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REMOVAL ACTION NO. 14 CONTAMINATED SOILS ADJACENT TO THE SEWAGE TREATMENT PLANT INCINERATOR - FINAL REPORT - NOVEMBER 1994

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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

Removal Action No. 14 Contaminated Soils Adjacent to the Sewage Treatment Plant Incinerator

FINAL REPORT

November 1994

U.S. DEPARTMENT OF ENERGY

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ACRONYMS AND ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
cpm	counts per minute
DOE	Department of Energy
FEMP	Fernald Environmental Management Project
FS	Feasibility Study
HSL	Hazardous Substances List
NaI	sodium iodide
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OEPA	Ohio Environmental Protection Agency
OU-5	Operable Unit 5
pCi/g	picocuries per gram
RAWP	Removal Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
RQL	Required Quantitation Limits
RSE	Removal Site Evaluation
SOP	Standard Operating Procedure
STP	Sewage Treatment Plant
STPI	Sewage Treatment Plant Incinerator
TCLP	Toxicity Characteristic Leaching Procedure
USEPA	U.S. Environmental Protection Agency
WMB	white metal box
yd^3	cubic yard

EXECUTIVE SUMMARY

ES.1 BACKGROUND

The Sewage Treatment Plant (STP) area (Figure ES-1) is located on the eastern edge of the Fernald Environmental Management Project (FEMP) property (Figure 1-1). The STP, associated facilities, and the abandoned incinerator are contained within a 6-foot high chain link fenced area on FEMP property where access is restricted. The STP became operational in 1952 for treatment of the FEMP sanitary wastewater. The system was later reconstructed to receive both sanitary and process-related wastewaters. The practice of using the STP to treat process-related wastewater was discontinued with the installation and start-up of the biodenitrification effluent treatment system. Surface radiological measurements and limited soil samples collected in the vicinity of these facilities indicated the presence of localized elevated concentrations of radionuclides.

An abandoned-in-place solid waste incinerator is located in the northwest corner of the STP. This Sewage Treatment Plant Incinerator (STPI) was operated from November 1954 through December 1979, at which time a new solid waste incinerator at Building 39 was put into service. The STP was used to burn combustible trash contaminated with uranium and thorium and to burn uncontaminated combustible trash during its period of operation (WEMCO 1992).

The soils near the STPI were contaminated with various concentrations of uranium. It is possible that there was some contribution from other facilities at the FEMP, but it is likely that most, if not all, of the uranium contamination resulted from the deposition of the incinerator effluent to the soil (WEMCO 1990). The uranium contamination was highest within the fenced area of the STP and lowest off the FEMP property (off-property areas).

ES.2 DESCRIPTION OF REMOVAL ACTION NO. 14

Removal Action No. 14 was conducted in an iterative, stepwise manner that 1) identified areas with radiological contamination in excess of the removal criteria, 2) performed initial excavations within those areas to remove and containerize radiologically contaminated soil, and 3) verified that excavation had achieved the removal criteria

Figure ES-1. Sewage Treatment Plant, Looking East.

through the collection and analysis of soil samples. These three steps were repeated during the course of the removal action as a better understanding of the extent of contamination was developed.

Areas of contaminated soil requiring excavation were identified through a series of walkover radiation surveys and soil sampling and analyses. Based on the initial excavation action level for Removal Action No. 14 of 100 pCi of total uranium per gram of soil, the first round of walkover radiation surveys revealed that uranium contamination was more wide spread than originally known. As a result, area-specific excavation criteria were established as follows:

Area	Uranium Action Levels
On-property areas within the STP compound	300 pCi/g
On-property areas outside the STP compound	100 pCi/g
Off-property areas	35 pCi/g

Based on these criteria, approximately 3,060 cubic yards (yd^3) of soil were excavated during the course of Removal Action No. 14; 1,320 yd^3 from twelve on-property areas (designated as Areas A through J, and Zones I and II), and 1,740 yd^3 from three off-property areas (designated as Zone III, Zone IV, and south of Zone IV). Soil excavated during the initial (on-property) stages of Removal Action No. 14 was placed directly into white metal boxes (WMBs) to ensure its controlled management pending characterization relative to Removal Action No. 17 (Improved Storage of Soil and Debris) management guidelines. A total of 920 yd^3 of soil from on-property excavations was placed into WMBs and filled to their 3 yd^3 capacity, pending sampling and analysis.

Single soil samples were collected from ten percent of the WMBs and analyzed for the radiological and hazardous constituents listed in Table 2-2, (including Toxicity Characteristic Leaching Procedure [TCLP] analysis). Based on results of these analyses (Attachment B.1), it was determined that the excavated soils were not hazardous and, in accordance with the Removal Action No. 17 management guidelines, did not require segregated controlled storage as Resource Conservation and Recovery Act (RCRA) wastes. However, based on the concentrations of radiological contaminants, the soil remained in the WMBs pending final disposition. Soil from ongoing excavation

activities not placed in WMBs was stockpiled according to Removal Action No. 17 guidelines. These soils consisted of the remaining 400 yd^3 excavated from on-property areas, and 1,740 yd^3 excavated from off-property areas.

Although the identification of areas requiring excavation was based in-part on walkover radiation surveys, the verification of residual contamination levels was based exclusively on laboratory analysis of soil samples collected from within each of the excavated areas. These analyses have verified that the excavation criteria were met in both off-property areas, and in eleven of the twelve on-property areas. Two localized areas of residual on-property contamination remain within Zone I, located just north of the STP compound fence. Because these areas of residual contamination are small, and are located on-property where access can be controlled, it was determined that the removal action objectives for risk reduction could be met without additional excavation.

ES.3 CONCLUSIONS

The objectives of Removal Action No. 14 were two-fold:

1. Reduce the potential for contaminant migration to previously uncontaminated areas.

2. Minimize the potential for unacceptable exposures to human or environmental receptors until implementation of final remedial actions.

The goals of the FEMP in conducting Removal Action No. 14 were to minimize the potential for releases of hazardous substances incidental to removal operations, and to conduct the action in a cost efficient and safe manner consistent with site Standard Operating Procedures (SOPs) and worker health and safety requirements (WEMCO 1992).

As detailed in this final report, these objectives and goals were accomplished through 1) the identification and removal of surface soil adjacent to the STP (Figure ES-2 shows the STP following soil excavation), and 2) establishment of access controls for isolated areas of residual contamination that remain on the FEMP property. Total uranium soil removal criteria, protective of human health and the environment, were established and

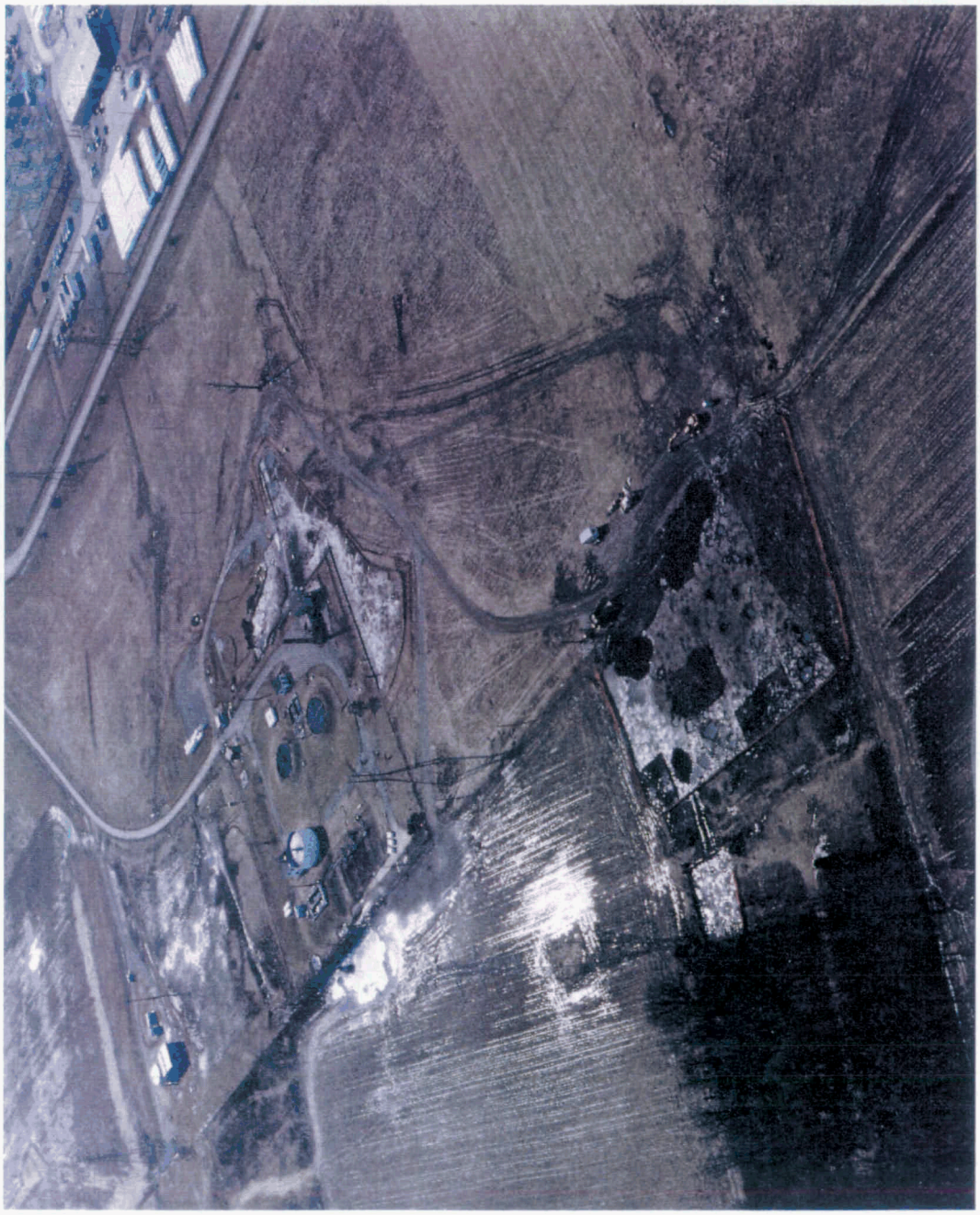

Figure ES-2. Sewage Treatment Plant Following Soil Excavation, Looking Southwest.

applied in off-property areas adjacent to the STP, and in on-property areas within and adjacent to the STP compound.

Soil verification sampling and analyses confirm that these removal criteria were met in the off-property excavation areas. Based on the observed relationship of radium and thorium isotope concentrations to the total uranium concentrations, the verification sampling and analysis also provided assurance that radium and thorium removal criteria were met.

Two isolated areas of localized residual contamination remain in on-property excavation Zone I just north of the STP compound fence, and in one on-property area further north of the compound fence. As a result of their on-property location, concentration, and limited areal extent of this localized contamination, the Removal Action No. 14 objectives have been fully met in these on-property areas through the maintenance of ongoing access controls.

To confirm that removal action objective No. 2 has been met, the Removal Site Evaluation (RSE) risk assessment has been updated based on the post-excavation residual soil concentrations. The results of that risk assessment are summarized in Table ES-1, and compared to the original risk results presented in the RSE. As shown in this table, the calculated off-property radiation doses and cancer risks are a factor of approximately 100 lower than the original RSE estimates, and well below the 1E-06 risk level at which remedial actions are considered. The three on-property locations of elevated residual contamination are included in the post excavation on-property risks presented in Table ES-1. All excavation activities associated with Removal Action No. 14 are therefore complete. In the event that further remediation of on-property or off-property soils is determined to be appropriate, such actions will be conducted in accordance with the Operable Unit No. 5 Record of Decision.

Table ES-1. Estimated Radiation Doses and Cancer Risks.

Pathway	Pre-Excavation On-Property (mrem/yr)	Post-Excavation On-Property (mrem/yr)	Post-Excavation Off-Property (mrem/yr)
Direct Radiation	3.8	0.54	0.2
Inhalation	4.7	0.05	0.02
Milk Consumption	7.6	0.06	0.02
Total Dose	16	0.65	0.24
Total Risk	3E-06	1E-07	5E-08

Section 1

1.0 INTRODUCTION

The Sewage Treatment Plant (STP) is located on the eastern edge of the Fernald Environmental Management Project (FEMP) property (Figures 1-1 and 1-2). The STP, associated facilities, and an abandoned soil waste incinerator are contained within a 6-foot high chain link fenced area on FEMP property where access is restricted. The STP became operational in 1952 for the treatment of FEMP sanitary wastewater. The system was later reconstructed to receive both sanitary and process-related wastewaters. The practice of using the STP to treat process-related wastewater was discontinued with the installation and start-up of the biodenitrification effluent treatment system. The abandoned-in-place solid waste incinerator is located in the northwest corner of the STP (Figure 1-2). This incinerator was operated from November 1954 through December 1979, at which time a new solid waste incinerator at Building 39 was put into service. The Sewage Treatment Plant Incinerator (STPI) was used to burn uranium and thorium contaminated and uncontaminated combustible trash during its operation (WEMCO 1992).

Surface radiological measurements and limited soil samples collected in the vicinity of the STP, STPI, and associated facilities indicated the presence of localized elevated concentrations of radionuclides. On September 20, 1991, the Department of Energy (DOE) and the U.S. Environmental Protection Agency (USEPA) jointly signed an Amended Consent Agreement establishing milestones for the implementation of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) response actions at the FEMP. One such milestone provided that the DOE submit a removal action work plan (RAWP) to USEPA by January 23, 1992, addressing Removal Action No. 14, Contaminated Soils Adjacent to the Sewage Treatment Plant Incinerator. In July 1992, the RAWP for Removal Action No. 14 (WEMCO 1992) was approved by USEPA for implementation.

The objectives of this removal action were two-fold:

- Reduce the potential for contaminant migration to previously uncontaminated areas.

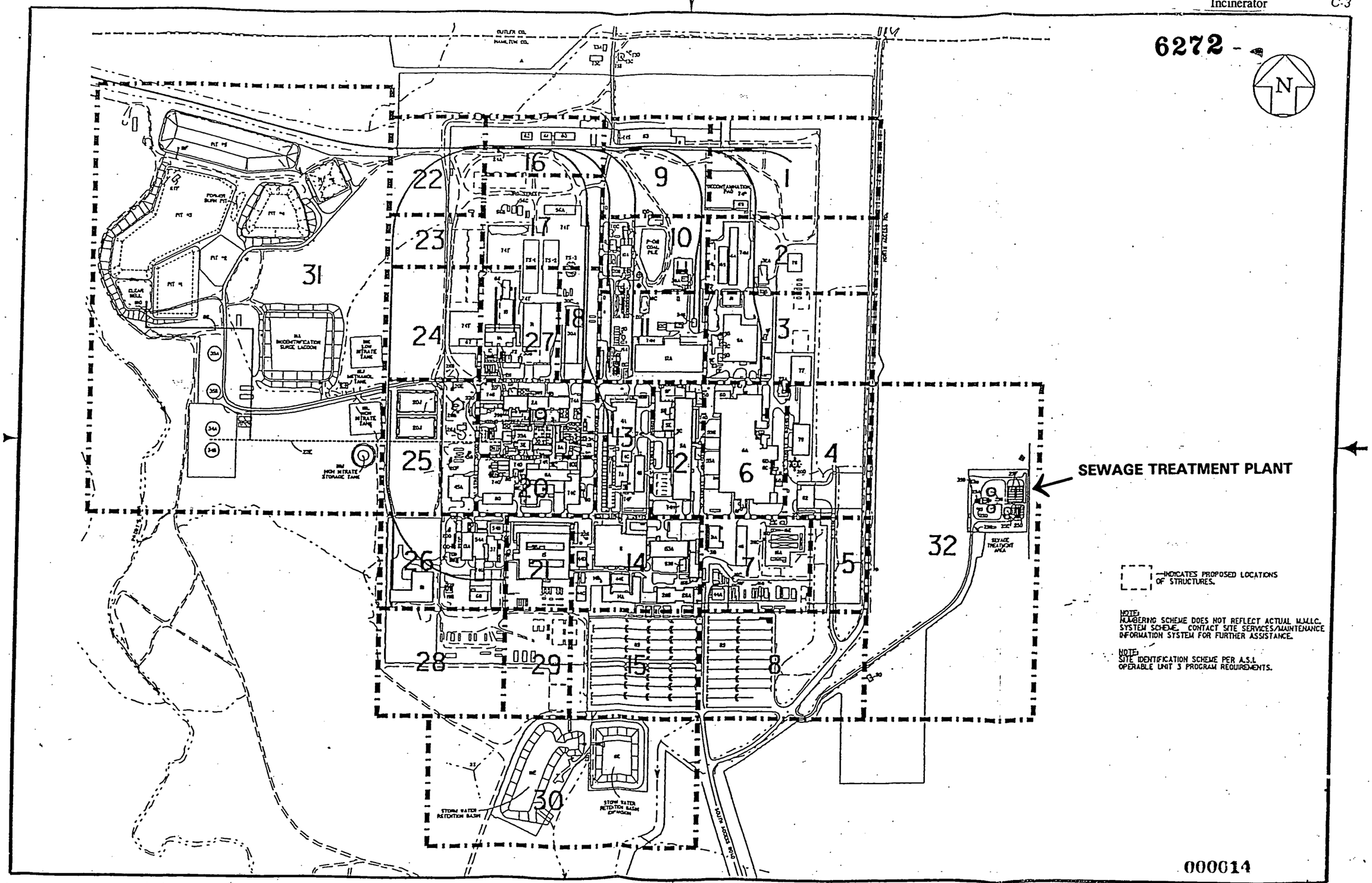

Figure 1-1. Master Grid Site Map Showing Location of Sewage Treatment Plant.

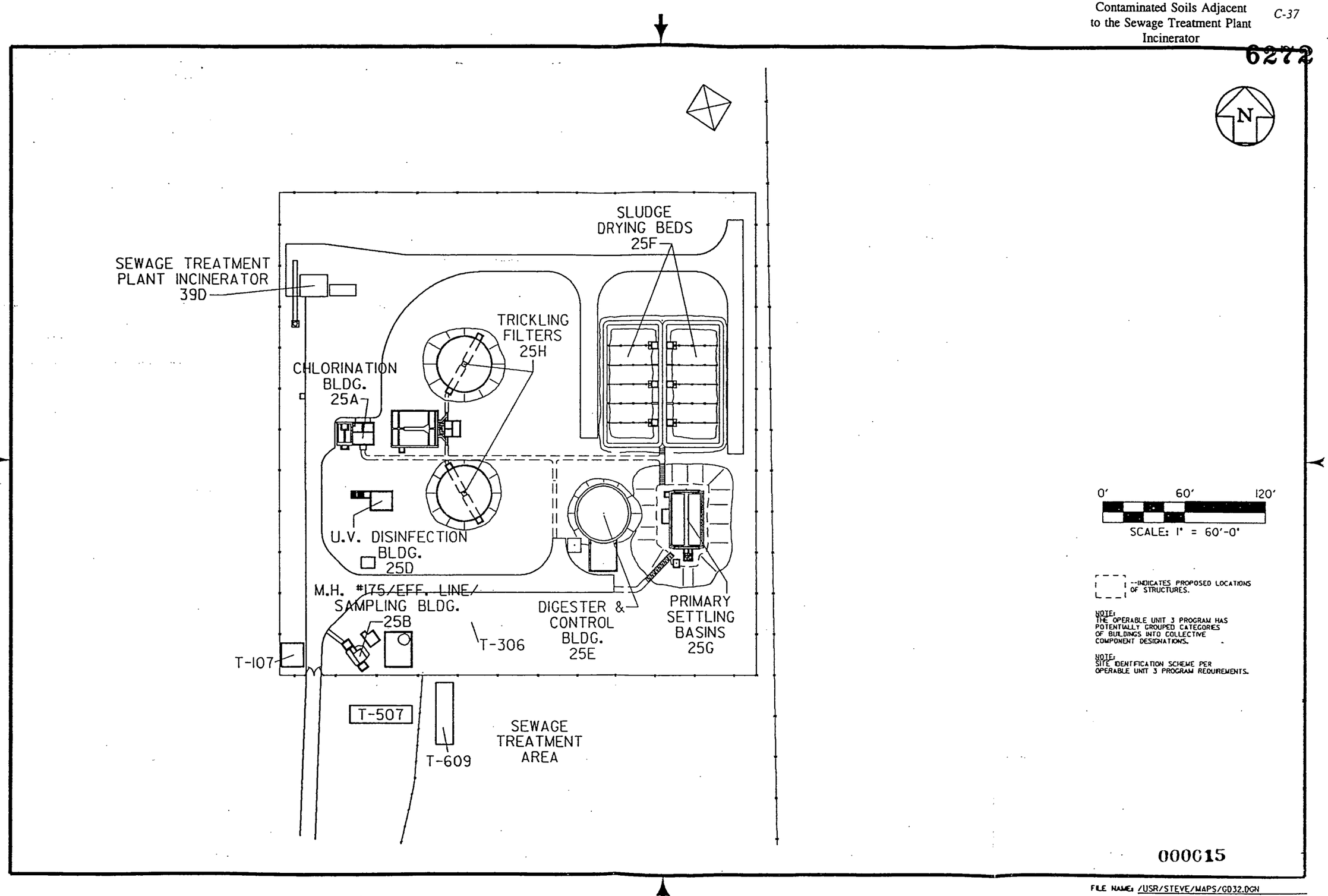

Figure 1-2. Sewage Treatment Plant Layout.

- Minimize the potential for unacceptable exposures to human or environmental receptors until implementation of final remedial actions.

It was the goal of the FEMP in conducting Removal Action No. 14 to minimize the potential for releases of hazardous substances incidental to removal operations and to conduct the action in a cost efficient and safe manner consistent with site Standard Operating Procedures (SOPs) and worker health and safety requirements (WEMCO 1992).

Removal Action No. 14 was conducted in an iterative stepwise manner that 1) identified areas with radiological contamination in excess of the removal criteria, 2) performed initial excavations within those areas to remove and containerize radiologically contaminated soil, and 3) verified that excavation had achieved the removal criteria through the collection and analysis of soil samples. Initial sampling efforts provided preliminary characterization of the affected areas and established initial soil excavation according to criteria presented in the RAWP. Subsequent efforts provided follow-up characterization and soil excavation, post-excavation verification sampling and analysis, and characterization of the excavated soil. The original risk assessment for contaminated soil adjacent to the STPI has been revised to reflect the current site conditions. The revised risk assessment is summarized in Section 3.0 of this report. Section 2.0 describes the removal action activities, including sampling and analyses. Section 3.0 presents conclusions and describes how the removal action objectives were accomplished. Section 4.0 contains references relevant to Removal Action No. 14.

Section 2

2.0 DESCRIPTION OF THE REMOVAL ACTION

Table 2-1 presents the overall chronology of Removal Action No. 14. Because Removal Action No. 14 was a complex action, with field activities conducted over approximately two years, the actions have been grouped together for clarity into general, on-property, and off-property categories. Sections 2.1 through 2.3 summarize the actions that have been completed in each of these categories.

2.1 GENERAL ACTIONS

This section discusses the general category actions associated with the removal action. General actions are activities or events that apply to the removal action as a whole, neither solely on-property, nor off-property. There were three general actions associated with this removal action: 1) planning documentation, 2) development of survey instrument correlation, and 3) management of excavated soil. The documentation section (Section 2.1.1) discusses the documents written or revised as required by the approved RAWP. These documents include the RAWP Addenda and the Removal Action Final Report. The survey instrument correlation section (Section 2.1.2) describes the process that was used to correlate direct radiation measurements of soil with the uranium concentration of the soil. Section 2.1.3 discusses how the excavated contaminated soil was managed.

2.1.1 Documentation

The method described in the approved RAWP, for addressing the contaminated soil adjacent to the STPI, was based on small discrete areas of relatively high uranium contamination (> 100 picocuries per gram [pCi/g]). The radiological walkover survey performed after the RAWP was approved showed that the 100 pCi/g boundary for total uranium concentration was more extensive than originally envisioned. Additional sampling and analyses were also performed to more accurately define the vertical extent of the contamination. Based on the large quantities of soil that would potentially require excavation, DOE presented a revised approach to the USEPA and OEPA on August 19, 1992. Documented in a letter addendum to the USEPA and OEPA, dated August 28, 1992, this revised approach included performing additional on and off-property soil

Table 2-1. Removal Action No. 14 Chronology.

Date	General Actions	On-Property Actions	Off-Property Actions
October 23, 1990	RSE completed; DOE determines that the contaminated soils adjacent to the STPI constitute a time-critical removal action		
September 20, 1991	Contaminated Soils Adjacent to the STPI designated as Removal Action No. 14		
April 1992	NaI instrument correlation samples collected		
July 29, 1992	Removal Action No. 14 RAWP approved by USEPA and OEPA		
August 1992	Removal Action No. 14 field activities commence		
August 4, 1992		Radiological walkover survey complete	
August 4, 1992			Initial soil characterization samples collected to identify extent of contamination
August 28, 1992	Alternative removal action approach presented to USEPA, based on larger than anticipated excavation requirements at 100 pCi/g removal criteria		
September/October 1992		Excavation of soil Areas A through J, within the fenced STP area, based on 300 pCi/g removal criteria, and outside STP fenced area, based on 100 pCi/g criteria	
December 28 - 29, 1992	Removal Action No. 17 approved by OEPA and USEPA, allowing soil containing <100 pCi/g of uranium to be stockpiled		
January 6, 1993	RAWP Addendum (Rev. 1), detailing alternative approach, submitted to USEPA and OEPA		
February 1 and 2, 1993		Post-excavation verification samples collected to confirm excavation in Areas A through J	

Table 2-1. Removal Action No. 14 Chronology.

Date	General Actions	On-Property Actions	Off-Property Actions
April 30 - May 4, 1993	Collected soil samples from WMBs to determine if the excavated soil meets hazardous waste criteria.		
		Additional soil characterization samples collected to clarify the vertical extent of contamination (samples ASI-1 to ASI-32)	
July 1993			Additional characterization samples collected to further clarify the extent of contamination adjacent to the STP (Zone III)
July 13, 1993	RAWP Addendum, Rev. 2 submitted to USEPA and OEPA for approval		
August 12, 1993	USEPA approves RAWP Addendum, Rev. 2		
August 24, 1993	OEPA approves RAWP Addendum, Rev. 2		
September 1, 1993		Excavation of soil within Zone II begins, based on 100 pCi/g removal criteria	
September 1993		Excavation of soil within Zone I begins, based on 100 pCi/g removal criteria	
September 16, 1993			Excavation of soil within Zone III begins, based on 35 pCi/g removal criteria
October 1, 1993			Post-excavation verification samples collected to confirm excavation in Zone III
October 7, 1993		Excavation of soil within Zone II completed	
October 1993		Excavation of soil within Zone I completed	
November 9, 1993			Zone III backfilled
November 17, 1993			Radiological walkover survey completed within Zone IV (wooded area)
December 13, 1993			Begin collection of additional characterization samples to further clarify the extent of contamination east of the FEMP property boundary

Table 2-1. Removal Action No. 14 Chronology.

Date	General Actions	On-Property Actions	Off-Property Actions
December 13 and 20, 1993			Additional characterization samples collected to further clarify the extent of contamination in wooded area (Zone IV)
December 29, 1993			Excavation of soil within Zone IV begins, based on 35 pCi/g removal criteria
January 10, 1994			Complete collection of additional characterization samples
February 28, 1994			Excavation within Zone IV completed
March 23, 1994			Post-excavation verification samples collected to confirm excavation in Zone IV
April 18, 1994		Post-excavation verification samples collected to confirm excavation in Zone I	
April 26, 1994		Post-excavation verification samples collected to confirm excavation in Zone II	
June 14, 1994			Follow-up excavation of soil within Zone IV begins, based on results from verification samples
June 22, 1994			Post-excavation verification samples collected to confirm follow-up excavation in Zone IV
June 24, 1994		Final post excavation verification samples collected to confirm excavation in Zone II	
October 24, 1994			Additional off-property soil samples collected south of Zone IV
November 7-8, 1994			Final excavation south of Zone IV
December 5, 1994	Issue Removal Action Final Report to USEPA and OEPA		

sampling and a radiological walkover survey in order to define the 100 pCi/g total uranium boundary. The removal action was also redefined to set an interim action level of 300 pCi/g (instead of 100 pCi/g as specified in the RAWP) for excavation of soils located inside the fenced area of the STP. The action level remained at 100 pCi/g total uranium concentration for on-property contamination outside the fenced area of the STP and the off-property action level for total uranium remained at 35 pCi/g. Results of the initial off-property soil sampling showed areas with total uranium contamination exceeding the 35 pCi/g action limit (WEMCO 1992).

Based on the results of the walkover survey and the additional sampling, preliminary excavations were initiated to expedite the removal action goal of mitigating potential health and environmental impacts from high levels of surface soil uranium contamination. A RAWP Addendum (Revision 1) was prepared and submitted to the USEPA and the Ohio Environmental Protection Agency (OEPA) on January 6, 1993. The addendum detailed the field activities conducted up to the date of submittal, including all available radiological walkover and analytical data.

Based on comments received from USEPA and OEPA, Revision 2 of the RAWP Addendum was issued on July 13, 1993 (FERMCO 1993a), detailed the field activities conducted through July 1993 (Table 2-1), presented all radiological walkover and analytical data, and provided an evaluation of these activities.

Revision 2 of the RAWP also provided the rationale and approach for additional surveying and sampling of on and off-property soils, obtaining access agreements for the off-property areas, and detailing the approach for remediating the on and off-property contaminated areas according to established removal action criteria. Revision 2 of the RAWP served as the interim report identified in the original RAWP (WEMCO 1992).

This Removal Action Final Report has been prepared to document the completion of Removal Action No. 14. It summarizes the results of the additional surveys, sampling and analyses, and excavation efforts detailed in the RAWP Addendum Revision 2. It also provides an updated evaluation of site risks based on post-excavation sampling results, and the methodology originally presented in the RSE.

2.1.2 Development of Survey Instrument Correlation

Direct radiation measurements using portable radiation detectors were used to screen for uranium concentrations in surface soil. A correlation was developed between the detector count rate, as measured using a sodium iodide (NaI) scintillation detector, and the concentration of total uranium (pCi/g), as measured by laboratory analysis of soil samples. The correlation was established by measuring the in situ count rate at 21 locations from which soil samples were subsequently collected and analyzed for radionuclides. The locations were selected to encompass a range of count rates that could then be plotted as a function of uranium/total soil concentration. Gross count rates were established for each location by averaging the results from three 2-minute stationary counts. A 2- by 2-inch NaI detector was used, with side and top shielding, held 5 inches from the grade. The counting electronics did not include energy discrimination, and the count rates reflected contributions from all gamma radiation emitting sources.

Following completion of the direct radiation measurements, soil samples were collected and analyzed for isotopic and total uranium, isotopic thorium, and radium-226. The results from these measurements and laboratory analyses are presented in Attachment A, Table A-1. A correlation curve was calculated for the data and is presented in Attachment A, Figure A-1. Based on this correlation curve, the total uranium removal criteria for 35 pCi/g, 100 pCi/g, and 300 pCi/g were determined to correlate with 4,000 counts per minute (cpm), 5,000 cpm, and 8,500 cpm, respectively. This correlation was applied during the course of radiological walkover surveys to identify the boundaries of soil areas requiring excavation.

During the course of the removal action, concerns arose regarding the accuracy of the correlation relative to identifying all soil areas with total uranium concentrations greater than 35 pCi/g. The NaI instrument correlation data presented in Attachment A, Table A-1 was subsequently reviewed and it was determined that certain data points used in the correlation were influenced by the presence of gamma-emitting radium-226 in the soil and/or the very high background count rate associated with the STPI. Based on examination of these data, it was determined that points 1, 2, 3, 6, 7, 10, 15, and 18 should be excluded from the correlation. The revised correlation, with these 8 points excluded, is presented in Attachment A, Figure A-2. Based on this revised correlation,

it appears that the original correlation overpredicted the uranium concentration at the high end (300 pCi/g). In other words, at 8,500 cpm (old correlation) the soil actually contains less than 300 pCi/g total uranium.

Off-property walkover survey results ranged from 3,400 to 3,800 cpm with some locations 3,900 cpm. Because the survey data are gross count rates, the off-property readings are dominated by the background count rate (approximately 3,000 cpm). The correlation curve actually levels off in the region of 35 pCi/g and below. The count rate changes very little relative to actual changes in uranium concentration, making it difficult to apply the correlation reliably in the 3,400 to 3,800 cpm range. The NaI correlation cannot be applied reliably for total uranium soil concentrations below approximately 50 pCi/g. Therefore, the results of in situ soil sampling were used to verify excavation requirements off-property.

2.1.3 Management of Excavated Soil

On-property and off-property soil excavation activities associated with Removal Action No. 14 are discussed in detail in Sections 2.2.2 and 2.3.2, respectively. Approximately 3,060 cubic yards (yd^3) of soil were excavated during Removal Action No. 14; 1,320 yd^3 from 12 on-property areas (Areas A through J, and Zones I and II), and 1,740 yd^3 from three off-property areas (Zone III, Zone IV, and south of Zone IV).

At the outset of Removal Action No. 14 (July 1992), there were no established guidelines for the management and disposition of radiologically contaminated soils. However, in December 1992, the OEPA and USEPA approved Removal Action No. 17, Improved Storage of Soil and Debris (FERMCO 1992), establishing guidelines for the management of contaminated soil and debris at the FEMP. Soil, excavated during the initial (on-property) stages of Removal Action No. 14, was placed directly into white metal boxes (WMBs) to ensure its controlled management pending characterization relative to Removal Action No. 17 management guidelines. A total of 920 yd^3 of soil from on-property excavations was placed into WMBs, pending sampling and analysis.

Single soil samples were collected from ten percent of the WMBs from each excavation area and analyzed for the radiological and hazardous constituents listed in Table 2-2, including Toxicity Characteristic Leaching Procedure (TCLP) metals. Based on an

Table 2-2. Analyte List.

