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ACRONYMS AND ABBREVIATIONS

%D	Percent Difference
µg/kg	Micrograms Per Kilogram
µg/L	Micrograms Per Liter
µrem/hr	Micro Rem Per Hour
ABS	Dermal Absorption
ACM	Asbestos Containing Material
ADD	Average Daily Dose
AEC	Atomic Energy Commission
AHA	Activity Hazard Analysis
AL	Action Level
amsl	Above Mean Sea Level
ANL	Argonne National Laboratory
ANSI	American National Standards Institute
ARAR	Applicable or Relevant and Appropriate Requirements
AST	Above Ground Storage Tank
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
AutoCAD	Automated Computer-Aided Drafting
Bb	Ingestion-to-Beef Transfer Factors
BAF	Bioaccumulation Factor
BAR	Beta Activity Ratio
BCF	Bioconcentration Factors
BCG	Biota Concentration Guides
BCPM	Background Sample Count-Rate
BEGe	Broad Energy Germanium
BERA	Baseline Ecological Risk Assessment
bgs	Below Ground Surface
BRA	Baseline Risk Assessment
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
BW	Body Weight
CCl_4	Carbon Tetrachloride
CAL EPA	California Environmental Protection Agency
CEDE	Committed Effective Dose Equivalents
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CG	Composite Groups
CGI	Combustible Gas Indicator
CLP	Contract Laboratory Program
cm/s	Centimeters Per Second
cm^2	Square Centimeters
COC	Constituent Of Concern
COEC	Constituent of Ecological Concern
COI	Constituent of Interest
COPC	Constituent of Potential Concern
COPEC	Constituent of Potential Ecological Concern
CSF	Cancer Slope Factor

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ACRONYMS AND ABBREVIATIONS
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CSM	Conceptual Site Model
CTE	Central Tendency Exposure
CVAA	Cold Vapor Atomic Absorption
CWM	Chemical Waste Management
CX	Center of Expertise
D&D	Decontamination and Decommissioning
DAD	Dermal Absorbed Dose
DCF	Dose Conversion Factor
DoD	United States Department of Defense
DOE	United States Department of Energy
dpm	Disintegrations Per Minute
DQIs	Data Quality Indicators
DQO	Data Quality Objectives
ECSM	Ecological Conceptual Site Models
ED	Exposure Duration
EDD	Electronic Data Deliverables
EDE	Effective Dose Equivalent
EDQL	Ecological Data Quantity Levels
Eh	U-Speciation Driver
EM	Electromagnetic
EM	USACE Engineering Manual
EPA	United States Environmental Protection Agency
EPC	Exposure Point Concentration
EQL	Estimated Quantitation Limit
ERA	Ecological Risk Assessment
ERDC	Engineer Research and Development Center
ERM	Erm-Midwest, Inc.
ESV	Ecological Screening Values
EU	Exposure Unit
F_2	Fluorine Gas
FGR	Federal Guidance Report
FIDLER	Field Instrument for the Detection of Low Energy Radiation
FS	Feasibility Study
FSP	Field Sampling Plan
ft	Feet
ft/day	Feet Per Day
FTP	Field Technical Procedure
FUSRAP	Formerly Utilized Sites Remedial Action Program
FWEC	Foster Wheeler Environmental Corporation
FWS	Fish and Wildlife Service
GC	Clayey Gravel
gal	Gallon
GCPM	Gross Sample Count-Rate
GDP	Gaseous Diffusion Plant

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ACRONYMS AND ABBREVIATIONS
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GEL	General Engineering Laboratories, Inc.
GFPC	Gas Flow Proportional Counting
GI	Gastrointestinal
G-M	Geiger Mueller Detector
GMS	Groundwater Modeling System
gpm	Gallons Per Minute
GPR	Ground-Penetrating Radar
GPS	Global Positioning System
GSE	Ground Surface Evaluations
GWS	Gamma Walkover Surveys
HCC	Harshaw Chemical Company
HEAST	Health Effects Assessment Summary Tables
HEPA	High Efficiency Particulate Air
HF	Hydrofluoric Acid
HELP	Hydrologic Evaluation of Landfill Performance
HHRA	Human Health Risk Assessment
HI	Hazard Index
HI	Health Index
HQ	Hazard Quotient
hr	Hour
HTRW	Hazardous, Toxic, and Radioactive Waste
IA	Investigation Area
IAEA	International Atomic Energy Agency
IBI	Index of Biotic Integrity
ICI	Invertebrate Community Index
ICP-MS	Inductively Coupled Plasma – Mass Spectrometry
ICRP	International Commission on Radiological Protection
ID	Identification Number
IDW	Investigation-Derived Waste
ILCR	Incremental Lifetime Cancer Risk
IRIS	Integrated Risk Information System
K	Hydraulic Conductivity
K_d	Partition Coefficient
Kz	Vertical Conductivity
kg/day	Kilograms Per Day
KPA	Kinetic Phosphorescence Analyzer
lbs/day	Pounds Per Day
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOAEL	Lowest Observed Adverse Effects Level
LOD	Limits of Detection
LOOW	Lake Ontario Ordinance Works
LQAP	Laboratory Quality Assurance Plan
M	Molar

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ACRONYMS AND ABBREVIATIONS
(CONTINUED)

m	Meter
m^2	Square Meter
MARLAP	Multi-Agency Radiological Laboratory Analytical Protocols Manual
MARSSIM	Multi-Agency Radiation Site Survey Investigation Manual
MCL	Maximum Concentration Level
MDA	Minimum Detectable Activity
MDC	Minimum Detectable Concentration
MDCR	Minimum Detectable Count Rate
MDL	Method Detection Limit
MCW	Mallinckrodt Chemical Works
MED	Manhattan Engineer District
mg/kg	Milligrams Per Kilograms
mg/L	Milligrams Per Liter
MHz	Megahertz
ML-CL	Soil Samples Silty Clay
MRL	Minimal Risk Level
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MT3DMS	Modular 3-D Transport for Multi-Species Model
MTU	Metric Tons of Uranium
MU	Master Unit
MVUE	Minimum-Variance Unbiased Estimators
NAD	Normalized Absolute Difference
NaI	Sodium Iodide
NBS	National Bureau of Standards
NCDC	National Climatic Data Center
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NCPM	Net Count-Rate
NGVD	National Geodetic Vertical Datum
NIFW	Non-Intrusive Field Work
NIST	National Institute of Standards and Technology
NMSS	Nuclear Material Safety and Safeguards
NOAA	National Oceanic and Atmospheric Administration
NOAEL	No Observed Adverse Effects Level
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
NUREG	US Nuclear Regulatory Commission Regulation
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
Ohio DoH	Ohio Department of Health
Ohio EPA	Ohio Environmental Protection Agency
OSRD	Office of Scientific Research and Development
OSTI	Office of Science Technical Information
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbon

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ACRONYMS AND ABBREVIATIONS
(CONTINUED)

PARCC	Precision, Accuracy, Representativeness, Completeness, and Comparability
PBT	Persistent, Bioaccumulative, and Toxic
PCB	Polychlorinated Biphenyls
pCi	Picocurie
pCi/g	Picocurie Per Gram
pCi/L	Picocurie Per Liter
PEST	Parameter Estimating Software Tool
pH	Potential of Hydrogen
PID	Photoionization Detector
POA	Plan of Action
PPE	Personal Protective Equipment
PPM	Parts Per Million
PPRTV	Provisional Peer Reviewed Toxicity Values
PQL	Practical Quantitation Limit
PRG	Preliminary Remediation Goals
p-value	Probability Value
PVC	Polyvinyl Chloride
PWP	Project Work Plan
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
QCP	Quality Control Plan
QCSR	Quality Control Summary Report
QHEI	Qualitative Habitat Evaluation Index
r	Correlation Coefficient
R	rejected
rad	Unit of Radiation Dose
RAGS	Risk Assessment Guidance for Superfund
RAM	Radioactive Material
RAMSA	Radioactive Material Storage Area
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RESRAD	Residual Radioactivity Computer Code
RfC	Reference Concentration
RfD	Reference Dose
RI	Remedial Investigation
RIR	Remedial Investigation Report
RL	Reporting Limit
RM	River Mile
RME	Reasonable Maximum Exposure
RMSA	Radioactive Material Storage Areas
ROD	Record of Decision
ROPC	Radionuclide of Potential Concern
RPD	Relative Percent Difference
RPM	Radiation Protection Manager

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ACRONYMS AND ABBREVIATIONS
(CONTINUED)

RPP	Radiation Protection Plan
RU	Recycled Uranium
SAIC	Science Applications International Corporation
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
SLERA	Screening Level Ecological Risk Assessment
SMDP	Scientific Management Decision Point
SOP	Standard Operating Procedures
SPv	Soil-to-Plant Bioconcentration Factor
SP-SM	Soil Samples Gravelly Sand
SRC	Site-Related Constituents
SRV	Sediment Reference Value
SSHP	Site Safety and Health Plan
STL	Severn Trent Laboratories
STSC	Superfund Health Risk Technical Support Center
SU	Survey Unit
SVOC	Semi-Volatile Organic Compound
T&E	Threatened And Endangered
TA	Test America
TAL	Target Analyte List
TBD	To Be Determined
TBP-kerosene	Tributyl Phosphate in Kerosene
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TEC	Threshold Effect Concentration
TEDE	Total Effective Dose Equivalent
TOC	Top of Casing
TPH	Total Petroleum Hydrocarbons
TPH-DRO	Total Petroleum Hydrocarbons – Diesel Range Organics
TPP	Technical Project Planning
TRV	Toxicity Reference Values
TSDF	Treatment, Storage and Disposal Facilities
TSS	Total Suspended Solids
U_3O_8	Uranium Oxide
Ub	Urban Land
UCL	Upper Confidence Limit
UF_4	Uranium Tetrafluoride
UF_6	Uranium Hexafluoride
UCl_4	Uranium Tetrachloride
UI	Uncertain Identification
UO_2	Uranium Dioxide
UO_3	Uranium Trioxide
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture

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ACRONYMS AND ABBREVIATIONS
(CONTINUED)

USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
UTL	Upper Tolerance Limit
VOC	Volatile Organic Compounds
WAC	Waste Acceptance Criteria
WSDE	Washington State Department of Ecology
WWH	Warm Water Habitat
XRF	X-ray Fluorescence Spectrometry
yr	Year

Table 2-1. Harshaw AEC/MED Operational Timeline

Years/Process	Major Development, Activities, Products, and Estimated Quantities
1942-1945 UO_2 -to- UCl_4	• 1942: Began producing UCl_4 by March o By 1943: 100 lbs/day o By 1944: 1 ton/day in new production area o January 1945: Final order of 65,000 lbs (32.5 tons) UCl_4 • Estimated total: < 100 tons UCl_4
1942 – 1951 UO_2 -to- UF_4 -to- UF_6	• 1942: Began producing UF_4 and UF_6 from UO_2 feed in Foundry Bld. o UF_4 • By 7/42: 1200 lbs/day (UO_2 from MCW and DuPont) • By 9/42: 25 tons/month in a new production facility • By 12/43: 60 tons/month • By 12/44: 3000 lbs/day • By 2/46: 15,000 lbs/week • By 2/48: 81 tons/month (final full production rate) • By 10/51: Stop UF_4 production • Up to 5400 tons UF_4 produced in total o UF_6 • By 2/42: 5 lbs/day • By 1943: 50 lbs/day • By 2/44: 9000 lbs (4.5 tons) total produced • By 7/44: 3,300 lbs/day • By 4/45: 4,500 lbs/day • By 12/47: 23 tons/month • By 12/51: Stop UF6 production • Up to 3300 tons UF_6 produced in total • 1944: New UF_4 production plant built, 3 units, Bld. G-1. • 1949: By 2/49 started using UO_2 produced on site.
1949- 1953 U_3O_8 -to- UO_2	• 1949: By 2/49 opened brown oxide plant in G-1 o 54 tons UO_2/month design capacity o Feeds: black oxide/yellowcake(U_3O_8), soda salt ($Na_2U_2O_7$-$6H_2O$) o Refinery produced orange oxide (UO_3) o Reduction plant converted UO_3 to UO_2 (brown oxide) • Shut down reduction plant by 10/52 • Up to 2400 tons UO_2 produced in total • 1951: by October, refinery converted from ether to TBP-kerosene • 1952: by September, AEC required 4-5 times increased capacity • 1952: from October-December, 100 tons/month UO_3 produced • 1953: by August stopped UO_3 production from U_3O_8
1953-1954 Purify Recycled UO_3	• 1953: Processed 1675 MTU recycled UO_3 from Hanford • 1954: Processed 239 MTU recycled UO_3 from Hanford o TBP-kerosene process used o Refined UO_3 sent to ORNL GDP • 1954: Filter cake/hold-up materials sent back to Hanford for processing

Table 2-2. Harshaw Chemical Company - Government Contracts Summary

Contract Name	Contracting Agency	Contract Dates	Contract Scope
Education Order	NBS	1941	• UF_6 research and production
Unknown	Unknown[a]	1942 - 1945	• Molybdenum hexafluoride • Uranium oxyfluoride
Unknown	OSRD	7/1/42	• Various research activities
W-7405-ENG-23 *(Possible continuation of OSRD contract above)*	MED/Kellex	9/1942 - 1944	• Recovery of enriched UF_6 from spent carbon traps
W-7405-ENG-43 *(Possible continuation of NBS contract above)*	MED	1943 – 1946	• UF_6 process research and development. • Possible processing of enriched UO_3.
W-7405-ENG-45	MED	4/27/1943	• Delivery of stock materials. • Sodium uranate and U_3O_8 delivered to Clinton Engineer Works. • Original contract period 6 months.
W-7405-ENG-276 *Letter Contract Signed* *Contract Signed* *Contract Continued* *Final Release/Assignment*	 MED MED AEC[b] AEC	 1/5/1944 5/27/1944 1/1/1947 12/23/1959	• Full-scale UF_6 production plant. • Production of UO_2 and UF_4.
W-7405-ENG-37	MED	NA	• Lab scale production of UCl_4 prior to Oct. 1944. • Referenced in W-26-021-ENG-4.
W-26-021-ENG-4 Supplemental Agreement #1 Supplemental Agreements #2 and #3	MED	10/18/1944-1/1/1945 11/1945 - 2/15/1945 6/15/1945	• Production of UCl_4 • Quantity 80,000 lbs starting on or about 11/6/1944. • Additional 65,000 lbs on or before end date. • Revised contract language.

Table 2-2. Harshaw Chemical Company - Government Contracts Summary (continued)

Contract Name	Contracting Agency	Contract Dates	Contract Scope
General Work Order #51	AEC	1951-1952	• UO_3 pilot plant development.
General Work Order #61	AEC	4/29/1952	• Repair and replace sewer beneath 3-story section of Building G-1 (Plant C). • Conducted under W-7405-ENG-276.
General Work Order #62	AEC	4/1952	• New warehouse for Building G-1 (Plant C). • Sold and shipped to Fernald prior to construction.
General Work Order #67	AEC	6/24/1952	• Repair leaks in nitric recovery system. • Conducted under W-7405-ENG-276.
W-26-021-ENG-20	MED	NA	• Reference in MED correspondence.

[a] Historical documents reference unspecified Harshaw Chemical Company "government" contracts.
[b] AEC replaced MED on January 1, 1947.
AEC - Atomic Energy Commission
MED - Manhattan Engineer District NBS - National Bureau of Standards
OSRD - Office of Scientific Research and Development

Table 2-3. Historical Use of Constituents of Interest

Process Chemical	Related COI(s)	Program	Process	General Use	Historic Document Reference
Kerosene	Kerosene (TPH-DRO)	MED/AEC	Solvent in uranium refining process	Extraction	Numerous references
Lithium Fluoride	Lithium	AEC	Plant C production - direct materials	NA	May 1949 Plant C production summary/inventory
Molybdenum	Molybdenum	MED	Impurity in UF_4 and UO_2	NA	Memo containing analytical results
Potassium Uranate	Uranium	AEC	Process scrap material	NA	Shipment notification
Sodium Uranate	Uranium	AEC	Process scrap material	NA	Shipment notification
Thorium nitrate	Thorium	AEC	Thorium nitrate production plant scale tests	NA	AEC internal memo suggests follow-on (2/24/54)
Thorium hydroxide	Thorium	AEC	Thorium hydroxide residues (thorium metal)	NA	AEC direction to ship 2,000 lbs to Harshaw (3/12/54)
Thorium nitrate	Thorium	AEC	Thorium nitrate production feed options	NA	AEC internal memo (3/18/54)
U_3O_8 (Uranium)	Uranium	MED/AEC	Uranium refining product	NA	Numerous references
UCl_4 (Uranium)	Uranium	MED/AEC	Uranium refining product	NA	Numerous references
UF_4 (Uranium)	Uranium	MED/AEC	Uranium refining product	NA	Numerous references
UF_6 (Uranium)	Uranium	MED/AEC	Uranium refining product	NA	Numerous references
UO_2 (Uranium)	Uranium	MED/AEC	Uranium refining product	NA	Numerous references
UO_3 (Uranium)	Uranium	MED/AEC	Uranium refining product	NA	Numerous references

AEC - Atomic Energy Commission
MED - Manhattan Engineer District
NA - not applicable
TPH-DRO - total petroleum hydrocarbons - diesel range organics

Table 2-4. Overview of MED-Related Feeds, Products, Chemicals, Releases and Wastes at Harshaw

	Feeds			
Sources, products, releases, wastes	Brown Oxide UO_2	Ore Concentrates: black oxide, yellowcake (U_3O_8) and Soda Salt	Recycled Uranium (UO_3, slightly depleted)	Fluorospar (Fluorite, CaF_2)
Sources; how and form shipped	Mallinckrodt Chemical Works (MCW); shipped by rail	Colorado and Canadian mills; Vitro (soda salt, scrap recovery); shipped as dry powder in 1-cf boxes by rail	Hanford; shipped as liquid UNH in rail cars; orange oxide (powder) also referred to (HAR-0312)	Commercial Sources; shipped as solid mineral by rail
Approx. total tons (5000 tons for all;HAR-115)	1000 tons (est.)	2000 tons (est.)	1914 tons (metric tons uranium, MTU)	unknown
Years used	1942-1948	1948-1951	1952-1954	continuous
Products	UF_4 (Green Salt) UCl_4 UF_6	UO_3 (orange oxide) UO_2 UO_2 products (UF_4, UF_6)	UO_3 (purified)	HF (hydrofluoric acid) F_2 (fluorine gas)
Process chemicals	CCl_4, HF, F_2 (produced on-site)	Nitric acid, ether, kerosene, tributyl phosphate (TBP), caustic, hydrogen gas	Nitric acid, TBP, kerosene, caustic, bicarbonate	Sulfuric acid
Customer; how shipped	ORNL K-25, Y-12, others in MED; shipped by truck	ORNL K-25; shipped by truck	K-25; shipped by truck	Harshaw; on-site
Wastes and associated contaminants	UF_4 unit: HF storage tank wash: HF impurities Dilute spent HF: not contaminated UF_6 unit: Ash in fluorination reactors, collectors: Radioactive and inorganic impurities	UO_2 process, plus: Press cake, cyclone and baghouse dusts: uranium cpds Raffinate: Radiological: Th-230, U-238, Ra-226, Th-232 Metal impurities: As, Ba, Mn, Mo, Ni, V, Zn	(no UO_2 process) Press cake, cyclone and baghouse dusts: uranium cpds Raffinate: Tc-99, Np-237, Pu-239, Pu-240, Th-234, Pa-234, Cs-137, Sr-90	$CaSO_4$ slag: U, Th, Ra

