Soil Data Summary Statistics

Analyte	Number Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
1,1,1-Trichloroethane	28	3.57%	5.880	5.880	NA	79700000	µg/kg
2-Butanone	28	3.57%	6.600	6.600	NA	192000000	µg/kg
Acenaphthene	10	10.00%	50.000	50.000	NA	40800000	µg/kg
Acetone	28	35.71%	301.070	2840.000	NA	102000000	µg/kg
Aluminum	71	46.48%	25181.818	41000.000	16902.000	228000	mg/kg
Americium-241	82	43.90%	7.594	117.600	0.023	76	pCi/g
Anthracene	10	30.00%	73.000	89.000	NA	204000000	µg/kg
Antimony	71	15.49%	1.144	2.200	0.470	409	mg/kg
Aroclor-1016	13	15.38%	2930.000	5400.000	NA	46400	µg/kg
Aroclor-1260	13	100.00%	105547.692	860000.000	NA	12400	µg/kg
Arsenic	71	9.86%	14.143	17.000	10.090	22.2	mg/kg
Barium	71	4.23%	223.333	300.000	141.260	26400	mg/kg
Benzo(a)anthracene	10	60.00%	122.667	250.000	NA	34900	µg/kg
Benzo(a)pyrene	10	20.00%	210.000	290.000	NA	3490	µg/kg
Benzo(b)fluoranthene	10	30.00%	165.000	250.000	NA	34900	µg/kg
Benzo(k)fluoranthene	10	10.00%	280.000	280.000	NA	349000	µg/kg
Beryllium	71	29.58%	1.304	2.100	0.966	921	mg/kg
bis(2-Ethylhexyl)phthalate	10	10.00%	360.000	360.000	NA	1970000	µg/kg
Cadmium	71	1.41%	1.700	1.700	1.612	962	mg/kg
Carbon Disulfide	28	3.57%	1.200	1.200	NA	15100000	µg/kg
Chromium	71	50.70%	27.500	210.000	16.990	268	mg/kg
Chrysene	10	60.00%	138.000	310.000	NA	3490000	µg/kg
Cobalt	71	11.27%	11.625	13.000	10.910	1550	mg/kg
Copper	71	23.94%	31.941	64.000	18.060	40900	mg/kg
Ethylbenzene	28	3.57%	23.100	23.100	NA	4250000	µg/kg
Fluoranthene	10	60.00%	269.000	570.000	NA	27200000	µg/kg
Indeno(1,2,3-cd)pyrene	10	20.00%	131.000	200.000	NA	34900	µg/kg
Iron	71	21.13%	24400.000	51000.000	18037.000	307000	mg/kg
Lead	71	2.82%	235.000	360.000	54.620	1000	mg/kg
Lithium	71	53.52%	22.842	180.000	11.550	20400	mg/kg
Manganese	71	7.04%	538.000	740.000	365.080	3480	mg/kg
Mercury	70	10.00%	0.244	0.590	0.134	25200	mg/kg
Methylene chloride	28	7.14%	1.500	1.700	NA	2530000	µg/kg
Naphthalene	32	15.63%	50.302	239.000	NA	3090000	µg/kg
Nickel	71	49.30%	21.686	94.000	14.910	20400	mg/kg
Plutonium-239/240	82	50.00%	35.285	670.320	0.066	50	pCi/g
Pyrene	10	30.00%	383.333	490.000	NA	22100000	µg/kg
Strontium	71	22.54%	84.563	200.000	48.940	613000	mg/kg
Tetrachloroethene	28	3.57%	7.900	7.900	NA	615000	µg/kg
Tin	71	2.82%	3.800	4.100	2.900	613000	mg/kg

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Analyte	Number Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
Trichloroethene	28	3.57%	2.400	2.400	NA	19600	µg/kg
Uranium-234	82	31.71%	4.180	5.691	2.253	300	pCi/g
Uranium-235	82	54.88%	0.198	0.318	0.094	8	pCi/g
Uranium-238	82	36.59%	3.908	5.691	2.000	351	pCi/g
Vanadium	71	23.94%	57.294	73.000	45.590	7150	mg/kg
Xylene	28	3.57%	115.000	115.000	NA	2040000	µg/kg
Zinc	71	23.94%	151.176	380.000	73.760	307000	mg/kg

Table 5 IHSS Group 700-7 Subsurface Soil Data Summary Statistics

Analyte	Number Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
1,2,4-Trichlorobenzene	187	1.07%	1.650	1.800	NA	9230000	µg/kg
2-Butanone	187	1.60%	7.133	9.100	NA	192000000	µg/kg
Acetone	187	16.04%	17.120	56.000	NA	102000000	µg/kg
Aluminum	183	6.01%	46272.727	62000.000	35373.170	228000	mg/kg
Americium-241	228	35.09%	5.091	75.500	0.020	76	pCi/g
Anthracene	31	3.23%	48.000	48.000	NA	204000000	µg/kg
Aroclor-1016	27	44.44%	175.417	460.000	NA	46400	µg/kg
Aroclor-1260	27	96.30%	15827.308	94000.000	NA	12400	µg/kg
Arsenic	183	7.65%	18.643	25.000	13.140	22.2	mg/kg
Barium	183	0.55%	290.000	290.000	289.380	26400	mg/kg
Benzo(a)anthracene	31	22.58%	61.143	90.000	NA	34900	µg/kg
Benzo(a)pyrene	31	6.45%	49.500	51.000	NA	3490	µg/kg
Benzo(b)fluoranthene	31	6.45%	60.500	81.000	NA	34900	µg/kg
Benzo(k)fluoranthene	31	3.23%	54.000	54.000	NA	349000	µg/kg
bis(2-Ethylhexyl)phthalate	31	3.23%	160.000	160.000	NA	1970000	µg/kg
Cadmium	183	0.55%	2.300	2.300	1.700	962	mg/kg
Chrysene	31	19.35%	70.000	96.000	NA	3490000	µg/kg
Copper	183	1.09%	73.500	94.000	38.210	40900	mg/kg
Di-n-butylphthalate	31	3.23%	530.000	530.000	NA	73700000	µg/kg
Ethylbenzene	187	1.07%	4.350	6.800	NA	4250000	µg/kg
Fluoranthene	31	22.58%	117.000	170.000	NA	27200000	µg/kg
Iron	183	1.09%	44500.000	45000.000	41046.520	307000	mg/kg
Lead	183	1.64%	27.333	31.000	24.970	1000	mg/kg
Lithium	183	3.28%	45.500	64.000	34.660	20400	mg/kg
Manganese	183	2.19%	1325.000	1600.000	901.620	3480	mg/kg
Methylene chloride	187	9.09%	1.612	2.500	NA	2530000	µg/kg
Naphthalene	187	9.09%	15.571	90.100	NA	3090000	µg/kg
Plutonium-239/240	228	41.67%	23.313	527.000	0.020	50	pCi/g

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Analyte	Number Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
Pyrene	31	6.45%	145.000	150.000	NA	22100000	µg/kg
Tetrachloroethene	187	3.21%	1.617	2.800	NA	615000	µg/kg
Toluene	187	2.67%	9.156	26.300	NA	31300000	µg/kg
Trichloroethene	187	2.14%	12.588	28.900	NA	19600	µg/kg
Uranium, Total	175	1.71%	4.233	5.900	3.040	2750	mg/kg
Uranium-234	228	32.89%	4.275	7.946	2.640	300	pCi/g
Uranium-235	228	51.32%	0.217	0.630	0.120	8	pCi/g
Uranium-238	228	47.81%	3.485	7.946	1.490	351	pCi/g
Vanadium	183	2.19%	106.250	120.000	88.490	7150	mg/kg
Xylene	187	3.21%	29.000	81.000	NA	2040000	µg/kg
Zinc	183	4.37%	205.000	490.000	139.100	307000	mg/kg

- Arsenic concentrations exceeded the WRW AL [22.2 milligrams per kilogram (mg/kg)] at 2 subsurface locations (CI45-012 and CI46-001). The concentrations greater than the AL were 24 and 25 mg/kg, respectively.

Elevated Pu-239/240 and Am-241 activities and PCB concentrations resulted in soil removal (Section 3.1.3) and subsequent confirmation sampling (Section 4.0). Elevated arsenic concentrations did not require soil removal based on the SSRS (Section 6.0).

2.9 Sums of Ratios

RFCA sums of ratios (SORs) were calculated for the IHSS Group 700-7 sampling locations based on the accelerated action analytical data for the contaminants of concern (COCs) and the WRW Als. Surface soil (0 – 3 feet) SORs were calculated for the radionuclides of concern (Am-241, Pu-239/240, and U-234, U-235, and U-238), and surface soil (0 – 0.5 feet) SORs were calculated for the non-radionuclides of concern (metals, volatile organic compounds [VOCs] and semivolatile organic compounds [SVOCs] excluding arsenic, aluminum, iron, manganese, and polynuclear aromatic hydrocarbons). Subsurface non-radionuclide soil concentrations are evaluated as part of the SSRS in Section 6.0.

SORs for radionuclides were calculated for all locations with analytical results greater than background means plus two standard deviations. Pu-239/240 activities are derived from Am-241 activities when Am-241 is measured using HPGe detection analysis. SORs for radionuclides, within the first three feet below grade, are presented in Table 6. As shown, SORs for radionuclides in surface soil are greater than 1 at 5 sampling intervals. These intervals had radionuclide activities greater than the WRW ALs, however, all 5 intervals were remediated (refer to Sections 3.0 and 4.0) and are no longer representative (refer to Section 12.0).

SORs for non-radionuclides were calculated for all surface locations where analyte concentrations were 10 percent or more of a contaminant's WRW AL. SORs for non-

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radionuclides are presented in Table 7. As shown, SORs for non-radionuclides in surface soil were greater than 1 at 5 locations. These locations had PCB concentrations greater than the WRW AL, however, all 5 locations were remediated (refer to Sections 3.0 and 4.0) and are no longer representative (refer to Section 12.0).

Table 6
RFCA Sums of Ratios Based on Characterization Sampling, Surface and Subsurface Radionuclide Soil Concentrations

Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	SOR
CH45-013	750529.400	2084314.622	0	0.5	0.007
CH45-017	750438.430	2084296.180	0.2	0.7	0.043
CH45-029	750501.451	2084268.560	0	0.5	0.015
CH45-029	750501.451	2084268.560	0.5	1.1	0.046
CH45-031	750497.111	2084332.796	0	0.5	0.023
CH45-031	750497.111	2084332.796	0.5	1.8	0.073
CH45-031	750497.111	2084332.796	2.5	3.5	0.056
CH45-057	750523.664	2084240.317	0	0.5	0.017
CH45-057	750523.664	2084240.317	0.5	2	0.060
CH45-058	750523.443	2084251.827	0	0.5	0.047
CH45-058	750523.443	2084251.827	0.5	2	0.020
CH45-059	750522.979	2084300.988	0	0.5	0.097
CH45-059	750522.979	2084300.988	0.5	1	0.059
CH45-060	750520.868	2084310.734	0.5	1	0.016
CH45-066	750496.715	2084311.994	0	0.5	0.002
CH45-066	750496.715	2084311.994	0.5	1	0.070
CH45-066	750496.715	2084311.994	2.5	3.5	0.073
CH45-067	750480.854	2084285.799	0	0.5	0.045
CH45-067	750480.854	2084285.799	0.5	2.5	0.049
CH45-067	750480.854	2084285.799	2.5	3.5	0.017
CH45-094	750569.101	2084329.847	0	0.5	7.326
CH45-094	750569.101	2084329.847	0.5	1	1.666
CH45-112	750517.469	2084291.831	0	0.5	3.292
CH45-113	750516.062	2084311.592	0	0.5	0.044
CH45-114	750481.502	2084310.049	0	0.5	0.045
CH45-114	750481.502	2084310.049	0.5	1	0.070
CH45-115	750480.551	2084288.688	0	0.5	0.021
CH46-019	750583.620	2084325.400	0	0.5	0.003
CH46-028	750664.451	2084289.401	0.3	0.8	0.016
CH46-029	750700.242	2084293.647	0.5	1	0.097
CH46-030	750678.530	2084321.763	0.5	1	0.070
CH46-031	750714.536	2084326.652	0.1	0.6	0.050
CH46-054	750622.108	2084224.277	0.5	2.5	0.022
CH46-055	750609.945	2084288.585	0.5	2.5	0.040
CI45-000	750531.113	2084389.565	0	0.5	0.046
CI45-000	750531.113	2084389.565	0.5	2	0.298

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Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	SOR
CI45-001	750535.946	2084395.442	0	0.5	0.064
CI45-001	750535.946	2084395.442	0.5	2.5	0.060
CI45-002	750527.143	2084389.716	0.5	1.5	0.064
CI45-003	750537.033	2084404.615	0.5	1.5	0.058
CI45-003	750537.033	2084404.615	2.5	3.5	0.052
CI45-004	750528.409	2084405.014	0	0.5	0.057
CI45-004	750528.409	2084405.014	0.5	1.5	0.260
CI45-004	750528.409	2084405.014	2.5	3.5	0.018
CI45-005	750532.574	2084407.430	0	0.5	0.052
CI45-005	750532.574	2084407.430	0.5	1.5	0.051
CI45-007	750436.196	2084381.118	0.3	0.8	0.030
CI45-012	750494.062	2084394.873	0	0.5	0.057
CI45-012	750494.062	2084394.873	0.5	2.5	0.022
CI45-013	750456.802	2084516.200	0	0.5	0.005
CI45-013	750456.802	2084516.200	0.5	1	0.010
CI45-014	750492.540	2084520.357	0	0.5	0.023
CI45-015	750528.237	2084524.614	0	0.5	0.032
CI45-020	750533.736	2084400.487	0	0.5	0.097
CI45-020	750533.736	2084400.487	0.5	2.5	0.072
CI45-021	750543.731	2084400.565	1.5	2.5	0.026
CI46-005	750583.210	2084352.800	2.4	2.9	0.052
CI46-007	750657.181	2084351.322	0.3	0.8	0.063
CI46-008	750687.640	2084356.495	0.1	0.6	0.055
CI46-009	750671.541	2084384.413	0.3	0.8	0.056
CI46-010	750714.914	2084387.386	0	0.5	0.047
CI46-012	750650.038	2084413.281	0	0.5	0.007
CI46-013	750685.766	2084417.398	1.1	1.6	2.760
CI46-014	750721.512	2084421.642	0	0.5	0.289
CI46-014	750721.512	2084421.642	0.5	2.5	3.181
CI46-015	750628.552	2084442.130	0	0.5	0.044
CI46-015	750628.552	2084442.130	1.5	2.5	0.039
CI46-016	750664.251	2084446.312	0	0.5	0.018
CI46-017	750700.017	2084450.498	1	1.5	0.117
CI46-018	750642.815	2084475.190	0	0.5	0.017
CI46-019	750678.512	2084479.367	0	0.5	0.114
CI46-019	750678.512	2084479.367	0.5	2.5	0.369
CI46-020	750717.157	2084483.516	0.6	1.1	0.020
CI46-021	750621.309	2084504.033	0	0.5	0.055
CI46-023	750692.769	2084512.455	0	0.5	0.052
CI46-024	750565.598	2084535.150	0	0.5	0.099
CI46-024	750565.598	2084535.150	0.5	2.5	0.101
CI46-025	750599.788	2084532.947	0	0.5	0.029
CI46-026	750611.255	2084473.876	0	0.5	0.119
CI46-027	750598.382	2084386.162	0.5	1.5	0.048

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Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	SOR
CI46-028	750586.357	2084432.145	0.5	2	0.159
CI46-029	750574.124	2084477.141	2	2.5	0.620
CI46-040	750633.348	2084344.133	0.5	2.5	0.023
CJ45-010	750544.089	2084571.792	0.5	2.5	0.127
CJ45-011	750545.108	2084541.426	2	4	0.022
CJ45-012	750431.787	2084543.841	0	0.5	0.011
CJ45-012	750431.787	2084543.841	0.5	1.5	0.005
CJ45-013	750470.975	2084549.272	0.5	1.5	0.018
CJ45-014	750506.717	2084553.522	0	0.5	0.037
CJ45-017	750485.307	2084582.249	0	0.5	0.027
CJ45-018	750521.004	2084586.504	0	0.5	0.082
CJ45-019	750556.782	2084590.686	0	0.5	0.072
CJ45-020	750414.670	2084573.224	0	0.5	0.022
CJ46-005	750700.154	2084569.404	2.5	3.5	0.141
CJ46-010	750578.752	2084554.948	0.5	1.5	0.256
CJ46-010	750578.752	2084554.948	2.5	3.5	0.214
CJ46-011	750577.162	2084582.610	0.5	2.5	0.115
CJ46-014	750635.594	2084539.159	0	0.5	0.095
CJ46-014	750635.594	2084539.159	0.5	2.5	0.134
CJ46-015	750671.272	2084541.272	0	0.5	0.221
CJ46-015	750671.272	2084541.272	0.5	2.5	0.185
CJ46-016	750702.256	2084543.985	0	0.5	0.039
CJ46-016	750702.256	2084543.985	0.5	2.5	0.049
CJ46-018	750613.539	2084569.611	0	0.5	0.120
CJ46-018	750613.539	2084569.611	0.5	2.5	0.031
CJ46-019	750649.794	2084570.220	0	0.5	0.026
CJ46-019	750649.794	2084570.220	0.5	2.5	0.052
CJ46-020	750680.813	2084565.547	0	0.5	0.085
CJ46-020	750680.813	2084565.547	0.5	2.5	0.138
CJ46-021	750721.296	2084578.532	0	0.5	0.088
CJ46-021	750721.296	2084578.532	0.5	2.5	0.083

Table 7
RFCA Sums of Ratios Based on Characterization Sampling, Surface Non-Radionuclide Concentrations

Location Code	Surface Soil SOR
CH45-057	0.108
CH45-058	0.123
CH45-095	0.360
CH46-019	0.116
CI45-000	1.290
CI45-001	23.387
CI45-002	0.153

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Location Code	Surface Soil SOR
CI45-003	12.097
CI45-004	0.516
CI45-005	2.661
CI45-012	0.119
CI45-014	0.229
CI45-020	69.471
CI45-021	0.177
CI46-014	0.112
CJ45-013	0.784
CJ46-015	0.108

3.0 ACCELERATED ACTION

Remedial action objectives (RAOs) were developed and described in ER RSOP Notification #03-10 (DOE 2003c). ER RSOP RAOs include the following:

1. Provide a remedy consistent with the RFETS goal of protection of human health and the environment;

2. Provide a remedy that minimizes the need for long-term maintenance and institutional or engineering controls; and

3. Minimize the spread of contaminants during implementation of accelerated actions.

The accelerated action remediation goals for IHSS Group 700-7 are listed below.

- Remove all remaining building (779, 780, 780B, 782, 783, 727, 784, 785, 786 and 787) slabs and equipment pads, as well as the footer walls, process waste trenches, and non-basement pits within and under the Building 779 slab.

- Remove all Building 779 subsurface components, including structural upgrade foundations and basement walls, down to at least 3 feet below grade.

- Fill the remaining portion of the Building 779 basement, the Building 779 sub-basement pits, and the Building 782 tunnel/utility corridor and pit with flowable-fill concrete.

- Dispose of the Building 779 slab sections and subsurface components that exceed DOE free-release criteria as low-level radioactive (LLW) or low-level mixed waste (LLMW). Other debris will be recycled in accordance with the RSOP for Recycling Concrete (DOE 2003d) or disposed of at an appropriate facility based on waste characterization results.

- Remove OPWL within 3 feet of the final grade in accordance with the RSOP for Facility Disposition (DOE 2004a) and RFCA Attachment 14 (DOE et al 2003). Soil with contaminant concentrations greater than RFCA soil WRW Als for Pu-239/240 and Am-241 resulting from any leaks from OPWL within 3 feet of the ground surface

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will be removed to a depth of 3 feet in accordance with RFCA Attachment 14 (DOE et al 2003).

- Remove sanitary lines, the foundation drain line, and water lines to at least 3 feet below grade. Disrupt remaining drains to prevent their operation and the associated collection and movement of groundwater from this site.
- Remove the two diesel USTs.
- Remove the three transformer pads and associated trough within PAC 700-1105.
- Remove soil with non-radionuclide or uranium contaminant concentrations greater than the RFCA WRW Als to a depth of 6 inches. If soil contamination greater than the Als extends below 6 inches in depth, perform a SSRS to evaluate the need for soil removal.
- Remove soil with Pu-239/240 or Am-241 activities greater than the RFCA WRW Als to a depth of 3 feet, or to less than the applicable AL, whichever comes first. If activities are greater than 3 nanocuries per gram (nCi/g) between 3 and 6 feet, characterize and remediate in accordance with RFCA Attachment 5 (DOE et al 2003). If Pu-239/240 or Am-241 is present at an activity greater than the RFCA WRW AL but less than 3 nCi/g below 3 feet, conduct a SSRS.
- If contaminated soil is removed, collect confirmation soil samples in accordance with the IASAP (DOE 2001).

Accelerated action activities were conducted between September 30, 2003, and August 18, 2004. Start and end dates of significant activities are listed in Table 8. Key components removed during the accelerated action and remaining after the action are shown on Figure 8. Photographs of site activities are provided in Appendix B.

Table 8
Dates of Accelerated Action Activities

Activity	Start Date	End Date	Duration
Characterization Sampling	09/30/03	08/18/04	10.5 months
Removal Activities	01/06/04	08/17/04	7.5 months
Backfill Excavations	01/26/04	08/17/04	6.5 months
Site Reclamation	05/27/04	Pending 700-3 Completion	

3.1 Removal Activities

All accelerated action objectives were achieved. Removal activities are described below. Related solid waste and wastewater management is summarized in Section 10.0.

3.1.1 Building Slabs, Pits, Sump, and Underground Utilities

The Building 779 slab (100 percent) was removed, as well as footer walls and the spread footers located under the walls. Some of the 12 structural upgrade foundations (highly reinforced and thickened portions of the slab [4-6 ft thick]) were either completely or

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partially removed (to 3 feet below final grade). Other Building 779 components removed include the east dock, waste trenches, a recirculation system sump near the trenches, several floor sinks, the plenum deluge drain pit, the pump pit, the two elevator pits, a sump near the west elevator pit, and the top 4 feet of the basement walls. Building 779 utilities encountered within 4 feet from the ground surface, including gas, electrical, and water lines, were also removed, as well as retrievable basement and sub-basement ladders, grates, piping, pumps, and other non-concrete equipment. The 3 fire-risers for the building fire suppression system were cut off 4 feet below grade and grouted. Excavators were used to break up and remove most of the items. Saws were used to cut up the radioactively contaminated section of the Building 779 slab (into 4 x 4 feet squares), and cranes were used to remove those squares. The Building 779 Contamination Area (CA) is shown in Figure 8, as well as all major items removed and remaining within the IHSS Group.

Items removed outside the Building 779 footprint, include the following:

- Concrete slabs for Buildings 727, 780, 780B, 782, 783, 784, 785, 786 and 787;
- The Building 783 valve pits;
- Three concrete pads that held electricial transformers and the associated trough;
- Two diesel USTs;
- Building 782 water and other utility lines within 4 feet from current grade;
- Electrical utility manhole beneath the road east of the Building 779 slab; and
- Asphalt east and south of the Building 779 slab.

Items remaining below grade include the following:

- The some of the Building 779 structural upgrade foundations (intact or lower portions directly west and northwest of the slab);
- All caissons supporting the structural upgrade foundations (steel-lined concrete columns ranging from 12 to 30 feet in height);

The caissons supporting the two elevator pits;

- The lower portion of the Building 779 basement and an associated footer wall that supported the basement staircase (both at least 4 feet below current grade);
- The Building 779 sub-basement, including the basement slab, the sub-basement pits, 3 out of the 4 ladders, and the equipment stand; and
- The Building 782 tunnel and pit.

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The concrete items remaining below grade were surveyed and found to be free of removable and fixed contamination, with the exception of 1 or 2 of the Building 779 sub-basement pits (see below).

The Building 779 basement and sub-basement were sampled for beryllium contamination and surveyed for radiological contamination (refer to Regulatory Contact Record dated 05/05/04 in Appendix A). Beryllium and radiological survey results are presented in Appendix C. Initial beryllium sampling results indicated some beryllium contamination (greater than the 0.2 microgram per 100 square centimeters [$\mu g/100\ cm^2$] free-release criterion), but after the contaminated areas were decontaminated, all subsequent samples were less than 0.2 $\mu g/100\ cm^2$.

Radiological surveys indicated that the basement was free from removable and fixed contamination. Removable contamination was found at one location within the sub-basement, but was removed when the area was cleaned. Fixed contamination was found in three of the sub-basement pits (southeastern, northwestern and southwestern), however, contamination was not found in the northwestern pit when the pits were re-surveyed, indicating that the initial contamination was attributable to radon. The southwestern pit could not be re-surveyed because of excessive water. The initial activity in the southeastern pit was 304 dpm/100 cm^2 alpha, and the subsequent activity was 804 dpm/100 cm^2 alpha. The area of fixed contamination in the southeastern pit is approximately 3 feet by 4 feet, 18 feet below current grade and 21 feet below final grade.

The Building 779 basement and sub-basement and the Building 782 tunnel and pit were filled with flowable fill concrete to prevent area subsidence in the future, prevent groundwater intrusion, and/or immobilize any fixed contamination in the Building 779 sub-basement pits. The upper 5 feet of the 782 tunnel, including the overpass, was nibbled down in small pieces with an excavator and allowed to fall into the tunnel as debris before the flowable-fill concrete was added. Metal grates, ladders and angle iron were removed prior to the demolition. The three ladders and equipment stand remaining in the Building 779 sub-basement were not retrievable and were covered by the flowable-fill concrete. Any resulting void spaces should be insignificant.

3.1.2 Process Waste Lines and Other Drains

All process waste lines under the Building 779 slab, including OPWL and drains leading to the OPWL, were tapped, drained, cut up, bagged and placed in waste containers. Most line sections were disposed of as LLW. Some were disposed of as LLMW based on the metal and solvent content detected in the line sludge or the lead rings around the lines. The ends of the two remaining OPWLs at the western edge of the building slab (where the Building 779 lines were cut off from the rest of the OPWL system; Figure 8) were filled with grout (approximately 2 feet into the line). The coordinates for that point are as follows: Northing – 750528 and Easting – 2084205.

OPWL P-36, P-37, P-38 and P-42 are at least 4 feet below grade and will not be removed. The ends of the OPWLs have been exposed, and were disrupted, drained and grouted under the IHSS Group 000- 2 project. One small section of P-36 near the Building 784 slab was damaged and was removed. Removed debris was disposed of as LLW.

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Sanitary lines under Building 779 and elsewhere within the IHSS Group were removed within 4 feet of grade, most as sanitary waste. Only two sanitary line sections remain under Building 779 (approximately 50 feet at 3 feet below existing grade; Figure 8). Also, the line section south of the slab remains. However, the associated manhole was removed down to 4 feet below current grade, and the remaining portion was capped and grouted (Figure 8). One section of line under the Building 779 slab had removable and fixed contamination and was removed as LLW. All remaining line sections were disrupted and grouted to prevent their operation and the associated collection and movement of groundwater from the IHSS Group.

The foundation drain line that ran along the northern side of Building 779 (the only one encountered) was also removed. The majority of this line was made of Transite and therefore was managed and disposed of as asbestos waste.

Building 782 plenum drain lines had low levels of internal radiological contamination and asbestos containing material (ACM). The ACM was removed and disposed of as asbestos waste. The pipe was drained, cut and placed into intermodal containers as LLW.

Storm drains were not altered or removed as part of this project, but will be addressed as part of the Sitewide storm drain removal.

3.1.3 Soil Removal and Site Reclamation

Soil within the IHSS Group was sampled, and based on the analytical results (Section 2.8), was removed in accordance with RFCA and the ER RSOP. Soil removal actions include the following:

- Removed 2 to 7 feet of radiologically contaminated soil (more than 150 cubic yards [cy]) from under the Building 779 CA (an area approximately 30 feet x 30 feet, impacted by the release from Room 131/133). More soil was removed from the eastern side of the CA than from the western side. This soil was managed as LLW.

- Removed approximately 5 cy of radiologically contaminated soil around a section of OPWL north of the Building 779 CA that was broken during the accelerated action (under the slab at Sampling Location CH46-059). Only a small amount of fluid was released. The soil under the release was removed and managed as LLW.

- Removed approximately 12 cy of radiologically contaminated soil around the section of OPWL that was broken near the Building 784 slab (Sampling Location CJ46-005) during the accelerated action. The depth of the excavation was approximately 3.5 feet. The soil was managed as LLW.

- Removed approximately 81 cy of PCB-contaminated soil around and under the PCB transformer pads. The depth of the excavation was approximately 5 to 6 feet and covered an area approximately 20 feet x 20 feet. The soil was disposed of as low level radioactive Toxic Substance Control Act (TSCA) waste.

- Approximately 12 cy of radiologically contaminated soil was removed around three "hot spots" detected in the area of the former Auxiliary Pond 2 (at Sampling

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Locations CI46-013, CI46-014 and CI46-029). The approximate depths of the excavations were 2.5 feet at Sampling Locations CI46-013, 3.5 feet at Sampling Location CI46-014, and 3.5 feet at Sampling Location CI46-029. The soil was disposed of as LLW.

For sites with radiological contamination, the extent of soil removal was based on gamma spectroscopy results. For the Building 779 CA, the area was divided into 312 4 x 4 feet squares (cells), and at least one in-process sample was collected from each cell and analyzed using HPGe. Remediation was conducted when Pu-239/240 results, derived from Am-241 activities, indicated activities greater than the Pu-239/240 WRW AL. Following excavation of contaminated soil, additional sampling and HPGe analysis was conducted. When gamma spectroscopy results indicated that sufficient soil had been removed from the CA, seven confirmation samples were collected for off-site laboratory alpha spectroscopy analysis. Details on sampling and analyzing CA soils are provided in a Regulatory Contact Record dated July 21, 2004, which is presented in Appendix A. Confirmation sampling and analysis specifications are presented in Table 1, and analytical results are presented in Section 4.0.

For the three "hot spots", soil samples from the bottom of each excavation were collected (from each corner) and analyzed using HPGe. The sample with the highest radioactivity from each excavation was sent off-site for alpha spectroscopy analysis as the confirmation sample. Soil around Sampling Location CJ46-005 was removed because of the OPWL break (Section 3.1.3) and elevated Pu-239/240 activity (82.9 pCi/g derived from Am-241 gamma activity at 2.5 - 3.5 feet). However, Pu-239/240 activity at this sampling location based on subsequent alpha spectroscopy analysis did not exceed the Pu-239/240 WRW AL (Table 3). The removal of the "hot spot" at Sampling Location CI46-014 required three excavations, which is explained in four Regulatory Contact Records, dated July 29, August 2, August 11, and August 17, 2004 (Appendix A).

Removal of PCB-contaminated soil at four locations around the transformers required two rounds of soil removal. Grab samples were taken at the bottom of the initial excavations (5.0 – 5.3 feet below grade), and analytical results indicated that PCB soil concentrations were still greater than the WRW AL (refer to the in-process soil characterization results presented in Table 9). Results greater than RLs are shown in Table 9, and WRW AL exceedances are shown in bold. An additional foot of soil was then removed from each location, and the bottom of each subsequent excavation was sampled. Analytical results from confirmation samples are presented in Section 4.0.

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Table 9
IHSS Group 700-7 In-Process Soil Characterization Results

Location Code	Start Depth (ft)	End Depth (ft)	Analyte	Result	Unit	RL	WRW AL
CI45-003	5.0	5.3	Aroclor-1016	460.0	ug/kg	11.0	46400.0
CI45-003	**5.0**	**5.3**	**Aroclor-1260**	**55000.0**	**ug/kg**	**1300.0**	**12400.0**
CI45-004	5.0	5.3	Aroclor-1016	300.0	ug/kg	2.1	46400.0
CI45-004	**5.0**	**5.3**	**Aroclor-1260**	**68000.0**	**ug/kg**	**1300.0**	**12400.0**
CI45-005	5.0	5.3	Aroclor-1016	290.0	ug/kg	2.0	46400.0
CI45-005	**5.0**	**5.3**	**Aroclor-1260**	**53000.0**	**ug/kg**	**1200.0**	**12400.0**
CI45-020	5.0	5.3	Aroclor-1016	320.0	ug/kg	2.0	46400.0
CI45-020	**5.0**	**5.3**	**Aroclor-1260**	**94000.0**	**ug/kg**	**3100.0**	**12400.0**

Specifications for this in-process sampling are presented in Table 1 and included in the summary sampling and analysis table (Table 2). In-process PCB data, retrieved from the RFETS Soil Water Database (SWD) on September 7, 2004, are included on the enclosed CD.

All excavations associated with the removal of building components, utilities, and contaminated soil were backfilled. The entire area was then rough graded (Section 11.0). Documentation regarding approval to backfill is provided in ER Regulatory Contact Records provided in Appendix A. Approximately 2,500 cy of clean fill was brought to the project site from the Building 130 pile and the southern side of Building 551. Additional fill will be brought in to bring the area to final grade and to ensure that all remaining structural features (i.e., the remaining structural upgrade foundations and the Building 782 tunnel) are at least three feet below final grade. This final grading and subsequent seeding will occur after the IHSS Group 700-3 accelerated action project is completed (by the end of 3rd quarter of FY 05).

4.0 CONFIRMATION SAMPLING

Based on characterization results (Section 2.8), soil removal and subsequent confirmation sampling were necessary. Soil removal activities are summarized in Section 3.1.3. Confirmation sampling was required to demonstrate that all residual contaminant concentrations in soil are below the WRW Als or are acceptable based on the SSRS. Sampling and analysis was conducted in accordance with the IASAP (DOE 2001). Specifications for confirmation sampling are presented in Table 1 and included in the summary of sampling and analysis (Table 2) and the summary statistics (Tables 4 and 5). Results are presented in Table 10 and shown on Figure 9. Only results greater than background means plus two standard deviations or RLs are shown. WRW AL exceedances are shown in Table 10 in bold and in red on Figure 9. All project data, retrieved from SWD on September 7, 2004, are provided on the enclosed CD.

The removal of the "hot spot" at Sampling Location CI46-014 required three excavations, which is explained in four Regulatory Contact Records, dated July 29, August 2, August 11, and August 17, 2004 (Appendix A). Therefore, there are three confirmation sampling locations for the "hot spot", as indicated in Table 1. The first two (CI46-042 and

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CI46-044) do not represent the final "hot spot" removal excavation and provide additional area characterization information. The third (CI46-046) truly represents the final "hot spot" removal excavation. As explained in Section 3.1.3, this location represents the excavation corner with highest gamma spectroscopy result, and the confirmation sample was sent off site for alpha spectroscopy analysis.

All contaminant concentrations are below the WRW Als, with eight exceptions.

- The Pu-239/240 activity at Sampling Location CH45-103 (Cell H8 within the Building 779 CA), at 2.0 – 2.3 feet, was 78.5 pCi/g, and the WRW AL is 50 pCi/g. However, additional soil at this location was removed to below 3 feet from the ground surface, and the subsequent gamma analysis of soil from the bottom of the excavation indicated no radioactivity. The sampling interval at 2.0 – 2.3 feet is NLR. In addition, sampling results from adjacent locations (CH45-101, CH45-102 and CH45-104) (Figure 9 and Table 10) indicate that Pu-239/240 activities in the area are below the WRW AL.

- The Pu-239/240 activity at Sampling Location CH45-106 (Cell J9 within the Building 779 CA), at 5.0 – 5.5 feet, was 87 pCi/g, and the WRW AL is 50 pCi/g. However, the activity is less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional removal is not required (RFCA Attachment 5, DOE et al. 2003).

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Table 10
IHSS Group 700-7 Confirmation Soil Sampling Data

Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	Analyte	Result	Unit	RL	WRW AL	Background
CH45-101	750511.920	2084266.037	2.0	2.3	Americium-241	1.140	pCi/g	-	76.0	0.020
CH45-101	750511.920	2084266.037	2.0	2.3	Plutonium-239/240	1.020	pCi/g	-	50.0	0.020
CH45-102	750514.123	2084267.878	2.0	2.3	Americium-241	0.940	pCi/g	-	76.0	0.020
CH45-102	750514.123	2084267.878	2.0	2.3	Plutonium-239/240	3.020	pCi/g	-	50.0	0.020
CH45-103	750511.980	2084269.361	2.0	2.3	Americium-241	17.700	pCi/g	-	76.0	0.020
CH45-103	**750511.980**	**2084269.361**	**2.0**	**2.3**	**Plutonium-239/240**	**78.500**	**pCi/g**	**-**	**50.0**	**0.020**
CH45-104	750510.357	2084272.277	2.0	2.3	Americium-241	1.170	pCi/g	-	76.0	0.020
CH45-104	750510.357	2084272.277	2.0	2.3	Plutonium-239/240	4.460	pCi/g	-	50.0	0.020
CH45-105	750523.892	2084299.694	5.0	5.5	Americium-241	0.443	pCi/g	-	76.0	0.020
CH45-105	750523.892	2084299.694	5.0	5.5	Plutonium-239/240	2.280	pCi/g	-	50.0	0.020
CH45-106	750512.096	2084301.182	5.0	5.5	Americium-241	35.200	pCi/g	-	76.0	0.020
CH45-106	**750512.096**	**2084301.182**	**5.0**	**5.5**	**Plutonium-239/240**	**87.000**	**pCi/g**	**-**	**50.0**	**0.020**
CH45-107	750506.277	2084300.890	7.0	7.5	Americium-241	13.800	pCi/g	-	76.0	0.020
CH45-107	750506.277	2084300.890	7.0	7.5	Plutonium-239/240	40.300	pCi/g	-	50.0	0.020
CH45-108	750518.569	2084299.581	7.0	7.5	Americium-241	0.309	pCi/g	-	76.0	0.020
CH45-108	750518.569	2084299.581	7.0	7.5	Plutonium-239/240	0.461	pCi/g	-	50.0	0.020
CH45-111	750569.101	2084329.847	3.0	3.5	Naphthalene	12.000	ug/kg	1.000	3090000.0	-
CH45-146	750524.848	2084286.306	5.0	5.5	Americium-241	33.900	pCi/g	-	76.0	0.020
CH45-146	**750524.848**	**2084286.306**	**5.0**	**5.5**	**Plutonium-239/240**	**79.600**	**pCi/g**	**-**	**50.0**	**0.020**
CH45-147	750503.284	2084278.126	4.0	4.5	Americium-241	30.800	pCi/g	-	76.0	0.020
CH45-147	**750503.284**	**2084278.126**	**4.0**	**4.5**	**Plutonium-239/240**	**59.300**	**pCi/g**	**-**	**50.0**	**0.020**
CI45-000	750531.113	2084389.565	5.0	5.3	Aroclor-1016	45.000	ug/kg	2.000	46400.0	-
CI45-000	750531.113	2084389.565	5.0	5.3	Aroclor-1260	9800.000	ug/kg	310.000	12400.0	-
CI45-001	750535.946	2084395.442	5.0	5.3	Aroclor-1016	36.000	ug/kg	2.000	46400.0	-
CI45-001	750535.946	2084395.442	5.0	5.3	Aroclor-1260	6100.000	ug/kg	320.000	12400.0	-
CI45-002	750527.143	2084389.716	5.0	5.3	Aroclor-1260	1200.000	ug/kg	130.000	12400.0	-

Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	Analyte	Result	Unit	RL	WRW AL	Background
CI45-021	750543.731	2084400.565	5.0	5.3	Aroclor-1016	150.000	ug/kg	2.100	46400.0	-
CI45-021	750543.731	2084400.565	5.0	5.3	Aroclor-1260	9800.000	ug/kg	330.000	12400.0	-
CI45-022	750533.736	2084400.487	6.3	6.8	Aroclor-1260	1500.000	ug/kg	33.000	12400.0	-
CI45-023	750537.033	2084404.615	6.3	6.8	Aroclor-1260	1100.000	ug/kg	32.000	12400.0	-
CI45-024	750532.962	2084407.066	6.3	6.8	Aroclor-1260	6000.000	ug/kg	130.000	12400.0	-
CI45-025	750528.409	2084405.014	6.3	6.8	Aroclor-1260	520.000	ug/kg	33.000	12400.0	-
CI45-026	750542.792	2084421.249	0.0	0.5	Aroclor-1260	3500	ug/kg	64.000	12400.0	-
CI45-026	750542.792	2084421.249	0.5	2.5	Aroclor-1260	130	ug/kg	6.700	12400.0	-
CI46-041	750685.409	2084419.115	3.0	3.3	Americium-241	12.200	pCi/g	-	76.0	0.020
CI46-041	**750685.409**	**2084419.115**	**3.0**	**3.3**	**Plutonium-239/240**	**82.200**	**pCi/g**	**-**	**50.0**	**0.020**
CI46-042	750720.753	2084444.221	2.5	2.8	Americium-241	2.490	pCi/g	-	76.0	0.020
CI46-042	750720.753	2084444.221	2.5	2.8	Plutonium-239/240	11.600	pCi/g	-	50.0	0.020
CI46-043	750577.911	2084479.471	3.5	4.0	Americium-241	11.900	pCi/g	-	76.0	0.020
CI46-043	**750577.911**	**2084479.471**	**3.5**	**4.0**	**Plutonium-239/240**	**80.300**	**pCi/g**	**-**	**50.0**	**0.020**
CI46-044	750722.600	2084424.679	3.4	3.6	Americium-241	75.5	pCi/g	-	76.0	0.020
CI46-044	**750722.600**	**2084424.679**	**3.4**	**3.6**	**Plutonium-239/240**	**527**	**pCi/g**	**-**	**50.0**	**0.020**
CI46-044	750722.600	2084424.679	3.4	3.6	Uranium-234	4.68	pCi/g		300	2.64
CI46-046	**750722.715**	**2084420.190**	**3.5**	**3.51**	**Plutonium-239/240**	**113**	**pCi/g**	**-**	**50**	**0.02**
CI46-046	750722.715	2084420.190	3.5	3.51	Uranium-234	3.54	pCi/g	-	300	2.64
CI46-046	750722.715	2084420.190	3.5	3.51	Uranium-235	0.63	pCi/g	-	8	0.12
CJ46-005	750700.154	2084569.404	3.5	4.0	Americium-241	0.697	pCi/g	-	76.0	0.020
CJ46-005	750700.154	2084569.404	3.5	4.0	Plutonium-239/240	1.420	pCi/g	-	50.0	0.020
CJ46-060	750701.117	2084557.196	0.0	0.5	Americium-241	0.943	pCi/g	-	76.0	0.023
CJ46-060	750701.117	2084557.196	0.0	0.5	Plutonium-239/240	5.373	pCi/g	-	50.0	0.066

- The Pu-239/240 activity at Sampling Location CH45-146 (Cell L11 within the Building 779 CA), at 5.0 – 5.5 feet, was 79.6 pCi/g, and the WRW AL is 50 pCi/g. However, the activity is less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional removal is not required (RFCA Attachment 5, DOE et al. 2003).

- The Pu-239/240 activity at Sampling Location CH45-147 (Cell J6 within the Building 779 CA), at 4.5 – 5.0 feet, was 59.3 pCi/g, and the WRW AL is 50 pCi/g. However, the activity is less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional removal is not required (RFCA Attachment 5; DOE et al. 2003).

- The Pu-239/240 activity at Sampling Location CI46-041 (within the area of the former Auxiliary Pond 2), at 3.0 – 3.3 feet, was 82.2 pCi/g, and the WRW AL is 50 pCi/g. However, the activity is less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional removal is not required (RFCA Attachment 5, DOE et al. 2003).

- The Pu-239/240 activity at Sampling Location CI46-043 (within the area of the former Auxiliary Pond 2), at 3.5 – 4.0 feet, was 80.3 pCi/g, and the WRW AL is 50 pCi/g. However, the activity is less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional removal is not required (RFCA Attachment 5, DOE et al. 2003).

- The Pu-239/240 activity at Sampling Location CI46-044 (within the area of the former Auxiliary Pond 2), at 3.5 – 3.6 feet, was 527 pCi/g, and the WRW AL is 50 pCi/g. However, the activity is less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional removal is not required (RFCA Attachment 5, DOE et al. 2003).

- The Pu-239/240 activity at Sampling Location CI46-046 (within the area of the former Auxiliary Pond 2), at 3.5 – 3.51 feet, was 113 pCi/g, and the WRW AL is 50 pCi/g. However, the activity is less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional removal is not required (RFCA Attachment 5, DOE et al. 2003).

SORs based on confirmation sampling results for radionuclides are presented in Table 11. SORs for radionuclides were only calculated for soil concentrations within the first three feet below grade. SORs for non-radionuclides were also calculated for surface soil concentrations and the only Location CI46-026 had a result. The result is 0.282, which is less than one. As shown, SORs for radionuclides are less than 1. Also, the soil at CH45-103 was removed below 3 feet, and the residual SOR is less than the value indicated in Table 11. The presence of radionuclides below three feet and non-radionuclides in subsurface soil are addressed in the SSRS (Section 6.0).

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Table 11
RFCA Sums of Ratios Based on Confirmation Sampling, Surface Radionuclide Soil Concentrations

Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	Sum of Ratio
CH45-101	750511.920	2084266.037	2	2.3	0.024
CH45-102	750514.123	2084267.878	2	2.3	0.038
CH45-103	750511.980	2084269.361	2	2.3	0.910
CH45-104	750510.357	2084272.277	2	2.3	0.054
CI46-042	750720.753	2084444.221	2.5	2.8	0.133
CJ46-060	750701.117	2084557.196	0	0.5	0.059

5.0 POST-REMEDIATION CONDITIONS

As discussed in Section 3.1, contaminated building components and soil were removed, some remaining subsurface structures were filled with flowable fill concrete, and remaining water and waste lines were disrupted and grouted. Clean fill was brought to the project site and used to backfill excavations and smooth out the surface to prevent any large-scale ponding of precipitation. Additional fill will be brought in to bring the area to final grade and to ensure that all remaining structural features (i.e., the remaining structural upgrade foundations and the Building 782 tunnel) are 3 feet below final grade. This final grading and subsequent seeding will occur after the IHSS Group 700-3 accelerated action project is completed (by the end of 1st quarter of FY 05).