Radionuclides

Uranium-234
Uranium-235
Uranium-238
Radium-226
Radium-228
Thorium-228
Thorium-230
Thorium-232

Inorganics

Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Cyanide
Iron
Lead
Magnesium
Manganese
Mercury
Molybdenum
Nickel
Potassium
Selenium
Silicon
Silver
Sodium
Thallium
Vanadium
Zinc

Volatile Organics

1,1-Dichloroethane
1,1-Dichloroethene
1,1,1-Trichlorethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2-Dichloroethene (total)
1,2-Dichloroethane
1,2-Dichloroethylene
1,2-Dichloropropane
2-Butanone
2-Hexanone
4-Methyl-2-pentanone
Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,3-Dichloropropene
Dibromochloromethane
Ethylbenzene
Methylene chloride
Styrene
Tetrachloroethene
Toluene
Total xylenes
trans-1,3-Dichloropropene
Tricholoroethene
Vinyl acetate
Vinyl chloride

Semi-Volatile Organics

1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2-Chloronaphthalene
2-Chlorophenol
2-Methylnaphthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,6-Dinitrotoluene
3-Nitroaniline
3,3-Dichlorobenzidine
4-Bromophenyl-phenyl ether
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenol-phenyl ether
4-Methylphenol
4-Nitroaniline
4-Nitrophenol
4,6-Dinitro-2-methylphenol
Acenaphthene
Acenapthylene
Anthracene
Benzoic acid
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Benzyl alcohol
bis(2-Chloroethoxy) methane
bis(2-Chloroethyl)ether
bis(2-Chloroisopropyl) ether
bis(2-Ethylhexyl) phthalate
Butylbenzylphthalate
Carbazole
Chrysene
Dibenzofuran
Dibenzo(a,h)anthracene
Diethylphthalate
Dimethylphthalate
Di-n-butyl phthalate
Di-n-octyl phthalate

Table 2-2. Analyte List

Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclo-
pentadiene
Hexachloroethane
Indeno(1,2,3-cd)pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitroso-di-n-
propylamine
N-Nitrosodiphenylamine
Pentachlorophenol
Phenanthrene
Phenol
Pyrene

Dioxins

2,3,7,8-Tetrachloro-
dibenzo-p-dioxin

additional objective to evaluate airborne contamination associated with the STP soils; emphasis was placed on collecting samples from the WMBs that contained surface soils to a depth of six inches (FERMCO 1993a). A total of 50 samples were collected and analyzed, and the characterization results are presented in Attachment B.1, Tables B.1-1 through B.1-3.

Based on the analytical results from the soil samples, and Removal Action No. 17 management guidelines, it was determined that the excavated soils did not contain hazardous waste and did not require segregated controlled storage under the Resource Conservation and Recovery Act (RCRA), and Phase I of Removal Action 17. However, based on the concentrations of radiological contaminants, the soil did require controlled management and remains in the WMBs pending final disposition under the ROD for OU-5.

Soil from subsequent excavation activities was not placed in WMBs but was stockpiled on FEMP property in accordance with Removal Action No. 17 guidelines. Based on these guidelines, controlled stockpiles were created south of the FEMP stormwater retention basin for the 1,740 yd^3 of excavated soil from off-property areas, with total uranium concentrations less than or equal to 100 pCi/g, 5 pCi/g total radium, or 50 pCi/g total thorium. The remaining 400 yd^3 of excavated soil from Zones I and II that had total activity concentrations exceeding 100 pCi/g uranium, 5 pCi/g radium, or 50 pCi/g thorium, is stored under tarpaulins located east of the boiler plant pending final disposition.

2.2 ON-PROPERTY ACTIONS

Section 2.2.1 discusses on-property characterization measurements and sampling; Section 2.2.2 discusses soil excavation; and Section 2.2.3 discusses verification sampling for on-property actions.

2.2.1 Characterization Measurements

The survey instrument correlation, described in Section 2.1.2, was used during the on-property radiological walkover survey to estimate the extent of total uranium contamination in the soil (RAWP Addendum, Revision No. 2). The goal of that survey

was to identify localized areas in which the soil exhibited count rates with a total uranium concentration greater than 100 pCi/g. The radiological walkover survey was performed on a 25- by 100-foot grid established over the entire on-property study area. Once the locations were selected, surface radiation measurements were made using a SPA-3 radiation detector suspended five inches from grade and side and top-shielded with 3/8 inch of lead. The study area was surveyed by walking at a steady rate in a serpentine manner. After three, two-minute readings were recorded and averaged, the result was converted to counts-per-minute and recorded as the gross reading. When a "hot spot" was detected, its boundary was marked with stakes for subsequent excavation (FERMCO 1993a). The raw data collected during the radiological walkover survey are presented in Figure 2-1. These data are contoured in Figure 2-2 and are detailed in Attachment B.2, Table B.2-1. Once the radiological walkover survey was completed, it was apparent that a considerable volume of soil would have to be removed to achieve the 100 pCi/g action level. The distribution of uranium contamination in the soil was found to have a higher, more uniform concentration than originally thought.

The radiological walkover survey defined the horizontal extent of contamination; however, limited data on vertical distribution existed. Because the areal extent of soil requiring excavation was large, additional soil sampling data were needed to 1) define the vertical extent of soil exhibiting a total uranium concentration greater than 100 pCi/g, and 2) provide a basis for estimating waste volumes.

The location of additional soil samples (Figure 2-3), was biased by field logistics. Samples were located within the 100 pCi/g boundary, and the depths were selected based on the premise that the vertical extent of contamination would be greater within the STP fence adjacent to the STPI and associated structures. In addition, within the fenced area, the sample points were located to avoid structures and underground utilities in the area. Figure 2-3 indicates the locations of samples collected previously in conjunction with the FEMP Environmental Monitoring Program, and site-wide remedial investigation/feasibility study (RI/FS) characterization efforts. Removal Action No. 14 soil samples were collected in conjunction with the soil excavation activities. Samples were submitted to the on-site FEMP laboratory for total uranium analysis, and duplicate samples were sent to an off-site laboratory for analysis in accordance with the protocols

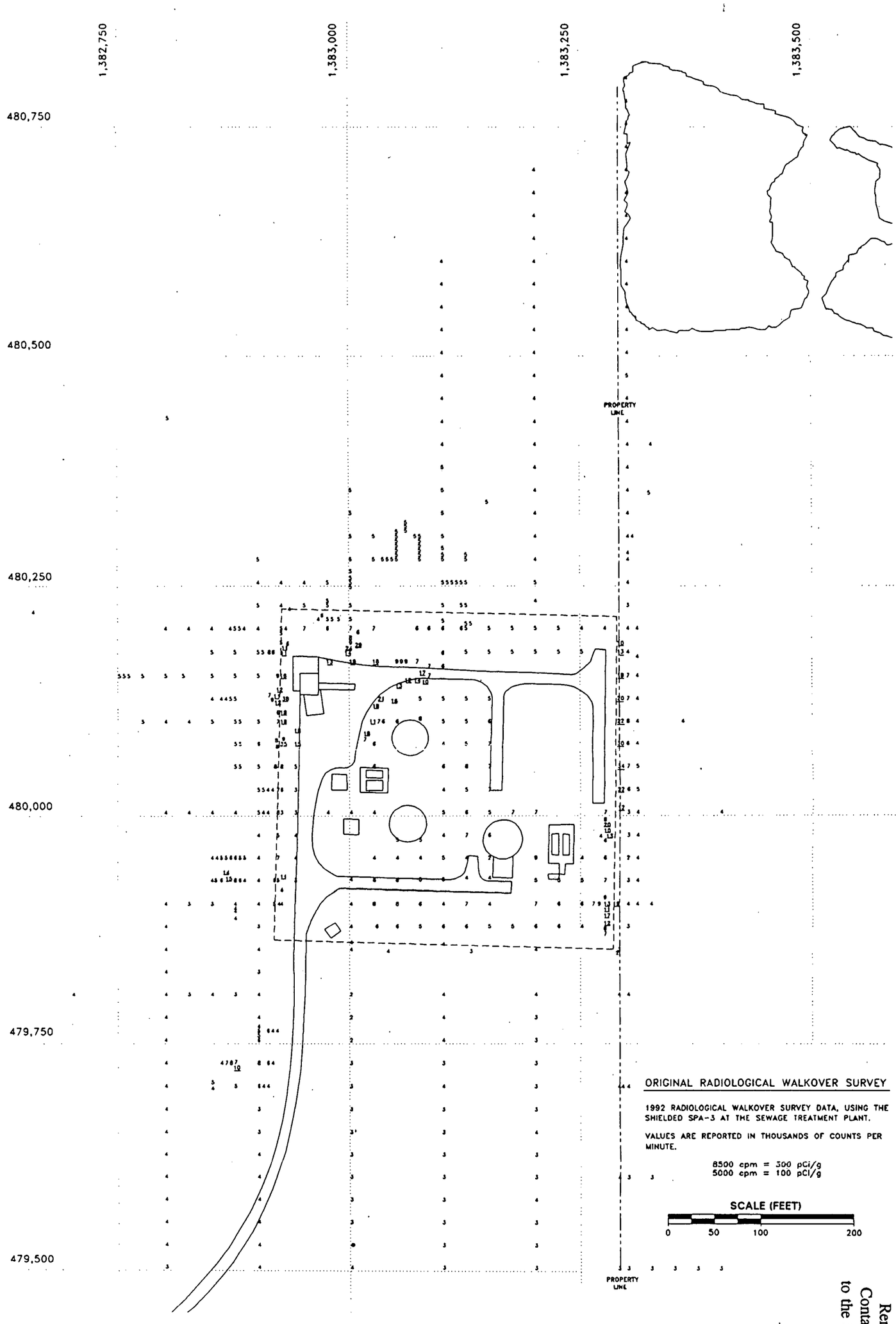

Figure 2-1. Radiological Walkover Survey Raw Data.

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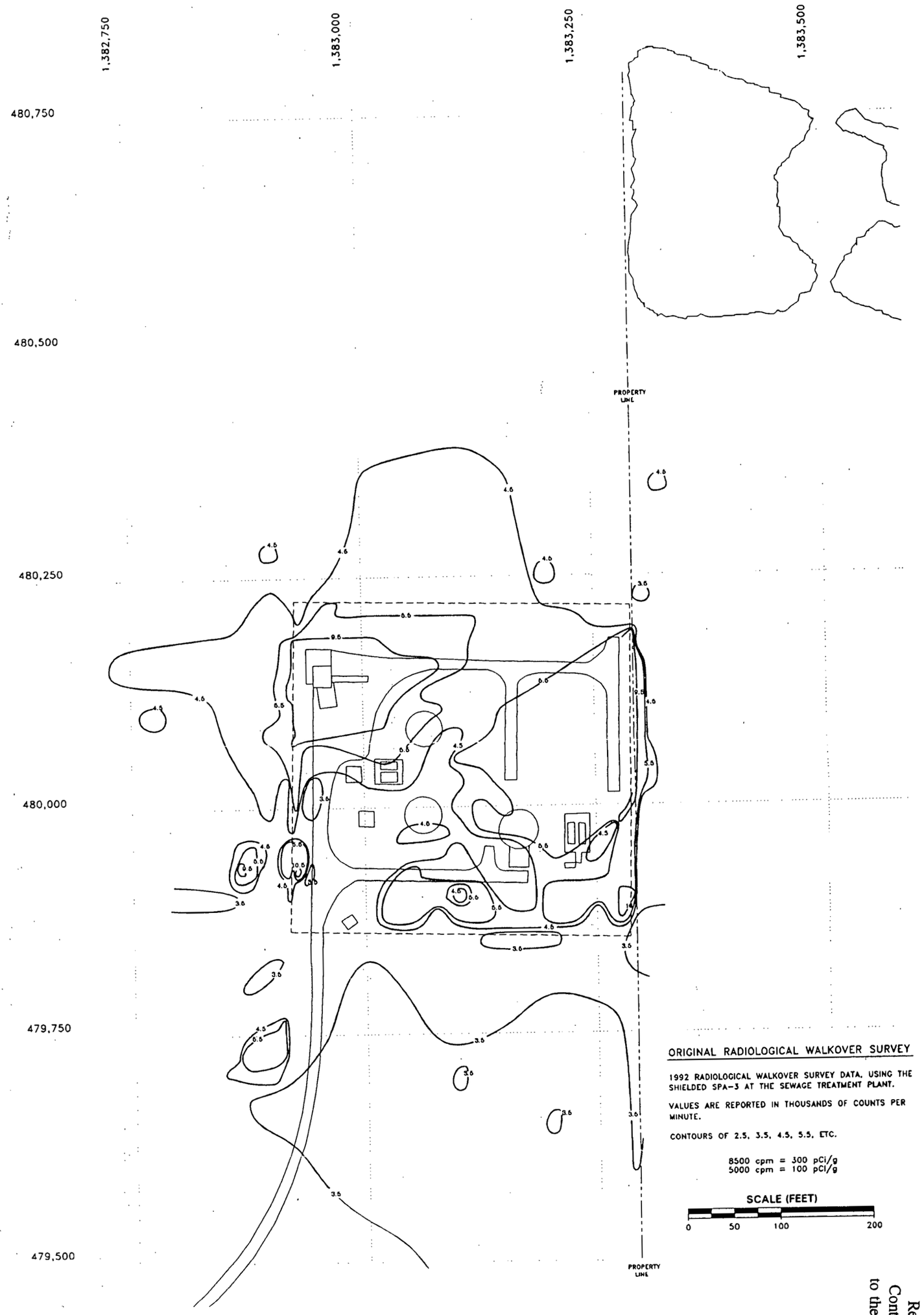

Figure 2-2. Radiological Walkover Survey Data Contour Map.

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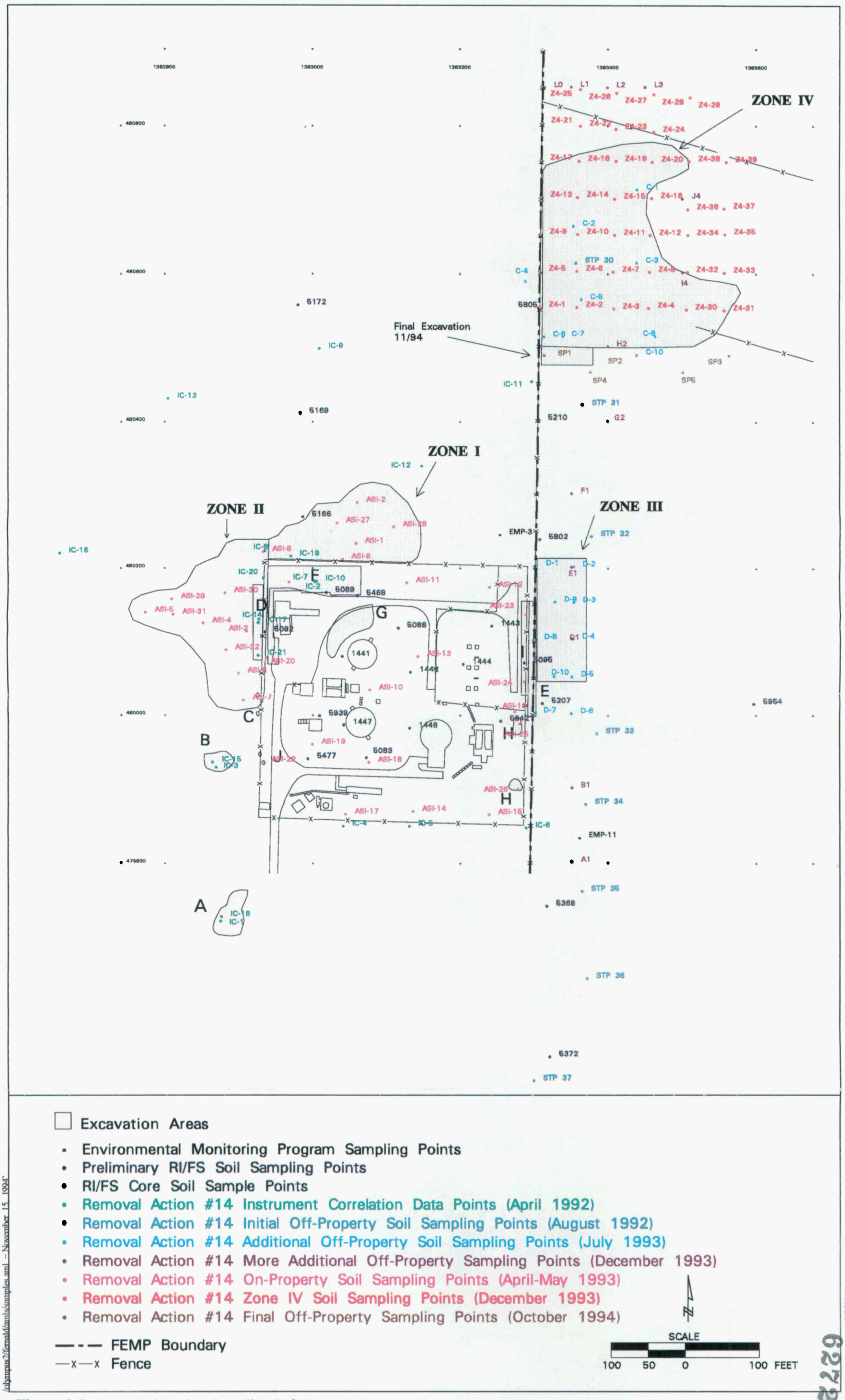

Figure 2-3. Removal Action Sampling Points.

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described in the RAWP. The area inside the STP fence was divided into four quadrants, and at least one sample per quadrant was also analyzed for the full Hazardous Substances List (HSL).

Analytical results from these on-property sampling activities (ASI-1 through ASI-32) are presented in Attachment B.2, Tables B.2-2 and B.2-3. Review of the radiological data indicates that in addition to uranium contamination, elevated concentrations (greater than five pCi/g) of radium-226 were found in locations ASI-14, ASI-15, ASI-16, and ASI-17. Also, HSL data shows that one sample, ASI-8, from 4- to 6-inches in depth, exhibited organic concentrations greater than the Required Quantitation Limits (RQL). Samples ASI-8 and ASI-13 also exhibit lead levels greater than 100 mg/kg (FERMCO 1993a). The area surrounding sample location ASI-13 was not excavated and, therefore, no lead-containing waste was produced at that location. Although excavation was performed in the location of sample ASI-8, the level of total lead measured in that sample would not predict exceedance of the TCLP regulatory level. Further, the samples collected adjacent to ASI-8 exhibited significantly lower levels of total lead.

The results from sample points ASI-1 through ASI-32 (Attachment B.2, Tables B.2-2 and B.2-3) confirmed the results of the radiological walkover survey, which indicated that the distribution of uranium contamination in the soil was a higher, more uniform concentration than originally thought. It was also apparent that a considerable volume of soil would have to be removed to achieve the 100 pCi/g action level. The sampling results for these samples showed that only radioactive contamination was present.

2.2.2 Soil Excavation

After the radiological walkover survey was completed, and the areas were marked where concentrations of total uranium were expected to exceed the removal criteria, excavation began and continued until soils containing radioactive contamination in excess of the action levels was removed. Originally, the total uranium action level for all on-property areas was set at 100 pCi/g; however, as discussed in Section 2.1.1, it was discovered that contamination inside the fenced area of the STP was higher than first thought. To attain the removal action goal of 100 pCi/g within the STP compound would have required significant excavation to the extent that structural integrity of many STP facilities would be threatened. Therefore, DOE and USEPA agreed that the most

prudent course of action (before collecting additional data) was to excavate the areas exhibiting total uranium concentrations greater than 300 pCi/g. Selected areas with total uranium concentrations less than 300 pCi/g, but greater than 100 pCi/g, were also excavated if their location was isolated or they were located in close proximity to the FEMP property line. Seven excavation areas inside the fenced STP area and three outside the fenced STP area were established as Areas A through J (Figure 2-4). Controls were put in place around each excavation area (>100 pCi/g) to limit access/exposure (FERMCO 1993a).

Once the initial excavation boundaries were established, the top six inches of soil were excavated with a smooth blade bucket excavator and placed into WMBs. After the top six inches of soil had been removed, additional readings were taken with the shielded SPA-3 within each excavated area. Any reading that exceeded the field action level was marked, and a boundary established for the next 6-inch excavation. The excavation proceeded in 6-inch lifts until the soil exhibited count rates that correlated to a total uranium concentration less than the field action level (300 pCi/g inside the fenced STP area, 100 pCi/g outside the fenced STP area). A total of 178 WMBs (534 yd^3) were filled with the excavated soils from Areas A through J. These WMBs were placed in storage pending radiation characterization (Section 2.1.3).

All excavated areas were bermed using adjacent soil to limit run-off from other areas entering the excavated areas. The excavated areas were dewatered routinely, and the water was discharged into the general sump. The soil was seeded to prevent wind and water erosion. Two fire hydrants within the study area, and one within an excavated area (Area F), were repaired to eliminate the potential contribution for contaminant migration from leakage onto the ground (FERMCO 1993a).

The additional on-property soil sampling, described in Section 2.2.1, identified the presence of two additional areas (Zones I and II) adjacent to the STPI in the northwest corner of the STP compound, with total uranium concentrations which exceeded the 100 pCi/g action level. These two excavation zones are shown on Figure 2-4. Zone I was north of the STPI, bordering the north STP fenceline, and Zone II was west of the STPI on the northwest corner of the fenced STP compound. These two additional areas were excavated as described for Areas A through J above. A total of 386 yd^3 of soil was excavated from Zones I and II and deposited in 129 WMBs pending characterization

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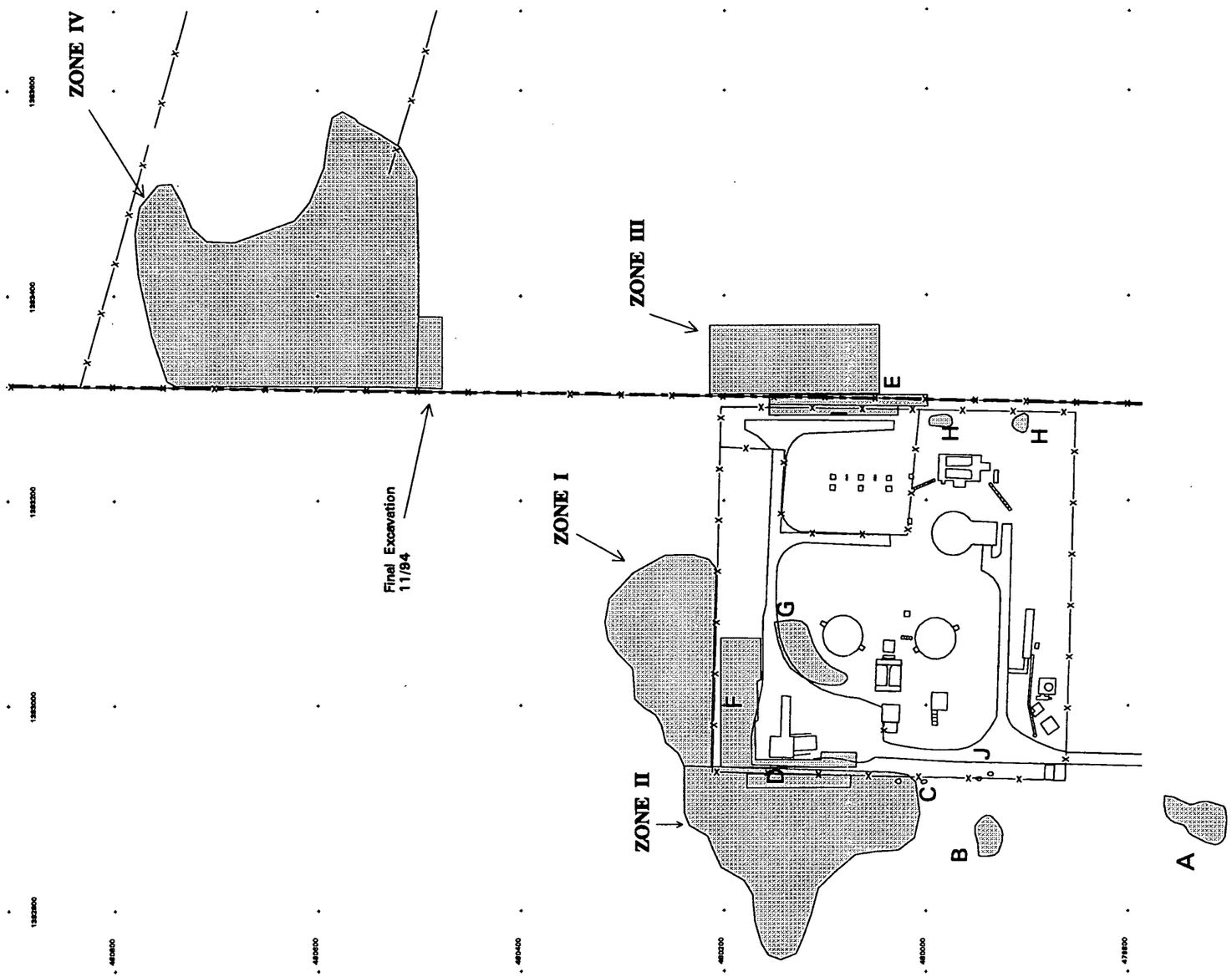

Figure 2-4. On-Property Soil Excavations.

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(Section 2.1.3). Once the soil was determined to be non-hazardous, an additional 400 yd^3 of excavated soil was stockpiled in accordance with Removal Action No. 17 management guidelines.

2.2.3 Verification Sampling

The effectiveness of soil excavation, within Areas A through J and Zones I and II, was determined by collecting and analyzing post-excavation verification samples from within each of the excavated areas. The selection of sample locations was biased to be representative, and to meet the objective that at least one sample be collected at the maximum excavation depth (FERMCO 1993a). Figure 2-5 shows the post-excavation verification sample locations within Areas A through J. These samples were collected from zero to six inches and submitted to the on-site FEMP laboratory for total uranium analysis. As shown in Attachment B.2, Table B.2-4, the results of the verification samples (ASI-33 through ASI-58) taken in Areas A through J ranged from a total uranium concentration of <7.4 pCi/g to 250 pCi/g. Fourteen of the twenty-six verification samples collected exhibited a total uranium concentration of <7.4 pCi/g. The other twelve sample results ranged from 11.5 pCi/g to 250 pCi/g of total uranium. The three sample results above 100 pCi/g were located inside the fenced STP compound where the 300 pCi/g action level is applied. Therefore, these verification sampling results shown in Attachment B.2, Table B.2-4, indicate that the removal action criteria for the soil in areas A through J have been met.

The verification samples, 101 to 140 (taken in Zone I) and 201 to 224 (taken in Zone II), were analyzed for total uranium. The results of these samples are shown in Attachment B.2, Table B.2-5. Two of the samples taken in Zone I contained uranium concentrations greater than the 100 pCi/g action limit. The uranium concentration in these samples was 140.7 pCi/g and 155 pCi/g. Seventeen of the samples contained uranium concentrations greater than the detection limit (<7.4 pCi/g), but less than the action limit of 100 pCi/g. The uranium concentration of these seventeen samples ranged from 8.1 to 90.7 pCi/g. The remaining twenty-one verification samples contained uranium concentrations at or below the detection limit level of 7.4 pCi/g. One of the samples taken in Zone II contained a uranium concentration greater than the 100 pCi/g action limit. However, this sample was actually collected directly on the STP compound fence-line. The uranium concentration in this sample was 278.2 pCi/g. Ten

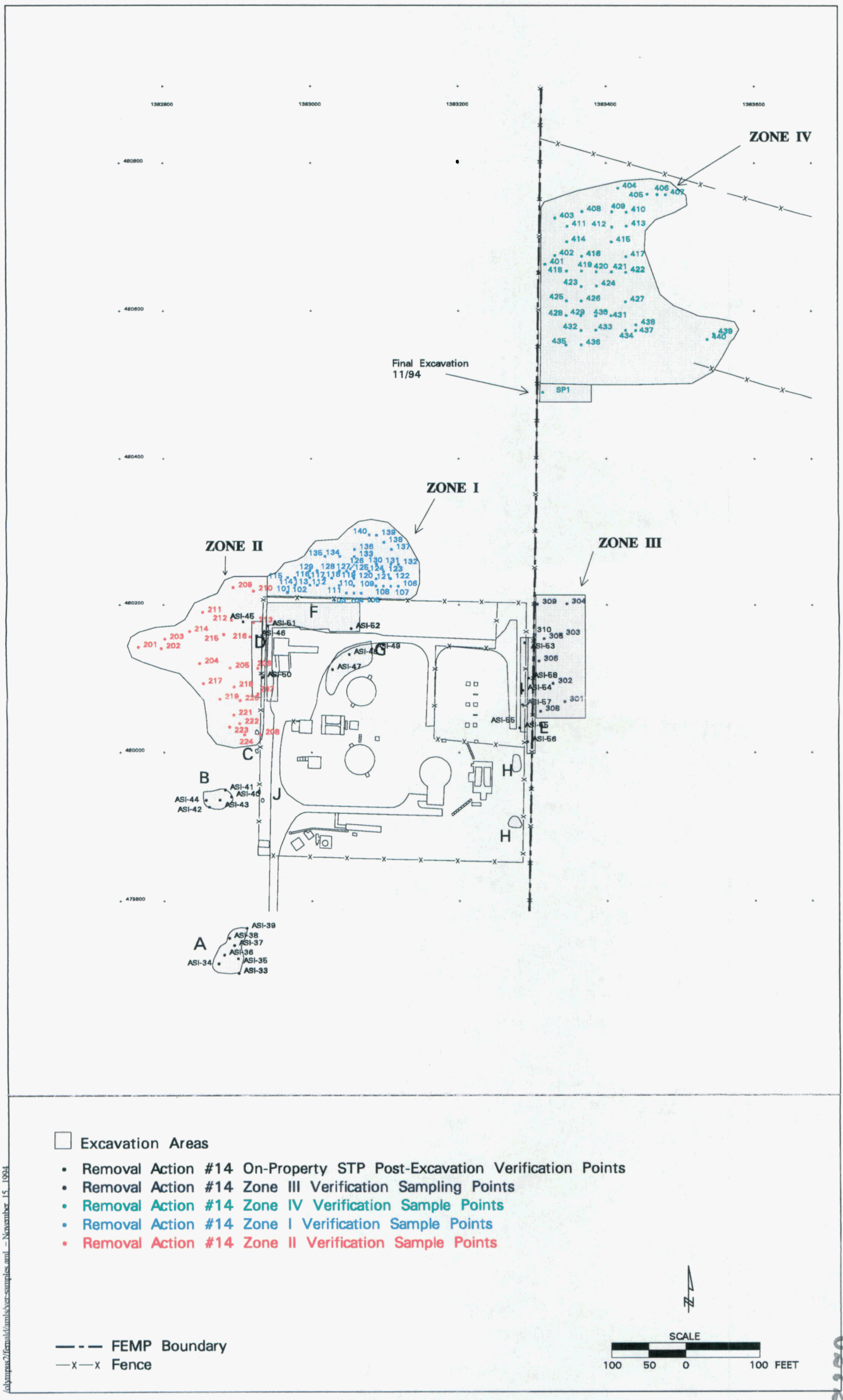

Figure 2-5. Removal Action Post-Excavation Verification Sampling Points.

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of the samples had uranium concentrations ranging from 11.2 to 81.2 pCi/g. The remaining thirteen verification samples contained uranium concentrations at or below the detection limit level of 7.4 pCi/g.

In summary, these verification sampling results (Attachment B.2, Tables B.2-5 and B.2-6) indicate that the removal action criteria for the soil in Zones I and II have been met, except for the two small areas in Zone I mentioned above. Because these points are within limited access controlled areas (fenced with radiation warning and access restriction signs similar to within the STP compound where the 300 pCi/g limit is applied), the potential health risk to on- and off-property personnel associated with this localized residual contamination was determined to be insufficient to warrant further excavation. Therefore, the removal action objectives are considered to be met.

2.3 OFF-PROPERTY ACTIONS

Off-property actions were identified and expanded during the course of field activities as additional information was obtained regarding the extent of soil contamination adjacent to the STPI. Verification soil samples indicate all off-property actions are complete. The timing and sequence of these off-property actions is presented in Table 2-1. Section 2.3.1 discusses characterization measurements and sampling; Section 2.3.2 discusses soil excavation; and 2.3.3 discusses verification sampling for off-property actions.

2.3.1 Characterization Measurements

Off-property characterization was initiated by collecting soil samples from eight "hot spot" locations east of the FEMP property line. All sampling was performed in accordance with the Removal Action Work Plan Sampling and Analysis Plan (Section 3.0 of the RAWP) (WEMCO 1992). These sample locations were identified as STP30 to STP37 and are shown in Figure 2-3. Two of the eight locations, STP34 and STP35, were sampled for the HSL, dioxin, and radionuclides, as listed in Table 2-2, while the other six locations were sampled only for the radionuclides listed in Table 2-2 and total uranium. All analytical results are presented in Attachment B.3, Tables B.3-1 and B.3-2. Only the northernmost sample location (STP30) exceeded the off-property action

level of 35 pCi/g with a total uranium concentration of 58.47 pCi/g. All HSL results were found to be below either the required laboratory quantitation limits or the upper 95 percent tolerance limits for FEMP background soil. No dioxin was found in any sample (FERMCO 1993a). The sampling results also confirmed only radioactive contamination was present. The sampling results from sample locations STP30 to STP37 (Attachment B.3, Tables B.3-1 and B.3-2) indicated that further sampling was required to more accurately define off-property contamination, and provided an indication as to the location of future sampling sites.

Based on the results of the initial soil sampling described above, additional off-property sampling was performed that focused on two areas. The first area was the wooded section northeast of the STPI surrounding sample point STP30 (see Figure 2-3), which exhibited a total uranium concentration exceeding 35 pCi/g. Samples were collected to more clearly define the horizontal and vertical extent of contamination in this area. A 250- by 250-foot grid was established with STP30 as the center. Along this grid, ten sample locations, C1 to C10, were chosen using a random number generator and analyzed for radionuclides listed in Table 2-2 as well as total uranium (FERMCO 1993a).

The other off-property area requiring additional soil sampling was an area immediately adjacent to the FEMP property line, directly east of the STPI. When the on-property 100 pCi/g boundaries were marked, there was an area immediately adjacent to the FEMP property line, on-property, which exceeded 100 pCi/g. Because of the proximity of this 100 pCi/g area, it was deemed appropriate to initiate additional sampling off-property, immediately adjacent to this area. A 50-foot (east to west) by 200-foot (north to south) section was marked into 25-foot grid increments. Ten sample locations, D1 to D10, were selected along this grid and analyzed for radionuclides as well as total uranium. Figure 2-3 shows the locations of these additional off-property soil samples (FERMCO 1993a).