Table 2-4. Overview of MED-Related Feeds, Products, Chemicals, Releases and Wastes at Harshaw (continued)

	Feeds			
Releases	Stack emissions of UF_4, UF_6 (up to 5 lbs/hr, HAR-0395); Spills of UF_4; Fugitive ash emissions	UO_2 process plus: Stack emissions from boil down, calcining (denitration): uranium cpds Dust emissions: UO_3 Aqueous wastes assumed to go to sumps and drains (raffinate)	(no UO_2 process) Stack emissions from boil down, calcining (denitration): Tc-99, uranium cpds Dust emissions: UO_3 Aqueous wastes assumed to go to sumps and drains	Handling, storage, processing, waste piles
Waste Disposal	HF storage tank wash out sent to storm sewer; Dilute spent HF returned to HF dept for disposal; Ash sent offsite after 6-mo. cool down	Press cake (potassium urinate, sodium urinate) – offsite (Vitro) Liquid Raffinate – assumed to drain and to outfall 007. (HAR-0163)	Press cake – Recycled at Harshaw (HAR-0312). Liquid Raffinate – assumed to drain and to outfall 007.	$CaSO_4$ slag placed on river bank

Black oxide = ore concentrate typically > 75% U3O8 (Colorado mills) (Source: HAR-0328)
Yellowcake = ore concentrate typically > 93% U3O8 (Eldorado mill)
Brown oxide = minimum assay 97.0% free UO_2 with less that 6 ppm Mo (Source: 1946 UF_6 Plant Operating Manual)
Soda Salt = $Na_2U_2O_7$-$6H_2O$

Table 2-5. Groundwater Monitoring Well Inventory

Well Identification	Date Installed	Total Depth (feet)	Well Type	X Coordinate	Y Coordinate	TOC Elevation	Ground Surface Elevation	Top of Screen Elevation[a] (feet)	Bottom of Screen Elevation[a] (feet)	Geologic Horizon Screened
BKA-48	NA	17	Existing Pre-RI Well	2191690.02	650842.78	594.87	592.70	NA	NA	NA
BKA-51	1997	35.5	Existing Pre-RI Well	2191592.31	649653.75	595.76	593.18	NA	NA	NA
BKA-52	1997	39	Existing Pre-RI Well	2191758.05	649730.48	593.13	593.40	NA	NA	NA
BKA-53	1997	35.5	Existing Pre-RI Well	2191937.30	649459.32	593.40	591.16	NA	NA	NA
CDT-MW0001	NA	NM	Existing Pre-RI Well	2191310.37	649612.52	588.09	588.42	NA	NA	NA
CDT-MW0002	NA	23.9	Existing Pre-RI Well	2191471.66	649538.84	587.21	587.43	NA	NA	NA
DM-1	1986	19.5	Existing Pre-RI Well	2191465.84	650137.02	596.13	593.71	586.71	574.21	Old fill/Till
DM-2	1986	15.5	Existing Pre-RI Well	2191511.78	650188.40	594.02	594.25	590.75	578.75	Old fill/Till
DM-3	1986	12.5	Existing Pre-RI Well	2191431.18	650291.16	594.14	594.48	591.98	581.98	New fill/Old fill/Till
DM-4	1986	14.5	Existing Pre-RI Well	2191471.88	650294.53	593.84	594.20	591.70	579.70	Old fill/Till
DM-5	1997	18.17	Existing Pre-RI Well	2191432.21	650360.73	596.36	594.13	588.13	576.13	Old fill/Till
DM-9	1986	19	Existing Pre-RI Well	2191527.01	650452.64	598.01	594.83	587.83	576.83	Till
DM-10	1986	29.5	Existing Pre-RI Well	2191405.93	650534.87	592.71	593.21	575.71	563.71	Till/Bedrock
DM-11	1997	25	Existing Pre-RI Well	2191520.52	650597.82	595.89	593.88	583.38	569.88	Old fill/Till
DM-12	1997	27	Existing Pre-RI Well	2191426.01	650643.80	596.13	593.93	578.93	566.93	Till/Bedrock
DM-14	1997	19	Existing Pre-RI Well	2191443.51	650747.03	596.33	594.19	587.19	575.19	Old fill/Till
DM-15	1986	19	Existing Pre-RI Well	2191564.93	650795.45	596.46	594.26	587.76	575.76	Old fill/Till
DM-22R	1997	35	Existing Pre-RI Well	2191721.35	649560.49	594.81	592.70	565.70	553.20	Till
DM-23R	1997	35	Existing Pre-RI Well	2191933.53	649357.34	593.06	590.82	567.82	556.32	Till
DM-25R	1992	32	Existing Pre-RI Well	2191937.08	650039.94	592.84	593.37	575.37	561.37	Till
DM-26	1987	34	Existing Pre-RI Well	2191850.75	650200.89	592.99	593.48	573.48	559.48	Till
DM-27R	NA	34	Existing Pre-RI Well	2192072.44	650184.85	594.78	592.29	565.29	558.29	Till
DM-28R	NA	34	Existing Pre-RI Well	2192219.28	650346.09	595.09	592.57	565.57	558.57	Till
DM-29R	NA	37	Existing Pre-RI Well	2192116.32	650463.86	595.49	593.16	564.16	556.16	Till/Bedrock
DM-30R	NA	34	Existing Pre-RI Well	2192328.28	650525.05	594.91	593.02	567.02	559.02	Till
ERM-47	1992	32.5	Existing Pre-RI Well	2191934.55	650347.59	593.06	593.56	572.56	561.06	Till/Bedrock

Table 2-5. Groundwater Monitoring Well Inventory (continued)

Well Identification	Date Installed	Total Depth (feet)	Well Type	X Coordinate	Y Coordinate	TOC Elevation	Ground Surface Elevation	Top of Screen Elevation[a] (feet)	Bottom of Screen Elevation[a] (feet)	Geologic Horizon Screened
RMW-35	1997	18	Existing Pre-RI Well	2191566.09	650682.82	596.44	594.65	586.65	576.65	Old fill/Till
RMW-38	1997	22	Existing Pre-RI Well	2191739.01	650453.12	596.76	594.55	585.55	572.55	Bedrock
RMW-39	1997	19	Existing Pre-RI Well	2191523.35	650696.53	595.93	593.78	NA	NA	NA
IA03-TW0001	2003	12.7	RI Temporary Well Point	2191929.07	650543.65	596.50	593.90	592.70	581.20	New fill/Old fill/Till
IA03-TW0002	2003	11.8	RI Temporary Well Point	2191860.42	650782.56	595.39	592.00	586.40	580.20	Old fill/Till/Bedrock
IA03-TW0003	2003	20.8	RI Temporary Well Point	2191537.92	650917.84	593.39	590.49	581.09	569.69	Till/Bedrock
IA03-TW0004	2003	29	RI Temporary W ell Point	2191684.59	650974.55	592.92	589.80	573.20	560.80	Till/Bedrock
IA03-TW0005	2003	9.1	RI Temporary Well Point	2191736.91	650685.07	NA	596.00	NA	NA	NA
IA03-TW0006	2003	11.6	RI Temporary Well Point	2191832.86	650657.07	NA	596.00	NA	NA	NA
IA04-TW0001	2003	38.4	RI Temporary Well Point	2191867.55	649878.02	595.16	592.71	565.91	555.01	Till
IA04-TW0002	2003	23.5	RI Temporary Well Point	2191510.29	649967.14	593.59	591.86	580.06	568.36	Till
IA04-TW0003	2003	15.3	RI Temporary Well Point	2192075.24	650700.56	596.03	592.94	588.94	577.64	Old fill/Bedrock
IA04-TW0004	2003	35.3	RI Temporary Well Point	2192426.35	650466.22	594.44	591.22	570.42	555.92	Till
IA04-TW0005	2003	25	RI Temporary Well Point	2192127.99	650840.91	593.23	590.24	577.74	565.34	Till
IA04-TW0006	2003	32.9	RI Temporary Well Point	2192521.62	650652.21	589.71	586.35	565.75	553.55	Till/Bedrock
IA05-TW0001	2003	37.8	RI Temporary Well Point	2191929.22	649644.71	598.64	596.27	571.77	558.47	Till

Table 2-5. Groundwater Monitoring Well Inventory (continued)

Well Identification	Date Installed	Total Depth (feet)	Well Type	X Coordinate	Y Coordinate	TOC Elevation	Ground Surface Elevation	Top of Screen Elevation[a] (feet)	Bottom of Screen Elevation[a] (feet)	Geologic Horizon Screened
IA10-MW0001	2003	30	RI On-site Well	2191641.12	651100.68	593.86	591.61	580.61	561.11	Till/Bedrock
IA10-MW0002	2003	32.6	RI On-site Well	2191965.68	650913.46	595.72	593.69	580.09	560.19	Till/Bedrock
IA10-MW0003	2003	14	RI On-site Well	2191901.56	650614.32	597.98	595.55	587.55	581.05	Till/Bedrock
IA10-MW0004	2003	19.5	RI On-site Well	2192091.08	650693.74	595.88	593.54	583.04	571.54	Old fill/ Till/ Bedrock
IA03-TP0001	2004	21	RI Temporary Piezometer	2191564.45	650912.66	594.16	591.50	568.50	553.50	Bedrock
IA04-TP0001	2004	11.5	RI Temporary Piezometer	2191682.62	650370.27	596.32	594.34	590.34	582.84	Till/Bedrock
IA04-TP0002	2004	26	RI Temporary Piezometer	2191844.20	650322.94	595.74	593.33	580.33	567.33	Old fill/Till/Bedrock
IA04-TP0003	2004	36	RI Temporary Piezometer	2192021.55	650325.15	595.39	592.77	571.77	556.77	Till
IA04-TP0004	2004	23.5	RI Temporary Piezometer	2192065.09	650553.99	595.20	593.30	584.80	569.80	Old fill/Till
IA04-TP0005	2004	38	RI Temporary Piezometer	2192240.10	650616.47	594.47	591.92	568.92	553.92	Till/Bedrock
BKG-MW0001	2003	16	RI Background Well	2191081.12	649708.88	592.10	592.67	584.67	576.17	Old fill/Till
BKG-MW0002	2003	21.5	RI Background Well	2191322.01	649989.17	593.42	594.39	586.39	572.89	Old fill/Till/Bedrock
BKG-MW0003	2003	26	RI Background Well	2191324.77	650473.30	591.98	592.73	584.73	566.23	Old fill/Till/Bedrock
BKG-MW0004	2003	26	RI Background Well	2191331.18	650541.24	592.30	592.69	NA	NA	NA
BKG-MW0005	2003	28	RI Background Well	2191218.21	651099.73	592.20	592.37	583.37	563.87	Old fill/Till

[a]Screened interval is marked by the top and bottom of the sandpack.
NA - not applicable or unknown
NM - not measured

Table 3-1. Summary of Data Collection Activities

Activity	NIFW (2002)	Phase I (2003)	Phase II (2004)			Phase III (2006)	Phase IV (2007)
			A (May)	B.1 (August - September)	B.2 (October - December)		
Geophysics (electromagnetic & ground-penetrating radar surveys)	X						
Geophysics (utility clearance surveys)		X	X	X	X		
Gamma Walkover Surveys	X				X	X	
Groundwater Level Measurements		X	X	X	X		X
Slug Testing		X	X				
Temporary Well Point Installation		X					
Temporary Well Point Development		X					
Monitoring Well Installation		X					
Monitoring Well Development		X					
Temporary Piezometer Installation			X				
Temporary Piezometer Development			X				
Chemical Soil Core Screening		X	X	X	X		
Radiological Soil Core Screening		X	X	X	X		
Geochemical Sampling (soil)			X				
Geochemical Sampling (groundwater)				X	X		
Geochemical Sampling (surface water)				X			
Geotechnical Sampling			X				
Staff Gauge Installation				X			
Source Water Field Blank Sampling		X					
Downhole Gamma Logging		X					
Civil Surveys	X	X	X	X	X		
Field Photographs	X	X	X	X	X	X	X
Investigation Derived Waste Sampling		X					X
Background Sampling (Soil)		X					X
Background Sampling (Sediment)		X					
Background Sampling (Surface Water)		X					
Background Sampling (Groundwater)		X		X	X		X
Building Material Sampling (IA01/IA02)		X	X				
Building Radiation Surveys		X	X				
Soil Sampling (IA03)		X		X	X		X
Soil Sampling (IA04)		X		X	X	X	X
Soil Sampling (IA05)		X		X	X		X
Soil Sampling (IA06)		X		X		X	X
Soil Sampling (IA07)		X	X	X	X		X
Soil Sampling (IA09)		X					
Archived Soil Analysis						X	X
Historical Pit/Pond Soil Sampling (IA03/IA04/IA05)						X	
Targeted Concrete Slabs Soil Sampling (IA03/IA04/IA05)						X	
On site XRF Analysis of Soil Samples						X	
Sediment Sampling (IA08)		X				X	
Surface Water Sampling (IA08)		X					
Sediment Sampling (IA09)		X	X			X	X
Surface Water Sampling (IA09)		X	X				X
Sewer Sampling (IA09)						X	
Groundwater Sampling		X		X	X		X

Table 3-2. Geochemical Sampling - K_d Value Soil/Groundwater Sample Associations

Geochemical Soil Sample ID	Geochemical Soil Boring ID	Associated Water Sample ID	Monitoring Well ID	Total uranium (KPA)
HSSB9047	IA04-TP0002	HSGW0116	RMW-38	51.5 µg/L
HSSB9049	IA04-TP0005	HSGW0125	BKA-53	958 µg/L[a]
HSSB9050	IA03-TP0001	HSGW0103	BKA-48	391 µg/L

[a] Result of a laboratory spike and not an actual field result.

Table 3-3. Building Material Sample Locations and Rationales

Station	Location	Rationale
Building G-1		
IA01-BM0001	Roof	Biased high
IA01-BM0002	Roof	Biased high
IA01-BM0003	Roof	Biased high
IA01-BM0004	Roof	Biased high
IA01-BM0005	Sill	Biased high
IA01-BM0006	Roof	Not biased
IA01-BM0007	Brick (exterior)	Biased high
IA01-BM0008	First floor	Not biased
IA01-BM0009	First floor	Biased high
IA01-BM0010	First floor	Biased high
IA01-BM0011	First floor	Biased high
IA01-BM0012	First floor	Biased high
IA01-BM0013	First floor	Biased high
IA01-BM0014	Second floor	Biased high
IA01-BM0015	Third floor	Biased high
IA01-BM0016	Wall	Biased high
IA01-BM0017	Wall	Biased high
IA01-BM0018	Sediment	Not biased
IA01-BM0019	Sediment	Not biased
IA01-BM0020	Sediment	Not biased
IA01-BM0025	Roof gravel	Not biased
IA01-BM0026	Roof gravel	Not biased
IA01-BM0101	Floor tile	Not biased
IA01-BM0102	Second floor	Not biased
Warehouse and Foundry		
IA02-BM0005	Foundry roof	Biased high
IA02-BM0006	Foundry roof	Biased high
IA02-BM0007	Foundry roof	Bounding
IA02-BM0009	Warehouse roof	Biased high
IA02-BM0010	Warehouse roof	Biased high
IA02-BM0011	Warehouse roof	Biased high
IA02-BM0012	Warehouse roof	Biased high
IA02-BM0013	Warehouse roof	Bounding
IA02-BM0014	Warehouse roof	Bounding
IA02-BM0015	Warehouse roof gravel	Biased high
IA02-BM0016	Warehouse roof gravel	Not biased
IA02-BM0101	Foundry roof	Biased high and for area coverage
IA02-BM0104	Warehouse roof	Biased high and for area coverage
IA02-BM0105	Warehouse roof	Biased high and for area coverage
IA02-BM0106	Warehouse roof	Biased high and for area coverage
IA02-BM0108	Warehouse roof	Biased high and for area coverage

Table 3-4. Building Survey Master Unit Descriptions

Master Unit	Description
1M1	G-1-Exterior Walls - Exterior
1M2	G-1-Roof - Exterior
1M3	G-1-South Structure Interior Walls - Interior
1M4	G-1-North Structure Interior Walls - Interior
1M5	G-1 Windowsills - Exterior
1M6	G-1-1st Floor - Interior
1M7	G-1-2nd Floor - Interior
1M8	G-1-Mezzanine Floor - Interior
1M9	G-1-East Structure 2nd Level Floor - Interior
1M10	G-1 Discretionary Points - Exterior
1M11	G-1-East Structure Interior Wall - Interior
1M12	G-1-2nd Level Interior Walls - Interior
1M13	G-1-East Structure 2nd and 3rd Level Walls - Interior
1M14	G-1-East Structure 3rd Level Floor - Interior
2M1	Boiler House Walls - Exterior
2M2	Boiler House Window Sills - Exterior
2M3	Boiler House Roof - Exterior
2M4	Boiler House Walls - Interior
2M5	Boiler House Accessible Floor and Mezzanine - Interior
2M6	Boiler House Mezzanine - Exterior
3M1	Foundry Walls - Exterior
3M2	Foundry Window Sills - Exterior
3M3	Foundry Roof
3M4	Foundry Exterior Discretionary Wall Caps, Gutters, etc.
4M1	Warehouse Walls - Exterior
4M2	Warehouse Ramps - Exterior
4M3	Warehouse Window Sills - Exterior
4M4	Warehouse Walls - Interior
4M5	Warehouse Roof - Exterior
4M6	Warehouse Roof Structure - Exterior
4M7	Warehouse Roof Vent
4M8	Warehouse Discretionary Points
5M1	Garage Walls - Exterior
5M2	Garage Window Sills - Exterior
5M3	Garage Roof - Exterior
6M1	Scale House Walls and Roof - Exterior
6M2	Scale House Walls and Floor - Interior