Residual surface and subsurface soil concentrations greater than background means plus two standard deviations or RLs are shown on Figures 10 through 13. The presence of residual contamination was determined based on historical and accelerated action (characterization and confirmation) sampling results. NLR sampling locations (Section 12.0) are not included. Residual surface and subsurface contaminant concentrations are less than RFCA WRW ALs with nine exceptions.

- The arsenic concentration exceeds the WRW AL (22.2 mg/kg) at one subsurface location (CI46-001). The concentration is 25 mg/kg. Based on the SSRS (Section 6.0), soil removal is not required (RFCA Attachment 5; DOE et al. 2003). Soil associated with the other arsenic exceedance at Location CI45-012 (Section 2.8) was removed during excavation of OPWL under the Building 779 slab, and the characterization sampling result is NLR (Section 12).

- Pu-239/240 activities exceed the WRW AL (50 pCi/g) at eight subsurface locations, however, the activities are less than 1 nCi/g at a depth greater than 3 feet from the ground surface, and based on RFCA and the SSRS (Section 6.0), additional soil removal at these locations is not required (RFCA Attachment 5, DOE et al. 2003).

One of the Pu-239/240 exceedances occurs at Sampling Locations CH45-112 (a characterization sampling location) at 12 to 13.5 feet below the surface. Seven of the Pu-239/240 exceedances were detected during confirmation sampling and are discussed in Section 4.0. The elevated Pu-239/240 concentration detected at Confirmation

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Draft Closeout Report for IHSS Group 700-7

UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

September, 2004

Figure 10:

Residual Concentrations Northeast Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Confirmation\700_7_confirmation-gk.apr

July 6, 2004

CERCLA Administrative Record Document, IA-A-002330

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

GOLDEN, COLORADO

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Draft Closeout Report for IHSS Group 700-7

UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

September, 2004

Figure 11:

Residual Concentrations Northwest Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Confirmation\700_7_confirmation-gk.apr

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Draft Closeout Report for IHSS Group 700-7

UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

September, 2004

Figure 12:

Residual Concentrations Southwest Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Confirmation\700_7_confirmation.apr

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(Ref: 04-RF-00954; KLW-018-04)

Draft Closeout Report for IHSS Group 700-7

UBC 779, IHSS 700-138, IHSS 700-149.2,
IHSS 700-150.6, IHSS 700-150.8, PAC 700-1105,
and Portions of IHSS 000-101 and IHSS 000-121

September, 2004

Figure 13:

Residual Concentrations Southeast Quadrant IHSS Group 700-7

File: W:\Projects\Fy2003\700-7\Confirmation\700_7_confirmation.apr

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Sampling Location CH45-103 is not a residual concentration because additional soil was removed (i.e., the location is NLR).

Residual contamination will be further evaluated in the Sitewide CRA and the Accelerated Action Ecological Screening Evaluation (AAESE).

6.0 SUBSURFACE SOIL RISK SCREEN

The SSRS follows the steps identified on Figure 3 in Attachment 5 of the RFCA Modification (DOE et al 2003).

Screen 1 – Are the contaminants of concern concentrations below RFCA Table 3 soil ALs for the WRW?

No. All residual COC concentrations in subsurface soil are less than the WRW ALs, except for one subsurface arsenic concentration and eight subsurface Pu-239/240 activities (Section 5.0). The arsenic concentration at Sampling Location CI46-001 is 25 mg/kg between 3.5 and 4.5 feet below ground surface. The WRW AL is 22.2 mg/kg. The eight Pu-239/240 activities (at Locations CH45-106, CH45-112, CH45-146, CH45-147, CI46-041, CI46-043, CI46-044 and CI46-046) are all less than 1 nCi/g occurring at a depth greater than 3 feet from the ground surface, and therefore, additional soil removal at these locations is not required (RFCA Attachment 5; DOE et al. 2003).

Screen 2 – Is there a potential for subsurface soil to become surface soil (landslides and erosion areas identified on Figure 1 of the RFCA Modification)?

No. IHSS Group 700-7 is not located in an area susceptible to landslides or high erosion (Figure 1 of RFCA) (DOE et al 2003).

Screen 3 – Does subsurface soil contamination for radionuclides exceed criteria defined in RFCA Section 5.3 and Attachment 14?

Yes. Pu-239/240 activities exceed the WRW AL at eight locations (Section 5.0), however, the activities are all less than 1 nCi/g at a depth greater than 3 feet from the ground surface. Therefore, additional soil removal at these locations is not required (RFCA Attachment 5, DOE et al. 2003).

Fixed contamination was also detected in two of the Building 779 sub-basement pits (106 dpm/100 cm^2 alpha in the southwestern pit, and 304 and 804 dpm/100 cm^2 alpha in the southeastern pit) (Section 3.1.1). However, the contaminated areas are relatively small (e.g., 3 feet x 4 feet in the southeastern pit) and are located 18 feet below current grade (anticipated to be 21 feet below final grade).

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

Yes. Contaminant migration via surface runoff and groundwater are two possible pathways whereby surface water could become contaminated from IHSS Group 700-7 COCs. Run- off from IHSS Group 700-7 is conveyed via storm drains and overland flow north into North Walnut Creek through Gauging Station 32 (upstream of North Walnut Creek) (DOE 2003f). Contaminant loadings from the drainage area around IHSS Group

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700-7 are monitored at GS32. The nearest RFCA Surface Water Point of Evaluation (POE) is SW093, which is located in North Walnut Creek and receives runoff from a large part of the IA, including IHSS Group 700-7 (DOE 2003f). Monitoring results indicate that plutonium and americium loadings at GS32 and SW093 have increased recently, apparently related to increased erosion occurring within the upstream project areas (personal communication, Robert Nininger to Gerard Kelly, July 17, 2004). The increased total suspended solids in the surface water have resulted in reportable concentrations of actinides at SW093 (June 15, 2004, presentation to RFCA Coordinators, updated with available data on June 29, 2004). Related source evaluations will continue and, based on the evaluation findings, appropriate mitigative measures will be implemented. Erosion controls have already been put in place.

The groundwater monitoring wells in the vicinity of IHSS Group 700-7 are Wells 00100, 00500, 02397, 02497, and 02500. Data in SWD indicate that all contaminant concentrations in Well 00500 are below RFCA Tier II groundwater ALs. The four other wells have had nitrite concentrations greater than the Tier II groundwater AL. Well 00100 also historically had concentrations of tetrachloride, methylene chloride, and trichloroethene greater than Tier II groundwater ALs. Well 02500 historically had trichloroethene concentrations greater than the Tier II groundwater AL. No concentrations in any of the wells have exceeded Tier I ALs since 1991.

Groundwater contamination at IHSS Group 700-7 area probably has multiple sources, but primarily is a result of the SEP Plume and Carbon Tetrachloride Plume (DOE 2003g). Separate sources exist for VOCs in the SEP area north and east of IHSS Group 700-7 that are distinct from this IHSS Group (DOE 2004b). The VOC concentrations in soil within the IHSS Group do not exceed soil ALs and are not considered a significant factor in groundwater contamination at this location. Residual COC concentrations in the subsurface at IHSS Group 700-7 are present in concentrations greater than background means plus two standard deviations or reporting limits and in some cases greater than WRW ALs. While these concentrations could impact surface water, the lack of a viable pathway makes this unlikely for the following reasons:

- The remaining soil with COCs are not likely to erode because after remediation, the site was backfilled and regraded.
- IHSS Group 700-7 is not in an area susceptible to erosion in accordance with RFCA Attachment 5, Figure 1.
- Radionuclides and metals are relatively immobile.
- Results for organics were very low.

Further groundwater evaluation will be conducted as part of the groundwater remedial decision and future sitewide evaluation.

The groundwater to surface water pathway is evaluated in the Groundwater IM/IRA.

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7.0 STEWARDSHIP ANALYSIS

This stewardship evaluation, applicable to the entire IHSS Group 700-7, is documented in the following sections. The regulatory agencies were informed of project activities and characterization results through frequent project updates, e-mails, telephone contacts, and personal contact throughout the project duration. The stewardship evaluation was conducted through ongoing consultation with the regulatory agencies. Copies of these documents are provided in Appendix A.

7.1 Current Site Conditions

As discussed in Section 3.1, accelerated actions at IHSS Group 700-7 consisted of removing contaminated building components and soil, disrupting remaining subsurface waste and water lines, and filling some remaining subsurface structures with concrete. Major items removed and remaining are shown on Figure 8. Based on the accelerated action, current conditions at IHSS Group 700-7 are listed below.

- Potential sources of contamination that existed in IHSS Group 700-7 were removed, including slab sections and footer walls from the Building 779 CA, the top of the Building 779 basement walls, waste trenches in the Building 779 slab, process pits and floor sinks under the Building 779 slab, waste and water lines, ACM, and contaminated soil.

- Remaining cooling tower water and sanitary lines were drained, disrupted and grouted to at least 3 feet below grade. The sewer manhole south of the Building 779 slab was removed to 4 feet below current grade. The Building 779 foundation drain line was also removed. The storm drains east of the Building 779 slab were left in place.

- Some building components remain, including some Building 779 structural upgrade foundations (intact or lower portions), caissons for the Building 779 structural upgrade foundations and elevator pits, the lower portion of the Building 779 basement, the Building 779 sub-basement pits, and the Building 782 tunnel/utility corridor and pit. The Building 779 basement and sub-basement and the Building 782 tunnel and pit were filled with flowable fill concrete to prevent area subsidence in the future, prevent groundwater intrusion, and immobilize any fixed contamination in the Building 779 sub-basement pits. When the project is completed, all remaining components will be at least 3 feet below final grade.

- Residual surface and subsurface contaminant concentrations in soil are greater than background means plus two standard deviations or RLs throughout the IHSS Group.

- Residual surface and subsurface contaminant concentrations are less than RFCA WRW ALs with nine exceptions. The arsenic concentration exceeds the WRW AL (22.2 mg/kg) at one subsurface location (CI46-001). The concentration is 25 mg/kg. In addition, Pu-239/240 activities exceed the WRW AL at eight subsurface locations (CH45-106, CH45-112, CH45-146, CH45-147, CI46-041, CI46-043, CI46-004 and CI46-046). However, all activities are less than 1 nCi/g occurring at a depth greater

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than 3 feet from the ground surface, and therefore, additional soil removal at these locations is not required (RFCA Attachment 5; DOE et al. 2003).

7.2 Near-Term Management Recommendations

No IHSS Group-specific, near-term management techniques are required, with the exception of bringing in fill to ensure that all of the remaining structural upgrade foundations and the Building 782 tunnel are at least 3 feet below final grade and continuing water quality monitoring at GS32 and SW093. Contaminant concentrations in soil remaining at IHSS Group 700-7 do not trigger any further accelerated action. Other near-term recommendations include the following:

- Excavation at the site will continue to be controlled through the Site Soil Disturbance Permit process;
- Access will be restricted to minimize disturbance to newly revegetated areas; and
- Site access and security controls and the Soil Disturbance Permit process will remain in place pending implementation of long-term controls.

The actinide activities observed at GS32 during Spring 2004 (Section 6.0, Screen 4) are expected to decrease to pre-remediation levels now that remediation and related soil disturbance activities at IHSS Group 700-7 have been completed. Because actinide activities at GS32 were not elevated prior to remediation, historical surface sources of contamination are not suspected. Also, much of the area has been covered with clean fill, and any source would no longer be prone to erosion. In addition, erosion control measures within the site drainage ditch will be maintained. Water quality monitoring data will continue to be evaluated to determine if actinide activities have decreased. Also, a broader source evaluation will continue and, based on the evaluation findings, mitigative measures will be implemented as appropriate.

7.3 Long-Term Stewardship Recommendations

Based on remaining environmental conditions at IHSS Group 700-7, no IHSS Group-specific long-term stewardship activities are recommended beyond the generally applicable Site requirements (with the exception of bringing in fill to ensure that all of the remaining structural upgrade foundations and the Building 782 tunnel are at least 3 feet below final grade). These requirements may be imposed on this area in the future. Institutional controls that will be used as appropriate for this area include the following:

- Prohibitions on construction of buildings in the IA;
- Restrictions on excavation or other soil disturbance; and
- Prohibitions on groundwater pumping in the area of IHSS Group 700-7.

No specific engineered controls or environmental monitoring are recommended as a result of the conditions remaining at IHSS Group 700-7. Likewise, no specific institutional or physical controls, such as fences, are recommended as a result of the conditions remaining at IHSS Group 700-7.

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This Closeout Report and associated documentation will be retained as part of the Rocky Flats Administrative Record (AR) file. The specific long-term stewardship recommendations will also be summarized in the Rocky Flats Long-Term Stewardship Strategy.

IHSS Group 700-7 will be evaluated as part of the Sitewide CRA, which is part of the RCRA Remedial Investigation/Feasibility Study (RI/FS) that will be conducted for the Site. The need for and extent of any more general, long-term stewardship activities will also be evaluated in the RI/FS and will be proposed as part of the preferred alternative in the Proposed Plan for the Site. Institutional controls and other long-term stewardship requirements for Rocky Flats will be contained in the Corrective Action Decision/Record of Decision, any post-closure Colorado Hazardous Waste Act permit that may be required, and any post-RFCA agreement.

8.0 DEVIATIONS FROM THE ER RSOP

Removal methods and objectives did not deviate from the ER RSOP. The ER RSOP Notification #03-10 (DOE 2003c) stated that all building subsurface components would be removed. However, some building components remain, as described in Section 3.0, including some Building 779 structural upgrade foundations, caissons for the Building 779 structural upgrade foundations and elevator pits, the lower portion of the Building 779 basement, the Building 779 sub-basement pits, and the Building 782 tunnel/utility corridor and pit. Approximately 50 feet of sanitary line also remains (drained and grouted at the ends) under the Building 779 footprint. When the project is completed, all remaining components will be at least 3 feet below final grade.

9.0 RCRA UNIT CLOSURE

After the FY00 demolition of Building 779, no RCRA units remained within the IHSS Group, and therefore, no further RCRA closure was required as part of this accelerated action.

10.0 WASTE MANAGEMENT

Solid waste from the IHSS Group 700-7 accelerated action consisted of concrete, waste and water lines, other utility lines, and electric conduit and cabling. The concrete from the Building 779 CA (slab and footer walls), the removed portions of the basement walls, the waste trenches, the pit at the eastern end of the trenches, one sanitary system floor sink, and all utility lines removed from under the Building 779 slab were classified as LLW and placed in intermodal containers. The Building 782 plenum drain lines were also managed as LLW. Approximately 556 cy of LLW were shipped off site for disposal. Approximately 20 cubic feet of LLMW (OPWL sections) were shipped off site for disposal in one intermodal container.

Most of the concrete was classified as sanitary waste, placed in dump trucks, and shipped to an off-site sanitary landfill. This concrete included the non-contaminated areas of the Building 779 slab, the associated footer walls and structural upgrade foundations, the pump pit, the plenum deluge drain pit, the recirculation system sump, all but one of the

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floor sinks, the two elevator pits, the sump near one of the elevator pits, and the east dock. The other building slabs, the Building 783 valve pits, the transformer pads and associated trough, the manholes, the removed asphalt, and miscellaneous items (e.g., metal ladders, steel grates, angle iron, pumps, and other non-concrete equipment) were also disposed of as sanitary waste. The two USTs were size-reduced and disposed of as sanitary waste. Approximately 877 cy of sanitary waste were shipped off site. The Transite foundation drain line was also classified as asbestos waste and disposed of at an off-site sanitary landfill. ACM wrapped around cooling tower water lines and other lines was removed and disposed of as asbestos waste.

The soil removed from under the Building 779 CA (over 150 cy) was shipped off site as LLW in intermodal containers. The soil removed from around and under the PCB transformer pads (approximately 81 cy) was disposed of as low level radioactive TSCA waste in intermodal containers. Soil removed from around OPWL sections (approximately 5 cy from under the Building 779 slab and approximately 12 cy near the Building 784 slab) and the three "hot spots" in the area of the former Auxiliary Pond 2 (approximately 12 cy) were placed in intermodal containers and disposed of offsite as LLW.

Various wastewaters were generated during the accelerated action.

- The saw cutting of the contaminated section of the Building 779 slab generated some wastewater (approximately 100 gallons), which was stored in tanks and taken to the Building 891 treatment facility.
- Approximately 60,000 gallons of water were pumped out of the Building 779 basement, stored in tanks, and taken to Building 995 (the sewage treatment plant).
- Approximately 120,000 gallons of water were pumped out of the Building 779 process and elevator pits, stored in tanks, and taken to Building 995 for treatment.
- Approximately 80,000 gallons of water were pumped out of the Building 782 pit, stored in tanks, and conveyed via hose to Building 995 for treatment.
- Approximately 2,500 gallons of water were pumped out of the Building 783 pits and sump, stored in tanks, and taken to Building 995 for treatment.
- Approximately 10,000 gallons of water were pumped out of OPWL excavations, stored in a tank, and taken to Building 891 for treatment.
- Approximately 11,000 gallons of water was pumped out of the excavation associated with the removal of PCB contaminated soil in PAC 700-1105, stored in a tank, analyzed, and based on analytical results, released to the ground.
- Approximately 500 gallons of water was generated during the removal of the Building 727 UST; this water was stored in tanks, and taken to Building 995 for treatment.

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11.0 SITE RECLAMATION

All excavations associated with the removal of building and equipment slabs, footer walls and structural upgrade foundations, pits, water and waste lines, the foundation drain line, USTs, manholes, other utilities, and contaminated soil were backfilled. The entire area was then rough-graded. Documentation regarding approval to backfill is provided in ER Regulatory Contact Records provided in Appendix A. Approximately 2,500 cy of clean fill was brought to the project site from the Building 130 pile and the south side of Building 551. Additional fill will be brought in to bring the area to final grade and to ensure that all remaining structural features (i.e., the remaining structural upgrade foundations and the Building 782 tunnel) are at least three feet below final grade. This final grading and subsequent seeding will occur after the IHSS Group 700-3 accelerated action project is completed (by the end of 3rd quarter of FY 05).

12.0 NO LONGER REPRESENTATIVE SAMPLING LOCATIONS

Several historical and accelerated action characterization sampling locations were removed during the IHSS Group 700-7 accelerated action and are NLR. The historical sampling locations that were disturbed include those within the Building 779 Room 131/133 release area (SS7790199, SS7790299, SS7790399 and SS7790199), those around the PCB transformer pads (PCB-29-1, PCB-29-2, PCB-29-3, PCB-29-4, PCB-29-5, PCB-29-6, and SS481194), two near the Building 779 slab (SS809293 and SS809593), and two near the Building 785 slab (SS802293 and SS802393) (refer to Figure 3). The characterization sampling locations that were removed include several locations under the Building 779 slab, those locations around the PCB transformer pads, two locations within the area of the former Auxiliary Pond 2 that required remediation, one location within IHSS 700-158.0 that required remediation, and one location adjacent to an OPWL that required remediation (refer to Table 1 and Figures 4 through 7). In addition, the four in-process sampling intervals (CI45-003, CI45-004, CI45-005, and CI45-020) were removed, as well as five confirmation samples (CH45-101, CH45-102, CH45-103, CH45-104, and CJ46-005). Additional soil was removed after the confirmation samples were taken. Some of the other characterization locations were buried by backfill, but the locations were not disturbed. All NLR locations are listed in Table 12.

Table 12
No Longer Representative Sampling Locations

Sampling Location	Easting	Northing
SS481194	2084421.190	750542.790
SS7790199	2084263.16	750523.45
SS7790299	2084271.74	750523.45
SS7790399	2084277.66	750523.45
SS7790499	2084284.60	750523.45
SS802293	2084551.00	750651.68
SS802393	2084552.00	750637.68
SS809293	2084452.16	750525.05
SS809593	2084050.35	750247.71
PCB-29-1	2084389.564	750535.380

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Sampling Location	Easting	Northing
PCB-29-2	2084389.237	750531.041
PCB-29-3	2084389.357	750527.473
PCB-29-4	2084400.347	750542.994
PCB-29-5	2084400.246	750535.811
PCB-29-6	2084399.918	750529.405
CH45-013	2084314.622	750529.4
CH45-028 A - C	2084230.366	750477.146
CH45-029 A - C	2084268.56	750501.451
CH45-031 A - C	2084332.796	750497.111
CH45-057	2084240.317	750523.664
CH45-058	2084251.827	750523.443
CH45-059	2084300.988	750522.979
CH45-060	2084310.734	750520.868
CH45-066	2084311.994	750496.715
CH45-067	2084285.799	750480.854
CH45-094	2084329.847	750569.101
CH45-095	2084293.464	750557.537
CH45-096	2084329.847	750569.101
CH45-101	2084266.037	750511.920
CH45-102	2084267.878	750514.123
CH45-103	2084269.361	750511.980
CH45-104	2084272.277	750510.357
CH45-112 A – C	2084291.831	750517.469
CH45-113 A - C	2084311.592	750516.062
CH45-114 A - C	2084310.049	750481.502
CH45-115 A - C	2084288.688	750480.551
CH46-019	2084325.4	750583.62
CH46-054	2084224.277	750622.108
CH46-055	2084288.585	750609.945
CI45-000 A – C	2084389.565	750531.113
CI45-001 A – C	2084395.442	750535.946
CI45-002 A – C	2084389.716	750527.143
CI45-003 A - D	2084404.615	750537.033
CI45-004 A – D	2084405.014	750528.409
CI45-005 A – D	2084407.43	750532.574
CI45-012 A - C	2084394.873	750494.062
CI45-020 A - D	2084400.487	750533.736
CI45-021 A - C	2084400.565	750543.731
CI46-005	2084352.800	750583.210
CI46-013	2084417.398	750685.766
CI46-014	2084421.642	750721.512
CI46-029 B - C	2084477.141	750574.124
CI46-040	2084344.133	750633.348
CJ46-005 C	2084569.404	750700.154

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Sampling Location	Easting	Northing
779 NE	2084303.000	750511.000
779 NW	2084295.000	750511.000
779 SW	2084291.000	750504.000

The last three NLR sampling locations listed in Table 12 were sediment locations, even though they were shown as surface soil sampling locations in IASAP Addendum #IA-03-15 (DOE 2003a). The sediment samples were collected from sumps/pits associated with the Building 779 OPWL. These sumps/pits were removed during the accelerated action.

13.0 DATA QUALITY ASSESSMENT

The DQOs for this project are described in the IASAP (DOE 2001). All DQOs for this project were achieved based on the following:

- Regulatory agency-approved sampling program design (IASAP Addendum #IA-03-15 [DOE 2003a]), modified due to field conditions, in accordance with the IASAP (DOE 2001);
- Collection of samples in accordance with the sampling design; and
- Results of the DQA, as described in the following sections.

13.1 Data Quality Assessment Process

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

- U.S. Environmental Protection Agency (EPA) QA/G-4, 1994a, Guidance for the Data Quality Objective Process;
- EPA QA/G-9, 1998, Guidance for the Data Quality Assessment Process, Practical Methods for Data Analysis; and
- U.S. Department of Energy (DOE) Order 414.1A, 1999, Quality Assurance.

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

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

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

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

13.2 Verification and Validation of Results

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

- Chain-of-custody;
- Preservation and hold times;
- Instrument calibrations;
- Preparation blanks;
- Interference check samples (metals);
- Matrix spikes/matrix spike duplicates (MS/MSDs);
- Laboratory control samples (LCSs);
- Field duplicate measurements;
- Chemical yield (radiochemistry);

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- Required quantitation limits/minimum detectable activities (sensitivity of chemical and radiochemical measurements, respectively); and
- Sample analysis and preparation methods.

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

Raw hard-copy data (for example, individual analytical data packages) are currently filed by report identification number and maintained by K-H Analytical Services Division; older hard copies may reside in the Federal Center in Lakewood, Colorado. Electronic data are stored in SWD.

Both real and QC data are included on the enclosed CD.

13.2.1 Accuracy

The following measures of accuracy were considered:

- LCS evaluation;
- Surrogate evaluation;
- Field blank evaluation; and
- Sample MS evaluation.

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

Laboratory Control Sample Evaluation

As indicated in Table 13 LCS analyses were run for all methods except for gamma spectroscopy. The onsite laboratories are not required to provide this data.

Table 13
LCS Summary

Test Method	Laboratory Batch	Laboratory Control Standards
Alpha Spectroscopy	281635	Yes
Alpha Spectroscopy	283471	Yes
Alpha Spectroscopy	283570	Yes
Alpha Spectroscopy	359219	Yes
Alpha Spectroscopy	360421	Yes
Alpha Spectroscopy	361139	Yes
Alpha Spectroscopy	4009159	Yes
Alpha Spectroscopy	4009162	Yes

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Test Method	Laboratory Batch	Laboratory Control Standards
Alpha Spectroscopy	4009163	Yes
Alpha Spectroscopy	4012179	Yes
Alpha Spectroscopy	4012180	Yes
Alpha Spectroscopy	4012185	Yes
Alpha Spectroscopy	4015374	Yes
Alpha Spectroscopy	4015379	Yes
Alpha Spectroscopy	4015383	Yes
Alpha Spectroscopy	4016159	Yes
Alpha Spectroscopy	4016164	Yes
Alpha Spectroscopy	4016167	Yes
Alpha Spectroscopy	4030439	Yes
Alpha Spectroscopy	4030441	Yes
Alpha Spectroscopy	4030443	Yes
Alpha Spectroscopy	4033291	Yes
Alpha Spectroscopy	4033294	Yes
Alpha Spectroscopy	4033301	Yes
Alpha Spectroscopy	4048180	Yes
Alpha Spectroscopy	4048185	Yes
Alpha Spectroscopy	4048187	Yes
Alpha Spectroscopy	4057380	Yes
Alpha Spectroscopy	4057391	Yes
Alpha Spectroscopy	4057393	Yes
Alpha Spectroscopy	4061175	Yes
Alpha Spectroscopy	4061177	Yes
Alpha Spectroscopy	4061183	Yes
Alpha Spectroscopy	4063377	Yes
Alpha Spectroscopy	4063388	Yes
Alpha Spectroscopy	4063392	Yes
Alpha Spectroscopy	4069164	Yes
Alpha Spectroscopy	4069167	Yes
Alpha Spectroscopy	4069170	Yes
Alpha Spectroscopy	4070389	Yes
Alpha Spectroscopy	4070397	Yes
Alpha Spectroscopy	4070431	Yes
Alpha Spectroscopy	4078325	Yes
Alpha Spectroscopy	4078335	Yes
Alpha Spectroscopy	4078340	Yes
Alpha Spectroscopy	4082521	Yes
Alpha Spectroscopy	4082526	Yes
Alpha Spectroscopy	4082530	Yes
Alpha Spectroscopy	4083498	Yes
Alpha Spectroscopy	4083501	Yes
Alpha Spectroscopy	4084172	Yes
Alpha Spectroscopy	4084413	Yes

Test Method	Laboratory Batch	Laboratory Control Standards
Alpha Spectroscopy	4084424	Yes
Alpha Spectroscopy	4084434	Yes
Alpha Spectroscopy	4086409	Yes
Alpha Spectroscopy	4086419	Yes
Alpha Spectroscopy	4086433	Yes
Alpha Spectroscopy	4089612	Yes
Alpha Spectroscopy	4089616	Yes
Alpha Spectroscopy	4089618	Yes
Alpha Spectroscopy	4090619	Yes
Alpha Spectroscopy	4090626	Yes
Alpha Spectroscopy	4090633	Yes
Alpha Spectroscopy	4092576	Yes
Alpha Spectroscopy	4092577	Yes
Alpha Spectroscopy	4092580	Yes
Alpha Spectroscopy	4096482	Yes
Alpha Spectroscopy	4096487	Yes
Alpha Spectroscopy	4096489	Yes
Alpha Spectroscopy	4098405	Yes
Alpha Spectroscopy	4098407	Yes
Alpha Spectroscopy	4098410	Yes
Alpha Spectroscopy	4103423	Yes
Alpha Spectroscopy	4103431	Yes
Alpha Spectroscopy	4103439	Yes
Alpha Spectroscopy	4121231	Yes
Alpha Spectroscopy	4121241	Yes
Alpha Spectroscopy	4121245	Yes
Alpha Spectroscopy	4131104	Yes
Alpha Spectroscopy	4131111	Yes
Alpha Spectroscopy	4131113	Yes
Alpha Spectroscopy	4135104	Yes
Alpha Spectroscopy	4135107	Yes
Alpha Spectroscopy	4135110	Yes
Alpha Spectroscopy	4145214	Yes
Alpha Spectroscopy	4145219	Yes
Alpha Spectroscopy	4145222	Yes
Alpha Spectroscopy	4149318	Yes
Alpha Spectroscopy	4149322	Yes
Alpha Spectroscopy	4149326	Yes
Alpha Spectroscopy	4152043	Yes
Alpha Spectroscopy	4152044	Yes
Alpha Spectroscopy	4152045	Yes
Alpha Spectroscopy	4153616	Yes
Alpha Spectroscopy	4153622	Yes
Alpha Spectroscopy	4153629	Yes

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Test Method	Laboratory Batch	Laboratory Control Standards
Alpha Spectroscopy	4219290	Yes
Alpha Spectroscopy	4219299	Yes
Alpha Spectroscopy	4219306	Yes
SW-846 6010	3268610	Yes
SW-846 6010	3268632	Yes
SW-846 6010	3273420	Yes
SW-846 6010	3273452	Yes
SW-846 6010	3365402	Yes
SW-846 6010	3365409	Yes
SW-846 6010	4002141	Yes
SW-846 6010	4002142	Yes
SW-846 6010	4005383	Yes
SW-846 6010	4005385	Yes
SW-846 6010	4008451	Yes
SW-846 6010	4008453	Yes
SW-846 6010	4009287	Yes
SW-846 6010	4011100	Yes
SW-846 6010	4012484	Yes
SW-846 6010	4013149	Yes
SW-846 6010	4014457	Yes
SW-846 6010	4014467	Yes
SW-846 6010	4014468	Yes
SW-846 6010	4015467	Yes
SW-846 6010	4015468	Yes
SW-846 6010	4016264	Yes
SW-846 6010	4020638	Yes
SW-846 6010	4020639	Yes
SW-846 6010	4020642	Yes
SW-846 6010	4020644	Yes
SW-846 6010	4021494	Yes
SW-846 6010	4021498	Yes
SW-846 6010	4030337	Yes
SW-846 6010	4030350	Yes
SW-846 6010	4042544	Yes
SW-846 6010	4043324	Yes
SW-846 6010	4049580	Yes
SW-846 6010	4050156	Yes
SW-846 6010	4055541	Yes
SW-846 6010	4056202	Yes
SW-846 6010	4056497	Yes
SW-846 6010	4057235	Yes
SW-846 6010	4057466	Yes
SW-846 6010	4057510	Yes
SW-846 6010	4062557	Yes

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Test Method	Laboratory Batch	Laboratory Control Standards
SW-846 6010	4062558	Yes
SW-846 6010	4063245	Yes
SW-846 6010	4063246	Yes
SW-846 6010	4063505	Yes
SW-846 6010	4063545	Yes
SW-846 6010	4069472	Yes
SW-846 6010	4069475	Yes
SW-846 6010	4071499	Yes
SW-846 6010	4072239	Yes
SW-846 6010	4076213	Yes
SW-846 6010	4076522	Yes
SW-846 6010	4077191	Yes
SW-846 6010	4077195	Yes
SW-846 6010	4077540	Yes
SW-846 6010	4078545	Yes
SW-846 6010	4079530	Yes
SW-846 6010	4082200	Yes
SW-846 6010	4082201	Yes
SW-846 6010	4084588	Yes
SW-846 6010	4085251	Yes
SW-846 6010	4086575	Yes
SW-846 6010	4089399	Yes
SW-846 6010	4089634	Yes
SW-846 6010	4090257	Yes
SW-846 6010	4091617	Yes
SW-846 6010	4092268	Yes
SW-846 6010	4092581	Yes
SW-846 6010	4093220	Yes
SW-846 6010	4096618	Yes
SW-846 6010	4097200	Yes
SW-846 6010	4113416	Yes
SW-846 6010	4113438	Yes
SW-846 6010	4119307	Yes
SW-846 6010	4119309	Yes
SW-846 6010	4119316	Yes
SW-846 6010	4121379	Yes
SW-846 6010	4125247	Yes
SW-846 6010	4126505	Yes
SW-846 6010	4127630	Yes
SW-846 6010	4128338	Yes
SW-846 8082	4077496	Yes
SW-846 8082	4081100	Yes
SW-846 8082	4093543	Yes
SW-846 8082	4113349	Yes

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Test Method	Laboratory Batch	Laboratory Control Standards
SW-846 8082	4232571	Yes
SW-846 8260	3274410	Yes
SW-846 8260	4008527	Yes
SW-846 8260	4010126	Yes
SW-846 8260	4016483	Yes
SW-846 8260	4028502	Yes
SW-846 8260	4033307	Yes
SW-846 8260	4043456	Yes
SW-846 8260	4056312	Yes
SW-846 8260	4058301	Yes
SW-846 8260	4063466	Yes
SW-846 8260	4063580	Yes
SW-846 8260	4070453	Yes
SW-846 8260	4077097	Yes
SW-846 8260	4081147	Yes
SW-846 8260	4081149	Yes
SW-846 8260	4085308	Yes
SW-846 8260	4089437	Yes
SW-846 8260	4090409	Yes
SW-846 8260	4092330	Yes
SW-846 8260	4096360	Yes
SW-846 8260	4097499	Yes
SW-846 8260	4126369	Yes
SW-846 8260	MS1 VOA_040224A	Yes
SW-846 8260	MS1 VOA_040226A	Yes
SW-846 8260	MS1 VOA_040304A	Yes
SW-846 8260	MS1 VOA_040310A	Yes
SW-846 8260	MS1 VOA_040329A	Yes
SW-846 8260	MS1 VOA_040419A	Yes
SW-846 8260	MS2 VOA_030924B	Yes
SW-846 8260	MS2 VOA_031224A	Yes
SW-846 8260	MS2 VOA_040112A	Yes
SW-846 8260	MS2 VOA_040113A	Yes
SW-846 8260	MS2 VOA_040114A	Yes
SW-846 8260	MS2 VOA_040116A	Yes
SW-846 8260	MS2 VOA_040116B	Yes
SW-846 8260	MS2 VOA_040206A	Yes
SW-846 8260	MS2 VOA_040419A	Yes
SW-846 8260	MS2 VOA_040504A	Yes
SW-846 8260	MS3 VOA_030924C	Yes
SW-846 8260	MS3 VOA_030925B	Yes
SW-846 8260	MS3 VOA_031224A	Yes
SW-846 8260	MS3 VOA_031230A	Yes
SW-846 8260	MS3 VOA_040112A	Yes

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Test Method	Laboratory Batch	Laboratory Control Standards
SW-846 8260	MS3 VOA_040113A	Yes
SW-846 8260	MS3 VOA_040113B	Yes
SW-846 8260	MS3 VOA_040114A	Yes
SW-846 8260	MS3 VOA_040206A	Yes
SW-846 8260	MS3 VOA_040217A	Yes
SW-846 8260	MS3 VOA_040224A	Yes
SW-846 8260	MS3 VOA_040305A	Yes
SW-846 8260	MS3 VOA_040309B	Yes
SW-846 8260	MS3 VOA_040316A	Yes
SW-846 8260	MS3 VOA_040419A	Yes
SW-846 8260	MS3 VOA_040504A	Yes
SW-846 8260	MS3 VOA_040505A	Yes
SW-846 8270	4049579	Yes
SW-846 8270	4070574	Yes
SW-846 8270	4075619	Yes
SW-846 8270	4079159	Yes
SW-846 8270	4081102	Yes
SW-846 8270	4091578	Yes
SW-846 8270	4114645	Yes
SW-846 8270	4127613	Yes

The minimum and maximum LCS results are tabulated, by chemical, for the entire project in Table 14. LCS results that were outside of tolerances were reviewed to determine whether a potential bias might be indicated. LCS recoveries are not indicative of matrix effects because they are not prepared using site samples. LCS results do indicate whether the laboratory may be introducing a bias in the results. Recoveries reported above the upper limit may indicate the actual sample results are less than reported. Because this is environmentally conservative, no further action is needed. The analytes with unacceptable low recoveries were evaluated. If the highest sample result less than the AL, divided by the lowest LCS recovery for that analyte, is less than the AL, no further action is taken because any indicated bias is not great enough to affect project decisions. As a result of this analysis, the LCS recoveries for this project did not impact project decisions. Any qualifications of individual results because of LCS performance exceeding upper or lower tolerance limits are captured in the V&V flags, described in Section 13.2.3.

Table 14
LCS Evaluation Summary

Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 6010	7429-90-5	Aluminum	86	107	%REC
SW-846 6010	7440-36-0	Antimony	85	100	%REC
SW-846 6010	7440-38-2	Arsenic	85	100	%REC
SW-846 6010	7440-39-3	Barium	93	107	%REC

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 6010	7440-41-7	Beryllium	89	107	%REC
SW-846 6010	7440-43-9	Cadmium	85	106	%REC
SW-846 6010	7440-47-3	Chromium	88	104	%REC
SW-846 6010	7440-48-4	Cobalt	86	105	%REC
SW-846 6010	7440-50-8	Copper	87	102	%REC
SW-846 6010	7439-89-6	Iron	89	105	%REC
SW-846 6010	7439-92-1	Lead	87	105	%REC
SW-846 6010	7439-93-2	Lithium	87	107	%REC
SW-846 6010	7439-96-5	Manganese	87	104	%REC
SW-846 6010	7439-97-6	Mercury	89	106	%REC
SW-846 6010	7439-98-7	Molybdenum	86	106	%REC
SW-846 6010	7440-02-0	Nickel	86	105	%REC
SW-846 6010	7782-49-2	Selenium	84	102	%REC
SW-846 6010	7440-22-4	Silver	89	101	%REC
SW-846 6010	7440-24-6	Strontium	91	105	%REC
SW-846 6010	7440-31-5	Tin	81	107	%REC
SW-846 6010	11-09-6	Uranium, Total	89	107	%REC
SW-846 6010	7440-62-2	Vanadium	89	104	%REC
SW-846 6010	7440-66-6	Zinc	82	109	%REC
SW-846 8082	12674-11-2	Aroclor-1016	79	86	%REC
SW-846 8082	11096-82-5	Aroclor-1260	89	95	%REC
SW-846 8260	71-55-6	1,1,1-Trichloroethane	84	123	%REC
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	76.56	127	%REC
SW-846 8260	79-00-5	1,1,2-Trichloroethane	78.28	113	%REC
SW-846 8260	75-34-3	1,1-Dichloroethane	80.89	114.8	%REC
SW-846 8260	75-35-4	1,1-Dichloroethene	73	158.8	%REC
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	81	140.8	%REC
SW-846 8260	95-50-1	1,2-Dichlorobenzene	82	113.7	%REC
SW-846 8260	107-06-2	1,2-Dichloroethane	76.93	130	%REC
SW-846 8260	78-87-5	1,2-Dichloropropane	84.73	118.8	%REC
SW-846 8260	106-46-7	1,4-Dichlorobenzene	81.65	114.4	%REC
SW-846 8260	78-93-3	2-Butanone	37.51	120	%REC
SW-846 8260	108-10-1	4-Methyl-2-pentanone	53.6	130	%REC
SW-846 8260	67-64-1	Acetone	29.73	140	%REC
SW-846 8260	71-43-2	Benzene	82.96	119.3	%REC
SW-846 8260	75-27-4	Bromodichloromethane	80.62	118.3	%REC
SW-846 8260	75-25-2	Bromoform	77.12	113.2	%REC
SW-846 8260	74-83-9	Bromomethane	56.32	178.5	%REC
SW-846 8260	75-15-0	Carbon Disulfide	68	168.7	%REC
SW-846 8260	56-23-5	Carbon Tetrachloride	81	127	%REC
SW-846 8260	108-90-7	Chlorobenzene	85	147.8	%REC
SW-846 8260	75-00-3	Chloroethane	73.9	188.5	%REC
SW-846 8260	67-66-3	Chloroform	78.43	149	%REC
SW-846 8260	74-87-3	Chloromethane	53	317.1	%REC

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	84.26	120.5	%REC
SW-846 8260	124-48-1	Dibromochloromethane	81	111.1	%REC
SW-846 8260	100-41-4	Ethylbenzene	85.31	141.6	%REC
SW-846 8260	87-68-3	Hexachlorobutadiene	78	159	%REC
SW-846 8260	75-09-2	Methylene chloride	56.32	139.6	%REC
SW-846 8260	91-20-3	Naphthalene	68.26	124.9	%REC
SW-846 8260	100-42-5	Styrene	86	114.3	%REC
SW-846 8260	127-18-4	Tetrachloroethene	79.14	118.3	%REC
SW-846 8260	108-88-3	Toluene	84	125.9	%REC
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	86	120	%REC
SW-846 8260	79-01-6	Trichloroethene	80.33	124.3	%REC
SW-846 8260	75-01-4	Vinyl chloride	68	285.6	%REC
SW-846 8260	1330-20-7	Xylene	85	119.6	%REC
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	65	80	%REC
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	67	80	%REC
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	67	80	%REC
SW-846 8270	120-83-2	2,4-Dichlorophenol	66	78	%REC
SW-846 8270	105-67-9	2,4-Dimethylphenol	66	82	%REC
SW-846 8270	51-28-5	2,4-Dinitrophenol	55	72	%REC
SW-846 8270	121-14-2	2,4-Dinitrotoluene	68	91	%REC
SW-846 8270	606-20-2	2,6-Dinitrotoluene	70	91	%REC
SW-846 8270	91-58-7	2-Chloronaphthalene	65	81	%REC
SW-846 8270	95-57-8	2-Chlorophenol	69	81	%REC
SW-846 8270	91-57-6	2-Methylnaphthalene	69	83	%REC
SW-846 8270	95-48-7	2-Methylphenol	67	82	%REC
SW-846 8270	88-74-4	2-Nitroaniline	64	93	%REC
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	44	72	%REC
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	59	79	%REC
SW-846 8270	106-47-8	4-Chloroaniline	24	68	%REC
SW-846 8270	106-44-5	4-Methylphenol	69	83	%REC
SW-846 8270	100-02-7	4-Nitrophenol	65	101	%REC
SW-846 8270	83-32-9	Acenaphthene	64	81	%REC
SW-846 8270	120-12-7	Anthracene	65	87	%REC
SW-846 8270	56-55-3	Benzo(a)anthracene	63	82	%REC
SW-846 8270	50-32-8	Benzo(a)pyrene	64	83	%REC
SW-846 8270	205-99-2	Benzo(b)fluoranthene	61	85	%REC
SW-846 8270	207-08-9	Benzo(k)fluoranthene	61	83	%REC
SW-846 8270	65-85-0	Benzoic Acid	44	61	%REC
SW-846 8270	100-51-6	Benzyl Alcohol	68	83	%REC
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	60	72	%REC
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	61	80	%REC
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	58	99	%REC
SW-846 8270	85-68-7	Butylbenzylphthalate	58	100	%REC
SW-846 8270	218-01-9	Chrysene	63	83	%REC

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	61	87	%REC
SW-846 8270	132-64-9	Dibenzofuran	68	87	%REC
SW-846 8270	84-66-2	Diethylphthalate	64	88	%REC
SW-846 8270	131-11-3	Dimethylphthalate	65	87	%REC
SW-846 8270	84-74-2	Di-n-butylphthalate	61	94	%REC
SW-846 8270	117-84-0	Di-n-octylphthalate	54	91	%REC
SW-846 8270	206-44-0	Fluoranthene	60	86	%REC
SW-846 8270	86-73-7	Fluorene	65	84	%REC
SW-846 8270	118-74-1	Hexachlorobenzene	61	93	%REC
SW-846 8270	87-68-3	Hexachlorobutadiene	64	87	%REC
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	43	72	%REC
SW-846 8270	67-72-1	Hexachloroethane	69	86	%REC
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	61	88	%REC
SW-846 8270	78-59-1	Isophorone	67	77	%REC
SW-846 8270	91-20-3	Naphthalene	66	77	%REC
SW-846 8270	98-95-3	Nitrobenzene	67	86	%REC
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	71	99	%REC
SW-846 8270	621-64-7	n-Nitrosodipropylamine	66	79	%REC
SW-846 8270	87-86-5	Pentachlorophenol	57	74	%REC
SW-846 8270	108-95-2	Phenol	67	81	%REC
SW-846 8270	129-00-0	Pyrene	60	90	%REC

Surrogate Evaluation

The frequency of surrogate measurements, relative to each laboratory batch, is given in Table 15. Surrogate frequency was adequate based on at least one set per sample. The minimum and maximum surrogate results are also tabulated, by chemical, for the entire project. Surrogates are added to every sample, and therefore, surrogate recoveries only impact individual samples. Unacceptable surrogate recoveries can indicate potential matrix effects. The highest and lowest surrogate recoveries for this project were reviewed. Any qualifications of results due to surrogate results are captured in the V&V flags, described in Section 13.2.3.

Field Blank Evaluation

Results of the field blank analyses are given in Table 16. Detectable amounts of contaminants within the blanks, which could indicate possible cross-contamination of samples, are evaluated if the same contaminant is detected in the associated real samples. When the real result is less than 10 times the blank result for laboratory contaminants and 5 times the result for non-laboratory contaminants, the real result is eliminated. None of the chemicals were detected in the blanks at concentrations greater than one-tenth the AL. Therefore, blank contamination did not adversely impact project decisions.