Attachment B.3, Table B.3-3 provides the results of the additional off-property sampling activities. Review of the radiological data for the C-series samples shows several samples within the wooded area that have uranium concentrations greater than the 35 pCi/g action level. Two locations (C-9 and C-10) outside the wooded area also exhibited uranium concentrations greater than 35 pCi/g. Only one location in the D

area, D2, had a uranium concentration greater than 35 pCi/g. Also, locations D2 and D3 were found to have elevated (greater than 5 pCi/g) radium-226 and thorium-230 results (FERMCO 1993a). The sampling results from locations C1 to C10 and D1 to D10 (Attachment B.3, Table B.3-3) were considered in determining the excavation boundaries for Zones III and IV.

An additional walkover survey and follow-up soil sampling was performed for the off-property areas north and east of the STP prior to excavation. The purpose of this additional sampling was to further define the extent and boundaries of potential radiological contamination above the action level, beyond the discrete areas of identified contamination. These additional surveys and samples were conducted to follow-up radiological characterizations previously performed in this area. Survey transects were established northward and eastward from the STPI, in areas which were downwind (prevailing winds) from the STPI (see Figure 2-6). Each of the transects extended eastward from the property boundary with a 100-foot spacing between transects. Transects were not established in the wooded area located just off-property, since radiological contamination had been confirmed in this area, and because of the difficulty in traversing this area with dense understory vegetation (FERMCO 1993a).

The walkover survey was performed by taking 2-minute readings, from five inches above-grade, at 50-foot intervals along each transect, using the top and side-shielded SPA-3 detector. The SPA-3 readings were taken in areas that were free of standing water and that were cleared of vegetation. The results of these survey measurements are presented in Attachment B.3, Table B.3-4. The second consecutive reading that indicated less than 35 pCi/g determined the boundary for a more detailed 25- by 25-foot survey grid as shown in Figure 2-7. After the detailed grid was established, walkover survey measurements were taken at each grid line intersection, again using the shielded SPA-3 detector (as per the initial radiological walkover survey) (FERMCO 1993a). The results of these measurements are presented in Table B.3-4, along with the 50-foot grid results.

Soil samples were collected at the location of the second consecutive survey reading from the FEMP property line that correlated to less than 35 pCi/g to confirm the uranium contamination levels as shown in Figure 2-8. As discussed in Section 2.1.2, it was determined that the NaI survey instrument was not able to provide a reliable

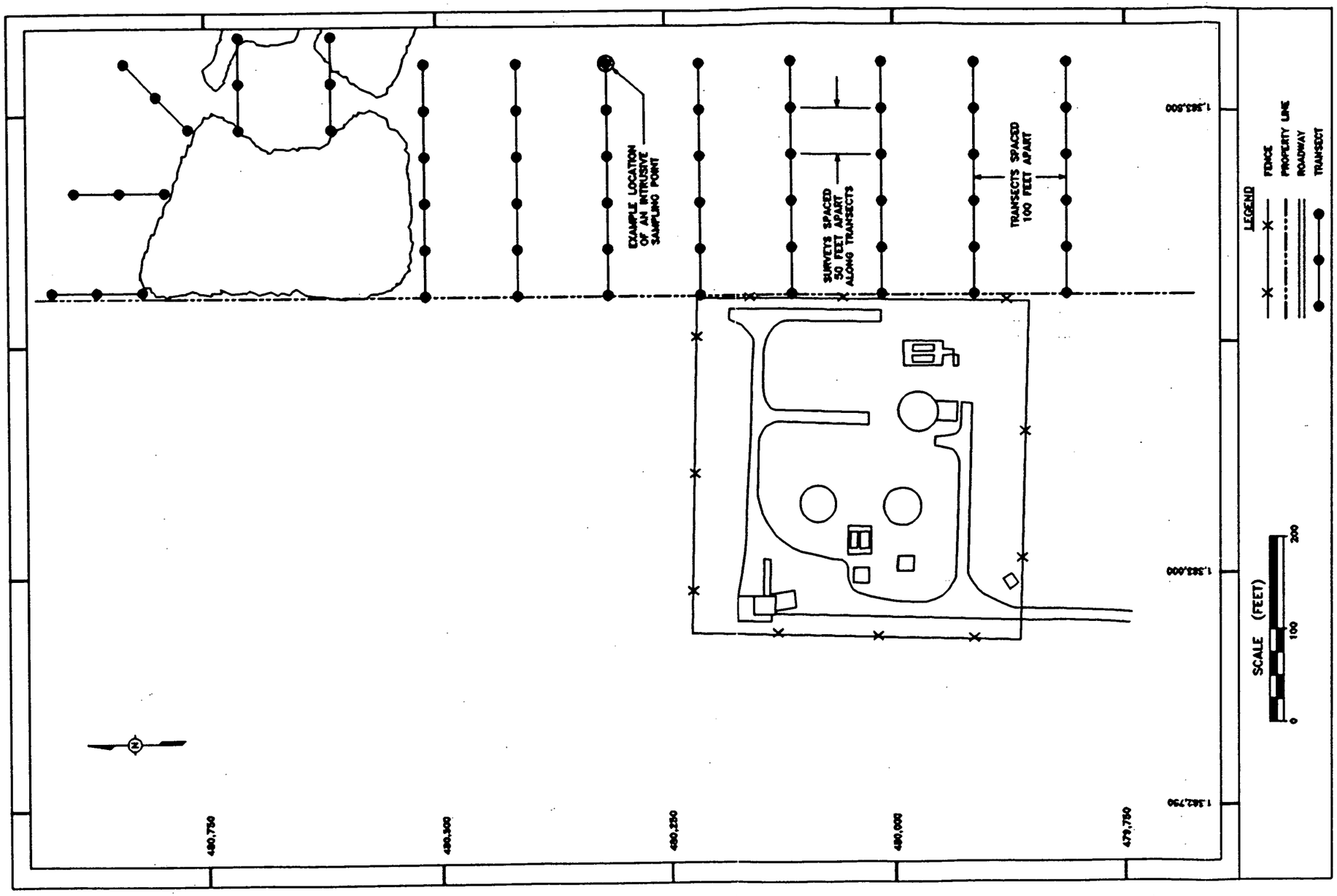

Figure 2-6. Transect Survey Locations to Determine Areal Extent.

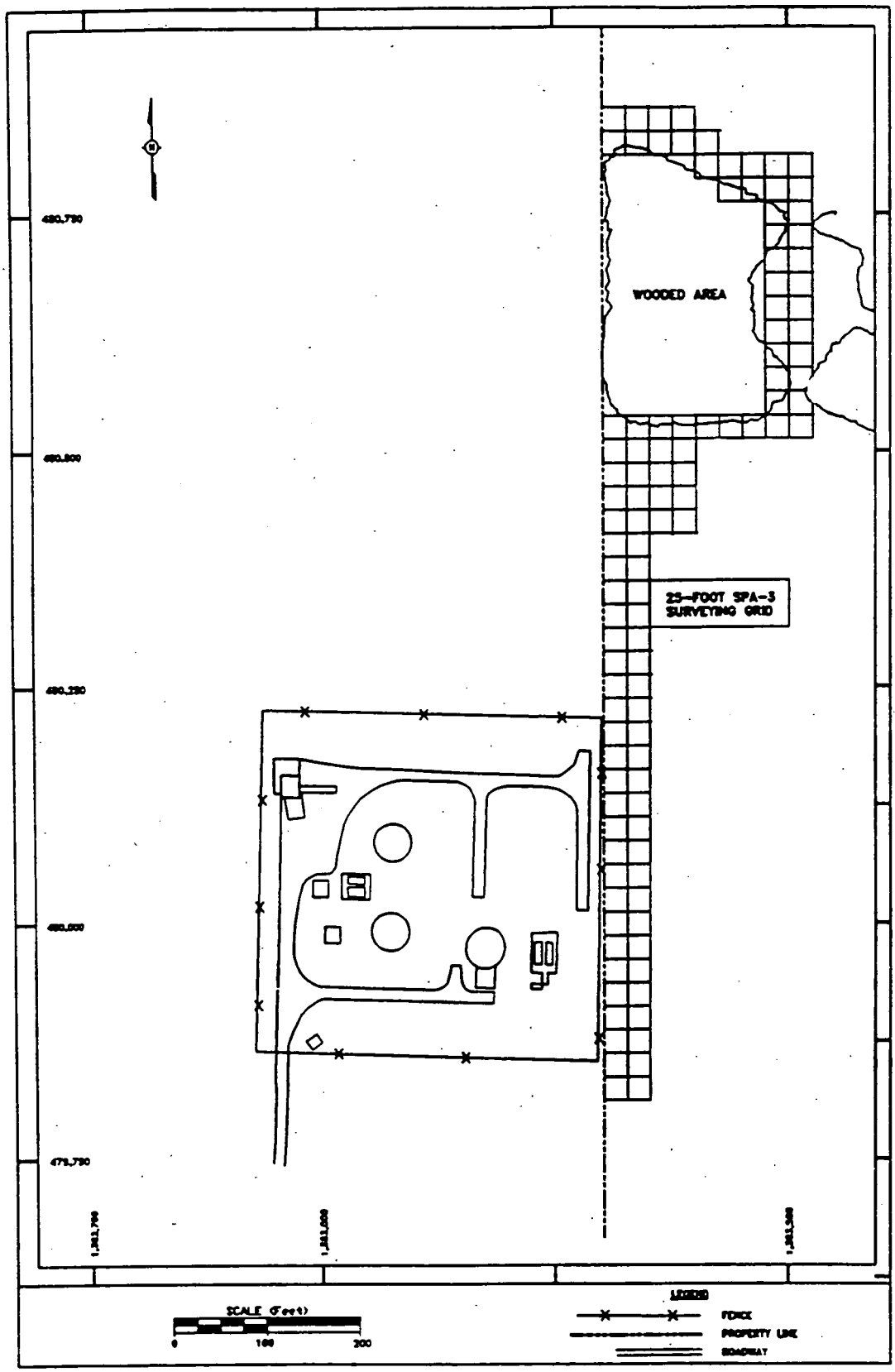

Figure 2-7. Detailed 25- by 25-foot Transect Survey Locations.

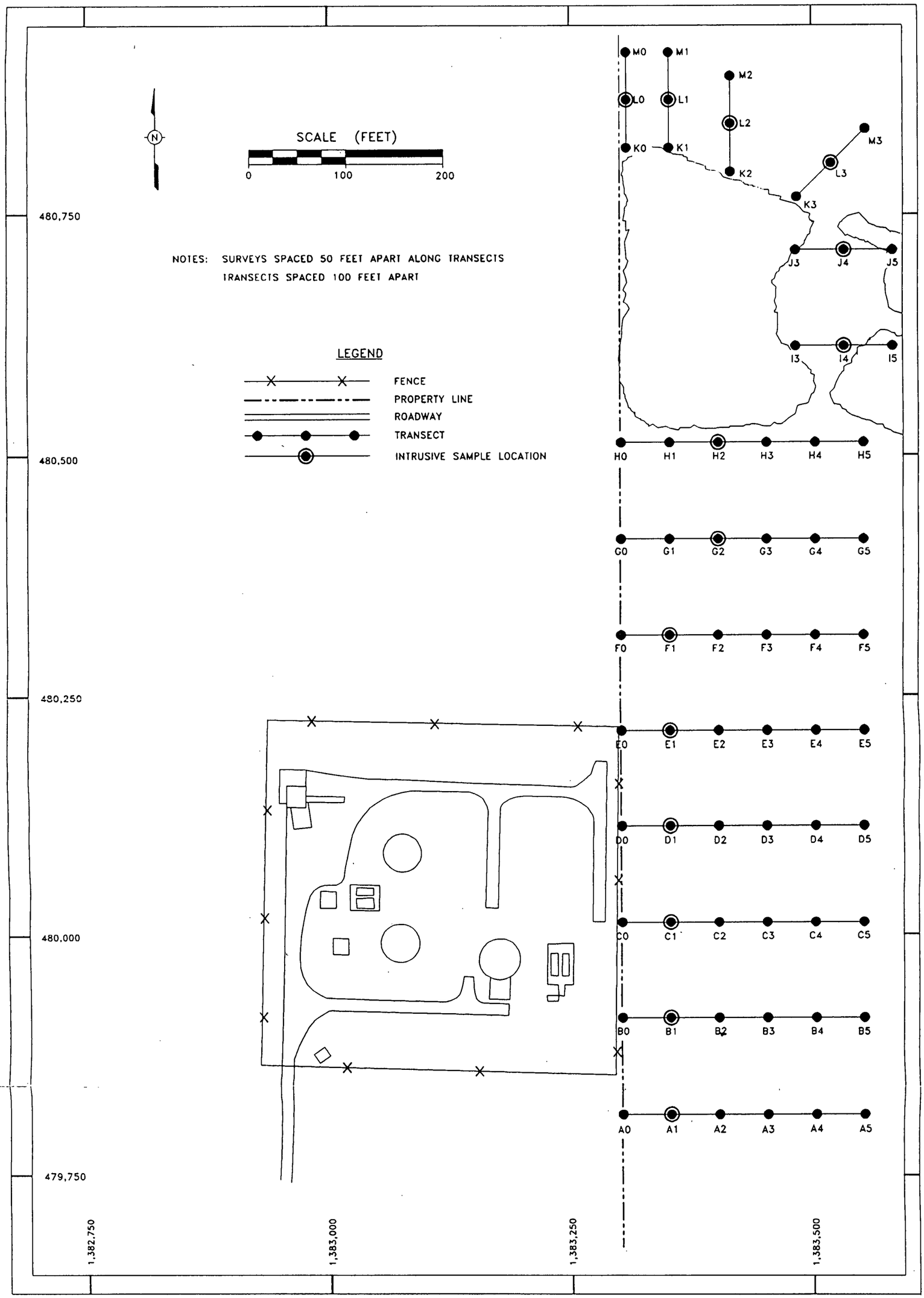

Figure 2-8. Additional Off-Property Soil Sampling Locations.

correlation to total uranium concentration at the 35 pCi/g level. These samples (A1, B1, C1, D1, E1, F1, G2, H2, I4, J4, L3, L2, L1, and L0) were analyzed for the radionuclides specified in Table 2-2. Additionally, samples from two randomly selected locations within the westernmost wooded area and from two locations outside the wooded area were analyzed for TCLP constituents. Samples were collected from the top six inches (") of soil, the 6"-12" layer, the 12"-18" layer, the 18"-24" layer, the 24"-36" layer, and the 36"-48" layer. The last two layers were archived for possible future analysis, depending on results from overlying layers (FERMCO 1993a). Sampling results (Attachment B.3, Table B.3-5) indicated soil uranium concentrations near or below the detection limit of 3.7 pCi/g and no contamination outside of the off-property excavated areas (Zones III and IV).

A final set of soil samples was collected immediately south of Zone IV excavation area. Because this area had been plowed by a private individual following the original sampling, five additional samples were collected in this area (SP-1 through SP-5). Samples SP-1 and -2 were collected from the same locations as previous samples C-9 and C-10. Samples were collected from the top six inches of soil, the 6-12 inch layer, and the 12-18 inch layer. Analysis of these samples revealed uranium concentrations that were less than 35 pCi/g in all cases, with the exception of location SP-1 in the top six inches which indicated a total uranium concentration of 55 pCi/g. The results of the sample analyses are detailed in Attachment B.3, Table B.3-8.

2.3.2 Soil Excavation

The off-property soil sampling discussed in Section 2.3.1 identified areas of elevated uranium concentrations in the soil along the east fenceline of the STP compound (Zone III), in the wooded area (Zone IV) northeast of the STP compound, and in the field south of Zone IV. These three off-property excavation areas are shown on Figure 2-4.

Once excavation boundaries were established, the top six inches of soil in Zone III were excavated with a smooth blade bucket excavator and stockpiled in the northeast corner of the production area of the FEMP, in accordance with Removal Action No. 17 management guidelines. After the top six inches had been removed, additional readings were taken with the shielded SPA-3 within the excavated area. Any reading which exceeded the field action level was marked, and a boundary established for the next six-inch excavation. This excavation proceeded in 6-inch lifts until the soil exhibited

count rates that correlated to a total uranium concentration less than the field action level (35 pCi/g). A total of 700 yd^3 of contaminated soil was excavated from Zone III and stockpiled.

After the Zone IV area was cleared of trees, the uranium contaminated soil was excavated as described for Zone III above. A total of 850 yd^3 of contaminated soil was excavated from Zone IV and stockpiled.

The first round of post-excavation verification soil samples collected within Zone IV indicated residual concentrations of uranium in five locations. The soil in each of the five areas was subsequently excavated as described above. An additional 150 yd^3 of contaminated soil was excavated from Zone IV and stockpiled. The top six inches of soil was also excavated from the area south of Zone IV surrounding sample location SP-1. A total of 40 yd^3 of soil was excavated from this area.

2.3.3 Verification Sampling

The effectiveness of the excavation within Zones III and IV in achieving the action level of 35 pCi/g was determined by collecting and analyzing post-excavation verification samples from within each of the excavated areas. The selection of sample locations was biased to provide representativeness, and to meet the objective that at least one sample was collected at maximum depth. Figure 2-5 shows the post-excavation verification sample locations, 301 to 310 (collected in Zone III) and 401 to 440 (collected in Zone IV). These samples were collected from zero to six inches and submitted to the on-site FEMP laboratory for total uranium analysis.

The results of these samples are shown in Attachment B.3, Table B.3-6. All ten verification samples taken in Zone III were below the detection limit for uranium as discussed in Section 2.3.2. Five of the samples taken in Zone IV contained uranium concentrations greater than the 35 pCi/g action limit. The uranium concentration in these samples ranged from 37 pCi/g to 79 pCi/g. Five more samples contained uranium concentrations greater than background (< 7.4 pCi/g), but less than the action limit of 35 pCi/g. The uranium concentration of these five samples ranged from 11 pCi/g to 35 pCi/g. The remaining thirty verification samples contained uranium concentrations at or below the detection limit of 7.4 pCi/g.

Within Zone IV, an additional set of verification samples was collected to determine the effectiveness of the additional Zone IV excavations described in Section 2.3.2. Figure 2-5 shows the off-property post-excavation verification sample locations, 402, 421, 422, 432, and 435 taken in Zone IV. These five verification samples indicated uranium concentrations less than 7.4 pCi/g (detection limit) as shown in Attachment B.3, Table B.3-6.

The five samples collected south of Zone IV indicate total uranium concentrations less than 7.7 pCi/g (detection limit) as shown in Attachment B.3, Table B.3-8 with the exception of the surface soil at SP-1. Upon removal of the top six inches of soil from this area, no additional verification sampling was performed because the 6"-18" soil samples were less than 7.7 pCi/g. The verification sampling results shown in Attachment B.3, Tables B.3-6, B.3-7, and B.3-8, indicate that the removal action criteria (Total U less than 35 pCi/g) for the soil in Zones III, Zone IV, and the area south of Zone IV have been met.

Section 3

3.0 CONCLUSIONS

The objectives of this removal action were to 1) reduce the potential for contaminant migration to previously uncontaminated areas, and 2) minimize the potential for unacceptable exposure to human or environmental receptors until implementation of final remedial actions.

These objectives were accomplished through 1) the identification and removal of surface soil adjacent to the STP, and 2) establishment of access controls for isolated areas of residual contamination that remain on the FEMP property. Total uranium soil concentration criteria, protective of human health and the environment, were established and applied to off-property areas adjacent to the STP, and to on-property areas within and adjacent to the STP compound. Verification soil sampling and analyses confirmed that removal criteria were met in the off-property excavation areas. Based on the observed relationship of radium and thorium isotope concentrations to the total uranium concentrations, the verification sampling and analysis also provided assurance that radium and thorium removal criteria were met.

Two isolated areas of localized residual contamination remain in on-property excavation Zone I immediately north of the STP compound fence and in one on-property location further north of the compound fence. Because of the on-property location, relatively low radioactivity, and limited areal extent of these isolated areas, the Removal Action No. 14 objectives are met through the maintenance of ongoing access controls for these areas.

To confirm that removal action objective No. 2 has been met, the RSE risk assessment has been updated based on the post-excavation residual soil concentrations. The results of that risk assessment are summarized in Table 3-1, and compared to the original risk results presented in the RSE. The assessment, as detailed in the RSE, assumes that dairy cows are allowed to graze on the contaminated area, and that a farmer spends a portion of each day in the area. It should be noted that the past practice of allowing cows to graze in on-property areas outside the STP compound is no longer permitted.

Table 3-1. Estimated Radiation Doses and Cancer Risks.

Pathway	Pre-Excavation On-Property (mrem/yr)	Post-Excavation On-Property (mrem/yr)	Post-Excavation Off-Property (mrem/yr)
Direct Radiation	3.8	0.54	0.2
Inhalation	4.7	0.05	0.02
Milk Consumption	7.6	0.06	0.02
Total Dose	16	0.65	0.24
Total Risk	3E-06	1E-07	5E-08

As shown in Table 3-1, the calculated off-property radiation doses and cancer risks are a factor of approximately 100 lower than the original RSE estimates, and well below the 1E-06 risk level at which remedial actions are considered. The three on-property locations of elevated residual contamination are included in the post-excavation on-property risks presented in Table 3-1.

The post-excavation (current) levels of total uranium in the soils adjacent to the STPI are summarized on Figure 3-1. Consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the removal action contributed to the efficient performance of projected final remedial actions at the FEMP. The removal action was performed in a way to minimize the potential for releases of hazardous substances incidental to removal field operations and in a cost efficient and safe manner consistent with site SOPs and worker health and safety requirements. All excavation activities associated with Removal Action No. 14 are complete. In the event that further remediation of on-property or off-property soils is determined to be appropriate, such actions will be conducted in accordance with the Operable Unit No. 5 Record of Decision.

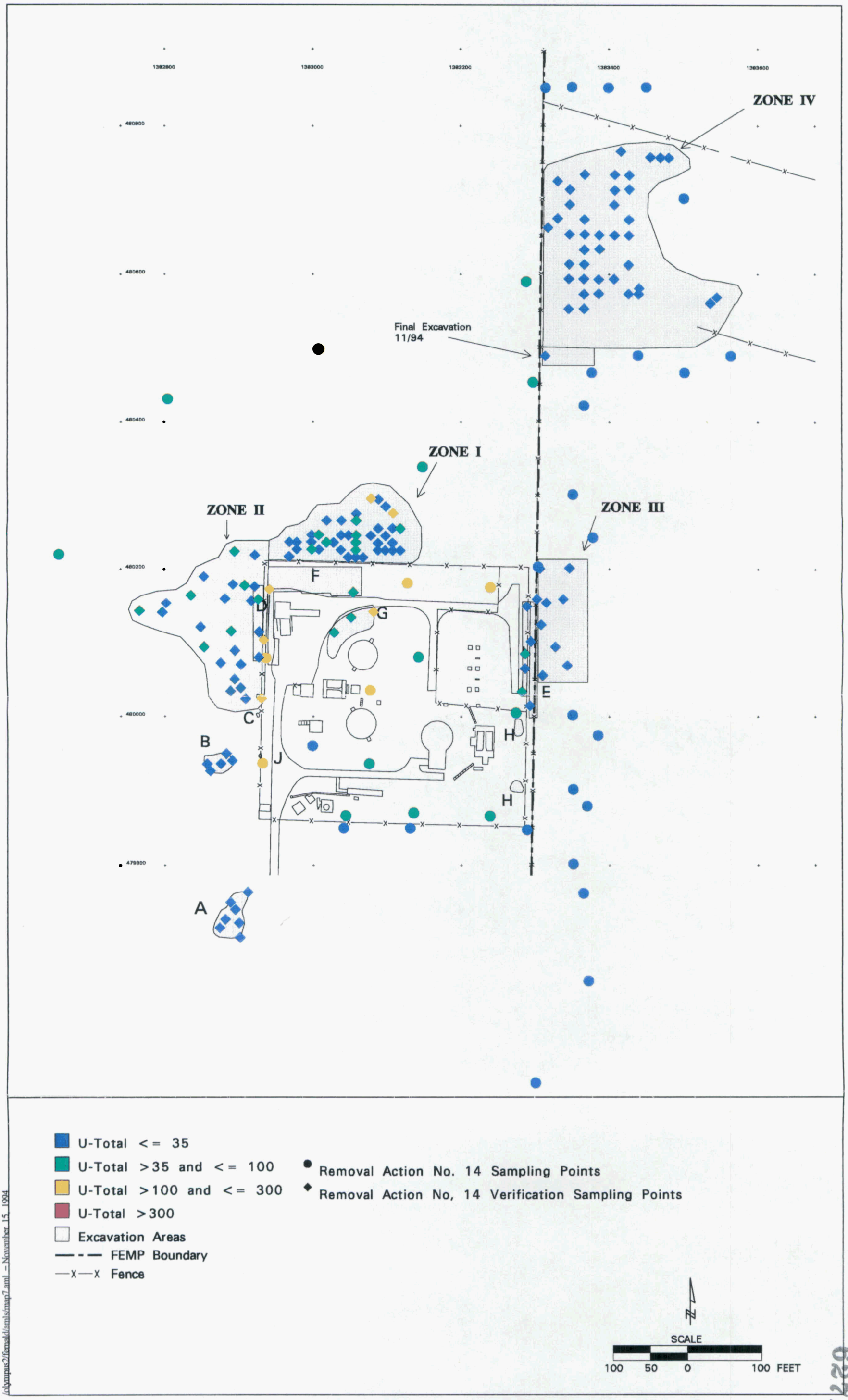

Figure 3-1. Current (Post-Excavation) Total Uranium Concentrations (pCi/g) in Soils Adjacent to the Sewage Treatment Plant Incinerator.

Removal Action No. 14
Contaminated Soils Adjacent
to the Sewage Treatment Plant
Incinerator

/olympus2/fernald/amls/map7.aml - November 15, 1994

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Section 4

4.0 REFERENCES

FERMCO. 1992. Removal Action No. 17 Work Plan, Improved Storage of Soil and Debris. Fernald Environmental Management Project. U.S. Department of Energy.

FERMCO. 1993a. Removal Action No. 14 Work Plan Addendum, Contaminated Soils Adjacent to the Sewage Treatment Plant Incinerator. Revision 2. Fernald Environmental Management Project. U.S. Department of Energy.

FERMCO. 1993b. Removal Action No. 17 Work Plan, Improved Storage of Soil and Debris. Revision 2. Fernald Environmental Management Project. U.S. Department of Energy.

WEMCO. 1990. Removal Site Evaluation to Solid Waste Incinerator at the Sewage Treatment Plant. Feed Materials Production Center. U.S. Department of Energy.

WEMCO. 1992. Removal Action No. 14 Work Plan, Contaminated Soils Adjacent to the Sewage Treatment Plant Incinerator. Fernald Environmental Management Project. U.S. Department of Energy.

WEMCO. 1993. Removal Action No. 14 Work Plan Addendum, Contaminated Soils Adjacent to the Sewage Treatment Plant Incinerator. Fernald Environmental Management Project. U.S. Department of Energy.

Attachment A

ATTACHMENT A

INSTRUMENT CORRELATION DATA

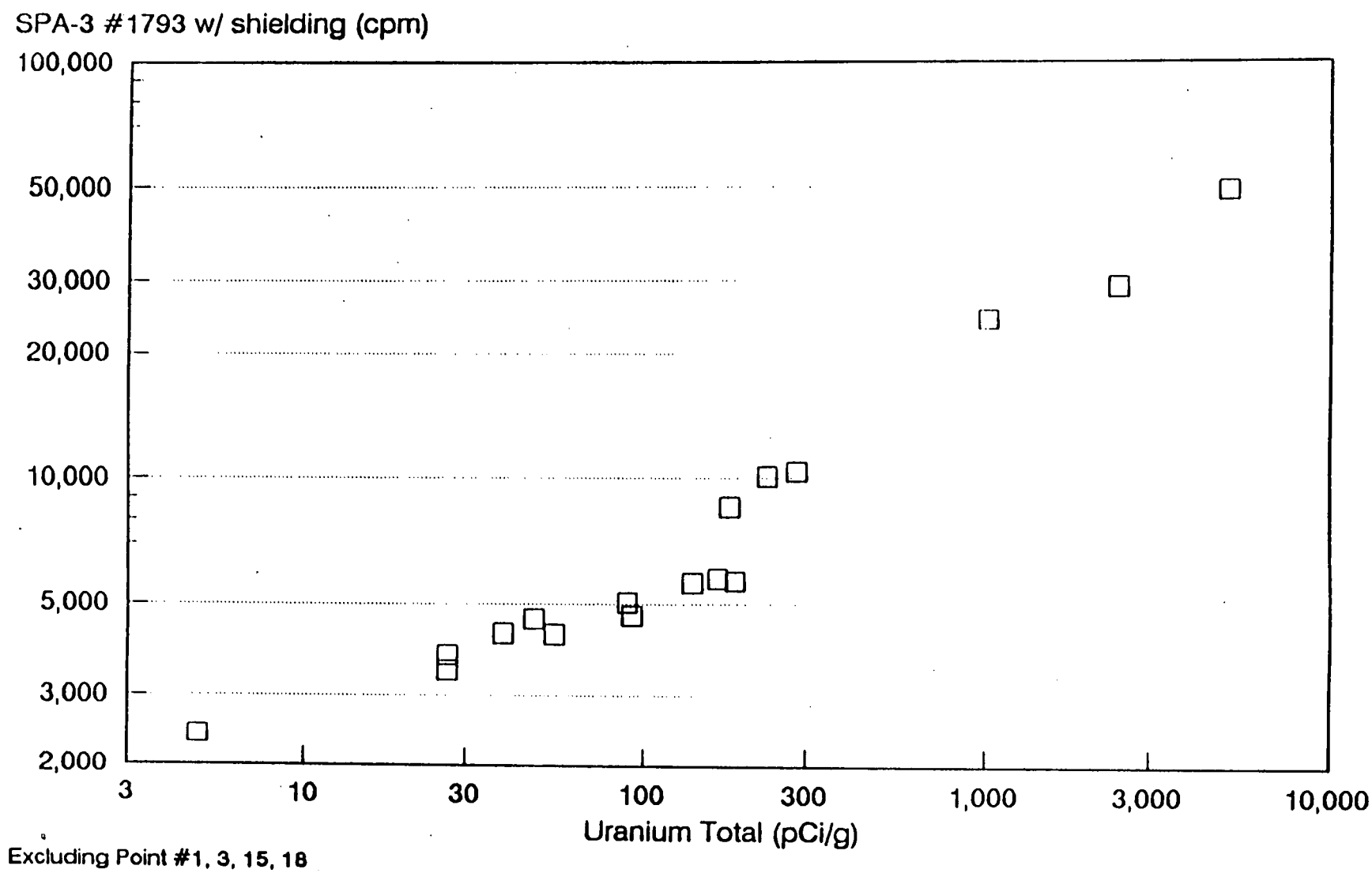

Figure A-1. Initial correlation of total uranium to shielded SPA-3 at FEMP Sewage Treatment Plant.

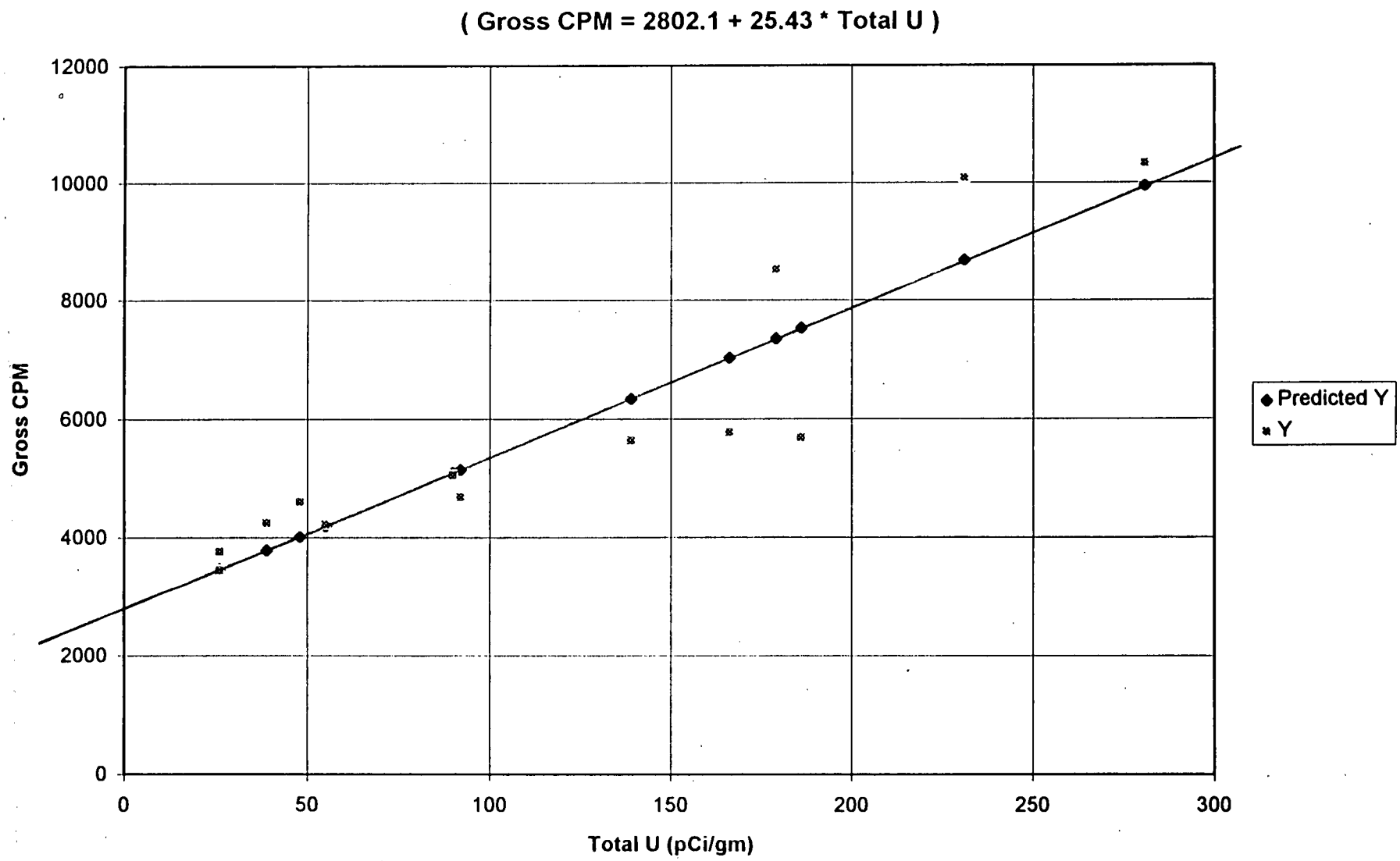

Figure A-2. Total uranium calibration curve for radiation survey instruments at FEMP.