Table 3-5. Building Survey Units - Building G-1

Survey Unit	Master Unit	Description
1	1M1	G-1-North Wall West End - Exterior
2	1M1	G-1-North Wall East End - Exterior
3	1M1	G-1-East Wall North End - Exterior
4	1M1	G-1-South Wall East End - Exterior
5	1M1	G-1-East Wall South End - Exterior
6	1M1	G-1-South Wall Mid-East End - Exterior
7	1M1	G-1-South Wall Mid-West End - Exterior
8	1M1	G-1-West Wall South End - Exterior
9	1M1	G-1-South Wall West End - Exterior
10	1M1	G-1-West Wall North End - Exterior
11	1M2	G-1-Roof: South End - Exterior
12	1M2	G-1-Roof: Middle End - Exterior
13	1M2	G-1-Roof; North End - Exterior
14	1M1	G-1-North, Fiber glass roof structure - Exterior
15	1M6	G-1-1st Level Floor - Interior
16	1M2	G-1-Small southern building below the X axis - exterior
17	1M3	G-1-South Structure, South Wall - Interior
18	1M3	G-1-South Structure, South side of Middle Wall - Interior
19	1M3	G-1-South Structure, North Side of Middle Wall - Interior
20	1M3	G-1-South Structure, South Side of North Wall - Interior
21	1M4	G-1-North Structure, South Wall - Interior
22	1M4	G-1-North Structure, North Wall - Interior
23	1M3	G-1-South Structure, Western Wall - Interior
24	1M3	G-1-South Structure, Northern Wall - Interior
25	1M4	G-1-North Structure, Western wall - Interior
26	1M4	G-1-North Structure, Western wall - Interior
27	1M3	G-1-South Structure, Stairwell room - Interior
28	1M3	G-1-South Structure, Southern room south of Survey Unit 17 wall - Interior
29	1M3	G-1-South Structure, Southern room north of Survey Unit 17 wall - Interior
30	1M3	G-1-South Structure, West side of east interior wall - Interior
31	1M3	G-1-South Structure, East side of east interior wall - Interior
32	1M3	G-1-South Structure, East side of middle interior wall - Interior
33	1M3	G-1-South Structure, West side of middle interior wall - Interior
34	1M3	G-1-South Structure, North east corner eastern exterior wall - Interior
35	1M3	G-1-South Structure, North east corner eastern interior wall - Interior
36	1M3	G-1-South Structure, North east corner Southern interior wall - Interior
37	1M3	G-1-South Structure, Northeast corner Southern exterior wall - Interior
38	1M4	G-1-North Structure, west side of western interior wall - Interior
39	1M4	G-1-North Structure, east side of western interior wall - Interior
40	1M4	G-1-elevator walls - Interior
41	1M11	G-1-East Structure, East wall - Interior
42	1M4	G-1-North Structure, Small room west of Survey Unit 43 - Interior
43	1M4	G-1-North Structure, Small room in corner of Survey Units 38 & 20 - Interior
44	1M4	G-1-North Structure, Small room in corner of Survey Units 39 & 21 - Interior
45	1M4	G-1-North Structure, Small room under eastern mezzanine - Interior
46	1M4	G-1-North Structure, Small Room under mezzanine - Interior

Table 3-5. Building Survey Units - Building G-1 (continued)

Survey Unit	Master Unit	Description
47	1M11	G-1-East Structure, west interior wall - Interior
48	1M4	G-1-North Structure, Mezzanine walls "Left side" - Interior
49	1M4	G-1-North Structure, Mezzanine walls "Left side" south exterior wall - Interior
50	1M4	G-1-North Structure, Mezzanine walls "Right side" - Interior
51	1M4	G-1-North Structure, Small Room - Interior
52	1M4	G-1-North Structure, Small Room - Interior
53	1M4	G-1-North Structure, Mezzanine Level small rooms - Interior
54	1M1	G-1-Main building upper level walls - exterior
55	1M7	G-1-South Structure, 2nd Level (floor) - interior
56	1M12	G-1-South Structure, 2nd Level southern interior walls - interior
57	1M12	G-1-South Structure, 2nd Level North west corner interior walls - Interior
58	1M12	G-1-South Structure, 2nd Level Northern interior walls - Interior
59	1M12	G-1-South Structure, 2nd Level middle interior walls - Interior
60	1M12	G-1-South Structure, north wall - Interior
61	1M12	G-1-South Structure, east wall - Interior
62	1M12	G-1-South Structure, south wall - Interior
63	1M12	G-1-South Structure, west wall - Interior
64	1M8	G-1-South Structure, Mezzanine floor - Interior
65	1M9	G-1-East Structure, High bay 2nd level floor - Interior
66	1M13	G-1-East Structure, High bay 2nd level west wall - Interior
67	1M13	G-1-East Structure, High bay 2nd level north wall - Interior
68	1M13	G-1-East Structure, High bay 2nd level east wall - Interior
69	1M13	G-1-East Structure, High bay 2nd level south side of middle wall - Interior
70	1M13	G-1-East Structure, High bay 2nd level north side of middle wall - Interior
71	1M13	G-1-East Structure, High Bay 3rd level north wall - Interior
72	1M13	G-1-East Structure, High Bay 3rd level east wall - Interior
73	1M13	G-1-East Structure, High Bay 3rd level south side of middle wall - Interior
74	1M14	G-1-East Structure, High Bay 3rd level floor - Interior
75	1M13	G-1-East Structure, High Bay 3rd level west wall - Interior
76	1M13	G-1-East Structure, High Bay 3rd level southern accessible wall - Interior
77	1M13	G-1-East Structure, High Bay 3rd level northern side of middle wall - Interior
80	1M2	G-1-East Structure, High Bay Roof - Exterior
86	1M5	G-1 Windowsills, east and southeast walls - Exterior
87	1M5	G-1 Windowsills, north wall - Exterior
88	1M5	G-1 Windowsills, west and southwest walls - Exterior
99	1M10	G-1 Discretionary points - Exterior

Table 3-6. Building Survey Units - IA02 (Other Buildings)

Survey Unit	Master Unit	Description
Boiler House		
1	2M1	Boiler House south wall-exterior
2	2M1	Boiler House east wall-exterior
3	2M1	Boiler House north wall-exterior
4	2M1	Boiler House west wall-exterior
5	2M2	Boiler House window sills-exterior
6	2M3	Boiler House roof
7	2M3	Boiler House roof structures, dividing wall and stacks
8	2M4	Boiler House south wall-interior
9	2M4	Boiler House west wall-interior
10	2M4	Boiler House north wall-interior
11	2M4	Boiler House east wall-interior
12	2M5	Boiler House floor
13	2M5	Boiler House mezzanine
Foundry		
1	3M1	Foundry south wall – exterior
2	3M1	Foundry west wall – exterior
3	3M1	Foundry north wall – exterior
4	3M1	Foundry east wall – exterior
5	3M2	Foundry window sills – exterior
6	3M3	Foundry roof
8	3M1	Foundry south corrugated wall – exterior
9	3M1	Foundry north corrugated wall – exterior
10	3M1	Foundry High Bay (roof) south wall – exterior
11	3M1	Foundry High Bay (roof) north wall – exterior
99	3M4	Foundry discretionary wall caps, gutters, etc. - exterior
Warehouse		
1	4M1	Warehouse north wall - exterior
2	4M1	Warehouse east wall northern half – exterior
3	4M1	Warehouse east wall southern half – exterior
4	4M2	Warehouse east wall ramp and stairway – exterior
5	4M1	Warehouse south wall – exterior
6	4M1	Warehouse west wall southern third – exterior
7	4M2	Warehouse west wall ramp – exterior
8	4M1	Warehouse west wall middle third – exterior
9	4M1	Warehouse west wall northern third – exterior
10	4M2	Warehouse north wall ramp – exterior
11	4M1	Warehouse/Foundry breezeway - exterior
12	4M3	Warehouse east and north windowsills - exterior
13	4M3	Warehouse west windowsills - exterior
14	4M3	Warehouse south windowsills - exterior
15	4M4	Warehouse labs and offices - interior
16	4M5	Warehouse offices roof

Table 3-6. Building Survey Units - IA02 (Other Buildings) (continued)

Survey Unit	Master Unit	Description
17	4M5	Warehouse roof south
18	4M6	Warehouse roof structure #1
19	4M5	Warehouse roof south central
20	4M5	Warehouse roof northeast
21	4M5	Warehouse roof west half north
22	4M5	Warehouse roof north
23	4M6	Warehouse skylights
24	4M1	Warehouse north roof walls
25	4M6	Warehouse roof south structure north wall
26	4M6	Warehouse roof south structure south wall
27	4M7	Warehouse roof vent
99	4M8	Warehouse discretionary points
Garage		
1	5M1	Garage east front wall-exterior
2	5M1	Garage north wall-exterior
3	5M1	Garage south wall-exterior
4	5M1	Garage west wall-exterior
5	5M2	Garage window sills-exterior
6	5M3	Garage roof
Scale House		
1	6M1	Scale House walls and roof - exterior
2	6M2	Scale House walls and floor - interior

Table 3-7. Phase III Archived Soil Samples Selected for Analysis

Location	Sample	Depth (ft bgs)	Activity	Sampling Category	Found	Ra-226	Iso-Th	Iso-U
IA03-SB0061	HSSB0215	0.4-2.4	2	2	X		X	
IA03-SB0003	HSSB0220	8-10	5	1	X		X	
IA03-SB0013	HSSB0272	2-2.5	2	2	X		X	
IA03-SB0013	HSSB0273	4-6	2	2	X		X	
IA04-SB0007	HSSB0363	0.2-0.7	2	2	X		X	
IA04-SB0007	HSSB0364	8-10	2	2	X		X	
IA04-SB0005	HSSB0365	1.5-2	2	2	X		X	
IA04-SB0005	HSSB0366	4-6	2	2	X		X	
IA04-SB0009	HSSB0373	0-0.5	2	2	X		X	
IA04-SB0010	HSSB0426	0.5-1	2	2			X	
IA05-SB0014	HSSB0519	0.5-1	5	1	X		X	
IA05-SB0019	HSSB0571	0.5-2.5	5	1	X		X	
IA05-SB0019	HSSB0572	4-6	5	1	X		X	
IA05-SB0020	HSSB0573	0-2	5	1	X		X	
IA05-SB0021	HSSB0575	0.6-2.6	5	1	X		X	
IA07-SB0015	HSSB0739	4-6	3, 4	5	X	X		X
IA03-SB0117	HSSB0958	2.8-4.8	5	1	X		X	
IA03-SB0117	HSSB0959	4.8-6.8	5	1	X		X	
IA03-SB0118	HSSB0963	0.8-2.8	5	1	X		X	
IA03-SB0118	HSSB0964	4-6	5	1	X		X	
IA03-SB0119	HSSB0966	0.5-2.5	5	1	X		X	
IA03-SB0119	HSSB0967	4-6	5	1	X		X	
IA04-SB0028	HSSB0972	0-2	2	2	X		X	
IA04-SB0023	HSSB0978	0.5-2.5	5	1	X		X	
IA04-SB0023	HSSB0979	8-10	5	1	X		X	
IA04-SB0027	HSSB0990	24-26	2	2	X		X	
IA05-SB0030	HSSB1003	4-6	3	5	X			X
IA04-SB0028	HSSB1011	12-14	2	2	X		X	
IA04-SB0026	HSSB1014	24-26	2	2	X		X	
IA04-SB0027	HSSB1037	0-2	2	2	X		X	
IA04-SB0026	HSSB1038	0-2	2	2	X		X	
IA05-SB0038	HSSB1065	0.4-2.4	5	1	X		X	
IA05-SB0038	HSSB1066	2.4-4.4	5	1	X		X	
IA05-SB0037	HSSB1067	0.5-2.5	5	1	X		X	
IA05-SB0039	HSSB1076	0.5-2.5	5	1	X		X	
IA05-SB0039	HSSB1077	2.5-4.5	5	1	X		X	
IA05-SB0032*	HSSB1083	8-10.5	3	5				X
IA03-SB0111*	HSSB1098	0-2	3, 4	5		X		X

Table 3-7. Phase III Archived Soil Samples Selected for Analysis (continued)

Location	Sample	Depth (ft bgs)	Activity	Sampling Category	Found	Ra-226	Iso-Th	Iso-U
IA05-SB0035*	HSSB1113	0.5-2	3, 4	5		X		X
IA07-SB0030	HSSB1117	0-0.5	3, 4	5	X	X		X
IA03-SB0110	HSSB1120	0-2	5	1	X		X	
IA03-SB0110	HSSB1121	4-6	5	1	X		X	
IA03-SB0107	HSSB1125	0-2	2	2	X		X	
IA03-SB0107	HSSB1126	4-6	2	2	X		X	
IA03-SB0106	HSSB1128	0-2	2	2	X		X	
IA03-SB0108*	HSSB1132	0-2	3	5				X
IA04-SB0040*	HSSB1224	0-1	3	5				X
IA04-SB0041*	HSSB1225	0-1	3	5				X
IA04-SB0033*	HSSB1281	8-10	3, 4	5		X		X
IA04-SB0033*	HSSB1284	4-6	3	5				X
IA04-SB0036	HSSB1286	0-2	5	1	X		X	
IA04-SB0036	HSSB1287	4-6	3, 4, 5	1 & 5	X	X	X	X
IA04-SB0032*	HSSB1289	8-10	3, 4	5		X		X
IA05-SB0048***	HSSB1320	5-7	3, 4	5	X	X		X
IA07-SB0038	HSSB1390	0-0.8	3, 4	5	X	X		X
IA04-SB0048	HSSB1410	4-6	3	5	X			X
IA04-SB0056*	HSSB1432	0-0.5	3	5				X
IA04-SB0040*	HSSB9077	0-1	3, 4	5		X		X
IA05-SB0049	HSSB9087	5-7	3	5	X			X
IA04-SB0054	HSSB9092	0-2	3	5	X			X
IA04-SB0044**	HSSB1402	0-2	3, 4	5	X	X		X
IA04-SB0054**	HSSB1425	0-2	3, 4	5	X	X		X
IA04-SB0013**	HSSB0416	0-0.5	3, 4	5	X	X		X
IA04-SB0035**	HSSB1418	0-2	3, 4	5	X	X		X
IA05-SB0049**	HSSB1314	5-7	3	5	X			X
IA05-SB0048**	HSSB1317	8-10	3	5	X			X
IA05-SB0030**	HSSB1068	10-14	3	5	X			X
IA05-SB0010**	HSSB0593	8-10	3	5	X			X
IA05-SB0047**	HSSB1327	1-2.4	3	5	X			X
IA05-SB0047	HSSB1321	4-6	3	5	X			X
IS07-SB0006**	HSSB0731	8-10	3	5	X			X

Activities and sample categories are defined in Section 3.5.

*Replaced by archived sample.

** Replacement selected by USACE during field work.

*** High Uranium

Table 3-8. Phase IV Archived Samples Selected for Analysis

Location	Sample	Depth (ft bgs)	Found	Ac-228	Bi-212	Bi-214	Co-56	Eu-152	Eu-154	Gross Alpha	Gross Beta	K-40	Np-237	Pa-234	Pb-212	Pb-214	Pu-238	Pu-239/40	Sb-125	Tc-99	Iso-Th	Tl-208	Iso-U
BEGE-SB0009	HSSB0839	0-1	X		X			X	X	X	X				X		X	X	X	X	X	X	X
BEGE-SB0012	HSSB0842	0-1	x			X		X	X	X	X	X			X	X	X	X		X	X		X
BEGE-SB0016	HSSB0846	0-0.3	X		X			X	X	X	X					X	X	X		X	X		X
IA03-SB0014	HSSB0248	0-0.5	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0015	HSSB0242	0-0.5	X	X		X	X	X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0019	HSSB0148	0-0.5	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0033	HSSB0193	0-0.5	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0038	HSSB0163	0-0.5	X	X		X		X	X	X	X	X		X	X	X	X	X		X	X	X	X
IA03-SB0054	HSSB0267	0-2	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0062	HSSB0232	0-1.5	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0090	HSSB1201	2-4	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0118	HSSB0963	0-2	X																		X		
IA03-SB0119	HSSB0966	0-0.5	X																		X		
IA03-SB0125	HSSB1340	0-2	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0135	HSSB1235	0-2	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA03-SB0152*	HSSB0966	0.55-1.05																					
IA03-SB0155*	HSSB1509	0.5-1																					
IA04-SB0001	HSSB0367	0-0.5	X	X	X	X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA04-SB0010	HSSB0427	3.5-5.5	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA04-SB0013	HSSB0416	0-0.5	X	X				X	X			X	X									X	X
IA04-SB0023	HSSB0978	0.5-2.5	X																		X		
IA04-SB0035	HSSB1418	0-2	X	X		X		X	X				X			X						X	X
IA04-SB0036	HSSB1287	4-6	X					X	X				X			X					X		X
IA04-SB0044	HSSB1402	0-2	X			X		X	X			X	X		X								X
IA04-SB0048	HSSB1410	4-6	X																				X
IA04-SB0054	HSSB1425	0-2	X		X			X	X			X	X										X
IA04-SB0054	HSSB9092	0-2	X																				X
IA04-SB0057*	HSSB1466	5-6																					
IA04-SB0060*	HSSB1472	0-2																					
IA04-SB0064*	HSSB1522	0-2																					
IA04-SB0064*	HSSB1521	1-1.5																					
IA04-SB0154*	HSSB1504	0.3-0.8																					
IA05-SB0010	HSSB0593	7.4-9.4	X																				X
IA05-SB0030	HSSB1003	3.75-5.75	X																				X
IA05-SB0030	HSSB1004	7.75-9.75	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA05-SB0047	HSSB1327	0-1.4	X																				X
IA05-SB0048	HSSB1320	0-1.5	X	X				X	X			X	X			X							X
IA05-SB0049	HSSB1314	4.8-6.8	X																				X
IA05-SB0049	HSSB9087	4.8-6.8	X																				X
IA05-SB0060*	HSSB1516	0-2																					
IA06-SB0024*	HSSB1546	0-0.5																					

Table 3-8. Phase IV Archived Samples Selected for Analysis (continued)

Location	Sample	Depth (ft bgs)	Found	Ac-228	Bi-212	Bi-214	Co-56	Eu-152	Eu-154	Gross Alpha	Gross Beta	K-40	Np-237	Pa-234	Pb-212	Pb-214	Pu-238	Pu-239/40	Sb-125	Tc-99	Iso-Th	Tl-208	Iso-U
IA06-SB0024*	HSSB1571	0.5-1																					
IA06-SB0027*	HSSB1545	0-0.5																					
IA06-SB0027*	HSSB1551	6.5-7																					
IA06-SB0039*	HSSB1581	4.5-5																					
IA07-SB0025	HSSB0740	7.2-9.2	X	X		X		X	X	X	X	X			X	X	X	X		X	X	X	X
IA07-SB0030	HSSB1117	0-0.5	X		X			X	X				X		X							X	X
IA07-SB0038	HSSB1390	0-0.8	X					X	X				X										X
STM-TR1	HSTR0005	5.5-6	X					X	X				X								X	X	X
IA03-SB0111**	HSSB1711	0-0.5		X		X		X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA03-SB0152**	HSSB1700	0.25-1.25		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA03-SB0154**	HSSB1701	0-0.5		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA03-SB0155**	HSSB1702	0.5-1		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA04-SB0057**	HSSB1703	0-2		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA04-SB0060**	HSSB1704	0-1		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA04-SB0064**	HSSB1705	1-1.5		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA04-SB0064**	HSSB1706	0-2		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA05-SB0060**	HSSB1707	0-2		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA06-SB0024**	HSSB1708	0-0.5		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA06-SB0024**	HSSB1709	0.5-1		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA06-SB0027**	HSSB1710	0-0.5		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X
IA06-SB0039**	HSSB1712	0-2		X		X	X	X	X	X	X	X	X		X	X	X	X		X	X	X	X

*Replaced by archived sample.
** Replacement sample collected during Phase IV.