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Table 15
Surrogate Recovery Summary

VOC Surrogate Recoveries				
Number of Samples	**Analyte**	**Minimum Concentration**	**Maximum Concentration**	**Result Unit**
215	4-Bromofluorobenzene	70	136.7	%REC
215	Deuterated 1,2-dichloroethane	73	144.9	%REC
215	Deuterated Toluene	84	122.1	%REC
SVOC Surrogate Recoveries				
Number of Samples	**Analyte**	**Minimum Concentration**	**Maximum Concentration**	**Result Unit**
41	2-Fluorobiphenyl	55	76	%REC
41	2-Fluorophenol	0	86	%REC
41	Deuterated Nitrobenzene	59	86	%REC
41	p-Terphenyl-d14	57	98	%REC

Table 16
Field Blank Summary

Laboratory	CAS	Analyte	Sample QC Code	Detected Result	Result Unit
URS	78-93-3	2-Butanone	TB	23	ug/L
URS	67-64-1	Acetone	FB	42	ug/L
URS	67-64-1	Acetone	TB	32	ug/L
URS	15117-96-1	Uranium-235	EB	0.183	pCi/g
URS	15117-96-1	Uranium-235	RNS	0.198	pCi/g
URS	15117-96-1	Uranium-235	FB	0.182	pCi/g
URS	7440-61-1	Uranium-238	EB	2.81	pCi/g
URS	7440-61-1	Uranium-238	FB	3.33	pCi/g
URS	7440-61-1	Uranium-238	RNS	3.12	pCi/g
Field blank (EB = equipment, field = FB, rinse = RNS, trip = TB) results greater than detection limits (not "U" qualified).					

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Sample Matrix Spike Evaluation

The minimum and maximum MS results are summarized by chemical for the entire project in Table 17. Organic analytes with unacceptable low recoveries resulted in a review of the LCS recoveries. According to the EPA data validation guidelines (EPA 1994b), if organic MS recoveries are low, then the LCS recovery is to be checked and, if acceptable, no action is to be taken. For this project, these checks indicate no decisions were impacted for organic analytes. For inorganics, the associated maximum sample results were divided by the lowest percent recovery for each analyte. If the resulting number was less than the AL, decisions were not impacted, and no action was taken. For this project, all results were acceptable with the exception of arsenic. Arsenic was detected at concentrations greater than the AL in the real data. Also, aluminum, iron and manganese had low recoveries of 0 percent, however, project decisions were not impacted.

Table 17
Sample MS Evaluation Summary

Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Unit	No. of Samples	No. of Lab Batches
SW-846 6010	7429-90-5	Aluminum	0	10800	%REC	18	18
SW-846 6010	7440-36-0	Antimony	31	84	%REC	19	19
SW-846 6010	7440-38-2	Arsenic	62	101	%REC	19	19
SW-846 6010	7440-39-3	Barium	74	126	%REC	19	19
SW-846 6010	7440-41-7	Beryllium	83	104	%REC	18	18
SW-846 6010	7440-43-9	Cadmium	57	104	%REC	19	19
SW-846 6010	7440-47-3	Chromium	45	177	%REC	19	19
SW-846 6010	7440-48-4	Cobalt	62	97	%REC	19	19
SW-846 6010	7440-50-8	Copper	59	117	%REC	19	19
SW-846 6010	7439-89-6	Iron	0	7000	%REC	19	19
SW-846 6010	7439-92-1	Lead	61	104	%REC	19	19
SW-846 6010	7439-93-2	Lithium	90	114	%REC	18	18
SW-846 6010	7439-96-5	Manganese	0	316	%REC	19	19
SW-846 6010	7439-97-6	Mercury	22	106	%REC	18	18
SW-846 6010	7439-98-7	Molybdenum	59	94	%REC	19	19
SW-846 6010	7440-02-0	Nickel	66	115	%REC	19	19
SW-846 6010	7782-49-2	Selenium	63	99	%REC	19	19
SW-846 6010	7440-22-4	Silver	0	112	%REC	20	20
SW-846 6010	7440-24-6	Strontium	70	106	%REC	19	19
SW-846 6010	7440-31-5	Tin	60	95	%REC	19	19
SW-846 6010	11-09-6	Uranium, Total	61	99	%REC	18	18
SW-846 6010	7440-62-2	Vanadium	67	176	%REC	19	19
SW-846 6010	7440-66-6	Zinc	0	139	%REC	19	19
SW-846 8082	12674-11-2	Aroclor-1016	41	41	%REC	1	1
SW-846 8082	11096-82-5	Aroclor-1260	34900	34900	%REC	1	1
SW-846 8260	71-55-6	1,1,1-Trichloroethane	66	119.9	%REC	30	30
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	3.141	196	%REC	30	30
SW-846 8260	79-00-5	1,1,2-Trichloroethane	79	131.6	%REC	30	30

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Unit	No. of Samples	No. of Lab Batches
SW-846 8260	75-34-3	1,1-Dichloroethane	67	118.8	%REC	30	30
SW-846 8260	75-35-4	1,1-Dichloroethene	66	122	%REC	30	30
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	27	103.9	%REC	30	30
SW-846 8260	95-50-1	1,2-Dichlorobenzene	73	112.9	%REC	30	30
SW-846 8260	107-06-2	1,2-Dichloroethane	68	133	%REC	30	30
SW-846 8260	78-87-5	1,2-Dichloropropane	73	118.4	%REC	30	30
SW-846 8260	106-46-7	1,4-Dichlorobenzene	74	115.6	%REC	30	30
SW-846 8260	78-93-3	2-Butanone	74	215.2	%REC	30	30
SW-846 8260	108-10-1	4-Methyl-2-pentanone	79	126	%REC	30	30
SW-846 8260	67-64-1	Acetone	59	303.5	%REC	30	30
SW-846 8260	71-43-2	Benzene	71	119	%REC	30	30
SW-846 8260	75-27-4	Bromodichloromethane	70	124	%REC	30	30
SW-846 8260	75-25-2	Bromoform	73	115.5	%REC	30	30
SW-846 8260	74-83-9	Bromomethane	49.2	132	%REC	30	30
SW-846 8260	75-15-0	Carbon Disulfide	52	111	%REC	30	30
SW-846 8260	56-23-5	Carbon Tetrachloride	65	114	%REC	30	30
SW-846 8260	108-90-7	Chlorobenzene	79	118.6	%REC	30	30
SW-846 8260	75-00-3	Chloroethane	42.34	130	%REC	30	30
SW-846 8260	67-66-3	Chloroform	70	119.8	%REC	30	30
SW-846 8260	74-87-3	Chloromethane	30.8	124	%REC	30	30
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	72	114.6	%REC	30	30
SW-846 8260	124-48-1	Dibromochloromethane	73	115.4	%REC	30	30
SW-846 8260	100-41-4	Ethylbenzene	78.71	120.5	%REC	30	30
SW-846 8260	87-68-3	Hexachlorobutadiene	15.7	104.4	%REC	30	30
SW-846 8260	75-09-2	Methylene chloride	64	126	%REC	30	30
SW-846 8260	91-20-3	Naphthalene	38.19	120.1	%REC	30	30
SW-846 8260	100-42-5	Styrene	73.73	117.2	%REC	30	30
SW-846 8260	127-18-4	Tetrachloroethene	74	112.5	%REC	30	30
SW-846 8260	108-88-3	Toluene	75.42	125	%REC	30	30
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	78.03	127.1	%REC	30	30
SW-846 8260	79-01-6	Trichloroethene	66	206.3	%REC	30	30
SW-846 8260	75-01-4	Vinyl chloride	36.58	133	%REC	30	30
SW-846 8260	1330-20-7	Xylene	76.11	121.4	%REC	30	30
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	61	81	%REC	6	6
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	6.6	79	%REC	6	6
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	9.6	82	%REC	6	6
SW-846 8270	120-83-2	2,4-Dichlorophenol	5.8	81	%REC	6	6
SW-846 8270	105-67-9	2,4-Dimethylphenol	59	82	%REC	6	6
SW-846 8270	51-28-5	2,4-Dinitrophenol	23	52	%REC	6	6
SW-846 8270	121-14-2	2,4-Dinitrotoluene	61	84	%REC	6	6
SW-846 8270	606-20-2	2,6-Dinitrotoluene	60	88	%REC	6	6
SW-846 8270	91-58-7	2-Chloronaphthalene	58	84	%REC	6	6
SW-846 8270	95-57-8	2-Chlorophenol	8	74	%REC	6	6
SW-846 8270	91-57-6	2-Methylnaphthalene	62	82	%REC	6	6

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Unit	No. of Samples	No. of Lab Batches
SW-846 8270	95-48-7	2-Methylphenol	55	76	%REC	6	6
SW-846 8270	88-74-4	2-Nitroaniline	51	83	%REC	6	6
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	53	72	%REC	6	6
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	31	57	%REC	6	6
SW-846 8270	106-47-8	4-Chloroaniline	49	64	%REC	6	6
SW-846 8270	106-44-5	4-Methylphenol	55	80	%REC	6	6
SW-846 8270	100-02-7	4-Nitrophenol	0	77	%REC	6	6
SW-846 8270	83-32-9	Acenaphthene	57	76	%REC	6	6
SW-846 8270	120-12-7	Anthracene	59	79	%REC	6	6
SW-846 8270	56-55-3	Benzo(a)anthracene	58	79	%REC	6	6
SW-846 8270	50-32-8	Benzo(a)pyrene	59	78	%REC	6	6
SW-846 8270	205-99-2	Benzo(b)fluoranthene	58	78	%REC	6	6
SW-846 8270	207-08-9	Benzo(k)fluoranthene	60	79	%REC	6	6
SW-846 8270	65-85-0	Benzoic Acid	0	37	%REC	6	6
SW-846 8270	100-51-6	Benzyl Alcohol	55	76	%REC	6	6
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	46	122	%REC	6	6
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	48	72	%REC	6	6
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	59	79	%REC	6	6
SW-846 8270	85-68-7	Butylbenzylphthalate	56	78	%REC	6	6
SW-846 8270	218-01-9	Chrysene	58	79	%REC	6	6
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	53	86	%REC	6	6
SW-846 8270	132-64-9	Dibenzofuran	62	82	%REC	6	6
SW-846 8270	84-66-2	Diethylphthalate	59	86	%REC	6	6
SW-846 8270	131-11-3	Dimethylphthalate	60	89	%REC	6	6
SW-846 8270	84-74-2	Di-n-butylphthalate	57	81	%REC	6	6
SW-846 8270	117-84-0	Di-n-octylphthalate	52	80	%REC	6	6
SW-846 8270	206-44-0	Fluoranthene	59	81	%REC	6	6
SW-846 8270	86-73-7	Fluorene	59	77	%REC	6	6
SW-846 8270	118-74-1	Hexachlorobenzene	58	89	%REC	6	6
SW-846 8270	87-68-3	Hexachlorobutadiene	61	91	%REC	6	6
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	26	56	%REC	6	6
SW-846 8270	67-72-1	Hexachloroethane	55	78	%REC	6	6
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	53	84	%REC	6	6
SW-846 8270	78-59-1	Isophorone	53	78	%REC	6	6
SW-846 8270	91-20-3	Naphthalene	56	78	%REC	6	6
SW-846 8270	98-95-3	Nitrobenzene	53	81	%REC	6	6
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	66	97	%REC	6	6
SW-846 8270	621-64-7	n-Nitrosodipropylamine	51	85	%REC	6	6
SW-846 8270	87-86-5	Pentachlorophenol	20	59	%REC	6	6
SW-846 8270	108-95-2	Phenol	44	75	%REC	6	6
SW-846 8270	129-00-0	Pyrene	57	73	%REC	6	6

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Arsenic analytical results were further evaluated with respect to their individual MS results. Low MS recoveries for arsenic did not affect project decisions because the decision whether or not to remediate included the results of the SSRS as well as the AL comparison.

For aluminum and iron, even though the low recoveries were 0 percent, the respective WRW ALs are at least three times greater than the highest sample result, thus no decisions were impacted. For manganese, the WRW AL is less than three times the highest sample result. However, the low MS recovery for manganese did not affect project decisions because the highest result was from the subsurface, and the decision whether or not to remediate included the results of the SSRS as well as the AL comparison.

13.2.2 Precision

Matrix Spike Duplicate Evaluation

Laboratory precision is measured through use of MSDs, which is summarized in Table 18. Analytes with the highest relative percent differences (RPDs) were reviewed by comparing the highest sample result to the WRW AL. For analytes with RPDs greater than 35 percent, if the highest sample concentrations were sufficiently below the AL, no further action is needed. For this project, the review indicated decisions were not impacted. Maximum concentrations were more than three times less than the WRW ALs, except for chromium and manganese. However, the only elevated chromium concentration was remediated due to other contaminants. The decision on whether to remediate the manganese concentration is based on not only an AL comparison but also the results of the SSRS.

Table 18
Sample MSD Evaluation Summary

Test Method	CAS No.	Analyte	Max of RPD
SW-846 6010	7429-90-5	Aluminum	187.37
SW-846 6010	7440-36-0	Antimony	50.00
SW-846 6010	7440-38-2	Arsenic	7.75
SW-846 6010	7440-39-3	Barium	44.25
SW-846 6010	7440-41-7	Beryllium	12.37
SW-846 6010	7440-43-9	Cadmium	33.04
SW-846 6010	7440-47-3	Chromium	44.60
SW-846 6010	7440-48-4	Cobalt	16.98
SW-846 6010	7440-50-8	Copper	27.72
SW-846 6010	7439-89-6	Iron	176.80
SW-846 6010	7439-92-1	Lead	12.63
SW-846 6010	7439-93-2	Lithium	18.18
SW-846 6010	7439-96-5	Manganese	163.64
SW-846 6010	7439-97-6	Mercury	123.08
SW-846 6010	7439-98-7	Molybdenum	9.68
SW-846 6010	7440-02-0	Nickel	21.57

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Test Method	CAS No.	Analyte	Max of RPD
SW-846 6010	7782-49-2	Selenium	9.09
SW-846 6010	7440-22-4	Silver	19.61
SW-846 6010	7440-24-6	Strontium	13.86
SW-846 6010	7440-31-5	Tin	8.00
SW-846 6010	11-09-6	Uranium, Total	10.85
SW-846 6010	7440-62-2	Vanadium	40.46
SW-846 6010	7440-66-6	Zinc	56.84
SW-846 8082	12674-11-2	Aroclor-1016	186.78
SW-846 8082	11096-82-5	Aroclor-1260	55.79
SW-846 8260	71-55-6	1,1,1-Trichloroethane	22.53
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	76.28
SW-846 8260	79-00-5	1,1,2-Trichloroethane	29.80
SW-846 8260	75-34-3	1,1-Dichloroethane	20.84
SW-846 8260	75-35-4	1,1-Dichloroethene	18.28
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	23.20
SW-846 8260	95-50-1	1,2-Dichlorobenzene	21.50
SW-846 8260	107-06-2	1,2-Dichloroethane	19.93
SW-846 8260	78-87-5	1,2-Dichloropropane	20.46
SW-846 8260	106-46-7	1,4-Dichlorobenzene	21.27
SW-846 8260	78-93-3	2-Butanone	32.92
SW-846 8260	108-10-1	4-Methyl-2-pentanone	25.62
SW-846 8260	67-64-1	Acetone	32.42
SW-846 8260	71-43-2	Benzene	19.12
SW-846 8260	75-27-4	Bromodichloromethane	22.96
SW-846 8260	75-25-2	Bromoform	20.54
SW-846 8260	74-83-9	Bromomethane	32.10
SW-846 8260	75-15-0	Carbon Disulfide	25.23
SW-846 8260	56-23-5	Carbon Tetrachloride	22.88
SW-846 8260	108-90-7	Chlorobenzene	20.55
SW-846 8260	75-00-3	Chloroethane	30.03
SW-846 8260	67-66-3	Chloroform	19.96
SW-846 8260	74-87-3	Chloromethane	38.93
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	19.73
SW-846 8260	124-48-1	Dibromochloromethane	21.48
SW-846 8260	100-41-4	Ethylbenzene	21.58
SW-846 8260	87-68-3	Hexachlorobutadiene	41.21
SW-846 8260	75-09-2	Methylene chloride	19.80
SW-846 8260	91-20-3	Naphthalene	52.16
SW-846 8260	100-42-5	Styrene	20.20
SW-846 8260	127-18-4	Tetrachloroethene	22.19
SW-846 8260	108-88-3	Toluene	58.55
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	25.87
SW-846 8260	79-01-6	Trichloroethene	28.98
SW-846 8260	75-01-4	Vinyl chloride	28.06

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Test Method	CAS No.	Analyte	Max of RPD
SW-846 8260	1330-20-7	Xylene	19.52
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	19.26
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	40.00
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	20.90
SW-846 8270	120-83-2	2,4-Dichlorophenol	28.15
SW-846 8270	105-67-9	2,4-Dimethylphenol	19.85
SW-846 8270	51-28-5	2,4-Dinitrophenol	15.79
SW-846 8270	121-14-2	2,4-Dinitrotoluene	21.90
SW-846 8270	606-20-2	2,6-Dinitrotoluene	22.22
SW-846 8270	91-58-7	2-Chloronaphthalene	18.75
SW-846 8270	95-57-8	2-Chlorophenol	40.00
SW-846 8270	91-57-6	2-Methylnaphthalene	17.65
SW-846 8270	95-48-7	2-Methylphenol	21.14
SW-846 8270	88-74-4	2-Nitroaniline	19.47
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	24.30
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	19.05
SW-846 8270	106-47-8	4-Chloroaniline	23.53
SW-846 8270	106-44-5	4-Methylphenol	20.47
SW-846 8270	100-02-7	4-Nitrophenol	22.58
SW-846 8270	83-32-9	Acenaphthene	19.05
SW-846 8270	120-12-7	Anthracene	18.46
SW-846 8270	56-55-3	Benzo(a)anthracene	17.32
SW-846 8270	50-32-8	Benzo(a)pyrene	17.91
SW-846 8270	205-99-2	Benzo(b)fluoranthene	19.85
SW-846 8270	207-08-9	Benzo(k)fluoranthene	15.38
SW-846 8270	65-85-0	Benzoic Acid	85.71
SW-846 8270	100-51-6	Benzyl Alcohol	21.14
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	31.19
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	32.26
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	17.05
SW-846 8270	85-68-7	Butylbenzylphthalate	16.39
SW-846 8270	218-01-9	Chrysene	17.32
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	18.80
SW-846 8270	132-64-9	Dibenzofuran	18.98
SW-846 8270	84-66-2	Diethylphthalate	18.46
SW-846 8270	131-11-3	Dimethylphthalate	19.55
SW-846 8270	84-74-2	Di-n-butylphthalate	14.63
SW-846 8270	117-84-0	Di-n-octylphthalate	17.54
SW-846 8270	206-44-0	Fluoranthene	17.05
SW-846 8270	86-73-7	Fluorene	19.85
SW-846 8270	118-74-1	Hexachlorobenzene	18.71
SW-846 8270	87-68-3	Hexachlorobutadiene	18.44
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	23.73
SW-846 8270	67-72-1	Hexachloroethane	18.18

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Test Method	CAS No.	Analyte	Max of RPD
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	20.34
SW-846 8270	78-59-1	Isophorone	18.80
SW-846 8270	91-20-3	Naphthalene	20.80
SW-846 8270	98-95-3	Nitrobenzene	17.24
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	17.93
SW-846 8270	621-64-7	n-Nitrosodipropylamine	19.47
SW-846 8270	87-86-5	Pentachlorophenol	29.79
SW-846 8270	108-95-2	Phenol	21.14
SW-846 8270	129-00-0	Pyrene	17.91

Field Duplicate Evaluation

Field duplicate results reflect sampling precision, or overall repeatability of the sampling process. The frequency of field duplicate collection should exceed 1 field duplicate per 20 real samples, or 5 percent. Table 19 indicates that all field duplicate frequencies were greater than 5 percent.

Table 19
Field Duplicate Sample Frequency Summary

Test Method	Real	Duplicate	% Duplicate Samples
Alpha Spectroscopy	88	13	14.77%
Gamma Spectroscopy	253	17	6.72%
SW-846 6010	254	17	6.69%
SW-846 8082	40	5	12.50%
SW-846 8260	215	16	7.44%
SW-846 8270	41	4	9.76%
SW-846 8290	3	3	100.00%

The RPD values indicate how much variation exists in the field duplicate analyses. EPA data validation guidelines state that "there are no required review criteria for field duplicate analyses comparability" (EPA 1994b). For the DQA, the highest RPD values (Table 20) were reviewed. The highest concentrations for analytes with high RPD values (>35 percent) were multiplied by three, and the resulting values were compared to the ALs. For this project, the adjusted values for arsenic, chromium and manganese were high, however, project decisions were not impacted because the decision on whether to remediate is based on not only an AL comparison but also the results of the SSRS.

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Table 20
RPD Evaluation Summary

Lab Code	Test Method	Analyte	Max of Result RPD
ESTLDEN	Alpha Spectroscopy	Americium-241	54.55
ESTLDEN	Alpha Spectroscopy	Plutonium-239/240	33.23
ESTLDEN	Alpha Spectroscopy	Uranium-234	2.71
ESTLDEN	Alpha Spectroscopy	Uranium-238	10.19
URS	Gamma Spectroscopy	Americium-241	152.89
ESTLDEN	SW-846 6010	Aluminum	91.97
ESTLDEN	SW-846 6010	Arsenic	58.06
ESTLDEN	SW-846 6010	Barium	120.99
ESTLDEN	SW-846 6010	Beryllium	66.67
ESTLDEN	SW-846 6010	Cadmium	147.17
ESTLDEN	SW-846 6010	Chromium	94.74
ESTLDEN	SW-846 6010	Cobalt	70.27
ESTLDEN	SW-846 6010	Copper	58.06
ESTLDEN	SW-846 6010	Iron	69.84
ESTLDEN	SW-846 6010	Lead	142.22
ESTLDEN	SW-846 6010	Lithium	57.58
ESTLDEN	SW-846 6010	Manganese	92.68
ESTLDEN	SW-846 6010	Mercury	62.16
ESTLDEN	SW-846 6010	Molybdenum	113.51
ESTLDEN	SW-846 6010	Nickel	90.20
ESTLDEN	SW-846 6010	Silver	34.04
ESTLDEN	SW-846 6010	Strontium	87.02
ESTLDEN	SW-846 6010	Vanadium	51.85
ESTLDEN	SW-846 6010	Zinc	152.20
ESTLDEN	SW-846 8082	Aroclor-1016	192.37
ESTLDEN	SW-846 8082	Aroclor-1221	163.64
ESTLDEN	SW-846 8082	Aroclor-1232	130.28
ESTLDEN	SW-846 8082	Aroclor-1242	130.28
ESTLDEN	SW-846 8082	Aroclor-1254	130.28
ESTLDEN	SW-846 8082	Aroclor-1260	136.13
ESTLDEN	SW-846 8260	1,1,1-Trichloroethane	9.68
ESTLDEN	SW-846 8260	1,1-Dichloroethane	9.68
ESTLDEN	SW-846 8260	1,2,4-Trichlorobenzene	9.68
ESTLDEN	SW-846 8260	1,2-Dichloroethane	9.38
ESTLDEN	SW-846 8260	4-Methyl-2-pentanone	12.24
ESTLDEN	SW-846 8260	Benzene	9.68
ESTLDEN	SW-846 8260	Bromodichloromethane	9.68
ESTLDEN	SW-846 8260	Bromoform	9.68
ESTLDEN	SW-846 8260	Carbon Disulfide	9.68
ESTLDEN	SW-846 8260	Chlorobenzene	9.68
ESTLDEN	SW-846 8260	Chloroform	9.68
ESTLDEN	SW-846 8260	cis-1,3-Dichloropropene	9.68

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Lab Code	Test Method	Analyte	Max of Result RPD
ESTLDEN	SW-846 8260	Dibromochloromethane	9.68
ESTLDEN	SW-846 8260	Methylene chloride	9.68
ESTLDEN	SW-846 8260	Naphthalene	9.68
ESTLDEN	SW-846 8260	Styrene	9.68
ESTLDEN	SW-846 8260	Tetrachloroethene	9.38
ESTLDEN	SW-846 8260	Toluene	9.68
ESTLDEN	SW-846 8260	trans-1,3-Dichloropropene	9.38
ESTLDEN	SW-846 8260	Trichloroethene	9.38
URS	SW-846 8260	Xylene	163.64
ESTLDEN	SW-846 8270	1,2,4-Trichlorobenzene	11.04
ESTLDEN	SW-846 8270	2,4,5-Trichlorophenol	11.04
ESTLDEN	SW-846 8270	2,4,6-Trichlorophenol	11.04
ESTLDEN	SW-846 8270	2,4-Dichlorophenol	11.04
ESTLDEN	SW-846 8270	2,4-Dimethylphenol	11.04
ESTLDEN	SW-846 8270	2,4-Dinitrophenol	9.76
ESTLDEN	SW-846 8270	2-Chloronaphthalene	11.04
ESTLDEN	SW-846 8270	2-Chlorophenol	11.04
ESTLDEN	SW-846 8270	2-Methylnaphthalene	11.04
ESTLDEN	SW-846 8270	2-Methylphenol	11.04
ESTLDEN	SW-846 8270	2-Nitroaniline	9.76
ESTLDEN	SW-846 8270	3,3'-Dichlorobenzidine	12.50
ESTLDEN	SW-846 8270	4,6-Dinitro-2-methylphenol	9.76
ESTLDEN	SW-846 8270	4-Chloroaniline	12.50
ESTLDEN	SW-846 8270	4-Methylphenol	11.04
ESTLDEN	SW-846 8270	4-Nitrophenol	9.76
ESTLDEN	SW-846 8270	Acenaphthene	9.76
ESTLDEN	SW-846 8270	Anthracene	9.76
ESTLDEN	SW-846 8270	Benzo(a)anthracene	11.04
ESTLDEN	SW-846 8270	Benzo(a)pyrene	11.04
ESTLDEN	SW-846 8270	Benzo(b)fluoranthene	11.04
ESTLDEN	SW-846 8270	Benzo(k)fluoranthene	11.04
ESTLDEN	SW-846 8270	Benzoic Acid	9.76
ESTLDEN	SW-846 8270	Benzyl Alcohol	12.50
ESTLDEN	SW-846 8270	bis(2-Chloroethyl)ether	11.04
ESTLDEN	SW-846 8270	bis(2-Chloroisopropyl)ether	11.04
ESTLDEN	SW-846 8270	bis(2-Ethylhexyl)phthalate	11.04
ESTLDEN	SW-846 8270	Butylbenzylphthalate	11.04
ESTLDEN	SW-846 8270	Chrysene	11.04
ESTLDEN	SW-846 8270	Dibenz(a,h)anthracene	11.04
ESTLDEN	SW-846 8270	Dibenzofuran	11.04
ESTLDEN	SW-846 8270	Diethylphthalate	11.04
ESTLDEN	SW-846 8270	Dimethylphthalate	11.04
ESTLDEN	SW-846 8270	Di-n-butylphthalate	11.04
ESTLDEN	SW-846 8270	Di-n-octylphthalate	11.04

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Lab Code	Test Method	Analyte	Max of Result RPD
ESTLDEN	SW-846 8270	Fluoranthene	11.04
ESTLDEN	SW-846 8270	Fluorene	11.04
ESTLDEN	SW-846 8270	Hexachlorobenzene	11.04
ESTLDEN	SW-846 8270	Hexachlorobutadiene	11.04
ESTLDEN	SW-846 8270	Hexachlorocyclopentadiene	11.04
ESTLDEN	SW-846 8270	Hexachloroethane	11.04
ESTLDEN	SW-846 8270	Indeno(1,2,3-cd)pyrene	11.04
ESTLDEN	SW-846 8270	Isophorone	11.04
ESTLDEN	SW-846 8270	Naphthalene	11.04
ESTLDEN	SW-846 8270	Nitrobenzene	11.04
ESTLDEN	SW-846 8270	n-Nitrosodiphenylamine	11.04
ESTLDEN	SW-846 8270	n-Nitrosodipropylamine	11.04
ESTLDEN	SW-846 8270	Pentachlorophenol	9.76
ESTLDEN	SW-846 8270	Phenol	11.04
ESTLDEN	SW-846 8270	Pyrene	11.04

13.2.3 Completeness

Based on original project DQOs, a minimum of 25 percent of ER Program analytical (and radiological) results must be formally verified and validated. Of that percentage, no more than 10 percent of the results may be rejected, which ensures that analytical laboratory practices are consistent with quality requirements. Table 21 shows the number and percentage of validated records (codes without "1"), the number and percentage of verified records (codes with "1"), and the percentage of rejected records for each analyte group for this project. For this project, the percentages of analyses validated were below Program requirements, however, the ER Program V&V goal of 25 percent is being met.

13.2.4 Sensitivity

RLs, in units of ug/kg for organics, mg/kg for metals, and pCi/g for radionuclides, were compared with RFCA WRW ALs. Adequate sensitivities of analytical methods were attained for all COCs that affected remediation decisions. "Adequate" sensitivity is defined as an RL less than an analyte's associated AL, typically less than one-half the AL.

13.3 Summary of Data Quality

RPDs greater than 35 percent indicate the sampling precision limits of some analytes have been exceeded. Also, the validation percentages for the project are below 25 percent, however, the ER Program V&V goal of 25 percent is being met. Data collected and used for IHSS Group 700-7 are adequate for decision-making.

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Table 21
Validation and Verification Summary

Validation Qualifier Code	Total of CAS Numbers	Alpha Spectroscopy Results	Gamma Spectroscopy Results	SW-846 6010 Results	SW-846 8082 Results	SW-846 8260 Results	SW-846 8270 Results
No V&V	19	4	0	0	14	1	0
J	358	90	0	358	0	0	0
J1	998	0	0	987	0	11	0
JB	18	0	0	0	0	18	0
JB1	16	0	0	0	0	16	0
R	3	0	0	3	0	0	0
R1	17	0	0	5	0	0	12
UJ	141	0	0	80	0	59	2
UJ1	423	1	0	281	0	140	1
V	3183	106	159	870	28	1866	154
V1	12910	329	600	3248	238	6532	1963
Total	18086	440	759	5832	280	8643	2132
Validated	3703	106	159	1311	28	1943	156
% Validated	20.47%	24.09%	20.95%	22.48%	10.00%	22.48%	7.32%
Verified	14364	330	600	4521	238	6699	1976
% Verified	79.42%	75.00%	79.05%	77.52%	85.00%	77.51%	92.68%
Rejected	20	0	0	8	0	0	12
% Rejected	0.11%	0.00%	0.00%	0.14%	0.00%	0.00%	0.56%

Code Key
Validated J, V, JB, UJ
Verified 1, J1, V1, JB1, UJ1

14.0 CONCLUSION

Results of the accelerated action justify NFAA. Justification is based on the reasons summarized below.

- No further accelerated action required based on surface soil data. All residual surface soil concentrations are less than WRW ALs.
- No further accelerated action required based on the SSRS. Subsurface soil in the area is not subject to significant erosion. The residual arsenic concentration and the six Pu-239/240 activities that exceed their WRW ALs will be further evaluated in the AAESE and the ecological risk assessment portion of the Sitewide CRA. All other residual subsurface soil concentrations are less than WRW ALs.
- No further accelerated action required by the stewardship evaluation.

Additional fill will be brought in to bring the area to final grade and to ensure that all remaining structural features (i.e., the remaining structural upgrade foundations and the Building 782 tunnel) are at least 3 feet below final grade. Final site fill and grading will be conducted when the 700-3 (UBC 776/777) project is completed.

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15.0 REFERENCES

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

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

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K-H, 2002, V&V Guidelines for Volatile Organics, DA-SS01-v3, Rocky Flats Environmental Technology Site, Golden, Colorado, October.

K-H, 2002, V&V Guidelines for Semivolatile Organics, DA-SS02-v3, Rocky Flats Environmental Technology Site, Golden, Colorado, October.

K-H, 2002, V&V Guidelines for Metals, DA-SS05-v3, Rocky Flats Environmental Technology Site, Golden, Colorado, October.

Lockheed-Martin, 1997, Evaluation of Radiochemical Data Usability, ES/ER/MS-5.

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Appendix A
Correspondence

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: August 17, 2004/4:00 pm

Site Contact(s): Annette Primrose

Regulatory Contact: David Kruchek
Phone: 303 692-3328
Agency: CDPHE

Purpose of Contact: Backfill of 700-7 Hot spot

Discussion
Contaminated soil was removed from the area around CI46-014, where soils above action levels were identified. The excavation is approximately 5 feet long, 3 feet wide and approximately 3.5 feet deep. This excavation is adjacent to and connected with the previous excavation for this hotspot that is located immediately to the north. The previous excavation removed much but not all of the contaminated soil at this location.

Screening samples were collected from all four corners of the excavation and all were below action levels. The sample with the highest activity was then sent off-site for alpha spec analysis. Based on these results, it was agreed that the excavation could be backfilled.

Contact Record Prepared By: Annette Primrose

Required Distribution:

M. Aguilar, USEPA
H. Ainscough, CDPHE
S. Bell, DOE-RFPO
J. Berardini, K-H
B. Birk, DOE-RFPO
L. Brooks, K-H ESS
L. Butler, K-H RISS
G. Carnival, K-H RISS
N. Castaneda, DOE-RFPO
C. Deck, K-H Legal
N. Demos, SSOC
S. Gunderson, CDPHE
M. Keating, K-H RISS
G. Kleeman, USEPA
D. Kruchek, CDPHE
J. Legare, DOE-RFPO
D. Mayo, K-H RISS
J. Mead, K-H ESS
S. Nesta, K-H RISS
L. Norland, K-H RISS
K. North, K-H ESS
E. Pottorff, CDPHE
A. Primrose, K-H RISS
R. Schassburger, DOE-RFPO
S. Serreze, K-H RISS
D. Shelton, K-H ESS
C. Spreng, CDPHE
S. Surovchak, DOE-RFPO
J. Walstrom, K-H RISS
K. Wiemelt, K-H RISS
C. Zahm, K-H Legal

Additional Distribution:

Mike Bemski, K-H RISS
Gerry Kelly, K-H RISS
Sherry Lopez, K-H RISS
Sam Garcia, USEPA
Joe Hebert, K-H RISS
Dave Chojnacki, K-H RISS
Vicki Wren, K-H RISS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: August 11, 2004/2:00 pm

Site Contact(s): Karen Wiemelt, Norma Castaneda, Mike Bemski, Joe Hebert, Annette Primrose

Regulatory Contact: David Kruchek
Phone: 303 692-3328
Agency: CDPHE

Purpose of Contact: Modifications to the 700-7 RSOP Notification

Discussion

As described in the ER RSOP Notification for 700-7, contaminated soil was to be removed from locations that exceeded WRW action levels. One of these areas is location CI46-014. As previously described in a contact record dated July 29th, an area approximately 20 feet east of this location was inadvertently excavated in May 2004, most likely due to a survey location that was offset to account for materials in the way. Confirmation samples verified that this area was clean.

The mistake was discovered when the confirmation samples were plotted and found not to be located around the original sample location as expected. The location was resurveyed and excavated this August. When the newest confirmation sample locations were plotted, these also did not fall around the initial sample location, but were approximately 1 ½ feet to the north. The center of the excavation was approximately 3 ½ feet to the north of the initial sample location. As a check, the initial sample location and the excavation boundaries were resurveyed. This demonstrated that the excavation and the initial location did not coincide.

Because the top of the excavation extended beyond the limits of the excavation bottom, some of the contaminated soil has been removed. However, some contaminated soil likely remains. Therefore, additional soil will be excavated and additional confirmation samples will be collected at this location. The confirmation samples will be collected consistent with previous 700-7 confirmation samples (i.e., Collect samples from the 4 corners at the base of the excavation, and send to the screening lab. After all corners pass action levels, then take the highest of the 4 and send that one offsite for alpha spec analyses. Additional excavation and sampling may be needed based on results.) The excavation boundaries will be surveyed and these locations plotted prior to backfill to verify that the appropriate location is excavated.

Contact Record Prepared By: Karen Wiemelt

Required Distribution:

M. Aguilar, USEPA
H. Ainscough, CDPHE
S. Bell, DOE-RFPO
J. Berardini, K-H
B. Birk, DOE-RFPO
D. Mayo, K-H RISS
J. Mead, K-H ESS
S. Nesta, K-H RISS
L. Norland, K-H RISS
K. North, K-H ESS

Additional Distribution:

Gerry Kelly, K-H RISS
Mike Bemski, K-H RISS
Sherry Lopez, K-H RISS
Sam Garcia, USEPA
Joe Hebert, K-H RISS

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L. Brooks, K-H ESS	E. Pottorff, CDPHE	_____
L. Butler, K-H RISS	A. Primrose, K-H RISS	_____
G. Carnival, K-H RISS	R. Schassburger, DOE-RFPO	_____
N. Castaneda, DOE-RFPO	S. Serreze, K-H RISS	_____
C. Deck, K-H Legal	D. Shelton, K-H ESS	_____
N. Demos, SSOC	C. Spreng, CDPHE	_____
S. Gunderson, CDPHE	S. Surovchak, DOE-RFPO	_____
M. Keating, K-H RISS	J. Walstrom, K-H RISS	_____
G. Kleeman, USEPA	K. Wiemelt, K-H RISS	_____
D. Kruchek, CDPHE	C. Zahm, K-H Legal	_____
J. Legare, DOE-RFPO		_____

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	August 2, 2004 / 12:20PM
Site Contact(s):	Michael Bemski
Phone:	303 966-4090
Regulatory Contact:	David Kruchek
Phone:	303 692-3328
Agency:	CDPHE
Purpose of Contact:	Backfill of Corrected CI46-014 Hotspot at 700-7 (779)

Discussion

The purpose of this Contact Record is to confirm approval from the State to backfill the excavation of hotspot location CI46-014 at 700-7 (779). Earlier, this location had inadvertently been excavated approximately 20 feet to the east of the correct location. The corrected excavation is 4 feet below current grade and gamma spec screening of samples indicates activity levels below action level. The sample collected that contained the highest activity has been sent for off-site confirmation analysis using alpha spec. The 700-7 project understands that if the analytical result of the confirmation sample indicates contamination in excess of the action level, further remediation may be required.

Contact Record Prepared By: Michael Bemski

Required Distribution:		Additional Distribution:
M. Aguilar, USEPA	D. Mayo, K-H RISS	Joe Hebert, K-H RISS
H. Ainscough, CDPHE	J. Mead, K-H ESS	Gerry Kelly, K-H RISS
S. Bell, DOE-RFPO	S. Nesta, K-H RISS	
J. Berardini, K-H	L. Norland, K-H RISS	
B. Birk, DOE-RFPO	K. North, K-H ESS	
L. Brooks, K-H ESS	E. Pottorff, CDPHE	
L. Butler, K-H RISS	A. Primrose, K-H RISS	
G. Carnival, K-H RISS	R. Schassburger, DOE-RFPO	
N. Castaneda, DOE-RFPO	S. Serreze, K-H RISS	
C. Deck, K-H Legal	D. Shelton, K-H ESS	
N. Demos, SSOC	C. Spreng, CDPHE	
S. Gunderson, CDPHE	S. Surovchak, DOE-RFPO	
M. Keating, K-H RISS	J. Walstrom, K-H RISS	
D. Kruchek, CDPHE	K. Wiemelt, K-H RISS	
J. Legare, DOE-RFPO	C. Zahm, K-H Legal	

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: July 29, 2004 / 1030 am

Site Contact(s): Karen Wiemelt Norma Castaneda
Phone: 303 966-9883 303 966-4226

Regulatory Contact: David Kruchek
Phone: 303 692-3328
Agency: CDPHE

Purpose of Contact: 700-7 Remediation

Discussion
As described in the ER RSOP Notification for 700-7, areas with WRW action level exceedances are to be excavated. As such, an approximate 4' by 4' by 3' deep was to be removed from around location CI46-014. During implementation of the ER RSOP Notification, an area approximately 20 feet west of this location was inadvertently excavated. Confirmation samples confirmed that this area was clean.

After discovery, the correct location was surveyed and will be excavated in accordance with the ER RSOP notification. This information along with confirmation sampling results will be documented in the 700-7 Closeout Report.

Contact Record Prepared By: Karen Wiemelt

Required Distribution:

M. Aguilar, USEPA
H. Ainscough, CDPHE
S. Bell, DOE-RFPO
J. Berardini, K-H
B. Birk, DOE-RFPO
L. Brooks, K-H ESS
L. Butler, K-H RISS
G. Carnival, K-H RISS
N. Castaneda, DOE-RFPO
C. Deck, K-H Legal
N. Demos, SSOC
S. Gunderson, CDPHE
M. Keating, K-H RISS
G. Kleeman, USEPA
D. Kruchek, CDPHE
J. Legare, DOE-RFPO
D. Mayo, K-H RISS
J. Mead, K-H ESS
S. Nesta, K-H RISS
L. Norland, K-H RISS
K. North, K-H ESS
E. Pottorff, CDPHE
A. Primrose, K-H RISS
R. Schassburger, DOE-RFPO
S. Serreze, K-H RISS
D. Shelton, K-H ESS
C. Spreng, CDPHE
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Sam Garcia, USEPA

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: 07-21-2004 / 1256

Site Contact(s): Mike Bemski
Phone: 303-966-4090

Regulatory Contact: David Kruchek
Phone: 303-692-3328

Agency: CDPHE

Purpose of Contact: Sampling Under 779 Basement

Discussion

One of the original samples planned for collection at the 700-7 project was CH45-065, which was to be collected immediately under the center of the base of the 779 basement. This is to confirm approval from the State, that instead of the collecting CH45-065, the four 779 basement corner locations would be collected by Geoprobe to a depth below the base of the basement and samples taken at two foot intervals would all analyzed for the same analytes as planned for CH45-065. Concerns with collecting the sample under the center of the base of the 779 basement are:

- The drilling would have to be done in a confined space that would be difficult to access and get equipment into operating position, and
- The base of the basement is below the water table, presenting the safety issue of having water enter the confined space and making sample collection difficult.

Contact Record Prepared By: Mike Bemski

Required Distribution:		Additional Distribution:
M. Aguilar, USEPA	R. McCallister, DOE-RFFO	G. Kelly, K-H RISS
S. Bell, DOE-RFFO	J. Mead, K-H ESS	J. Hebert, K-H RISS
J. Berardini, K-H	S. Nesta, K-H RISS	
B. Birk, DOE-RFFO	L. Norland, K-H RISS	
L. Brooks, K-H ESS	K. North, K-H ESS	
D. Mayo, K-H RISS	E. Pottorff, CDPHE	
L. Butler, K-H RISS	A. Primrose, K-H RISS	
G. Carnival, K-H RISS	R. Schassburger, DOE-RFFO	
N. Castaneda, DOE-RFFO	S. Serreze, K-H RISS	
C. Deck, K-H Legal	D. Shelton, K-H ESS	
S. Gunderson, CDPHE	C. Spreng, CDPHE	

M. Keating, K-H RISS	S. Surovchak, DOE-RFFO	_____
G. Kleeman, USEPA	K. Wiemelt, K-H RISS	_____
D. Kruchek, CDPHE	C. Zahm, K-H Legal	_____

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: 07-21-2004 / 1256

Site Contact(s): Mike Bemski
Phone: 303-966-4090

Regulatory Contact: David Kruchek
Phone: 303-692-3328

Agency: CDPHE

Purpose of Contact: Number of Contaminated Area Grid Confirmation Samples

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Discussion

In order to determine the quantity and extent of radiological contamination in the soil of the Contaminated Area (CA) at 700-7, a 4' x 4' grid pattern was laid out over the entire CA. Soil samples were collected at the center of each square. If the center sample analysis indicated contamination above action level, 4 additional samples were collected at the north, south, east and west edge of each square. Following excavation of the contaminated soil, the same sampling pattern was applied, except that instead of starting at the center of the square, the first sample collected was immediately underneath the location with the highest activity found in the prior analyses. This is to confirm that when the analyses showed radiological contamination below action level, 5 of the grid-related samples would be selected based on location around the CA and those 5 samples would be sent for alpha spec analysis offsite as confirmation samples. These confirmation samples would be in addition to the samples required per the Sampling and Analysis Plan.

Contact Record Prepared By: Mike Bemski

Required Distribution:		Additional Distribution:
M. Aguilar, USEPA	R. McCallister, DOE-RFFO	G. Kelly, K-H RISS
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J. Berardini, K-H	S. Nesta, K-H RISS	
B. Birk, DOE-RFFO	L. Norland, K-H RISS	
L. Brooks, K-H ESS	K. North, K-H ESS	
D. Mayo, K-H RISS	E. Pottorff, CDPHE	
L. Butler, K-H RISS	A. Primrose, K-H RISS	
G. Carnival, K-H RISS	R. Schassburger, DOE-RFFO	
N. Castaneda, DOE-RFFO	S. Serreze, K-H RISS	

C. Deck, K-H Legal	D. Shelton, K-H ESS	_____
S. Gunderson, CDPHE	C. Spreng, CDPHE	_____
M. Keating, K-H RISS	S. Surovchak, DOE-RFFO	_____
G. Kleeman, USEPA	K. Wiemelt, K-H RISS	_____
D. Kruchek, CDPHE	C. Zahm, K-H Legal	_____

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
REGULATORY CONTACT RECORD

Date/Time: 04/28/04 and 05/05/04 - 0830

Site Contact(s): C. J. Freiboth (KH) – (CJF-074)
Phone: (303) 966-2823

Regulatory Contact: David Kruchek, CDPHE
Phone: (303) 692-3328

Agency: CDPHE

Purpose of Contact: Disposition of Building 779 Basement Structure

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Meeting Attendance:

C. J. Freiboth, KH PM	David Kruchek, CDPHE
Karen Wiemelt, KH PM	Steve Nesta, KH
Joe Hebert, KH PM	

Discussion

Two meetings with CDPHE (Kruchek) and Kaiser-Hill personnel were held related to the Building 779 basement structure. This structure includes an upper basement and four sub-basement pits accessed from the basement level. The bottom of the pits is approximately 18 feet below current grade and will be 21 feet below the currently proposed final grade. The subject discussion proposed removing the basement structure that is within 4 feet of current grade, removing the ladders, grates, pumps and non-concrete equipment; and flow-fill the remaining basement and pit with flowable fill concrete.