Table A-1. Instrument correlation sample results.

	DESCRIPTION	GROSS CPM	BKG CPM	NET CPM	TOTAL U pCi/g	Th-234 pCi/g	RATIO Th/U	Th-230 pCi/g	Th-230 Ratio	U-235 pCi/g	RATIO 235/238	Ra-226 pCi/g	RATIO Ra226/U238	COMMENTS
1	south outside fence along access road	9567	7900	1667	43	18	0.4	48.9	1.1	1.55	0.04	10.3	2.39E-01	drop HI Ra
2	north inside fence close to incinerator	49250	46200	3050	5073	2289	0.5	0.0	0.0	145	0.03	4.45	8.77E-04	drop HI bkg
3	west outside near fence	15433	13000	2433	82	36	0.4	108.0	1.3	3.2	0.04	27.6	3.38E-01	drop HI Ra
4	south outside fence	3763	2840	923	26	11	0.4	0.0	0.0	0.56	0.02	0.96	3.63E-02	
5	south outside fence	3450	2540	910	26	11	0.4	0.0	0.0	0.78	0.03	1	3.78E-02	
6	southeast outside fence	2410	1670	740	5	2	0.4	0.0	0.0	0.1	0.02	0.73	1.50E-01	drop HI Ra
7	north inside fence close to incinerator	24267	21700	2567	1015	456	0.4	0.0	0.0	27.9	0.03	1.92	1.89E-03	drop Hi bkg
8	nw corner of fence	4250	3140	1110	39	15	0.4	0.0	0.0	1.05	0.03	0.94	2.44E-02	
9	north inside fence further from incinerator than 2 7 10	5683	4430	1253	186	86	0.5	0.0	0.0	4.74	0.03	1.11	5.96E-03	
10	north inside fence close to incinerator	29067	26400	2667	2427	1234	0.5	0.0	0.0	67.9	0.03	2.91	1.20E-03	drop HI bkg
11	northeast outside fence	4680	3710	970	92	37	0.4	0.0	0.0	2.27	0.02	1.11	1.20E-02	
12	north outside fence	5052	3950	1102	90	33	0.4	0.0	0.0	2.65	0.03	1.05	1.17E-02	
13	northwest outside fence	4608	3490	1118	48	21	0.4	0.0	0.0	1.08	0.02	1	2.11E-02	
14	west at fence near incinerator	10083	8000	2083	231	109	0.5	0.0	0.0	5.73	0.02	1.57	6.81E-03	
15	west outside near fence	13717	11600	2117	78	29	0.4	67.6	0.9	3	0.04	18.5	2.36E-01	drop HI Ra
16	west outside far from fence	4227	3200	1027	55	21	0.4	0.0	0.0	1.44	0.03	0.92	1.69E-02	
17	west at fence near incinerator	10333	8460	1873	281	111	0.4	0.0	0.0	7.41	0.03	2	7.11E-03	
18	south outside fence along access road	6933	5330	1603	35	14	0.4	28.0	0.8	1.07	0.03	5.61	1.63E-01	drop HI Ra
19	north inside fence further from incinerator	5767	4530	1237	166	74	0.4	0.0	0.0	4.04	0.02	1.23	7.43E-03	
20	northwest at fence near incinerator	5633	4430	1203	139	63	0.4	0.0	0.0	3.6	0.03	1.17	8.39E-03	
21	west near outside fence near incinerator	8517	7020	1497	179	84	0.5	0.0	0.0	4.35	0.02	1.13	6.32E-03	

Attachment B.1

ATTACHMENT B.1

WHITE METAL BOX SAMPLING DATA

Table B.1-1. Containerized (white metal boxes) soil radiological sampling data.

Sample ID #	Matrix	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235 (pCi/g)	U-236 (pCi/g)	U-238 (pCi/g)	Total U (μg/g)	Total Th (μg/g)
930504-016	Soil	<3.8	1.9	2.3	5.4	2.2	86	4.0	0.66	85	<18	255
930504-017	Soil	<3.8	1.3	2.5	33	3.6	180	7.9	1.7	180	<18	530
930504-018	Soil	8.2	0.34	1.0	12	1.4	3.2	0.17	0.021	3.7	<18	11
930504-019	Soil	4.1	0.55	1.8	11	2.0	5.4	0.30	<0.013	6.7	<18	20
930504-020	Soil	21	0.48	0.97	37	1.1	29	1.5	0.11	32	<18	96
930504-021	Soil	24	0.49	1.1	46	1.7	30	1.8	<0.075	39	<18	116
930504-022	Soil	22	0.58	1.1	37	1.6	31	1.3	0.13	28	<18	83
930504-023	Soil	1.4	1.7	4.7	12	4.1	230	12	2.6	240	21	722
930504-024	Soil	1.6	2.2	5.4	15	4.6	250	14	3.0	290	21	866
930504-025	Soil	4.4	0.24	0.74	11	0.80	<3.8	<0.17	<0.023	<3.7	<18	<11
930504-026	Soil	5.4	0.55	1.3	1.3	1.3	<0.69	<0.17	<0.0071	<3.7	<18	<11
930504-027	Soil	29	0.54	0.85	52	1.0	38	2.1	0.37	45	<18	136
930504-028	Soil	21	0.39	0.89	44	1.3	41	1.8	0.29	39	<18	116
930503-081	Soil	6.9	0.37	1.7	16.0	1.9	7.8	0.5	0.058	11.0	32	<18
930503-082	Soil	9.8	0.36	1.8	21.0	2.1	8.4	0.5	0.071	11.0	32	<18
930503-083	Soil	<0.30	1.1	2.4	2.1	1.8	100	4.8	1.1	100	307	<18
930503-084	Soil	1.7	1.0	1.8	2.2	1.8	120	6.0	1.3	130	381	20
930503-085	Soil	84	<1.2	5.1	200	8.8	150	8.5	<0.36	190	560	<45
930503-086	Soil	58	<1.1	6.2	140	6.0	160	8.3	<0.36	180	550	<45
930503-087	Soil	<3.7	4.6	24	74	22	600	40	10	880	2,630	53
930503-088	Soil	<3.7	3.5	25	79	21	790	35	15	760	2,280	<45
930503-089	Soil	1.0	0.57	1.6	7.8	1.9	54	2.5	0.7	56	167	<18
930503-090	Soil	1.1	0.59	1.3	2.7	1.6	26	1.4	0.098	31	92	<18
930503-091	Soil	2.7	0.13	1.8	6.1	1.3	6.2	0.4	0.022	8.7	26	<18

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Table B.1-1. Containerized (white metal boxes) soil radiological sampling data.

Sample ID #	Matrix	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235 (pCi/g)	U-236 (pCi/g)	U-238 (pCi/g)	Total U (μg/g)	Total Th (μg/g)
930503-092	Soil	4.3	0.16	0.91	8.7	1.1	3.9	0.39	0.023	8.7	26	<18
930503-093	Soil	21	0.35	1.4	26.0	1.8	19	0.89	0.069	19	57	<18
930503-094	Soil	22	0.32	1.7	29.0	2.8	18	0.84	0.12	18	54	<18
930503-095	Soil	7.0	0.70	1.3	22.0	1.9	4.5	0.22	0.029	4.7	14	<18
930503-096	Soil	9.4	0.54	1.4	16	1.9	4.0	0.19	0.028	4.0	12	<18
930503-097	Soil	5.9	1.2	6.9	16	5.4	320	15	1.6	320	960	<45
930503-098	Soil	<3.6	1.6	4.9	20	3.8	230	11	1.2	240	730	<45
930503-099	Soil	2.7	1.4	4.9	20	3.8	150	8.7	0.78	190	568	<18
930503-100	Soil	3.7	1.5	3.8	5.9	3.6	140	6.5	1.1	140	417	19
930503-101	Soil	1.7	1.6	4.1	6.7	3.3	140	6.4	1.0	140	417	21
930503-102	Soil	20	0.49	1.8	39	1.6	42	2.1	<0.085	44	132	<18
930503-103	Soil	14	0.58	1.4	36	1.8	37	1.7	0.075	36	109	<18
930503-104	Soil	1.2	0.99	2.0	5.8	2.1	95	4.8	0.92	100	304	<18
930503-105	Soil	<0.34	0.70	3.1	5.6	2.4	68	4.0	0.97	85	256	<18

1/ Measured in pounds per gallon.
Shaded values indicate a detection.

Table B.1-2. Containerized (white metal boxes) soil HSL sampling data from Areas A through J.

Analyte	Units	Sample # 103654		Sample # 103655		Sample # 103657	
Pesticides							
2,3,7,8-TCDD	(ng/g)	N/A		<0.048	U		
Inorganics							
Aluminum	(mg/kg)	**12,900**		N/A		**17,000**	
Antimony	(mg/kg)	<14.2	UJ	N/A		<14.2	UJ
Arsenic	(mg/kg)	13.7	R	N/A		28.4	R
Barium	(mg/kg)	**79.2**		N/A		**78.7**	
Beryllium	(mg/kg)	**0.52**		N/A		**0.65**	
Cadmium	(mg/kg)	<1.2	U	N/A		<1.2	U
Calcium	(mg/kg)	**30,800**		N/A		**14,200**	
Chromium	(mg/kg)	**15.9**		N/A		**20.5**	
Cobalt	(mg/kg)	**8.9**		N/A		**9.8**	
Copper	(mg/kg)	**17.9**		N/A		**18.9**	
Iron	(mg/kg)	**21,100**		N/A		**25,900**	
Lead	(mg/kg)	**15.5**		N/A		**16.4**	
Magnesium	(mg/kg)	**14,000**	J	N/A		**7,150**	J
Manganese	(mg/kg)	**435**	J	N/A		**343**	J
Mercury	(mg/kg)	<0.06	U	N/A		<0.06	U
Molybdenum	(mg/kg)	<11.8	U	N/A		<11.8	U
Nickel	(mg/kg)	**20.1**		N/A		**22.7**	
Potassium	(mg/kg)	**1,240**		N/A		**1,360**	
Selenium	(mg/kg)	<0.24	UJ	N/A		<0.29	UJ
Silicon	(mg/kg)	**3,920**		N/A		**3,230**	
Silver	(mg/kg)	<0.95	U	N/A		<0.94	U
Sodium	(mg/kg)	<78.3	U	N/A		<74.1	U
Thallium	(mg/kg)	**0.47**		N/A		<0.24	U
Vanadium	(mg/kg)	**25.7**		N/A		**32.7**	
Zinc	(mg/kg)	**54.7**		N/A		**61.3**	
Cyanide	(mg/kg)	<0.59	U	N/A		<0.59	U
Semi-Volatile Organics							
1,2,4-Trichlorobenzene	(μg/kg)	<400	U	N/A		<400	U

Table B.1-2. Containerized (white metal boxes) soil HSL sampling data from Areas A through J.

Analyte	Units	Sample # 103654		Sample # 103655	Sample # 103657	
1,2-Dichlorobenzene	(μg/kg)	<400	U	N/A	<400	U
1,3-Dichlorobenzene	(μg/kg)	<400	U	N/A	<400	U
1,4-Dichlorobenzene	(μg/kg)	<400	U	N/A	<400	U
2,4,5-Trichlorophenol	(μg/kg)	<960	U	N/A	<400	U
2,4,6-Trichlorophenol	(μg/kg)	<400	U	N/A	<400	U
2,4-Dichlorophenol	(μg/kg)	<400	U	N/A	<400	U
2,4-Dimethylphenol	(μg/kg)	<400	U	N/A	<400	U
2,4-Dinitrophenol	(μg/kg)	<960	U	N/A	<960	U
2,4-Dinitrotoluene	(μg/kg)	<400	U	N/A	<400	U
2,6-Dinitrotoluene	(μg/kg)	<400	U	N/A	<400	U
2-Chloronaphthalene	(μg/kg)	<400	U	N/A	<400	U
2-Chlorophenol	(μg/kg)	<400	U	N/A	N/A	
2-Methylnapthalene	(μg/kg)	<400	U	N/A	N/A	
2-Methylphenol	(μg/kg)	<400	U	N/A	N/A	
2-Nitroaniline	(μg/kg)	<960	U	N/A	N/A	
2-Nitrophenol	(μg/kg)	<400	U	N/A	N/A	
3,3'-Dichlorobenzidine	(μg/kg)	<400	UJ	N/A	N/A	
3-Nitroaniline	(μg/kg)	<960	UJ	N/A	N/A	
4,6-Dinitro-2-methylphenol	(μg/kg)	<960	U	N/A	N/A	
4-Bromophenyl phenyl ether	(μg/kg)	<400	U	N/A	N/A	
4-Chloro-3-methylphenol	(μg/kg)	<400	U	N/A	N/A	
4-Chloroaniline	(μg/kg)	<400	UJ	N/A	N/A	
4-Chlorophenyl phenyl ether	(μg/kg)	<400	U	N/A	N/A	
4-Methylphenol	(μg/kg)	<400	U	N/A	N/A	
4-Nitroaniline	(μg/kg)	<960	UJ	N/A	N/A	
4-Nitrophenol	(μg/kg)	<960	U	N/A	N/A	
Acenaphthene	(μg/kg)	<400	U	N/A	N/A	
Acenaphthylene	(μg/kg)	<400	U	N/A	N/A	
Anthracene	(μg/kg)	<400	U	N/A	N/A	
Benzo(a)anthracene	(μg/kg)	<400	U	N/A	N/A	
Benzo(a)pyrene	(μg/kg)	<400	U	N/A	N/A	

Table B.1-2. Containerized (white metal boxes) soil HSL sampling data from Areas A through J.

Analyte	Units	Sample # 103654		Sample # 103655	Sample # 103657
Benzo(b)fluoranthene	(μg/kg)	<400	U	N/A	N/A
Benzo(g,h,i)perylene	(μg/kg)	<400	U	N/A	N/A
Benzo(k)fluoranthene	(μg/kg)	<400	U	N/A	N/A
Butyl benzyl phthalate	(μg/kg)	<400	UJ	N/A	N/A
Carbazole	(μg/kg)	<400	UJ	N/A	N/A
Chrysene	(μg/kg)	**45**	J	N/A	N/A
Di-n-butyl phthalate	(μg/kg)	<400	U	N/A	N/A
Di-n-octyl phthalate	(μg/kg)	<400	UJ	N/A	N/A
Dibenzo(a,h)anthracene	(μg/kg)	<400	U	N/A	N/A
Dibenzofuran	(μg/kg)	<400	U	N/A	N/A
Diethyl phthalate	(μg/kg)	<400	U	N/A	N/A
Dimethyl phthalate	(μg/kg)	<400	U	N/A	N/A
Fluoranthene	(μg/kg)	**73**	J	N/A	N/A
Fluorene	(μg/kg)	<400	U	N/A	N/A
Hexachlorobenzene	(μg/kg)	<400	U	N/A	N/A
Hexachlorobutadiene	(μg/kg)	<400	U	N/A	N/A
Hexachlorocyclopentadiene	(μg/kg)	<400	U	N/A	N/A
Hexachloroethane	(μg/kg)	<400	U	N/A	N/A
Indeno(1,2,3-cd)pyrene	(μg/kg)	<400	U	N/A	N/A
Isophorone	(μg/kg)	<400	U	N/A	N/A
N-Nitroso-di-n-propylamine	(μg/kg)	<400	U	N/A	N/A
N-Nitrosodiphenylamine	(μg/kg)	<400	UJ	N/A	N/A
Naphthalene	(μg/kg)	<400	U	N/A	N/A
Nitrobenzene	(μg/kg)	<400	U	N/A	N/A
Pentachlorophenol	(μg/kg)	<960	U	N/A	N/A
Phenanthrene	(μg/kg)	**49**	J	N/A	N/A
Phenol	(μg/kg)	<400	U	N/A	N/A
Pyrene	(μg/kg)	**63**	J	N/A	N/A
bis(2-Chloroethoxy) methane	(μg/kg)	<400	U	N/A	N/A
bis(2-Chloroethyl) ether	(μg/kg)	<400	U	N/A	N/A
bis(2-Chloroisopropyl) ether	(μg/kg)	<400	U	N/A	N/A

Table B.1-2. Containerized (white metal boxes) soil HSL sampling data from Areas A through J.

Analyte	Units	Sample # 103654		Sample # 103655	Sample # 103657
bis(2-Ethylhexyl) phthalate	(μg/kg)	<400	UJ	N/A	N/A
Volatile Organics					
1,1,1-Trichloroethane	(μg/kg)	<12	U	N/A	N/A
1,1,2,2-Tetrachloroethane	(μg/kg)	<12	U	N/A	N/A
1,1,2-Trichloroethane	(μg/kg)	<12	U	N/A	N/A
1,1-Dichloroethane	(μg/kg)	<12	U	N/A	N/A
1,1-Dichloroethene	(μg/kg)	<12	U	N/A	N/A
1,2-Dichloroethane	(μg/kg)	<12	UJ	N/A	N/A
1,2-Dichloroethylene	(μg/kg)	<12	U	N/A	N/A
1,2-Dichloropropane	(μg/kg)	<12	U	N/A	N/A
2-Butanone	(μg/kg)	<12	UJ	N/A	N/A
2-Hexanone	(μg/kg)	<12	U	N/A	N/A
4-Methyl-2-pentanone	(μg/kg)	<12	U	N/A	N/A
Acetone	(μg/kg)	<12	UJ	N/A	N/A
Benzene	(μg/kg)	<12	U	N/A	N/A
Bromodichloromethane	(μg/kg)	<12	U	N/A	N/A
Bromoform	(μg/kg)	<12	U	N/A	N/A
Bromomethane	(μg/kg)	<12	U	N/A	N/A
Carbon Tetrachloride	(μg/kg)	<12	U	N/A	N/A
Carbon disulfide	(μg/kg)	<12	U	N/A	N/A
Chlorobenzene	(μg/kg)	<12	U	N/A	N/A
Chloroethane	(μg/kg)	<12	U	N/A	N/A
Chloroform	(μg/kg)	<12	U	N/A	N/A
Chloromethane	(μg/kg)	<12	U	N/A	N/A
Dibromochloromethane	(μg/kg)	<12	U	N/A	N/A
Ethylbenzene	(μg/kg)	<12	U	N/A	N/A
Methylene chloride	(μg/kg)	<12	U	N/A	N/A
Styrene	(μg/kg)	<12	U	N/A	N/A
Tetrachloroethane	(μg/kg)	<12	U	N/A	N/A
Toluene	(μg/kg)	<12	U	N/A	N/A
Total xylenes	(μg/kg)	<12	U	N/A	N/A

Table B.1-2. Containerized (white metal boxes) soil HSL sampling data from Areas A through J.

Analyte	Units	Sample # 103654		Sample # 103655	Sample # 103657
Trichloroethane	(μg/kg)	<12	U	N/A	N/A
Vinyl Acetate	(μg/kg)	<12	U	N/A	N/A
Vinyl chloride	(μg/kg)	<12	U	N/A	N/A
cis-1,3-Dichloropropene	(μg/kg)	<12	U	N/A	N/A
trans-1,3-Dichloropropene	(μg/kg)	<12	U	N/A	N/A

N/A No Analysis
U Analyte concentration was not greater than the minimum detectable concentration (MDC) reported for the method.
J Analyte concentration was detected at a level greater than the MDC, but deficiencies in data quality make the detection estimated.
R Deficiencies in data quality make the results unusable.
UJ Analyte concentration was not greater than the MDC, but deficiencies in data quality make the nondetect estimated.
Bolded values indicate a detection

Table B.1-3a. Containerized (white metal boxes) soil sampling TCLP data.

Analyte (ppm)	Sample # 930504-016	Sample # 930504-017
INORGANICS		
Arsenic	<0.02	<0.02
Barium	**0.57**	**0.56**
Cadmium	<0.02	<0.02
Chromium	<0.09	<0.09
Lead	<0.14	<0.14
Mercury	<0.001	<0.001
Selenium	<0.01	<0.01
Silver	<0.05	<0.05
VOLATILE ORGANICS		
Vinyl Chloride	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08
2-Butanone	<0.33	<0.33
Chloroform	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08
Benzene	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08
Trichloroethylene	<0.08	<0.08
Chlorobenzene	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17
SEMI-VOLATILE ORGANICS		
Pyridine	<0.04	<0.04
Hexachloroethane	<0.04	<0.04
Nitrobenzene	<0.04	<0.04
o-Cresol	<0.04	<0.04
m,p-Cresol	<0.04	<0.04
Hexachlorobutadiene	<0.04	<0.04
2,4,6-Trichlorophenol	<0.04	<0.04
2,4,5-Trichlorophenol	<0.04	<0.04
2,4-Dinitrotoluene	<0.04	<0.04
Hexachlorobenzene	<0.04	<0.04
Pentachlorophenol	<0.04	<0.04

Table B.1-3b. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-018	Sample # 930504-019	Sample # 930504-020	Sample # 930504-021	Sample # 930504-022
INORGANICS					
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	**0.36**	**0.61**	**0.55**	**0.53**	**0.77**
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.09	<0.09	<0.09	<0.09	<0.09
Lead	<0.14	<0.14	<0.14	<0.14	**0.17**
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.05	<0.05	<0.05	<0.05	<0.05
VOLATILE ORGANICS					
Vinyl Chloride	<0.17	<0.17	<0.17	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
2-Butanone	<0.33	<0.33	<0.33	<0.33	<0.33
Chloroform	<0.08	<0.08	<0.08	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08	<0.08	<0.08	<0.08
Benzene	<0.08	<0.08	<0.08	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08	<0.08	<0.08	<0.08
Trichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
Chlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17
SEMI-VOLATILE ORGANICS					
Pyridine	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachloroethane	<0.04	<0.04	<0.04	<0.04	<0.04
Nitrobenzene	<0.04	<0.04	<0.04	<0.04	<0.04

Table B.1-3b. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-018	Sample # 930504-019	Sample # 930504-020	Sample # 930504-021	Sample # 930504-022
o-Cresol	<0.04	<0.04	<0.04	<0.04	<0.04
m,p-Cresol	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachlorobutadiene	<0.04	<0.04	<0.04	<0.04	<0.04
2,4,6-Trichlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04
2,4,5-Trichlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04
2,4-Dinitrotoluene	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachlorobenzene	<0.04	<0.04	<0.04	<0.04	<0.04
Pentachlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04

Table B.1-3c. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-023	Sample # 930504-024	Sample # 930504-025	Sample # 930504-026	Sample # 930504-027
INORGANICS					
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	**0.54**	**0.49**	**0.59**	**0.54**	**0.67**
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.09	<0.09	<0.09	<0.09	<0.09
Lead	<0.14	<0.14	<0.14	<0.14	<0.14
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.05	<0.05	<0.05	<0.05	<0.05
VOLATILE ORGANICS					
Vinyl Chloride	<0.17	<0.17	<0.17	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
2-Butanone	<0.33	<0.33	<0.33	<0.33	<0.33
Chloroform	<0.08	<0.08	<0.08	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08	<0.08	<0.08	<0.08
Benzene	<0.08	<0.08	<0.08	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08	<0.08	<0.08	<0.08
Trichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
Chlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17
SEMI-VOLATILE ORGANICS					
Pyridine	<0.04	<0.04	<0.04	<0.40	<0.04
Hexachloroethane	<0.04	<0.04	<0.04	<0.40	<0.04
Nitrobenzene	<0.04	<0.04	<0.04	<0.40	<0.04

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Table B.1-3c. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-023	Sample # 930504-024	Sample # 930504-025	Sample # 930504-026	Sample # 930504-027
o-Cresol	<0.04	<0.04	<0.04	<0.40	<0.04
m,p-Cresol	<0.04	<0.04	<0.04	<0.40	<0.04
Hexachlorobutadiene	<0.04	<0.04	<0.04	<0.40	<0.04
2,4,6-Trichlorophenol	<0.04	<0.04	<0.04	<0.40	<0.04
2,4,5-Trichlorophenol	<0.04	<0.04	<0.04	<0.40	<0.04
2,4-Dinitrotoluene	<0.04	<0.04	<0.04	<0.40	<0.04
Hexachlorobenzene	<0.04	<0.04	<0.04	<0.40	<0.04
Pentachlorophenol	<0.04	<0.04	<0.04	<0.40	<0.04

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Table B.1-3d. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-028	Sample # 930504-081
INORGANICS		
Arsenic	<0.02	<0.02
Barium	**0.72**	**0.53**
Cadmium	<0.02	<0.02
Chromium	<0.09	<0.09
Lead	<0.14	<0.14
Mercury	<0.001	<0.001
Selenium	<0.01	<0.01
Silver	<0.05	<0.05
VOLATILE ORGANICS		
Vinyl Chloride	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08
2-Butanone	<0.33	<0.33
Chloroform	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08
Benzene	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08
Trichloroethylene	<0.08	<0.08
Chlorobenzene	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17
SEMI-VOLATILE ORGANICS		
Pyridine	<0.04	<0.04
Hexachloroethane	<0.04	<0.04
Nitrobenzene	<0.04	<0.04
o-Cresol	<0.04	<0.04
m,p-Cresol	<0.04	<0.04
Hexachlorobutadiene	<0.04	<0.04
2,4,6-Trichlorophenol	<0.04	<0.04
2,4,5-Trichlorophenol	<0.04	<0.04
2,4-Dinitrotoluene	<0.04	<0.04
Hexachlorobenzene	<0.04	<0.04
Pentachlorophenol	<0.04	<0.04

Table B.1-3e. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-082	Sample # 930504-083	Sample # 930504-084	Sample # 930504-085	Sample # 930504-086
INORGANICS					
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	**0.47**	**0.85**	**0.96**	**0.56**	**0.54**
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.09	<0.09	<0.09	<0.09	<0.09
Lead	<0.14	**0.22**	<0.14	<0.14	<0.14
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.05	<0.05	<0.05	<0.05	<0.05
VOLATILE ORGANICS					
Vinyl Chloride	<0.17	<0.17	<0.17	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
2-Butanone	<0.33	<0.33	<0.33	<0.33	<0.33
Chloroform	<0.08	<0.08	<0.08	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08	<0.08	<0.08	<0.08
Benzene	<0.08	<0.08	<0.08	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08	<0.08	<0.08	<0.08
Trichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
Chlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17
SEMI-VOLATILE ORGANICS					
Pyridine	<0.04	**0.14**	<0.04	<0.04	<0.04
Hexachloroethane	<0.04	**0.46**	<0.04	<0.04	<0.04
Nitrobenzene	<0.04	**0.10**	<0.04	<0.04	<0.04

Table B.1-3e. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-082	Sample # 930504-083	Sample # 930504-084	Sample # 930504-085	Sample # 930504-086
INORGANICS					
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02
o-Cresol	<0.04	**0.33**	<0.04	<0.04	<0.04
m,p-Cresol	<0.04	**0.17**	<0.04	<0.04	<0.04
Hexachlorobutadiene	<0.04	**0.11**	<0.04	<0.04	<0.04
2,4,6-Trichlorophenol	<0.04	**0.32**	<0.04	<0.04	<0.04
2,4,5-Trichlorophenol	<0.04	**0.32**	<0.04	<0.04	<0.04
2,4-Dinitrotoluene	<0.04	**0.29**	<0.04	<0.04	<0.04
Hexachlorobenzene	<0.04	**0.18**	<0.04	<0.04	<0.04
Pentachlorophenol	<0.04	**0.61**	<0.04	<0.04	<0.04

Table B.1-3f. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-087	Sample # 930504-088	Sample # 930504-089	Sample # 930504-090	Sample # 930504-091	Sample # 930504-092
INORGANICS						
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	**0.46**	**0.82**	**0.54**	**0.50**	**0.28**	**0.24**
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Lead	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
VOLATILE ORGANICS						
Vinyl Chloride	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
2-Butanone	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Chloroform	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Benzene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Trichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
SEMI-VOLATILE ORGANICS						
Pyridine	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachloroethane	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Nitrobenzene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

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Table B.1-3f. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-087	Sample # 930504-088	Sample # 930504-089	Sample # 930504-090	Sample # 930504-091	Sample # 930504-092
o-Cresol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
m,p-Cresol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachlorobutadiene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
2,4,6-Trichlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
2,4,5-Trichlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
2,4-Dinitrotoluene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachlorobenzene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Pentachlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Table B.1-3g. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-093	Sample # 930504-094	Sample # 930504-095	Sample # 930504-096	Sample # 930504-097	Sample # 930504-098
INORGANICS						
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	**0.60**	**0.61**	**0.53**	**0.51**	**0.54**	**0.46**
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Lead	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
VOLATILE ORGANICS						
Vinyl Chloride	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
2-Butanone	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Chloroform	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Benzene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Trichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
SEMI-VOLATILE ORGANICS						
Pyridine	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachloroethane	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Nitrobenzene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Table B.1-3g. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-093	Sample # 930504-094	Sample # 930504-095	Sample # 930504-096	Sample # 930504-097	Sample # 930504-098
o-Cresol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
m,p-Cresol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachlorobutadiene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
2,4,6-Trichlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
2,4,5-Trichlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
2,4-Dinitrotoluene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexachlorobenzene	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Pentachlorophenol	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Table B.1-3h. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-099	Sample # 930504-100	Sample # 930504-101	Sample # 930504-102	Sample # 930504-103	Sample # 930504-104
INORGANICS						
Arsenic	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Barium	**0.50**	**0.43**	**0.49**	**0.81**	**0.71**	**0.51**
Cadmium	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chromium	<0.09	<0.09	<0.09	<0.09	<0.09	<0.09
Lead	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
VOLATILE ORGANICS						
Vinyl Chloride	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
1,1-Dichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
2-Butanone	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Chloroform	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Carbon Tetrachloride	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Benzene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
1,2-Dichloroethane	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Trichloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Tetrachloroethylene	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
1,4-Dichlorobenzene	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
SEMI-VOLATILE ORGANICS						
Pyridine	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
Hexachloroethane	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
Nitrobenzene	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04

Table B.1-3h. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-099	Sample # 930504-100	Sample # 930504-101	Sample # 930504-102	Sample # 930504-103	Sample # 930504-104
o-Cresol	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
m,p-Cresol	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
Hexachlorobutadiene	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
2,4,6-Trichlorophenol	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
2,4,5-Trichlorophenol	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
2,4-Dinitrotoluene	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
Hexachlorobenzene	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04
Pentachlorophenol	<0.04	<0.05	<0.04	<0.04	<0.04	<0.04

Table B.1-3i. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-105	Sample # 930504-157	Sample # 930504-158	Sample # 930504-159
INORGANICS				
Arsenic	<0.02	N/A	N/A	**1.57**
Barium	**0.65**	N/A	N/A	**0.61**
Cadmium	<0.02	N/A	N/A	**3.01**
Chromium	<0.09	N/A	N/A	**0.20**
Lead	<0.14	N/A	N/A	**0.24**
Mercury	<0.001	N/A	N/A	**0.079**
Selenium	<0.01	N/A	N/A	**0.92**
Silver	<0.05	N/A	N/A	<0.05
VOLATILE ORGANICS				
Vinyl Chloride	<0.17	N/A	<0.010	N/A
1,1-Dichloroethylene	<0.08	N/A	**0.12**	N/A
2-Butanone	0.33	N/A	**0.012**	N/A
Chloroform	<0.08	N/A	**0.068**	N/A
Carbon Tetrachloride	<0.08	N/A	**0.029**	N/A
Benzene	<0.08	N/A	**0.11**	N/A
1,2-Dichloroethane	<0.08	N/A	**0.071**	N/A
Trichloroethylene	<0.08	N/A	**0.051**	N/A
Chlorobenzene	0.17	N/A	**0.066**	N/A
Tetrachloroethylene	<0.08	N/A	**0.028**	N/A
1,4-Dichlorobenzene	0.17	N/A	<0.010	N/A
SEMI-VOLATILE ORGANICS				
Pyridine	<0.04	<0.04	N/A	N/A
Hexachloroethane	<0.04	<0.04	N/A	N/A
Nitrobenzene	<0.04	<0.04	N/A	N/A

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Table B.1-3i. Containerized (white metal boxes) soil TCLP sampling data.