Table 3-9. Waste Characterization Sampling Summary – Soil

Parameter	Analytical Method	Quantity	WS-1	WS-4							
			CG-1	CG-1	CG-2	CG-3	CG-4	CG-5	CG-6	CG-7	CG-8
Radionuclides											
Isotopic Uranium	DOE A-01-R	9	X	X	X	X	X	X	X	X	X
Isotopic Thorium	DOE A-01-R	9	X	X	X	X	X	X	X	X	X
Isotopic-Plutonium (including Pu-241)	DOE A-01-R/ LSC	9	X	X	X	X	X	X	X	X	X
Radium-226/228	DOE GA-01-R	9	X	X	X	X	X	X	X	X	X
Americium-241	DOE A-01-R	9	X	X	X	X	X	X	X	X	X
Carbon-14	EERF C-01-1	9	X	X	X	X	X	X	X	X	X
Curium-242	DOE A-01-R	9	X	X	X	X	X	X	X	X	X
Cobalt-60	DOE GA-01-R	9	X	X	X	X	X	X	X	X	X
Cesium-137	DOE GA-01-R	9	X	X	X	X	X	X	X	X	X
Hydrogen-3	DOE H3-04-RC	9	X	X	X	X	X	X	X	X	X
Iodine-129	DOE GA-01-R	9	X	X	X	X	X	X	X	X	X
Niobium-94	DOE GA-01-R	9	X	X	X	X	X	X	X	X	X
Nickle-59	LSC	9	X	X	X	X	X	X	X	X	X
Nickle-63	LSC	9	X	X	X	X	X	X	X	X	X
Strontium-90	DOE SR-03-RC	9	X	X	X	X	X	X	X	X	X
Technetium-99	DOE TC-02-RC	9	X	X	X	X	X	X	X	X	X
Total Activity	LSC	9	X	X	X	X	X	X	X	X	X

Table 3-9. Waste Characterization Sampling Summary – Soil (continued)

Parameter	Analytical Method	Quantity	WS-1	WS-4							
			CG-1	CG-1	CG-2	CG-3	CG-4	CG-5	CG-6	CG-7	CG-8
General Chemistry											
TCLP Volatile Extraction	SW-846 1311	3	X	X	X	X	X	X	X	X	X
TCLP Non-Volatile Extraction	SW-846 1311	3	X	X	X	X	X	X	X	X	X
TCLP Herbicides	SW-846 8151	3	X	X	X	X	X	X	X	X	X
TCLP Pesticides	SW-846 8081	3	X	X	X	X	X	X	X	X	X
TCLP Metals (including zinc)	SW-846 6010B/7470	3	X	X	X	X	X	X	X	X	X
TCLP SVOCs	SW-846 8270	3	X	X	X	X	X	X	X	X	X
TCLP VOCs	SW-846 8260	3	X	X	X	X	X	X	X	X	X
Paint Filter Test[1]	SW-846 9095	3	X	X	X	X	X	X	X	X	X

[1] Conducted only if visible free liquids present

Table 3-10. Waste Characterization Sampling Summary – Water

Parameter	Analytical Method	Quantity	WS-5	
			CG-2	CG-3
Radionuclides				
Isotopic Uranium	DOE A-01-R	1	X	X
Isotopic Thorium	DOE A-01-R	1	X	X
Isotopic-Plutonium (including Pu-241)	DOE A-01-R/ LSC	1	X	X
Radium-226/228	SW846 9315/9320	1	X	X
Americium-241	DOE A-01-R	1	X	X
Carbon-14	EERF C-01-1	1	X	X
Curium-242	DOE A-01-R	1	X	X
Cobalt-60	DOE GA-01-R	1	X	X
Cesium-137	DOE GA-01-R	1	X	X
Hydrogen-3	DOE H3-04-RC	1	X	X
Iodine-129	LSC	1	X	X
Niobium-94	DOE GA-01-R	1	X	X
Nickle-59	LSC	1	X	X
Nickle-63	LSC	1	X	X
Strontium-90	DOE SR-03-RC	1	X	X
Technetium-99	DOE TC-02-RC	1	X	X
Total Activity	LSC	1	X	X

Table 3-11. IDW Waste Stream Inventory

Waste Stream	Description	Composite Group	IDW Containers
WS-1	Building G-1 floor sweepings	CG-1	10 containers total: G1-1 through G1-9; HEPA
WS-2	Unused grout	CG-1	8 containers total: GROUT-1 through GROUT-8
WS-3	BEGe sample cans	CG-1	2 containers total: BEGE Cans-1; BEGE Cans-2
WS-4	Soil cuttings	CG-1	9 containers total: IA05-SB0015; IA06-0005; IA06-0006; IA06-SB0001; IA06-SB0002; IA06-SB0003,04,07; IA07-SB0001; IA07-SB0003&SB002; IA07-SB0010
		CG-2	9 containers total: IA05-SB0014-1; IA05-SB0014-2; IA07-SB0004&SB0005; IA07-SB0006; IA03-GPSC-2; IA03-GPSC-3; IA03-SB0038; IA03-SB0039,10,09; IA05-GPSC-2
		CG-3	9 containers total: IA03-GPSC-1; IA04-GPSC-1; IA04-SB0011; IA05-GPSC-1; IA05-SB0009-1; IA09-SOIL; PLSC-1; BEGE-SB; BKG-GW0005-1
		CG-4	9 containers total: BKG-1; BKG-2; BKG-GW0001-1; BKG-GW0002-1; BKG-GW0002-2; BKG-GW0003-1; BKG-GW0003-2; BKG-GW0004-1S; BKG-GW0004-2S
		CG-5	9 containers total: BKG-GW0005-2; IA10-1; IA10-MW0001-1; IA10-MW0001-2; IA10-MW0002-1; IA10-MW0002-2; IA10-MW0003-1; IA10-MW0004-1; IA10-MW0004-2
		CG-6	9 containers total: THDG-SOIL-1; IA04-SOIL; IA03-TP0001-14; IA04-TP0003-4; IA04-GPSC-2; IA04-TP0004; BEGE-LAB-SOIL-3; IA04-TP0001-1; BEGE-CAN-CRUSHER-DUST
		CG-7	10 containers total: IA05-GPSC-3; IA05-HSA; IA07-SB0007-11; IA07-SB0008-10; IA04-SB0025/27; IA04-SB0024; IA04-SB0022; IA04-SB0023; BEGE-LAB-SOIL-4; IA04-SB0026
		CG-8	10 containers total: IA03-GPSC-4; IA04-TP0005-13; IA04-TP0005-8; IA04-TP0005-12; IA07-SB0011-9; IA04-TP0002-2; IA04-TP0003-5; IA05-GPSC-4; IA07-GPSC-1; IA04-SB0028
	BEGe archive soil samples	CG-9	10 containers total: BEGE-ARCHIVE-A through BEGE ARCHIVE-E; PHI BEGE ARCHIVE-1 through PHI BEGE ARCHIVE-5

Table 3-11. IDW Waste Stream Inventory (continued)

Waste Stream	Description	Composite Group	IDW Containers
WS-5	Water (uranium <450 µ/L)	CG-1	160 containers total (disposed in 2003/2004): BKA-51-1; BKA-51-2; BKA-52-1; BKA-52-2; BKA-53-1; BKA-53-2; DM-10-1; DM-10-2; DM-11-1; DM-11-2; DM-12-1; DM-12-2; DM-14-1; DM-14-2; DM-15-1; DM-15-2; DM-2-1; DM-2-2; DM-22R-1; DM-22R-2; DM-23R-1; DM-23R-2; DM-25R-1; DM-25R-2; DM-26-1; DM-26-2; DM-27R-1; DM-27R-2; DM-29R-1; DM-29R-2; DM-30R-1; DM-30R-2; DM-3-1; DM-3-2; DM-4-1; DM-4-2; DM-5-1; DM-5-2; DM-5-3; DM-5-4; DM-5-5; DM-5-6; DM-9-1; DM-9-2; ERM-47-1; ERM-47-2; ERM-47-3; RMW-35-1; RMW-35-2; RMW-38-1; RMW-38-2; RMW-38-2; RMW-38-3; RMW-39-1; RMW-39-2; DM-1-1; DM-1-2; DM-28R-1; DM-28R-2; DWD-1; DWD-10; DWD-11; DWD-12; DWD-13; DWD-14; DWD-15; DWD-16; DWD-17; DWD-18; DWD-19; DWD-2; DWD-20; DWD-21; DWD-22; DWD-3; DWD-4; DWD-5; DWD-6; DWD-7; DWD-8; DWD-9; DWE-1; DWE-10; DWE-11; DWE-12; DWE-13; DWE-2; DWE-3; DWE-4; DWE-5; DWE-6; DWE-7; DWE-8; DWE-9; BKG-GW0001; BKG-GW0005; BKG-MW0002-1; BKG-MW0002-2; BKG-MW0003-1; BKG-MW0003-10; BKG-MW0003-11; BKG-MW0003-12; BKG-MW0003-2; BKG-MW0003-3; BKG-MW0003-4; BKG-MW0003-5; BKG-MW0003-6; BKG-MW0003-7; BKG-MW0003-8; BKG-MW0003-9; BKG-MWGW0004-1; BKG-MW0004-10; BKG-MW0004-11; BKG-MW0004-12; BKG-MWGW0004-2; BKG-MW0004-3; BKG-MW0004-4; BKG-MW0004-5; BKG-MW0004-6; BKG-MW0004-7; BKG-MW0004-8; BKG-MW0004-9; BKG-MW0005-1; BKG-MW0005-2; BKG-MW0005-3; BKG-MW0005-4; BKG-MW0005-5; BKG-MW0005-6; BKG-MW0005-7; BKG-MW0005-8; BKG-MW0005-9; IA10-MW0001-1; IA10-MW0001-10; IA10-MW0001-11; IA10-MW0001-12; IA10-MW0001-2; IA10-MW0001-3; IA10-MW0001-4; IA10-MW0001-5; IA10-MW0001-6; IA10-MW0001-7; IA10-MW0001-8; IA10-MW0001-9; IA10-MW0002-1; IA10-MW0002-10; IA10-MW0002-11; IA10-MW0002-12; IA10-MW0002-13; IA10-MW0002-2; IA10-MW0002-3; IA10-MW0002-4; IA10-MW0002-5; IA10-MW0002-6; IA10-MW0002-7; IA10-MW0002-8; IA10-MW0002-9; IA10-MW0003, BKGIA10-PW, CDT-MW001,2 & MW0004
	Water (uranium >450 µ/L)	CG-2	3 containers total: BKA-48-1; BKA-48-2; TWW
	Water	CG-3	1 container total: THDG-DECON-1
WS-6	PPE/PVC/plastic/trash	CG-1	88 containers total: PPE-1 through PPE-80; IA05-LINERS; PVC-1 through PVC-6; BEGE CAN CRUSHER DUST
	Decontamination mud/plastic	CG-2	6 containers total: DDECONPAD-1; DDECONPAD-2; DMD-1; DMD-2; DMD-3; DMD-4
WS-7	Solid/liquid waste	CG-1	2 containers total: HYD-1
	Pilot hole cores	CG-2	3 containers total: CONCRETE CORES-1 through CONCRETE CORES-3

Table 4-1. Summary of the On-Site and Off-Site Comparison Data

Parameter	Lab	Method	Total No. of Samples[a]	Minimum Result (pCi/g)	Maximum Result (pCi/g)	Dist.[b]	Mean Result[c] (pCi/g)
Ra-228	GEL	EML HASL 300, 4.5.2.3	255	0.2	127	X	1
	HAR	GSS		0.16	141	X	0.96
U-235	GEL	EML HASL 300, 4.5.2.3	39	0.85	177	X	4.4
	HAR	GSS		0.99	211	X	3.4
U-238	GEL	EML HASL 300, 4.5.2.3	107	0.77	2710	X	7.5
	HAR	GSS		1.8	3379	X	7.5

[a] Total number of constituent-specific paired results for which both reported results exceed their corresponding minimum detectable activity (MDA).
[b] Distribution assessed using Shapiro-Wilk normality test.
[c] Mean result is median value (non-parametric distribution).
GEL - off-site laboratory
HAR - on-site BEGe laboratory
Distribution:
X - Nonparametric distribution (i.e., neither normal nor lognormal).

Table 4-2. Spearman Rank Correlation of On-Site and Off-Site Gamma Spectroscopy Results

		GEL: Off-site Laboratory		
		Radium-228	Uranium-235	Uranium-238
BEGe: On-site Laboratory	Radium-228	0.85 (255) <0.05		
	Uranium-235		0.95 (39) <0.05	
	Uranium-238			0.96 (107) <0.05

Correlation Coefficient (R)
(Sample Size)
p-Value

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
BKG	BKG-SB0001	HSSB0001	Soil	0.3	0.8	9/18/2003	Ra-228	1.1	0.17	0.041	0.93	0.12	0.20	0.702	N
BKG	BKG-SB0001	HSSB0002	Soil	0.3	2.3	9/18/2003	Ra-228	0.96	0.15	0.026	0.92	0.11	0.19	0.230	N
BKG	BKG-SB0001	HSSB0003	Soil	4.0	6.0	9/18/2003	Ra-228	1.3	0.19	0.035	1.5	0.18	0.23	-0.926	N
BKG	BKG-SB0002	HSSB0004	Soil	0.3	0.8	9/18/2003	Ra-228	0.87	0.11	0.033	0.79	0.096	0.13	0.517	N
BKG	BKG-SB0002	HSSB0005	Soil	0.3	2.3	9/18/2003	Ra-228	0.87	0.12	0.042	0.86	0.096	0.13	0.0420	N
BKG	BKG-SB0002	HSSB0006	Soil	8.0	10.0	9/18/2003	Ra-228	1.2	0.18	0.047	1.3	0.15	0.25	-0.454	N
BKG	BKG-SB0003	HSSB0007	Soil	0.3	0.8	9/18/2003	Ra-228	1.0	0.15	0.028	0.95	0.10	0.13	0.341	N
BKG	BKG-SB0003	HSSB0008	Soil	0.3	2.3	9/18/2003	Ra-228	1.1	0.16	0.064	0.98	0.12	0.19	0.625	N
BKG	BKG-SB0003	HSSB0009	Soil	4.0	6.0	9/18/2003	Ra-228	1.2	0.14	0.032	1.1	0.14	0.20	0.336	N
BKG	BKG-SB0004	HSSB0869	Soil	0.0	0.5	9/21/2003	Ra-228	0.85	0.15	0.061	0.73	0.10	0.16	0.667	N
BKG	BKG-SB0004	HSSB0870	Soil	0.0	2.0	9/21/2003	Ra-228	0.97	0.16	0.065	0.75	0.10	0.15	1.18	N
BKG	BKG-SB0004	HSSB0871	Soil	4.0	6.0	9/21/2003	Ra-228	1.2	0.22	0.082	1.3	0.16	0.28	-0.202	N
BKG	BKG-SB0005	HSSB0872	Soil	0.0	0.5	9/21/2003	Ra-228	0.92	0.17	0.074	0.90	0.12	0.19	0.129	N
BKG	BKG-SB0005	HSSB0873	Soil	0.0	2.0	9/21/2003	Ra-228	0.79	0.14	0.072	0.54	0.084	0.13	1.55	N
BKG	BKG-SB0005	HSSB0874	Soil	8.0	10.0	9/21/2003	Ra-228	1.4	0.20	0.11	1.3	0.15	0.23	0.396	N
BKG	BKG-SB0006	HSSB0875	Soil	0.0	0.5	9/21/2003	Ra-228	0.79	0.13	0.062	0.77	0.11	0.18	0.101	N
BKG	BKG-SB0006	HSSB0876	Soil	0.0	2.0	9/21/2003	Ra-228	0.82	0.14	0.041	0.75	0.10	0.16	0.391	N
BKG	BKG-SB0006	HSSB0877	Soil	4.0	6.0	9/21/2003	Ra-228	1.4	0.13	0.090	1.3	0.14	0.18	0.526	N
BKG	BKG-SB0007	HSSB0018	Soil	0.0	0.5	9/19/2003	Ra-228	1.0	0.15	0.023	1.1	0.12	0.19	-0.180	N
BKG	BKG-SB0007	HSSB0019	Soil	0.0	2.0	9/19/2003	Ra-228	1.1	0.18	0.052	1.0	0.14	0.19	0.344	N
BKG	BKG-SB0007	HSSB0020	Soil	4.0	6.0	9/19/2003	Ra-228	1.4	0.17	0.053	1.2	0.14	0.19	0.721	N
BKG	BKG-SB0008	HSSB0021	Soil	0.0	0.5	9/19/2003	Ra-228	0.65	0.10	0.035	0.61	0.093	0.17	0.241	N
BKG	BKG-SB0008	HSSB0022	Soil	0.0	2.0	9/19/2003	Ra-228	0.74	0.11	0.041	0.64	0.097	0.14	0.725	N
BKG	BKG-SB0008	HSSB0023	Soil	8.0	10.0	9/19/2003	Ra-228	1.3	0.17	0.046	1.1	0.13	0.20	0.599	N
BKG	BKG-SB0009	HSSB0024	Soil	0.0	0.5	9/19/2003	Ra-228	0.57	0.054	0.031	0.55	0.085	0.14	0.172	N
BKG	BKG-SB0009	HSSB0858	Soil	0.0	2.0	9/19/2003	Ra-228	0.79	0.11	0.040	0.78	0.11	0.18	0.0587	N
BKG	BKG-SB0009	HSSB0859	Soil	4.0	6.0	9/19/2003	Ra-228	1.4	0.22	0.061	1.3	0.15	0.26	0.336	N
BKG	BKG-SB0010	HSSB0010	Soil	0.0	0.5	9/18/2003	Ra-228	0.32	0.057	0.036	0.26	0.062	0.095	0.658	N
BKG	BKG-SB0008	HSSB0023	Soil	8.0	10.0	9/19/2003	Ra-228	1.3	0.17	0.046	1.1	0.13	0.20	0.599	N
BKG	BKG-SB0010	HSSB0011	Soil	0.0	2.0	9/18/2003	Ra-228	0.54	0.088	0.031	0.44	0.072	0.11	0.851	N
BKG	BKG-SB0010	HSSB0012	Soil	4.0	6.0	9/18/2003	Ra-228	1.3	0.20	0.052	1.5	0.18	0.25	-0.915	N
BKG	BKG-SB0011	HSSB0013	Soil	0.0	0.5	9/18/2003	Ra-228	0.21	0.047	0.027	0.18	0.046	0.071	0.434	N
BKG	BKG-SB0011	HSSB0014	Soil	0.0	2.0	9/18/2003	Ra-228	0.47	0.058	0.020	0.37	0.067	0.11	1.12	N
BKG	BKG-SB0011	HSSB0015	Soil	8.0	10.0	9/18/2003	Ra-228	1.4	0.21	0.030	1.5	0.17	0.27	-0.373	N
BKG	BKG-SB0012	HSSB0860	Soil	0.0	0.5	9/19/2003	Ra-228	0.31	0.050	0.026	0.23	0.056	0.084	1.08	N
BKG	BKG-SB0012	HSSB0861	Soil	0.0	2.0	9/19/2003	Ra-228	0.40	0.065	0.033	0.36	0.068	0.088	0.435	N
BKG	BKG-SB0012	HSSB0862	Soil	4.0	6.0	9/19/2003	Ra-228	1.4	0.21	0.059	1.4	0.15	0.23	-0.284	N
BKG	BKG-SB0013	HSSB0878	Soil	0.4	0.9	9/21/2003	Ra-228	1.1	0.11	0.068	1.0	0.14	0.21	0.377	N
BKG	BKG-SB0013	HSSB0879	Soil	0.4	2.4	9/21/2003	Ra-228	0.94	0.14	0.066	0.90	0.12	0.18	0.231	N
BKG	BKG-SB0013	HSSB0880	Soil	4.0	6.0	9/21/2003	Ra-228	1.3	0.20	0.074	1.3	0.15	0.27	0.211	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

								GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy				
IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
BKG	BKG-SB0014	HSSB0881	Soil	0.5	1.0	9/21/2003	Ra-228	1.1	0.20	0.058	1.1	0.15	0.25	-0.0652	N
BKG	BKG-SB0014	HSSB0882	Soil	0.5	2.5	9/21/2003	Ra-228	1.1	0.17	0.078	1.2	0.14	0.17	-0.548	N
BKG	BKG-SB0014	HSSB0883	Soil	8.0	10.0	9/21/2003	Ra-228	1.4	0.23	0.082	1.5	0.15	0.22	-0.0901	N
BKG	BKG-SB0015	HSSB0884	Soil	0.6	1.1	9/21/2003	Ra-228	0.66	0.11	0.054	0.82	0.12	0.19	-1.04	N
BKG	BKG-SB0015	HSSB0885	Soil	0.6	2.6	9/21/2003	Ra-228	1.1	0.18	0.076	1.1	0.13	0.24	0.218	N
BKG	BKG-SB0015	HSSB0886	Soil	4.0	6.0	9/21/2003	Ra-228	1.4	0.24	0.11	1.5	0.17	0.25	-0.520	N
BKG	BKG-SB0016	HSSB0888	Soil	0.0	0.5	9/22/2003	Ra-228	1.1	0.17	0.091	0.98	0.13	0.20	0.560	N
BKG	BKG-SB0016	HSSB0889	Soil	0.0	2.0	9/22/2003	Ra-228	1.0	0.17	0.077	1.1	0.16	0.27	-0.284	N
BKG	BKG-SB0016	HSSB0890	Soil	4.0	6.0	9/22/2003	Ra-228	1.1	0.12	0.074	1.1	0.15	0.26	-0.00392	N
BKG	BKG-SB0017	HSSB0891	Soil	0.0	0.5	9/22/2003	Ra-228	1.3	0.21	0.084	1.3	0.15	0.20	-0.0749	N
BKG	BKG-SB0017	HSSB0892	Soil	0.0	2.0	9/22/2003	Ra-228	1.4	0.21	0.10	1.3	0.16	0.27	0.216	N
BKG	BKG-SB0017	HSSB0893	Soil	8.0	10.0	9/22/2003	Ra-228	0.64	0.11	0.060	0.59	0.097	0.17	0.312	N
BKG	BKG-SB0018	HSSB0894	Soil	0.0	0.5	9/22/2003	Ra-228	1.2	0.11	0.075	1.1	0.15	0.23	0.533	N
BKG	BKG-SB0018	HSSB0895	Soil	0.0	2.0	9/22/2003	Ra-228	1.4	0.13	0.080	1.1	0.13	0.19	1.68	N
BKG	BKG-SB0018	HSSB0896	Soil	4.0	6.0	9/22/2003	Ra-228	1.3	0.20	0.073	1.4	0.15	0.23	-0.105	N
BKG	BKG-SB0019	HSSB0897	Soil	0.0	0.5	9/22/2003	Ra-228	1.1	0.17	0.071	1.0	0.13	0.18	0.0629	N
BKG	BKG-SB0019	HSSB0898	Soil	0.0	2.0	9/22/2003	Ra-228	1.0	0.18	0.068	1.1	0.13	0.21	-0.218	N
BKG	BKG-SB0019	HSSB0899	Soil	8.0	10.0	9/22/2003	Ra-228	0.78	0.13	0.055	0.70	0.093	0.14	0.467	N
BKG	BKG-SB0020	HSSB0016	Soil	0.0	2.0	9/23/2003	Ra-228	1.2	0.20	0.093	1.1	0.14	0.18	0.258	N
BKG	BKG-SB0020	HSSB0887	Soil	0.0	0.5	9/23/2003	Ra-228	1.4	0.23	0.087	1.3	0.17	0.22	0.216	N
BKG	BKG-SB0020	HSSB0906	Soil	4.0	6.0	9/23/2003	Ra-228	1.3	0.13	0.077	1.3	0.15	0.22	0.0577	N
BKG	BKG-SB0021	HSSB0903	Soil	0.0	0.5	9/22/2003	Ra-228	0.97	0.17	0.066	0.88	0.12	0.20	0.440	N
BKG	BKG-SB0021	HSSB0904	Soil	0.0	2.0	9/22/2003	Ra-228	1.1	0.15	0.079	1.0	0.13	0.20	0.369	N
BKG	BKG-SB0021	HSSB0905	Soil	8.0	10.0	9/22/2003	Ra-228	1.1	0.10	0.068	1.2	0.14	0.18	-0.590	N
BKG	BKG-SB0022	HSSB0907	Soil	0.0	0.5	9/23/2003	Ra-228	1.1	0.16	0.069	1.0	0.12	0.17	0.383	N
BKG	BKG-SB0022	HSSB0908	Soil	0.0	2.0	9/23/2003	Ra-228	1.2	0.11	0.080	1.2	0.15	0.22	-0.0411	N
BKG	BKG-SB0022	HSSB0909	Soil	8.0	10.0	9/23/2003	Ra-228	0.89	0.13	0.062	0.93	0.11	0.15	-0.249	N
BKG	BKG-SB0023	HSSB0910	Soil	0.0	0.5	9/23/2003	Ra-228	0.94	0.16	0.062	0.94	0.14	0.20	0.00744	N
BKG	BKG-SB0023	HSSB0911	Soil	0.0	2.0	9/23/2003	Ra-228	1.0	0.17	0.071	0.98	0.12	0.19	0.237	N
BKG	BKG-SB0023	HSSB0912	Soil	4.0	6.0	9/23/2003	Ra-228	0.86	0.15	0.061	0.71	0.098	0.17	0.868	N
BKG	BKG-SB0024	HSSB0900	Soil	0.0	0.5	9/22/2003	Ra-228	1.1	0.17	0.074	0.90	0.11	0.18	0.794	N
BKG	BKG-SB0024	HSSB0901	Soil	0.0	2.0	9/22/2003	Ra-228	1.1	0.17	0.11	1.0	0.15	0.25	0.143	N
BKG	BKG-SB0024	HSSB0902	Soil	4.0	6.0	9/22/2003	Ra-228	1.1	0.19	0.073	1.1	0.14	0.21	0.118	N
BKG	BKG-SB0025	HSSB0919	Soil	0.0	0.5	9/23/2003	Ra-228	1.1	0.16	0.075	1.1	0.14	0.20	0.131	N
BKG	BKG-SB0025	HSSB0920	Soil	0.0	2.0	9/23/2003	Ra-228	1.1	0.10	0.067	1.1	0.13	0.20	-0.253	N
BKG	BKG-SB0025	HSSB0921	Soil	4.0	6.0	9/23/2003	Ra-228	1.3	0.14	0.092	1.2	0.16	0.25	0.715	N
BKG	BKG-SB0026	HSSB0916	Soil	0.0	0.5	9/23/2003	Ra-228	0.66	0.13	0.076	0.58	0.098	0.15	0.541	N
BKG	BKG-SB0026	HSSB0917	Soil	0.0	2.0	9/23/2003	Ra-228	0.67	0.12	0.054	0.64	0.099	0.14	0.198	N
BKG	BKG-SB0026	HSSB0918	Soil	8.0	10.0	9/23/2003	Ra-228	1.1	0.17	0.092	1.0	0.11	0.15	0.449	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
BKG	BKG-SB0027	HSSB0913	Soil	0.0	0.5	9/23/2003	Ra-228	1.1	0.17	0.077	0.99	0.13	0.20	0.282	N
BKG	BKG-SB0027	HSSB0914	Soil	0.0	2.0	9/23/2003	Ra-228	1.1	0.19	0.061	1.2	0.14	0.22	-0.403	N
BKG	BKG-SB0027	HSSB0915	Soil	4.0	6.0	9/23/2003	Ra-228	1.1	0.17	0.067	0.82	0.11	0.18	1.11	N
IA03	BEGE-SB0007	HSSB0837	Soil	0.0	0.6	5/28/2003	Ra-228	0.90	0.14	0.032	0.87	0.10	0.13	0.180	N
IA03	BEGE-SB0008	HSSB0838	Soil	0.0	0.3	5/28/2003	Ra-228	1.0	0.14	0.033	0.97	0.12	0.19	0.115	N
IA03	BEGE-SB0009	HSSB0839	Soil	0.0	1.0	5/28/2003	Ra-228	1.1	0.17	0.052	1.1	0.15	0.29	-0.0317	N
IA03	BEGE-SB0010	HSSB0840	Soil	0.0	0.7	5/28/2003	Ra-228	1.7	0.25	0.045	1.6	0.18	0.29	0.250	N
IA03	BEGE-SB0012	HSSB0842	Soil	0.0	1.0	5/28/2003	Ra-228	0.86	0.14	0.068	0.83	0.17	0.32	0.142	N
IA03	BEGE-SB0013	HSSB0843	Soil	0.0	1.0	5/28/2003	Ra-228	1.2	0.18	0.049	1.1	0.15	0.21	0.479	N
IA03	BEGE-SB0014	HSSB0844	Soil	0.0	1.0	5/28/2003	Ra-228	0.97	0.14	0.039	0.97	0.14	0.21	-0.0207	N
IA03	BEGE-SB0015	HSSB0845	Soil	0.0	0.4	5/28/2003	Ra-228	0.47	0.089	0.039	0.41	0.14	0.28	0.408	N
IA03	BEGE-SB0016	HSSB0846	Soil	0.0	0.3	5/28/2003	Ra-228	0.47	0.081	0.032	0.47	0.13	0.26	0.0195	N
IA03	BEGE-SB0017	HSSB0847	Soil	0.0	0.3	5/28/2003	Ra-228	0.71	0.098	0.040	0.53	0.10	0.19	1.24	N
IA03	BEGE-SB0018	HSSB0848	Soil	0.0	0.3	5/28/2003	Ra-228	0.49	0.077	0.039	0.51	0.087	0.15	-0.166	N
IA03	IA03-SB0001	HSSB0092	Soil	2.9	4.0	7/14/2003	Ra-228	0.99	0.13	0.032	0.91	0.11	0.13	0.451	N
IA03	IA03-SB0001	HSSB0093	Soil	4.0	6.0	7/14/2003	Ra-228	1.3	0.17	0.042	1.4	0.15	0.22	-0.421	N
IA03	IA03-SB0001	HSSB0096	Soil	1.1	2.9	7/13/2003	Ra-228	0.96	0.15	0.046	0.93	0.14	0.25	0.121	N
IA03	IA03-SB0002	HSSB0094	Soil	1.4	3.4	7/14/2003	Ra-228	1.2	0.15	0.056	1.1	0.13	0.18	0.549	N
IA03	IA03-SB0002	HSSB0095	Soil	4.0	6.0	7/14/2003	Ra-228	1.4	0.21	0.053	1.3	0.13	0.20	0.366	N
IA03	IA03-SB0002	HSSB0097	Soil	0.5	1.4	7/13/2003	Ra-228	0.59	0.091	0.032	0.52	0.090	0.16	0.514	N
IA03	IA03-SB0003	HSSB0083	Soil	4.0	6.0	7/13/2003	Ra-228	2.4	0.38	0.10	1.1	0.14	0.22	3.15	Y
IA03	IA03-SB0003	HSSB0084	Soil	0.5	2.5	7/13/2003	Ra-228	1.2	0.23	0.095	0.57	0.18	0.37	2.22	Y
IA03	IA03-SB0004	HSSB0070	Soil	4.0	6.0	7/13/2003	Ra-228	0.56	0.10	0.030	1.1	0.13	0.20	-3.40	Y
IA03	IA03-SB0004	HSSB0071	Soil	0.5	2.5	7/13/2003	Ra-228	1.3	0.19	0.057	0.45	0.077	0.12	4.10	Y
IA03	IA03-SB0005	HSSB0085	Soil	0.6	2.6	7/14/2003	Ra-228	1.1	0.17	0.030	1.0	0.13	0.19	0.445	N
IA03	IA03-SB0005	HSSB0091	Soil	4.0	6.0	7/14/2003	Ra-228	1.2	0.16	0.033	1.2	0.13	0.20	0.158	N
IA03	IA03-SB0007	HSSB0069	Soil	0.0	2.0	6/11/2003	Ra-228	0.84	0.14	0.048	0.93	0.14	0.23	-0.450	N
IA03	IA03-SB0007	HSSB0082	Soil	4.0	6.0	6/12/2003	Ra-228	1.2	0.18	0.068	1.2	0.15	0.23	0.228	N
IA03	IA03-SB0009	HSSB0080	Soil	0.0	2.0	6/12/2003	Ra-228	0.74	0.13	0.059	0.63	0.14	0.25	0.579	N
IA03	IA03-SB0009	HSSB0081	Soil	8.0	10.0	6/12/2003	Ra-228	1.3	0.17	0.067	1.2	0.16	0.21	0.496	N
IA03	IA03-SB0013	HSSB0359	Soil	2.0	4.0	7/24/2003	Ra-228	0.53	0.076	0.018	0.42	0.086	0.14	0.914	N
IA03	IA03-SB0013	HSSB0360	Soil	7.0	9.0	7/24/2003	Ra-228	1.2	0.17	0.025	1.1	0.15	0.24	0.103	N
IA03	IA03-SB0014	HSSB0208	Soil	0.0	2.0	7/22/2003	Ra-228	1.2	0.16	0.035	1.1	0.17	0.33	0.386	N
IA03	IA03-SB0014	HSSB0209	Soil	8.0	10.0	7/22/2003	Ra-228	1.2	0.17	0.028	1.2	0.16	0.25	0.145	N
IA03	IA03-SB0015	HSSB0204	Soil	0.4	2.4	7/22/2003	Ra-228	1.1	0.15	0.059	1.1	0.18	0.33	0.0378	N
IA03	IA03-SB0015	HSSB0205	Soil	4.0	6.0	7/22/2003	Ra-228	1.2	0.18	0.033	1.1	0.15	0.27	0.677	N
IA03	IA03-SB0016	HSSB0098	Soil	0.7	2.7	7/14/2003	Ra-228	1.3	0.19	0.053	1.2	0.14	0.24	0.204	N
IA03	IA03-SB0016	HSSB0099	Soil	4.0	6.0	7/14/2003	Ra-228	1.4	0.21	0.044	1.3	0.13	0.18	0.390	N
IA03	IA03-SB0017	HSSB0058	Soil	0.3	2.3	6/9/2003	Ra-228	1.1	0.15	0.056	1.2	0.15	0.24	-0.349	N
IA03	IA03-SB0017	HSSB0061	Soil	4.0	6.0	6/9/2003	Ra-228	1.3	0.16	0.062	1.3	0.15	0.22	0.0288	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
IA03	IA03-SB0018	HSSB0062	Soil	0.8	2.8	6/9/2003	Ra-228	0.60	0.083	0.036	0.54	0.082	0.12	0.502	N
IA03	IA03-SB0018	HSSB0063	Soil	4.0	6.0	6/9/2003	Ra-228	1.4	0.20	0.060	1.2	0.14	0.22	0.524	N
IA03	IA03-SB0019	HSSB0064	Soil	0.5	2.5	6/9/2003	Ra-228	0.99	0.16	0.055	0.87	0.12	0.19	0.628	N
IA03	IA03-SB0019	HSSB0065	Soil	4.0	6.0	6/9/2003	Ra-228	1.2	0.20	0.058	1.2	0.15	0.21	0.162	N
IA03	IA03-SB0020	HSSB0066	Soil	0.0	1.4	6/10/2003	Ra-228	0.83	0.12	0.055	1.0	0.15	0.21	-0.843	N
IA03	IA03-SB0020	HSSB0067	Soil	4.0	6.0	6/10/2003	Ra-228	1.2	0.18	0.068	1.2	0.14	0.22	0.0535	N
IA03	IA03-SB0033	HSSB0076	Soil	0.0	2.0	6/28/2003	Ra-228	1.2	0.20	0.060	1.1	0.13	0.19	0.616	N
IA03	IA03-SB0033	HSSB0100	Soil	0.5	1.0	7/15/2003	Ra-228	0.95	0.16	0.057	0.91	0.21	0.42	0.146	N
IA03	IA03-SB0033	HSSB0202	Soil	0.5	2.5	7/15/2003	Ra-228	1.2	0.17	0.069	1.1	0.14	0.21	0.327	N
IA03	IA03-SB0033	HSSB0203	Soil	4.0	6.0	7/22/2003	Ra-228	1.2	0.15	0.036	1.0	0.14	0.21	0.835	N
IA03	IA03-SB0037	HSSB0059	Soil	0.0	2.0	6/2/2003	Ra-228	0.62	0.099	0.032	0.56	0.094	0.17	0.403	N
IA03	IA03-SB0037	HSSB0060	Soil	4.0	6.0	6/2/2003	Ra-228	1.2	0.16	0.062	0.89	0.13	0.19	1.71	N
IA03	IA03-SB0038	HSSB0068	Soil	0.0	1.5	6/11/2003	Ra-228	0.61	0.12	0.070	0.54	0.18	0.31	0.327	N
IA03	IA03-SB0038	HSSB0077	Soil	4.0	6.0	6/11/2003	Ra-228	1.3	0.19	0.055	1.4	0.15	0.19	-0.458	N
IA03	IA03-SB0085	HSSB1088	Soil	2.0	4.0	8/23/2004	Ra-228	1.3	0.26	0.19	1.0	0.20	0.43	0.797	N
IA03	IA03-SB0087	HSSB1091	Soil	2.0	4.0	8/23/2004	Ra-228	1.1	0.20	0.14	0.83	0.12	0.20	0.982	N
IA03	IA03-SB0105	HSSB1092	Soil	0.0	2.0	8/23/2004	Ra-228	1.2	0.25	0.12	1.0	0.13	0.20	0.577	N
IA03	IA03-SB0108	HSSB1132	Soil	0.0	2.0	8/24/2004	Ra-228	0.80	0.19	0.15	0.86	0.13	0.26	-0.262	N
IA03	IA03-SB0111	HSSB1098	Soil	0.0	2.0	8/22/2004	Ra-228	1.0	0.28	0.26	0.89	0.17	0.34	0.331	N
IA03	IA03-SB0112	HSSB1137	Soil	0.0	2.0	8/24/2004	Ra-228	1.4	0.30	0.16	0.89	0.13	0.23	1.69	N
IA03	IA03-SB0116	HSSB0970	Soil	4.0	6.0	8/18/2004	Ra-228	0.82	0.19	0.13	0.94	0.13	0.19	-0.503	N
IA04	IA04-SB0001	HSSB0383	Soil	0.4	2.4	6/13/2003	Ra-228	1.0	0.12	0.033	0.91	0.11	0.13	0.654	N
IA04	IA04-SB0001	HSSB0384	Soil	4.0	6.0	6/13/2003	Ra-228	1.3	0.20	0.048	1.3	0.15	0.17	-0.0208	N
IA04	IA04-SB0002	HSSB0385	Soil	0.7	2.7	6/13/2003	Ra-228	0.36	0.066	0.027	0.29	0.064	0.092	0.702	N
IA04	IA04-SB0002	HSSB0386	Soil	4.0	6.0	6/13/2003	Ra-228	1.2	0.17	0.055	1.4	0.16	0.26	-0.613	N
IA04	IA04-SB0003	HSSB0387	Soil	0.6	2.6	6/13/2003	Ra-228	0.70	0.092	0.030	0.72	0.10	0.15	-0.162	N
IA04	IA04-SB0003	HSSB0388	Soil	8.0	10.0	6/13/2003	Ra-228	1.2	0.18	0.050	1.3	0.16	0.23	-0.209	N
IA04	IA04-SB0004	HSSB0397	Soil	0.9	2.9	6/13/2003	Ra-228	0.92	0.11	0.026	0.80	0.11	0.18	0.806	N
IA04	IA04-SB0004	HSSB0398	Soil	4.0	6.0	6/13/2003	Ra-228	0.82	0.12	0.049	0.90	0.15	0.26	-0.447	N
IA04	IA04-SB0005	HSSB0381	Soil	1.5	3.5	6/12/2003	Ra-228	0.45	0.071	0.018	0.41	0.072	0.11	0.337	N
IA04	IA04-SB0005	HSSB0382	Soil	8.0	10.0	6/12/2003	Ra-228	0.74	0.11	0.024	0.74	0.11	0.19	0.0204	N
IA04	IA04-SB0007	HSSB0379	Soil	0.2	2.2	6/12/2003	Ra-228	0.21	0.038	0.014	0.16	0.077	0.14	0.570	N
IA04	IA04-SB0007	HSSB0380	Soil	4.0	6.0	6/12/2003	Ra-228	0.21	0.033	0.011	0.17	0.084	0.16	0.382	N
IA04	IA04-SB0008	HSSB0377	Soil	1.4	3.4	6/10/2003	Ra-228	1.1	0.18	0.049	1.2	0.15	0.24	-0.195	N
IA04	IA04-SB0008	HSSB0378	Soil	4.0	6.0	6/10/2003	Ra-228	1.1	0.14	0.052	1.2	0.15	0.22	-0.487	N
IA04	IA04-SB0009	HSSB0389	Soil	0.0	2.0	6/13/2003	Ra-228	0.67	0.11	0.031	0.60	0.084	0.13	0.499	N
IA04	IA04-SB0009	HSSB0390	Soil	4.0	6.0	6/13/2003	Ra-228	1.2	0.16	0.035	1.1	0.13	0.17	0.674	N
IA04	IA04-SB0010	HSSB0392	Soil	0.5	2.5	7/8/2003	Ra-228	0.38	0.072	0.044	0.39	0.087	0.12	-0.0908	N
IA04	IA04-SB0010	HSSB0393	Soil	8.0	10.0	7/8/2003	Ra-228	1.2	0.17	0.055	1.2	0.14	0.22	0.171	N
IA04	IA04-SB0011	HSSB0399	Soil	0.0	2.0	6/14/2003	Ra-228	0.85	0.13	0.039	0.98	0.13	0.19	-0.741	N
IA04	IA04-SB0012	HSSB0855	Soil	0.0	2.0	6/14/2003	Ra-228	0.57	0.099	0.048	0.54	0.080	0.12	0.286	N
IA04	IA04-SB0013	HSSB0403	Soil	0.0	2.0	6/14/2003	Ra-228	0.84	0.12	0.041	0.67	0.11	0.19	1.09	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
IA04	IA04-SB0013	HSSB0404	Soil	8.0	10.0	6/14/2003	Ra-228	1.1	0.14	0.051	1.0	0.13	0.17	0.134	N
IA04	IA04-SB0019	HSSB0394	Soil	0.0	2.0	7/15/2003	Ra-228	0.84	0.12	0.038	0.80	0.11	0.16	0.230	N
IA04	IA04-SB0019	HSSB0395	Soil	4.0	5.0	7/15/2003	Ra-228	0.93	0.14	0.051	0.90	0.12	0.17	0.175	N
IA05	BEGE-SB0001	HSSB0831	Soil	0.0	1.0	5/27/2003	Ra-228	0.95	0.16	0.064	1.0	0.23	0.46	-0.277	N
IA05	BEGE-SB0002	HSSB0832	Soil	0.0	0.9	5/27/2003	Ra-228	0.82	0.12	0.039	0.99	0.12	0.18	-1.00	N
IA05	BEGE-SB0003	HSSB0833	Soil	0.0	0.1	5/27/2003	Ra-228	0.68	0.11	0.033	0.64	0.10	0.17	0.304	N
IA05	BEGE-SB0004	HSSB0834	Soil	0.0	0.8	5/27/2003	Ra-228	0.97	0.16	0.044	1.0	0.13	0.21	-0.396	N
IA05	IA05-SB0003	HSSB0537	Soil	0.2	2.2	7/12/2003	Ra-228	1.5	0.19	0.035	0.61	0.089	0.15	4.24	Y
IA05	IA05-SB0003	HSSB0538	Soil	4.0	6.0	7/12/2003	Ra-228	1.8	0.29	0.028	0.83	0.11	0.17	3.07	Y
IA05	IA05-SB0003	HSSB0546	Soil	0.2	1.5	6/12/2003	Ra-228	0.25	0.050	0.024	0.26	0.057	0.083	-0.184	N
IA05	IA05-SB0005	HSSB0548	Soil	0.0	2.0	7/12/2003	Ra-228	1.9	0.30	0.049	0.84	0.10	0.15	3.33	Y
IA05	IA05-SB0005	HSSB0549	Soil	8.0	10.0	7/12/2003	Ra-228	1.5	0.23	0.038	0.91	0.12	0.15	2.40	Y
IA05	IA05-SB0007	HSSB0544	Soil	0.0	2.0	6/12/2003	Ra-228	1.0	0.13	0.056	0.94	0.17	0.37	0.270	N
IA05	IA05-SB0007	HSSB0545	Soil	4.0	6.0	6/12/2003	Ra-228	0.68	0.082	0.025	0.65	0.11	0.20	0.176	N
IA05	IA05-SB0009	HSSB0542	Soil	0.5	2.5	6/11/2003	Ra-228	0.83	0.12	0.032	0.83	0.11	0.13	-0.0490	N
IA05	IA05-SB0009	HSSB0543	Soil	4.0	6.0	6/11/2003	Ra-228	0.94	0.14	0.028	0.96	0.16	0.29	-0.0795	N
IA05	IA05-SB0010	HSSB0550	Soil	0.6	2.6	7/16/2003	Ra-228	1.2	0.16	0.048	1.0	0.14	0.23	0.643	N
IA05	IA05-SB0010	HSSB0551	Soil	4.0	6.0	7/16/2003	Ra-228	1.1	0.18	0.055	1.0	0.14	0.22	0.171	N
IA05	IA05-SB0014	HSSB0533	Soil	0.5	2.5	6/11/2003	Ra-228	0.96	0.14	0.040	0.88	0.12	0.19	0.427	N
IA05	IA05-SB0014	HSSB0534	Soil	4.0	6.0	6/11/2003	Ra-228	1.0	0.15	0.062	1.1	0.14	0.21	-0.392	N
IA05	IA05-SB0015	HSSB0531	Soil	0.5	2.5	6/11/2003	Ra-228	127	15	0.27	141	4.1	1.5	-0.884	N