Characterization of the basement involved a review of the following:

Beryllium samples were taken of the basement and pits to establish PPE for worker safety. Eight samples taken in the upper basement were below 0.2 $\mu g/100cm^2$ (unrestricted release criteria). Seven samples were taken in each of the four sub-basement pits. Of these 28 samples, 19 were <0.2 $\mu g/100cm^2$. The 9 positive samples included: one sample >0.2 (0.215) $\mu g/100cm2$ in the southeast pit, one >0.2 (0.685) in the northeast pit, and seven samples >0.2 (0.209, 0.500, 0.531, 0.629, 0.595, 0.713, 251.0) in the northwest pit. These areas were all decontaminated and samples were re-taken on all concrete surfaces that were initially greater than 0.2 $\mu g/100cm^2$. All subsequent samples were <0.2 $\mu g/cm^2$. Therefore, the basement and pits meet the unrestricted release criteria for beryllium.

Radiological contamination surveys were performed in the basement and pits. The basement was surveyed at 30 locations distributed evenly across the floor and walls. No removable contamination was found. Two points of fixed alpha contamination >100 dpm/100cm^2 (unrestricted release criteria) were identified (102 and 166). Subsequent surveys in these locations were below unrestricted release criteria, indicating the initial surveys had detected radon.

Fifty-four evenly distributed locations were surveyed in the pits. Removable alpha of 102 dpm/100cm^2 was found at one location, but subsequently decontaminated in the process of cleaning the area. Eight locations indicated fixed contamination >100 dpm/cm^2. One of these was 304 dpm/cm^2 fixed alpha in the southeast pit. The remaining seven were <125 dpm/100cm^2. Four of these seven were on pit walls (3 in the southeast pit, 1 in the northwest pit). Similar to the basement, subsequent surveys in these locations were below unrestricted release criteria, indicating initial surveys detected radon. One of these seven was in the southwest pit floor and was 106 dpm/100 cm^2. All other locations within the southwest pit were below the unrestricted release criteria. The location above the unrestricted release criteria was not able to be re-surveyed due to excessive water but may also be attributable to radon. A re-survey of the area around the 304 dpm/100cm^2 fixed contamination in the southeast pit indicated levels of fixed alpha activity up to 804 dpm/100cm^2. The extent of fixed contamination is in an area approximately 3 feet by 4 feet, 18 feet below current grade.

Radiological samples of concrete plugs, taken in the southeast pit, indicate contamination has not migrated. The highest value was 3.56 pCi/g of americium-241. While not directly comparable to RFCA Wildlife Refuge Worker Soil Action Levels, the americium value of 3.56 pCi/g is much less than the americium action level of 76 pCi/g and when converted to plutonium activity, it is less than the plutonium action level of 50 pCi/g. Additionally, a review of the concrete plug metal, volatile, and semi-volatile sample results shows no detects above solid hazardous waste TCLP regulatory limits.

Industrial Area Sampling and Analysis Plan Addendum #IA-03-15 sample results in the vicinity of the southern pits also indicates that contamination has not migrated. Radiological results are well below the RFCA Wildlife Refuge Worker Soil Action Levels.

The conclusions drawn from review of the above information are that:

- The basement and 2 (possibly 3) of the 4 pits meet the unrestricted release criteria.
- The southeast pit contains a small amount of fixed contamination.
- The fixed contamination is not migrating into the environment.

Discussions related to why decontamination of these areas or entire basement removal is not the suggested path forward were also held. This included:

1. Scabbling or removing the contaminated concrete would be extremely difficult. Lowering equipment 18 feet through small openings into the pit poses several hoisting and rigging hazards to the workers. These hazards are not warranted given the depth, small area, and relatively low level of fixed contamination.
2. The size of hole required for excavation of the basement could potentially create sloping issues for both workers and equipment. For Class C Soil, a 20 foot deep excavation would require sloping of 1 ½ to 1, or 30 feet in either direction. To meet these sloping requirements, the size of the excavation would be approximately 80 feet by 90 feet.
3. Flow filling the basement and pits would further immobilize the fixed contamination in the concrete structure left in place, roughly 18 feet below the current grade and 22 feet below the currently proposed final grade.
4. The flowable fill will prevent groundwater intrusion into the void.
5. Because of the depth of this contamination, there is no exposure pathway to the Wildlife Refuge Worker or animals.

Based on the information presented, Kaiser-Hill proposed removing the basement walls within 4 feet of current grade and back-filling the remaining basement and pits with flowable fill concrete. CDPHE (Kruchek) agreed with the proposal.

The City of Broomfield and RFCLOG were also informed of the approach.

Contact Record Prepared By: C. J. Freiboth

Required Distribution:
M. Aguilar, USEPA
S. Bell, DOE
R. Birk, DOE
C. Deck, KH
D. Foss, KH
C. Gilbreath, KH
S. Gunderson, CDPHE
G. Kleeman, USEPA
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J. Legare, RFFO
R. Leitner, KH
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Additional Distribution:
M. Bemski, KH
N. Castaneda, DOE
C. J. Freiboth, KH
J. Hebert, KH
D. Parsons, KH
K. Wiemelt, KH

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	March 22, 2004 / 3:00PM	
Site Contact(s):	Mike Bemski	
Phone:	303-966-4090	
Regulatory Contact:	David Kruchek	Harlen Ainscough
Phone:	303-692-3328	303-692-3337
Agency:	CDPHE	
Purpose of Contact:	Path Forward for Soil Remediation near 784 - 700-7 (779) Remediation Project	

Discussion

The purpose of this ER Contact Record is to confirm the following discussion with the CDPHE regarding the excavation near the former 784 Cooling Tower at the northeast corner of the 700-7 Project. This discussion is only regarding the path forward, and another approval from the CDPHE will be sought following the listed actions. This discussion does not include actions associated with OPWL, which is handled through the separate OPWL crew.

History

An effort was made to relocate sampling locations that showed contamination in the 700-7 subsurface. Most of these locations were sampled in December 2003, before the 700-7 Project started. One of the locations was next to where a vitrified-clay OPWL was nicked by an excavator bucket in mid-January. A Contaminated Area (CA) was established around the pipe and the excavation was enlarged to allow for access to the pipe to remove broken pieces and seal the pipe. During the enlargement of the excavation, a December sample location (CJ45-005) was inadvertently excavated within the CA. The location has a Pu hit of 83 pCi/g at a depth 2.5 feet.

Path Forward

The soil that was removed by the enlargement of the excavation was segregated adjacent to the excavation. This soil will be entirely disposed as LLW, and none will be place back into the excavation. Following the removal of the soil, one sample will be collected beneath the former center of soil pile and analyzed for the 700-7 contaminants of concern. Should the analytical results of the sample show contamination above action level, further remediation will be perform and a new sample will be collected, analyzed, and the process repeated until the CDPHE agrees sufficient clean-up has been performed.

A confirmation sample will be collected at the existing CJ45-005 location that is now 3 feet beneath the original grade. If the analyses of this new sample show no results above action level, the remedial action for the soil will be considered complete and the CDPHE will be contacted for approval to backfill. If the analytical results of the sample indicate contamination above action levels, further remediation will be performed and another sample will be collected, analyzed, and the process repeated until the CDPHE agrees to allow for backfill of the excavation.

Contact Record Prepared By: Mike Bemski

Required Distribution

S. Bell, RFFO M. Keating, K-H RISS A. Primrose, K-H RISS

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J. Berardini, K-H
L. Brooks, K-H ESS
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L. Butler, K-H RISS
G. Carnival, K-H RISS
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C. Deck, K-H Legal
R. DiSalvo, RFFO
S. Gunderson, CDPHE
G. Kleeman, USEPA
D. Kruchek, CDPHE
D. Mayo, K-H RISS
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T. Rehder, USEPA
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C. Spreng, CDPHE
K. Wiemelt, K-H RISS
C. Zahm, K-H
M. Aguilar, USEPA
H. Ainscough, CDPHE

Additional Distribution
J. Hebert, K-H RISS
G. Kelly, K-H RISS

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	March 19, 2004 / 3:30PM
Site Contact(s):	Mike Bemski
Phone:	303-966-4090
Regulatory Contact:	David Kruchek
Phone:	303-692-3328
Agency:	CDPHE
Purpose of Contact:	Final disposition of the 782 Tunnel

Discussion

The purpose of this ER Contact Record is to confirm that the 700-7 (779) has approval from the CDPHE for the disposition of the 782 Tunnel as follows:

Radiological characterization of the sump at the northeast corner of the tunnel has been completed and no radiological contamination was found. Both field instruments and swipes collected, dried, and analyzed and showed no radiological contamination. A sample was collected of the sediment at the bottom of the sump and has been sent for analysis.

The dimensions of the sump in the northeast corner of the tunnel are now known to be a 36-inch square at the top and 37.5 inches from the floor of the tunnel to the bottom of the sump. The distance from the top of the wall of the tunnel to the floor of the tunnel is 16.5 feet. So the distance from the top of the wall of the tunnel to the bottom of the sump is approximately 19.5 feet. The thickness of concrete beneath the sump is believed to be one foot. So the distance from the top of the wall to bottom of the concrete beneath the sump is approximately 20.5 feet. The dirt surface at the top of the tunnel wall near the northeast corner is about even with the top of the tunnel wall.

As the sump is too deep to place the core drilling machine, the method of characterization of sediment beneath the sump will be by Geoprobe. The Geoprobe will be placed within two feet of the outside (on the surface soil) of the east side of the tunnel, and in-line to the west with the center of the sump (roughly 1.5 feet from the northeast corner of tunnel). The Geoprobe hole will be punched to 18.5 below the top of the tunnel wall. A two-foot thick interval will be collected from 18.5 to 20.5 and analyzed for 700-7 contaminants of concern. A second two-foot thick interval from 20.5 to 22.5 feet will also be collected and analyzed. Per the dimensions now known, these intervals should provide a good substitute for the data we could not collect in the sump itself.

Following the collection of the sample, the upper five feet of the tunnel will be broken and allowed to collapse within the tunnel space. Flow-fill concrete will then be poured into the tunnel and allowed to set up and will act as the support for clean soil backfill that will be placed on top of the concrete to the level required by the final grade.

Contact Record Prepared By: Mike Bemski

Required Distribution

S. Bell, RFFO	M. Keating, K-H RISS	A. Primrose, K-H RISS
J. Berardini, K-H	G. Kleeman, USEPA	T. Rehder, USEPA
L. Brooks, K-H ESS	D. Kruchek, CDPHE	S. Serreze, RISS

M.Broussard, K-H RISS
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G. Carnival, K-H RISS
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L. Norland, K-H RISS
K. North, K-H ESS
E. Pottorff, CDPHE
D. Shelton, K-H
C. Spreng, CDPHE
K. Wiemelt, K-H RISS
C. Zahm, K-H
M. Aguilar, USEPA

Additional Distribution
H. Ainscough, CDPHE
J. Hebert, K-H RISS
G. Kelly, K-H RISS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	March 19, 2004 / 3:00PM
Site Contact(s): **Phone:**	Mike Bemski 303-966-4090
Regulatory Contact: **Phone:**	David Kruchek 303-692-3328
Agency:	CDPHE
Purpose of Contact:	Backfill of excavations at the 700-7 (779) Remediation Project

Discussion

The purpose of this ER Contact Record is to confirm that the 700-7 (779) Remediation Project has approval from the CDPHE for backfill of the excavations already performed that are associated with the removal of the following 12 items:

NOTE: All required sampling in the vicinity of the items listed below has been performed. None of the items showed any indication of past spills and none had any radiological contamination. Analytical results have been received for some of the samples but not all. For the items listed below, all results thus far have been below action levels that would require further remediation. The 700-7 (779) Project understands and accepts the risk that should future analytical results indicate contamination in excess of the action levels, remediation and re-excavation may be required.

1. The cooling lines from the cooling towers at the northeast part of the 779 Annex. These lines were cutoff and grouted shut and are at least 3.5 feet beneath existing and final grade.
2. The east-west sanitary line near the center of the 779 Annex. The line appeared thoroughly flushed, had no indication of radiological contamination, and has been grouted shut at both ends. The line is at least 3.5 feet below existing and final grade.
3. The structural upgrade adjacent to the north-central part of the 779 Annex was removed entirely removed. All that remains is the support caisson that was beneath it. The top of the caisson is at least 3.5 feet below existing and final grade.
4. The OPWL beneath the southeast quadrant of Building 779 has been removed entirely. The OPWL in this vicinity appears to have never been brought on-line and had no radiological contamination.
5. 5 deep sanitary drains along the south edge of Building 779. The drains appear thoroughly flushed and had no radiological contamination. All are at least 3.5 feet beneath existing and final grade and appear to head south and out of the building at depth. Each of the 5 drains was grouted shut. All were vertical at the point where the lines were cut.
6. The steel-lined vault or sump that was in the southwest central part of the Annex and near the west elevator. The vault was removed entirely and had no outlet. All surfaces, both the inside and the outside, were found to be free of radiological contamination.
7. The west elevator shaft along the southwest side of the 779 Annex was entirely removed. A steel-wrapped caisson supporting the shaft remains and is at least 3.5 feet below existing and final grade. No radiological contamination was found on the surface of the elevator shaft.
8. The structural upgrade along the south side of Building 779 near the southeast corner. The upgrade was entirely removed. The upgrade was supported by 4 steel-wrapped caissons that remain and are at least 3.5 feet below existing and final grade.
9. The southeast elevator shaft near the south side of Building 779 was entirely removed. As with the west elevator shaft, it was supported by a steel-wrapped caisson that remains and is at least 3.5 feet

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below existing and final grade. The concrete of the elevator shaft, both the inside and outside surfaces, had no radiological contamination.

10. The east structural upgrade, south and east of the transformer pads, was removed entirely. This upgrade was supported by a single steel-wrapped caisson that remains and is at least 3.5 feet below existing and final grade.
11. The structural upgrade near the center along the south side of Building 779 was entirely removed. It was supported by 4 steel-wrapped caissons that remain and are at least 3.5 feet beneath existing and final grade.
12. The 300-gallon tank on the east side of the transformer pads. The tank was removed entirely and had maintained its integrity. It had been foamed and contained no fluids. No indication of leaks was noted beneath the tank.

Contact Record Prepared By: Mike Bemski

Required Distribution

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J. Berardini, K-H
L. Brooks, K-H ESS
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R. DiSalvo, RFFO
S. Gunderson, CDPHE
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Additional Distribution

H. Ainscough, CDPHE
J. Hebert, K-H RISS
G. Kelly, K-H RISS

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	March 4, 2004 / 4:00PM
Site Contact(s):	Mike Bemski
Phone:	303-966-4090
Regulatory Contact:	David Kruchek
Phone:	303-692-3328
Agency:	CDPHE
Purpose of Contact:	Backfill of excavations at the 700-7 (779) Remediation Project

Discussion

The purpose of this ER Contact Record is to confirm that the 700-7 (779) Remediation Project has approval from the CDPHE for backfill of the excavations associated with the removal of the following:

- Building 782 slab around the utility corridor cover, pipelines and foundation footers. All sampling has been completed except underneath the sump at the base of the utility corridor;
- Building 727 slab and underground 3,000 gallon fuel storage tank;
- Structural upgrades northeast of the Building 779 Annex; and
- The east-west line of OPWL at the northern end of the Building 779 Annex. The backfill of the OPWL will allow for continued sampling in the area.

The 700-7 Remediation Project understands that if any outstanding analytical results from samples that have been or will be collected in these areas indicate contamination above action levels, the Project will be required to remediate the contaminated soils.

Contact Record Prepared By: Mike Bemski

Required Distribution

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J. Berardini, K-H
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153

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	March 3, 2004/ 0900
Site Contact(s):	Joe Hebert, Mike Bemski, Nan Elzinga, and Gerry Kelly
Phone:	303 966-4979
Regulatory Contact:	David Kruchek
Phone:	303 692-3328
Agency:	CDPHE

Purpose of Contact: IHSS Group 700-7 – Deviations from IASAP Addendum #IA-03-15

Discussion

Several changes to IASAP Addendum #IA-03-15 were discussed and agreed upon, including sampling and analysis of the OPWL under the Building 779 slab, sampling around the transformer pads, sampling under the Building 782 pit, confirmation sampling within the Room 131/133 Release Area, and sampling and analysis under other UBC 779 features.

OPWL Under the Building 779 Slab: Soil under the OPWL was sampled at three locations (CH46-026, CH46-027 and CI46-006). These samples will not be analyzed for VOCs, because soil was exposed to air. This is a deviation from the IASAP Addendum. Therefore, after the OPWL excavations have been backfilled and the area made safer for subsurface sampling, the second interval under the OPWL at these locations will be sampled (a 2-foot sample will be collected with a geoprobe), and the samples will be analyzed for radionuclides, metals and VOCs.

In addition, the above sampling at the three locations did not address the potential for UBC contamination directly under the slab. Therefore, because the upper intervals at these locations have been disturbed by excavation activities, three new locations situated near the three sampled locations (3 to 5 feet from the excavation) will be sampled. Only the B interval (0.5 – 2.5 feet) will be collected (a 2-foot sample will be collected with a geoprobe), and it will be analyzed for radionuclides, metals and VOCs. This sampling will occur when the second intervals under the OPWL are collected. The A intervals in the area (northern half of the slab) will not be collected and analyzed, because it has been disturbed by excavation activities. Not sampling the A interval is a deviation from the IASAP Addendum.

OPWL locations south of the three locations where the slab has been removed will be sampled from four intervals. Because the slab has been removed, samples from the A interval (surface soil) will be collected but not be analyzed for VOCs, which is a deviation from the IASAP Addendum.

OPWL locations where the slab has not been removed will be sampled and analyzed as specified in the IASAP Addendum (coordinates, depth intervals, and analytes). This includes sampling and analysis at Locations CH45-066 and CH45-067, which are outside the basement area.

Transformer Pads: Six sampling locations were in the plan, and each was to be sampled for the first three intervals. This has not changed. The locations, however, will be altered to match updated information on the pad locations and field conditions. In addition, one location was added to sample soil adjacent to the basin located in between the two transformer pads. This soil will be collected from one full interval below the basin bottom elevation and all above intervals. This soil will be analyzed for radionuclides and PCBs.

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Building 782 Pit: Two soil intervals will be collected from under the pit, as specified in the IASAP Addendum. Because sampling will occur through the pit bottom, samples from both intervals will be analyzed for VOCs. If groundwater prevents collection of soil, a water sample will be taken instead. Analytes will be those specified in the IASAP Addendum.

Room 131/133 Release Area: The IASAP Addendum included four characterization sampling locations. Two of the locations have already been sampled. The remaining two locations will be sampled and analyzed in accordance with the IASAP Addendum, including analyzing the first interval for VOCs.

Four confirmation samples will be collected from within the area. Sampling locations were based on characterization data, and sampling will be conducted after the area has been remediated. One interval from the bottom of the excavation (at each location) will be taken and analyzed for radionuclides and metals. The excavation depth in the area will vary based on characterization data and data acquired during soil excavation. The final number and locations of the confirmation samples will depend on data acquired during excavation. Also, confirmation samples may need to be collected from the surface sides of the excavation, as appropriate, not just the bottom. Field instrumentation should be utilized to determine continued excavation and to determine appropriate locations to collect the confirmation samples.

Other UBC 779 Features: Samples for these features (basement, OPWL cleanouts, process pits, sanitary drains, tunnels, and elevator pits) will be collected from two intervals if the features are removed prior to sampling. If these features are removed prior to sampling, the sample from the first interval would not be analyzed for VOCs. The sample from the second interval would be analyzed for VOCs. The other analytes for the two intervals are those specified in the IASAP Addendum. If a specific feature is not removed, only one sample would be collected from the first interval under the feature, in accordance with the IASAP Addendum. This sample would be analyzed for VOCs.

Contact Record Prepared By: Gerry Kelly

Required Distribution:		Additional Distribution (choose names as applicable):
S. Bell, RFFO	D. Mayo, K-H RISS	M. Broussard, K-H RISS
L. Brooks, K-H ESS	J. Mead, K-H ESS	J. Hindman, CDPHE
L. Butler, K-H RISS	S. Nesta, K-H RISS	G. Kleeman, USEPA
C. Deck, K-H Legal	K. North, K-H ESS	D. Kruchek, CDPHE
S. Gunderson, CDPHE	D. Shelton, K-H	A. Primrose, K-H RISS
J. Legare, RFFO	C. Spreng, CDPHE	E. Pottorff, CDPHE
L. Norland, K-H RISS		

Appendix B
Project Photographs

Best Available Copy

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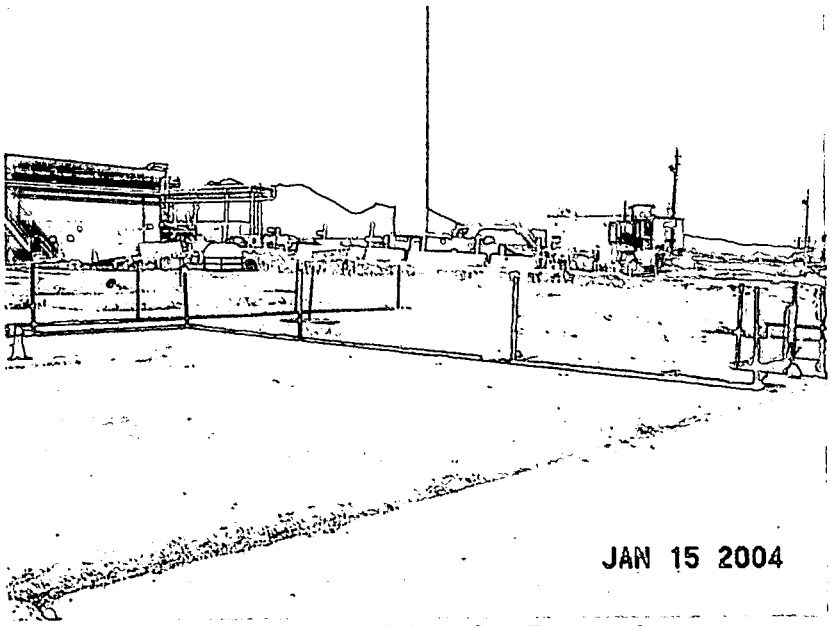
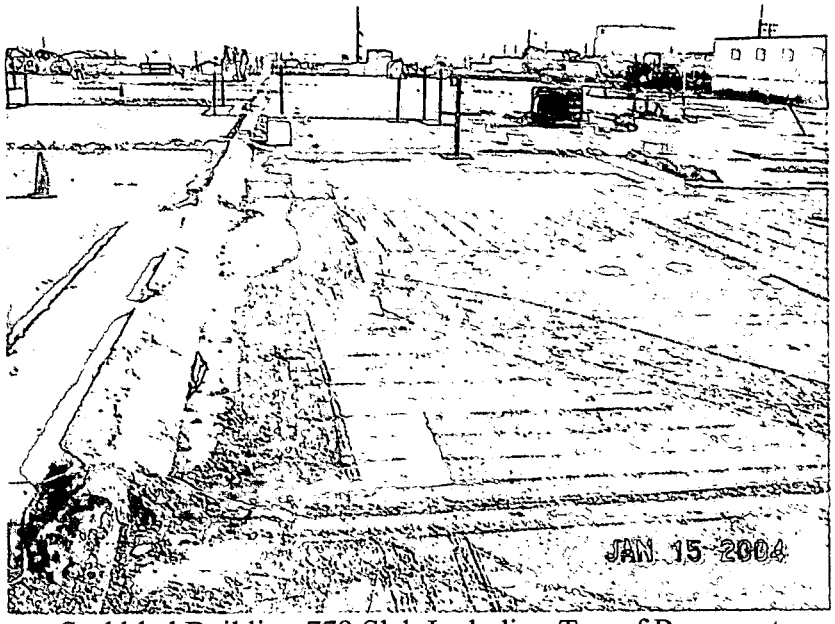
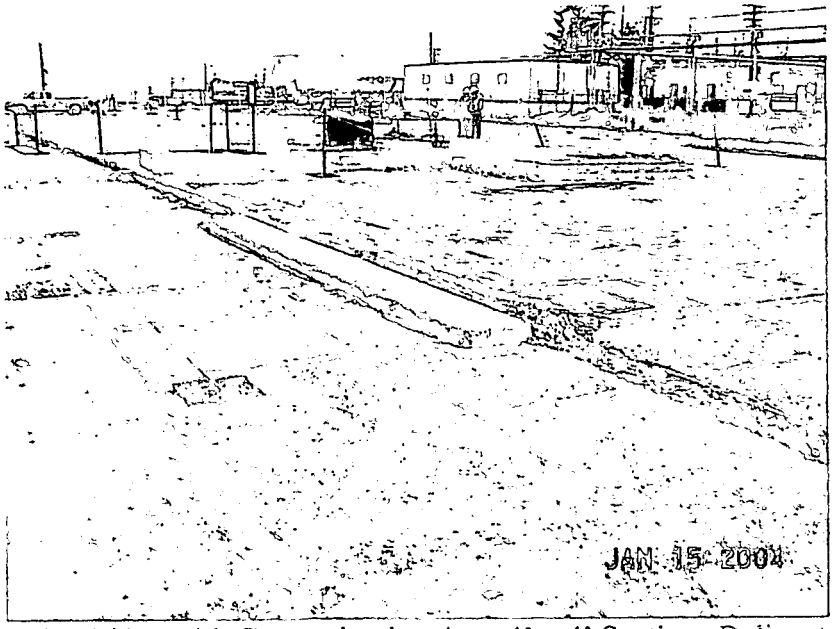


Building 779 Slab Before Removal

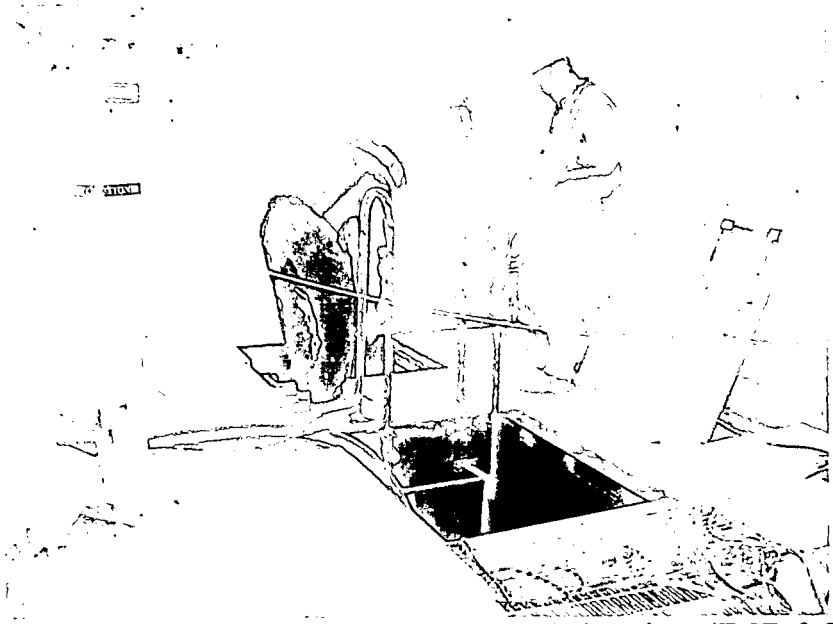


Scabbled Building 779 Slab Including Top of Basement

157



Scabbled Slab with Contamination Area 4' x 4' Sections Delineated



Building 779 Basement and Subbasement Tank Openings (T-2B & T-5)

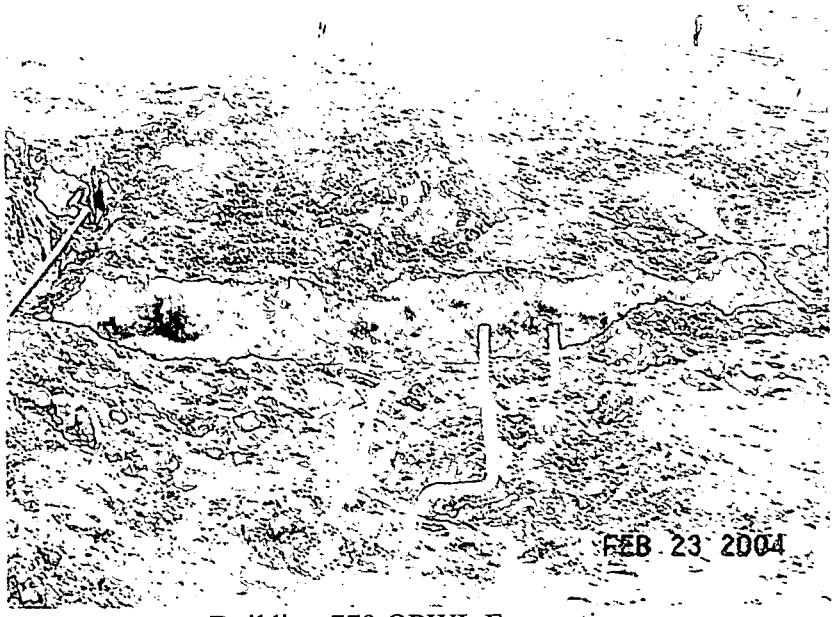
158

Surveying of a Building 779 Subbasement Tank

Building 779 Subbasement Tank T-1A

159

Contamination Area Excavation, Exposed Pipelines and Sampling Locations



Building 779 OPWL Excavation

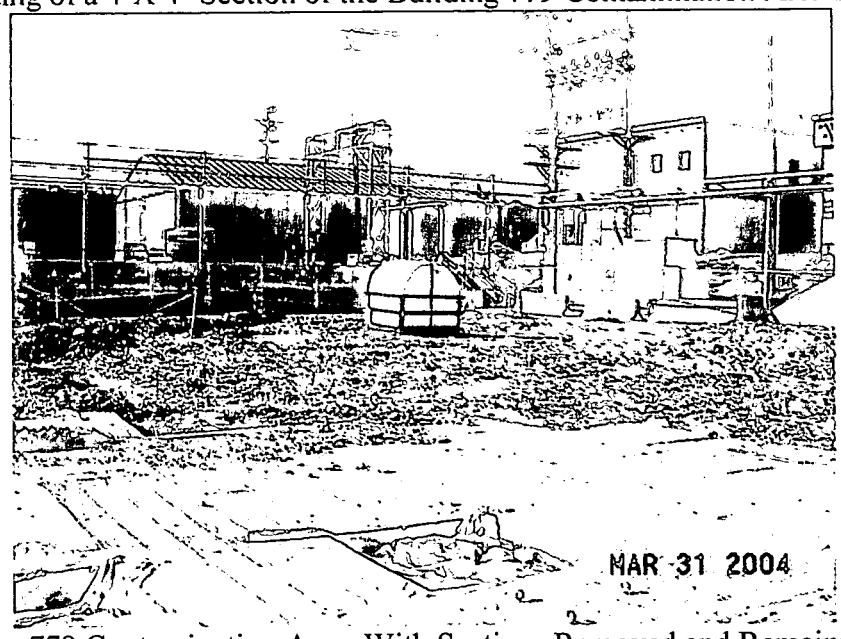
160

Cutting of a Building 779 OPWL

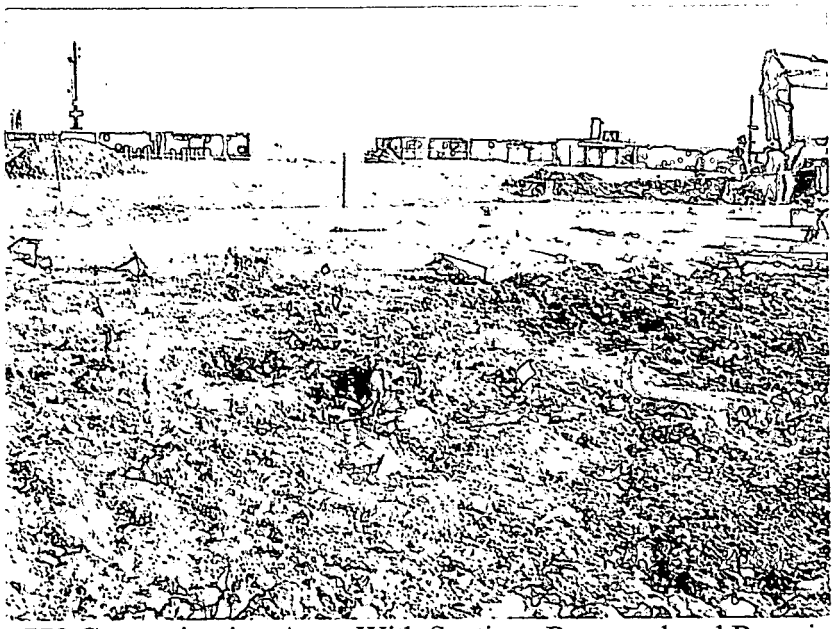
Building 779 North Side Footer Wall

Building 779 Basement Wall (left) and Footer Wall (right)

Lifting of a 4'X 4' Section of the Building 779 Contamination Area Slab

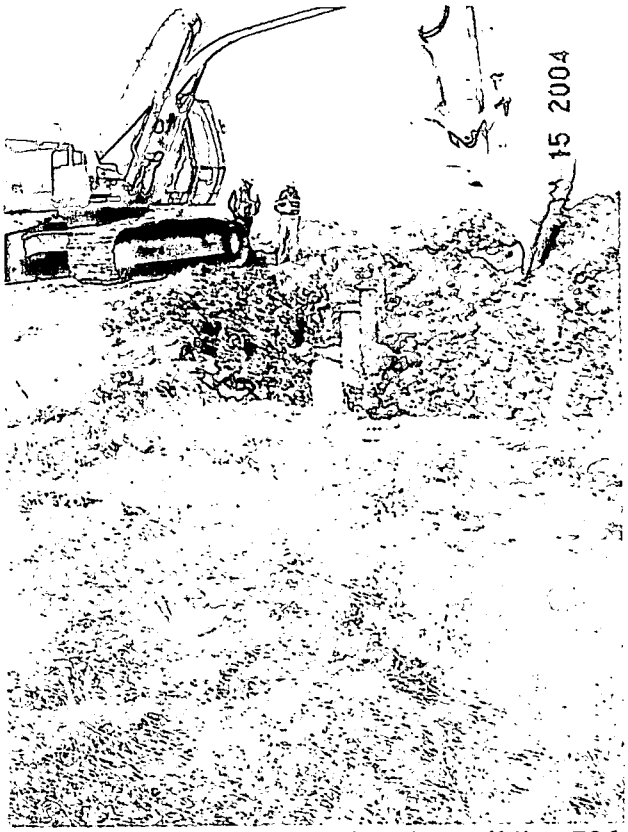


Building 779 Contamination Area, With Sections Removed and Remaining, and Sampling Locations

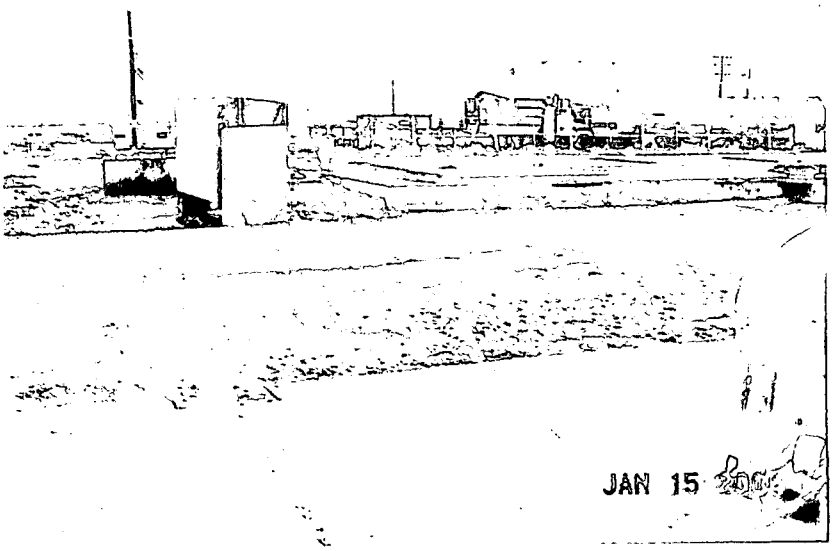


Building 779 Contamination Area, With Sections Removed and Remaining, and Sampling Locations

Building 779 Contamination Area Final Configuration Prior to Backfilling

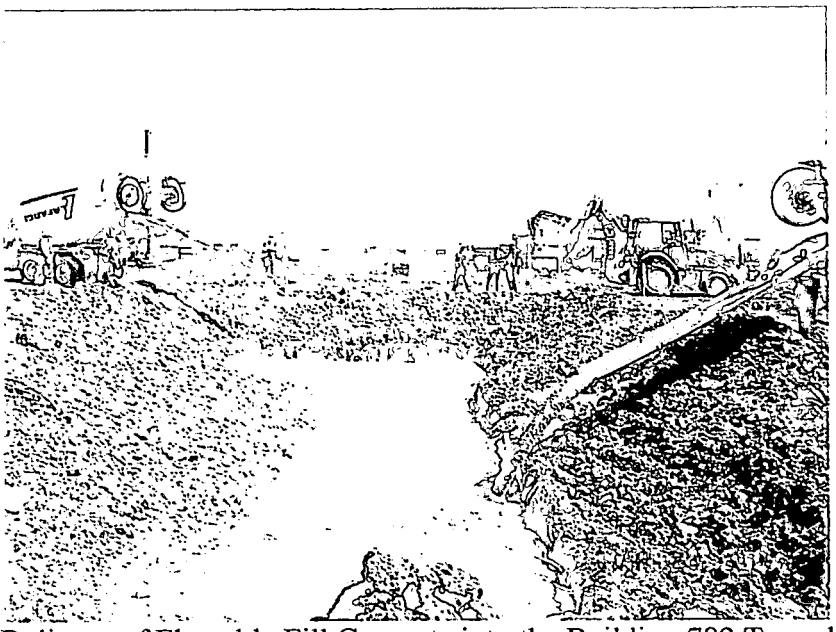


Vertical Cooling Tower Lines by Building 786



Building 782 Slab

165



Delivery of Flowable Fill Concrete into the Building 782 Tunnel

Building 779 Transformer Pads

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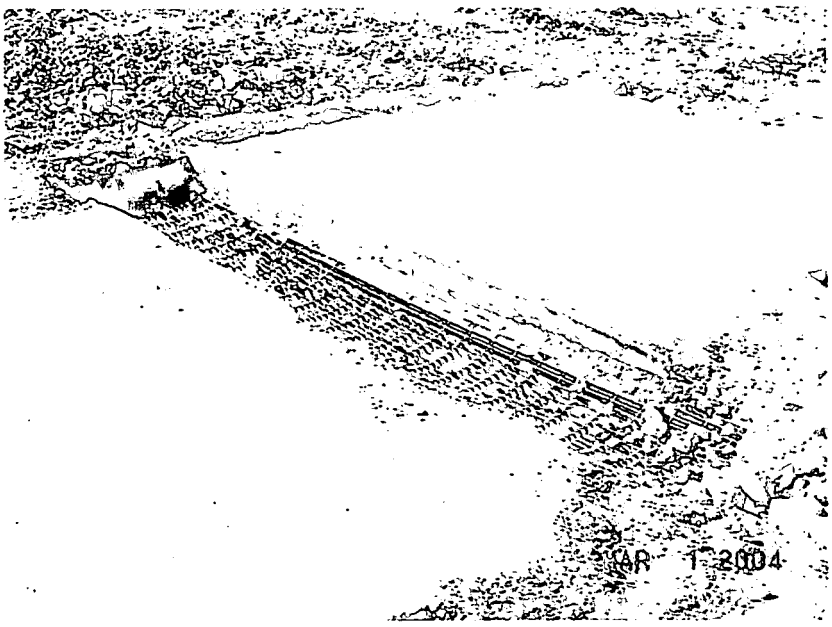
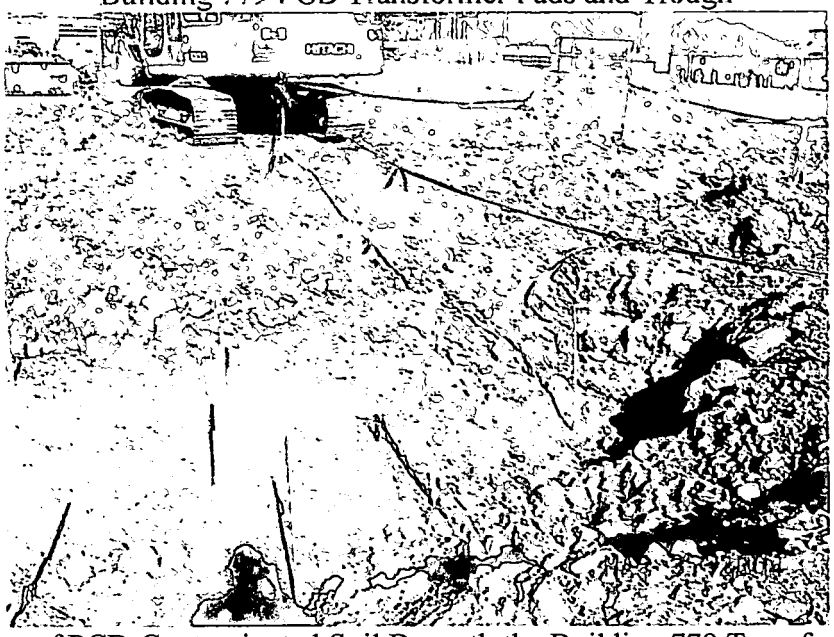
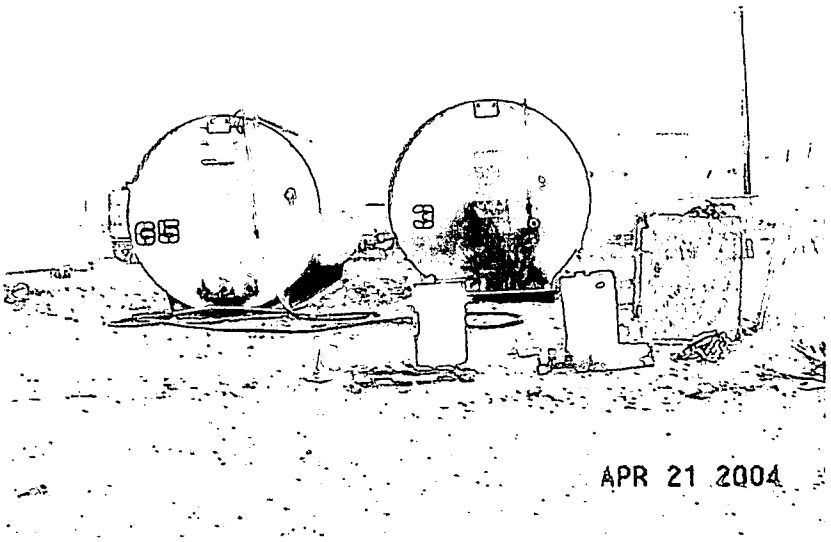


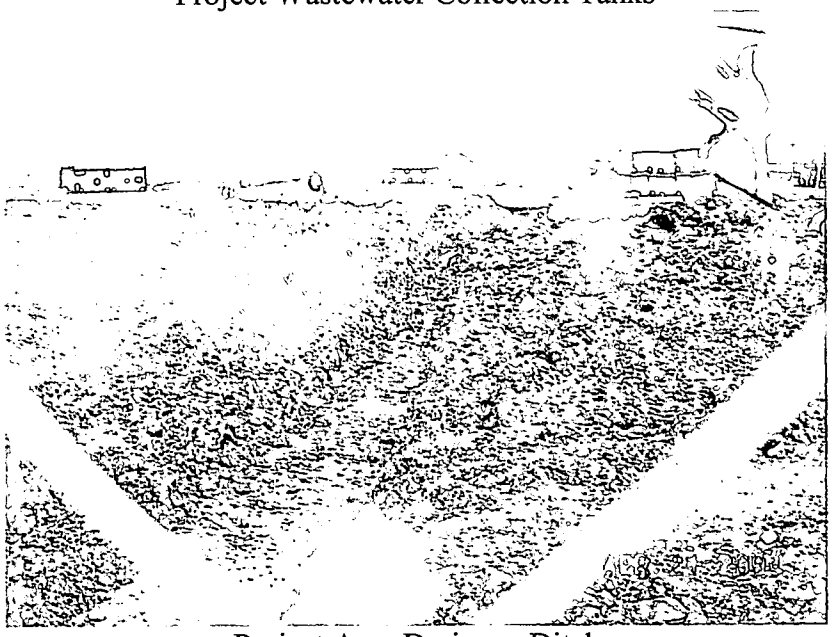
Building 779 PCB Transformer Pads and Trough



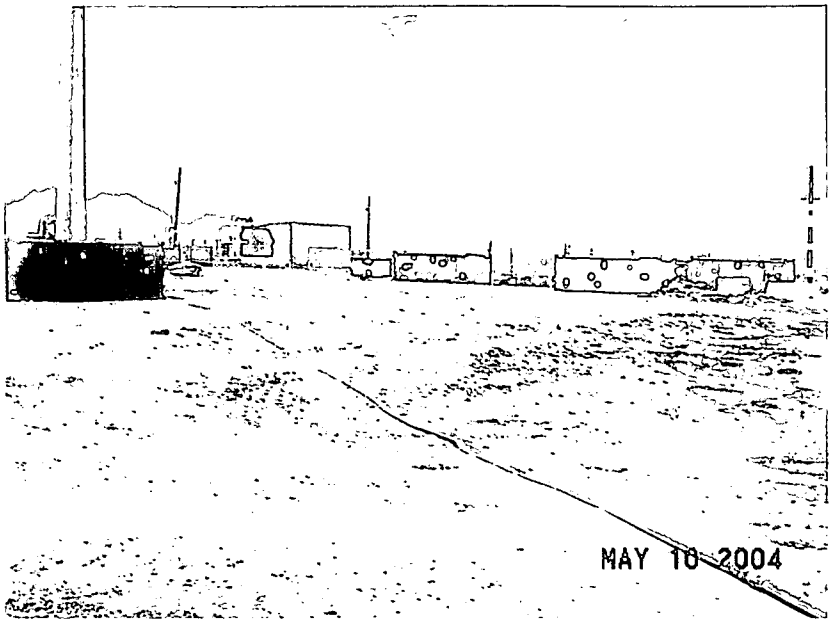
Excavation of PCB-Contaminated Soil Beneath the Building 779 Transformer Pads



Project Wastewater Collection Tanks



Project Area Drainage Ditch



Project Site After Slab Removal

Appendix C
Building 779 Basement and Subbasement Beryllium and Radiological Survey Results

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Sample #	Location	Concentration (100 cm^2)	Remarks
779-04142004-322-004	Upper Basement - Horizontal Support Beam	< 0.1 ug	
779-04142004-322-005	Upper Basement - Floor	< 0.1 ug	
779-04142004-322-006	Upper Basement - Top of ladder handrail SE Pit (Sub Basement)	< 0.1 ug	
779-04142004-322-007	Upper Basement - Top ladder rung W Pit	< 0.1 ug	
779-04142004-322-008	Upper Basement - Top ladder rung NW Pit	1.10 ug	
779-04142004-322-009	Upper Basement - Top ladder rung NE Pit	< 0.1 ug	
779-0420-2004-322-101	SE Pit - Second ladder rung	< 0.1 ug	
779-0420-2004-322-102	SE Pit - Fifth ladder rung	< 0.1 ug	
779-0420-2004-322-103	SE Pit - North Wall	0.215 ug	
779-0420-2004-322-104	SE Pit - West Wall	< 0.1 ug	
779-0420-2004-322-105	SE Pit - East Wall	< 0.1 ug	
779-0420-2004-322-106	SE Pit - South Wall	< 0.1 ug	
779-0420-2004-322-107	SE Pit - Floor	0.139 ug	Deviation from 100 cm^2
779-0420-2004-322-108	NE Pit - Second Ladder Rung	< 0.1 ug	
779-0420-2004-322-109	NE Pit - Fifth Ladder Rung	0.158 ug	
779-0420-2004-322-110	NE Pit - North Wall	< 0.1 ug	
779-0420-2004-322-111	NE Pit - West Wall	< 0.1 ug	
779-0420-2004-322-112	NE Pit - East Wall	< 0.1 ug	
779-0420-2004-322-113	NE Pit - South Wall	0.163 ug	
779-0420-2004-322-114	NE Pit - Floor	0.685 ug	Deviation from 100 cm^2
779-0420-2004-322-115	W Pit - Second Ladder Rung	0.124 ug	
779-0420-2004-322-116	W Pit - Fifth Ladder Rung	0.196 ug	
779-0420-2004-322-117	W Pit - North Wall	< 0.1 ug	
779-0420-2004-322-118	W Pit - West Wall	< 0.1 ug	
779-0420-2004-322-119	W Pit - East Wall	< 0.1 ug	
779-0420-2004-322-120	W Pit - South Wall	< 0.1 ug	
779-0420-2004-322-121	W Pit - Floor	< 0.1 ug	Deviation from 100 cm^2

Sample #	Location	Concentration (100 cm^2)	Remarks
779-0420-2004-322-122	NW Pit - Top Ladder Rung	0.209 ug	
779-0420-2004-322-123	NW Pit - Fifth Ladder Rung	0.500 ug	
779-0420-2004-322-124	NW Pit - North Wall	0.531 ug	
779-0420-2004-322-125	NW Pit - West Wall	0.629 ug	
779-0420-2004-322-126	NW Pit - East Wall	0.595 ug	
779-0420-2004-322-127	NW Pit - South Wall	0.713 ug	
779-0420-2004-322-128	NW Pit - Floor	251.0 ug	Deviation from 100 cm^2
779-0420-2004-322-129	Upper Basement - Floor (NE Equipment Foundation)	< 0.1 ug	
779-0420-2004-322-130	Upper Basement - Floor (NW Equipment Foundation)	< 0.1 ug	
779-04292004-322-101	SE Pit - North Wall	<0.1 ug	
779-04292004-322-102	NE Pit - Floor	0.150 ug	
779-04292004-322-103	NW PIT - North Wall	0.124 ug	
779-04292004-322-104	NW Pit - South Wall	<0.1 ug	
779-04292004-322-105	NW Pit - East Wall	<0.1 ug	
779-04292004-322-106	NW Pit - West Wall	<0.1 ug	
779-04292004-322-107	NW Pit - Floor	0.193 ug	

NOTES:

Highlighted areas exceed 0.2 ug/100 cm^2 (ug = micrograms; cm = centimeters)

100 cm^2 could not be achieved for Pit floor swipes because the floors were too wet - deviation as noted.