Analyte (ppm)	Sample # 930504-105	Sample # 930504-157	Sample # 930504-158	Sample # 930504-159
o-Cresol	<0.04	<0.04	N/A	N/A
m,p-Cresol	<0.04	<0.04	N/A	N/A
Hexachlorobutadiene	<0.04	<0.04	N/A	N/A
2,4,6-Trichlorophenol	<0.04	<0.04	N/A	N/A
2,4,5-Trichlorophenol	<0.04	<0.04	N/A	N/A
2,4-Dinitrotoluene	<0.04	<0.04	N/A	N/A
Hexachlorobenzene	<0.04	<0.04	N/A	N/A
Pentachlorophenol	<0.04	<0.04	N/A	N/A

Bolded values indicate a detection.
N/A No Analysis

Attachment B.2

ATTACHMENT B.2

ON-PROPERTY MEASUREMENT AND SAMPLING DATA

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383150	479950	AUG-03-92	4.12E+03	2.06E+03	
1383000	479750	JUL-31-92	4.46E+03	2.23E+03	Near gravel
1383000	479800	JUL-31-92	4.87E+03	2.44E+03	
1383000	479775	JUL-31-92	4.89E+03	2.45E+03	Near gravel
1383300	479950	AUG-03-92	4.98E+03	2.49E+03	Cow path
1383300	479975	AUG-03-92	5.21E+03	2.61E+03	Cow path
1383290	479850	AUG-03-92	5.25E+03	2.63E+03	50' S of where next stake should be south of STP (SE)
1383100	479500	JUL-31-92	5.28E+03	2.64E+03	
1383000	479725	JUL-31-92	5.35+03	2.68E+03	Gravel
1383290	479500	AUG-03-92	5.43E+03	2.72E+03	10' from stake off property
1383200	479500	JUL-31-92	6.07E+03	3.04E+03	
1383300	480225	AUG-04-92	6.10E+03	3.05E+03	NE property line at high voltage tower
1383300	479925	AUG-03-92	6.14E+03	3.07E+03	Cow path
1383100	479550	JUL-31-92	6.23E+03	3.12E+03	
1382900	479650	JUL-31-92	6.26E+03	3.13E+03	Pipes
1383000	479575	JUL-31-92	6.31E+03	3.16E+03	
1383300	479875	AUG-03-92	6.34E+03	3.17E+03	Cow path
1383100	479525	JUL-31-92	6.36E+03	3.18E+03	
1383000	479650	JUL-31-92	6.40E+03	3.20E+03	
1383200	479725	JUL-31-92	6.41E+03	3.21E+03	
1383300	480000	AUG-03-92	6.41E+03	3.21E+03	Cow path
1382800	479500	AUG-03-92	6.43E+03	3.22E+03	
1383000	479600	JUL-31-92	6.46E+03	3.23E+03	
1383200	479525	JUL-31-92	6.47E+03	3.24E+03	
1383200	479675	JUL-31-92	6.51E+03	3.26E+03	
1383300	479500	AUG-04-92	6.52E+03	3.26E+03	East off-property in weeds
1383400	479500	AUG-04-92	6.58E+03	3.29E+03	East off-property in weeds

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383100	479600	JUL-31-92	6.63E+03	3.32E+03	
1383200	479700	JUL-31-92	6.64E+03	3.32E+03	
1383000	479550	JUL-31-92	6.65E+03	3.33E+03	
1383200	479750	JUL-31-92	6.65E+03	3.33E+03	
1382900	479675	JUL-31-92	6.67E+03	3.34E+03	Pipes
1383200	479600	JUL-31-92	6.69E+03	3.35E+03	
1383325	479500	AUG-04-92	6.70E+03	3.35E+03	East off-property in weeds
1383325	479600	AUG-04-92	6.70E+03	3.35E+03	East off-property in weeds
1382850	479900	JUL-31-92	6.73E+03	3.37E+03	
1383100	479575	JUL-31-92	6.73E+03	3.37E+03	
1383293	479500	AUG-04-92	6.74E+03	3.37E+03	East off-property in weeds
1382825	479900	JUL-28-92	6.77E+03	3.39E+03	
1383000	479700	JUL-31-92	6.77E+03	3.39E+03	
1383200	479550	JUL-31-92	6.77E+03	3.39E+03	
1383200	479625	JUL-31-92	6.78E+03	3.39E+03	
1382850	479900	JUL-28-92	6.79E+03	3.40E+03	
1383375	479500	AUG-04-92	6.79E+03	3.40E+03	East off-property in weeds
1382800	479900	JUL-28-92	6.80E+03	3.40E+03	
1383350	479500	AUG-04-92	6.80E+03	3.40E+03	East off-property in weeds
1383300	479600	AUG-04-92	6.83E+03	3.42E+03	East off-property in weeds
1383000	479625	JUL-31-92	6.85E+03	3.43E+03	
1383292	479600	AUG-04-92	6.85E+03	3.43E+03	East off-property in weeds
1382900	479675	JUL-31-92	6.86E+03	3.43E+03	
1383100	479650	JUL-31-92	6.86E+03	3.43E+03	
1382825	479800	JUL-28-92	6.89E+03	3.45E+03	
1383000	479675	JUL-31-92	6.90E+03	3.45E+03	

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383100	479675	JUL-31-92	6.90E+03	3.45E+03	Mud
1382900	479875	JUL-31-92	6.92E+03	3.46E+03	
1383100	479725	JUL-31-92	6.93E+03	3.47E+03	
1383200	479853	JUL-31-92	6.93E+03	3.47E+03	Last row outside fence at STP
1383100	479625	JUL-31-92	6.95E+03	3.48E+03	
1383200	479775	JUL-31-92	6.96E+03	3.48E+03	
1382900	479825	JUL-31-92	6.97E+03	3.49E+03	
1382920	479760	JUL-31-92	7.00E+03	3.50E+03	
1382900	479600	JUL-31-92	7.01E+03	3.51E+03	
1383200	479575	JUL-31-92	7.01E+03	3.51E+03	
1382900	479625	JUL-31-92	7.04E+03	3.52E+03	
1383000	480000	AUG-04-92	7.04E+03	3.52E+03	
1383100	479750	JUL-31-92	7.07E+03	3.54E+03	
1383294	479700	AUG-04-92	7.08E+03	3.54E+03	East off-property in weeds
1383200	479800	JUL-31-92	7.09E+03	3.55E+03	
1383290	479600	AUG-03-92	7.09E+03	3.55E+03	
1383200	479650	JUL-31-92	7.10E+03	3.55E+03	
1382800	479550	AUG-03-92	7.12E+03	3.56E+03	
1382900	479550	JUL-31-92	7.12E+03	3.56E+03	
1383125	479928	AUG-03-92	7.13E+03	3.57E+03	At driveway in STP
1382900	479800	JUL-31-92	7.14E+03	3.57E+03	
1383000	480000	AUG-03-92	7.15E+03	3.58E+03	
1382900	479850	JUL-31-92	7.18E+03	3.59E+03	
1382850	479700	JUL-31-92	7.19E+03	3.60E+03	
1383100	479775	JUL-31-92	7.19E+03	3.60E+03	
1382800	479575	AUG-03-92	7.20E+03	3.60E-03	
1382875	479900	JUL-28-92	7.21E+03	3.61E-03	
1383025	479925	AUG-03-92	7.21E+03	3.61E+03	
1383100	479700	JUL-31-92	7.21E+03	3.61E+03	

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383290	479700	AUG-03-92	7.21E+03	3.61E+03	
1382850	479800	JUL-28-92	7.22E+03	3.61E+03	
1382800	479600	AUG-03-92	7.23E+03	3.62E+03	
1383300	479700	AUG-04-92	7.23E+03	3.62E+03	East off-property in weeds
1382800	479675	AUG-03-92	7.25E+03	3.63E+03	
1383000	479500	JUL-31-92	7.26E+03	3.63E+03	
1383200	479850	AUG-03-92	7.26E+03	3.63E+03	
1382800	479725	AUG-03-92	7.27E+03	3.64E+03	
1382800	479650	AUG-03-92	7.28E+03	3.64E+03	
1382825	480000	JUL-28-92	7.28E+03	3.64E+03	
1382910	479700	JUL-31-92	7.29E+03	3.65E+03	
1383100	479856	JUL-31-92	7.30E+03	3.65E+03	
1382800	479750	AUG-03-92	7.31E+03	3.66E+03	
1382915	479725	JUL-31-92	7.31E+03	3.66E+03	
1383300	479800	AUG-04-92	7.31E+03	3.66E+03	
1383300	480200	AUG-03-92	7.31E+03	3.66E+03	Cow path
1382800	479625	AUG-03-92	7.34E+03	3.67E+03	
1383359	480100	AUG-04-92	7.35E+03	3.68E+03	Swamp area
1382800	479525	AUG-03-92	7.37E+03	3.69E+03	
1382800	479775	AUG-03-92	7.37E+03	3.69E+03	
1382900	479775	JUL-31-92	7.38E+03	3.69E+03	
1382800	479700	AUG-03-92	7.39E+03	3.70E+03	
1382860	479725	JUL-31-92	7.39E+03	3.70E+03	
1383025	480000	AUG-04-92	7.40E+03	3.70E+03	
1383310	479900	AUG-04-92	7.40E+03	3.70E+03	
1383250	479875	AUG-03-92	7.42E+03	3.71E+03	
1383290	479800	AUG-03-92	7.43E+03	3.72E+03	
1382900	476525	JUL-31-92	7.44E+03	3.72E+03	
1382900	479500	JUL-31-92	7.44E+03	3.72E+03	
1382700	479800	JUL-28-92	7.45E+03	3.73E+03	

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383000	479858	JUL-31-92	7.47E+03	3.74E+03	
1382875	479884	JUL-31-92	7.48E+03	3.74E+03	
1382910	480000	JUL-28-92	7.48E+03	3.74E+03	On bank of ditch with running water
1383100	479800	JUL-31-92	7.48E+03	3.74E+03	
1382900	479575	JUL-31-92	7.49E+03	3.75E+03	
1382875	479900	JUL-31-92	7.50E+03	3.75E+03	
1382800	479900	AUG-03-92	7.51E+03	3.76E+03	
1382800	479825	AUG-03-92	7.51E+03	3.76E+03	
1383000	479900	AUG-03-92	7.51E+03	3.76E+03	
1383000	479525	JUL-31-92	7.56E+03	3.78E+03	
1383325	480400	AUG-04-92	7.56E+03	3.78E+03	Swamp area
1383300	480175	AUG-03-92	7.62E+03	3.81E+03	Cow path
1382800	479875	AUG-03-92	7.63E+03	3.82E+03	
1383310	480200	AUG-04-92	7.63E+03	3.82E+03	Swamp area
1383250	479950	AUG-03-92	7.65E+03	3.83E+03	
1382975	480000	AUG-04-92	7.66E+03	3.83E+03	
1383300	480550	JUL-27-92	7.67E+03	3.84E+03	
1383300	480800	JUL-27-92	7.67E+03	3.84E+03	100' past last grid point
1383300	480600	JUL-27-92	7.68E+03	3.84E+03	
1383300	480275	AUG-04-92	7.69E+03	3.85E+03	NE property line at high voltage tower
1382900	479900	JUL-28-92	7.73E+03	3.87E+03	
1383300	479900	AUG-03-92	7.79E+03	3.90E+03	Cow path
1383400	480000	AUG-04-92	7.79E+03	3.90E+03	Swamp area
1382850	480000	JUL-28-92	7.80E+03	3.90E+03	
1382800	479800	JUL-28-92	7.83E+03	3.92E+03	
1383000	479850	AUG-03-92	7.83E+03	3.92E+03	
1383300	480525	JUL-27-92	7.84E+03	3.92E+03	
1383200	480325	JUL-27-92	7.86E+03	3.93E+03	

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383300	480282	JUL-27-92	7.90E+03	3.95E+03	Unable to survey to next grid point due to high grass
1382800	479800	AUG-03-92	7.92E+03	3.96E+03	
1383275	480200	AUG-04-92	7.92E+03	3.96E+03	Along fence in northeast corner inside STP
1382800	480000	JUL-28-92	7.93E+03	3.97E+03	
1383000	479926	AUG-03-92	7.93E+03	3.97E+03	Near drive in STP
1382930	480200	JUL-28-92	7.94E+03	3.97E+03	
1382850	480125	JUL-30-92	7.96E+03	3.98E+03	
1383300	480775	JUL-27-92	7.99E+03	4.00E+03	
1382905	479700	JUL-31-92	8.01E+03	4.01E+03	
1383200	480300	JUL-27-92	8.02E+03	4.01E+03	
1383300	480500	JUL-27-92	8.07E+03	4.04E+03	
1383300	480250	AUG-04-92	8.07E+03	4.04E+03	NE property line at high voltage tower
1382860	480125	JUL-30-92	8.08E+03	4.04E+03	
1383200	480350	JUL-27-92	8.09E+03	4.05E+03	
1383200	480650	JUL-27-92	8.10E+03	4.05E+03	Highest of 3 readings
1383200	480600	JUL-27-92	8.11E+03	4.06E+03	
1382800	479850	AUG-03-92	8.12E+03	4.06E+03	
1383305	480300	AUG-04-92	8.12E+03	4.06E+03	Swamp area
1383200	480375	JUL-27-92	8.18E+03	4.09E+03	
1383300	480750	JUL-27-92	8.20E+03	4.10E+03	
1383100	480600	JUL-27-92	8.21E+03	4.11E+03	
1382875	479895	JUL-31-92	8.22E+03	4.11E+03	
1382922	479900	JUL-28-92	8.24E+03	4.12E+03	
1383200	480575	JUL-27-92	8.24E+03	4.12E+03	
1382950	480250	AUG-04-92	8.25E+03	4.13E+03	
1383300	480575	JUL-27-92	8.25E+03	4.13E+03	
1383100	480500	JUL-27-92	8.26E+03	4.13E+03	

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383200	480700	JUL-27-92	8.26E+03	4.13E+03	Highest of 3 readings
1383200	480675	JUL-27-92	8.26E+03	4.13E+03	Highest of 3 readings
1382850	479950	JUL-31-92	8.29E+03	4.15E+03	
1383100	480525	JUL-27-92	8.29E+03	4.15E+03	
1383300	480400	JUL-27-92	8.29E+03	4.15E+03	
1383300	480475	JUL-27-92	8.29E+03	4.15E+03	
1383300	480650	JUL-27-92	8.33E+03	4.17E+03	
1382930	480200	JUL-30-92	8.34E+03	4.17E+03	
1383100	480575	JUL-27-92	8.34E+03	4.17E+03	
1382865	480125	JUL-30-92	8.36E+03	4.18E+03	
1382825	480200	JUL-28-92	8.37E+03	4.19E+03	
1382905	480000	JUL-28-92	8.38E+03	4.19E+03	
1383150	479928	AUG-03-92	8.38E+03	4.19E+03	At driveway in STP
1383200	480625	JUL-27-92	8.38E+03	4.19E+03	Highest of 3 readings
1383300	480700	JUL-27-92	8.38E+03	4.19E+03	
1383200	480450	JUL-27-92	8.39E+03	4.20E+03	
1383300	480725	JUL-27-92	8.39E+03	4.20E+03	
1382855	479950	JUL-31-92	8.40E+03	4.20E+03	
1383300	480625	JUL-27-92	8.40E+03	4.20E+03	
1382900	480200	JUL-28-92	8.41E+03	4.21E+03	
1382800	480200	JUL-28-92	8.42E+03	4.21E+03	
1383100	480475	JUL-27-92	8.42E+03	4.21E+03	
1383200	479875	AUG-03-92	8.42E+03	4.21E+03	
1383025	479926	AUG-03-92	8.43E+03	4.22E+03	
1382875	480000	JUL-28-92	8.44E+03	4.22E+03	
1383075	479950	AUG-03-92	8.44E+03	4.22E+03	
1382900	479925	JUL-30-92	8.45E+03	4.23E+03	
1382900	480250	AUG-04-92	8.46E+03	4.23E+03	
1383300	480350	JUL-28-92	8.47E+03	4.24E+03	
1383200	480550	JUL-27-92	8.48E+03	4.24E+03	

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1382915	479760	JUL-31-92	8.50E+03	4.25E+03	
1383000	479800	AUG-03-92	8.51E+03	4.26E+03	
1383125	479950	AUG-03-92	8.51E+03	4.26E+03	
1383200	480425	JUL-27-92	8.51E+03	4.26E+03	
1382850	480125	JUL-30-92	8.52E+03	4.26E+03	
1382875	479892	JUL-31-92	8.52E+03	4.26E+03	
1382965	480210	JUL-30-92	8.52E+03	4.26E+03	Along the fence
1383000	479875	AUG-03-92	8.52E+03	4.26E+03	
1383300	480675	JUL-27-92	8.52E+03	4.26E+03	
1382915	480025	JUL-30-92	8.53E+03	4.27E+03	In ditch
1383100	480450	JUL-27-92	8.53E+03	4.27E+03	
1383100	480400	JUL-27-92	8.55E+03	4.28E+03	
1383100	479975	AUG-03-92	8.56E+03	4.28E+03	
1383300	480325	JUL-27-92	8.56E+03	4.28E+03	
1383300	480300	JUL-27-92	8.57E+03	4.29E+03	
1383300	480425	JUL-27-92	8.59E+03	4.30E+03	
1382825	480100	JUL-28-92	8.61E+03	4.31E+03	
1383100	479900	AUG-03-92	8.61E+03	4.31E+03	
1382900	479765	JUL-31-92	8.62E+03	4.31E+03	
1382900	479950	JUL-30-92	8.65E+03	4.33E+03	
1383050	479950	AUG-03-92	8.65E+03	4.33E+03	
1383200	480230	JUL-27-92	8.65E+03	4.33E+03	Approximately 5' from next grid point stake inside STP fence
1383200	480275	JUL-27-92	8.65E+03	4.33E+03	
1383200	480500	JUL-27-92	8.66E+03	4.33E+03	
1383250	480200	AUG-04-92	8.67E+03	4.34E+03	Along fence in northeast corner inside STP
1382900	479975	JUL-30-92	8.69E+03	4.35E+03	
1382975	480250	JUL-30-92	8.69E+03	4.35E+03	
1383200	480400	JUL-27-92	8.70E+03	4.38E+03	

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383150	479900	AUG-03-92	8.73E+03	4.37E+03	
1383300	480375	JUL-27-92	8.73E+03	4.37E+03	
1382850	479925	JUL-31-92	8.76E+03	4.38E+03	
1382925	480250	AUG-04-92	8.76E+03	4.38;E+03	
1382925	480225	AUG-04-92	8.76E+03	4.38E+03	NE corner outside STP (wet)
1383100	480550	JUL-27-92	8.76E+03	4.38E+03	
1382800	480100	JUL-28-92	8.78E+03	4.39E+03	
1383200	480525	JUL-27-92	8.78E+03	4.39E+03	
1383200	480250	JUL-27-92	8.80E+03	4.40E+03	
1382870	480200	JUL-28-92	8.82E+03	4.41E+03	
1382918	480025	JUL-30-92	8.82E+03	4.41E+03	In ditch
1383100	480425	JUL-27-92	8.84E+03	4.42E+03	
1383100	480075	AUG-04-92	8.84E+03	4.42E+03	
1382885	480200	JUL-28-92	8.88E+03	4.44E+03	
1382910	480025	JUL-30-92	8.88E+03	4.44E+03	In ditch
1382850	480200	JUL-28-92	8.93E+03	4.47E+03	
1383300	480450	JUL-27-92	8.93E+03	4.47E+03	
1383300	480300	AUG-04-92	8.95E+03	4.48E+03	NE property line at high voltage tower
1382885	479925	JUL-30-92	8.96E+03	4.48E+03	
1383025	479950	AUG-03-92	8.97E+03	4.49E+03	
1383100	480025	AUG-04-92	8.98E+03	4.49E+03	
1383175	479875	AUG-03-92	8.99E+03	4.50E+03	
1382975	480210	JUL-30-92	9.00E+03	4.50E+03	Along the fence
1383150	480200	AUG-04-92	9.03E+03	4.52E+03	Along fence in northeast corner inside STP
1382860	479950	JUL-31-92	9.04E+03	4.52E+03	
1383000	480325	JUL-28-92	9.06E+03	4.53E+03	
1383100	479950	AUG-03-92	9.06E+03	4.53E+03	
1383125	480100	AUG-04-92	9.07E+03	4.54E+03	

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1382905	480025	JUL-30-92	9.08E+03	4.54E+03	
1382885	479950	JUL-30-92	9.13E+03	4.57E+03	
1382980	480210	JUL-30-92	9.14E+03	4.57E+03	Along the fence
1383175	480175	AUG-04-92	9.14E+03	4.57E+03	Along fence in northeast corner inside STP
1383200	480200	AUG-04-92	9.14E+03	4.57E+03	Along fence in northeast corner inside STP
1382875	480175	JUL-30-92	9.17E+03	4.59E+03	
1383225	480200	AUG-04-92	9.18E+03	4.59E+03	Along fence in northeast corner inside STP
1382850	480175	JUL-30-92	9.19E+03	4.60E+03	
1383200	480175	AUG-04-92	9.20E+03	4.60E+03	Along fence in northeast corner inside STP
1383200	480250	JUL-27-92	9.20E+03	4.60E+03	
1382880	480200	JUL-28-92	9.21E+03	4.61E+03	
1382950	480225	AUG-04-92	9.21E+03	4.61E+03	
1382900	480000	JUL-28-92	9.22E+03	4.61E+03	
1383100	480000	AUG-03-92	9.22E+03	4.61E+03	
1383175	480200	AUG-04-92	9.23E+03	4.62E+03	Along fence in northeast corner inside STP
1383120	480250	JUL-29-92	9.24E+03	4.62E+03	
1382853	479925	JUL-31-92	9.25E+03	4.63E+03	
1382921	480000	JUL-28-92	9.25E+03	4.63E+03	
1382900	480275	AUG-04-92	9.28E+03	4.64E+03	
1383000	480300	JUL-28-92	9.30E+03	4.65E+03	
1383100	480325	JUL-27-92	9.30E+03	4.65E+03	
1382905	480175	JUL-30-92	9.33E+03	4.67E+03	
1382854	479925	JUL-31-92	9.34E+03	4.67E+03	
1383125	480075	AUG-04-92	9.34E+03	4.67E+03	

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383100	480350	JUL-27-92	9.35E+03	4.68E+03	
1383075	479970	AUG-03-92	9.36E+03	4.68E+03	Edge of water filter
1382975	480250	AUG-04-92	9.37E+03	4.69E+03	
1382975	480230	JUL-30-92	9.39E+03	4.70E+03	
1383300	480475	JUL-27-92	9.39E+03	4.70E+03	
1382912	479725	JUL-31-92	9.40E+03	4.70E+03	
1383100	480375	JUL-27-92	9.40E+03	4.70E+03	
1383150	480175	AUG-04-92	9.40E+03	4.70E+03	Along fence in northeast corner inside STP
1383075	480300	JUL-29-92	9.41E+03	4.71E+03	2nd time taking this reading
1383115	480250	JUL-29-92	9.42E+03	4.71E+03	
1382875	480150	JUL-30-92	9.43E+03	4.72E+03	
1382900	480000	JUL-28-92	9.43E+03	4.72E+03	
1382925	480195	JUL-30-92	9.43E+03	4.72E+03	
1382750	480150	JUL-30-92	9.45E+03	4.73E+03	
1383000	480350	JUL-28-92	9.45E+03	4.73E+03	
1383125	480280	JUL-29-92	9.46E+03	4.73E+03	
1383000	480272	JUL-28-92	9.47E+03	4.74E+03	
1383075	479926	AUG-03-92	9.47E+03	4.74E+03	
1383105	480250	JUL-29-92	9.47E+03	4.74E+03	
1382850	480100	JUL-28-92	9.48E+03	4.74E+03	
1383225	480175	AUG-04-92	9.49E+03	4.75E+03	Along fence in northeast corner inside STP
1382982	480210	JUL-30-92	9.53E+03	4.77E+03	Highest of 3 readings; along the fence
1383100	480250	JUL-27-92	9.53E+03	4.77E+03	
1382775	480100	JUL-28-92	9.54E+03	4.77E+03	Highest of 3 readings
1383060	480311	JUL-29-92	9.57E+03	4.79E+03	
1382900	480175	JUL-30-92	9.61E+03	4.81E+03	

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1382900	480225	AUG-04-92	9.61E+03	4.81E+03	Highest of 3 readings - NE corner outside STP (wet)
1383025	480300	JUL-29-92	9.61E+03	4.81E+03	
1383060	480311	JUL-29-92	9.62E+03	4.81E+03	
1383060	480311	JUL-29-92	9.62E+03	4.81E+03	
1383123	480225	JUL-29-92	9.63E+03	4.82E+03	Highest of 3 readings
1383075	480300	JUL-29-92	9.64E+03	4.82E+03	
1383075	480300	JUL-29-92	9.65E+03	4.83E+03	
1382975	480228	JUL-30-92	9.66E+03	4.83E+03	Highest of 3 readings
1383060	480311	JUL-29-92	9.67E+03	4.84E+03	
1382900	479760	JUL-31-92	9.68E+03	4.84E+03	
1383025	479900	AUG-03-92	9.69E+03	4.85E+03	Highest of 3 readings
1383025	480300	JUL-29-92	9.71E+03	4.86E+03	
1382875	480100	JUL-28-92	9.72E+03	4.86E+03	Highest of 3 readings
1382884	479950	JUL-30-92	9.72E+03	4.86E+03	Highest of 3 readings
1383075	480300	JUL-29-92	9.72E+03	4.86E+03	
1383100	480287	JUL-27-92	9.72E+03	4.86E+03	Actual N coordinate is 480287.5
1383250	479925	AUG-03-92	9.72E+03	4.86E+03	Highest of 3 readings
1383050	479970	AUG-03-92	9.73E+03	4.87E+03	Highest of 3 readings; Edge of water filter
1383025	480300	JUL-29-92	9.74E+03	4.87E+03	
1383200	479925	AUG-03-92	9.74E+03	4.87E+03	Highest of 3 readings
1383100	480250	JUL-29-92	9.75E+03	4.88E+03	Highest of 3 readings
1382900	480025	JUL-30-92	9.76E+03	4.88E+03	Highest of 3 readings
1382922	480000	JUL-28-92	9.76E+03	4.88E+03	Highest of 3 readings
1383000	480252	JUL-28-92	9.76E+03	4.88E+03	
1383060	480315	JUL-29-92	9.77E+03	4.89E+03	
1383110	480250	JUL-29-92	9.77E+03	4.89E+03	Highest of 3 readings
1382877	480100	JUL-28-92	9.78E+03	4.89E+03	Highest of 3 readings
1383025	480300	JUL-29-92	9.78E+03	4.89E+03	

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383125	480275	JUL-29-92	9.78E+03	4.89E+03	Highest of 3 readings
1383130	480205	JUL-29-92	9.78E+03	4.89E+03	Highest of 3 readings
1383000	480275	JUL-28-92	9.79E+03	4.90E+03	Highest of 3 readings
1383125	4802285	JUL-29-92	9.80E+03	4.90E+03	Highest of 3 readings
1382875	480200	JUL-28-92	9.81E+03	4.91E+03	Highest of 3 readings
1382975	480227	JUL-30-92	9.81E+03	4.91E+03	Highest of 3 readings
1383125	480250	JUL-29-92	9.81E+03	4.91E+03	Highest of 3 readings
1382862	479725	JUL-31-92	9.82E+03	4.91E+03	Highest of 3 readings
1383060	480315	JUL-29-92	9.82E+03	4.91E+03	
1383122	480225	JUL-29-92	9.82E+03	4.91E+03	Highest of 3 readings
1383125	480125	AUG-04-92	9.82E+03	4.91E+03	Highest of 3 readings
1382975	480226	JUL-30-92	9.83E+03	4.92E+03	Highest of 3 readings
1383060	480315	JUL-29-92	9.83E+03	4.92E+03	
1382919	480025	JUL-30-92	9.84E+03	4.92E+03	Highest of 3 readings
1383075	480299	JUL-29-92	9.84E+03	4.92E+03	Highest of 3 readings
1383060	480315	JUL-29-92	9.85E+03	4.93E+03	
1383050	480303	JUL-29-92	9.86E+03	4.93E+03	Highest of 3 readings
1383100	480300	JUL-27-92	9.86E+03	4.93E+03	Highest of 3 readings
1383128	480205	JUL-29-92	9.86E+03	4.93E+03	Highest of 3 readings
1382875	480050	JUL-30-92	9.87E+03	4.94E+03	Highest of 3 readings
1383075	480300	JUL-29-92	9.87E+03	4.94E+03	
1383100	479926	AUG-03-92	9.88E+03	4.94E+03	Highest of 3 readings
1383000	480262	JUL-28-92	9.89E+03	4.95E+03	
1383100	480208	JUL-27-92	9.89E+03	4.95E+03	
1383050	480300	JUL-29-92	9.91E+03	4.96E+03	
1383250	480175	AUG-04-92	9.92E+03	4.96E+03	Highest of 3 readings - along fence in northeast corner
1383025	480275	JUL-29-92	9.93E+03	4.97E+03	
1383025	480275	JUL-29-92	9.93E+03	4.97E+03	
1383025	480275	JUL-29-92	9.94E+03	4.97E+03	

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383050	480304	JUL-29-92	9.94E+03	4.97E+03	Highest of 3 readings
	1382755	480150	JUL-30-92	9.95E+03	4.98E+03	Highest of 3 readings; Wet stream
	1382865	479950	JUL-31-92	9.95E+03	4.98E+03	Highest of 3 readings
B	1382875	479700	JUL-31-92	9.95E+03	4.98E+03	Highest of 3 readings
	1382875	480075	JUL-30-92	9.95E+03	4.98E+03	Highest of 3 readings
	1383000	480255	JUL-28-92	9.95E+03	4.98E+03	
	1383050	480300	JUL-29-92	9.95E+03	4.98E+03	
	1383025	480275	JUL-29-92	9.96E+03	4.98E+03	
	1383035	480275	JUL-29-92	9.96E+03	4.98E+03	
	1382902	479700	JUL-31-92	9.97E+03	4.99E+03	Highest of 3 readings
	1383035	480275	JUL-29-92	9.97E+03	4.99E+03	
	1383035	480275	JUL-29-92	9.97E+03	4.99E+03	
	1383035	480275	JUL-29-92	9.97E+03	4.99E+03	
	1383050	480300	JUL-29-92	9.97E+03	4.99E+03	
	1383050	480300	JUL-29-92	9.97E+03	4.99E+03	
	1383050	480302	JUL-29-92	9.98E+03	4.99E+03	Highest of 3 readings
	1383075	480298	JUL-29-92	9.98E+03	4.99E+03	Highest of 3 readings
	1383000	480247	JUL-28-92	9.99E+03	5.00E+03	Highest of 3 readings
	1383000	480250	JUL-28-92	9.99E+03	5.00E+03	Highest of 3 readings
	1383050	480305	JUL-29-92	9.99E+03	5.00E+03	Highest of 3 readings
	1382775	480150	JUL-30-92	1.00E+04	5.00E+03	Highest of 3 readings; muddy and slushy
B	1382870	480125	JUL-30-92	1.00E+04	5.00E+03	Highest of 2 readings
B	1382910	480175	JUL-30-92	1.00E+04	5.00E+03	
	1383050	480290	JUL-29-92	1.00E+04	5.00E+03	
	1383075	479875	AUG-03-92	1.00E+04	5.00E+03	
	1383075	480290	JUL-29-92	1.00E+04	5.00E+03	Highest of 2 readings
	1383125	480205	JUL-29-92	1.00E+04	5.00E+03	Highest of 3 readings
	1383126	480205	JUL-29-92	1.00E+04	5.00E+03	
B	1383127	480205	JUL-29-92	1.00E+04	5.00E+03	

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1382819	480150	JUL-30-92	1.01E+04	5.05E+03	Highest of 3 readings; muddy and slushy
B	1382883	479950	JUL-30-92	1.01E+04	5.05E+03	
	1382975	480225	JUL-30-92	1.01E+04	5.05E+03	
	1383000	480245	JUL-28-92	1.01E+04	5.05E+03	
B	1383000	480246	JUL-28-92	1.01E+04	5.05E+03	
B	1383040	480275	JUL-29-92	1.01E+04	5.05E+03	
B	1383050	480301	JUL-29-92	1.01E+04	5.05E+03	
	1383050	480297	JUL-29-92	1.01E+04	5.05E+03	
	1383050	480300	JUL-29-92	1.01E+04	5.05E+03	Highest of 3 readings - 2nd time taking this reading
	1383050	480296	JUL-29-92	1.01E+04	5.05E+03	
B	1383060	480306	JUL-29-92	1.01E+04	5.05E+03	Highest of 3 readings
	1383060	480306	JUL-29-92	1.01E+04	5.05E+03	
B	1383075	480297	JUL-29-92	1.01E+04	5.05E+03	Highest of 2 readings
	1383075	480125	AUG-04-92	1.01E+04	5.05E+03	
B	1383121	480225	JUL-29-92	1.01E+04	5.05E+03	
B	1382855	479925	JUL-31-92	1.02E+04	5.10E+03	
	1382878	480100	JUL-28-92	1.02E+04	5.10E+03	Highest of 3 readings
	138350	480295	JUL-29-92	1.02E+04	5.10E+03	
	1383050	480298	JUL-29-92	1.02E+04	5.10E+03	
	1383050	480299	JUL-29-92	1.02E+04	5.10E+03	
	1383070	480300	JUL-29-92	1.02E+04	5.10E+03	
	1383125	480200	AUG-04-92	1.02E+04	5.10E+03	Highest of 3 readings
	1383150	479875	AUG-03-92	1.02E+04	5.10E+03	
	1383150	480125	AUG-04-92	1.02E+04	5.10E+03	
B	1382880	480050	JUL-30-92	1.03E+04	5.15E+03	
	1383050	480285	JUL-29-92	1.03E+04	5.15E+03	
	1383050	480280	JUL-29-92	1.03E+04	5.15E+03	

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383100	480225	JUL-27-92	1.03E+04	5.15E+03	
B	1383100	480280	JUL-27-92	1.03E+04	5.15E+03	
	1383125	480025	AUG-04-92	1.03E+04	5.15E+03	
	1383125	480175	AUG-04-92	1.03E+04	5.15E+03	
	1382800	480150	JUL-30-92	1.04E+04	5.20E+03	Muddy and slushy
	1382850	480150	JUL-30-92	1.04E+04	5.20E+03	
	1382875	480125	JUL-30-92	1.04E+04	5.20E+03	
	1382880	479950	JUL-30-92	1.04E+04	5.20E+03	
	1382925	480185	JUL-30-92	1.04E+04	5.20E+03	
	1383075	480280	JUL-29-92	1.04E+04	5.20E+03	
	1383075	480295	JUL-29-92	1.04E+04	5.20E+03	
	1383075	480285	JUL-29-92	1.04E+04	5.20E+03	
	1383100	480125	AUG-04-92	1.04E+04	5.20E+03	
	1382850	479702	JUL-31-92	1.05E+04	5.25E+03	
	1382879	480100	JUL-28-92	1.05E+04	5.25E+03	
B	1382880	480075	JUL-30-92	1.05E+04	5.25E+03	
	1382900	480150	JUL-30-92	1.05E+04	5.25E+03	
	1382900	480100	JUL-28-92	1.05E+04	5.25E+03	
	1382924	480000	JUL-28-92	1.05E+04	5.25E+03	
B	1382987	480210	JUL-30-92	1.05E+04	5.25E+03	Along the fence
	1383100	480275	JUL-27-92	1.05E+04	5.25E+03	Highest of 3 readings
	1383120	480255	JUL-29-92	1.05E+04	5.25E+03	
	1382880	480100	JUL-28-92	1.06E+04	5.30E+03	
B	1382912	479760	JUL-31-92	1.06E+04	5.30E+03	
B	1382923	480000	JUL-28-92	1.06E+04	5.30E+03	
	1383000	480210	JUL-27-92	1.07E+04	5.35E+03	
	1383045	480275	JUL-29-92	1.07E+04	5.35E+03	
	1383050	480275	JUL-29-92	1.07E+04	5.35E+03	
	1383150	480000	AUG-03-92	1.07E+04	5.35E+03	
	1382900	480050	JUL-30-92	1.08E+04	5.40E+03	

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383000	480225	JUL-28-92	1.08E+04	5.40E+03	
	1383075	480275	JUL-29-92	1.08E+04	5.40E+03	
	1383100	480100	AUG-04-92	1.08E+04	5.40E+03	
	1382850	479704	JUL-31-92	1.09E+04	5.45E+03	
B	1382900	479755	JUL-31-92	1.09E+04	5.45E+03	
	1383225	479925	AUG-03-92	1.09E+04	5.45E+03	
	1382882	479950	JUL-30-92	1.10E+04	5.50E+03	
B	1382883	479925	JUL-30-92	1.10E+04	5.50E+03	
B	1382911	479725	JUL-31-92	1.10E+04	5.50E+03	
	1383028	479875	AUG-03-92	1.10E+04	5.50E+03	
	1383300	480075	AUG-03-92	1.10E+04	5.50E+03	Cow path
	1383025	480075	AUG-04-92	1.11E+04	5.55E+03	
	1383150	480100	AUG-04-92	1.12E+04	5.60E+03	
	1382900	480075	JUL-30-92	1.13E+04	5.65E+03	
	1382925	480025	JUL-30-92	1.13E+04	5.65E+03	
	1383250	479900	AUG-03-92	1.13E+04	5.65E+03	
	1382940	480000	AUG-26-92	5.13E+03	2.57E+03	Along west rad rope inside STP
	1382940	479925	AUG-26-92	6.46E+03	3.23E+03	Along west rad rope inside STP
	1382925	480000	AUG-26-92	6.58E+03	3.29E+03	Gravel
	1382940	480025	AUG-26-92	6.67E+03	3.34E+03	Along west rad rope inside STP
	1382925	479915	AUG-26-92	7.16E+03	3.58E+03	Gravel
	1382925	479975	AUG-26-92	7.52E+03	3.76E+03	Gravel
	1383310	480075	AUG-25-92	7.57E+03	3.79E+03	Approximately 5 feet east of property fence
	1382940	479950	AUG-26-92	7.67E+03	3.84E+03	Along west rad rope inside STP
	1383325	479900	AUG-25-92	7.68E+03	3.84E+03	Approximately 5 feet east of property fence
	1383310	480100	AUG-25-92	7.90E+03	3.95E+03	Approximately 5 feet east of property fence

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1382940	479975	AUG-26-92	7.92E+03	3.96E+03	Along west rad rope inside STP
1383310	479975	AUG-25-92	8.05E+03	4.03E+03	Approximately 5 feet east of property fence
1383310	479925	AUG-25-92	8.12E+03	4.06E+03	Approximately 5 feet east of property fence
1383310	480125	AUG-25-92	8.35E+03	4.18E+03	Approximately 5 feet east of property fence
1383310	480170	AUG-25-92	8.45E+03	4.23E+03	Approximately 5 feet east of property fence
1383270	479975	AUG-25-92	8.52E+03	4.26E+03	
1382925	479900	AUG-26-92	8.59E+03	4.30E+03	Gravel
1383310	480150	AUG-25-92	8.68E+03	4.34E+03	Approximately 5 feet east of property fence
1383310	479950	AUG-25-92	8.77E+03	4.39E+03	Approximately 5 feet east of property fence
1383310	480000	AUG-25-92	8.84E+03	4.42E+03	Approximately 5 feet east of property fence
1382917	479900	AUG-27-92	9.03E+03	4.52E+03	Along fence west of STP
1382940	480050	AUG-26-92	9.19E+03	4.60E+03	Along west rad rope inside STP
1382920	480000	AUG-27-92	9.68E+03	4.84E+03	Along fence west of STP
1383310	480025	AUG-25-92	9.80E+03	4.90E+03	Approximately 5 feet east of property fence
1383310	480050	AUG-25-92	1.01E+04	5.05E+03	Approximately 5 feet east of property fence
1383273	479975	AUG-25-92	1.01E+04	5.05E+03	
1382921	479975	AUG-27-92	1.04E+04	5.20E+03	Along fence west of STP
1382925	480200	AUG-26-92	1.06E+04	5.30E+03	North of incinerator (inside STP)
1382921	479925	AUG-27-92	1.07E+04	5.35E+03	Along fence west of STP
1382917	479925	AUG-27-92	1.10E+04	5.50E+03	Along fence west of STP

Table B.2-1. Radiological walkover survey data.