IA05	IA05-SB0015	HSSB0532	Soil	4.0	6.0	6/11/2003	Ra-228	1.0	0.16	0.042	0.95	0.13	0.20	0.405	N
IA05	IA05-SB0016	HSSB0552	Soil	0.8	2.8	7/16/2003	Ra-228	1.1	0.17	0.053	1.1	0.13	0.14	-0.334	N
IA05	IA05-SB0016	HSSB0553	Soil	4.0	6.0	7/16/2003	Ra-228	1.1	0.18	0.076	1.0	0.15	0.25	0.604	N
IA05	IA05-SB0022	HSSB0539	Soil	0.4	2.4	7/16/2003	Ra-228	1.2	0.17	0.048	1.1	0.13	0.19	0.312	N
IA05	IA05-SB0022	HSSB0540	Soil	4.0	6.0	7/16/2003	Ra-228	1.2	0.13	0.028	1.0	0.14	0.21	0.800	N
IA05	IA05-SB0023	HSSB0535	Soil	0.5	2.5	7/12/2003	Ra-228	1.8	0.30	0.056	1.1	0.13	0.20	2.27	Y
IA05	IA05-SB0023	HSSB0536	Soil	4.0	6.0	7/12/2003	Ra-228	1.9	0.26	0.037	1.1	0.13	0.17	2.56	Y
IA05	IA05-SB0026	HSSB1072	Soil	8.0	10.0	8/21/2004	Ra-228	1.2	0.22	0.13	1.3	0.15	0.26	-0.325	N
IA05	IA05-SB0027	HSSB1050	Soil	4.0	6.0	8/20/2004	Ra-228	1.2	0.28	0.15	1.1	0.14	0.24	0.175	N
IA05	IA05-SB0032	HSSB1083	Soil	8.0	10.5	8/21/2004	Ra-228	0.66	0.18	0.12	0.71	0.14	0.27	-0.251	N
IA05	IA05-SB0035	HSSB1113	Soil	0.0	2.0	8/22/2004	Ra-228	2.1	0.33	0.13	1.6	0.17	0.29	1.25	N
IA06	BEGE-SB0005	HSSB0835	Soil	0.0	0.6	5/27/2003	Ra-228	1.1	0.15	0.059	1.1	0.14	0.23	0.366	N
IA06	BEGE-SB0006	HSSB0836	Soil	0.0	0.6	5/27/2003	Ra-228	0.91	0.14	0.056	0.90	0.13	0.20	0.0850	N
IA06	IA06-SB0001	HSSB0692	Soil	0.0	2.0	6/1/2003	Ra-228	1.1	0.16	0.060	1.1	0.13	0.21	0.404	N
IA06	IA06-SB0001	HSSB0693	Soil	8.0	10.0	6/1/2003	Ra-228	0.84	0.12	0.044	0.87	0.13	0.21	-0.169	N
IA06	IA06-SB0002	HSSB0714	Soil	0.0	2.0	6/9/2003	Ra-228	1.0	0.16	0.066	1.0	0.14	0.21	0.0870	N
IA06	IA06-SB0002	HSSB0715	Soil	4.0	6.0	6/9/2003	Ra-228	1.0	0.16	0.044	1.0	0.13	0.16	-0.180	N
IA06	IA06-SB0003	HSSB0706	Soil	0.0	2.0	6/2/2003	Ra-228	0.60	0.091	0.038	0.60	0.099	0.17	-0.0403	N
IA06	IA06-SB0003	HSSB0707	Soil	4.0	6.0	6/2/2003	Ra-228	0.74	0.12	0.039	0.74	0.11	0.18	-0.0591	N
IA06	IA06-SB0004	HSSB0708	Soil	0.0	2.0	6/2/2003	Ra-228	0.96	0.14	0.029	0.89	0.12	0.21	0.383	N
IA06	IA06-SB0004	HSSB0709	Soil	8.0	10.0	6/2/2003	Ra-228	0.78	0.13	0.034	0.74	0.11	0.18	0.234	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
IA06	IA06-SB0005	HSSB0712	Soil	0.0	2.0	6/4/2003	Ra-228	1.0	0.16	0.050	0.94	0.13	0.22	0.482	N
IA06	IA06-SB0005	HSSB0713	Soil	8.0	10.0	6/4/2003	Ra-228	0.76	0.12	0.039	0.63	0.12	0.19	0.774	N
IA06	IA06-SB0006	HSSB0710	Soil	0.0	2.0	6/3/2003	Ra-228	0.85	0.12	0.039	0.85	0.11	0.12	-0.00625	N
IA06	IA06-SB0006	HSSB0711	Soil	8.0	10.0	6/3/2003	Ra-228	0.76	0.13	0.042	0.78	0.11	0.15	-0.116	N
IA06	IA06-SB0007	HSSB0694	Soil	8.0	10.0	6/4/2003	Ra-228	0.54	0.094	0.031	0.53	0.086	0.14	0.0578	N
IA06	IA06-SB0007	HSSB0695	Soil	0.0	2.0	6/4/2003	Ra-228	0.60	0.085	0.039	0.55	0.099	0.19	0.394	N
IA07	BEGE-SB0019	HSSB0849	Soil	0.0	1.0	5/28/2003	Ra-228	15	1.7	0.096	16	0.60	0.56	-0.370	N
IA07	BEGE-SB0020	HSSB0850	Soil	0.0	1.0	5/28/2003	Ra-228	0.81	0.13	0.032	0.85	0.14	0.20	-0.215	N
IA07	BEGE-SB0021	HSSB0851	Soil	0.0	1.0	5/28/2003	Ra-228	0.27	0.051	0.037	0.30	0.12	0.26	-0.179	N
IA07	BEGE-SB0022	HSSB0852	Soil	0.0	0.3	5/29/2003	Ra-228	0.81	0.13	0.044	0.85	0.13	0.19	-0.209	N
IA07	BEGE-SB0023	HSSB0853	Soil	0.0	0.4	5/29/2003	Ra-228	0.80	0.13	0.045	0.70	0.11	0.18	0.601	N
IA07	BEGE-SB0024	HSSB0854	Soil	0.0	0.8	5/29/2003	Ra-228	0.83	0.13	0.043	1.0	0.13	0.19	-1.05	N
IA07	IA07-SB0001	HSSB0725	Soil	0.0	2.0	6/9/2003	Ra-228	0.83	0.099	0.029	0.84	0.11	0.16	-0.0829	N
IA07	IA07-SB0001	HSSB0761	Soil	8.0	10.0	6/9/2003	Ra-228	1.0	0.14	0.049	0.90	0.13	0.21	0.750	N
IA07	IA07-SB0002	HSSB0726	Soil	0.0	2.0	6/9/2003	Ra-228	0.84	0.14	0.040	0.77	0.11	0.18	0.363	N
IA07	IA07-SB0002	HSSB0762	Soil	8.0	10.0	6/9/2003	Ra-228	0.95	0.15	0.044	1.0	0.13	0.19	-0.495	N
IA07	IA07-SB0003	HSSB0757	Soil	0.0	2.0	6/9/2003	Ra-228	0.98	0.13	0.028	0.74	0.11	0.20	1.45	N
IA07	IA07-SB0003	HSSB0764	Soil	4.0	6.0	6/10/2003	Ra-228	1.4	0.17	0.066	1.2	0.14	0.17	0.862	N
IA07	IA07-SB0004	HSSB0758	Soil	0.0	2.0	6/9/2003	Ra-228	0.52	0.077	0.040	0.39	0.076	0.12	1.22	N
IA07	IA07-SB0004	HSSB0766	Soil	6.0	8.0	6/10/2003	Ra-228	0.87	0.13	0.044	0.79	0.13	0.20	0.443	N
IA07	IA07-SB0005	HSSB0767	Soil	8.0	10.0	6/11/2003	Ra-228	1.1	0.15	0.045	1.1	0.15	0.18	0.188	N
IA07	IA07-SB0006	HSSB0759	Soil	0.0	1.3	6/9/2003	Ra-228	1.2	0.18	0.051	1.1	0.12	0.17	0.311	N
IA07	IA07-SB0006	HSSB0765	Soil	4.0	6.0	6/10/2003	Ra-228	0.91	0.14	0.036	0.92	0.12	0.17	-0.0462	N
IA07	IA07-SB0010	HSSB0756	Soil	0.0	1.5	6/9/2003	Ra-228	0.94	0.14	0.051	0.98	0.13	0.20	-0.211	N
IA07	IA07-SB0010	HSSB0763	Soil	8.0	10.0	6/10/2003	Ra-228	0.78	0.10	0.045	0.79	0.11	0.17	-0.121	N
IA07	IA07-SB0012	HSSB0787	Soil	0.0	2.0	9/20/2003	Ra-228	0.26	0.054	0.023	0.35	0.077	0.11	-0.901	N
IA07	IA07-SB0013	HSSB0769	Soil	0.0	2.0	9/16/2003	Ra-228	0.58	0.10	0.039	0.68	0.12	0.18	-0.581	N
IA07	IA07-SB0013	HSSB0770	Soil	4.0	6.0	9/16/2003	Ra-228	1.1	0.16	0.073	1.3	0.17	0.23	-0.810	N
IA07	IA07-SB0014	HSSB0785	Soil	0.0	2.0	9/20/2003	Ra-228	0.62	0.086	0.033	0.49	0.072	0.12	1.09	N
IA07	IA07-SB0014	HSSB0786	Soil	4.0	6.0	9/20/2003	Ra-228	0.91	0.15	0.036	0.85	0.11	0.20	0.355	N
IA07	IA07-SB0015	HSSB0781	Soil	0.8	2.8	9/20/2003	Ra-228	0.77	0.11	0.037	0.68	0.097	0.14	0.641	N
IA07	IA07-SB0015	HSSB0782	Soil	8.0	10.0	9/20/2003	Ra-228	1.3	0.20	0.053	1.2	0.16	0.26	0.378	N
IA07	IA07-SB0016	HSSB0779	Soil	0.3	2.3	9/19/2003	Ra-228	1.2	0.069	0.051	1.0	0.13	0.19	1.03	N
IA07	IA07-SB0016	HSSB0780	Soil	4.0	6.0	9/19/2003	Ra-228	1.2	0.17	0.059	1.2	0.14	0.24	-0.00952	N
IA07	IA07-SB0017	HSSB0755	Soil	0.0	1.2	6/10/2003	Ra-228	0.20	0.034	0.016	0.18	0.055	0.084	0.395	N
IA07	IA07-SB0018	HSSB0771	Soil	0.0	2.0	6/10/2003	Ra-228	1.2	0.19	0.047	0.55	0.11	0.17	2.67	Y
IA07	IA07-SB0019	HSSB0778	Soil	0.0	2.0	9/17/2003	Ra-228	1.4	0.23	0.069	1.4	0.17	0.27	-0.132	N
IA07	IA07-SB0020	HSSB0768	Soil	0.0	2.0	9/16/2003	Ra-228	0.89	0.14	0.043	0.90	0.12	0.19	-0.0755	N
IA07	IA07-SB0021	HSSB0777	Soil	0.0	2.0	9/17/2003	Ra-228	0.72	0.10	0.041	0.57	0.092	0.14	1.02	N
IA07	IA07-SB0022	HSSB0775	Soil	0.0	1.0	9/16/2003	Ra-228	0.64	0.082	0.021	0.74	0.11	0.18	-0.789	N
IA07	IA07-SB0023	HSSB0774	Soil	0.0	1.5	9/16/2003	Ra-228	1.1	0.14	0.037	1.0	0.12	0.21	0.628	N
IA07	IA07-SB0024	HSSB0776	Soil	0.0	1.0	9/16/2003	Ra-228	0.98	0.12	0.056	0.92	0.11	0.17	0.356	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
IA07	IA07-SB0025	HSSB0783	Soil	0.8	2.8	9/20/2003	Ra-228	0.82	0.062	0.038	0.87	0.11	0.16	-0.394	N
IA07	IA07-SB0025	HSSB0784	Soil	4.0	6.0	9/20/2003	Ra-228	1.3	0.17	0.055	1.4	0.16	0.26	-0.217	N
IA07	IA07-SB0026	HSSB0772	Soil	0.0	2.0	6/10/2003	Ra-228	0.68	0.10	0.040	0.64	0.11	0.17	0.234	N
IA07	IA07-SB0027	HSSB0773	Soil	0.0	1.4	6/10/2003	Ra-228	0.62	0.097	0.022	0.60	0.099	0.14	0.146	N
IA07	IA07-SB0031	HSSB1119	Soil	0.5	1.0	8/23/2004	Ra-228	51	6.8	0.34	59	1.8	0.75	-1.10	N
IA07	IA07-SB0032	HSSB1118	Soil	0.0	0.5	8/23/2004	Ra-228	34	4.2	0.34	48	1.6	0.81	-2.93	Y
IA09	IA09-SB0002	HSSB0235	Soil	3.0	5.0	7/21/2003	Ra-228	1.1	0.15	0.063	0.88	0.12	0.20	1.31	N
IA09	IA09-SB0003	HSSB0238	Soil	16.5	18.5	7/22/2003	Ra-228	1.1	0.16	0.024	0.93	0.11	0.15	0.775	N
IA09	IA09-SB0004	HSSB0237	Soil	3.0	5.0	7/21/2003	Ra-228	0.67	0.11	0.036	0.63	0.088	0.13	0.275	N
IA09	IA09-SB0005	HSSB0236	Soil	3.0	5.0	7/21/2003	Ra-228	1.0	0.13	0.047	1.0	0.12	0.17	0.168	N
IA09	IA09-SB0006	HSSB0234	Soil	2.0	4.0	7/16/2003	Ra-228	1.1	0.17	0.052	0.96	0.13	0.22	0.733	N
IA03	BEGE-SB0009	HSSB0839	Soil	0.0	1.0	5/28/2003	U-235	3.6	0.68	0.23	3.4	0.64	1.1	0.220	N
IA03	BEGE-SB0010	HSSB0840	Soil	0.0	0.7	5/28/2003	U-235	2.9	0.52	0.21	2.6	0.75	1.5	0.283	N
IA03	BEGE-SB0011	HSSB0841	Soil	0.0	0.8	5/28/2003	U-235	177	33	1.6	211	7.6	7.0	-1.01	N
IA03	BEGE-SB0012	HSSB0842	Soil	0.0	1.0	5/28/2003	U-235	7.7	1.4	0.35	7.7	1.2	2.2	-0.00178	N
IA03	BEGE-SB0015	HSSB0845	Soil	0.0	0.4	5/28/2003	U-235	13	2.3	0.34	15	0.95	1.2	-0.758	N
IA03	BEGE-SB0016	HSSB0846	Soil	0.0	0.3	5/28/2003	U-235	6.3	1.2	0.24	5.9	0.80	1.5	0.303	N
IA03	BEGE-SB0017	HSSB0847	Soil	0.0	0.3	5/28/2003	U-235	2.6	0.50	0.21	1.9	0.51	1.1	1.06	N
IA03	BEGE-SB0018	HSSB0848	Soil	0.0	0.3	5/28/2003	U-235	1.4	0.28	0.14	1.3	0.40	0.75	0.253	N
IA03	IA03-SB0003	HSSB0084	Soil	0.5	2.5	7/13/2003	U-235	131	23	0.92	40	2.0	2.1	3.94	Y
IA03	IA03-SB0004	HSSB0071	Soil	0.5	2.5	7/13/2003	U-235	18	3.5	0.34	3.1	0.49	0.86	4.35	Y
IA03	IA03-SB0007	HSSB0069	Soil	0.0	2.0	6/11/2003	U-235	2.5	0.47	0.20	2.4	0.63	1.3	0.103	N
IA03	IA03-SB0009	HSSB0080	Soil	0.0	2.0	6/12/2003	U-235	12	2.2	0.35	12	0.89	1.3	0.0663	N
IA03	IA03-SB0014	HSSB0208	Soil	0.0	2.0	7/22/2003	U-235	10	1.8	0.21	9.6	0.82	1.3	0.350	N
IA03	IA03-SB0015	HSSB0204	Soil	0.4	2.4	7/22/2003	U-235	13	2.4	0.23	12	1.0	1.7	0.295	N
IA03	IA03-SB0017	HSSB0058	Soil	0.3	2.3	6/9/2003	U-235	2.6	0.46	0.22	2.6	0.60	1.3	0.0290	N
IA03	IA03-SB0019	HSSB0065	Soil	4.0	6.0	6/9/2003	U-235	1.1	0.24	0.17	1.5	0.59	1.3	-0.570	N
IA03	IA03-SB0020	HSSB0066	Soil	0.0	1.4	6/10/2003	U-235	2.2	0.43	0.20	2.6	0.76	1.6	-0.436	N
IA03	IA03-SB0033	HSSB0076	Soil	0.0	2.0	6/28/2003	U-235	1.4	0.28	0.20	1.3	0.53	1.2	0.181	N
IA03	IA03-SB0033	HSSB0100	Soil	0.5	1.0	7/15/2003	U-235	12	2.2	0.42	17	1.2	1.6	-2.10	Y
IA03	IA03-SB0033	HSSB0202	Soil	0.5	2.5	7/15/2003	U-235	3.2	0.59	0.25	3.3	0.66	1.2	-0.206	N
IA03	IA03-SB0038	HSSB0068	Soil	0.0	1.5	6/11/2003	U-235	12	2.1	0.53	18	1.3	2.0	-2.74	Y
IA03	IA03-SB0085	HSSB1088	Soil	2.0	4.0	8/23/2004	U-235	14	2.4	1.0	18	0.87	1.4	-1.28	N
IA03	IA03-SB0087	HSSB1091	Soil	2.0	4.0	8/23/2004	U-235	1.2	0.30	0.34	0.99	0.26	0.50	0.454	N
IA03	IA03-SB0108	HSSB1132	Soil	0.0	2.0	8/24/2004	U-235	2.6	0.52	0.40	2.9	0.38	0.67	-0.358	N
IA03	IA03-SB0111	HSSB1098	Soil	0.0	2.0	8/22/2004	U-235	10	0.65	0.98	8.0	0.64	1.2	2.28	Y
IA03	IA03-SB0112	HSSB1137	Soil	0.0	2.0	8/24/2004	U-235	2.9	0.62	0.57	2.5	0.35	0.62	0.480	N
IA03	IA03-SB0116	HSSB0970	Soil	4.0	6.0	8/18/2004	U-235	4.9	0.90	0.54	4.3	0.42	0.68	0.563	N
IA04	IA04-SB0004	HSSB0397	Soil	0.9	2.9	6/13/2003	U-235	3.3	0.58	0.13	2.7	0.40	0.80	0.789	N
IA04	IA04-SB0011	HSSB0400	Soil	8.0	10.0	6/14/2003	U-235	52	9.1	0.78	62	2.9	2.6	-1.04	N
IA04	IA04-SB0013	HSSB0403	Soil	0.0	2.0	6/14/2003	U-235	0.85	0.18	0.11	1.1	0.70	1.1	-0.420	N
IA04	IA04-SB0032	HSSB1288	Soil	0.0	2.0	10/22/2004	U-235	1.9	0.48	0.52	2.0	0.41	0.87	-0.135	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
IA05	BEGE-SB0001	HSSB0831	Soil	0.0	1.0	5/27/2003	U-235	26	4.8	0.55	29	1.6	1.9	-0.634	N
IA05	IA05-SB0007	HSSB0544	Soil	0.0	2.0	6/12/2003	U-235	38	6.6	0.50	28	1.5	1.7	1.45	N
IA05	IA05-SB0007	HSSB0545	Soil	4.0	6.0	6/12/2003	U-235	1.3	0.22	0.088	1.1	0.46	1.0	0.269	N
IA05	IA05-SB0009	HSSB0543	Soil	4.0	6.0	6/11/2003	U-235	5.2	0.93	0.17	5.9	0.79	1.6	-0.548	N
IA05	IA05-SB0026	HSSB1072	Soil	8.0	10.0	8/21/2004	U-235	1.1	0.29	0.34	1.2	0.36	0.75	-0.271	N
IA05	IA05-SB0027	HSSB1050	Soil	4.0	6.0	8/20/2004	U-235	1.4	0.39	0.41	1.5	0.33	0.61	-0.216	N
IA05	IA05-SB0032	HSSB1083	Soil	8.0	10.5	8/21/2004	U-235	6.7	1.2	0.68	8.7	0.63	1.2	-1.45	N
IA05	IA05-SB0035	HSSB1113	Soil	0.0	2.0	8/22/2004	U-235	4.4	0.82	0.54	8.4	0.55	1.0	-3.96	Y
BKG	BKG-SB0002	HSSB0004	Soil	0.3	0.8	9/18/2003	U-238	2.3	0.70	0.51	2.0	1.2	1.9	0.197	N
BKG	BKG-SB0002	HSSB0005	Soil	0.3	2.3	9/18/2003	U-238	2.0	0.79	0.61	2.1	1.2	1.7	-0.0714	N
BKG	BKG-SB0006	HSSB0875	Soil	0.0	0.5	9/21/2003	U-238	1.9	1.0	0.94	2.3	1.3	2.0	-0.251	N
BKG	BKG-SB0006	HSSB0876	Soil	0.0	2.0	9/21/2003	U-238	1.9	1.1	0.90	2.8	1.3	2.1	-0.533	N
BKG	BKG-SB0007	HSSB0018	Soil	0.0	0.5	9/19/2003	U-238	1.7	0.58	0.47	3.5	1.5	2.4	-1.10	N
BKG	BKG-SB0008	HSSB0022	Soil	0.0	2.0	9/19/2003	U-238	1.5	0.63	0.54	2.3	1.1	1.8	-0.606	N
BKG	BKG-SB0012	HSSB0862	Soil	4.0	6.0	9/19/2003	U-238	1.9	0.93	0.79	2.8	1.8	2.6	-0.476	N
BKG	BKG-SB0014	HSSB0881	Soil	0.5	1.0	9/21/2003	U-238	3.5	1.5	1.3	4.6	1.9	3.1	-0.460	N
BKG	BKG-SB0014	HSSB0883	Soil	8.0	10.0	9/21/2003	U-238	2.0	1.3	1.1	3.4	1.8	3.0	-0.655	N
BKG	BKG-SB0015	HSSB0884	Soil	0.6	1.1	9/21/2003	U-238	2.2	0.56	0.31	2.7	1.5	2.4	-0.339	N
BKG	BKG-SB0017	HSSB0891	Soil	0.0	0.5	9/22/2003	U-238	2.0	1.2	1.1	3.1	1.7	2.5	-0.539	N
BKG	BKG-SB0021	HSSB0904	Soil	0.0	2.0	9/22/2003	U-238	1.5	0.96	1.0	2.5	1.4	2.1	-0.598	N
BKG	BKG-SB0023	HSSB0912	Soil	4.0	6.0	9/23/2003	U-238	0.86	0.74	0.77	2.7	1.1	1.7	-1.39	N
IA03	BEGE-SB0007	HSSB0837	Soil	0.0	0.6	5/28/2003	U-238	5.5	1.3	0.58	5.7	1.4	2.0	-0.0802	N
IA03	BEGE-SB0008	HSSB0838	Soil	0.0	0.3	5/28/2003	U-238	8.1	1.9	0.67	8.6	1.7	2.4	-0.193	N
IA03	BEGE-SB0009	HSSB0839	Soil	0.0	1.0	5/28/2003	U-238	67	13	1.2	65	4.2	3.9	0.132	N
IA03	BEGE-SB0010	HSSB0840	Soil	0.0	0.7	5/28/2003	U-238	49	9.5	1.1	53	4.0	4.2	-0.375	N
IA03	BEGE-SB0011	HSSB0841	Soil	0.0	0.8	5/28/2003	U-238	2710	507	3.7	3379	130	30	-1.28	N
IA03	BEGE-SB0012	HSSB0842	Soil	0.0	1.0	5/28/2003	U-238	118	22	0.76	146	8.5	7.3	-1.16	N
IA03	BEGE-SB0013	HSSB0843	Soil	0.0	1.0	5/28/2003	U-238	6.8	1.6	0.77	8.6	1.8	2.6	-0.774	N
IA03	BEGE-SB0014	HSSB0844	Soil	0.0	1.0	5/28/2003	U-238	6.5	1.6	0.70	7.5	1.7	2.4	-0.437	N
IA03	BEGE-SB0015	HSSB0845	Soil	0.0	0.4	5/28/2003	U-238	244	48	1.8	248	12	6.8	-0.0745	N
IA03	BEGE-SB0016	HSSB0846	Soil	0.0	0.3	5/28/2003	U-238	112	23	1.7	127	6.8	5.0	-0.645	N
IA03	BEGE-SB0017	HSSB0847	Soil	0.0	0.3	5/28/2003	U-238	49	11	1.4	38	2.9	3.1	0.885	N
IA03	BEGE-SB0018	HSSB0848	Soil	0.0	0.3	5/28/2003	U-238	26	5.0	0.75	26	2.2	2.4	0.0904	N
IA03	IA03-SB0001	HSSB0092	Soil	2.9	4.0	7/14/2003	U-238	9.8	1.9	0.17	9.1	1.8	2.8	0.270	N
IA03	IA03-SB0001	HSSB0093	Soil	4.0	6.0	7/14/2003	U-238	3.6	0.84	0.48	4.7	2.0	3.3	-0.498	N
IA03	IA03-SB0001	HSSB0096	Soil	1.1	2.9	7/13/2003	U-238	9.1	2.0	0.71	11	2.1	2.9	-0.670	N
IA03	IA03-SB0002	HSSB0094	Soil	1.4	3.4	7/14/2003	U-238	5.2	1.3	0.80	4.5	1.8	2.9	0.334	N
IA03	IA03-SB0002	HSSB0097	Soil	0.5	1.4	7/13/2003	U-238	10	2.3	0.65	9.7	1.8	2.7	0.122	N
IA03	IA03-SB0003	HSSB0083	Soil	4.0	6.0	7/13/2003	U-238	55	11	1.0	22	2.6	3.3	3.02	Y
IA03	IA03-SB0003	HSSB0084	Soil	0.5	2.5	7/13/2003	U-238	2660	495	4.9	898	41	15	3.55	Y
IA03	IA03-SB0004	HSSB0070	Soil	4.0	6.0	7/13/2003	U-238	1.2	0.45	0.60	2.5	1.3	2.0	-0.979	N
IA03	IA03-SB0004	HSSB0071	Soil	0.5	2.5	7/13/2003	U-238	352	66	0.77	68	4.6	4.3	4.27	Y