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Ludlum	Mfg.	Ludlum	Mfg.	NE Electra
Model	2929	Model	2929	Model	DP-6
Serial #	99042	Serial #	99042	Serial #	3126
Cal Due	4/21/04	Cal Due	4/21/04	Cal Due	6/17/04
Bkg	0.3 cpmα	Bkg	68.9 cpmβ	Bkg	4 cpmα
Eff.	34.1 %	Eff.	38.4 %	Eff.	22.6 %
MDA	18 dpmα	MDA	205 dpmβ	MDA	53 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	BC-4	Model	DP-6
Serial #	NA	Serial #	NA	Serial #	3126
Cal Due		Cal Due		Cal Due	6/17/04
Bkg	cpmα	Bkg	cpmβ	Bkg	526 cpmβ
Eff.	%	Eff.	%	Eff.	31.2 %
MDA	NA dpmα	MDA	NA dpmβ	MDA	351 dpmβ

Survey Type: contamination
Building: 779
Location: contamination area middle of main bldg.
Purpose: contamination level verification

RWP #: 04-RISS-015

Date: 2/10/04 Time: 0730

RCT: M. Simmers / [signature] / [redacted]
Print name / Signature / Emp. #

RCT: NA / NA / NA
Print name / Signature / Emp. #

PRN/REN # : NA
Comments: Survey performed after the fixative that was applied the day before cured.

SURVEY RESULTS

Swipe #	LOCATION	ALPHA Swipe dpm/100cm2	ALPHA Direct dpm/100cm2	ALPHA Wipe dpm/wipe	BETA Swipe dpm/100cm2	BETA Direct dpm/100cm2	BETA Wipe dpm/wipe
1	bottom of concrete	< 18	< 53	NA	< 205	< 351	NA
2	bottom of concrete	< 18	< 53	NA	< 205	< 351	NA
3	bottom of concrete	< 18	< 53	NA	< 205	< 351	NA
4	stub of pipe	< 18	< 53	NA	< 205	< 351	NA
5	stub of pipe	< 18	< 53	NA	< 205	< 351	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
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	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	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	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA

Date Reviewed: 2/10/04 **RS Supervision:** Scott Mahoney / [signature] / [redacted]
Print Name / Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Ludlum	Mfg.	Ludlum	Mfg.	NE Electra
Model	2929	Model	2929	Model	DP-6
Serial #	99042	Serial #	99042	Serial #	1391
Cal Due	4/21/04	Cal Due	4/21/04	Cal Due	7/13/04
Bkg	0.4 cpmα	Bkg	68.9 cpmβ	Bkg	4 cpmα
Eff.	34.1 %	Eff.	38.4 %	Eff.	21.3 %
MDA	18 dpmα	MDA	205 dpmβ	MDA	56 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	BC-4	Model	DP-6
Serial #	NA	Serial #	NA	Serial #	1391
Cal Due		Cal Due		Cal Due	7/13/04
Bkg	cpmα	Bkg	cpmβ	Bkg	612 cpmβ
Eff.	%	Eff.	%	Eff.	29.1 %
MDA	NA dpmα	MDA	NA dpmβ	MDA	405 dpmβ

Survey Type: contamination
Building: 779
Location: soil cont. area middle of main bldg.
Purpose: contamination level verification

RWP #: 04-RISS-015

Date: 2/25/04 Time: 1030

RCT: M. Simmers / [signature] / [redacted]
Print name Signature Emp. #

RCT: NA / NA / NA
Print name Signature Emp. #

PRN/REN #: NA
Comments:

SURVEY RESULTS

Swipe #	LOCATION	ALPHA Swipe dpm/100cm2	ALPHA Direct dpm/100cm2	ALPHA Wipe dpm/wipe	BETA Swipe dpm/100cm2	BETA Direct dpm/100cm2	BETA Wipe dpm/wipe
1	bottom of concrete	< 18	< 56	NA	< 205	< 405	NA
2	bottom of concrete	< 18	< 56	NA	< 205	< 405	NA
3	bottom of concrete	< 18	< 56	NA	< 205	< 405	NA
4	stub of pipe	< 18	< 56	NA	< 205	< 405	NA
5	stub of pipe	< 18	< 56	NA	< 205	< 405	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
NA	NA	NA	NA	NA	NA	NA	NA
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NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA

Date Reviewed: 2/25/04 **RS Supervision:** Scott Mahoney / [signature] / [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	NA	Mfg.	N/A
Model	SAC-4	Model		Model	NA
Serial #	824	Serial #		Serial #	NA
Cal Due	4/30/04	Cal Due		Cal Due	NA
Bkg.	0.1 cpm α	Bkg.		Bkg.	NA cpm α
Efficiency	33.0 %	Efficiency		Efficiency	NA %
MDA	20 dpm α	MDA	NA	MDA	NA dpm α
Mfg.	Eberline	Mfg.	NA	Mfg.	NA
Model	BC-4	Model		Model	NA
Serial #	704	Serial #		Serial #	NA
Cal Due	4/30/04	Cal Due		Cal Due	NA
Bkg.	43.8 cpm β	Bkg.		Bkg.	NA cpm β
Efficiency	25.0 %	Efficiency		Efficiency	NA %
MDA	200 dpm β	MDA	NA	MDA	NA dpm β

Survey type: Contamination
Building: NA
Location: 779 Pad
Purpose: Survey of TTE OA

RWP #: 04-RISS-015

Date: 3/3/04 Time: 1500

RCT: R Fenton / R Fenton / [redacted]
Print name Signature Emp. #

RCT: NA / NA / NA
Print name Signature Emp. #

PRN/REN # : 031205-T130C-014
Comments: NA

SURVEY RESULTS

Swipe #	Location/Description	DPM/100 cm² Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1	779CA-03032004-322-001	<20	<200	NA	NA
2	779CA-03032004-322-002	<20	<200	NA	NA
3	779CA-03032004-322-003	<20	<200	NA	NA
4	779CA-03032004-322-004	<20	<200	NA	NA
5	779CA-03032004-322-005	<20	<200	NA	NA
6	779CA-03032004-322-006	<20	<200	NA	NA
7	779CA-03032004-322-007	<20	<200	NA	NA
8	779CA-03032004-322-008	<20	<200	NA	NA
9	779CA-03032004-322-009	<20	<200	NA	NA
10	779CA-03032004-322-010	<20	<200	NA	NA
11	779CA-03032004-322-011	<20	<200	NA	NA
12	779CA-03032004-322-012	<20	<200	NA	NA
13	779CA-03032004-322-013	<20	<200	NA	NA
14	779CA-03032004-322-014	<20	<200	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	NA
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA

N/A

Date Reviewed: 3/3/04 **RS Supervision:** S. Mahoney / [signature] / [redacted]
Print Name Signature

175

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	NA	Mfg.	NE Electra
Model	SAC-4	Model		Model	DP-6
Serial #	824	Serial #		Serial #	3106
Cal Due	4/14/04	Cal Due		Cal Due	3/22/04
Bkg.	0.2 cpm α	Bkg.		Bkg.	4 cpm α
Efficiency	33.0 %	Efficiency		Efficiency	21.9 %
MDA	20 dpm α	MDA	NA	MDA	55 dpm α
Mfg.	Eberline	Mfg.	NA	Mfg.	NE Electra
Model	BC-4	Model		Model	DP-6
Serial #	704	Serial #		Serial #	3106
Cal Due	10/14/04	Cal Due		Cal Due	3/22/04
Bkg.	41.5 cpm β	Bkg.		Bkg.	579 cpm β
Efficiency	25.0 %	Efficiency		Efficiency	31.0 %
MDA	200 dpm β	MDA	NA	MDA	370 dpm β

Survey type: Contamination
Building: NA
Location: 782 Pit & Sump
Purpose: Job Coverage
RWP #: 04-RISS-015
Date: 3/19/04 Time: 0900

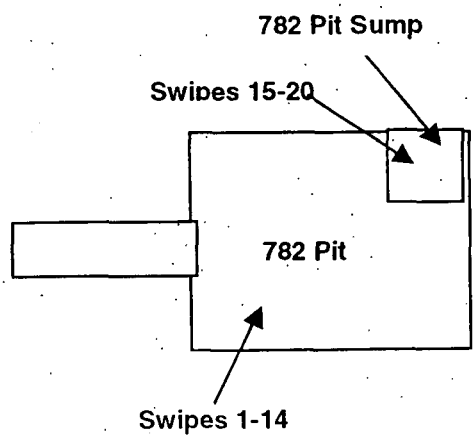
RCT: S Moseley / S Moseley / [redacted]
Print name / Signature / Emp. #

RCT: NA / NA / NA
Print name / Signature / Emp. #

PRN/REN #: NA
Comments:

SURVEY RESULTS

Swipe #	Location/Description	DPM/100 cm² Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1	782 Pit Walls	<20	<200	<55	<370
2	782 Pit Walls	<20	<200	<55	<370
3	782 Pit Walls	<20	<200	<55	<370
4	782 Pit Walls	<20	<200	<55	<370
5	782 Pit Walls	<20	<200	<55	<370
6	782 Pit Walls	<20	<200	<55	<370
7	782 Pit Walls	<20	<200	<55	<370
8	782 Pit Walls	<20	<200	<55	<370
9	782 Pit Walls	<20	<200	<55	<370
10	782 Pit Walls	<20	<200	<55	<370
11	782 Pit Floor	<20	<200	<55	<370
12	782 Pit Floor	<20	<200	<55	<370
13	782 Pit Floor	<20	<200	<55	<370
14	782 Pit Floor	<20	<200	<55	<370
15	782 Pit Sump	<20	<200	<55	<370
16	782 Pit Sump	<20	<200	<55	<370
17	782 Pit Sump	<20	<200	<55	<370
18	782 Pit Sump	<20	<200	<55	<370
19	782 Pit Sump	<20	<200	<55	<370
20	782 Pit Sump	<20	<200	<55	<370



Date Reviewed: 3/19/04 **RS Supervision:** S Mahoney / [signature] / [redacted]
Print Name / Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

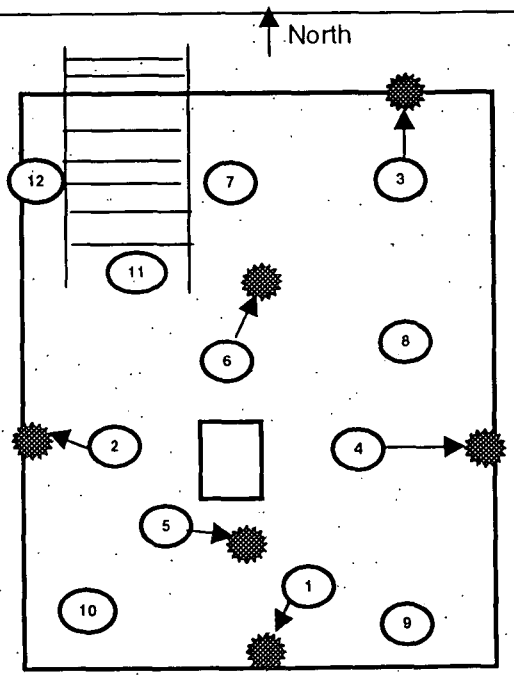
Mfg.	Ludlum	Mfg.	NA	Mfg.	NE Electra
Model	2929	Model		Model	DP-6
Serial #	105885	Serial #		Serial #	2343
Cal Due	4/30/04	Cal Due		Cal Due	6/1/04
Bkg.	0.4 cpm α	Bkg.		Bkg.	1 cpm α
Efficiency	33.0 %	Efficiency		Efficiency	23.0 %
MDA	20 dpm α	MDA	NA	MDA	32 dpm α
Mfg.	Ludlum	Mfg.	NA	Mfg.	NE Electra
Model	2929	Model		Model	DP-6
Serial #	105885	Serial #		Serial #	2343
Cal Due	4/30/04	Cal Due		Cal Due	6/1/04
Bkg.	74.3 cpm β	Bkg.		Bkg.	520 cpm β
Efficiency	25.0 %	Efficiency		Efficiency	30.8 %
MDA	200 dpm β	MDA	NA	MDA	353 dpm β

Survey type: Contamination
Building: NA
Location: 779 Pad South East Sub Basement
Purpose: Sub Basement Sample Points- URS
RWP #: 04-RISS-015
Date: 4/20/04 Time: 1100
RCT: S Moseley [redacted]
Print name Signature
RCT: NA / NA / NA
Print name Signature Emp. #

PRN/REN # : N/A
Comments: Six Sample Points, Four on the Wall and Two on the Floor. One swipe and direct taken at each point. Six Swipes taken on Floor. Sub Basement is in the middle of the basement on the East Side. Concrete not surveyed due to be covered by a layer of mud.

SURVEY RESULTS

Swipe #	Location/Description	DPM/100 cm² Removable Alpha	Removable Beta	Direct Alpha	Direct Beta
1	Sample Point Wall	<18	<205	<32	<353
2	Sample Point Wall	<18	<205	<32	<353
3	Sample Point Wall	<18	<205	<32	<353
4	Sample Point Wall	<18	<205	<32	<353
5	Sample Point Floor	<18	<205	<32	<353
6	Sample Point Floor	<18	<205	<32	<353
7	Floor	30	<205	<32	<353
8	Floor	42	<205	<32	<353
9	Floor	<18	<205	<32	<353
10	Floor	<18	<205	<32	<353
11	Floor	30	<205	<32	<353
12	Floor	<18	<205	<32	<353
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	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	NA	NA	NA	NA



Date Reviewed: 4/20/04 **RS Supervision:** S Mahoney [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Ludlum	Mfg.	Ludlum	Mfg.	NE Electra
Model	2929	Model	2929	Model	DP-6
Serial #	105885	Serial #	105885	Serial #	3102
Cal Due	4/30/04	Cal Due	4/30/04	Cal Due	8/18/04
Bkg	0.3 cpmα	Bkg	78.2 cpmβ	Bkg	4 cpmα
Eff.	36.1 %	Eff.	40.1 %	Eff.	21.3 %
MDA	18 dpmα	MDA	205 dpmβ	MDA	56 dpmα
Mfg.	NA	Mfg.	NA	Mfg.	NE Electra
Model	NA	Model	NA	Model	DP-6
Serial #	NA	Serial #	NA	Serial #	3102
Cal Due	NA	Cal Due	NA	Cal Due	8/18/04
Bkg	NA cpmα	Bkg	NA cpmβ	Bkg	454 cpmβ
Eff.	NA %	Eff.	NA %	Eff.	30.6 %
MDA	NA dpmα	MDA	NA dpmβ	MDA	333 dpmβ

Survey Type: contamination
Building: 779
Location: 001 basement
Purpose: characterization

RWP #: 04-RISS-015

Date: 4/21/04 Time: 1400

RCT: R. Fenton / RFenton [redacted]
Print name Signature

RCT: NA / NA / NA
Print name Signature Emp. #

PRN/REN # : NA
Comments:

SURVEY RESULTS

Swipe #	LOCATION	ALPHA Swipe dpm/100cm2	ALPHA Direct dpm/100cm2	ALPHA Wipe dpm/wipe	BETA Swipe dpm/100cm2	BETA Direct dpm/100cm2	BETA Wipe dpm/wipe
1	See attached map	<18	<56	NA	<205	<333	NA
2	See attached map	<18	66	NA	<205	<333	NA
3	See attached map	<18	<56	NA	<205	<333	NA
4	See attached map	<18	166	NA	<205	<333	NA
5	See attached map	<18	<56	NA	<205	<333	NA
6	See attached map	<18	<56	NA	<205	<333	NA
7	See attached map	<18	<56	NA	<205	<333	NA
8	See attached map	<18	<56	NA	<205	<333	NA
9	See attached map	<18	<56	NA	<205	<333	NA
10	See attached map	<18	<56	NA	<205	<333	NA
11	See attached map	<18	<56	NA	<205	<333	NA
12	See attached map	<18	<56	NA	<205	<333	NA
13	See attached map	<18	84	NA	<205	<333	NA
14	See attached map	<18	72	NA	<205	<333	NA
15	See attached map	<18	98	NA	<205	<333	NA
16	See attached map	<18	90	NA	<205	<333	NA
17	See attached map	<18	88	NA	<205	<333	NA
18	See attached map	<18	102	NA	<205	<333	NA
19	See attached map	<18	<56	NA	<205	<333	NA
20	See attached map	<18	<56	NA	<205	<333	NA

Date Reviewed: 4/21/04 **RS Supervision:** S. Mahoney / [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

SURVEY RESULTS

Swipe	LOCATION	ALPHA			BETA		
		Swipe	Direct	Wipe	Swipe	Direct	Wipe
#		dpm/100cm2	dpm/100cm2	dpm/wipe	dpm/100cm2	dpm/100cm2	dpm/wipe
21	See attached map	<18	90	NA	<205	<333	NA
22	See attached map	<18	<56		<205	<333	
23	See attached map	<18	<56		<205	<333	
24	See attached map	<18	78		<205	<333	
25	See attached map	<18	84		<205	<333	
26	See attached map	<18	<56		<205	<333	
27	See attached map	<18	<56		<205	<333	
28	See attached map	<18	<56		<205	<333	
29	See attached map	<18	<56		<205	<333	
30	See attached map	<18	<56		<205	<333	
NA	NA	NA	NA		NA	NA	
NA	NA	NA	NA	NA	NA	NA	NA

179

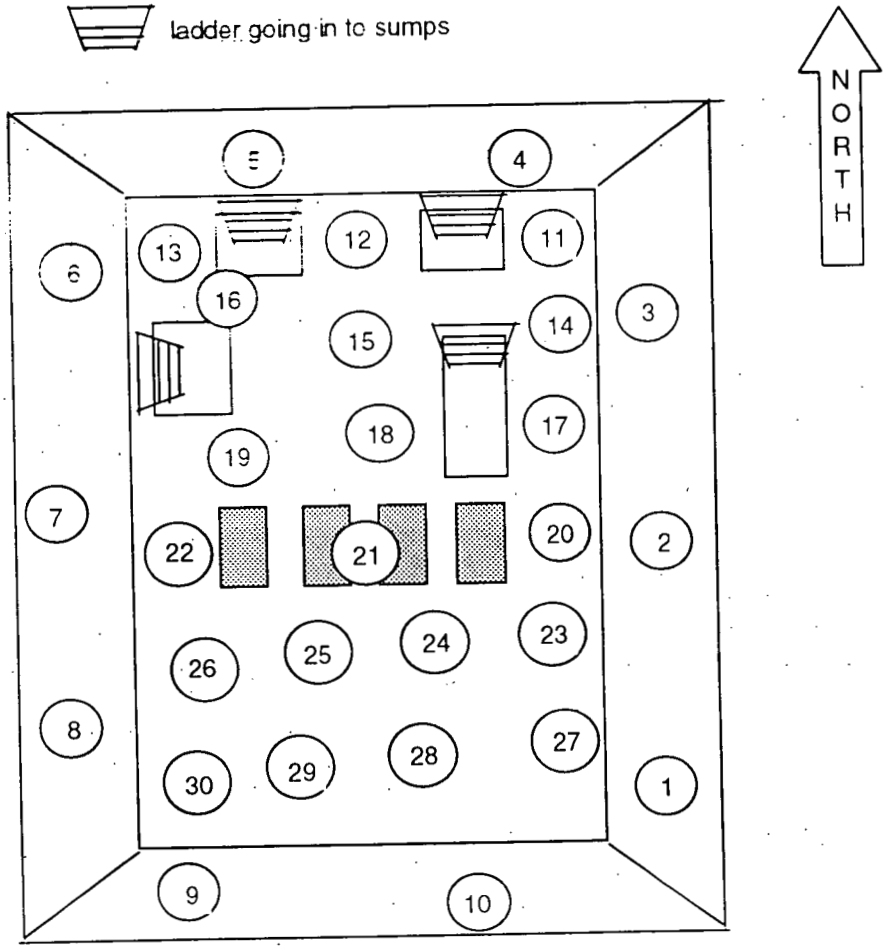
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points

Room below is the 779, 001 basement.

Denotes former pump pedestals

ladder going in to sumps



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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Ludlum	Mfg.	Ludlum	Mfg.	NE Electra
Model	2929	Model	2929	Model	DP-6
Serial #	105885	Serial #	105885	Serial #	2343
Cal Due	4/30/04	Cal Due	4/30/04	Cal Due	6/1/04
Bkg	0.3 cpmα	Bkg	78.0 cpmβ	Bkg	1 cpmα
Eff.	36.1 %	Eff.	40.1 %	Eff.	21.7 %
MDA	18 dpmα	MDA	205 dpmβ	MDA	34 dpmα
Mfg.	Ludlum	Mfg.	Ludlum	Mfg.	NE Electra
Model	2929	Model	2929	Model	DP-6
Serial #	99042	Serial #	99042	Serial #	2343
Cal Due	4/21/04	Cal Due	4/21/04	Cal Due	6/1/04
Bkg	0.4 cpmα	Bkg	66.5 cpmβ	Bkg	986 cpmβ
Eff.	33 %	Eff.	25 %	Eff.	30.8 %
MDA	18 dpmα	MDA	205 dpmβ	MDA	483 dpmβ

Survey Type: contamination
Building: 779
Location: basement pits
Purpose: characterization

RWP #: 04-RISS-015

Date: 4/22/04 Time: 1100

RCT: M. Simmers [redacted]
Print name Signature

RCT: NA / NA / NA
Print name Signature Emp. #

PRN/REN # : NA
Comments: Swipes counted 4/26/04 the above background reflect that day.

SURVEY RESULTS

Swipe #	LOCATION	ALPHA Swipe dpm/100cm2	ALPHA Direct dpm/100cm2	ALPHA Wipe dpm/wipe	BETA Swipe dpm/100cm2	BETA Direct dpm/100cm2	BETA Wipe dpm/wipe
1	wall	< 18	124	NA	< 205	929	NA
2	wall	< 18	55	NA	< 205	2000	NA
3	wall	< 18	69	NA	< 205	584	NA
4	wall	< 18	120	NA	< 205	1640	NA
5	wall	< 18	111	NA	< 205	< 483	NA
6	wall	< 18	46	NA	< 205	4123	NA
7	floor	< 18	< 34	NA	< 205	< 483	NA
8	floor	< 18	55	NA	< 205	< 483	NA
9	floor	< 18	60	NA	< 205	< 483	NA
10	floor	< 18	< 34	NA	< 205	< 483	NA
11	floor	< 18	69	NA	< 205	< 483	NA
12	floor	< 18	124	NA	< 205	< 483	NA
13	floor	< 18	55	NA	< 205	< 483	NA
14	floor	< 18	304	NA	< 205	< 483	NA
15	floor	102	60	NA	< 205	< 483	NA
16	floor	< 18	111	NA	< 205	< 483	NA
17	floor	< 18	< 34	NA	< 205	< 483	NA
18	floor	< 18	< 34	NA	< 205	< 483	NA
19	floor	< 18	< 34	NA	< 205	496	NA
20	floor	< 18	< 34	NA	< 205	< 483	NA

Date Reviewed: 4/26/04 **RS Supervision:** S. Mahoney [redacted]
Print Name Signature

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

SURVEY RESULTS

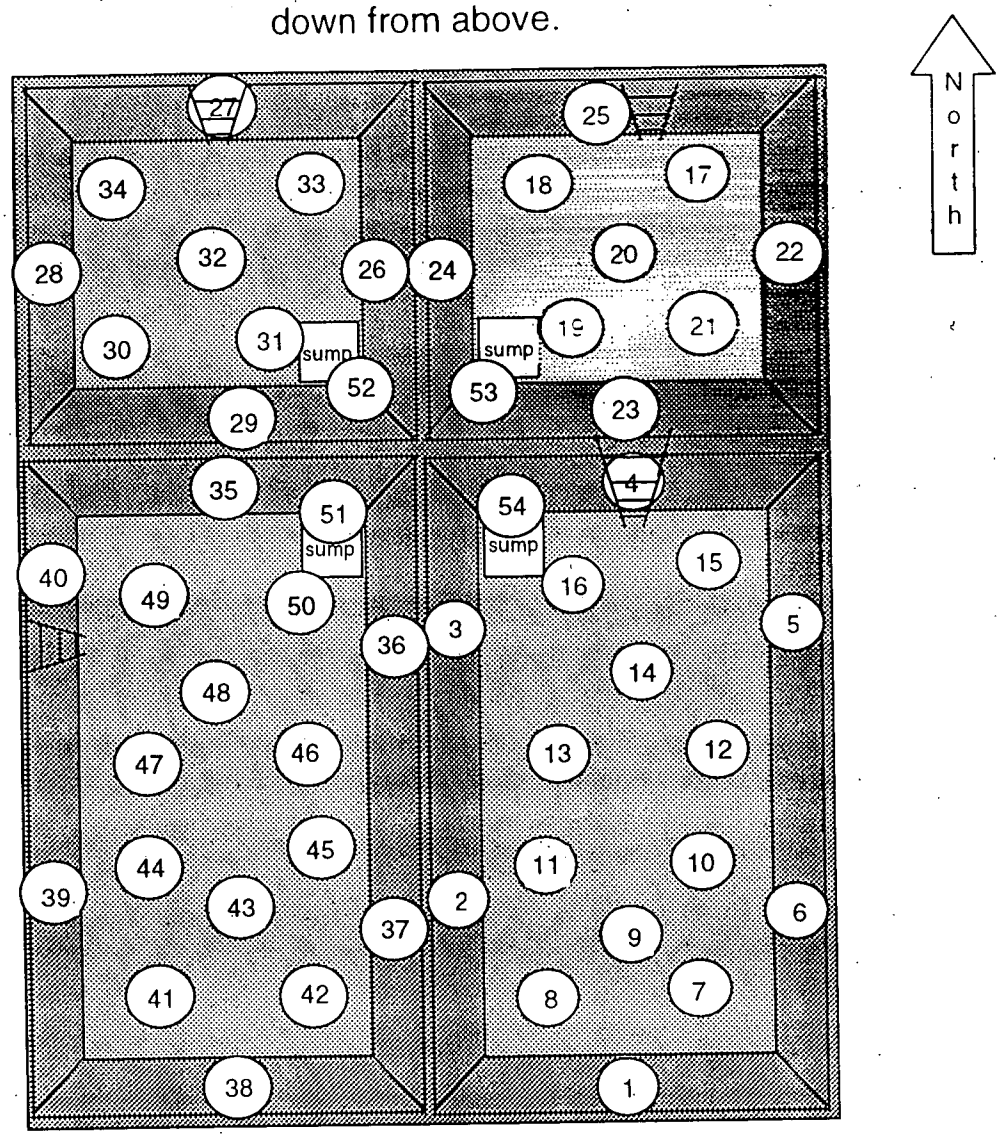
Swipe	LOCATION	ALPHA			BETA		
		Swipe	Direct	Wipe	Swipe	Direct	Wipe
#		dpm/100cm2	dpm/100cm2	dpm/wipe	dpm/100cm2	dpm/100cm2	dpm/wipe
21	floor	< 18	41	NA	< 205	< 483	NA
22	wall	< 18	37	NA	< 205	< 483	NA
23	wall	< 18	< 34	NA	< 205	< 483	NA
24	wall	< 18	< 34	NA	< 205	< 483	NA
25	wall	< 18	< 34	NA	< 205	< 483	NA
26	wall	< 18	46	NA	< 205	< 483	NA
27	wall	< 18	101	NA	< 205	< 483	NA
28	wall	< 18	60	NA	< 205	< 483	NA
29	wall	< 18	< 34	NA	< 205	< 483	NA
30	floor	< 18	83	NA	686	< 483	NA
31	floor	< 18	37	NA	< 205	< 483	NA
32	floor	< 18	51	NA	584	< 483	NA
33	floor	< 18	65	NA	< 205	< 483	NA
34	floor	< 18	< 34	NA	< 205	< 483	NA
35	wall	< 18	37	NA	< 205	< 483	NA
36	wall	< 18	< 34	NA	< 205	< 483	NA
37	wall	< 18	< 34	NA	< 205	< 483	NA
38	wall	< 18	< 34	NA	< 205	< 483	NA
39	wall	< 18	< 34	NA	< 205	< 483	NA
40	wall	< 18	< 34	NA	< 205	< 483	NA
41	floor	< 18	< 34	NA	< 205	< 483	NA
42	floor	< 18	< 34	NA	< 205	< 483	NA
43	floor	< 18	< 34	NA	< 205	< 483	NA
44	floor	< 18	< 34	NA	< 205	< 483	NA
45	floor	< 18	< 34	NA	< 205	< 483	NA
46	floor	< 18	< 34	NA	< 205	< 483	NA
47	floor	< 18	106	NA	< 205	< 483	NA
48	floor	< 18	< 34	NA	< 205	< 483	NA
49	floor	< 18	< 34	NA	< 205	< 483	NA
50	floor	< 18	< 34	NA	< 205	< 483	NA
51	sump	< 18	51	NA	< 205	< 483	NA
52	sump	< 18	< 34	NA	< 205	< 483	NA
53	sump	< 18	< 34	NA	< 205	< 483	NA
54	sump	< 18	< 34	NA	< 205	< 483	NA
	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA

182

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points

Survey picture is of the pits in the 779 basement looking down from above.



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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Ludlum	Mfg.	Ludlum	Mfg.	NE Electra
Model	2929	Model	2929	Model	DP-6
Serial #	99042	Serial #	99042	Serial #	1672
Cal Due	10/26/04	Cal Due	10/26/04	Cal Due	10/22/04
Bkg	0.4 cpmα	Bkg	69.8 cpmβ	Bkg	4 cpmα
Eff.	34.9 %	Eff.	40.1 %	Eff.	21.7 %
MDA	18 dpmα	MDA	205 dpmβ	MDA	55 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	BC-4	Model	DP-6
Serial #	NA	Serial #	NA	Serial #	1672
Cal Due	NA	Cal Due	NA	Cal Due	10/22/04
Bkg	NA cpmα	Bkg	NA cpmβ	Bkg	898 cpmβ
Eff.	NA %	Eff.	NA %	Eff.	29.3 %
MDA	20 dpmα	MDA	200 dpmβ	MDA	485 dpmβ

Survey Type: contamination
Building: 779
Location: basement pits
Purpose: follow up surveys

RWP #: 04-RISS-015

Date: 4/29/04 Time: 1000

RCT: M. Simmers / [signature] [redacted]
Print name / Signature

RCT: NA / NA / NA
Print name / Signature / Emp. #

PRN/REN # : NA

Comments: Swipes taken on locations 6, 7 and 8 to verify that the loose contaminations found on the pervious survey had been cleaned up.

SURVEY RESULTS

Swipe #	LOCATION	ALPHA Swipe dpm/100cm2	ALPHA Direct dpm/100cm2	ALPHA Wipe dpm/wipe	BETA Swipe dpm/100cm2	BETA Direct dpm/100cm2	BETA Wipe dpm/wipe
1	Floor	NA	553	NA	NA	NA	NA
2	Floor	NA	207	NA	NA	NA	NA
3	Floor	NA	804	NA	NA	NA	NA
4	Floor	NA	161	NA	NA	NA	NA
5	Floor	NA	147	NA	NA	NA	NA
6	Floor	< 18	92	NA	NA	NA	NA
7	Floor	< 18	101	NA	NA	NA	NA
8	Floor	< 18	189	NA	NA	NA	NA
9	Floor	NA	< 55	NA	NA	NA	NA
10	Floor	NA	129	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	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	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	NA
NA	NA	NA	NA	NA	NA	NA	NA

Date Reviewed: 5/3/04 **RS Supervision:** S. Mahoney / [signature] [redacted]
Print Name / Signature

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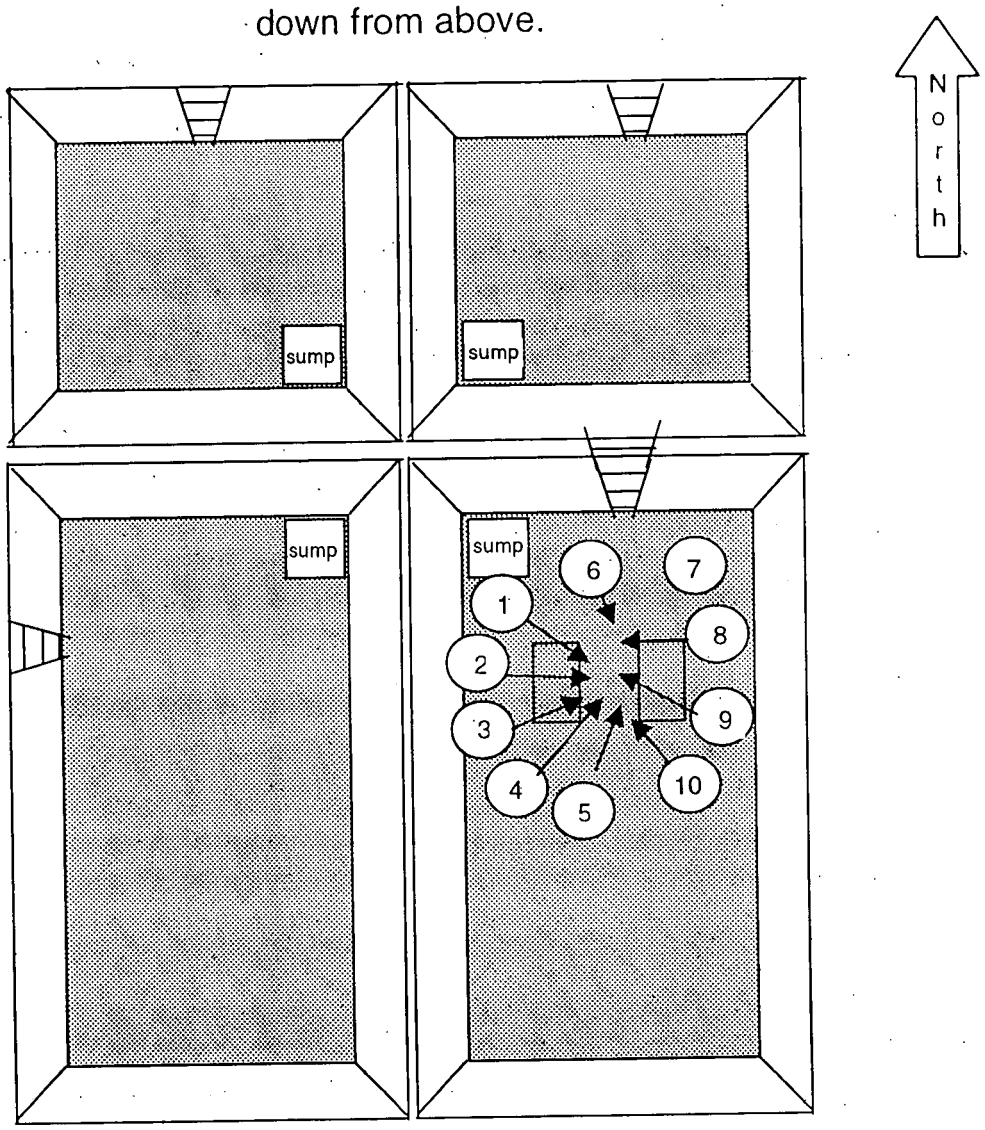
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points

Survey picture is of the pits in the 779 basement looking down from above.



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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	BC-4	Model	DP-6
Serial #	NA	Serial #	NA	Serial #	3126
Cal Due		Cal Due		Cal Due	6/17/04
Bkg	cpmα	Bkg	cpmβ	Bkg	4 cpmα
Eff.	%	Eff.	%	Eff.	23.1 %
MDA	NA dpmα	MDA	NA dpmβ	MDA	52 dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	BC-4	Model	DP-6
Serial #	NA	Serial #	NA	Serial #	NA
Cal Due		Cal Due		Cal Due	
Bkg	cpmα	Bkg	cpmβ	Bkg	cpmβ
Eff.	%	Eff.	%	Eff.	%
MDA	NA dpmα	MDA	NA dpmβ	MDA	NA dpmβ

Survey Type: contamination
Building: 779
Location: basement
Purpose: follow up to previous surveys

RWP #: 04-RISS-015

Date: 5/5/04 Time: 1400

RCT: M. Simmers / [signature] / [redacted]
Print name / Signature / Emp. #

RCT: NA / NA / NA
Print name / Signature / Emp. #

PRN/REN # : NA
Comments:

SURVEY RESULTS

Swipe #	LOCATION	ALPHA Swipe dpm/100cm2	ALPHA Direct dpm/100cm2	ALPHA Wipe dpm/wipe	BETA Swipe dpm/100cm2	BETA Direct dpm/100cm2	BETA Wipe dpm/wipe
1	wall (reference 4/22/04 survey point 1)	NA	< 52	NA	NA	NA	NA
2	wall (reference 4/22/04 survey point 5)	NA	< 52	NA	NA	NA	NA
3	wall (reference 4/22/04 survey point 4)	NA	< 52	NA	NA	NA	NA
4	wall (reference 4/22/04 survey point 27)	NA	< 52	NA	NA	NA	NA
5	wall (reference 4/21/04 survey point 4)	NA	< 52	NA	NA	NA	NA
6	floor (reference 4/21/04 survey point 18)	NA	< 52	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	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	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	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
NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA

Date Reviewed: 5/5/04 **RS Supervision:** S. Mahoney / [signature] / [redacted]
Print Name / Signature

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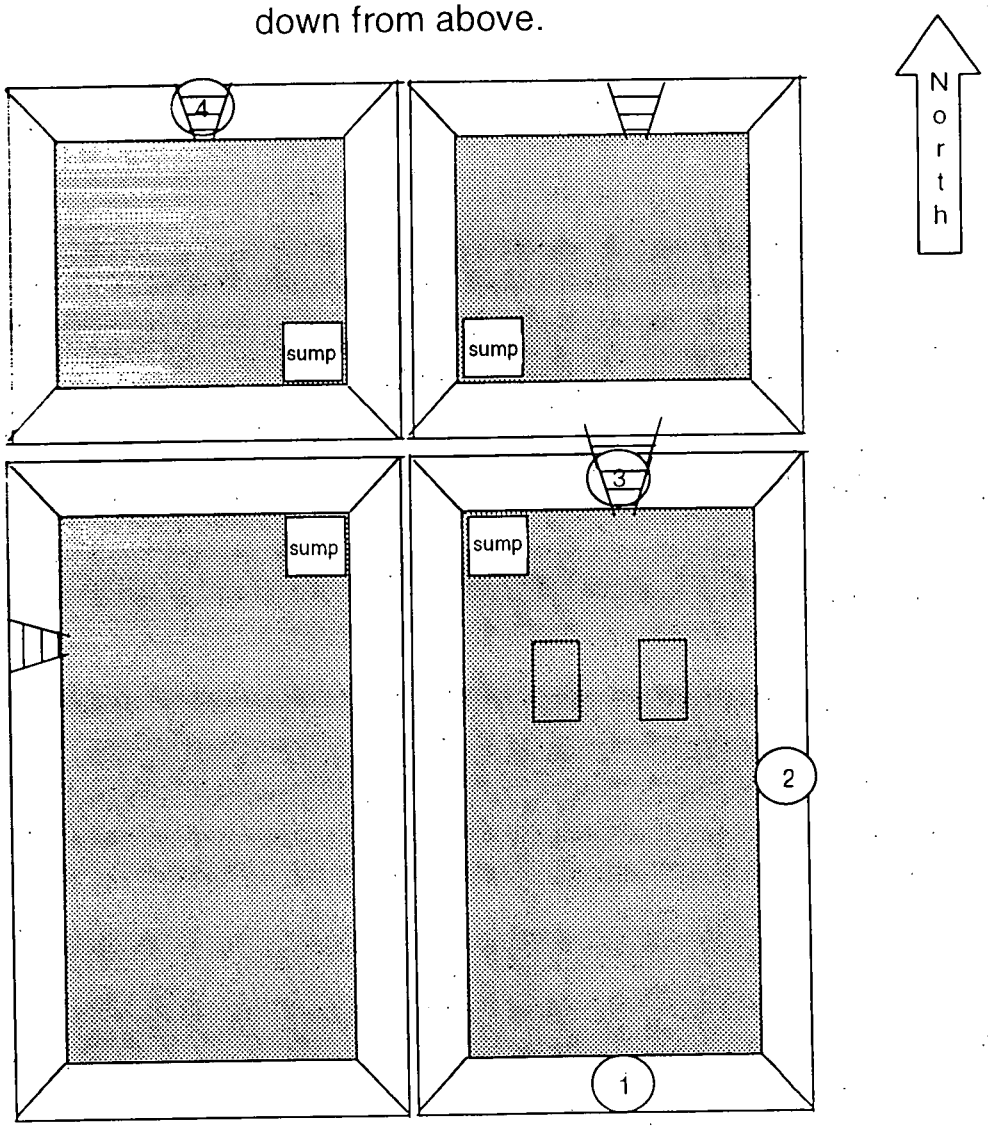
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points

Survey picture is of the pits in the 779 basement looking down from above.