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1383120	480200	AUG-26-92	1.12E+04	5.60E+03	Area northeast of incinerator
1383275	479950	AUG-25-92	1.15E+04	5.75E+03	
1382975	480200	AUG-26-92	1.16E+04	5.80E+03	North of incinerator (inside STP)
1383275	479970	AUG-25-92	1.17E+04	5.85E+03	
1383100	480200	AUG-26-92	1.18E+04	5.90E+03	Area northeast of incinerator
1383275	479925	AUG-25-92	1.20E+04	6.00E+03	
1383035	480100	AUG-26-92	1.21E+04	6.05E+03	Across driveway from incinerator
1382921	480110	AUG-27-92	1.21E+04	6.05E+03	Along fence west of STP
1383100	480174	AUG-26-92	1.22E+04	6.10E+03	Area northeast of incinerator
1382925	480025	AUG-26-92	1.22E+04	6.10E+03	Gravel
1383100	480160	AUG-26-92	1.23E+04	6.15E+03	Area northeast of incinerator
1382923	480110	AUG-27-92	1.23E+04	6.15E+03	Along fence west of STP
1382923	480100	AUG-27-92	1.24E+04	6.20E+03	Along fence west of STP
1383072	480200	AUG-26-92	1.25E+04	6.25E+03	North of incinerator (inside STP)
1383275	479975	AUG-25-92	1.26E+04	6.30E+03	
1383085	480200	AUG-26-92	92E+04	6.35E+03	Area northeast of incinerator
1383085	480160	AUG-26-92	1.30E+04	6.50E+03	Area northeast of incinerator
1382921	480025	AUG-27-92	1.30E+04	6.50E+03	Along fence west of STP
1382925	479950	AUG-26-92	1.31E+04	6.55E+03	Gravel
1383085	480150	AUG-26-92	1.32E+04	6.60E+03	Across driveway from incinerator
1383072	480165	AUG-26-92	1.34E+04	6.70E+03	North of incinerator (inside STP)

East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
1382921	479950	AUG-27-92	1.35E+04	6.75E+03	Along fence west of STP
1383000	480200	AUG-26-92	1.36E+04	6.80E+03	North of incinerator (inside STP)
1388050	480200	AUG-26-92	1.36E+04	6.80E+03	North of incinerator (inside STP)
1382950	480200	AUG-26-92	1.38E+04	6.90E+03	North of incinerator (inside STP)
1383030	480100	AUG-26-92	1.38E+04	6.90E+03	Across driveway from incinerator
1382921	480100	AUG-27-92	1.38E+04	6.90E+03	Along fence west of STP
1383025	480200	AUG-26-92	1.42E+04	7.10E+03	North of incinerator (inside STP)
1383015	480080	AUG-26-92	1.43E+04	7.15E+03	Across driveway from incinerator
1383275	479870	AUG-25-92	1.43E+04	7.15E+03	
1383280	4479975	AUG-25-92	1.46E+04	7.30E+03	
1383029	480100	AUG-26-92	1.47E+04	7.35E+03	Across driveway from incinerator
1382925	480182	AUG-26-92	1.47E+04	7.35E+03	North of incinerator (inside STP)
1382912	480129	AUG-27-92	1.47E+04	7.35E+03	Along fence west of STP
1383265	479900	AUG-25-92	1.49E+04	7.45E+03	
1382925	480050	AUG-26-92	1.53E+04	7.65E+03	Gravel
1382922	480079	AUG-27-92	1.53E+04	7.65E+03	Along fence west of STP
1382921	480072	AUG-27-92	1.54E+04	7.70E+03	Along fence west of STP
1382921	480050	AUG-27-92	1.54E+04	7.70E+03	Along fence west of STP
1383084	480150	AUG-26-92	1.54E+04	7.70E+03	Across driveway from incinerator
1383000	480190	AUG-26-92	1.55E+04	7.75E+03	North of incinerator (inside STP)

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383275	479871	AUG-25-92	1.55E+04	7.75E+03	
	1383028	480100	AUG-26-92	1.56E+04	7.80E+03	Across driveway from incinerator
	1383050	480125	AUG-26-92	1.56E+04	7.80E+03	Across driveway from incinerator
	1383275	479988	AUG-25-92	1.57E+04	7.85E+03	
	1382912	480124	AUG-27-92	1.57E+04	7.85E+03	Along fence west of STP
	1383275	479990	AUG-25-92	1.58E+04	7.90E+03	
	1382921	480000	AUG-27-92	1.58E+04	7.90E+03	Along fence west of STP
	1383015	480082	AUG-26-92	1.58E+04	7.90E+03	Across driveway from incinerator
	1383000	480188	AUG-26-92	1.59E+04	7.95E+03	
	1383275	479910	AUG-25-92	1.60E+04	8.00E+03	
	1383278	479975	AUG-25-92	1.62E+04	8.10E+03	
	1383271	479900	AUG-25-92	1.65E+04	8.25E+03	
	1383923	480077	AUG-27-92	1.65E+04	8.25E+03	Along fence west of STP
	1383274	479975	AUG-25-92	1.66E+04	8.30E+03	
	1382912	480175	AUG-27-92	1.66E+04	8.30E+03	Along fence west of STP
	1382925	480181	AUG-26-92	1.68E+04	8.40E+03	North of incinerator (inside STP)
B	1383275	479872	AUG-25-92	1.71E+04	8.55E+03	South boundary #2
B	1382921	480150	AUG-27-92	1.71E+04	8.55E+03	Along fence west of STP
B	1383060	480165	AUG-26-92	1.72E+04	8.60E+03	East incinerator boundary
B	1383275	479974	AUG-25-92	1.73E+04	8.65E+03	South boundary #1
	1383275	479873	AUG-25-92	1.75E+04	8.75E+03	
B	1383270	479900	AUG-25-92	1.75E+04	8.75E+03	West boundary #2
B	1383275	479909	AUG-25-92	1.76E+04	8.80E+03	North boundary #2

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
B	1383027	480100	AUG-26-92	1.78E+04	8.90E+03	Across driveway from incinerator - boundary for #3
	1383275	479907	AUG-25-92	1.79E+04	8.95E+03	
	1383275	479874	AUG-25-92	1.80E+04	9.00E+03	
	1383275	479908	AUG-25-92	1.82E+04	9.10E+03	
B	1383000	480185	AUG-26-92	1.83E+04	9.15E+03	North incinerator boundary
	1383275	479906	AUG-25-92	1.84E+04	9.20E+03	
	1383275	479900	AUG-25-92	1.84E+04	9.20E+03	Point #2 (SE)
	1383050	480165	AUG-26-92	1.85E+04	9.25E+03	North of incinerator (inside STP)
	1383275	479900	AUG-25-92	1.85E+04	9.25E+03	
B	1383277	479975	AUG-25-92	1.85E+04	9.25E+03	East boundary #1
	1383055	480165	AUG-26-92	1.88E+04	9.40E+03	
B	1383275	479987	AUG-25-92	1.88E+04	9.40E+03	North boundary #1
B	1383083	480150	AUG-26-92	1.89E+04	945E+03	Across driveway from incinerator - boundary for #3
B	1383049	480125	AUG-26-92	1.89E+04	9.45E+03	Across driveway from incinerator - boundary for #3
B	1382915	480124	AUG-27-92	1.89E+04	9.45E+03	Along fence west of STP
	1383275	479905	AUG-25-92	1.91E+04	9.55E+03	
	1383275	479875	AUG-25-92	1.93E+04	9.65E+03	
	1383075	480145	AUG-26-92	1.94E+04	9.70E+03	Across driveway from incinerator
B	1382923	480075	AUG-27-92	1.94E+04	9.70E+03	Along fence west of STP - hot spot
B	1382921	480179	AUG-27-92	1.95E+04	9.75E+03	Along fence west of STP
B	1382923	480076	AUG-27-92	1.96E+04	9.80E+03	Along fence west of STP - hot spot
B	1382923	480072	AUG-27-92	1.98E+04	9.90E+03	Along fence west of STP - hot spot

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383275	479980	AUG-25-92	2.01E+04	1.01E+04	
	1383290	480184	AUG-26-92	2.05E+04	1.03E+04	In contaminated area along east STP fence
	1383025	480100	AUG-26-92	2.09E+04	1.05E+04	Across driveway from incinerator - point #3
	1383000	480180	AUG-26-92	2.10E+04	1.05E+04	North of incinerator (inside STP)
	1382925	480175	AUG-26-92	2.14E+04	1.07E+04	North of incinerator (inside STP)
	1383275	479895	AUG-25-92	2.16E+04	1.08E+04	
	1382925	479925	AUG-26-92	2.19E+04	1.10E+04	Gravel - flagged location, but not part of boundary
B	1383275	479975	AUG-25-92	2.23E+04	1.12E+04	Point #1 (SE) - west boundary #1
B	1382921	480125	AUG-27-92	2.27E+04	1.14E+04	Along fence west of STP
B	1382925	480180	AUG-26-92	2.28E+04	1.14E+04	West incinerator boundary
	1383290	480005	AUG-26-92	2.31E+04	1.16E+04	In contaminated area along east STP fence
B	1382919	480125	AUG-27-92	2.36E+04	1.18E+04	Along fence west of STP
B	1382921	480130	AUG-27-92	2.39E+04	1.20E+04	Along fence west of STP
	1383060	480145	AUG-26-92	2.43E+04	1.22E+04	Across driveway from incinerator
	1383275	479880	AUG-25-92	2.47E+04	1.24E+04	
	1383280	479900	AUG-25-92	2.53E+04	1.27E+04	
B	1383015	480084	AUG-26-92	2.53E+04	1.27E+04	Across driveway from incinerator - boundary for #3
	1382975	480165	AUG-26-92	2.56E+04	1.28E+04	North of incinerator (inside STP)
	1383275	479885	AUG-25-92	2.63E+04	1.32E+04	
	1383290	480175	AUG-26-92	2.65E+04	1.33E+04	In contaminated area along east STP fence

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383050	480139	AUG-26-92	2.68E+04	1.34E+04	Across driveway from incinerator
	1383070	480145	AUG-26-92	2.75E+04	1.38E+04	Across driveway from incinerator
	1383000	480175	AUG-26-92	2.87E+04	1.44E+04	North of incinerator (inside STP)
	1382940	480075	AUG-26-92	2.99E+04	1.50E+04	Along west rad rope inside STP
	1382925	480150	AUG-26-92	3.11E+04	1.56E+04	West of incinerator (inside STP)
	1383025	480165	AUG-26-92	3.17E+04	1.59E+04	North of incinerator (inside STP)
	1383045	480125	AUG-26-92	3.18E+04	1.59E+04	Across driveway from incinerator
	1383080	480150	AUG-26-92	3.31E+04	1.66E+04	Across driveway from incinerator
	1383275	479890	AUG-25-92	3.36E+04	1.68E+04	
	1383015	480085	AUG-26-92	3.49E+04	1.75E+04	Across driveway from incinerator
	1383290	480150	AUG-26-92	3.57E+04	1.79E+04	In contaminated area along east STP fence
	1383025	480117	AUG-26-92	3.62E+04	1.81E+04	Across driveway from incinerator
	1382925	480100	AUG-26-92	3.63E+04	1.82E+04	Gravel
	1382925	480110	AUG-26-92	3.63E+04	1.82E+04	West of incinerator (inside STP)
	1382940	480090	AUG-26-92	3.68E+04	1.84E+04	Along west rad rope inside STP
	1383000	480165	AUG-26-92	3.80E+04	1.90E+04	North of incinerator (inside STP)
B	1383285	479900	AUG-25-92	3.85E+04	1.93E+04	East boundary #2
	1383290	480125	AUG-26-92	3.92E+04	1.96E+04	In contaminated area along east STP fence
	1383275	479985	AUG-25-92	4.06E+04	2.03E+04	
	1383031	480125	AUG-26-92	4.12E+04	2.06E+04	Across driveway from incinerator

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383290	480025	AUG-26-92	4.30E+04	2.15E+04	In contaminated area along east STP fence
	1383290	480100	AUG-26-92	4.46E+04	2.23E+04	In contaminated area along east STP fence
	1383290	480075	AUG-26-92	5.92E+04	2.96E+04	In contaminated area along east STP fence
	1383290	480050	AUG-26-92	6.78E+04	3.39E+04	In contaminated area along east STP fence
B	1382925	480075	AUG-26-92	7.08E+04	3.54E+04	Gravel - concrete slabs - south incinerator boundary
	1382925	480125	AUG-26-92	7.64E+04	3.82E+04	West of incinerator (inside STP)
B	1382870	479950	JUL-31-92	1.14E+04	5.70E+03	
	1383100	480050	AUG-04-92	1.14E+04	5.70E+03	
B	1383300	480025	AUG-03-92	1.14E+04	5.70E+03	Cow path
	1382882	479925	JUL-30-92	1.15E+04	5.75E+03	
B	1382900	479700	JUL-31-92	1.15E+04	5.75E+03	
	1382880	479925	JUL-30-92	1.20E+04	6.00E+03	
	1382915	480175	JUL-30-92	1.20E+04	6.00E+03	
	1383225	479875	AUG-03-92	1.20E+04	6.00E+03	
	1383200	479875	AUG-03-92	1.21E+04	6.05E+03	
	1382860	479925	JUL-31-92	1.22E+04	6.10E+03	
	1382900	479750	JUL-31-92	1.22E+04	6.10E+03	
	1383025	480050	AUG-04-92	1.23E+04	6.15E+03	
	1383075	479900	AUG-03-92	1.23E+04	6.15E+03	
	1383275	479950	AUG-03-92	1.24E+04	6.20E+03	
	1382910	479760	JUL-31-92	1.25E+04	6.25E+03	
	1382910	479725	JUL-31-92	1.26E+04	6.30E+03	
	1383050	4480100	AUG-04-92	1.26E+04	6.30E+03	On top of water filter inside STP
	1383100	479875	AUG-03-92	1.26E+04	6.30E+03	
	1383125	479875	AUG-03-92	1.26E+04	6.30E+03	

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383125	480000	AUG-03-92	1.26E+04	6.30E+03	
	1383150	479975	AUG-03-92	1.26E+04	6.30E+03	Next to white building
	1383050	479925	AUG-03-92	1.27E+04	6.35E+03	
	1383050	479875	AUG-03-92	1.27E+04	6.35E+03	
	1382875	479950	JUL-30-92	1.28E+04	6.40E+03	
B	1382920	480025	JUL-30-92	1.29E+04	6.45E+03	
	1383225	479900	AUG-03-92	1.29E+04	6.45E+03	
	1382926	480100	JUL-28-92	1.30E+04	6.50E+03	
	1383150	480075	AUG-04-92	1.30E+04	6.50E+03	
	1383175	480000	AUG-03-92	1.32E+04	6.60E+03	
B	1382865	479725	JUL-31-92	1.35E+04	6.75E+03	
	1383275	480000	AUG-03-92	1.37E+04	6.85E+03	
	1383125	479900	AUG-03-92	1.38E+04	6.90E+03	
	1383050	480125	AUG-04-92	1.40E+04	7.00E+03	
	1383200	479900	AUG-03-92	1.41E+04	7.05E+03	
	1383150	480025	AUG-04-92	1.42E+04	7.10E+03	
B	1383300	480150	AUG-03-92	1.42E+04	7.10E+03	Cow path
	1383200	480000	AUG-03-92	1.43E+04	7.15E+03	
	1383275	479925	AUG-03-92	1.43E+04	7.15E+03	
	1383300	480050	AUG-03-92	1.43E+04	7.15E+03	Cow path
	1383150	480050	AUG-04-92	1.47E+04	7.35E+03	
	1383125	479975	AUG-03-92	1.48E+04	7.40E+03	
	1383300	480125	AUG-03-92	1.49E+04	7.45E+03	Cow path
	1382870	479725	JUL-31-92	1.50E+04	7.50E+03	
	1383275	479875	AUG-03-92	1.52E+04	7.60E+03	
	1383125	480050	AUG-04-92	1.53E+04	7.65E+03	
	1383050	479900	AUG-03-92	1.54E+04	7.70E+03	
	1383075	480103	AUG-04-92	1.55E+04	7.75E+03	On top of water filter inside STP
	1382925	480175	JUL-03-92	1.56E+04	7.80E+03	Wet over near corner
	1383300	480100	AUG-03-92	1.62E+04	8.10E+03	Cow path

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
	1383025	479900	AUG-03-92	1.64E+04	8.20E+03	
	1382900	479725	JUL-31-92	1.67E+04	8.35E+03	
	1382875	479925	JUL-30-92	1.68E+04	8.40E+03	
	1383200	479950	AUG-03-92	1.73E+04	8.65E+03	
	1383025	480100	AUG-04-92	2.12E+04	1.06E+03	Near incinerator inside STP
	1383275	479900	AUG-03-92	2.53E+04	1.27E+04	
	1383275	4479975	AUG-03-92	2.62E+04	1.31E+03	
B	1383275	479872	AUG-25-92	1.71E+04	8.55E+03	South boundary #2
B	1383270	479900	AUG-25-92	1.75E+04	8.75E+03	West boundary #2
B	1383285	479900	AUG-25-92	3.85E+04	1.93E+03	East boundary #2
B	1383275	479909	AUG-25-92	1.76E+04	8.80E+03	North boundary #2
B	1383275	479974	AUG-25-92	4.73E+04	8.65E+03	South boundary #1
B	1383275	479975	AUG-25-92	2.23E+04	1.12E+03	Point #1 (SE) - west boundary #1
B	1383277	479975	AUG-25-92	1.85E+04	9.25E+03	East boundary #1
B	1383275	479987	AUG-25-92	1.88E+04	9.40E+03	North boundary #1
B	1382923	480072	AUG-27-92	1.98E+04	9.90E+03	Along fence west of STP - hot spot
B	1382923	480075	AUG-27-92	1.94E+04	9.70E+03	Along fence west of STP - hot spot
B	1382925	480075	AUG-26-92	7.08E+04	3.54E+03	Gravel - concrete slabs - south incinerator boundary
B	1382923	480076	AUG-27-92	1.96E+04	9.80E+03	Along fence west of STP - hot spot
B	1383015	480084	AUG-26-92	2.53E+04	1.27E+04	Across driveway from incinerator
B	1383027	480100	AUG-26-92	1.78E+04	8.90E+03	Across driveway from incinerator
B	1382915	480124	AUG-27-92	1.89E+04	9.45E+03	Along fence west of STP
B	1382919	480125	AUG-27-92	2.36E+04	1.18E+04	Along fence west of STP

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
B	1382921	480125	AUG-27-92	2.27E+04	1.14E+04	Along fence west of STP
B	1383049	480125	AUG-26-92	1.89E+04	9.45E+03	Across driveway from incinerator
B	1382921	480130	AUG-27-92	2.39E+04	1.20E+04	Along fence west of STP
B	1382921	480150	AUG-27-92	1.71E+04	8.55E+03	Along fence west of STP
B	1383083	480150	AUG-26-92	1.89E+04	9.45E+03	Across driveway from incinerator
B	1383060	480165	AUG-26-92	1.72E+04	8.60E+03	East incinerator boundary
B	1382921	480179	AUG-27-92	1.95E+04	9.75E+03	Along fence west of STP
B	1382925	480180	AUG-26-92	2.28E+04	1.14E+04	West incinerator boundary
B	1383000	480185	AUG-26-92	1.83E+04	9.15E+03	North incinerator boundary
B	1382875	479700	JUL-31-92	9.95E+04	4.98E+03	Highest of 3 readings - southernmost radium spot
B	1382900	479700	JUL-31-92	1.15E+04	5.75E+03	Southernmost radium spot
B	1382865	479725	JUL-31-92	1.35E+04	6.75E+03	Southernmost radium spot
B	1382911	479725	JUL-31-92	1.10E+04	5.50E+03	Southernmost radium spot
B	1382900	479755	JUL-31-92	1.09E+04	5.45E+03	Southernmost radium spot
B	1382912	479760	JUL-31-92	1.06E+04	5.30E+03	Southernmost radium spot
B	1382855	479925	JUL-31-92	1.02E+04	5.10E+03	Radium spot adjacent to STP drive
B	1382883	479925	JUL-30-92	1.10E+04	5.50E+03	Radium spot adjacent to STP drive
B	1382870	479950	JUL-31-92	1.14E+04	5.70E+03	Radium spot adjacent to STP drive

Table B.2-1. Radiological walkover survey data.

	East Coordinate	North Coordinate	Date	SPA-3 Reading (cp2m)	SPA-3 Reading (cpm)	Comments
B	1382883	479950	JUL-30-92	1.01E+04	5.05E+03	Radium spot adjacent to STP drive
B	1382923	480000	JUL-28-92	1.06E+04	5.30E+03	West of STP
B	1382920	480025	JUL-30-92	1.29E+04	6.45E+03	West of STP
B	1383300	480025	AUG-03-92	1.14E+04	5.70E+03	Cow path
B	1382880	480050	JUL-30-92	1.03E+04	5.15E+03	West of STP
B	1382880	480075	JUL-30-92	1.05E+04	5.25E+03	West of STP
B	1382870	480125	JUL-30-92	1.00E+04	5.00E+03	Highest of 2 readings - west of STP
B	1382760	480150	JUL-30-92	1.02E+04	5.10E+03	Highest of 3 readings - west of STP
B	1383300	480150	AUG-03-92	1.42E+04	7.10E+03	Cow path
B	1382910	480175	JUL-30-92	1.00E+04	5.00E+03	West of STP
B	1383127	480205	JUL-29-92	1.00E+04	5.00E+03	North of STP
B	1382987	480210	JUL-30-92	1.05E+04	5.25E+03	Along the fence - North of STP
B	1383121	480225	JUL-29-92	1.01E+04	5.05E+03	North of STP
B	1383000	480246	JUL-28-92	1.01E+04	5.05E+03	North of STP
B	1383040	480275	JUL-29-92	1.01E+04	5.05E+03	North of STP
B	1383100	480280	JUL-27-92	1.03E+04	5.15E+03	North of STP
B	1383075	480297	JUL-29-92	1.01E+04	5.05E+03	Highest of 2 readings - north of STP
B	1383050	480301	JUL-29-92	1.01E+04	5.05E+03	North of STP
B	1383060	480306	JUL-29-92	1.01E+04	5.05E+03	Highest of 3 readings - north of STP

B = boundary point for soil excavation.

Table B.2-2. On-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	Datachem ID #	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
ASI-1	0-2	103501	103503	1.57	1.79	1.6	2.7	1.5	71.3	2.7	69.9	132.0	89.2	247	167.0
ASI-1	2-4	103504	103506	1.64	1.77	1.9	8.6	1.7	75.2	3.1	75.8	119.0	80.4	245	165.6
ASI-1	4-6	103507	103509	1.55	1.58	0.8	1.5	0.9	35.9	1.9	34.6	57.4	38.8	73	49.3
ASI-1	6-12	103510	103512	1.49	1.32	1.3	1.3	1.5	1.6	0.1	1.7	6.5	4.4	<11	<7.4
ASI-1	12-18	103513	103515	1.68	1.48	1.3	1.5	1.0	1.1	0.01	1.5	2.7	1.8	<11	<7.4
ASI-2	0-2	103517	103516	1.52	1.64	1.0	1.9	1.2	60.4	2.6	62.1	115.0	77.7	225	152.1
ASI-2	2-4	103518	103519	1.45	1.69	0.8	1.6	1.0	50.1	2.4	49.4	100.0	67.6	202	136.6
ASI-2	4-6	103520	103521	1.43	1.38	1.3	1.6	1.4	19.3	1.3	18.3	37.9	25.6	78	52.7
ASI-2	6-12	103522	103523	1.38	1.31	0.8	0.9	1.2	2.3	0.2	2.3	39.7	26.8	<11	<7.4
ASI-2	12-18	103524	103525	1.64	1.46	1.0	1.6	1.0	1.5	0.1	1.4	28.8	19.5	<11	<7.4
ASI-3	0-2	103532	103535	1.24	1.27	0.7	1.6	0.7	35.9	2.0	36.7	83.5	56.4	118	79.8
ASI-3	2-4	103536	103538	1.85	1.63	0.7	1.5	0.6	27.4	1.1	28.1	65.6	44.3	85	57.5
ASI-3	4-6	103539	103541	1.72	1.64	0.4	1.5	1.1	21.9	1.4	25.0	49.4	33.4	84	56.8
ASI-3	6-12	103542	103544	1.55	1.37	0.3	0.9	0.5	17.4	0.9	18.4	38.7	26.2	28	18.9
ASI-3	12-18	103545	103547	1.51	1.30	0.5	1.0	0.8	12.8	0.8	12.7	25.2	17.0	34	23.0
ASI-4	0-2	103548	103549	1.43	1.32	1.2	1.7	1.3	13.4	0.7	14.1	16.6	11.2	46	31.1
ASI-4	2-4	103550	103551	1.43	1.23	0.9	1.5	1.0	9.1	0.3	9.4	17.5	11.8	30	20.3
ASI-4	4-6	103552	103553	1.55	1.17	0.9	1.5	1.1	5.7	0.2	5.6	7.8	5.3	18	12.2
ASI-4	6-12	103554	103555	1.57	1.34	1.1	1.1	1.5	2.1	0.1	2.4	4.1	2.8	<11	<7.4
ASI-4	12-18	103556	103557	1.54	1.38	1.2	1.5	1.3	2.3	0.1	2.7	4.2	2.8	<11	<7.4
ASI-5	0-2	103558	103559	1.57	1.66	1.3	3.4	1.7	74.0	5.0	82.5	158.0	106.8	244	164.9
ASI-5	2-4	103560	103561	1.69	1.70	1.0	2.8	1.4	73.5	4.3	76.4	147.6	99.8	228	152.8
ASI-5	4-6	103562	103563	1.50	1.49	1.8	3.0	1.8	67.2	3.6	67.6	135.6	91.7	171	115.6
ASI-5	6-12	103564	103565	1.49	1.31	1.3	1.3	1.0	9.7	0.5	9.8	22.5	15.2	34	23.0
ASI-5	12-18	103566	103567	1.37	1.30	0.8	1.5	1.1	2.5	0.1	2.4	3.8	2.6	<11	<7.4
ASI-6	0-2	103569	103570	0.96	1.25	1.0	3.4	1.9	80.7	3.8	78.7	182.0	123.0	235	158.9

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Table B.2-2. On-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	Datachem ID #	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
ASI-6	2-4	103571	103572	0.84	1.32	1.2	1.7	1.4	53.4	2.2	54.5	129.0	87.2	164	110.9
ASI-6	4-6	103573	103574	0.91	1.17	1.1	1.5	1.1	23.4	0.9	24.0	47.1	31.8	61	41.2
ASI-6	6-12	103575	103576	0.81	0.97	1.1	1.5	1.2	3.4	0.1	3.1	6.5	4.4	20	13.5
ASI-6	12-18	103577	103578	0.81	1.10	1.0	1.4	1.0	1.3	<0.01	1.4	3.6	2.4	<11	<7.4
ASI-7	0-2	103579	103580	0.85	1.32	1.4	2.4	1.6	50.0	1.9	49.1	102.0	69.0	144	97.3
ASI-7	2-4	103581	103582	0.92	1.38	1.3	2.6	1.4	45.9	2.9	46.7	97.6	66.0	137	92.6
ASI-7	4-6	103583	103584	0.88	1.34	1.3	2.6	1.4	37.6	2.0	38.1	74.4	50.3	90	60.8
ASI-7	6-12	103585	103586	0.95	1.08	1.3	1.7	1.5	6.2	0.2	5.6	14.0	9.5	20	13.5
ASI-7	12-18	103587	103588	0.80	1.03	1.2	1.8	1.8	2.4	0.2	2.5	5.3	3.6	14	9.5
ASI-8	0-2	103677	103679	1.39	1.39	3.1	4.5	1.2	92.0	5.1	93.9	247.0	167.0	307	207.5
ASI-8	2-4	103680	103682	1.85	1.33	3.1	4.5	1.1	70.4	3.6	70.2	194.0	131.1	210	142.0
ASI-8	4-6	103683	103685	1.82	1.29	3.5	4.1	1.2	40.1	2.8	71.7	120.0	81.1	45	30.4
ASI-8	6-12	103686	103688	1.14	0.96	2.4	2.2	0.6	17.4	0.9	17.3	50.1	33.9	<11	<7.4
ASI-8	12-18	103689	103691	1.10	1.11	3.4	1.3	1.3	2.4	0.1	2.3	5.9	4.0	<11	<7.4
ASI-8	18-24	103692	103694	1.17	1.13	3.3	1.7	1.0	1.1	0.1	1.2	2.7	1.8	255	172.4
ASI-9	0-2	103715	103716	1.24	1.52	2.8	2.6	1.1	77.8	4.5	76.6	226.4	153.0	227	153.5
ASI-9	2-4	103717	103718	1.32	1.63	2.7	2.5	1.5	64.6	4.5	64.8	211.6	143.0	169	114.2
ASI-9	4-6	103719	103720	1.20	1.42	2.1	2.4	1.3	63.1	3.9	62.0	192.0	129.8	178	120.3
ASI-9	6-12	103721	103722	1.23	1.19	3.3	1.9	1.3	11.4	0.6	11.6	34.4	23.3	50	33.8
ASI-9	12-18	103723	103724	1.33	1.17	3.0	1.2	1.0	3.5	0.1	3.2	8.6	5.8	<11	<7.4
ASI-9	18-24	103725	103726	1.28	1.10	3.9	1.9	1.1	2.8	0.2	2.5	6.5	4.4	<11	<7.4
ASI-10	0-2	103701	103702	2.05	1.54	2.6	4.2	1.1	44.5	3.2	46.6	142.0	96.0	168	113.6
ASI-10	2-4	103703	103704	1.89	1.41	3.1	4.7	1.5	41.6	2.5	41.7	109.2	73.8	114	77.1
ASI-10	4-6	103705	103706	1.77	1.18	1.9	2.3	1.0	19.8	1.0	20.3	49.3	33.3	54	36.5
ASI-10	6-12	103707	103708	1.69	1.00	2.9	2.5	1.0	10.3	0.5	10.5	27.8	18.8	24	16.2
ASI-10	12-18	103709	103710	4.39	0.77	3.4	6.6	0.6	7.8	0.4	7.0	18.1	12.2	14	9.5