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
IA03	IA03-SB0005	HSSB0085	Soil	0.6	2.6	7/14/2003	U-238	18	3.6	0.53	17	2.6	3.8	0.314	N
IA03	IA03-SB0005	HSSB0091	Soil	4.0	6.0	7/14/2003	U-238	3.6	0.71	0.19	5.3	1.7	2.7	-0.877	N
IA03	IA03-SB0007	HSSB0069	Soil	0.0	2.0	6/11/2003	U-238	44	8.6	1.1	53	4.7	5.3	-0.915	N
IA03	IA03-SB0007	HSSB0082	Soil	4.0	6.0	6/12/2003	U-238	3.0	1.0	0.73	5.3	1.9	3.0	-1.03	N
IA03	IA03-SB0009	HSSB0080	Soil	0.0	2.0	6/12/2003	U-238	212	40	0.83	195	11	8.2	0.406	N
IA03	IA03-SB0009	HSSB0081	Soil	8.0	10.0	6/12/2003	U-238	3.9	1.5	1.2	4.6	2.2	3.4	-0.298	N
IA03	IA03-SB0013	HSSB0359	Soil	2.0	4.0	7/24/2003	U-238	0.91	0.34	0.25	1.9	1.1	1.6	-0.898	N
IA03	IA03-SB0014	HSSB0208	Soil	0.0	2.0	7/22/2003	U-238	184	35	1.1	186	11	7.8	-0.0436	N
IA03	IA03-SB0015	HSSB0204	Soil	0.4	2.4	7/22/2003	U-238	201	38	0.49	252	14	9.7	-1.26	N
IA03	IA03-SB0015	HSSB0205	Soil	4.0	6.0	7/22/2003	U-238	4.5	0.99	0.46	7.5	2.3	3.5	-1.22	N
IA03	IA03-SB0016	HSSB0098	Soil	0.7	2.7	7/14/2003	U-238	7.0	1.8	1.0	5.4	1.9	2.9	0.601	N
IA03	IA03-SB0017	HSSB0058	Soil	0.3	2.3	6/9/2003	U-238	49	9.4	1.2	56	4.8	5.4	-0.581	N
IA03	IA03-SB0017	HSSB0061	Soil	4.0	6.0	6/9/2003	U-238	4.0	1.6	1.2	7.1	1.9	2.9	-1.23	N
IA03	IA03-SB0018	HSSB0062	Soil	0.8	2.8	6/9/2003	U-238	1.6	0.63	0.51	1.9	1.0	1.7	-0.274	N
IA03	IA03-SB0019	HSSB0064	Soil	0.5	2.5	6/9/2003	U-238	16	3.4	0.87	24	2.6	3.1	-1.87	N
IA03	IA03-SB0019	HSSB0065	Soil	4.0	6.0	6/9/2003	U-238	21	4.2	0.97	27	3.3	4.5	-1.21	N
IA03	IA03-SB0020	HSSB0066	Soil	0.0	1.4	6/10/2003	U-238	43	8.0	0.43	58	5.1	5.3	-1.59	N
IA03	IA03-SB0020	HSSB0067	Soil	4.0	6.0	6/10/2003	U-238	1.9	0.81	0.72	2.8	1.7	2.7	-0.489	N
IA03	IA03-SB0033	HSSB0076	Soil	0.0	2.0	6/28/2003	U-238	30	6.3	1.5	28	2.8	3.4	0.298	N
IA03	IA03-SB0033	HSSB0100	Soil	0.5	1.0	7/15/2003	U-238	208	40	2.1	346	19	9.7	-3.12	Y
IA03	IA03-SB0033	HSSB0202	Soil	0.5	2.5	7/15/2003	U-238	60	11	1.3	73	5.6	5.6	-1.05	N
IA03	IA03-SB0033	HSSB0203	Soil	4.0	6.0	7/22/2003	U-238	3.3	0.75	0.44	4.8	2.1	3.3	-0.688	N
IA03	IA03-SB0037	HSSB0059	Soil	0.0	2.0	6/2/2003	U-238	8.4	1.8	0.58	8.0	1.5	2.1	0.180	N
IA03	IA03-SB0038	HSSB0068	Soil	0.0	1.5	6/11/2003	U-238	234	54	3.4	315	18	12	-1.44	N
IA03	IA03-SB0085	HSSB1088	Soil	2.0	4.0	8/23/2004	U-238	251	45	4.9	314	14	11	-1.35	N
IA03	IA03-SB0087	HSSB1091	Soil	2.0	4.0	8/23/2004	U-238	22	2.0	1.7	18	2.3	3.3	1.25	N
IA03	IA03-SB0105	HSSB1092	Soil	0.0	2.0	8/23/2004	U-238	5.6	1.6	1.4	5.9	1.9	3.1	-0.103	N
IA03	IA03-SB0108	HSSB1132	Soil	0.0	2.0	8/24/2004	U-238	38	6.7	0.82	49	3.6	4.2	-1.45	N
IA03	IA03-SB0111	HSSB1098	Soil	0.0	2.0	8/22/2004	U-238	129	6.2	5.5	129	7.1	6.9	0.0298	N
IA03	IA03-SB0112	HSSB1137	Soil	0.0	2.0	8/24/2004	U-238	46	10	3.6	41	3.3	4.0	0.522	N
IA03	IA03-SB0116	HSSB0970	Soil	4.0	6.0	8/18/2004	U-238	83	15	2.5	82	5.2	5.5	0.0588	N
IA03	IA03-SB0132	HSSB1379	Soil	0.8	2.8	10/21/2004	U-238	2.2	1.3	1.4	2.7	1.4	2.2	-0.261	N
IA03	IA03-SB0133	HSSB1388	Soil	0.0	2.0	10/22/2004	U-238	2.2	1.1	1.3	3.9	1.3	2.0	-1.00	N
IA04	IA04-SB0004	HSSB0397	Soil	0.9	2.9	6/13/2003	U-238	58	13	0.79	51	3.9	4.1	0.515	N
IA04	IA04-SB0004	HSSB0398	Soil	4.0	6.0	6/13/2003	U-238	3.3	0.71	0.27	5.0	1.9	2.9	-0.830	N
IA04	IA04-SB0011	HSSB0399	Soil	0.0	2.0	6/14/2003	U-238	5.4	1.3	0.62	4.5	1.9	3.1	0.393	N
IA04	IA04-SB0011	HSSB0400	Soil	8.0	10.0	6/14/2003	U-238	873	177	3.9	1119	51	16	-1.34	N
IA04	IA04-SB0012	HSSB0855	Soil	0.0	2.0	6/14/2003	U-238	2.5	0.79	0.50	2.2	1.2	1.9	0.214	N
IA04	IA04-SB0012	HSSB0856	Soil	4.0	6.0	6/14/2003	U-238	4.8	1.1	0.54	6.1	1.4	1.9	-0.740	N
IA04	IA04-SB0013	HSSB0403	Soil	0.0	2.0	6/14/2003	U-238	16	3.1	0.31	18	2.1	2.8	-0.439	N
IA04	IA04-SB0032	HSSB1288	Soil	0.0	2.0	10/22/2004	U-238	25	4.7	1.1	40	3.5	4.1	-2.50	Y
IA05	BEGE-SB0001	HSSB0831	Soil	0.0	1.0	5/27/2003	U-238	462	88	2.5	551	23	11	-0.982	N