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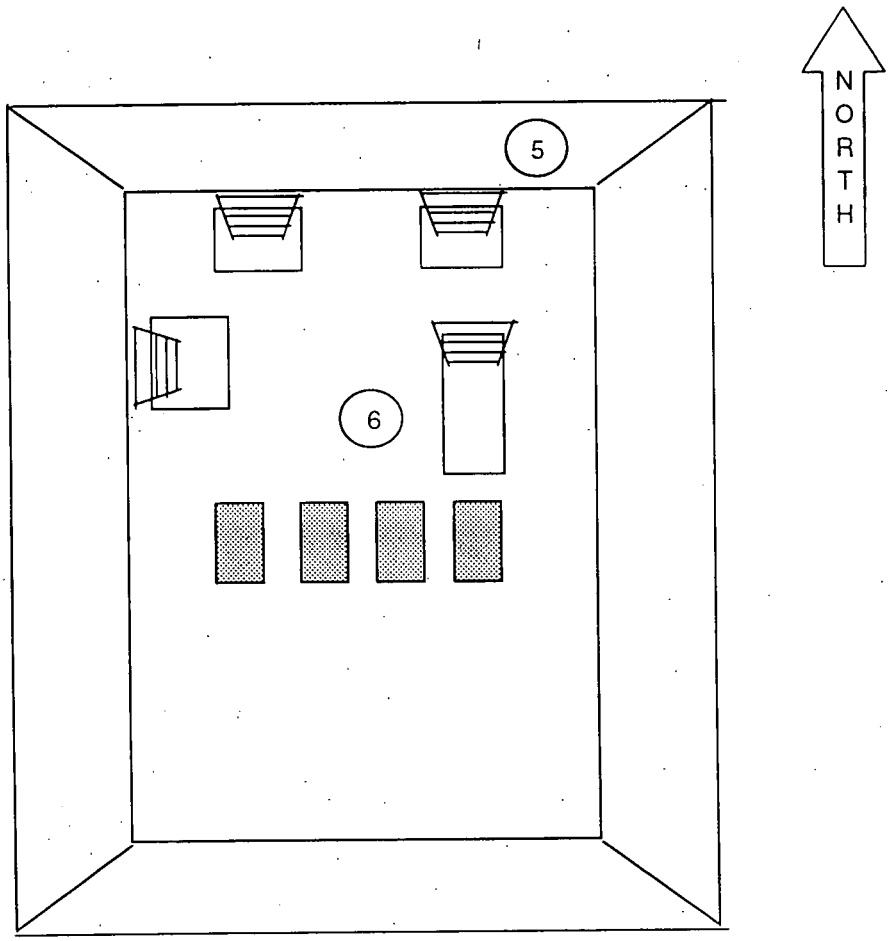
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points



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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

INSTRUMENT DATA

Mfg.	ludlum	Mfg.	ludlum	Mfg.	NE Electra
Model	2929	Model	2929	Model	DP-6
Serial #	99042	Serial #	99042	Serial #	NA
Cal Due	7/24/04	Cal Due	7/24/04	Cal Due	
Bkg	0.2 cpmα	Bkg	67.6 cpmβ	Bkg	cpmα
Eff.	34.9 %	Eff:	39.0 %	Eff.	%
MDA	18 dpmα	MDA	205 dpmβ	MDA	NA dpmα
Mfg.	Eberline	Mfg.	Eberline	Mfg.	NE Electra
Model	SAC-4	Model	BC-4	Model	DP-6
Serial #	NA	Serial #	NA	Serial #	NA
Cal Due		Cal Due		Cal Due	
Bkg	cpmα	Bkg	cpmβ	Bkg	cpmβ
Eff.	%	Eff.	%	Eff.	%
MDA	NA dpmα	MDA	NA dpmβ	MDA	NA dpmβ

Survey Type: contamination
Building: 779
Location: basement
Purpose: depost temporary contamination area

RWP #: 04-RISS-015

Date: 5/5/04 Time: 1400

RCT: M. Simmers / [redacted]
Print name Signature Emp. #

RCT: NA / NA / NA
Print name Signature Emp. #

PRN/REN #: NA
Comments:

SURVEY RESULTS

Swipe #	LOCATION	ALPHA Swipe dpm/100cm2	ALPHA Direct dpm/100cm2	ALPHA Wipe dpm/wipe	BETA Swipe dpm/100cm2	BETA Direct dpm/100cm2	BETA Wipe dpm/wipe
1	floor	< 18	NA	NA	< 205	NA	NA
2	floor	< 18	NA	NA	< 205	NA	NA
3	floor	< 18	NA	NA	< 205	NA	NA
4	floor	< 18	NA	NA	< 205	NA	NA
5	floor	< 18	NA	NA	< 205	NA	NA
6	floor	< 18	NA	NA	< 205	NA	NA
7	floor	< 18	NA	NA	< 205	NA	NA
8	floor	< 18	NA	NA	< 205	NA	NA
9	floor	< 18	NA	NA	< 205	NA	NA
10	floor	< 18	NA	NA	< 205	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	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
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	NA	NA	NA	NA	NA	NA	NA

Date Reviewed: 5/5/04 **RS Supervision:** S. Mahoney / [redacted]
Print Name Signature

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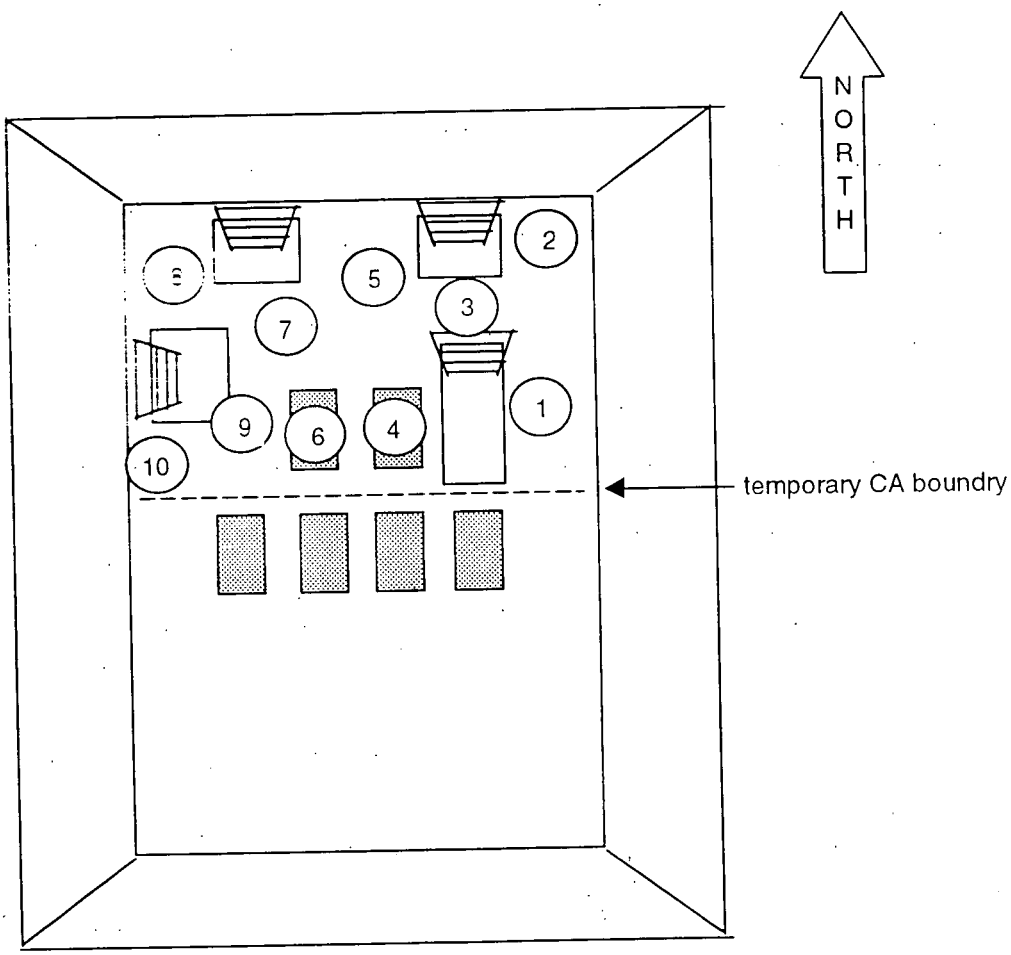
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

Drawing Showing Survey Points



190

COMPACT DISC CONTAINING STANDARDIZED REAL AND QUALITY CONTROL DATA

ACCELERATED ACTION DATA

191/191

DISK NOT INCLUDED

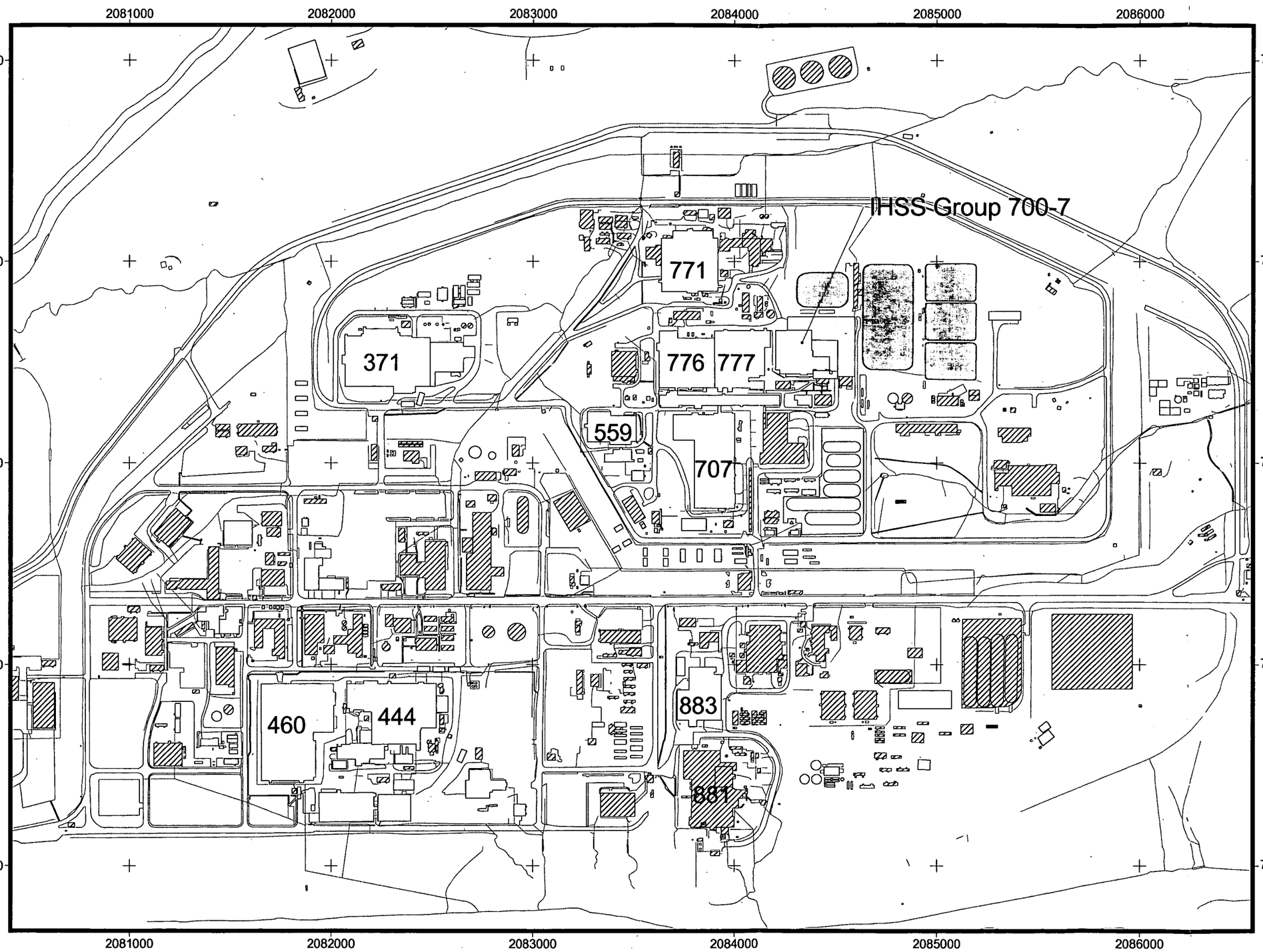


Figure 1
IHSS Group 700-7 Location

KEY

- IHSS Group 700-7
- Demolished structure
- Standing structure
- Paved road
- Drainage
- Solar pond

DRAFT

N
W E
S

100 0 100 200 300 400 500 Feet

Scale = 1:6,000

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

File:projects\2003\700-7\characterization-gk.apr

Date: 05/06/04

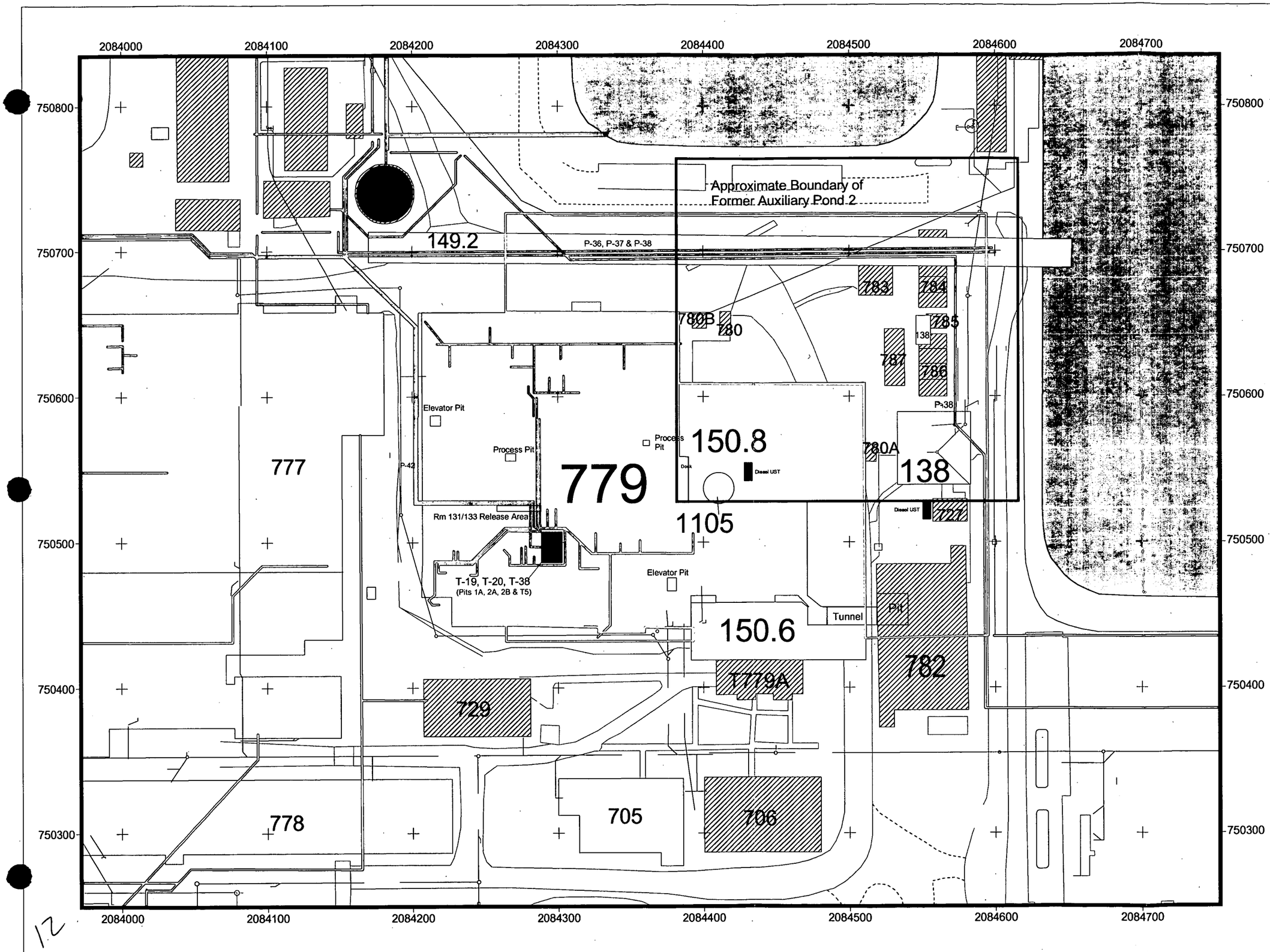


Figure 2
IHSS Group 700-7
UBC, IHSSs, PAC and Other Features of Interest

KEY

- UBC
- IHSS
- PAC
- Transferred portion of IHSS 000-101
- Approximate boundary of former Auxiliary Pond 2
- OPWL
- NPWL
- Foundation drain
- Storm drain
- Sewer line
- Tank
- Demolished structure
- Standing structure
- Solar evaporation pond
- Paved road

DRAFT

N W E S

50 0 50 Feet

Scale = 1:750

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

File: w:\projects\03\700-7\characterization

Date: 08/14/03

12

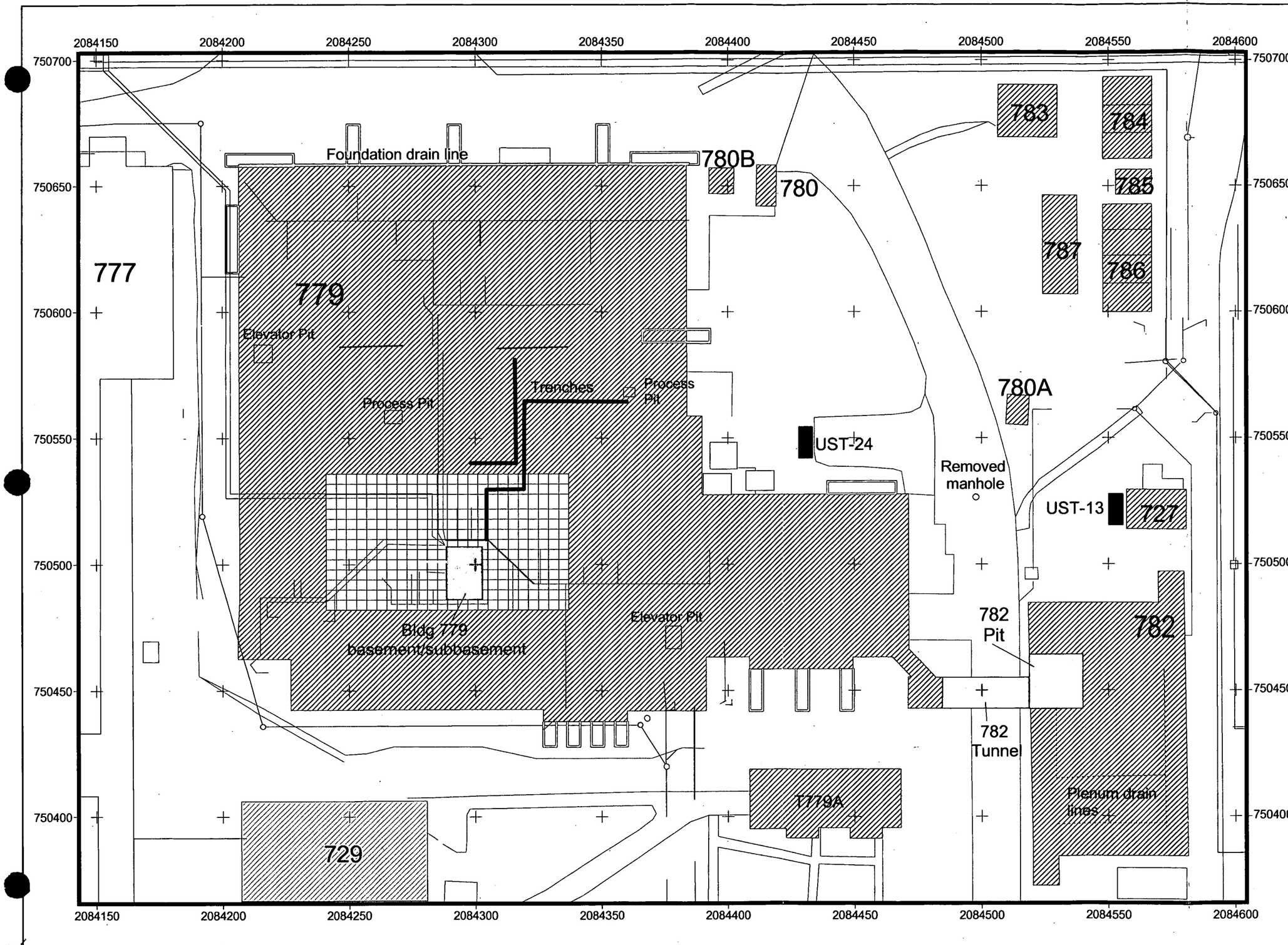


Figure 8
IHSS Group 700-7
Structural Features Removed & Remaining

KEY

- Standing building
- Removed building slab
- Remaining building slab
- Contamination Area
- Remaining building feature
- Removed foundation
- Partially removed foundation
- Remaining foundation
- Removed transformer pad
- Removed UST
- Removed OPWL
- Remaining OPWL
- Removed trench
- Removed plenum drain
- Removed foundation drain
- Removed sewer line
- Remaining sewer line
- Remaining storm drain
- Removed utility manholes
- Paved road

DRAFT

N W E S

20 0 20 40 Feet

Scale = 1:450
State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

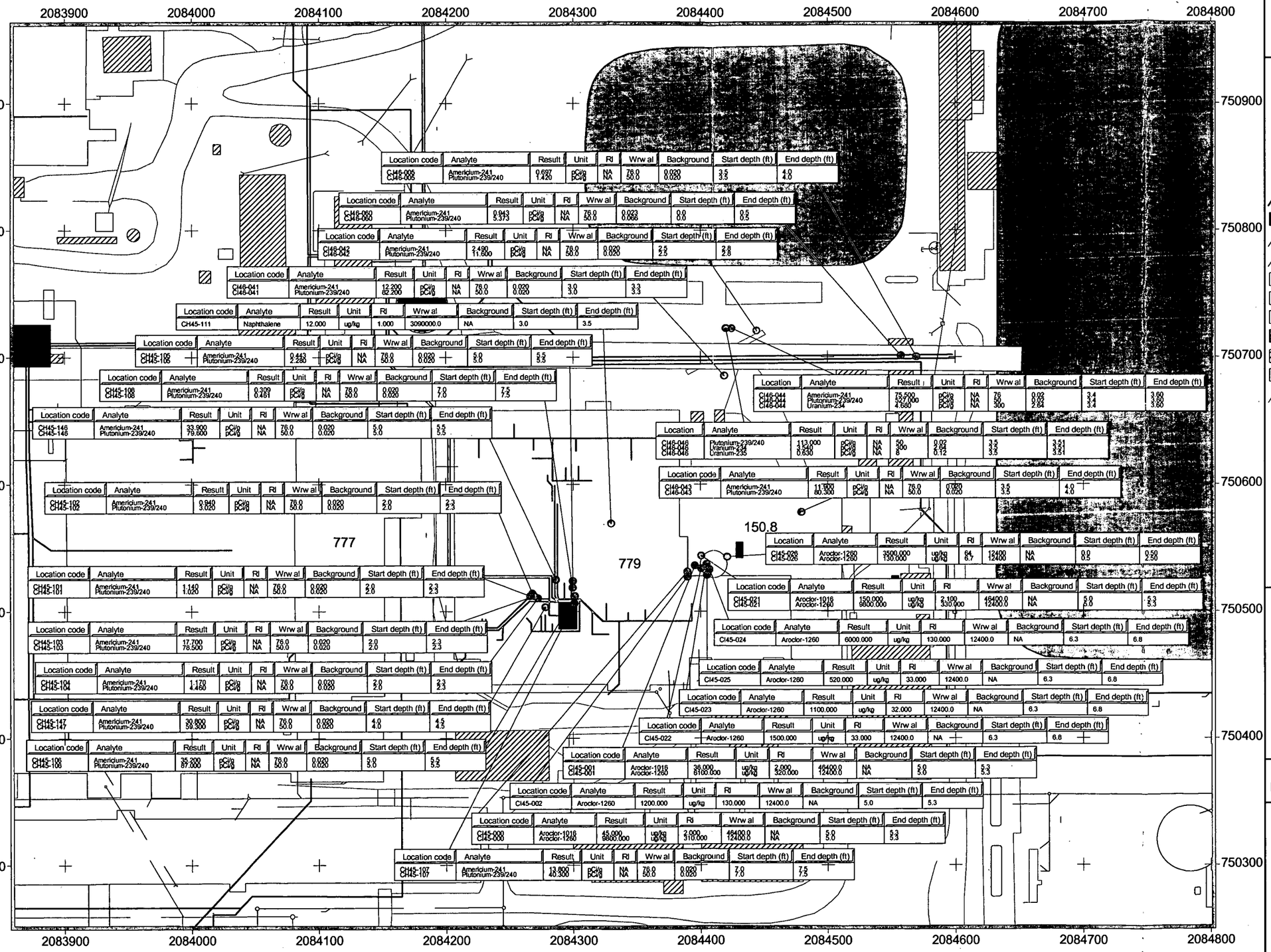
U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

File: w:\projects\03\700-7\characaterization\characterization-gk.apr Date: 06/17/04

85



Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI46-005 CI46-005	Americium-241 Plutonium-239/240	0.697 1.420	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	3.5 3.5	4.0 4.0

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI46-050 CI46-050	Americium-241 Plutonium-239/240	0.943 9.373	pCi/g pCi/g	NA NA	76.0 50.0	0.023 0.066	0.0 0.0	0.5 0.5

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI46-042 CI46-042	Americium-241 Plutonium-239/240	2.490 11.600	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	2.5 2.5	2.8 2.8

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI46-041 CI46-041	Americium-241 Plutonium-239/240	12.200 62.200	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	3.0 3.0	3.3 3.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-111	Naphthalene	12.000	ug/kg	1.000	3090000.0	NA	3.0	3.5

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-105 CH45-105	Americium-241 Plutonium-239/240	0.443 2.280	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	5.0 5.0	5.5 5.5

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-108 CH45-108	Americium-241 Plutonium-239/240	0.309 0.491	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	7.0 7.0	7.5 7.5

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-146 CH45-146	Americium-241 Plutonium-239/240	33.900 79.600	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	5.0 5.0	5.5 5.5

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-102 CH45-102	Americium-241 Plutonium-239/240	0.840 3.020	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	2.0 2.0	2.3 2.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-101 CH45-101	Americium-241 Plutonium-239/240	1.140 1.020	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	2.0 2.0	2.3 2.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-103 CH45-103	Americium-241 Plutonium-239/240	17.700 78.500	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	2.0 2.0	2.3 2.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-104 CH45-104	Americium-241 Plutonium-239/240	1.170 4.460	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	2.0 2.0	2.3 2.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-147 CH45-147	Americium-241 Plutonium-239/240	30.800 59.300	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	4.0 4.0	4.5 4.5

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-106 CH45-106	Americium-241 Plutonium-239/240	35.200 87.000	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	5.0 5.0	5.5 5.5

Location	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI46-044 CI46-044 CI46-044	Americium-241 Plutonium-239/240 Uranium-234	75.500 37.000 4.580	pCi/g pCi/g pCi/g	NA NA NA	76 50 300	0.02 0.04 2.84	3.4 3.4 3.4	3.60 3.60 3.60

Location	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI46-046 CI46-046 CI46-046	Plutonium-239/240 Uranium-234 Uranium-235	113.000 3.540 0.630	pCi/g pCi/g pCi/g	NA NA NA	50 300 8	0.02 2.64 0.12	3.5 3.5 3.5	3.51 3.51 3.51

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI46-043 CI46-043	Americium-241 Plutonium-239/240	11.900 80.300	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	3.5 3.5	4.0 4.0

Location	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-026 CI45-026	Aroclor-1260 Aroclor-1260	3500.000 130.000	ug/kg ug/kg	64. 6.7	12400 12400	NA NA	0.0 0.5	0.50 2.50

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-021 CI45-021	Aroclor-1016 Aroclor-1260	150.000 9800.000	ug/kg ug/kg	2.100 330.000	46400.0 12400.0	NA NA	5.0 5.0	5.3 5.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-024	Aroclor-1260	6000.000	ug/kg	130.000	12400.0	NA	6.3	6.8

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-025	Aroclor-1260	520.000	ug/kg	33.000	12400.0	NA	6.3	6.8

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-023	Aroclor-1260	1100.000	ug/kg	32.000	12400.0	NA	6.3	6.8

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-022	Aroclor-1260	1500.000	ug/kg	33.000	12400.0	NA	6.3	6.8

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-001 CI45-001	Aroclor-1016 Aroclor-1260	36.000 6100.000	ug/kg ug/kg	2.000 320.000	46400.0 12400.0	NA NA	5.0 5.0	5.3 5.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-002	Aroclor-1260	1200.000	ug/kg	130.000	12400.0	NA	5.0	5.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CI45-000 CI45-000	Aroclor-1016 Aroclor-1260	45.000 9800.000	ug/kg ug/kg	2.000 310.000	46400.0 12400.0	NA NA	5.0 5.0	5.3 5.3

Location code	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH45-107 CH45-107	Americium-241 Plutonium-239/240	13.800 40.300	pCi/g pCi/g	NA NA	76.0 50.0	0.020 0.020	7.0 7.0	7.5 7.5

Figure 9
700-7 Confirmation Sampling Locations and Results

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background means plus two standard deviations or reporting limits
- OPWL
- Tank
- Storm drain
- Sewer line
- IHSS
- PAC
- UBC
- Former SEP
- Demolished building
- Standing building
- Paved road

DRAFT

N W E S

75 0 75 Feet

Scale = 1: 950

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Prepared by: RADMS

Date: 7.1.04

Prepared for: KAISER•HILL COMPANY

File: W:\Projects\Fy2003\700-7\Confirmation\700_7_confirmation.apr

93

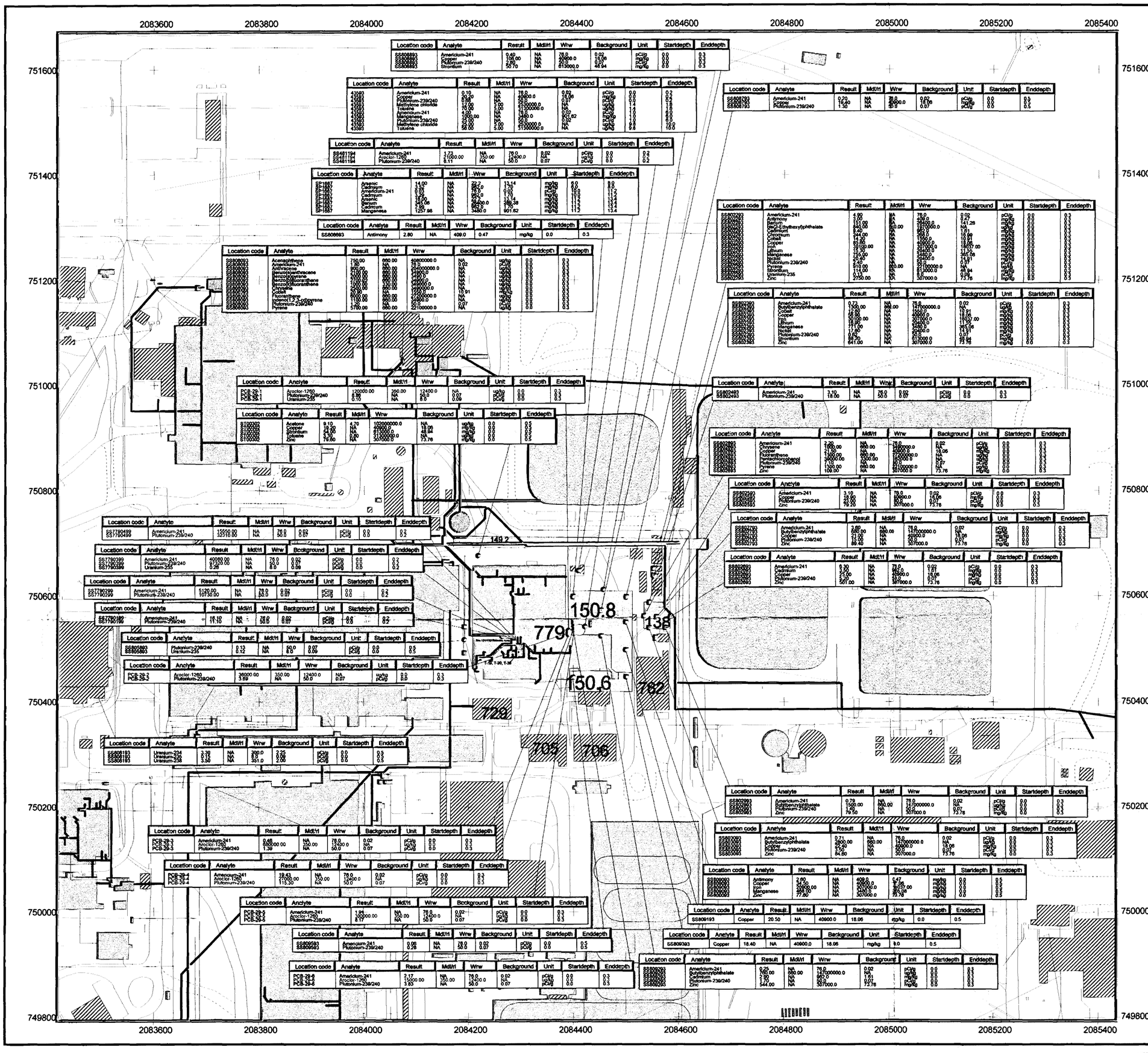


Figure 3
IHSS Group 700-7
Pre-Accelerated Action
Soil Sampling Results

KEY

- Sample location with AL exceedance
- Sample location without AL exceedance
- Location with concentrations less than background means plus two standard deviations or MDL/RL

- UBC
- IHSS
- PAC
- OPWL
- NPWL
- Storm line
- Sewer line
- Demolished building
- Standing building
- Tank
- Former SEP
- Paved road
- Dirt road
- Drainage

DRAFT as of 05 06 04

N W E S

150 0 150 Feet

Scale 1: 1600

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Date: 05.10.04

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

File: W:\Projects\Fy2003\700-7\Characterization\700-7 characterization-gk.apr

IA-A-002330 pg 32

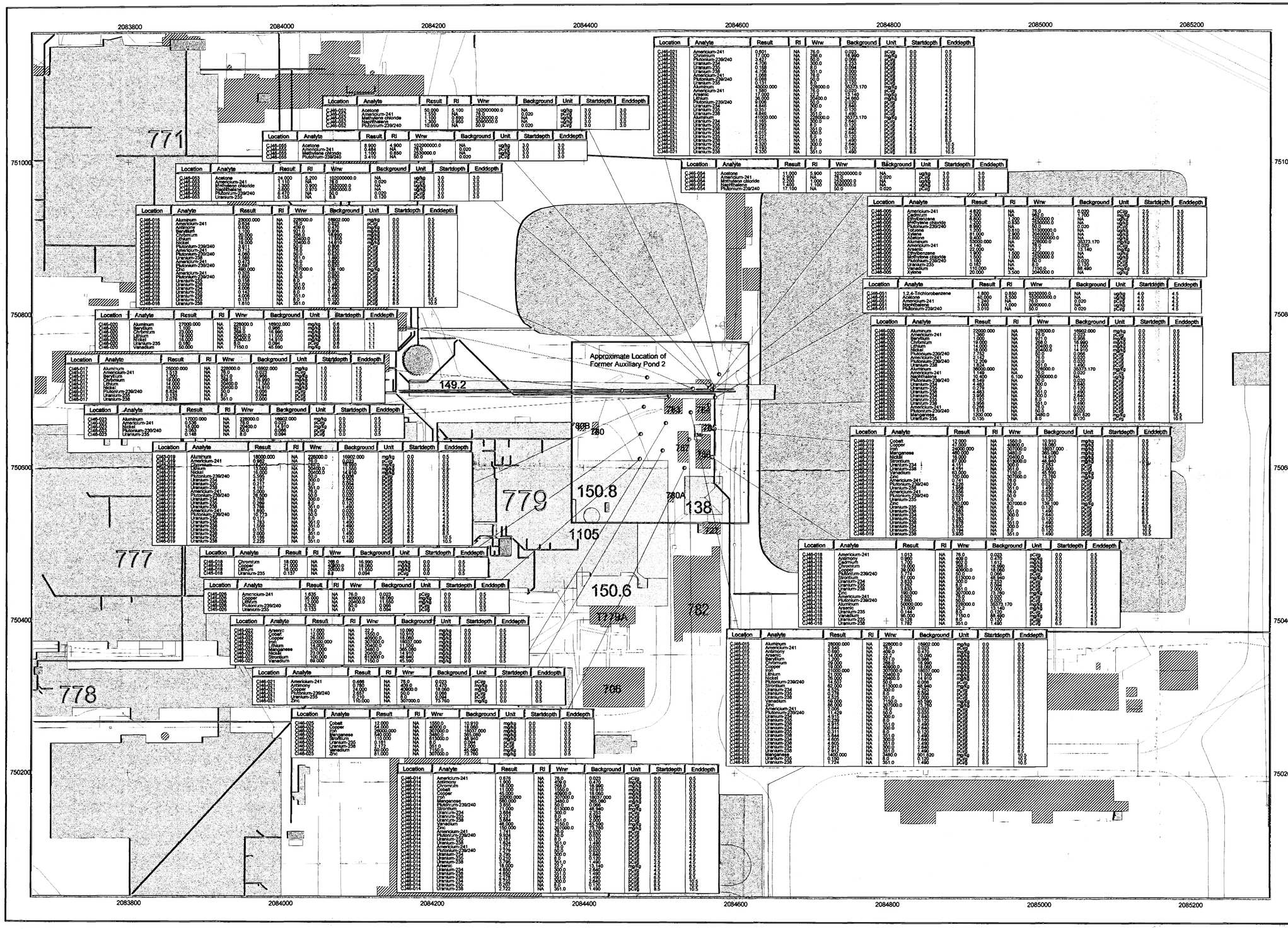


Figure 4
Characterization Sampling Locations and Results, Northeast Quadrant IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background or reporting limit
- OPWL
- Tank
- Storm drain
- Sewer line
- PAC
- IHSS
- UBC
- Former SEP
- Demolished building
- Standing building
- Paved road

DRAFT

N
W E
S

Scale = 1: 800

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

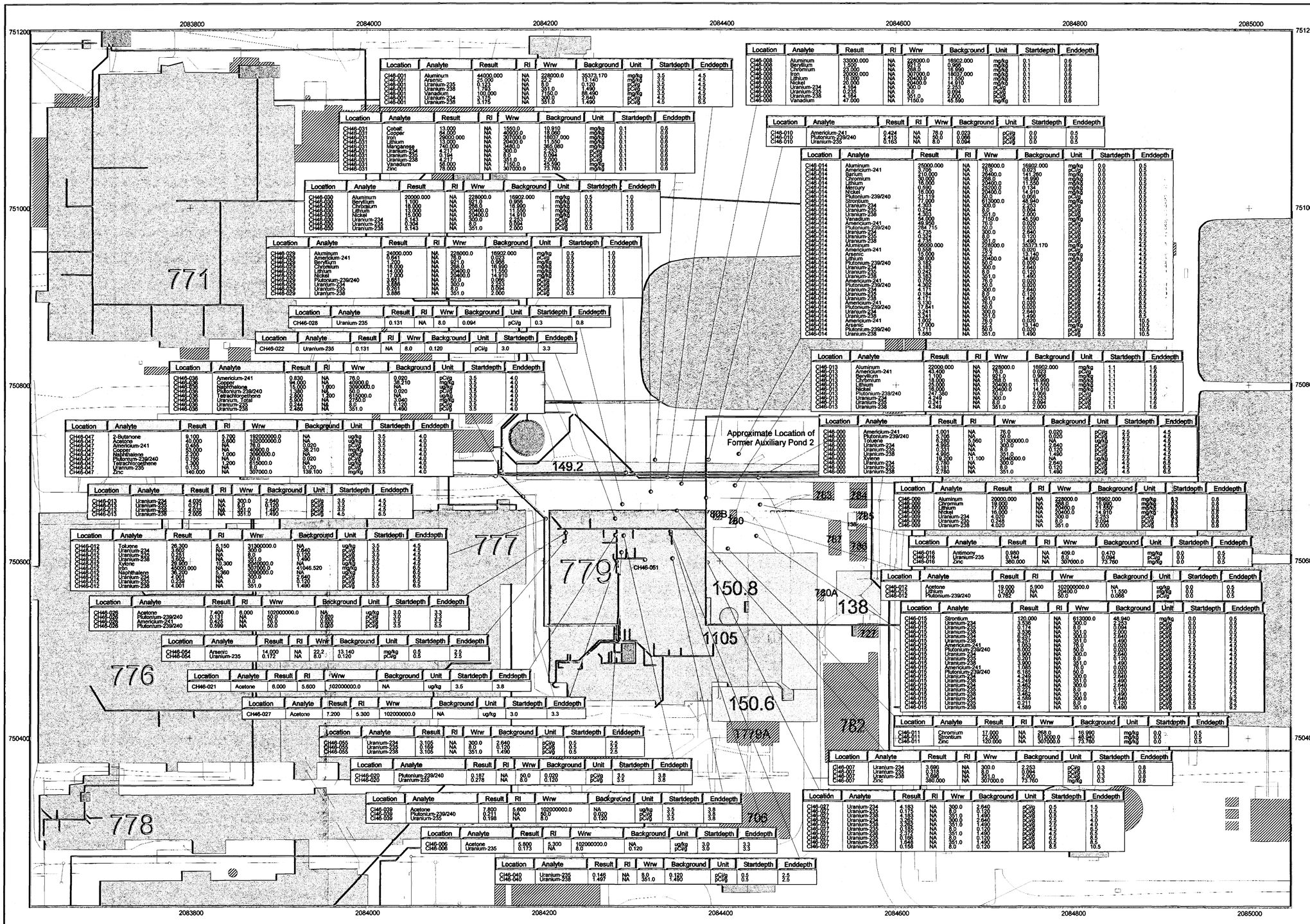
Date: 6.30.04

Prepared by: RADMS

Prepared for: KAISER-HILL COMPANY

File: W:\Projects\Fy2003\700-7\Characterization\700-7 characterization-gk.apr

1A-A-002330 pg. 36



Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-001	Aluminum	44000.000	NA	228000.0	35373.170	mg/kg	3.5	4.5
CH46-001	Arsenic	25.000	NA	22.2	13.140	mg/kg	3.5	4.5
CH46-001	Uranium-235	0.123	NA	8.0	0.120	pCi/g	3.5	4.5
CH46-001	Uranium-234	1.163	NA	351.0	1.490	pCi/g	3.5	4.5
CH46-001	Vanadium	100.000	NA	7150.0	88.490	mg/kg	3.5	4.5
CH46-001	Uranium-234	3.172	NA	300.0	2.640	pCi/g	4.5	6.5
CH46-001	Uranium-238	3.172	NA	351.0	1.490	pCi/g	4.5	6.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-008	Aluminum	33000.000	NA	228000.0	16902.000	mg/kg	0.1	0.6
CH46-008	Beryllium	1.500	NA	921.0	0.995	mg/kg	0.1	0.6
CH46-008	Chromium	23.000	NA	268.0	16.990	mg/kg	0.1	0.6
CH46-008	Iron	20000.000	NA	307000.0	18937.000	mg/kg	0.1	0.6
CH46-008	Lithium	16.000	NA	20400.0	11.550	mg/kg	0.1	0.6
CH46-008	Nickel	20.000	NA	20400.0	14.910	mg/kg	0.1	0.6
CH46-008	Uranium-234	4.184	NA	300.0	2.253	pCi/g	0.1	0.6
CH46-008	Uranium-235	0.235	NA	8.0	0.094	pCi/g	0.1	0.6
CH46-008	Uranium-238	4.184	NA	351.0	1.490	pCi/g	0.1	0.6
CH46-008	Vanadium	47.000	NA	7150.0	45.590	mg/kg	0.1	0.6

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-031	Cobalt	13.000	NA	1550.0	10.910	mg/kg	0.1	0.6
CH46-031	Copper	64.000	NA	40600.0	18.060	mg/kg	0.1	0.6
CH46-031	Iron	29000.000	NA	307000.0	18937.000	mg/kg	0.1	0.6
CH46-031	Lithium	13.000	NA	20400.0	11.550	mg/kg	0.1	0.6
CH46-031	Manganese	740.000	NA	3480.0	365.060	mg/kg	0.1	0.6
CH46-031	Uranium-234	4.217	NA	300.0	2.253	pCi/g	0.1	0.6
CH46-031	Uranium-235	0.194	NA	8.0	0.094	pCi/g	0.1	0.6
CH46-031	Uranium-238	4.217	NA	351.0	2.000	pCi/g	0.1	0.6
CH46-031	Vanadium	56.000	NA	7150.0	45.590	mg/kg	0.1	0.6
CH46-031	Zinc	76.000	NA	307000.0	73.760	mg/kg	0.1	0.6