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Table B.2-2. On-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	Datachem ID #	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
ASI-10	18-24	103711	103712	0.92	0.58	2.2	1.1	0.6	3.2	0.2	3.2	7.6	5.1	<11	<7.4
ASI-11	0-2	103770	103771	1.65	1.66	1.7	3.2	1.7	71.2	4.2	68.2	172.4	116.5	197	133.2
ASI-11	2-4	103772	103773	1.81	1.58	1.7	3.0	1.5	39.4	1.8	38.8	124.8	84.4	138	93.3
ASI-11	4-6	103774	103775	1.49	1.27	1.1	2.3	1.1	28.4	1.5	27.3	73.2	49.5	80	54.1
ASI-11	6-12	103776	103777	1.31	1.13	1.3	1.4	1.3	9.5	0.7	9.3	33.8	22.8	28	18.9
ASI-11	12-18	103778	103779	1.31	1.13	1.1	1.2	1.3	2.1	0.1	2.3	6.4	4.3	<11	<7.4
ASI-11	18-24	103780	103781	1.38	1.21	1.3	1.4	1.0	1.6	0.1	1.8	5.0	3.4	<11	<7.4
ASI-12	0-2	103754	103755	1.50	1.44	1.2	2.1	1.1	46.7	2.6	47.3	148.4	100.3	160	108.2
ASI-12	2-4	103756	103757	1.45	1.28	1.4	2.4	1.2	43.1	2.4	43.4	142.8	96.5	77	52.1
ASI-12	4-6	103758	103759	1.22	1.16	0.8	1.4	1.1	24.9	1.0	24.6	66.0	44.6	<11	<7.4
ASI-12	6-12	103760	103761	1.07	1.06	1.0	1.1	0.9	3.5	0.1	3.3	9.8	6.6	135	91.3
ASI-12	12-18	103762	103763	1.21	1.07	1.1	1.2	1.1	1.2	0.0	1.2	3.6	2.4	<11	<7.4
ASI-12	18-24	103764	103765	1.29	1.24	1.0	0.9	0.9	1.2	0.1	1.1	3.2	2.2	<11	<7.4
ASI-13	0-2	103730	103732	2.53	1.24	1.0	4.3	1.5	29.6	1.6	29.9	72.3	48.9	84	58.8
ASI-13	2-4	103733	103735	2.78	1.38	1.2	4.3	1.2	27.0	1.1	25.3	61.5	41.6	75	50.7
ASI-13	4-6	103736	103738	2.68	1.07	0.9	4.0	0.8	18.8	1.2	19.5	40.9	27.6	48	32.4
ASI-13	6-12	103739	103741	2.49	1.04	0.8	2.8	0.8	9.5	0.5	9.4	26.9	18.2	17	11.5
ASI-13	12-18	103742	103744	1.02	0.79	0.6	1.1	0.7	3.8	0.2	3.7	9.2	6.2	<11	<7.4
ASI-13	18-24	103745	103747	0.86	0.74	0.7	1.0	0.6	1.0	0.1	1.2	3.9	2.7	<11	<7.4
ASI-14	0-2	103637	103638	12.50	1.08	2.1	33.2	1.2	31.0	1.3	31.5	74.7	50.5	100	67.6
ASI-14	2-4	103639	103640	13.40	1.13	2.2	25.6	0.7	26.0	1.0	26.0	66.0	44.6	88	58.1
ASI-14	4-6	103641	103642	15.40	1.09	2.5	28.9	1.4	19.9	0.8	22.0	48.9	33.1	62	41.9
ASI-14	6-12	103643	103644	3.84	0.92	3.7	6.9	1.1	9.7	0.5	10.9	24.8	16.8	23	15.5
ASI-14	12-18	103645	103646	1.37	0.97	2.8	1.4	0.7	3.8	0.1	4.3	10.0	6.8	<11	<7.4
ASI-14	18-24	103647	103648	1.22	1.11	3.3	1.8	0.7	1.6	0.0	1.6	3.8	2.6	<11	<7.4
ASI-15	0-2	103786	103787	16.60	1.15	1.4	31.9	1.0	29.0	1.6	28.8	100.0	67.6	112	75.7

Table B.2-2. On-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	Datachem ID #	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
ASI-15	2-4	103788	103789	17.80	1.21	1.6	30.2	1.2	29.6	1.7	29.4	102.0	69.0	104	70.3
ASI-15	4-62	103790	103791	11.20	0.89	1.4	26.0	1.2	18.1	0.9	17.0	51.7	34.9	56	37.9
ASI-15	6-12	103792	103793	4.06	1.14	1.2	5.2	1.2	8.1	0.3	8.2	24.1	16.3	21	14.2
ASI-15	12-18	103794	103795	1.26	1.10	1.1	1.9	0.9	3.1	0.1	2.8	11.5	7.8	<11	<7.4
ASI-15	18-24	103796	103797	1.47	1.33	1.2	1.5	1.4	1.7	0.0	1.8	5.0	3.4	<11	<7.4
ASI-16	0-2	103802	103804	5.43	1.24	1.1	17.1	1.4	30.9	1.7	30.2	94.6	63.9	98	66.2
ASI-16	2-4	103805	103807	6.29	1.23	1.0	12.8	1.1	34.0	2.1	35.8	87.6	59.2	104	70.3
ASI-16	4-6	103808	103810	9.31	1.17	1.2	16.4	1.3	31.3	1.9	33.3	99.5	67.3	101	68.3
ASI-16	6-12	103811	103813	12.40	0.91	1.0	19.7	0.8	15.7	0.7	15.7	47.2	31.9	42	28.4
ASI-16	12-18	103814	103816	3.10	0.98	1.0	4.0	0.7	8.6	0.6	9.3	27.0	18.3	18	12.2
ASI-16	18-24	103817	103819	1.65	1.16	1.4	2.8	1.3	3.3	0.2	3.8	11.4	7.7	<11	<7.4
ASI-17	0-2	103604	103605	15.70	1.04	2.8	47.0	1.0	36.6	1.6	36.8	93.8	63.4	110	74.4
ASI-17	2-4	103606	103607	15.60	1.00	3.0	46.7	1.0	37.0	1.7	34.1	99.7	67.4	109	73.7
ASI-17	4-6	103608	103609	14.50	1.21	3.2	8.2	0.8	24.0	1.1	24.1	74.69	50.4	14	9.5
ASI-17	6-12	103610	103611	4.10	1.09	2.3	6.8	1.1	7.8	0.5	8.4	32.2	21.8	84	56.8
ASI-17	12-18	103612	103613	1.16	1.02	2.6	1.2	1.2	1.3	0.0	1.5	22.5	15.2	<11	<7.4
ASI-17	18-24	103614	103615	1.32	1.18	2.6	3.3	0.8	26.0	1.4	28.9	27.3	18.5	<11	<7.4
ASI-18	0-2	103620	103621	1.59	0.82	2.2	3.4	1.1	19.2	0.9	20.5	80.2	54.2	76	51.4
ASI-18	2-4	103622	103623	1.83	0.97	2.5	2.9	1.0	19.1	1.1	21.0	71.3	48.2	63	42.6
ASI-18	4-6	103624	103625	1.71	0.86	2.3	2.7	0.7	19.8	1.3	20.3	78.7	53.2	63	42.6
ASI-18	6-12	103626	103627	1.51	1.10	2.1	1.6	0.8	8.0	0.4	8.5	50.8	34.3	19	12.8
ASI-18	12-18	103628	103629	1.10	1.00	2.4	1.5	1.0	1.6	0.1	2.0	49.5	33.5	<11	<7.4
ASI-18	18-24	103630	103631	1.36	1.39	2.8	1.8	1.0	1.0	0.0	0.9	40.4	27.3	<11	<7.4
ASI-19	0-2	103654	103656	1.26	1.02	2.4	2.1	1.2	5.4	0.3	5.7	15.3	10.3	<11	<7.4
ASI-19	2-4	1023657	103659	1.39	1.15	2.5	1.7	1.1	4.6	0.2	4.5	14.0	9.5	<11	<7.4
ASI-19	4-6	103660	103662	0.88	0.83	2.8	1.4	0.8	5.2	0.4	5.9	18.2	12.3	<11	<7.4

Table B.2-2. On-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	Datachem ID #	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
ASI-19	6-12	103663	103665	0.99	1.02	2.4	1.1	1.2	3.3	0.2	3.6	9.8	6.6	<11	<7.4
ASI-19	12-18	103666	103668	1.10	1.09	2.6	1.4	0.9	1.5	0.2	2.0	3.9	2.6	<11	<7.4
ASI-19	18-24	103669	103671	1.14	1.13	2.5	1.5	1.4	1.4	0.0	1.5	3.8	2.6	<11	<7.4
ASI-20	18-24	—	103826	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	206.1
ASI-20	24-30	—	103827	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	209.5
ASI-20	30-36	—	103828	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67.6
ASI-20	36-42	—	103829	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	39.2
ASI-20	42-48	—	103830	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	33.1
ASI-21	12-18	—	103831	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	83.8
ASI-21	18-24	—	103832	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-21	24-30	—	103833	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-21	30-36	—	103834	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-21	36-42	—	103835	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-21	42-48	—	103836	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-22	0-6	—	103874	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	228.4
ASI-22	6-12	—	103875	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	104.1
ASI-22	12-18	—	103876	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	74.3
ASI-22	18-24	—	103877	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-22	24-30	—	103878	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-22	30-36	—	103879	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-22	36-42	—	103880	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-22	42-48	—	103881	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	19.6
ASI-23	6-12	—	103848	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	37.8
ASI-23	12-18	—	103849	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-23	18-24	—	103850	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-23	24-30	—	103851	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4

Table B.2-2. On-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	Datachem ID #	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
ASI-23	30-36	—	103852	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-23	36-42	—	103853	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-23	42-48	—	103854	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-24	6-12	—	103855	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	64.9
ASI-24	12-18	—	103856	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	46.6
ASI-24	18-24	—	103857	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.2
ASI-24	24-30	—	103858	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-24	30-36	—	103859	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-24	36-42	—	103860	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-24	42-48	—	103861	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-25	12-18	—	103838	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-25	18-24	—	103839	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-25	24-30	—	103840	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14.9
ASI-26	6-12	—	103841	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-26	12-18	—	103842	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-26	18-24	—	103843	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-26	24-30	—	103844	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-26	30-36	—	103845	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-26	36-42	—	103846	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-26	42-48	—	103847	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-27	0-6	—	103882	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	60.1
ASI-27	6-12	—	103883	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-27	12-18	—	103884	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-28	0-6	—	103885	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	80.4
ASI-28	6-12	—	103886	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-28	12-18	—	103887	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4

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Table B.2-2. On-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	Datachem ID #	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
ASI-29	0-6	—	103862	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-29	6-12	—	103863	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**140.5**
ASI-29	12-18	—	103864	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-30	0-6	—	103865	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**69.6**
ASI-30	6-12	—	103866	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-30	12-18	—	103867	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-31	0-6	—	103868	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**68.9**
ASI-31	6-12	—	103869	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-31	12-18	—	103870	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-32	0-6	—	103871	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	**100**
ASI-32	6-12	—	103872	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4
ASI-32	12-18	—	103873	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<7.4

Bolded values indicate a detection.
N/A No analysis.
— No sample ID number.

Table B.2-3. On-property soil sampling data—HSL results.

			Volatile Organic Results, µg/kg		
Soil Sample Location	Depth (in.)	HSL ID#/ Dioxin ID#	Acetone (50)[1/]	Toluene (10)[1/]	Methylene Chloride (10)[1/]
ASI-1	0-2	103501/103502	--	--	--
ASI-1	2-4	103504/103505	--	--	--
ASI-1	4-6	103507/103508	--	2 J	--
ASI-1	6-12	103510/103511	--	2 J	--
ASI-1	12-18	103513/103514	--	--	--
ASI-3	0-2	103532/103534	--	--	--
ASI-3	2-4	103536/103537	--	--	--
ASI-3	4-6	103539/103540	--	--	--
ASI-3	6-12	103542/103543	--	--	--
ASI-3	12-18	103545/103546	--	--	--
ASI-8	0-2	103677/103678	--	--	--
ASI-8	2-4	103680/103681	17 B/18 B	--	2 J
ASI-8	4-6	103683/103684	--	U/7 J	--
ASI-8	6-12	103686/103687	11 BJ	--	--
ASI-8	12-18	103689/103690	15 B	--	--
ASI-8	18-24	103692/103693	11 BJ/12 BJ	--	U/2 BJ
ASI-13	0-2	103730/103731	--	2 J/U	1 J/U
ASI-13	2-4	103733/103734	11 BJ/U	--	--
ASI-13	4-6	103736/103737	--	--	1 J/2 J
ASI-13	6-12	103739/103740	10 BJ/8 BJ	U/3 J	U/3 J
ASI-13	12-18	103742/103743	11 BJ	--	--
ASI-13	18-24	103745/103746	14 B/13 B	--	U/2 J

Table B.2-3. On-property soil sampling data—HSL results.

Volatile Organic Results, μg/kg (cont.)

Soil Sample Location	Depth (in.)	HSL ID#/ Dioxin ID#	Acetone (50)[1/]	Toluene (10)[1/]	Methylene Chloride (10)[1/]
ASI-16	0-2	103802/103803	--	--	--
ASI-16	2-4	103805/103806	U/5 BJ	--	--
ASI-16	4-6	103808/103809	8 BJ	3 J	--
ASI-16	6-12	103811/103812	--	--	--
ASI-19	0-2	103654/103655	6 BJ	--	--
ASI-19	2-4	103657/103658	5 BJ	--	--
ASI-19	4-6	103660/103661	--	--	--
ASI-19	6-12	103663/103664	--	--	--
ASI-19	12-18	103666/103667	5BJ	--	--
ASI-19	18-24	103669/103670	--	--	--

Semi-Volatile Organic Results, μg/kg

Soil Sample Location	Depth (in.)	Naphthalene (330)[1/]	2—Methyl naphthalene (330)[1/]	Acenaphthy-lene (330)[1/]	Diethylphth-alate (330)[1/]	Fluorene (330)[1/]	Phenanthrene (330)[1/]	Anthracene (330)[1/]	Di-n-Butylphthalate (330)[1/]	Fluoranthene (330)[1/]	Pyrene (330)[1/]
ASI-1	0-2	--	--	--	17 J	--	25 J	--	68 BJ	59 J	59 J
ASI-1	2-4	--	--	--	--	--	--	--	46 BJ	--	--
ASI-1	4-6	--	--	--	--	--	--	--	--	--	--
ASI-1	6-12	--	--	--	--	--	--	--	43 BJ	--	--
ASI-1	12-18	--	--	--	--	--	--	--	38 BJ	--	--
ASI-3	0-2	--	--	37 J	58 J	--	27 J	19 J	100 BJ	100 J	110 J
ASI-3	2-4	--	--	--	--	--	11 J	7 J	100 BJ	42 J	49 J
ASI-3	4-6	--	--	25 J/26 J	--	--	36 J/34 J	17 J/14 J	86 BJ/110 BJ	91 J/100 J	70 J/74 J
ASI-3	6-12	--	--	--	--	--	--	--	96 BJ/110 BJ	--	--
ASI-3	12-18	--	--	--	--	--	--	--	50 BJ	--	--

Table B.2-3. On-property soil sampling data—HSL results.

Semi-Volatile Organic Results, μg/kg (cont.)

Soil Sample Location	Depth (in.)	Naphthalene (330)[1/]	2—Methyl naphthalene (330)[1/]	Acenaphthy-lene (330)[1/]	Diethylphth-alate (330)[1/]	Fluorene (330)[1/]	Phenanthrene (330)[1/]	Anthracene (330)[1/]	Di-n-Butylphthalate (330)[1/]	Fluoranthene (330)[1/]	Pyrene (330)[1/]
ASI-8	0-2	--	--	41 J	--	--	56 J	--	110 BJ	140 J	140 J
ASI-8	2-4	--	--	42 J	--	--	33 J	17 J	62 BJ	85 J	81 J
ASI-8	4-6	39 J	--	620	--	17 J	37 J	170 J	47 BJ	210 J	290 J
ASI-8	6-12	--	--	--	--	--	--	--	35 J	--	--
ASI-8	12-18	--	--	--	--	--	--	--	32 J	--	--
ASI-8	18-24	--	--	--	--	--	--	--	48 J	--	--
ASI-13	0-2	--	--	--	--	--	--	--	42 J	49 J	43 J
ASI-13	2-4	--	--	--	--	--	--	--	61 BJ	--	--
ASI-13	4-6	--	--	--	--	--	--	--	44 BJ	--	--
ASI-13	6-12	--	--	--	--	--	--	--	51 BJ	--	--
ASI-16	12-18	--	--	--	--	--	--	--	59 BJ	85 J	81 J
ASI-16	18-24	--	--	--	--	--	50 J	--	51 BJ	110 J	86 J
ASI-16	0-2	--	--	--	--	--	59 J	--	35 BJ	120 J	110 J
ASI-16	2-4	--	--	--	--	--	--	--	30 BJ	53 J	53 J
ASI-16	4-6	--	--	--	--	--	--	--	40 BJ	--	--
ASI-16	6-12	--	--	--	--	--	--	--	37 BJ	--	--
ASI-19	0-2	--	--	--	--	--	49 J	--	36 BJ	73 J	63 J
ASI-19	2-4	--	--	--	--	--	--	--	25 BJ	--	--
ASI-19	4-6	--	25 J	--	--	--	--	--	38 BJ	--	--
ASI-19	6-12	--	--	--	--	--	--	--	29 BJ	--	--
ASI-19	12-18	--	--	--	--	--	--	--	27 BJ	--	--
ASI-19	18-24	--	--	--	--	--	--	--	52 BJ	--	--

Table B.2-3. On-property soil sampling data—HSL results.

Semi-Volatile Organic Results, μg/kg (cont.)

Soil Sample Location	Depth (in.)	Butylbenzyl phthalate (330)[1/]	Benzo (a) Anthracene (330)[1/]	Chrysene (330)[1/]	bis(2 Ethylhexyl) Phthalate (330)[1/]	Benze(b) Fluoranthene (330)[1/]	Benze(k) Fluoranthene (330)[1/]	Benzo(a) Pyrene (330)[1/]	Indeno(1,2,3 cd) Pyrene (330)[1/]	Dibenz(a,h) Anthracene (330)[1/]	Benzo(g,h,i) Perylene (330)[1/]
ASI-1	0-2	--	29 J	44 J	--	34 J	--	27 J	--	--	--
ASI-1	2-4	--	--	--	--	--	--	--	--	--	--
ASI-1	4-6	--	--	--	--	--	--	--	--	--	--
ASI-1	6-12	--	--	--	--	--	--	--	--	--	--
ASI-1	12-18	--	--	--	--	--	--	--	--	--	--
ASI-3	0-2	--	68 J	85 J	--	81 J	77 J	83 J	88 J	--	140 J
ASI-3	2-4	--	24 J	34 J	54 J	37 J	31 J	31 J	27 J	--	48 J
ASI-3	4-6	U/26 J	56 J/67 J	55 J/66 J	--	51 J/67 J	59 J/61 J	48 J/52 J	69 J/69 J	--	94 J/140 J
ASI-3	6-12	--	--	--	--	--	--	--	--	--	--
ASI-3	12-18	--	--	--	--	--	--	--	--	--	
ASI-8	0-2	--	78 J	120 J	--	110 J	91 J	68 J	--	--	--
ASI-8	2-4	--	61 J	87 J	39 BJ	140 J	150 J	110 J	--	--	--
ASI-8	4-6	--	590	590	--	1800	1300	940	1500	400 J	1100
ASI-8	6-12	--	--	--	--	--	--	--	--	--	--
ASI-8	12-18	--	--	--	--	--	--	--	--	--	--
ASI-8	18-24	--	--	--	--	--	--	--	--	--	--
ASI-13	0-2	--	--	--	--	--	--	--	--	--	--
ASI-13	2-4	--	--	--	--	--	--	--	--	--	--
ASI-13	4-6	--	--	--	--	--	--	--	--	--	--
ASI-13	6-12	--	--	--	--	--	--	--	--	--	--
ASI-13	12-18	--	--	--	--	--	--	--	--	--	--
ASI-13	18-24	--	--	--	--	--	--	--	--	--	--
ASI-16	0-2	--	--	49 J	280 BJ	--	--	--	--	--	--
ASI-16	2-4	--	52 J	54 J	--	44 J	64 J	47 J	--	--	--

Table B.2-3. On-property soil sampling data—HSL results.

Semi-Volatile Organic Results, μg/kg (cont.)

Soil Sample Location		Butylbenzyl phthalate (330)[1/]	Benzo (a) Anthracene (330)[1/]	Chrysene (330)[1/]	bis(2 Ethylhexyl) Phthalate (330)[1/]	Benze(b) Fluoranthene (330)[1/]	Benze(k) Fluoranthene (330)[1/]	Benzo(a) Pyrene (330)[1/]	Indeno(1,2,3 cd) Pyrene (330)[1/]	Dibenz(a,h) Anthracene (330)[1/]	Benzo(g,h,i) Perylene (330)[1/]
ASI-16	4-6	--	57 J	66 J	--	55 J	56 J	--	--	--	--
ASI-16	6-12	--	--	--	--	--	--	--	--	--	--
ASI-16	4-6	--	--	--	--	--	--	--	--	--	--
ASI-16	6-12	--	--	--	24 BJ	--	--	--	--	--	--
ASI-19	0-2	--	--	45 J	54 BJ	--	--	--	--	--	--
ASI-19	2-4	--	--	--	--	--	--	--	--	--	--
ASI-19	4-6	--	--	--	--	--	--	--	--	--	--
ASI-19	6-12	--	--	--	--	--	--	--	--	--	--
ASI-19	12-18	--	--	--	--	--	--	--	--	--	--
ASI-19	18-24	--	--	--	--	--	--	--	--	--	--

Inorganic Results, mg/kg

Soil Sample Location	Depth (in.)	Aluminum (13724)[2/]	Antimony (7.7)[2/]	Arsenic (10.2)[2/]	Barium (161.6)[2/]	Beryllium (0.6)[2/]	Calcium (5791)[2/]	Chromium (17.8)[2/]	Cobalt (17.8)[2/]	Copper (16.4)[2/]	Iron (25979)[2/]
ASI-1	0-2	11200[3/]	--	4.6	85.4	0.73 B	3650	16.2[3/]	7.2 B	17.7	16300
ASI-1	2-4	10300[3/]	--	6.2	83.2	0.91 B	3410	15.8[3/]	7.9 B	15.6	16000
ASI-1	4-6	10200[3/]	--	5.4	78.9	0.69 B	2340	14.5[3/]	7.6 B	11.2	17100
ASI-1	6-12	18000[3/]	--	9.5	126	1.2	2920	23.3[3/]	15.3	19	31800
ASI-1	12-18	21600[3/]	--	14	150	1.5	3560	25.9[3/]	18.6	24.1	36900
ASI-3	0-2	14800[3/]	--	6.6	114	0.95 B	4980	19.9[3/]	8.9 B	17.6	24000
ASI-3	2-4	14500[3/]	--	8	206	1.1 B	4710	19.0[3/]	21.3	19.9	27600
ASI-3	4-6	14800[3/]	--	8	148	1.3 B	4380	19.0[3/]	16.9	19.7	30000
ASI-3	6-12	20200[3/]	--	8.7	152	1.3	4370	25.3[3/]	14.2	24.9	34000
ASI-3	12-18	16100[3/]	--	12.5	124	1.1 B	5110	22.7[3/]	9.2 B	23.2	31800

Table B.2-3. On-property soil sampling data—HSL results.

Soil Sample Location	Depth (in.)	Aluminum (13724)[2/]	Antimony (7.7)[2/]	Arsenic (10.2)[2/]	Barium (161.6)[2/]	Beryllium (0.6)[2/]	Calcium (5791)[2/]	Chromium (17.8)[2/]	Cobalt (17.8)[2/]	Copper (16.4)[2/]	Iron (25979)[2/]
		Inorganic Results, mg/kg (cont.)									
ASI-8	0-2	10900[3/]	--	4.8 N[3/]	81.5	--	5430[3/]	16.0[3/]	6.9 B	20.9	21500
ASI-8	2-4	15400[3/]	21.5 N	6.1 N[3/]	116	0.80 B	6230[3/]	22.6[3/]	9.3 B	21.6	22600
ASI-8	4-6	15400[3/]	--	6.8 N[3/]	118	0.69	10300[3/]	23.5[3/]	13.1	13.8	25800
ASI-8	6-12	13600[3/]	--	6.1 N[3/]	87.2	0.66 B	3220[3/]	17.7[3/]	9.3 B	11	19900
ASI-8	12-18	22500[3/]	--	13.2 N[3/]	108	0.86 B	3540[3/]	26.9[3/]	12.5	23.8	34700
ASI-8	18-24	27000[3/]	--	12.1 N[3/]	137	1.1 B	3480[3/]	31.1[3/]	12.3 B	22.9	34300
ASI-13	0-2	14900[3/]	--	5.5 N[3/]	101	0.72 B	16900[3/]	20.0[3/]	8.0 B	17.5	20800
ASI-13	2-4	18100[3/]	15.8 N	6.3 N[3/]	106	1.1 B	19700[3/]	24.0[3/]	9.4 B	17.9	22200
ASI-13	4-6	17200[3/]	19.3 N	6.6 N[3/]	130	0.64 B	26400[3/]	21.0[3/]	11.7 B	18.4	24700
ASI-13	6-12	14900[3/]	--	5.5 N[3/]	97.2	0.63 B	74500[3/]	17.4[3/]	15.8	16	22200
ASI-13	12-18	18400[3/]	--	6.1 N[3/]	97.1	0.63 B	73900[3/]	21.9[3/]	9.6 B	18.5	25500
ASI-13	18-24	14300[3/]	--	5.5 N[3/]	83.1	--	136000[3/]	16.8[3/]	9.0 B	15.2	19800
ASI-16	0-2	17400	--	6.1	176	0.76 B	7780	22.7	12.0 B	31.9	24700
ASI-16	2-4	18800	--	7	166	0.71 B	7130	23.3	12.7 B	26.7	24200
ASI-16	4-6	18100	--	5.7	154	0.89 B	8580	23.6	13.7	25.2	24400
ASI-16	6-12	13200	--	5.1	94.9	0.68 B	21700	17.7	11.2 B	19.5	18600
ASI-16	4-6	14700	--	6.4	113	0.60 B	10700	19.3	10.2 B	18.6	19300
ASI-16	6-12	23000	--	9.1	150	1.0 B	5780	27.6	13.9	25.6	32400
ASI-19	0-2	12900[3/]	--	13.7 N[3/]	79.2	0.52 B	30800[3/]	15.9[3/]	8.9 B	17.9	21100
ASI-19	2-4	17000[3/]	--	28.4 N[3/]	78.7	0.65 B	14200[3/]	20.5[3/]	9.8 B	18.9	25900
ASI-19	4-6	13900[3/]	--	6.1 N[3/]	75.8	--	42800[3/]	17.8[3/]	7.7 B	15	21200
ASI-19	6-12	13400[3/]	--	6.1 N[3/]	106	0.65 B	22200[3/]	16.0[3/]	10.0 B	10.7	18700
ASI-19	12-18	25700[3/]	--	8.7 N[3/]	172	1.3	4630[3/]	29.6[3/]	12.5	21.3	31300
ASI-19	18-24	22400[3/]	--	8.8 N[3/]	167	1.1 B	7680[3/]	25.7[3/]	12.5	19.7	28700

Table B.2-3. On-property soil sampling data—HSL results.

Inorganic Results, mg/kg (cont.)											
Soil Sample Location	Depth (in.)	Lead (25.6)[2]	Magnesium (3334)[2]	Manganese (2516)[2]	Mercury (0.3)[2]	Nickel (27.3)[2]	Potassium (1402)[2]	Selenium (0.72)[2]	Silicon (1984)[2]	Silver (2.6)[2]	Sodium (60)[2]
ASI-1	0-2	33.3	2210	593	0.08 B	10.7 B	1220 B	0.50 BNW	4490	1.2 B	41.9 B
ASI-1	2-4	37.4	2130	560	0.13	9.7 B	908 B	--	4950	1.2 B	43.1 B
ASI-1	4-6	21.3	1860	629	--	8.5 B	715 B	0.24 BNW	4480	--	39.9 B
ASI-1	6-12	16.7	3260	791	--	16.4	864 B	--	3540	--	52.3 B
ASI-1	12-18	22.6	3980	1290	--	30.3	1230 B	--	3630	--	65.9 B
ASI-3	0-2	24.9	3410	721	--	13.7	1430 B	--	7630	--	74.7 B
ASI-3	2-4	22.3	3450	2170	--	22.3	1150 B	--	4610	--	64.7 B
ASI-3	4-6	40.1	3290	1610	--	17.2	1020 B	0.35 BNW	2620	--	64.8 B
ASI-3	6-12	15.5	4070	1230	--	30	1230 B	0.45 BNW	1020	--	73.0 B
ASI-3	12-18	19.3	4150	551	--	29	1020 B	0.41 BNW	1210	--	71.2 B
ASI-8	0-2	87.7 S[3]	2820[3]	369 N	0.12 B	13.3	1400 B	0.37 BNW	3840	--	66.1 B
ASI-8	2-4	101 S[3]	3980[3]	558 N	0.11 B	20.3	1830	--	3470	--	99.4 B
ASI-8	4-6	137 S[3]	5450[3]	1060 N	0.07 B	18.2	1600	--	3230	--	81.9 B
ASI-8	6-12	22.0[3]	2510[3]	701 N	0.10 B	16	899 B	--	3100	--	54.4 B
ASI-8	12-18	18.3[3]	3780[3]	432 N	0.10 B	23.3	1090 B	--	798	--	85.3 B
ASI-8	18-24	14.7[3]	4690[3]	570 N	0.13	30.1	1870	--	703	--	109 B
ASI-13	0-2	40.9[3]	7240[3]	558 N	0.11 B	17	2010	--	3960	--	85.0 B
ASI-13	2-4	46.6[3]	8620[3]	576 N	0.08 B	19.2	2490	--	3550	--	88.8 B
ASI-13	4-6	570[3]	10100[3]	913 N	0.06 B	19.8	2080	--	3320	--	88.7 B
ASI-13	6-12	17.4 S[3]	21300[3]	1090 N	--	24.5	2460	--	3300	--	151 B
ASI-13	12-18	9.9[3]	21200[3]	530 N	--	22.6	2840	--	2880	--	163 B
ASI-13	18-24	11.6 S[3]	28300[3]	726 N	--	21.6	3020	--	2920	--	208 B

Table B.2-3. On-property soil sampling data—HSL results.

Inorganic Results, mg/kg (cont.)

Soil Sample Location	Depth (in.)	Lead (25.6)[2/]	Magnesium (3334)[2/]	Manganese (2516)[2/]	Mercury (0.3)[2/]	Nickel (27.3)[2/]	Potassium (1402)[2/]	Selenium (0.72)[2/]	Silicon (1984)[2/]	Silver (2.6)[2/]	Sodium (60)[2/]
ASI-16	0-2	38.9[3/]	4000	1880 E	0.13	23.7	1810	0.73 BNW	3550	--	76.3 B
ASI-16	2-4	45.4[3/]	4070	2010 E	0.10 B	22.9	2020	0.37 BNW	3670	1.3 B	79.9 B
ASI-16	4-6	37.0[3/]	5110	1750[3/]	0.10 B	23.7	1900	0.41 BNW	3530	1.4 B	94.1 B
ASI-16	6-12	26.2 S[3/]	9240	840 E	0.18	18.9	1380	0.23 BN	3780	1.8 B	78.2B
ASI-16	4-6	31.4 +	4860	871 E	0.08 B	15.9	1390	0.40 BN	2880	--	79.6 B
ASI-16	6-12	21.4 S[3/]	4600	904 E	0.11 B	24.6	1660	0.29 BNW	1810	--	70.9 B
ASI-19	0-2	15.5[3/]	14000[3/]	435 N	--	20.1	1240	--	3920	--	78.3 B
ASI-19	2-4	16.4[3/]	7150[3/]	343 N	--	22.7	1360	0.29 BNW	3230	--	74.1 B
ASI-19	4-6	12.3[3/]	12100[3/]	419 N	--	19	1460	--	2770	--	105 B
ASI-19	6-12	20.9 S[3/]	6720[3/]	1030 N	0.08 B	12.5	1020 B	--	2570	--	128 B
ASI-19	12-18	17.0[3/]	4580[3/]	685 N	--	28.5	1440	0.32 BNW	1140	--	166 B
ASI-19	18-24	14.8[3/]	5760[3/]	885 N	0.06 B	29.5	1340	--	1710	--	159 B

Soil Sample Location	Depth (in.)	Thallium (0.58)[2/]	Vanadium (35.3)[2/]	Zinc (68.5)[2/]	Cyanide (0.34)[2/]
ASI-1	0-2	--	28	92.6	--
ASI-1	2-4	--	27.1	87.3	--
ASI-1	4-6	--	28.7	51	--
ASI-1	6-12	--	39.6	59.3	--
ASI-1	12-18	--	43.2	76.9	--
ASI-3	0-2	--	34	105	--
ASI-3	2-4	--	35.7	89.9	--

Table B.2-3. On-property soil sampling data—HSL results.

Inorganic Results, mg/kg (cont.)					
Soil Sample Location	Depth (in.)	Thallium (0.58)[2/]	Vanadium (35.3)[2/]	Zinc (68.5)[2/]	Cyanide (0.34)[2/]
ASI-3	4-6	--	37	86.8	--
ASI-3	6-12	--	39.9	81.1	--
ASI-3	12-18	--	32.3	74.9	--
ASI-8	0-2	--	23.9	232	--
ASI-8	2-4	--	33.4	233	--
ASI-8	4-6	--	36.6	195	--
ASI-8	6-12	--	32.6	56.7	--
ASI-8	12-18	--	42.9	69	--
ASI-8	18-24	--	49.6	84.1	--
ASI-13	0-2	--	30.6	86.6	--
ASI-13	2-4	0.25 B	38.2	89.7	--
ASI-13	4-6	--	37.5	82.2	--
ASI-13	6-12	--	28.9	53.9	--
ASI-13	12-18	--	35	57	0.58
ASI-13	18-24	--	26.5	44.8	--
ASI-16	0-2	0.82 BW	35	432	--
ASI-16	2-4	--	37.6	400	--
ASI-16	4-6	--	36.6	368	--
ASI-16	6-12	--	29.2	110	--
ASI-16	4-6	--	34.5	79.4	--
ASI-16	6-12	--	51.3	89.9	--
ASI-19	0-2	0.47 B	25.7	54.7	--
ASI-19	2-4	--	32.7	61.3	--

Table B.2-3. On-property soil sampling data—HSL results.

Inorganic Results, mg/kg (cont.)					
Soil Sample Location	Depth (in.)	Thallium (0.58)2/	Vanadium (35.3)2/	Zinc (68.5)2/	Cyanide (0.34)2/
ASI-19	4-6	--	27.2	56.8	0.56
ASI-19	6-12	--	29.8	50	--
ASI-19	12-18	--	47.3	75.8	--
ASI-19	18-24	--	43.1	67.9	--

The full HSL list was analyzed, only analytes for which at least one sample had a result above the detection limit is listed.
-- = Results were below the laboratory's detection limit.
Organic data qualifiers:
B = The analyte was also found in the associated blank.
J = Result is an estimated value.
U = Result is below laboratory's detection limit.
Inorganic data qualifiers:
S = The result was reported by the Method of Standard Additions.
B = Reported value was less than the Contract Required Detection Limit (CRQL), but greater than the Instrument Detection Limit (IDL).
N = Spiked sample results were not with control limits.
E = Result is an estimated value due to the presence of interference.
W = Post-digestion spike is not out of control limits, but sample absorbance is less than 50% of spike absorbance.
+ = Correlation coefficient for the MSA is less than 0.955.
1/ Required Quantitation Limits per SCQ, Table 2-4.
2/ Upper 95% Tolerance Limit, Background Study Report: FEMP-05BG-2, March 19, 1993.

Table B.2-4. Post-excavation verification sampling results for Areas A to J.

Sample Location	Area	Total U (pCi/g) at 0-6" Depth
ASI-33	A	<7.4
ASI-34	A	<7.4
ASI-35	A	<7.4
ASI-36	A	<7.4
ASI-37	A	<7.4
ASI-38	A	<7.4
ASI-39	A	<7.4
ASI-40	B	<7.4
ASI-41	B	<7.4
ASI-42	B	<7.4
ASI-43	B	<7.4
ASI-44	B	<7.4
ASI-45	D	99.3
ASI-46	D	77.7
ASI-47	G	53.4
ASI-48	G	88.5
ASI-49	G	190.5
ASI-50	D	248
ASI-51	F	250
ASI-52	F	72.3
ASI-53	I	34.5
ASI-54	I	52.7
ASI-55	I	45.9
ASI-56	E	11.5
ASI-57	I	<7.4
ASI-58	E	<7.4

Table B.2-5. Post-excavation verification sampling results for Zones I and II. Page 1 of 2

Zone I Verification Sampling Results			Zone II Verification Sampling Results		
Sample Point	Total U (μg/g)	Total U (pCi/g)	Sample Point	Total U (μg/g)	Total U (pCi/g)
101	<11	<7.4	201	53.9	**36.5**
102	<11	<7.4	202	<11	<7.4
103	33.2	**22.5**	203	<11	<7.4
104	<11	<7.4	204	16.6	**11.2**
105	<11	<7.4	205	60.3	**40.8**
106	43.1	**29.2**	206	31.2	**21.1**
107	<11	<7.4	207	26.5	**17.9**
108	11.9	**8.1**	208	411	**278.2**
109	28.2	**19.1**	209	115	**77.9**
110	68.5	**46.4**	210	31.0	**21.0**
111	21.4	**14.5**	211	<11	<7.4
112	37.4	**25.3**	212	<11	<7.4
113	61.1	**41.4**	213	<11	<7.4
114	<11	<7.4	214	120	**81.2**
115	<11	<7.4	215	<11	<7.4
116	<11	<7.4	216	<11	<7.4
117	<11	<7.4	217	70.0	**47.4**
118	134	**90.7**	218	30.9	**20.9**
119	<11	<7.4	219	<11	<7.4
120	63.8	**43.2**	220	<11	<7.4
121	<11	<7.4	221	<11	<7.4
122	15.8	**10.7**	222	<11	<7.4
123	<11	<7.4	223	<11	<7.4
124	<11	<7.4	224	<11	<7.4
125	79.1	**53.6**			
126	<11	<7.4			
127	<11	<7.4			
128	56.6	**38.3**			
129	<11	<7.4			
130	<11	<7.4			

Table B.2-5. Post-excavation verification sampling results for Zones I and II. Page 2 of 2

Zone I Verification Sampling Results		
Sample Point	Total U (μg/g)	Total U (pCi/g)
131	<11	<7.4
132	121.2	**82.1**
133	54.7	**37.0**
134	24.9	**16.9**
135	26.9	**18.2**
136	<11	<7.4
137	207.8	**140.7**
138	<11	<7.4
139	<11	<7.4
140	229	**155**

Note: Results presented in bold type-face represent positive detections.

Table B.2-6. Post-excavation verification duplicate sampling results for Zones I and II.

Soil Point	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (μg/g)	Total U (pCi/g)
103	93-455-2269	1.20	1.49	1.10	1.07	0.944	10.8	0.37	12.3	19.56	13.25
109	93-455-2275	1.22	1.35	1.21	1.23	0.852	7.96	0.36	7.78	29.15	19.75
110	93-455-2276	1.35	1.62	1.13	1.21	0.934	19.3	0.717	19.1	22.20	15.04
111	93-455-2277	1.21	1.50	1.30	1.26	1.00	8.04	0.327	7.52	25.92	17.56
112	93-455-2278	1.23	1.71	1.29	1.40	0.866	14.8	0.605	14.3	43.60	29.53
201	93-455-2767	1.28	1.38	1.38	1.79	0.902	20.3	0.769	20.9	44.49	30.14
202	93-455-2768	1.15	1.49	0.917	1.15	0.963	2.67	0.084	3.44	8.02	5.43
203	93-455-2769	1.86	2.17	1.37	1.39	0.726	5.20	0.234	4.94	12.05	8.16
204	93-455-2770	1.33	1.64	1.23	1.32	1.02	17.1	0.744	17.7	26.97	18.27
205	93-455-2771	1.38	1.68	1.08	1.12	0.97	3.61	0.173	4.5	10.58	7.17
206	93-455-2772	1.92	2.70	1.43	0.963	0.910	14.0	0.586	14.3	30.05	20.36
207	93-455-2773	0.576	0.608	1.76	1.40	1.34	12.6	0.717	14.5	30.47	20.64
207A	93-455-2775	1.07	1.29	1.30	1.34	1.13	11.2	0.479	11.4	25.61	17.35
208	93-455-2774	1.134	5.616	8.26	15.9	8.12	142.0	6.10	141.0	845.19	289.10

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ATTACHMENT B.3

OFF-PROPERTY MEASUREMENT AND SAMPLING DATA

Table B.3-1. Initial off-property soil sampling data—HSL results.

Volatile Organic Results, μg/kg

Soil Sample Location	Depth (in.)	ID #	Acetone (50)[1/]	Toluene (10)[1/]	Methylene Chloride (10)[1/]
STP34	Surface	102430	9 BJ	2 BJ	26 B
STP35	Surface	102431	6 BJ	2 BJ	21 B

Semi-Volatile Organic Results, μg/kg

Soil Sample Location	Depth (in.)	ID #	Benzoic Acid (2400)[1/]
STP34	Surface	102430	130 J
STP35	Surface	102431	170 J

Inorganic Results, mg/kg

Soil Sample Location	Depth (in.)	ID #	Aluminum (13724)[2/]	Arsenic (10.2)[2/]	Barium (161.6)[2/]	Calcium (5791)[2/]	Chromium (17.8)[2/]	Cobalt (1738)[2/]	Copper (16.4)[2/]	Iron (25979)[2/]	Lead (25.6)[2/]
STP34	Surface	102430	10200	7.9 N	68.4	1320	13.4	9 B	11.9	14400	27.1[3/]
STP35	Surface	102431	12900	7.3 + N	74.5	2590	17	11 b	10.5	18500	18.1[3/]

Soil Sample Location	Depth (in.)	ID #	Magnesium (3334)[2/]	Manganese (2516)[2/]	Nickel (27.3)[2/]	Potassium (1402)[2/]	Selenium (0.72)[2/]	Silicon (1984)[2/]	Sodium (60)[2/]	Vanadium (35.3)[2/]	Zinc (68.5)[2/]
STP34	Surface	102430	1620	628[3/]	11.1	680 B	--	1980 EN[3/]	64 B	26.9	46.3
STP35	Surface	102431	2450	610[3/]	15.4	1420	0.54 BW	2010 EN[3/]	45.7 B	29.7	76.2

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Table B.3-1. Initial off-property soil sampling data—HSL results.

			Inorganic Results, mg/kg	
Soil Sample Location	Depth (in.)	ID #	Cyanide (0.34)[3/]	pH N/A
STP34	Surface	102430	0.14 B	5.26
STP35	Surface	102431	0.29 B	6.6

Notes:
The full HSL list was analyzed, only analytes for which at least one sample had a result above the detection limit is listed.
All Dioxin results were below the laboratory's detection limit.
-- = Results were below the laboratory's detection limit.
Organic Data Qualifiers:
B = The analyte was also found in the associated blank.
J = Result is an estimated value.
Inorganic Data Qualifiers:
B = Reported value was less than the Contract Required Detection Limit (CRQL), but greater than the Instrument Detection Limit (IDL).
N = Spiked sample results were not with control limits.
E = Result is an estimated value due to the presence of interference.
W = Post-digestion spike is not out of control limits, but sample absorbance is less than 50% of spike absorbance.
+ = Correlation coefficient for the MSA is less than 0.955.
1/ Upper 95% Tolerance Limit, Background Study Report: FEMP-05BG-2, March 19, 1993.
2/ Duplicate analysis not within control limits.
3/ Required Quantitation Limits per SCQ, Table 2-4.

Table B.3-2. Initial off-property soil sampling data—radiological results.

Soil Sample Location	Depth (in.)	ASI ID #	Ru-106 (pCi/g)	Cs-137 (pCi/g)	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (μg/g)	Total U (pCi/g)
STP-30	Surface	102422	<1.0	0.67	1.29	1.33	1.49	2.03	1.26	23.80	1.56	26.00	86.50	58.47
STP-31	Surface	102423	<1.0	0.17	1.42	1.10	1.44	1.55	1.06	6.99	<0.6	6.53	26.70	18.05
STP-32	Surface	102424	<1.0	0.22	1.12	1.40	1.30	1.46	1.00	7.41	0.61	7.22	25.20	17.04
STP-33	Surface	102425	<1.0	0.34	1.31	1.51	1.43	1.36	1.16	5.77	<0.6	6.12	15.90	10.75
STP-34	Surface	102430	<1.0	0.22	1.37	1.29	1.37	1.81	1.04	5.65	<0.6	5.48	20.70	13.99
STP-35	Surface	102431	<1.0	0.31	1.39	1.28	1.29	1.65	1.13	7.77	<0.6	7.77	30.70	20.75
STP-36	Surface	102426	<1.0	0.47	1.15	1.17	1.20	1.47	1.05	6.20	<0.6	6.27	23.00	15.55
STP-37	Surface	102427	<1.0	0.29	1.18	1.19	1.41	1.89	1.23	6.14	<0.6	6.02	24.80	16.76

Table B.3-3. Additional off-property soil sampling data.

Soil Sample Location	Depth (in.)	Datachem ID#	FERMCO ID#	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
C-1	0-2	104001	104002	0.95	1.26	1.2	1.4	1.2	16.0	0.2	20.6	48.5	32.8	70	47.3
C-1	2-4	104003	104004	0.79	1.17	1.2	2.0	1.3	16.7	0.9	22.2	30.8	20.8	68	46.0
C-1	4-6	104005	104006	0.88	1.20	1.2	2.2	1.0	17.2	0.9	21.7	63.3	42.8	70	47.3
C-2	0-2	104007	104008	0.86	1.07	1.4	2.2	1.3	24.1	1.6	36.6	87.2	58.9	118	79.8
C-2	2-4	104009	104010	0.93	1.31	1.1	2.4	1.2	26.0	1.5	37.5	96.8	65.4	110	74.4
C-2	4-6	104011	104012	0.90	1.21	1.2	2.2	0.9	21.9	1.4	35.4	80.8	54.6	104	70.3
C-3	0-2	104013	104014	0.88	1.12	0.9	1.3	0.8	11.3	0.7	12.0	27.2	18.4	38	25.7
C-3	2-4	104015	104016	0.84	1.09	1.1	1.9	1.2	15.3	0.8	17.0	27.7	18.7	40	27.0
C-3	4-6	104017	104018	0.89	1.08	1.2	1.4	1.2	11.8	0.7	12.9	26.2	17.7	42	28.4
C-4	0-2	104019	104020	0.87	1.41	0.6	1.2	0.6	44.6	2.6	44.9	76.3	51.6	145	98.0
C-4	2-4	104021	104022	1.01	1.23	0.7	1.5	0.9	29.4	1.4	29.2	56.1	37.9	111	75.0
C-4	4-6	104023	104024	0.88	1.14	1.0	1.7	1.8	13.3	0.7	14.2	28.5	19.3	37	25.0
C-5	0-2	104025	104026	1.13	1.44	1.0	1.8	1.2	31.2	1.9	31.3	58.1	39.3	100	67.6
C-5	2-4	104027	104028	0.96	1.17	0.8	1.5	0.5	30.2	1.5	28.4	47	31.8	67	45.3
C-5	4-6	104029	104030	1.08	1.37	0.9	1.0	0.7	6.5	0.8	16.0	28.3	19.1	51	34.5
C-6	0-2	104031	104032	0.94	1.17	1.4	2.0	1.2	6.3	0.7	6.6	8.55	5.8	22	14.9
C-6	2-4	104033	104034	1.01	1.26	1.3	1.8	1.2	6.6	0.4	6.1	14.2	9.6	24	16.2
C-6	4-6	104035	104036	0.97	1.09	1.1	1.6	1.2	6.2	0.3	7.0	12	8.1	25	16.9
C-7	0-2	104037	104038	1.19	1.23	2.1	2.6	2.7	7.5	0.4	8.0	15.8	10.7	26	17.6
C-7	2-4	104039	104040	1.06	1.12	1.0	1.6	1.3	9.3	0.3	9.4	14.4	9.7	30	20.3
C-7	4-6	104041	104042	1.39	1.22	1.4	1.8	0.4	3.9	0.2	4.7	8.07	5.5	20	13.5
C-8	0-2	104043	104044	1.18	1.27	0.8	1.3	0.8	5.7	0.3	6.0	15.6	10.5	24	16.2
C-8	2-4	104045	104046	1.27	1.20	0.4	0.8	0.5	5.9	0.3	6.0	14.5	9.8	32	21.6
C-8	4-6	104047	104048	1.20	1.22	0.4	0.6	0.4	11.4	0.4	11.6	25.5	17.2	37	25.0

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Table B.3-3. Additional off-property soil sampling data.

Soil Sample Location	Depth (in.)	Datachem ID#	FERMCO ID#	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
C-9	0-2	104049	104050	1.26	1.49	1.7	2.2	1.2	24.5	1.3	24.3	62.3	42.1	84	56.8
C-9	2-4	104051	104052	1.20	1.26	1.1	1.7	1.0	21.6	1.1	22.2	49.6	33.5	80	54.1
C-9	4-6	104053	104054	1.31	1.36	1.4	1.3	1.6	11.0	0.7	10.8	26.8	18.1	40	27.0
C-10	0-2	104055	104056	1.10	1.38	1.3	2.9	0.9	27.9	1.5	28.2	71.3	48.2	100	67.6
C-10	2-4	104057	104058	1.46	1.51	1.3	2.3	1.2	29.0	1.7	30.0	53.1	35.9	39	26.4
C-10	4-6	104059	104060	1.19	1.23	0.7	1.8	1.2	10.4	0.5	11.4	23.9	16.2	91	61.5
D-1	0-2	104101	104102	2.83	1.14	0.9	4.1	0.9	15.8	1.0	16.2	41	27.7	49	33.1
D-1	2-4	104103	104104	2.70	1.09	0.7	3.8	1.1	12.2	0.7	12.2	33.4	22.6	35	23.7
D-1	4-6	104105	104106	2.08	0.97	1.1	3.2	1.2	9.3	0.4	10.0	25	16.9	28	18.9
D-2	0-2	104107	104108	13.80	1.14	1.1	24.0	0.8	25.2	1.3	25.6	69.6	47.0	89	60.2
D-2	2-4	104109	104110	11.90	1.13	1.7	14.0	0.9	26.6	1.6	27.9	64.2	43.4	64	43.3
D-2	4-6	104111	104112	15.30	1.11	0.9	20.0	0.8	21.9	1.0	22.9	65.4	44.2	84	56.8
D-3	0-2	104113	104114	4.55	0.89	1.1	7.4	1.2	14.1	0.7	14.8	20.6	13.9	50	33.8
D-3	2-4	104115	104116	4.74	0.95	0.9	6.7	0.9	9.5	0.4	10.0	30	20.3	36	24.3
D-3	4-6	104117	104118	4.37	0.99	1.1	6.7	0.9	9.1	0.4	10.1	28.1	19.0	32	21.6
D-4	0-2	104119	104120	1.33	1.25	0.9	1.4	1.2	7.2	0.5	7.6	20.4	13.8	22	14.9
D-4	2-4	104121	104122	1.15	1.11	1.2	1.1	1.1	7.6	0.4	7.5	19.1	12.9	20	13.5
D-4	4-6	104123	104124	1.29	1.25	1.1	0.9	1.3	7.2	0.4	7.0	20.3	13.7	20	13.5
D-5	0-2	104125	104126	1.13	1.07	0.8	4.6	1.3	7.6	0.5	7.9	18.4	12.4	22	14.9
D-5	2-4	104127	104128	1.29	1.12	2.8	1.3	1.3	8.5	0.5	8.8	38.8	26.2	21	14.2
D-5	4-6	104129	104130	1.13	1.11	2.5	1.9	0.8	7.7	0.2	7.4	27.4	18.5	17	11.5
D-6	0-2	104131	104132	1.24	1.23	2.6	1.3	0.9	12.4	0.7	12.6	33.4	22.6	31	21.0
D-6	2-4	104133	104134	1.20	1.19	2.9	1.3	1.4	13.0	0.7	13.0	38.1	25.8	35	23.7
D-6	4-6	104135	104136	1.32	1.17	2.8	1.5	1.0	13.8	0.8	13.9	40.2	27.2	45	30.4

Table B.3-3. Additional off-property soil sampling data.

Soil Sample Location	Depth (in.)	Datachem ID#	FERMCO ID#	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (Datachem) (μg/g)	Total U (Datachem) (pCi/g)	Total U (FERMCO) (μg/g)	Total U (FERMCO) (pCi/g)
D-7	0-2	104137	104138	1.19	1.20	3.2	1.8	1.1	7.7	0.4	8.6	30.2	20.4	12	8.1
D-7	2-4	104139	104140	1.38	1.21	3.4	1.6	1.1	7.1	0.4	7.7	30.8	20.8	11	7.4
D-7	4-6	104141	104142	1.19	1.05	2.5	1.6	1.2	6.2	0.4	7.3	23.5	15.9	<11	<7.4
D-8	0-2	104143	104144	1.51	1.24	2.9	1.9	1.2	9.4	0.4	7.7	29.9	20.2	19	12.8
D-8	2-4	104145	104146	1.36	1.26	3.3	2.4	1.5	10.3	0.7	11.2	25	16.9	21	14.2
D-8	4-6	104147	104148	1.52	1.36	2.7	1.9	1.1	12.6	0.6	12.7	33.5	22.6	23	15.5
D-9	0-2	104149	104150	1.35	1.16	2.2	1.5	1.0	9.1	0.4	8.2	20.1	13.6	11	7.4
D-9	2-4	104151	104152	1.29	1.21	2.6	1.6	1.2	7.2	0.4	7.0	21.7	14.7	11	7.4
D-9	4-6	104153	104154	1.51	1.28	3.0	1.7	1.3	9.3	0.5	8.3	19.8	13.4	14	9.5
D-10	0-2	104155	104156	1.28	1.26	2.9	1.9	1.1	6.8	0.3	6.9	46.8	31.6	<11	<7.4
D-10	2-4	104157	104158	1.44	1.33	2.4	1.2	1.0	7.1	0.4	7.4	22.4	15.1	<11	<7.4
D-10	4-6	104159	104160	1.30	1.14	3.1	1.3	1.4	6.9	0.3	6.7	28.6	19.3	<11	7.4

Table B.3-4. Walkover survey for off-site areas north and east.

Grid Identification	North/East Coordinate	Counts/Minute
A0	479800/1383300	3665
A1	479800/1383350	3630
A2	479800/1383400	3550
A3	479800/1383450	3610
A4	479800/1383500	3510
A5	479800/1383550	3480
B0	479900/1383300	3435
B0.75	479975/1383350	3620
B1	479900/1383350	3675
B2	479900/1383400	3510
B3	479900/1383450	3475
B4	479900/1383500	3625
B5	479900/1383550	3595
C0	480000/1383300	3520
C0.25	480025/1383300	3430
C0.50	480050/1383300	3625
C1	480000/1383350	3635
C2	480000/1383400	3745
C3	480000/1383450	3630
C4	480000/1383500	3655
C5	480000/1383550	3480
C5.25	479950/1383325	3565
D0	480100/1383300	3755
D0.25	480150/1383325	3830
D1	480100/1383350	3780
D1.50	480150/1383350	3655
D2	480100/1383400	3695
D3	480100/1383450	3790
D4	480100/1383500	3715

Table B.3-4. Walkover survey for off-site areas north and east.

Grid Identification	North/East Coordinate	Counts/Minute
D5	480100/1383550	3595
E0	480200/1383300	3880
E1	480200/1383350	3850
E2	480200/1383400	3710
E3	480200/1383450	3755
E4	480200/1383500	3650
E5	480200/1383550	3450
F0	480300/1383300	3900
F1	480300/1383350	3735
F2	480300/1383400	3650
F3	480300/1383450	3465
F4	480300/1383500	3450
F5	480300/1383550	3305
G0	480400/1383300	4050
G1	480400/1383350	3760
G2	480400/1383400	3660
G3	480400/1383450	3735
G4	480400/1383500	3510
G5	480400/1383550	3660
H0	480500/1383300	4375
H1	480500/1383350	3750
H2	480500/1383400	3745
H3	480500/1383450	3705
H4	480500/1383500	3585
H5	480500/1383550	3635
I3	480600/1383450	3665
I4	480600/1383500	3565
I5	480600/1383550	3620
J3	480700/1383450	3460

Table B.3-4. Walkover survey for off-site areas north and east.

Grid Identification	North/East Coordinate	Counts/Minute
J4	480800/1383500	3485
J5	480800/1383550	3510
K0	480800/1383300	3700
K1	480800/1383350	3730
K2	480800/1383400	3630
K3	480800/1383450	3770
L0	480900/1383300	3690
L1	480900/1383350	3635
L2	480900/1383400	3790
L3	480900/1383450	3685
M0	481000/1383300	3960
M1	481000/1383350	3730
M2	481000/1383400	3845
M3	481000/1383450	3800

Note: Readings of 4,000 counts/minute correlate to 35 pCi/g.

Table B.3-5. Additional off-property soil sampling.

Soil Sample Location	Depth (in)	Sample ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235 (pCi/g)	U-236 (pCi/g)	U-238 (pCi/g)	Alpha Activity (pCi/g)	Beta Activity (pCi/g)
A-1	0-6	940208-114			0.89	0.90	0.85	<3.6	<0.17	<0.037	<3.7	11	11
"	6-12	940208-115			1.2	1.6	1.1	<0.69	<0.12	<0.0071	<3.7	10	<9.2
"	12-18	940208-116			1.2	1.4	1.1	<3.6	<0.18	<0.033	3.7	8.8	<9.4
"	18-24	940208-117			1.2	1.2	1.0	<4.0	<0.16	<0.058	<3.7	10	<9.4
B-1	0-6	940208-118			1.1	1.2	0.96	<3.3	<0.17	<0.037	<3.7	15	15
"	6-12	940208-119			1.2	1.2	1.1	ND	ND	ND	ND	8.0	<9.3
"	12-18	940208-120			1.1	1.3	1.0	ND	ND	ND	ND	17	11
"	18-24	940208-121			1.2	1.3	1.0	<2.7	<0.17	<0.0071	<3.7	8.7	<8.9
C-1	0-6	Not Sampled											
"	6-12	Not Sampled											
"	12-18	Not Sampled											
"	18-24	Not Sampled											
D-1	0-6	940208-110			0.76	1.1	0.7	3.3	<0.17	<0.036	3.7	13	10
"	6-12	940208-111			0.96	1.1	1.0	ND	ND	ND	ND	19	14
"	12-18	940208-112			1.1	1.2	1.0	<0.69	<0.15	<0.0083	<3.7	12	<9.5
"	18-24	940208-113			1.2	1.3	1.1	ND	ND	ND	ND	13	11
E-1	0-6	940208-106			0.71	1.0	0.67	ND	ND	ND	ND	4.8	9.3
"	6-12	940208-107			1.0	1.2	0.95	<3.6	<0.17	<0.042	<3.7	24	22
"	12-18	940208-108			1.1	1.1	1.0	<4.3	<0.17	<0.042	<3.7	11	<9.4
"	18-24	940208-109			1.2	1.4	1.0	ND	ND	ND	ND	13	<9.2
F-1	0-6	940211-016			1.0	1.2	0.96	4.1	0.12	0.045	3.7	20	36
"	6-12	940211-017			1.1	1.2	0.96	ND	ND	ND	ND	22	21
"	12-18	940211-018			1.2	1.4	1.1	ND	ND	ND	ND	10	8.8
"	18-24	940211-019			1.1	1.3	1.0	<2.9	<0.17	<0.081	<3.7	14	12
G-2	0-6	940113-014	0.39	0.52	1.0	1.1	0.96	<4.3	<0.17	<0.049	<3.7	24	21
"	6-12	940113-015	0.51	0.66	1.1	1.1	0.98	<1.7	<0.17	<0.021	<3.7	16	15
"	12-18	940113-016	0.62	0.63	1.2	1.2	1.2	<3.1	<0.17	<0.021	<3.7	7.3	12
"	18-24	940113-017	0.62	0.57	1.2	1.3	1.1	ND	ND	ND	ND	10	<8.1
H-2	0-6	940113-018	0.87	0.30	1.1	1.2	1.0	<2.5	<0.17	<0.034	<3.7	17	24
"	6-12	940113-019	0.36	0.35	1.1	1.2	1.1	<3.3	<0.17	<0.031	<3.7	10	8.5
"	12-18	940113-020	0.94	0.48	1.2	1.3	1.1	<2.1	<0.18	<0.072	<3.7	3.7	<8.3
"	18-24	940113-021	0.80	0.41	1.2	1.3	1.1	<1.1	<0.15	<0.016	<3.7	6.2	<8.1
I-4	0-6	940113-022	<0.36	0.47	1.1	1.2	1.0	<1.1	<0.17	<0.016	<3.7	35	24
"	6-12	940113-023	0.82	0.55	1.1	1.0	1.1	<0.69	<0.17	<0.0071	<3.7	12	8.8
"	12-18	940113-024	0.80	0.45	1.2	1.2	1.1	ND	ND	ND	ND	8.7	<8.4
"	18-24	940113-025	0.92	0.49	1.1	1.1	1.1	<3.2	<0.17	<0.0071	<3.7	9.6	<8.1
J-4	0-6	931228-047	0.57	0.16	0.33	0.70	0.30	ND	ND	ND	ND	24	23
"	6-12	931228-048	0.74	0.29	0.56	0.86	0.53	<3.0	<0.17	<0.029	<3.7	16	12

Table B.3-5. Additional off-property soil sampling.

Soil Sample Location	Depth (in)	Sample ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235 (pCi/g)	U-236 (pCi/g)	U-238 (pCi/g)	Alpha Activity (pCi/g)	Beta Activity (pCi/g)
"	12-18												
"	18-24												
L-0	0-6	931215-137	**0.66**	**0.52**	**0.98**	**1.2**	**0.91**	<3.2	<0.17	<0.04	<3.7	**14**	**8.7**
"	6-12	931215-138	**0.84**	**0.54**	**0.89**	**1.1**	**0.89**	<3.6	<0.17	<0.044	<3.7	**12**	<8.4
"	12-18	931215-139	**0.68**	**0.50**	**1.1**	**1.1**	**1.1**	ND	ND	ND	ND	**9.1**	**9.9**
"	18-24	931215-140	**1.1**	**0.68**	**1.0**	**1.2**	**1.0**	<4.1	<0.17	<0.031	<3.7	**17**	**16**
L-1	0-6	931215-143	**0.80**	**0.53**	**0.97**	**1.1**	**0.92**	<3.9	<0.17	<0.047	<3.7	**25**	**17**
"	6-12	931215-144	**0.96**	**0.50**	**0.96**	**0.97**	**0.95**	<3.4	<0.17	<0.027	<3.7	**22**	**15**
"	12-18	931215-141	**0.67**	**0.46**	**0.95**	**1.0**	**0.93**	<3.4	<0.17	<0.02	<3.7	**22**	**12**
"	18-24	931215-142	**0.60**	**0.56**	**0.97**	**0.99**	**0.92**	<3.3	<0.17	<0.021	<3.7	**16**	**14**
L-2	0-6	931215-145	**0.73**	**0.55**	**0.94**	**1.0**	**0.89**	<2.9	<0.17	<0.033	<3.7	**11**	<8.1
"	6-12	931215-146	**0.52**	**0.56**	**0.97**	**1.1**	**0.98**	<3.2	<0.17	<0.029	<3.7	**16**	**14**
"	12-18	931215-147	**0.55**	**0.53**	**0.99**	**0.95**	**0.95**	<3.0	<0.17	<0.017	<3.7	**7.3**	**8.7**
"	18-24	931215-148	**6.50**	**0.57**	**1.1**	**1.1**	**1.0**	<2.1	<0.18	<0.01	<3.7	**11**	<6.4
L-3	0-6	931228-049	**1.1**	**0.41**	**0.94**	**1.0**	**0.97**	<3.6	<0.17	<0.037	<3.7	**30**	**30**
"	6-12	931228-050	**0.44**	**0.48**	**0.91**	**0.98**	**0.89**	<3.7	<0.17	<0.032	<3.7	**42**	**48**
"	12-18	931228-051	**1.0**	**0.48**	**0.97**	**0.97**	**0.97**	<4.1	<0.17	<0.031	<3.7	**19**	**23**
"	18-24	931228-052	**1.0**	**0.67**	**1.1**	**1.2**	**1.1**	<3.1	<0.17	<0.0078	<3.7	**15**	**14**
PL-1	0-6	940113-026	**0.76**	**0.29**	**1.0**	**1.2**	**0.94**	<3.4	<0.17	<0.032	<3.7	**29**	**19**
"	6-12	940113-027	**0.84**	**0.43**	**1.1**	**1.1**	**0.98**	ND	ND	ND	ND	**11**	**8.3**
"	12-18	940113-028	**1.0**	**0.42**	**1.1**	**1.3**	**1.0**	<2.9	<0.17	<0.011	<3.7	**13**	**9.2**
"	18-24	940113-029	**0.53**	**0.51**	**1.0**	**1.2**	**0.96**	<3.1	<0.17	<0.031	<3.7	**15**	<8.0

Bolded values indicate a detection

Table B.3-6. Post-excavation verification sampling results for Zones III and IV.

Zone III Verification Sampling Results		Zone IV Verification Sampling Results		
Sample Point	Total U (pCi/g)	Sample Point	After Initial Excavation Total U (pCi/g)	After Further Excavation Total U (pCi/g)
301	<7.436	**401**	**16.7**	
302	<7.436	**402**	**63.7**	<7.4
303	<8.24	**403**	<7.4	
304	<7.436	**404**	**30.0**	
305	<7.436	**405**	<7.4	
306	<7.436	**406**	<7.4	
307	<7.436	**407**	**18.0**	
308	<7.436	**408**	<7.4	
309	<7.436	**409**	<7.4	
310	<7.436	**410**	<7.4	
		411	<7.4	
		412	<7.4	
		413	<7.4	
		414	<7.4	
		415	<7.4	
		416	<7.4	
		417	<7.4	
		418	<7.4	
		419	<7.4	
		420	<7.4	
		421	**49.0**	<7.4
		422	**37.0**	<7.4
		423	<7.4	
		424	<7.4	
		425	<7.4	
		426	<7.4	
		427	**35.0**	
		428	**11.0**	
		429	<7.4	

Table B.3-6. Post-excavation verification sampling results for Zones III and IV.

Zone III Verification Sampling Results		Zone IV Verification Sampling Results		
Sample Point	Total U (pCi/g)	Sample Point	After Initial Excavation Total U (pCi/g)	After Further Excavation Total U (pCi/g)
		430	<7.4	
		431	<7.4	
		432	39.0	<7.4
		433	<7.4	
		434	<7.4	
		435	79.0	<7.4
		436	<7.4	
		437	<7.4	
		438	<7.4	
		439	<7.4	
		440	<7.4	

Table B.3-7. Post-excavation verification duplicate sampling results for Zone IV.

Soil Point	FERMCO ID #	Ra-226 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	U-234 (pCi/g)	U-235/ U-236 (pCi/g)	U-238 (pCi/g)	Total U (μg/g)	Total U (pCi/g)
402	93-455-2757	0.996	1.48	1.13	1.37	1.08	18.7	0.861	19.8	25.51	17.28
421	93-455-2758	1.04	1.32	0.993	1.04	1.01	1.91	0.096	2.13	5.45	3.69
421A	93-455-2762	0.987	1.32	1.06	1.08	0.929	1.98	0.051	2.00	4.48	3.03
422	93-455-2759	1.24	1.33	1.47	1.06	1.22	2.80	0.087	3.08	5.75	3.89
432	93-455-2760	1.30	1.42	0.977	1.03	0.81	1.54	0.073	1.57	5.15	3.49
435	93-455-2761	1.16	1.54	0.924	1.18	1.03	2.29	0.092	2.10	4.72	3.20

Table B.3-8. Final off-property sampling results for area just south of Zone IV.

Soil Sample Location	Depth (in.)	Sample ID#	Total U (pCi/g)
SP1	0-6	200104010	55
	6-12	200104011	<7.7
	12-18	200104012	<7.7
SP2	0-6	200104013	7.7
	6-12	200104014	<7.7
	12-18	200104015	<7.7
SP3	0-6	200104016	8.1
	6-12	200104017	<7.7
	12-18	200104018	<7.7
SP4	0-6	200104020	<7.7
	6-12	200104021	<7.7
	12-18	20010422	<7.7
SP5	0-6	20010423	<7.7
	6-12	20010424	<7.7
	12-18	20010425	<7.7