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-010	Americium-241	0.424	NA	78.0	0.023	pCi/g	0.0	0.5
CH46-010	Plutonium-239/240	2.415	NA	50.0	0.056	pCi/g	0.0	0.5
CH46-010	Uranium-238	0.163	NA	8.0	0.094	pCi/g	0.0	0.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-014	Aluminum	25000.000	NA	228000.0	16902.000	mg/kg	0.0	0.5
CH46-014	Americium-241	3.705	NA	78.0	0.023	pCi/g	0.0	0.5
CH46-014	Barium	210.000	NA	20400.0	141.280	mg/kg	0.0	0.5
CH46-014	Chromium	50.000	NA	268.0	16.990	mg/kg	0.0	0.5
CH46-014	Lithium	18.000	NA	20400.0	11.550	mg/kg	0.0	0.5
CH46-014	Mercury	0.500	NA	2040.0	0.134	mg/kg	0.0	0.5
CH46-014	Nickel	16.000	NA	20400.0	14.910	mg/kg	0.0	0.5
CH46-014	Plutonium-239/240	21.119	NA	50.0	0.056	pCi/g	0.0	0.5
CH46-014	Strontium	71.000	NA	613000.0	48.940	mg/kg	0.0	0.5
CH46-014	Uranium-234	4.303	NA	300.0	2.253	pCi/g	0.0	0.5
CH46-014	Uranium-235	0.224	NA	8.0	0.094	pCi/g	0.0	0.5
CH46-014	Uranium-238	4.303	NA	351.0	2.000	pCi/g	0.0	0.5
CH46-014	Vanadium	54.000	NA	7150.0	45.590	mg/kg	0.0	0.5
CH46-014	Americium-241	48.499	NA	78.0	0.020	pCi/g	2.5	4.5
CH46-014	Plutonium-239/240	284.715	NA	50.0	0.020	pCi/g	2.5	4.5
CH46-014	Uranium-234	4.735	NA	300.0	2.640	pCi/g	2.5	4.5
CH46-014	Uranium-235	0.324	NA	8.0	0.120	pCi/g	2.5	4.5
CH46-014	Uranium-238	4.735	NA	351.0	1.490	pCi/g	2.5	4.5
CH46-014	Aluminum	56000.000	NA	228000.0	35373.170	mg/kg	2.5	4.5
CH46-014	Americium-241	0.558	NA	78.0	0.020	pCi/g	2.5	4.5
CH46-014	Arsenic	15.000	NA	22.2	13.140	mg/kg	2.5	4.5
CH46-014	Lithium	38.000	NA	20400.0	34.660	mg/kg	2.5	4.5
CH46-014	Plutonium-239/240	3.183	NA	50.0	0.020	pCi/g	2.5	4.5
CH46-014	Uranium-234	5.303	NA	300.0	2.640	pCi/g	2.5	4.5
CH46-014	Uranium-235	0.242	NA	8.0	0.120	pCi/g	2.5	4.5
CH46-014	Uranium-238	5.303	NA	351.0	1.490	pCi/g	2.5	4.5
CH46-014	Americium-241	0.522	NA	78.0	0.020	pCi/g	4.5	6.5
CH46-014	Plutonium-239/240	4.350	NA	50.0	0.020	pCi/g	4.5	6.5
CH46-014	Uranium-234	4.171	NA	300.0	2.640	pCi/g	4.5	6.5
CH46-014	Uranium-235	0.184	NA	8.0	0.120	pCi/g	4.5	6.5
CH46-014	Uranium-238	4.171	NA	351.0	1.490	pCi/g	4.5	6.5
CH46-014	Americium-241	3.130	NA	78.0	0.020	pCi/g	6.5	8.5
CH46-014	Plutonium-239/240	17.841	NA	50.0	0.020	pCi/g	6.5	8.5
CH46-014	Uranium-234	3.241	NA	300.0	2.640	pCi/g	6.5	8.5
CH46-014	Uranium-238	3.241	NA	351.0	1.490	pCi/g	6.5	8.5
CH46-014	Americium-241	1.002	NA	78.0	0.020	pCi/g	8.5	10.5
CH46-014	Arsenic	17.000	NA	22.2	13.140	mg/kg	8.5	10.5
CH46-014	Plutonium-239/240	5.711	NA	50.0	0.020	pCi/g	8.5	10.5
CH46-014	Uranium-238	1.580	NA	351.0	1.490	pCi/g	8.5	10.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-029	Aluminum	24000.000	NA	228000.0	16902.000	mg/kg	0.5	1.0
CH46-029	Americium-241	0.541	NA	78.0	0.023	pCi/g	0.5	1.0
CH46-029	Beryllium	1.200	NA	921.0	0.995	mg/kg	0.5	1.0
CH46-029	Chromium	18.000	NA	268.0	16.990	mg/kg	0.5	1.0
CH46-029	Lithium	14.000	NA	20400.0	11.550	mg/kg	0.5	1.0
CH46-029	Nickel	17.000	NA	20400.0	14.910	mg/kg	0.5	1.0
CH46-029	Plutonium-239/240	3.651	NA	50.0	0.056	pCi/g	0.5	1.0
CH46-029	Uranium-234	3.598	NA	300.0	2.253	pCi/g	0.5	1.0
CH46-029	Uranium-235	0.251	NA	8.0	0.094	pCi/g	0.5	1.0
CH46-029	Uranium-238	3.598	NA	351.0	2.000	pCi/g	0.5	1.0

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-028	Uranium-235	0.131	NA	8.0	0.094	pCi/g	0.3	0.8

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-022	Uranium-235	0.131	NA	8.0	0.120	pCi/g	3.0	3.3

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-036	Americium-241	0.830	NA	78.0	0.020	pCi/g	3.5	4.0
CH46-036	Copper	94.000	NA	40600.0	38.210	mg/kg	3.5	4.0
CH46-036	Naphthalene	15.000	1.000	3050000.0	NA	ug/kg	3.5	4.0
CH46-036	Plutonium-239/240	1.350	NA	50.0	0.020	pCi/g	3.5	4.0
CH46-036	Tetrachloroethene	2.800	1.100	613000.0	NA	ug/kg	3.5	4.0
CH46-036	Uranium_Total	2.600	NA	2730.0	0.140	mg/kg	3.5	4.0
CH46-036	Uranium-235	0.242	NA	8.0	0.120	pCi/g	3.5	4.0
CH46-036	Uranium-238	2.460	NA	351.0	1.490	pCi/g	3.5	4.0

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-047	2-Butanone	9.100	5.700	192000000.0	NA	ug/kg	3.5	4.0
CH46-047	Acetone	40.000	6.000	102000000.0	NA	ug/kg	3.5	4.0
CH46-047	Americium-241	0.405	NA	78.0	0.020	pCi/g	3.5	4.0
CH46-047	Copper	53.000	NA	40600.0	38.210	mg/kg	3.5	4.0
CH46-047	Naphthalene	2.200	1.000	3050000.0	NA	ug/kg	3.5	4.0
CH46-047	Plutonium-239/240	0.705	NA	50.0	0.020	pCi/g	3.5	4.0
CH46-047	Tetrachloroethene	1.300	1.200	613000.0	NA	ug/kg	3.5	4.0
CH46-047	Uranium-235	0.130	NA	8.0	0.120	pCi/g	3.5	4.0
CH46-047	Zinc	140.000	NA	307000.0	138.100	mg/kg	3.5	4.0

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-013	Uranium-234	4.035	NA	300.0	2.640	pCi/g	3.5	4.5
CH46-013	Uranium-235	0.271	NA	8.0	0.120	pCi/g	3.5	4.5
CH46-013	Uranium-238	4.035	NA	351.0	1.490	pCi/g	3.5	4.5
CH46-013	Uranium-238	2.005	NA	351.0	1.490	pCi/g	4.5	6.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-012	Toluene	26.300	5.150	31300000.0	NA	ug/kg	3.5	4.5
CH46-012	Uranium-234	3.902	NA	300.0	2.640	pCi/g	3.5	4.5
CH46-012	Uranium-235	0.231	NA	8.0	0.120	pCi/g	3.5	4.5
CH46-012	Uranium-238	3.902	NA	351.0	1.490	pCi/g	3.5	4.5
CH46-012	Xylene	29.000	10.300	20400000.0	NA	ug/kg	3.5	4.5
CH46-012	Iron	42000.000	NA	307000.0	41046.520	mg/kg	5.5	6.5
CH46-012	Naphthalene	36.200	5.360	3050000.0	NA	ug/kg	5.5	6.5
CH46-012	Uranium-234	4.001	NA	300.0	2.640	pCi/g	5.5	6.5
CH46-012	Uranium-235	0.238	NA	8.0	0.120	pCi/g	5.5	6.5
CH46-012	Uranium-238	4.001	NA	351.0	1.490	pCi/g	5.5	6.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-026	Acetone	7.400	6.000	102000000.0	NA	ug/kg	3.0	3.3
CH46-026	Plutonium-239/240	0.131	NA	50.0	0.020	pCi/g	3.0	3.3
CH46-026	Americium-241	0.425	NA	78.0	0.020	pCi/g	3.0	3.3
CH46-026	Plutonium-239/240	0.599	NA	50.0	0.020	pCi/g	3.0	3.3

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-054	Arsenic	14.000	NA	22.2	13.140	mg/kg	0.5	2.5
CH46-054	Uranium-235	0.172	NA	8.0	0.120	pCi/g	0.5	2.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-021	Acetone	6.000	5.600	102000000.0	NA	ug/kg	3.5	3.8

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-027	Acetone	7.200	5.300	102000000.0	NA	ug/kg	3.0	3.3

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-055	Uranium-234	3.105	NA	300.0	2.640	pCi/g	0.5	2.5
CH46-055	Uranium-235	0.169	NA	8.0	0.120	pCi/g	0.5	2.5
CH46-055	Uranium-238	3.105	NA	351.0	1.490	pCi/g	0.5	2.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-020	Plutonium-239/240	0.197	NA	50.0	0.020	pCi/g	3.5	3.8
CH46-020	Uranium-235	0.278	NA	8.0	0.120	pCi/g	3.5	3.8

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-039	Acetone	7.800	5.600	102000000.0	NA	ug/kg	3.5	3.8
CH46-039	Plutonium-239/240	0.211	NA	50.0	0.020	pCi/g	3.5	3.8
CH46-039	Uranium-235	0.198	NA	8.0	0.120	pCi/g	3.5	3.8

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-006	Acetone	5.800	5.300	102000000.0	NA	ug/kg	3.0	3.3
CH46-006	Uranium-235	0.173	NA	8.0	0.120	pCi/g	3.0	3.3

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-040	Uranium-235	0.146	NA	8.0	0.120	pCi/g	0.5	2.5
CH46-040	Uranium-238	1.497	NA	351.0	1.480	pCi/g	0.5	2.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-013	Aluminum	22000.000	NA	228000.0	16902.000	mg/kg	1.1	1.6
CH46-013	Americium-241	43.400	NA	78.0	0.023	pCi/g	1.1	1.6
CH46-013	Beryllium	1.100	NA	921.0	0.995	mg/kg	1.1	1.6
CH46-013	Chromium	18.000	NA	268.0	16.990	mg/kg	1.1	1.6
CH46-013	Lithium	25.000	NA	20400.0	11.550	mg/kg	1.1	1.6
CH46-013	Nickel	16.000	NA	20400.0	14.910	mg/kg	1.1	1.6
CH46-013	Plutonium-239/240	247.360	NA	50.0	0.056	pCi/g	1.1	1.6
CH46-013	Uranium-234	4.249	NA	300.0	2.253	pCi/g	1.1	1.6
CH46-013	Uranium-235	0.241	NA	8.0	0.094	pCi/g	1.1	1.6
CH46-013	Uranium-238	4.249	NA	351.0	2.000	pCi/g	1.1	1.6

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-000	Americium-241	1.001	NA	78.0	0.020	pCi/g	2.5	4.5
CH46-000	Plutonium-239/240	5.700	NA	50.0	0.020	pCi/g	2.5	4.5
CH46-000	Toluene	6.200	5.260	31300000.0	NA	ug/kg	2.5	4.5
CH46-000	Uranium-234	4.969	NA	300.0	2.640	pCi/g	2.5	4.5
CH46-000	Uranium-235	0.331	NA	8.0	0.120	pCi/g	2.5	4.5
CH46-000	Uranium-238	4.969	NA	351.0	1.490	pCi/g	2.5	4.5
CH46-000	Xylene	16.200	11.100	20400000.0	NA	ug/kg	2.5	4.5
CH46-000	Uranium-234	2.781	NA	300.0	2.640	pCi/g	4.5	6.5
CH46-000	Uranium-235	0.181	NA	8.0	0.120	pCi/g	4.5	6.5
CH46-000	Uranium-238	2.781	NA	351.0	1.490	pCi/g	4.5	6.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-009	Aluminum	20000.000	NA	228000.0	16902.000	mg/kg	6.3	0.6
CH46-009	Chromium	19.000	NA	268.0	16.990	mg/kg	0.3	0.8
CH46-009	Lithium	17.000	NA	20400.0	11.550	mg/kg	0.3	0.8
CH46-009	Nickel	15.000	NA	20400.0	14.910	mg/kg	0.3	0.8
CH46-009	Uranium-234	4.323	NA	300.0	2.253	pCi/g	0.3	0.8
CH46-009	Uranium-235	0.252	NA	8.0	0.094	pCi/g	0.3	0.8
CH46-009	Uranium-238	4.020	NA	351.0	2.000	pCi/g	0.3	0.8

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-016	Antimony	0.980	NA	409.0	0.470	mg/kg	0.0	0.5
CH46-016	Uranium-235	0.144	NA	8.0	0.094	pCi/g	0.0	0.5
CH46-016	Zinc	360.000	NA	307000.0	73.760	mg/kg	0.0	0.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-012	Acetone	19.000	5.900	102000000.0	NA	ug/kg	0.0	0.5
CH46-012	Lithium	12.000	NA	20400.0	11.550	mg/kg	0.0	0.5
CH46-012	Plutonium-239/240	0.782	NA	50.0	0.056	pCi/g	0.0	0.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-015	Strontium	120.000	NA	613000.0	48.940	mg/kg	0.0	0.5
CH46-015	Uranium-234	3.535	NA	300.0	2.253	pCi/g	0.0	0.5
CH46-015	Uranium-235	0.174	NA	8.0	0.094	pCi/g	0.0	0.5
CH46-015	Uranium-238	3.535	NA	351.0	2.000	pCi/g	0.0	0.5
CH46-015	Uranium-234	6.257	NA	300.0	2.640	pCi/g	1.5	2.5
CH46-015	Uranium-238	6.257	NA	351.0	1.490	pCi/g	1.5	2.5
CH46-015	Americium-241	1.053	NA	78.0	0.020	pCi/g	2.5	4.5
CH46-015	Plutonium-239/240	6.002	NA	50.0	0.020	pCi/g	2.5	4.5
CH46-015	Uranium-234	3.909	NA	300.0	2.640	pCi/g	2.5	4.5
CH46-015	Uranium-235	0.201	NA	8.0	0.120	pCi/g	2.5	4.5
CH46-015	Uranium-238	3.900	NA	351.0	1.490	pCi/g	2.5	4.5
CH46-015	Americium-241	1.065	NA	78.0	0.020	pCi/g	4.5	6.5
CH46-015	Plutonium-239/240	6.185	NA	50.0	0.020	pCi/g	4.5	6.5
CH46-015	Uranium-234	4.249	NA	300.0	2.640	pCi/g	4.5	6.5
CH46-015	Uranium-238	4.249	NA	351.0	1.490	pCi/g	4.5	6.5
CH46-015	Uranium-234	3.462	NA	300.0	2.640	pCi/g	6.5	7.2
CH46-015	Uranium-235	0.221	NA	8.0	0.120	pCi/g	6.5	7.2
CH46-015	Uranium-238	3.462	NA	351.0	1.490	pCi/g	6.5	7.2
CH46-015	Uranium-234	4.588	NA	300.0	2.640	pCi/g	8.5	9.2
CH46-015	Uranium-235	0.211	NA	8.0	0.120	pCi/g	8.5	9.2
CH46-015	Uranium-238	4.588	NA	351.0	1.490	pCi/g	8.5	9.2

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-011	Chromium	17.000	NA	268.0	16.990	mg/kg	0.0	0.5
CH46-011	Strontium	42.000	NA	613000.0	48.940	mg/kg	0.0	0.5
CH46-011	Zinc	120.000	NA	307000.0	73.760	mg/kg	0.0	0.5

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-007	Uranium-234	3.666	NA	300.0	2.253	pCi/g	0.3	0.8
CH46-007	Uranium-235	0.318	NA	8.0	0.094	pCi/g	0.3	0.8
CH46-007	Uranium-238	3.666	NA	351.0	2.000	pCi/g	0.3	0.8
CH46-007	Zinc	380.000	NA	307000.0	73.760	mg/kg	0.3	0.8

Location	Analyte	Result	RI	Wrw	Background	Unit	Startdepth	Enddepth
CH46-027	Uranium-234	4.183	NA	300.0	2.640	pCi/g	0.5	1.5
CH46-027	Uranium-235	0.175	NA	8.0	0.120	pCi/g	0.5	1.5
CH46-027	Uranium-238	4.183	NA	351.0	1.490	pCi/g	0.5	1.5
CH46-027	Uranium-234	3.262	NA	300.0	2.640	pCi/g	2.5	4.0
CH46-027	Uranium-238	3.262	NA	351.0	1.490	pCi/g	2.5	4.0
CH46-027	Uranium-235	0.185	NA	8.0	0.120	pCi/g	4.5	6.5
CH46-027	Uranium-238	2.172	NA	351.0	1.490	pCi/g	4.5	6.5
CH46-027	Uranium-235	0.196	NA	8.0	0.120	pCi/g	6.5	8.5
CH46-027	Uranium-238	1.649	NA	351.0	1.490	pCi/g	6.5	8.5
CH46-027	Uranium-235	0.158	NA	8.0	0.120	pCi/g	8.5	10.5

Figure 5
Characterization Sampling Locations and Results, Northwest Quadrant IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background or reporting limit
- Less than background or reporting limit

- OPWL
- Tank
- Storm drain
- Sewer line
- PAC
- IHSS
- UBC
- Former SEP
- Demolished building
- Standing building
- Paved road

DRAFT

N
W E
S

Scale = 1: 750

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Prepared by: RADMAN

Date: 6.30.04

Prepared for: KAISER-HILL COMPANY

File: W:\Projects\Fy2003\700-7\Characterization\700-7 characterization-gk.apr

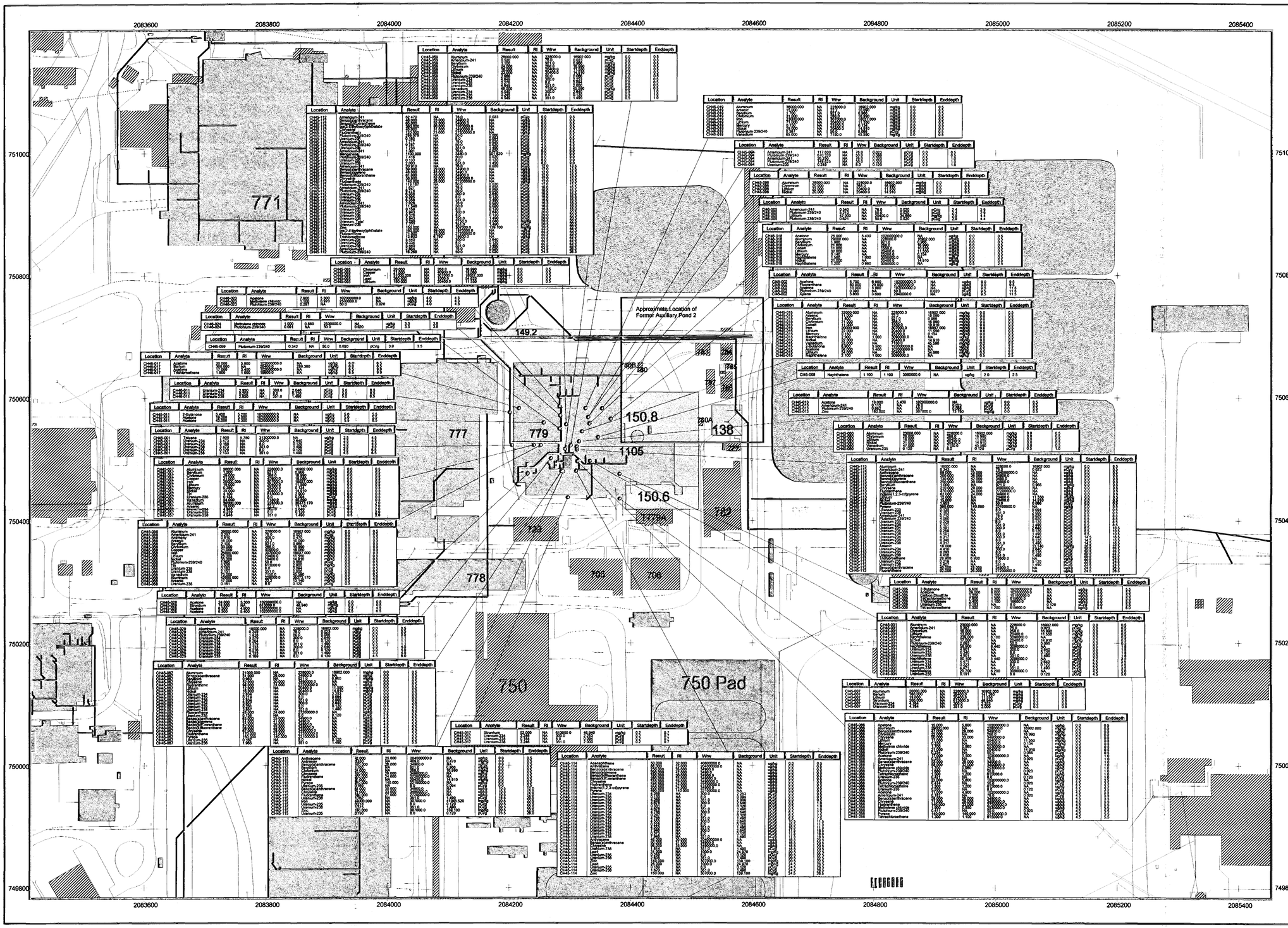


Figure 6
Characterization Sampling Locations and Results, Southwest Quadrant IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background or reporting limit
- OPWL
- Tank
- Storm drain
- Sewer line
- PAC
- IHSS
- UBC
- Former SEP
- Demolished building
- Standing building
- Paved road

DRAFT

N
W E
S

Scale = 1: 1000

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Prepared by: RADMS

Date: 6.30.04

Prepared for: KAISER•HILL COMPANY

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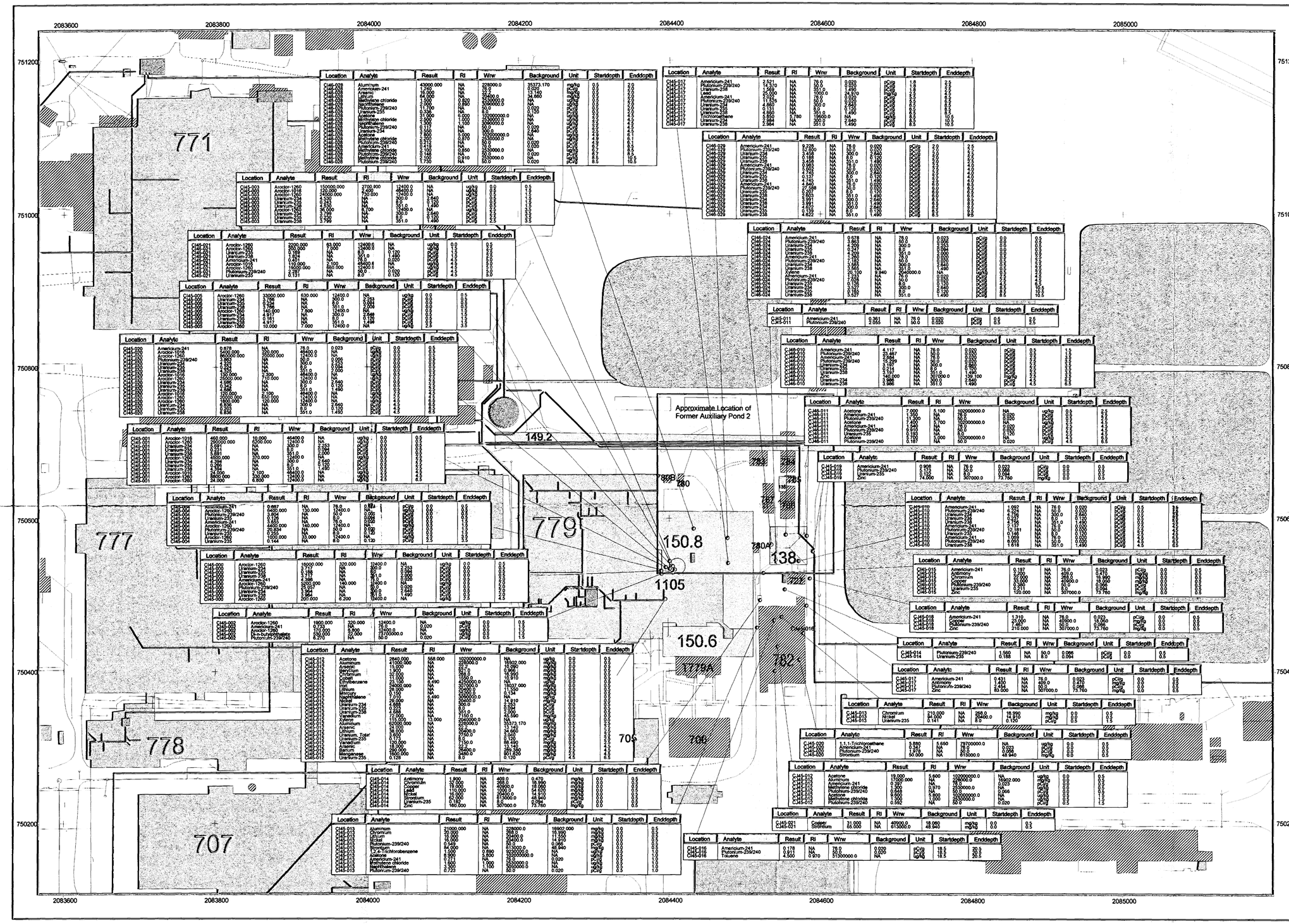

Figure 7
Characterization Sampling Locations and Results, Southeast Quadrant IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background or reporting limit
- Less than background or reporting limit
- OPWL
- Tank
- Storm drain
- Sewer line
- PAC
- IHSS
- UBC
- Former SEP
- Demolished building
- Standing building
- Paved road

DRAFT

N
W E
S

Scale = 1: 800

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Date: 6.30.04

Prepared by: RADMS

Prepared for: KAISER+HILL COMPANY

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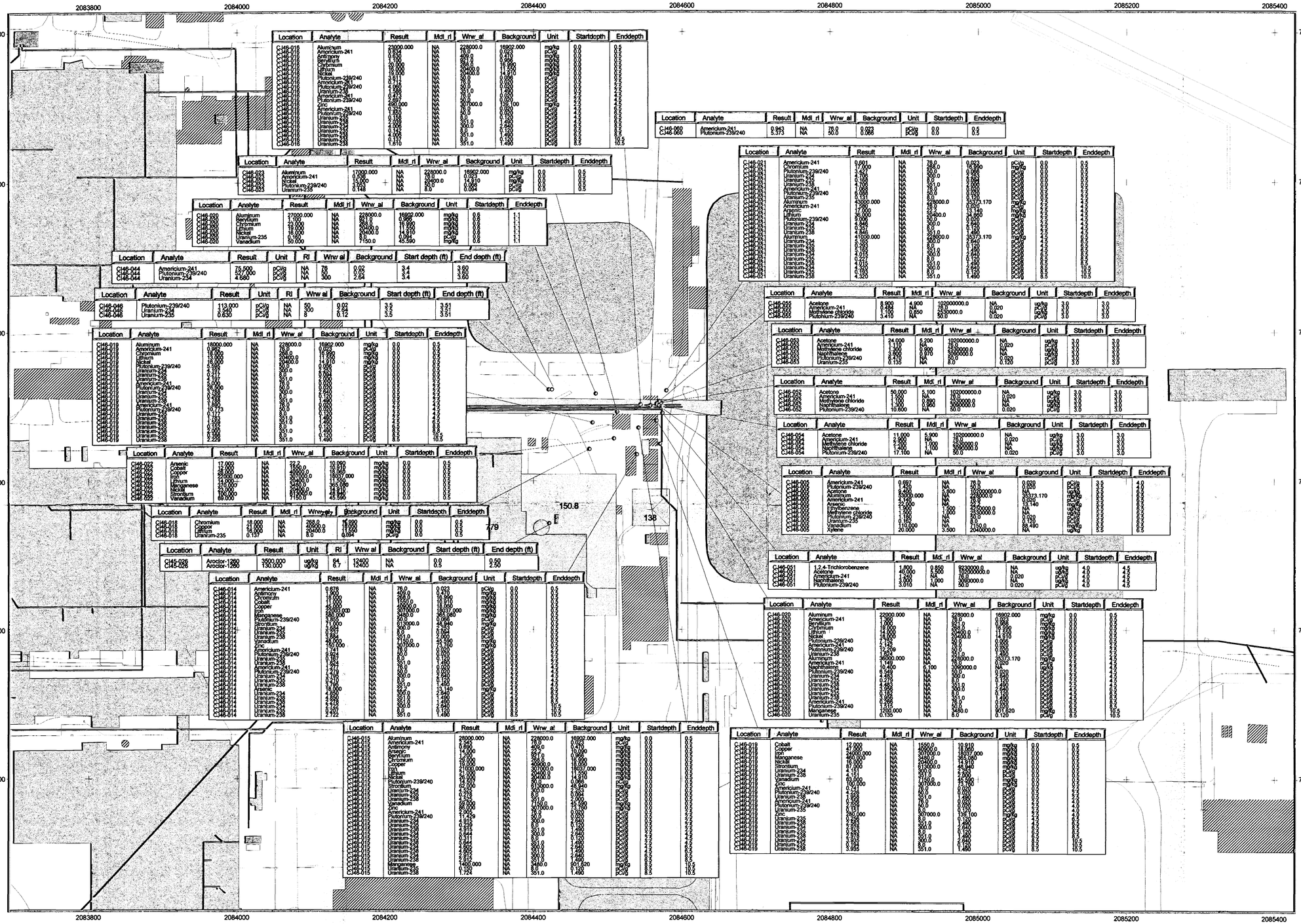


Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-016	Aluminum	23000.000	NA	228000.0	16902.000	mg/kg	0.0	0.5
C146-016	Americium-241	0.852	NA	76.0	0.023	pCi/g	0.0	0.5
C146-016	Antimony	1.630	NA	409.0	0.410	mg/kg	0.0	0.5
C146-016	Beryllium	1.100	NA	921.0	0.950	mg/kg	0.0	0.5
C146-016	Chromium	20.000	NA	2968.0	16.990	mg/kg	0.0	0.5
C146-016	Lithium	16.000	NA	20400.0	11.570	mg/kg	0.0	0.5
C146-016	Nickel	19.000	NA	2040.0	14.310	mg/kg	0.0	0.5
C146-016	Plutonium-239/240	3.617	NA	50.0	0.066	pCi/g	0.0	0.5
C146-016	Americium-241	0.714	NA	76.0	0.023	pCi/g	2.5	2.5
C146-016	Plutonium-239/240	4.060	NA	50.0	0.020	pCi/g	2.5	2.5
C146-016	Uranium-234	1.299	NA	351.0	1.490	pCi/g	2.5	2.5
C146-016	Americium-241	0.472	NA	76.0	0.023	pCi/g	4.5	4.5
C146-016	Plutonium-239/240	2.687	NA	50.0	0.020	pCi/g	4.5	4.5
C146-016	Zinc	290.000	NA	307000.0	108.100	mg/kg	4.5	6.5
C146-016	Americium-241	0.325	NA	76.0	0.023	pCi/g	6.5	6.5
C146-016	Plutonium-239/240	1.822	NA	50.0	0.020	pCi/g	6.5	6.5
C146-016	Uranium-233	0.193	NA	8.0	0.120	pCi/g	6.5	6.5
C146-016	Uranium-234	2.008	NA	351.0	1.490	pCi/g	6.5	6.5
C146-016	Uranium-235	0.142	NA	8.0	0.120	pCi/g	6.5	6.5
C146-016	Uranium-236	4.006	NA	351.0	1.490	pCi/g	6.5	6.5
C146-016	Uranium-233	0.133	NA	8.0	0.120	pCi/g	8.5	10.5
C146-016	Uranium-238	1.670	NA	351.0	1.490	pCi/g	8.5	10.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-023	Aluminum	17000.000	NA	228000.0	16902.000	mg/kg	0.0	0.5
C146-023	Americium-241	1.000	NA	76.0	0.023	pCi/g	0.0	0.5
C146-023	Iron	15,000	NA	20400.0	14.910	mg/kg	0.0	0.5
C146-023	Plutonium-239/240	0.148	NA	50.0	0.066	pCi/g	0.0	0.5
C146-023	Uranium-235	0.148	NA	8.0	0.084	pCi/g	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-020	Aluminum	27000.000	NA	228000.0	16902.000	mg/kg	0.6	1.1
C146-020	Beryllium	1.100	NA	921.0	0.950	mg/kg	0.6	1.1
C146-020	Chromium	19.000	NA	2968.0	16.990	mg/kg	0.6	1.1
C146-020	Lithium	16.000	NA	20400.0	11.570	mg/kg	0.6	1.1
C146-020	Nickel	18.000	NA	2040.0	14.310	mg/kg	0.6	1.1
C146-020	Uranium-235	0.500	NA	8.0	0.084	pCi/g	0.6	1.1
C146-020	Vanadium	50.000	NA	7150.0	45.590	mg/kg	0.6	1.1

Location	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH46-044	Americium-241	75.500	pCi/g	NA	76	0.02	3.4	3.60
CH46-044	Plutonium-239/240	157.000	pCi/g	NA	50	0.03	3.4	3.60
CH46-044	Uranium-234	4.680	pCi/g	NA	300	2.64	3.4	3.60

Location	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH46-046	Plutonium-239/240	113.000	pCi/g	NA	50	0.02	3.5	3.51
CH46-046	Uranium-234	2.830	pCi/g	NA	300	2.64	3.5	3.51
CH46-046	Uranium-235	0.630	pCi/g	NA	8	0.12	3.5	3.51

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-019	Aluminum	18000.000	NA	228000.0	16902.000	mg/kg	0.0	0.5
C146-019	Americium-241	0.982	NA	76.0	0.023	pCi/g	0.0	0.5
C146-019	Chromium	18.000	NA	2968.0	16.990	mg/kg	0.0	0.5
C146-019	Lithium	18.000	NA	20400.0	11.570	mg/kg	0.0	0.5
C146-019	Nickel	18.000	NA	2040.0	14.310	mg/kg	0.0	0.5
C146-019	Plutonium-239/240	3.399	NA	50.0	0.066	pCi/g	0.0	0.5
C146-019	Uranium-233	0.197	NA	8.0	0.084	pCi/g	0.0	0.5
C146-019	Uranium-234	2.197	NA	351.0	1.490	pCi/g	0.0	0.5
C146-019	Uranium-235	0.097	NA	8.0	0.120	pCi/g	0.0	0.5
C146-019	Americium-241	0.900	NA	76.0	0.023	pCi/g	2.5	2.5
C146-019	Plutonium-239/240	3.000	NA	50.0	0.020	pCi/g	2.5	2.5
C146-019	Uranium-234	1.887	NA	351.0	1.490	pCi/g	2.5	2.5
C146-019	Americium-241	0.773	NA	76.0	0.023	pCi/g	4.5	4.5
C146-019	Uranium-234	0.177	NA	351.0	1.490	pCi/g	4.5	4.5
C146-019	Uranium-235	0.183	NA	8.0	0.120	pCi/g	4.5	4.5
C146-019	Uranium-233	0.199	NA	8.0	0.120	pCi/g	6.5	6.5
C146-019	Uranium-234	1.490	NA	351.0	1.490	pCi/g	6.5	6.5
C146-019	Uranium-235	0.199	NA	8.0	0.120	pCi/g	8.5	10.5
C146-019	Uranium-238	2.229	NA	351.0	1.490	pCi/g	8.5	10.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-022	Arsenic	17.000	NA	22.2	10.090	mg/kg	0.0	0.5
C146-022	Cobalt	12.000	NA	1550.0	10.910	mg/kg	0.0	0.5
C146-022	Copper	28.000	NA	409.0	18.980	mg/kg	0.0	0.5
C146-022	Iron	22000.000	NA	30700.0	18037.000	mg/kg	0.0	0.5
C146-022	Lithium	14.000	NA	20400.0	11.570	mg/kg	0.0	0.5
C146-022	Manganese	370.000	NA	2480.0	305.080	mg/kg	0.0	0.5
C146-022	Nickel	19.000	NA	2040.0	14.310	mg/kg	0.0	0.5
C146-022	Strontium	89.000	NA	7150.0	45.590	mg/kg	0.0	0.5
C146-022	Vanadium	50.000	NA	7150.0	45.590	mg/kg	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-018	Chromium	16.000	NA	2968.0	16.990	mg/kg	0.0	0.5
C146-018	Copper	21.000	NA	409.0	18.980	mg/kg	0.0	0.5
C146-018	Lithium	16.000	NA	20400.0	11.570	mg/kg	0.0	0.5
C146-018	Uranium-235	0.137	NA	8.0	0.084	pCi/g	0.0	0.5

Location	Analyte	Result	Unit	RI	Wrw al	Background	Start depth (ft)	End depth (ft)
CH46-026	Aroclor-1260	3500.000	ug/kg	64	12400	NA	0.0	0.50
CH46-026	Aroclor-1260	130.000	ug/kg	6.7	12400	NA	0.5	2.50

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-014	Americium-241	0.678	NA	76.0	0.023	pCi/g	0.0	0.5
C146-014	Antimony	1.900	NA	409.0	0.410	mg/kg	0.0	0.5
C146-014	Chromium	18.000	NA	2968.0	16.990	mg/kg	0.0	0.5
C146-014	Cobalt	11.000	NA	1550.0	10.910	mg/kg	0.0	0.5
C146-014	Copper	35.000	NA	409.0	18.980	mg/kg	0.0	0.5
C146-014	Iron	22000.000	NA	30700.0	18037.000	mg/kg	0.0	0.5
C146-014	Manganese	380.000	NA	2480.0	305.080	mg/kg	0.0	0.5
C146-014	Plutonium-239/240	3.852	NA	50.0	0.066	pCi/g	0.0	0.5
C146-014	Strontium	71.000	NA	613000.0	48.940	mg/kg	0.0	0.5
C146-014	Uranium-234	3.984	NA	300.0	2.640	pCi/g	0.0	0.5
C146-014	Uranium-235	0.267	NA	8.0	0.084	pCi/g	0.0	0.5
C146-014	Uranium-238	3.837	NA	351.0	1.490	pCi/g	0.0	0.5
C146-014	Vanadium	58.000	NA	7150.0	45.590	mg/kg	0.0	0.5
C146-014	Zinc	170.000	NA	307000.0	108.100	mg/kg	0.0	0.5
C146-014	Americium-241	0.924	NA	76.0	0.023	pCi/g	2.5	2.5
C146-014	Plutonium-239/240	3.167	NA	50.0	0.020	pCi/g	2.5	2.5
C146-014	Uranium-234	1.284	NA	351.0	1.490	pCi/g	2.5	2.5
C146-014	Uranium-238	1.284	NA	351.0	1.490	pCi/g	2.5	2.5
C146-014	Americium-241	0.719	NA	76.0	0.023	pCi/g	4.5	4.5
C146-014	Plutonium-239/240	2.270	NA	50.0	0.020	pCi/g	4.5	4.5
C146-014	Uranium-234	1.745	NA	300.0	2.640	pCi/g	4.5	4.5
C146-014	Uranium-235	0.210	NA	8.0	0.120	pCi/g	4.5	4.5
C146-014	Uranium-238	2.790	NA	351.0	1.490	pCi/g	4.5	4.5
C146-014	Arsenic	18.000	NA	22.2	13.140	mg/kg	6.5	6.5
C146-014	Uranium-234	4.850	NA	300.0	2.640	pCi/g	6.5	6.5
C146-014	Uranium-238	2.850	NA	351.0	1.490	pCi/g	6.5	6.5
C146-014	Uranium-234	2.410	NA	300.0	2.640	pCi/g	8.5	10.5
C146-014	Uranium-235	0.227	NA	8.0	0.120	pCi/g	8.5	10.5
C146-014	Uranium-238	2.722	NA	351.0	1.490	pCi/g	8.5	10.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-015	Aluminum	28000.000	NA	228000.0	16902.000	mg/kg	0.0	0.5
C146-015	Americium-241	0.952	NA	76.0	0.023	pCi/g	0.0	0.5
C146-015	Antimony	0.790	NA	409.0	0.410	mg/kg	0.0	0.5
C146-015	Arsenic	14.000	NA	22.2	10.090	mg/kg	0.0	0.5
C146-015	Beryllium	1.100	NA	921.0	0.950	mg/kg	0.0	0.5
C146-015	Chromium	18.000	NA	2968.0	16.990	mg/kg	0.0	0.5
C146-015	Copper	21.000	NA	409.0	18.980	mg/kg	0.0	0.5
C146-015	Iron	21000.000	NA	30700.0	18037.000	mg/kg	0.0	0.5
C146-015	Lithium	16.000	NA	20400.0	11.570	mg/kg	0.0	0.5
C146-015	Nickel	20.000	NA	2040.0	14.310	mg/kg	0.0	0.5
C146-015	Plutonium-239/240	13.000	NA	50.0	0.066	pCi/g	0.0	0.5
C146-015	Strontium	62.000	NA	613000.0	48.940	mg/kg	0.0	0.5
C146-015	Uranium-234	4.375	NA	300.0	2.640	pCi/g	0.0	0.5
C146-015	Uranium-235	0.278	NA	8.0	0.084	pCi/g	0.0	0.5
C146-015	Uranium-238	4.325	NA	351.0	2.000	pCi/g	0.0	0.5
C146-015	Vanadium	58.000	NA	7150.0	45.590	mg/kg	0.0	0.5
C146-015	Zinc	86.000	NA	307000.0	73.750	mg/kg	0.0	0.5
C146-015	Americium-241	0.919	NA	76.0	0.023	pCi/g	0.5	2.5
C146-015	Plutonium-239/240	11.439	NA	50.0	0.020	pCi/g	0.5	2.5
C146-015	Uranium-234	4.918	NA	300.0	2.640	pCi/g	0.5	2.5
C146-015	Uranium-235	0.326	NA	8.0	0.120	pCi/g	0.5	2.5
C146-015	Uranium-238	4.911	NA	351.0	1.490	pCi/g	0.5	2.5
C146-015	Uranium-234	0.944	NA	300.0	2.640	pCi/g	2.5	4.5
C146-015	Uranium-235	0.041	NA	8.0	0.120	pCi/g	2.5	4.5
C146-015	Uranium-238	2.241	NA	351.0	1.490	pCi/g	2.5	4.5
C146-015	Uranium-234	2.565	NA	300.0	2.640	pCi/g	4.5	6.5
C146-015	Uranium-235	0.129	NA	8.0	0.120	pCi/g	4.5	6.5
C146-015	Uranium-238	2.565	NA	351.0	1.490	pCi/g	4.5	6.5
C146-015	Uranium-234	2.317	NA	300.0	2.640	pCi/g	6.5	8.5
C146-015	Uranium-235	0.159	NA	8.0	0.120	pCi/g	6.5	8.5
C146-015	Uranium-238	2.317	NA	351.0	1.490	pCi/g	6.5	8.5
C146-015	Manganese	1490.000	NA	2480.0	601.020	mg/kg	8.5	10.5
C146-015	Uranium-235	0.159	NA	8.0	0.120	pCi/g	8.5	10.5
C146-015	Uranium-238	1.724	NA	351.0	1.490	pCi/g	8.5	10.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-060	Americium-241	0.943	NA	76.0	0.023	pCi/g	0.0	0.5
CJ46-060	Plutonium-239/240	5.373	NA	50.0	0.066	pCi/g	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-021	Americium-241	0.601	NA	76.0	0.023	pCi/g	0.0	0.5
C146-021	Chromium	17.000	NA	2968.0	16.990	mg/kg	0.0	0.5
C146-021	Plutonium-239/240	3.421	NA	50.0	0.066	pCi/g	0.0	0.5
C146-021	Uranium-234	4.796	NA	300.0	2.640	pCi/g	0.0	0.5
C146-021	Uranium-233	0.168	NA	8.0	0.084	pCi/g	0.0	0.5
C146-021	Uranium-235	0.168	NA	8.0	0.084	pCi/g	0.0	0.5
C146-021	Americium-241	1.008	NA	76.0	0.023	pCi/g	2.5	2.5
C146-021	Plutonium-239/240	6.098	NA	50.0	0.020	pCi/g	2.5	2.5
C146-021	Uranium-235	0.131	NA	8.0	0.120	pCi/g	2.5	2.5
C146-021	Aluminum	43800.000	NA	228000.0	35373.170	mg/kg	2.5	4.5
C146-021	Americium-241	1.296	NA	76.0	0.023	pCi/g	2.5	4.5
C146-021	Arsenic	17.000	NA	22.2	13.140	mg/kg	2.5	4.5
C146-021	Lithium	20.000	NA	20400.0	14.560	mg/kg	2.5	4.5
C146-021	Plutonium-239/240	9.106	NA	50.0	0.020	pCi/g	2.5	4.5
C146-021	Uranium-234	0.349	NA	300.0	2.640	pCi/g	2.5	4.5
C146-021	Uranium-235	0.237	NA	8.0	0.120	pCi/g	2.5	4.5
C146-021	Uranium-238	4.521	NA	351.0	1.490	pCi/g	2.5	4.5
C146-021	Aluminum	43800.000	NA	228000.0	35373.170	mg/kg	4.5	6.5
C146-021	Uranium-234	0.303	NA	300.0	2.640	pCi/g	4.5	6.5
C146-021	Uranium-235	0.193	NA	8.0	0.120	pCi/g	4.5	6.5
C146-021	Uranium-238	2.168	NA	351.0	1.490	pCi/g	4.5	6.5
C146-021	Uranium-234	2.015	NA	300.0	2.640	pCi/g	6.5	8.5
C146-021	Uranium-235	0.227	NA	8.0	0.120	pCi/g	6.5	8.5
C146-021	Uranium-238	4.015	NA	351.0	1.490	pCi/g	6.5	8.5
C146-021	Uranium-234	4.320	NA	300.0	2.640	pCi/g	8.5	10.5
C146-021	Uranium-235	0.193	NA	8.0	0.120	pCi/g	8.5	10.5
C146-021	Uranium-238	4.320	NA	351.0	1.490	pCi/g	8.5	10.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-055	Acetone	8.900	4.900	102000000.0	NA	ug/kg	3.0	3.0
C146-055	Americium-241	0.492	NA	76.0	0.020	pCi/g	3.0	3.0
C146-055	Methylene chloride	1.100	0.950	2380000.0	NA	ug/kg	3.0	3.0
C146-055	Plutonium-239/240	3.410	NA	50.0	0.020	pCi/g	3.0	3.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-053	Acetone	24.000	5.200	102000000.0	NA	ug/kg	3.0	3.0
C146-053	Americium-241	1.110	NA	76.0	0.020	pCi/g	3.0	3.0
C146-053	Methylene chloride	1.300	0.990	2380000.0	NA	ug/kg	3.0	3.0
C146-053	Naphthalene	3.900	0.970	3060000.0	NA	ug/kg	3.0	3.0
C146-053	Plutonium-239/240	6.140	NA	50.0	0.020	pCi/g	3.0	3.0
C146-053	Uranium-235	0.135	NA	8.0	0.120	pCi/g	3.0	3.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-052	Acetone	50.000	5.100	102000000.0	NA	ug/kg	3.0	3.0
C146-052	Americium-241	1.100	NA	76.0	0.020	pCi/g	3.0	3.0
C146-052	Methylene chloride	1.100	0.980	2380000.0	NA	ug/kg	3.0	3.0
C146-052	Naphthalene	1.300	0.960	3060000.0	NA	ug/kg	3.0	3.0
C146-052	Plutonium-239/240	10.800	NA	50.0	0.020	pCi/g	3.0	3.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-054	Acetone	11.000	5.800	102000000.0	NA	ug/kg	3.0	3.0
C146-054	Americium-241	0.900	NA	76.0	0.020	pCi/g	3.0	3.0
C146-054	Methylene chloride	1.200	1.000	2380000.0	NA	ug/kg	3.0	3.0
C146-054	Naphthalene	1.400	1.000	3060000.0	NA	ug/kg	3.0	3.0
C146-054	Plutonium-239/240	17.100	NA	50.0	0.020	pCi/g	3.0	3.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-005	Americium-241	0.597	NA	76.0	0.020	pCi/g	3.5	4.0
C146-005	Plutonium-239/240	1.420	NA	50.0	0.020	pCi/g	3.5	4.0
C146-005	Acetone	9.400	3.900	102000000.0	NA	ug/kg	3.5	6.5
C146-005	Aluminum	53000.000	NA	228000.0	35373.170	mg/kg	3.5	6.5
C146-005	Americium-241	2.110	NA	76.0	0.020	pCi/g	3.5	6.5
C146-005	Arsenic	22.000	NA	22.2	13.140	mg/kg	3.5	6.5
C146-005	Ethylbenzene	1.300	1.300	2520000.0	NA	ug/kg	3.5	6.5
C146-005	Methylene chloride	1.100	1.000	2380000.0	NA	ug/kg	3.5	6.5
C146-005	Naphthalene	1.180	NA	3060000.0	NA	ug/kg	3.5	6.5
C146-005	Plutonium-239/240	6.180	NA	50.0	0.020	pCi/g	3.5	6.5
C146-005	Uranium-235	0.110	NA	8.0	0.120	pCi/g	3.5	6.5
C146-005	Vanadium	110.000	3.500	7150.0	59.490	mg/kg	3.5	6.5
C146-005	Xylene	20.000	3.500	2040000.0	NA	ug/kg	3.5	6.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-051	1,2,4-Trichlorobenzene	7.900	0.850	19200000.0	NA	ug/kg	4.0	4.5
C146-051	Acetone	46.000	5.000	102000000.0	NA	ug/kg	4.0	4.5
C146-051	Americium-241	1.000	NA	76.0	0.020	pCi/g	4.0	4.5
C146-051	Naphthalene	3.000	1.000	3060000.0	NA	ug/kg	4.0	4.5
C146-051	Plutonium-239/240	3.010	NA	50.0	0.020	pCi/g	4.0	4.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-020	Aluminum	22000.000	NA	228000.0	16902.000	mg/kg	0.0	0.5
C146-020	Americium-241	0.900	NA	76.0	0.023	pCi/g	0.0	0.5
C146-020	Beryllium	1.000	NA	921.0	0.950	mg/kg	0.0	0.5
C146-020	Chromium	19.000	NA	2968.0	16.990	mg/kg	0.0	0.5
C146-020	Lithium	14.000	NA	20400.0	11.570	mg/kg	0.0	0.5
C146-020	Nickel	19.000	NA	2040.0	14.310	mg/kg	0.0	0.5
C146-020	Plutonium-239/240	2.135	NA	50.0	0.066	pCi/g	0.0	0.5
C146-020	Americium-241	0.729	NA	76.0	0.023	pCi/g	2.5	2.5
C146-020	Plutonium-239/240	12.279	NA	50.0	0.020	pCi/g	2.5	2.5
C146-020	Uranium-238	1.257	NA	351.0	1.490	pCi/g	2.5	2.5
C146-020	Aluminum	56000.000	NA	228000.0	35373.170	mg/kg	2.5	4.5
C146-020	Americium-241	1.140	NA	76.0	0.020	pCi/g	2.5	4.5
C146-020	Naphthalene	10.400	0.700	3060000.0	NA	ug/kg	2.5	4.5
C146-020	Plutonium-239/240	6.340	NA	50.0	0.020	pCi/g	2.5	4.5
C146-020	Uranium-234	4.483	NA	300.0	2.640	pCi/g	2.5	4.5
C146-020	Uranium-235	0.275	NA	8.0	0.120	pCi/g	2.5	4.5
C146-020	Uranium-238	4.483	NA	351.0	1.490	pCi/g	2.5	4.5
C146-020	Uranium-234	3.995	NA	300.0	2.640	pCi/g	4.5	6.5
C146-020	Uranium-235	0.192	NA	8.0	0.120	pCi/g	4.5	6.5
C146-020	Uranium-238	3.995	NA	351.0	1.490	pCi/g	4.5	6.5
C146-020	Americium-241	0.279	NA	76.0	0.020	pCi/g	6.5	8.5
C146-020	Plutonium-239/240	1.515	NA	50.0	0.020	pCi/g	6.5	8.5
C146-020	Manganese	1500.000	NA	2480.0	601.020	mg/kg	8.5	10.5
C146-020	Uranium-235	0.135	NA	8.0	0.120	pCi/g	8.5	10.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
C146-016	Cobalt	12.000	NA	1550.0	10.910	mg/kg	0.0	0.5
C146-016	Copper	47.000	NA	409.0	18.980	mg/kg	0.0	0.5
C146-016	Iron	24000.000	NA	30700.0	18037.000	mg/kg	0.0	0.5
C146-016	Manganese	490.000	NA	2480.0	305.080	mg/kg	0.0	0.5
C146-016	Nickel	18.000	NA	2040.0	14.310	mg/kg	0.0	0.5
C146-016	Strontium	87.000	NA	613000.0	48.940	mg/kg	0.0	0.5
C146-016	Uranium-234	4.151	NA	300.0	2.640	pCi/g	0.0	0.5
C146-016	Uranium-235	0.253	NA	8.0	0.084	pCi/g	0.0	0.5
C146-016	Vanadium	68.000	NA	7150.0	45.590	mg/kg	0.0	0.5
C146-016	Zinc	170.000	NA	307000.0	108.100	mg/kg	0.0	0.5
C146-016	Americium-241	0.731	NA	76.0	0.023	pCi/g	2.5	2.5
C146-016	Plutonium-239/240	4.264	NA	50.0	0.020	pCi/g	2.5	2.5
C146-016	Uranium-234	1.998	NA	351.0	1.490	pCi/g	2.5	2.5
C146-016	Americium-241	0.968	NA	76.0	0.023	pCi/g	4.5	4.5
C146-016	Plutonium-239/240	6.151	NA	50.0	0.020	pCi/g	4.5	4.5
C146-016	Uranium-233	0.151	NA	8.0	0.084	pCi/g	4.5	4.5
C146-016	Zinc	290.000	NA	307000.0	108.100	mg/kg	4.5	6.5
C146-016	Uranium-235	0.225	NA	8.0	0.120	pCi/g	4.5	6.5
C146-016	Uranium-234	2.978	NA	300.0	2.640	pCi/g	6.5	8.5
C146-016	Uranium-235	0.151	NA	8.0	0.120	pCi/g	6.5	8.5
C146-016	Uranium-238	2.978	NA	351.0	1.490	pCi/g	6.5	8.5
C146-016	Uranium-234	3.192	NA	300.0	2.640	pCi/g	8.5	10.5
C146-016	Uranium-235	0.184	NA	8.0	0.120	pCi/g	8.5	10.5
C146-016	Uranium-238	3.985	NA	351.0	1.490	pCi/g	8.5	10.5

Figure 10
Residual Concentrations
Northeast Quadrant
IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background means plus two standard deviations or reporting limits
- Paved road
- OPWL
- Storm drain
- Sewer line
- IHSS
- PAC
- UBC
- Tank
- Former SEP
- Demolished building
- Standing building

DRAFT

N
W E
S

Scale = 1: 850

50 0 50 100 150 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

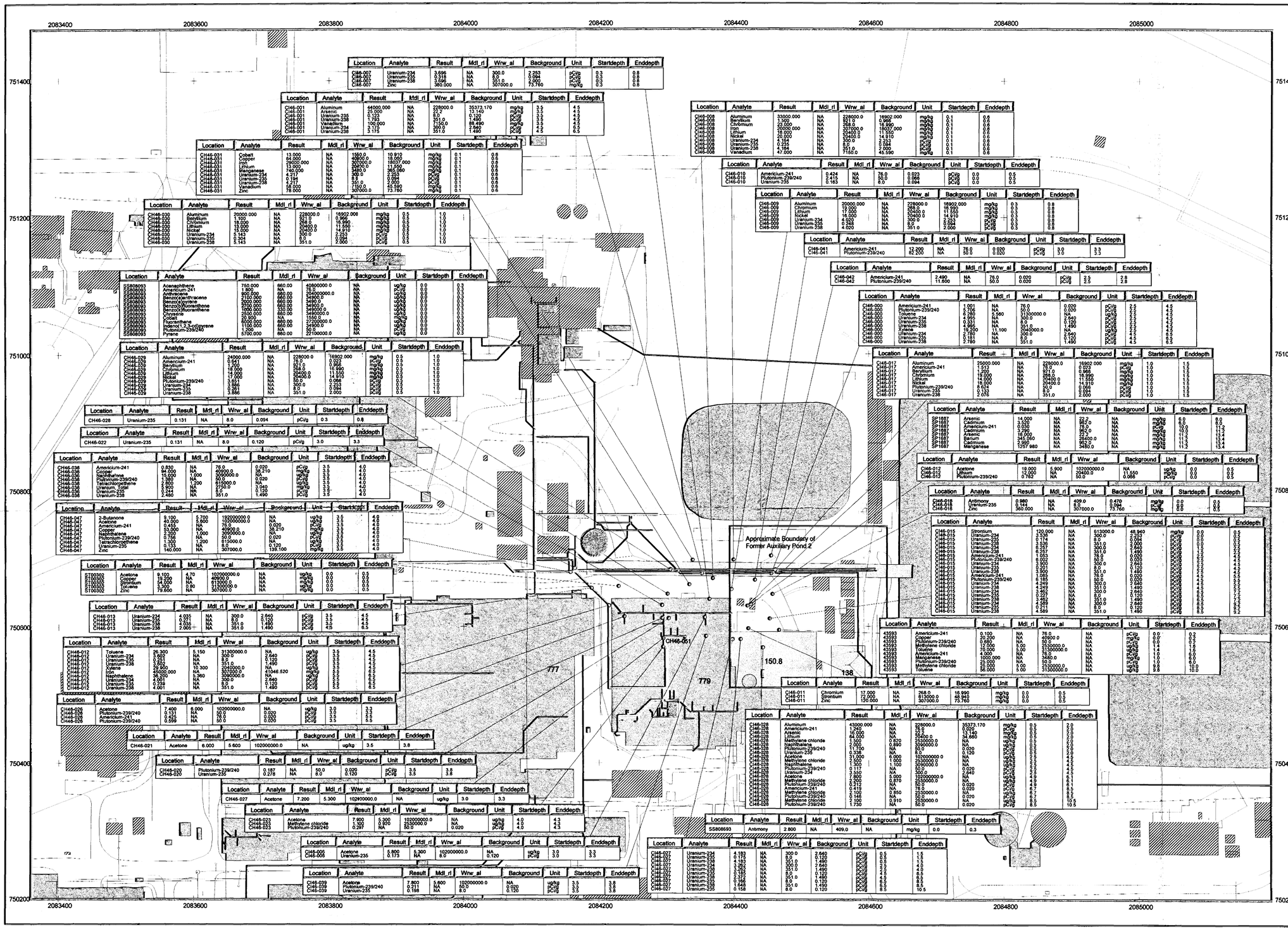
U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: Date:7.6.04

Prepared for:

KAISER•HILL COMPANY

File: W:\Projects\Fy2003\700-7\Confirmation\700_7_confirmation.apr



Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-007	Uranium-234	3.696	NA	300.0	2.253	pCi/g	0.3	0.8
CH46-007	Uranium-235	0.318	NA	8.0	0.094	pCi/g	0.3	0.8
CH46-007	Uranium-238	3.696	NA	351.0	2.000	pCi/g	0.3	0.8
CH46-007	Zinc	380.000	NA	307000.0	73.760	mg/kg	0.3	0.8

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-001	Aluminum	44000.000	NA	228000.0	35373.170	mg/kg	3.5	4.5
CH46-001	Arsenic	25.000	NA	22.2	13.140	mg/kg	3.5	4.5
CH46-001	Uranium-235	0.123	NA	8.0	0.120	pCi/g	3.5	4.5
CH46-001	Uranium-238	1.793	NA	351.0	1.490	pCi/g	3.5	4.5
CH46-001	Vanadium	100.000	NA	7150.0	88.490	mg/kg	3.5	4.5
CH46-001	Uranium-234	3.175	NA	300.0	2.940	pCi/g	4.5	6.5
CH46-001	Uranium-238	3.175	NA	351.0	1.490	pCi/g	4.5	6.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-031	Cobalt	13.000	NA	1550.0	10.910	mg/kg	0.1	0.6
CH46-031	Copper	64.000	NA	40900.0	18.050	mg/kg	0.1	0.6
CH46-031	Iron	29000.000	NA	307000.0	18037.000	mg/kg	0.1	0.6
CH46-031	Lithium	13.000	NA	20400.0	11.550	mg/kg	0.1	0.6
CH46-031	Manganese	740.000	NA	3480.0	965.080	mg/kg	0.1	0.6
CH46-031	Uranium-234	4.317	NA	300.0	2.253	pCi/g	0.1	0.6
CH46-031	Uranium-235	0.194	NA	8.0	0.094	pCi/g	0.1	0.6
CH46-031	Uranium-238	4.317	NA	351.0	2.000	pCi/g	0.1	0.6
CH46-031	Vanadium	56.000	NA	7150.0	45.590	mg/kg	0.1	0.6
CH46-031	Zinc	78.000	NA	307000.0	73.760	mg/kg	0.1	0.6

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-030	Aluminum	20000.000	NA	228000.0	16902.000	mg/kg	0.5	1.0
CH46-030	Beryllium	1.100	NA	268.0	0.968	mg/kg	0.5	1.0
CH46-030	Chromium	15.000	NA	2040.0	18.990	mg/kg	0.5	1.0
CH46-030	Lithium	15.000	NA	20400.0	11.550	mg/kg	0.5	1.0
CH46-030	Nickel	18.000	NA	20400.0	14.910	mg/kg	0.5	1.0
CH46-030	Uranium-234	5.143	NA	300.0	2.253	pCi/g	0.5	1.0
CH46-030	Uranium-235	0.304	NA	8.0	0.094	pCi/g	0.5	1.0
CH46-030	Uranium-238	5.143	NA	351.0	2.000	pCi/g	0.5	1.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
SS808693	Acenaphthene	750.000	660.00	40800000.0	NA	ug/kg	0.0	0.3
SS808693	Americium-241	300	NA	76.0	NA	pCi/g	0.0	0.3
SS808693	Anthracene	910.000	660.00	122000000.0	NA	ug/kg	0.0	0.3
SS808693	Benzo(a)anthracene	2000.000	660.00	54400.0	NA	ug/kg	0.0	0.3
SS808693	Benzo(a)pyrene	2000.000	660.00	3480.0	NA	ug/kg	0.0	0.3
SS808693	Benzo(b)fluoranthene	2700.000	660.00	34800.0	NA	ug/kg	0.0	0.3
SS808693	Benzo(k)fluoranthene	1000.000	330.00	348000.0	NA	ug/kg	0.0	0.3
SS808693	Chrysene	2500.000	660.00	348000.0	NA	ug/kg	0.0	0.3
SS808693	Cobalt	20.800	NA	1550.0	NA	mg/kg	0.0	0.3
SS808693	Fluoranthene	6000.000	660.00	27200000.0	NA	ug/kg	0.0	0.3
SS808693	Indeno(1,2,3-cd)pyrene	1100.000	660.00	34800.0	NA	ug/kg	0.0	0.3
SS808693	Plutonium-239/240	1.200	NA	50.0	NA	pCi/g	0.0	0.3
SS808693	Pyrene	5700.000	660.00	22100000.0	NA	ug/kg	0.0	0.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-029	Aluminum	24000.000	NA	228000.0	16902.000	mg/kg	0.5	1.0
CH46-029	Americium-241	0.941	NA	76.0	0.923	pCi/g	0.5	1.0
CH46-029	Beryllium	1.200	NA	268.0	0.968	mg/kg	0.5	1.0
CH46-029	Chromium	16.000	NA	2040.0	18.990	mg/kg	0.5	1.0
CH46-029	Lithium	17.000	NA	20400.0	11.550	mg/kg	0.5	1.0
CH46-029	Nickel	17.000	NA	20400.0	14.910	mg/kg	0.5	1.0
CH46-029	Plutonium-239/240	3.653	NA	50.0	0.066	pCi/g	0.5	1.0
CH46-029	Uranium-234	3.886	NA	300.0	2.253	pCi/g	0.5	1.0
CH46-029	Uranium-235	0.261	NA	8.0	0.094	pCi/g	0.5	1.0
CH46-029	Uranium-238	3.886	NA	351.0	2.000	pCi/g	0.5	1.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-028	Uranium-235	0.131	NA	8.0	0.094	pCi/g	0.3	0.8

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-022	Uranium-235	0.131	NA	8.0	0.120	pCi/g	3.0	3.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-036	Americium-241	0.830	NA	76.0	0.020	pCi/g	3.5	4.0
CH46-036	Copper	94.000	NA	40900.0	10.710	mg/kg	3.5	4.0
CH46-036	Naphthalene	15.000	1.000	3090000.0	NA	ug/kg	3.5	4.0
CH46-036	Plutonium-239/240	2.800	NA	50.0	0.020	pCi/g	3.5	4.0
CH46-036	Tetrachloroethene	1.200	1.200	615000.0	NA	ug/kg	3.5	4.0
CH46-036	Uranium, Total	5.900	NA	2750.0	3.040	mg/kg	3.5	4.0
CH46-036	Uranium-235	0.244	NA	8.0	0.120	pCi/g	3.5	4.0
CH46-036	Uranium-238	2.480	NA	351.0	1.490	pCi/g	3.5	4.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-047	2-Butanone	9.100	5.700	192000000.0	NA	ug/kg	3.5	4.0
CH46-047	Acetone	40.800	5.900	102000000.0	NA	ug/kg	3.5	4.0
CH46-047	Americium-241	0.453	NA	76.0	0.020	pCi/g	3.5	4.0
CH46-047	Copper	53.000	NA	40900.0	38.210	mg/kg	3.5	4.0
CH46-047	Naphthalene	3.200	1.000	3090000.0	NA	ug/kg	3.5	4.0
CH46-047	Plutonium-239/240	0.756	NA	50.0	0.020	pCi/g	3.5	4.0
CH46-047	Tetrachloroethene	1.300	1.200	615000.0	NA	ug/kg	3.5	4.0
CH46-047	Uranium-235	0.133	NA	8.0	0.120	pCi/g	3.5	4.0
CH46-047	Zinc	140.000	NA	307000.0	126.100	mg/kg	3.5	4.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
ST00302	Acetone	9.100	4.70	102000000.0	NA	ug/kg	0.0	0.5
ST00302	Copper	19.200	NA	40900.0	NA	mg/kg	0.0	0.5
ST00302	Strontium	54.000	NA	613000.0	NA	mg/kg	0.0	0.5
ST00302	Toluene	3.300	0.90	31300000.0	NA	ug/kg	0.0	0.5
ST00302	Zinc	78.600	NA	307000.0	NA	mg/kg	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-013	Uranium-234	4.035	NA	300.0	2.940	pCi/g	3.5	4.5
CH46-013	Uranium-235	0.271	NA	8.0	0.120	pCi/g	3.5	4.5
CH46-013	Uranium-238	2.003	NA	351.0	1.490	pCi/g	3.5	4.5
CH46-013	Uranium-238	2.005	NA	351.0	1.490	pCi/g	4.5	5.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-012	Toluene	26.300	5.150	31300000.0	NA	ug/kg	3.5	4.5
CH46-012	Uranium-234	3.807	NA	300.0	2.940	pCi/g	3.5	4.5
CH46-012	Uranium-235	0.251	NA	8.0	0.120	pCi/g	3.5	4.5
CH46-012	Uranium-238	0.893	NA	351.0	1.490	pCi/g	3.5	4.5
CH46-012	Xylene	29.800	10.300	20400000.0	NA	ug/kg	3.5	4.5
CH46-012	Acetone	45000.000	NA	307000.0	41046.520	mg/kg	5.5	6.5
CH46-012	Naphthalene	36.200	5.360	3090000.0	NA	ug/kg	5.5	6.5
CH46-012	Uranium-234	4.001	NA	300.0	2.940	pCi/g	5.5	6.5
CH46-012	Uranium-235	0.239	NA	8.0	0.120	pCi/g	5.5	6.5
CH46-012	Uranium-238	4.001	NA	351.0	1.490	pCi/g	5.5	6.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-026	Acetone	7.400	6.000	102000000.0	NA	ug/kg	3.0	3.3
CH46-026	Plutonium-239/240	0.131	NA	50.0	0.020	pCi/g	3.0	3.3
CH46-026	Americium-241	0.099	NA	76.0	0.020	pCi/g	3.5	5.5
CH46-026	Plutonium-239/240	0.599	NA	50.0	0.020	pCi/g	3.5	5.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-021	Acetone	6.000	5.600	102000000.0	NA	ug/kg	3.5	3.8

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-020	Plutonium-239/240	0.187	NA	50.0	0.020	pCi/g	3.5	3.8
CH46-020	Uranium-235	0.276	NA	8.0	0.120	pCi/g	3.5	3.8

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-027	Acetone	7.200	5.300	102000000.0	NA	ug/kg	3.0	3.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-023	Acetone	7.900	5.300	102000000.0	NA	ug/kg	4.0	4.3
CH46-023	Methylene chloride	1.300	0.900	2530000.0	NA	ug/kg	4.0	4.3
CH46-023	Plutonium-239/240	0.297	NA	50.0	0.020	pCi/g	4.0	4.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-005	Acetone	5.800	5.300	102000000.0	NA	ug/kg	3.3	3.6
CH46-005	Uranium-235	0.173	NA	8.0	0.120	pCi/g	3.0	3.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-039	Acetone	7.800	5.600	102000000.0	NA	ug/kg	3.5	3.8
CH46-039	Plutonium-239/240	0.211	NA	50.0	0.020	pCi/g	3.5	3.8
CH46-039	Uranium-235	0.198	NA	8.0	0.120	pCi/g	3.5	3.8

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-008	Aluminum	33000.000	NA	228000.0	16902.000	mg/kg	0.1	0.6
CH46-008	Beryllium	1.300	NA	268.0	0.968	mg/kg	0.1	0.6
CH46-008	Chromium	23.000	NA	2040.0	18.990	mg/kg	0.1	0.6
CH46-008	Iron	29000.000	NA	307000.0	18037.000	mg/kg	0.1	0.6
CH46-008	Lithium	18.000	NA	20400.0	11.550	mg/kg	0.1	0.6
CH46-008	Nickel	20.000	NA	20400.0	14.910	mg/kg	0.1	0.6
CH46-008	Uranium-234	2.164	NA	300.0	2.253	pCi/g	0.1	0.6
CH46-008	Uranium-235	0.235	NA	8.0	0.094	pCi/g	0.1	0.6
CH46-008	Uranium-238	4.166	NA	351.0	2.000	pCi/g	0.1	0.6
CH46-008	Vanadium	47.000	NA	7150.0	45.590	mg/kg	0.1	0.6

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-010	Americium-241	0.434	NA	76.0	0.023	pCi/g	0.0	0.5
CH46-010	Plutonium-239/240	2.425	NA	50.0	0.066	pCi/g	0.0	0.5
CH46-010	Uranium-235	0.163	NA	8.0	0.094	pCi/g	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-009	Aluminum	20000.000	NA	228000.0	16902.000	mg/kg	0.3	0.8
CH46-009	Chromium	19.000	NA	2040.0	18.990	mg/kg	0.3	0.8
CH46-009	Lithium	17.000	NA	20400.0	11.550	mg/kg	0.3	0.8
CH46-009	Nickel	16.000	NA	20400.0	14.910	mg/kg	0.3	0.8
CH46-009	Uranium-234	4.020	NA	300.0	2.253	pCi/g	0.3	0.8
CH46-009	Uranium-235	0.248	NA	8.0	0.094	pCi/g	0.3	0.8
CH46-009	Uranium-238	4.020	NA	351.0	2.000	pCi/g	0.3	0.8

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-041	Americium-241	12.200	NA	76.0	0.020	pCi/g	3.0	3.3
CH46-041	Plutonium-239/240	62.200	NA	50.0	0.020	pCi/g	3.0	3.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-042	Americium-241	2.490	NA	76.0	0.020	pCi/g	2.5	2.8
CH46-042	Plutonium-239/240	11.600	NA	50.0	0.020	pCi/g	2.5	2.8

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-000	Americium-241	1.001	NA	76.0	0.020	pCi/g	2.5	4.5
CH46-000	Plutonium-239/240	5.706	NA	50.0	0.020	pCi/g	2.5	4.5
CH46-000	Toluene	6.260	5.560	31300000.0	NA	ug/kg	2.5	4.5
CH46-000	Uranium-234	4.995	NA	300.0	2.940	pCi/g	2.5	4.5
CH46-000	Uranium-235	0.331	NA	8.0	0.120	pCi/g	2.5	4.5
CH46-000	Uranium-238	4.995	NA	351.0	1.490	pCi/g	2.5	4.5
CH46-000	Xylene	19.200	11.100	20400000.0	NA	ug/kg	2.5	4.5
CH46-000	Uranium-234	2.780	NA	300.0	2.940	pCi/g	4.5	6.5
CH46-000	Uranium-235	0.181	NA	8.0	0.120	pCi/g	4.5	6.5
CH46-000	Uranium-238	2.780	NA	351.0	1.490	pCi/g	4.5	6.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-017	Aluminum	25000.000	NA	228000.0	16902.000	mg/kg	1.0	1.5
CH46-017	Americium-241	1.513	NA	76.0	0.023	pCi/g	1.0	1.5
CH46-017	Beryllium	1.200	NA	921.0	0.968	mg/kg	1.0	1.5
CH46-017	Chromium	19.000	NA	268.0	18.990	mg/kg	1.0	1.5
CH46-017	Lithium	14.000	NA	20400.0	11.550	mg/kg	1.0	1.5
CH46-017	Nickel	16.000	NA	20400.0	14.910	mg/kg	1.0	1.5
CH46-017	Plutonium-239/240	8.524	NA	50.0	0.066	pCi/g	1.0	1.5
CH46-017	Uranium-235	0.132	NA	8.0	0.094	pCi/g	1.0	1.5
CH46-017	Uranium-238	2.076	NA	351.0	2.000	pCi/g	1.0	1.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
SP1687	Arsenic	14.000	NA	22.2	NA	mg/kg	6.0	8.0
SP1687	Cadmium	0.500	NA	982.0	NA	mg/kg	6.0	8.0
SP1687	Americium-241	0.290	NA	76.0	NA	pCi/g	10.0	11.2
SP1687	Arsenic	12.000	NA	22.2	NA	mg/kg	10.0	11.2
SP1687	Barium	146.000	NA	2540.0	NA	mg/kg	11.2	13.4
SP1687	Cadmium	2.900	NA	982.0	NA	mg/kg	11.2	13.4
SP1687	Manganese	1257.980	NA	3480.0	NA	mg/kg	11.2	13.4

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-012	Acetone	19.000	5.900	102000000.0	NA	ug/kg	0.0	0.5
CH46-012	Lithium	12.000	NA	20400.0	11.050	mg/kg	0.0	0.5
CH46-012	Plutonium-239/240	0.762	NA	50.0	0.066	pCi/g	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-018	Antimony	0.980	NA	409.0	0.470	mg/kg	0.0	0.5
CH46-018	Uranium-235	0.141	NA	8.0	0.094	pCi/g	0.0	0.5
CH46-018	Zinc	360.000	NA	307000.0	73.760	mg/kg	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-015	Strontium	120.000	NA	613000.0	48.940	mg/kg	0.0	0.5
CH46-015	Uranium-234	2.174	NA	300.0	2.253	pCi/g	0.0	0.5
CH46-015	Uranium-235	0.122	NA	8.0	0.094	pCi/g	0.0	0.5
CH46-015	Uranium-238	3.536	NA	351.0	2.000	pCi/g	0.0	0.5
CH46-015	Uranium-234	6.257	NA	300.0	2.940	pCi/g	1.5	2.2
CH46-015	Uranium-238	6.257	NA	351.0	1.490	pCi/g	1.5	2.2
CH46-015	Americium-241	1.053	NA	76.0	0.020	pCi/g	2.5	4.3
CH46-015	Plutonium-239/240	6.002	NA	50.0	0.020	pCi/g	2.5	4.3
CH46-015	Uranium-234	3.900	NA	300.0	2.940	pCi/g	2.5	4.3
CH46-015	Uranium-235	0.201	NA	8.0	0.120	pCi/g	2.5	4.3
CH46-015	Uranium-238	3.900	NA	351.0	1.490	pCi/g	2.5	4.3
CH46-015	Americium-241	1.185	NA	76.0	0.020	pCi/g	4.5	5.5
CH46-015	Plutonium-239/240	6.682	NA	50.0	0.020	pCi/g	4.5	5.5
CH46-015	Uranium-234	4.249	NA	300.0	2.940	pCi/g	4.5	5.5
CH46-015	Uranium-238	4.249	NA	351.0	1.490	pCi/g	4.5	5.5
CH46-015	Uranium-234	3.462	NA	300.0	2.940	pCi/g	6.5	7.3
CH46-015	Uranium-235	0.227	NA	8.0	0.120	pCi/g	6.5	7.3
CH46-015	Uranium-238	3.462	NA	351.0	1.490	pCi/g	6.5	7.3
CH46-015	Uranium-234	4.589	NA	300.0	2.940	pCi/g	8.5	9.3
CH46-015	Uranium-235	0.211	NA	8.0	0.120	pCi/g	8.5	9.3
CH46-015	Uranium-238	4.589	NA	351.0	1.490	pCi/g	8.5	9.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
43593	Americium-241	0.100	NA	76.0	NA	pCi/g	0.0	0.2
43593	Copper	20.200	NA	40900.0	NA	mg/kg	0.0	0.2
43593	Plutonium-239/240	0.200	NA	50.0	NA	pCi/g	0.0	0.2
43593	Methylene chloride	12.900	2.00	2530000.0	NA	ug/kg	1.0	1.5
43593	Toluene	10.000	3.00	31300000.0	NA	ug/kg	1.4	1.8
43593	Americium-241	4.000	NA	76.0	NA	pCi/g	1.0	6.0
43593	Manganese	1000.000	NA	3480.0	NA	mg/kg	1.0	6.0
43593	Plutonium-239/240	43.000	NA	50.0	NA	pCi/g	1.0	6.0
43593	Methylene chloride	22.000	3.00	2530000.0	NA	ug/kg	9.8	10.0
43593	Toluene	26.000	5.00	31300000.0	NA	ug/kg	9.8	10.0

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-011	Chromium	17.000	NA	268.0	18.990	mg/kg	0.0	0.5
CH46-011	Strontium	72.000	NA	613000.0	48.940	mg/kg	0.0	0.5
CH46-011	Zinc	120.000	NA	307000.0	73.760	mg/kg	0.0	0.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-028	Aluminum	43000.000	NA	228000.0	35373.170	mg/kg	0.5	2.0
CH46-028	Americium-241	1.240	NA	76.0	0.020	pCi/g	0.5	2.0
CH46-028	Arsenic	16.000	NA	22.2	13.140	mg/kg	0.5	2.0
CH46-028	Lithium	64.000	NA	20400.0	34.660	mg/kg	0.5	2.0
CH46-028	Methylene chloride	1.500	0.820	2530000.0	NA	ug/kg	0.5	2.0
CH46-028	Naphthalene	2.000	0.990	3090000.0	NA	ug/kg	0.5	2.0
CH46-028	Plutonium-239/240	0.130	NA	50.0	0.020	pCi/g	0.5	2.0
CH46-028	Uranium-235	0.130	NA	8.0	0.120	pCi/g	0.5	2.0
CH46-028	Acetone	13.000	6.000	102000000.0	NA	ug/kg	2.5	4.3
CH46-028	Methylene chloride	1.300	1.100	2530000.0	NA	ug/kg	2.5	4.3
CH46-028	Plutonium-239/240	0.117	NA	50.0	0.020	pCi/g	2.5	4.3
CH46-028	Uranium-234	3.330	NA	300.0	2.940	pCi/g	2.5	4.3
CH46-028	Acetone	7.900	5.000	102000000.0	NA	ug/kg	4.9	6.1
CH46-028	Methylene chloride	2.200	0.870	2530000.0	NA	ug/kg	4.9	6.1
CH46-028	Plutonium-239/240	0.212	NA	50.0	0.020	pCi/g	4.9	6.1
CH46-028	Americium-241	0.419	NA	76.0	0.020	pCi/g	6.7	8.5
CH46-028	Methylene chloride	2.100	0.850	2530000.0	NA	ug/kg	6.7	8.5
CH46-028	Plutonium-239/240	0.148	NA	50.0	0.020	pCi/g	6.7	8.5
CH46-028	Methylene chloride	2.100	0.910	2530000.0	NA	ug/kg	9.2	10.5
CH46-028	Plutonium-239/240	1.730	NA	50.0	0.020	pCi/g	9.2	10.5

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
SS808693	Antimony	2.800	NA	409.0	NA	mg/kg	0.0	0.3

Location	Analyte	Result	Mdl_rl	Wrw_al	Background	Unit	Startdepth	Enddepth
CH46-027	Uranium-234	4.193	NA	300.0	2.940	pCi/g	0.5	1.5
CH46-027	Uranium-235	0.175	NA	8.0	0.120	pCi/g	0.5	1.5
CH46-027	Uranium-238	4.183	NA	351.0	1.490	pCi/g	0.5	1.5
CH46-027	Uranium-234	3.262	NA	300.0	2.940	pCi/g	2.5	4.0
CH46-027	Uranium-238	3.262	NA	351.0	1.490	pCi/g	2.5	4.0
CH46-027	Uranium-235	0.185	NA	8.0	0.120	pCi/g	4.5	6.5
CH46-027	Uranium-238	2.312	NA	351.0	1.490	pCi/g	4.5	6.5
CH46-027	Uranium-235	0.158	NA	8.0	0.120	pCi/g	6.5	8.5
CH46-027	Uranium-238	1.946	NA	351.0	1.490	pCi/g	6.5	8.5
CH46-027	Uranium-235	0.158	NA	8.0	0.120	pCi/g	8.5	10.5

Figure 11
Residual Concentrations
Northwest Quadrant
IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background means plus two standard deviations or reporting limits
- Less than background means plus two standard deviations or reporting limits/method detection limits

Paved road
OPWL
Storm drain
Sewer line
IHSS
PAC
UBC
Tank
Former SEP
Demolished building
Standing building

DRAFT

N
W E
S

Scale = 1: 900

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Date: 7.6.04

Prepared by: RADMAT

Prepared for:

KAISER-HILL COMPANY

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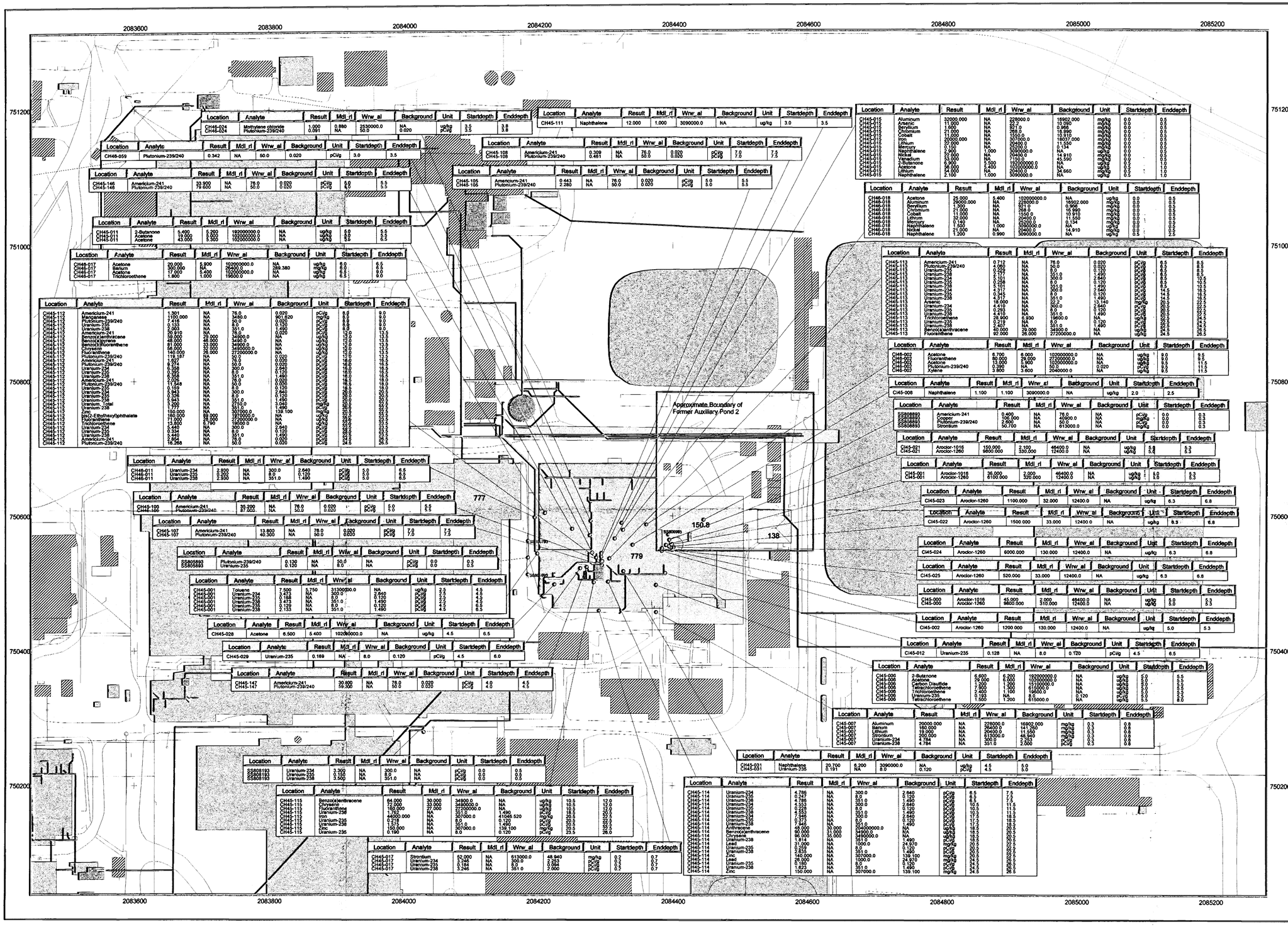

Figure 12
Residual Concentrations Southwest Quadrant IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background means plus two standard deviations or reporting limits
- Less than background means plus two standard deviations or reporting limits/method detection limits

Paved road
OPWL
Storm drain
Sewer line
IHSS
PAC
UBC
Tank
Former SEP
Demolished building
Standing building

DRAFT

N
W E
S

Scale = 1: 900

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Date: 7.6.04

Prepared by: RADMS

Prepared for: KAISER•HILL COMPANY

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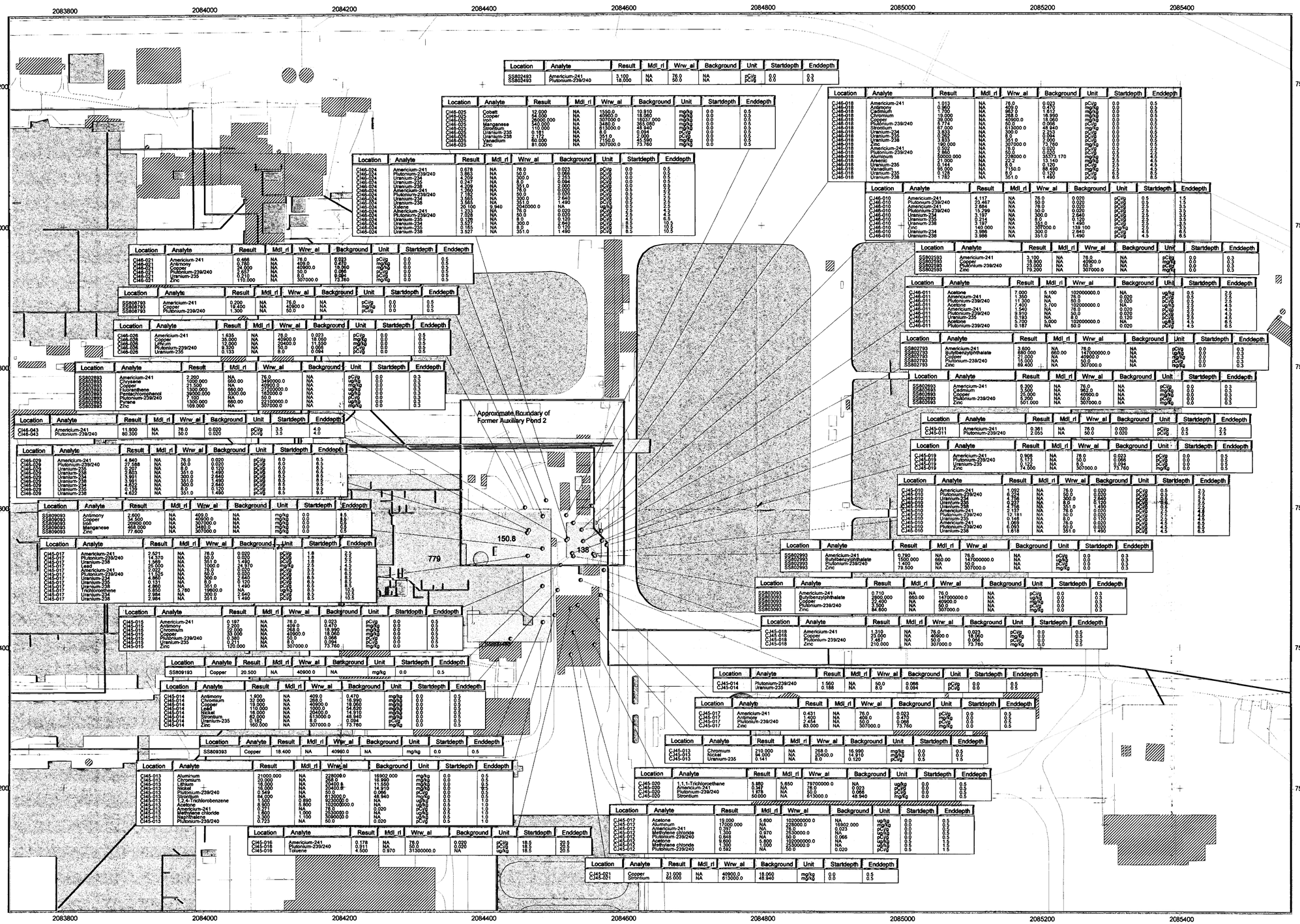

Figure 13
Residual Concentrations Southeast Quadrant IHSS Group 700-7

KEY

- WRW AL exceedance
- Less than WRW AL and greater than background means plus two standard deviations or reporting limits
- Less than background means plus two standard deviations or reporting limits/method detection limits

Paved road
OPWL
Storm drain
Sewer line
IHSS
PAC
UBC
Tank
Former SEP
Demolished building
Standing building

DRAFT

N
W E
S

Scale = 1: 900

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

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

Date: 7.6.04

Prepared by: RADMA

Prepared for: KAISER•HILL COMPANY

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