Table 4-3. On-Site and Off-Site Gamma Spectroscopy Results and Comparison: Radium-228, Uranium-235, and Uranium-238 (continued)

IA	Station	Sample Number	Matrix	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Parameter	GEL: Off-Site Gamma Spectroscopy			BEGe: On-Site Gamma Spectroscopy			Normalized Absolute Difference	-1.96 > Normalized Absolute Difference < 1.96 (Y/N)
								Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)	Lab Result (pCi/g)	Uncertainty (pCi/g)	MDL (pCi/g)		
IA05	BEGE-SB0002	HSSB0832	Soil	0.0	0.9	5/27/2003	U-238	19	3.7	0.32	23	2.5	3.3	-0.754	N
IA05	IA05-SB0003	HSSB0537	Soil	0.2	2.2	7/12/2003	U-238	8.6	2.2	0.55	2.1	1.2	1.9	2.56	Y
IA05	IA05-SB0005	HSSB0548	Soil	0.0	2.0	7/12/2003	U-238	15	3.8	0.88	4.0	1.5	2.5	2.72	Y
IA05	IA05-SB0005	HSSB0549	Soil	8.0	10.0	7/12/2003	U-238	7.5	2.1	0.52	3.2	1.6	2.6	1.64	N
IA05	IA05-SB0007	HSSB0544	Soil	0.0	2.0	6/12/2003	U-238	697	159	3.0	492	24	10	1.28	N
IA05	IA05-SB0007	HSSB0545	Soil	4.0	6.0	6/12/2003	U-238	25	4.8	0.52	25	2.7	3.2	0.0654	N
IA05	IA05-SB0009	HSSB0543	Soil	4.0	6.0	6/11/2003	U-238	99	21	1.1	116	7.9	6.8	-0.802	N
IA05	IA05-SB0010	HSSB0550	Soil	0.6	2.6	7/16/2003	U-238	13	2.4	0.33	12	1.8	2.6	0.282	N
IA05	IA05-SB0014	HSSB0533	Soil	0.5	2.5	6/11/2003	U-238	1.5	0.74	0.63	2.5	1.4	2.1	-0.672	N
IA05	IA05-SB0022	HSSB0539	Soil	0.4	2.4	7/16/2003	U-238	3.9	1.1	0.70	3.9	1.4	2.3	0.0314	N
IA05	IA05-SB0026	HSSB1072	Soil	8.0	10.0	8/21/2004	U-238	23	4.6	1.7	27	2.7	3.6	-0.845	N
IA05	IA05-SB0027	HSSB1050	Soil	4.0	6.0	8/20/2004	U-238	25	5.6	3.0	36	3.3	4.4	-1.69	N
IA05	IA05-SB0032	HSSB1083	Soil	8.0	10.5	8/21/2004	U-238	101	21	3.3	149	8.1	7.2	-2.18	Y
IA05	IA05-SB0035	HSSB1113	Soil	0.0	2.0	8/22/2004	U-238	73	15	3.1	134	7.1	6.5	-3.63	Y
IA06	BEGE-SB0005	HSSB0835	Soil	0.0	0.6	5/27/2003	U-238	16	4.0	1.3	16	2.1	2.9	0.0748	N
IA06	BEGE-SB0006	HSSB0836	Soil	0.0	0.6	5/27/2003	U-238	8.1	1.8	0.72	9.6	1.8	2.5	-0.609	N
IA06	IA06-SB0001	HSSB0692	Soil	0.0	2.0	6/1/2003	U-238	4.7	1.2	0.71	4.1	1.5	2.4	0.272	N
IA06	IA06-SB0003	HSSB0707	Soil	4.0	6.0	6/2/2003	U-238	0.77	0.52	0.54	1.9	1.2	1.9	-0.853	N
IA07	IA07-SB0002	HSSB0726	Soil	0.0	2.0	6/9/2003	U-238	1.7	1.1	0.79	1.9	1.3	1.9	-0.130	N
IA07	IA07-SB0006	HSSB0759	Soil	0.0	1.3	6/9/2003	U-238	3.7	1.2	0.73	4.8	1.5	2.3	-0.615	N
IA07	IA07-SB0012	HSSB0787	Soil	0.0	2.0	9/20/2003	U-238	5.3	1.3	0.56	7.1	1.4	2.1	-0.908	N
IA07	IA07-SB0013	HSSB0770	Soil	4.0	6.0	9/16/2003	U-238	2.8	0.93	0.79	3.4	1.8	2.9	-0.302	N
IA07	IA07-SB0015	HSSB0781	Soil	0.8	2.8	9/20/2003	U-238	1.2	0.35	0.21	1.8	1.1	1.7	-0.578	N
IA07	IA07-SB0015	HSSB0782	Soil	8.0	10.0	9/20/2003	U-238	3.0	1.0	0.79	3.3	1.8	2.9	-0.150	N
IA07	IA07-SB0023	HSSB0774	Soil	0.0	1.5	9/16/2003	U-238	1.8	0.53	0.40	2.2	1.4	2.1	-0.252	N
IA07	IA07-SB0024	HSSB0776	Soil	0.0	1.0	9/16/2003	U-238	1.5	1.1	0.99	1.9	1.2	1.8	-0.227	N
IA07	IA07-SB0033	HSSB1370	Soil	0.0	2.0	10/18/2004	U-238	3.2	1.8	1.7	4.5	1.5	2.2	-0.560	N
IA07	IA07-SB0037	HSSB1392	Soil	1.0	2.0	10/25/2004	U-238	2.8	1.6	2.3	6.9	1.8	2.6	-1.69	N
IA09	IA09-SB0002	HSSB0235	Soil	3.0	5.0	7/21/2003	U-238	6.5	2.0	1.1	5.4	1.9	2.9	0.390	N
IA09	IA09-SB0004	HSSB0237	Soil	3.0	5.0	7/21/2003	U-238	2.1	0.88	0.70	2.3	1.3	2.0	-0.173	N
IA09	IA09-SB0005	HSSB0236	Soil	3.0	5.0	7/21/2003	U-238	2.5	0.84	0.67	2.5	1.4	2.1	-0.0286	N

BEGe - Broad Energy Germanium
GEL - General Engineering Laboratories
MDL - method detection limit
N= no significant difference in BEGe and GEL results
Y= significant difference in BEGe and GEL results

Table 4-4. Data Quality Summary - Phase I Groundwater and Surface Water Data

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Blanks	Negative results for laboratory blanks were reported at concentrations between the (-RDL) and (-IDL). All sample results are reported as below the detection limit.	Non-detects are flagged as estimated.	UJ	Groundwater	Mercury	88696
				Groundwater/Surface Water	Mercury	88374
	Positive results for laboratory blanks were reported between the IDL and RDL. Sample result(s) is less than the blank and/or the applied blank action level.[4]	Positive sample detections are flagged as non-detects at reported levels.	U	Groundwater	Mercury	88612, 101490
Radiological Blanks	Positive results for laboratory blanks were reported between the IDL and RDL. Sample result(s) is less than the blank and/or the applied blank action level.[4]	Positive sample detections are flagged as non-detects at reported levels.	U	Groundwater	Thorium-230	83736, 83832, 83951, 83995, 88376, 88542, 88615, 101230, 101232, 101542
				Surface Water	Total Uranium	88398
ICP/MS or CVAA QC [3]	Serial dilution is outside of control limits.	Detected results are flagged as estimated.	J	Groundwater	Lithium	88612
					Nickel	88396, 88612
				Surface Water	Lithium	82969
Radiological QC	Laboratory Duplicate RPD is outside of control limits.	Detected results are flagged as estimated.	J	Groundwater	Uranium-238	88615
Calibration	Continuing calibration bracket not within limits; however, LCS recovery was within control limits.	Detected results are flagged as estimated.	J	Surface Water	TPH-DRO	82969
Sample Reanalysis	Samples were reanalyzed due to high surrogate recoveries.	None	None	Groundwater/Surface Water	TPH-DRO	88374

Table 4-4. Data Quality Summary - Phase I Groundwater and Surface Water Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Sample Reanalysis (continued)	Samples were re-prepped and reanalyzed due to parameter detection in original method blank above the CRDL/CRQL.	None	None	Groundwater	Nickel	88612
Radiological Sample Reanalysis	LCS was reanalyzed due to recovery failure and subsequently passed QC requirements.	None	None	Groundwater	Thorium Isotopes (Alpha Spec.)	101478
	Samples were re-prepped and reanalyzed due to low isotopic tracer yield.	None	None	Groundwater	Alpha Spec.	88615
Secondary Dilutions	Some or all samples were diluted following QC failures when run at lower dilutions, or when run neat.	None	None	Groundwater/Surface Water	Lithium, Nickel, Molybdenum	88374, 88396
Radiological Results vs. Uncertainties	Detected sample result is less than 2X analysis uncertainty.	Positive results are flagged as estimated.	J	Groundwater	Uranium Isotopes (Alpha Spec.)	83736, 83995
						84140, 88542, 88615, 101230, 101478
					Thorium Isotopes (Alpha Spec.)	88398, 88615
					Gamma Spec. Isotopes	81047, 81308
						81136, 81470

Table 4-4. Data Quality Summary - Phase I Groundwater and Surface Water Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Results vs. Uncertainties (continued)	Detected sample result is less than the absolute value of associated uncertainty.	Positive results are flagged as non-detects.	U	Groundwater	Gamma Spec.	80916, 81301
					Uranium Isotopes (Alpha Spec.)	83832
					Thorium Isotopes (Alpha Spec.)	83951

[1]Only data issues that resulted in applied actions/qualifications, with the exception of sample reanalysis and secondary dilutions, are presented in the table.
[2]The following are definitions of applied qualifiers: J = Estimated value; U = Non-detect; UJ = Value of non-detect is estimated at the reported level.
[3]ICP/MS QC evaluation methods (i.e., for method blanks, LCSs, duplicates, and matrix spikes) were applied to radiochemistry parameters as well.
[4]Blank action levels were calculated for each constituent detected in laboratory blanks (per the Quality Assurance Project Plan) as being equal to 5X the maximum concentration detected in any blank. However, for radiochemistry parameters, blank action levels were calculated as being equal to 2X the maximum concentration detected in any blank in order to reflect the lesser variabilities observed among radiochemistry sample results.
CRDL - Contract-Required Detection Limit
CRQL - Contract-Required Quantitation Limit
CVAA - Cold Vapor Atomic Absorption
ICP/MS - Inductively Coupled Plasma/Mass Spectrometry
IDL - instrument detection limit
LCS - laboratory control sample
RDL - required detection limit
QC - quality control
RPD - relative percent difference
SDG - sample delivery group
TPH-DRO - total petroleum hydrocarbons - diesel-range organics

Table 4-5. Data Quality Summary - Phase I Soil, Sediment, and Building Material Data

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Blanks	Negative results for laboratory blanks were reported at concentrations between the (-RDL) and (-IDL). All sample results are reported as below the detection limit.	Non-detects are flagged as estimated.	UJ	Soil	Mercury	88695
	Positive results for laboratory blanks were reported between the IDL and RDL. Sample result(s) is less than the blank and/or the applied blank action level.[4]	Positive sample detections are flagged as non-detects at reported levels.	U	Soil	Naphthalene	88536
					TPH-DRO	84142, 84216, 88546
Radiological Blanks	Positive results for laboratory blanks were reported between the IDL and RDL. Sample result(s) is less than the blank and/or the applied blank action level.[4]	Positive sample detections are flagged as non-detects at reported levels.	U	Soil	Thorium-230	83132
Surrogate Recoveries	Surrogate recoveries exceeded control limits.	Detected results are flagged as estimated.	J	Soil/Sediment	TPH-DRO	82453, 88375
				Soil	TPH-DRO	81945, 82243, 82317, 84142, 84348, 88259, 88397, 88536, 88546
				Sediment	TPH-DRO	82968, 83130, 83148

Table 4-5. Data Quality Summary - Phase I Soil, Sediment, and Building Material Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
ICP/MS or CVAA QC[3]	Laboratory Duplicate RPD is outside of control limits.	Detected results are flagged as estimated.	J	Soil/Sediment	Lithium	82453
					Molybdenum	82453
					Nickel	82453
				Soil	Lithium	82317, 84142, 84348, 82033, 88397, 88546
					Molybdenum	81595, 81706, 81945, 82033, 82131,82317, 84348, 88397, 88546, 88613
					Mercury	82243, 84348, 82033, 82131, 88536, 88545, 88546, 88613, 88690
					Nickel	81471, 81595, 81706, 81945, 84142, 82243, 84348, 84216, 82131, 88259, 88397, 88545, 88546

Table 4-5. Data Quality Summary - Phase I Soil, Sediment, and Building Material Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
ICP/MS or CVAA QC[3] (continued)	Laboratory Duplicate RPD is outside of control limits (continued)	Detected results are flagged as estimated. (continued)	J (continued)	Sediment	Lithium	82968
					Molybdenum	82968, 83148
					Mercury	82528, 82968
					Nickel	82968
	MS is outside of control limits	Detected results are flagged as estimated.	J	Soil/Sediment	Lithium	82453
					Molybdenum	82453
				Soil	Lithium	81706, 81595, 82033, 82317, 84142, 84348, 88259, 88397
					Molybdenum	82131, 82243, 82317, 84348, 84216, 88375, 88397
					Mercury	82131, 88546, 88690
					Nickel	81706, 81595
				Sediment	Lithium	82661, 82968
					Molybdenum	83148
	Serial dilution is outside of control limits.	Detected results are flagged as estimated.	J	Soil/Sediment	Nickel	82453
				Soil	Nickel	81945, 82131, 82243, 82317, 84348,
					Lithium	81945, 82131, 82243, 82317
				Sediment	Lithium	82968

Table 4-5. Data Quality Summary - Phase I Soil, Sediment, and Building Material Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological QC	Laboratory Duplicate RPD is outside of control limits.	Detected results are flagged as estimated.	J	Soil/Sediment	Cesium-137	83923
					Thorium-230	83923
				Soil	Uranium-233/234	82245
					Gamma Spec.	84215
					Total Activity	82245, 82660
				Building Material	Total Activity	83741
Calibration	Low recovery for initial calibration verification standard; however, LCS recovery was within control limits.	Detected results are flagged as estimated.	J	Soil	Molybdenum	88375
	Continuing calibration bracket not within limits; however, LCS recovery was within control limits.	Detected results are flagged as estimated.	J	Soil	TPH-DRO	81945, 82317
Sample Reanalysis	Samples were reanalyzed due to high surrogate recoveries.	None	None	Soil/Sediment	TPH-DRO	88375, 88397
				Soil	TPH-DRO	88545
					Nickel	88545
				Sediment	TPH-DRO	83130
	Samples were reanalyzed at higher dilution.	None	None	Soil	PAHs	88375

Table 4-5. Data Quality Summary - Phase I Soil, Sediment, and Building Material Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Sample Reanalysis (continued)	Sample was reanalyzed due to carry-over from previous analysis.	None	None	Soil	PAHs	88375
	LCS was reanalyzed due to recovery failure and subsequently passed QC requirements.	None	None	Soil/Sediment	PAHs	88536
				Soil	PAHs	88546
Secondary Dilutions	Some or all samples were diluted due to sample matrix.	None	None	Soil	Lithium, Nickel, Molybdenum	88259
					PAHs	88375, 88397, 88536, 88546, 88613, 88690
	Some or all samples were diluted following QC failures when run at lower dilutions, or when run neat.	None	None	Soil/Sediment	Lithium, Nickel, Molybdenum	88536
				Soil	Lithium, Nickel, Molybdenum	88545, 88546, 88613
					PAHs	88546, 88613, 88690
				Sediment	Lithium, Nickel, Molybdenum	88397
	Some or all samples were diluted due to presence of overrange target analytes.	None	None	Soil	TPH-DRO	88375, 88546
					Mercury	88397
					Lithium, Nickel, Molybdenum	88545

Table 4-5. Data Quality Summary - Phase I Soil, Sediment, and Building Material Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Sample Results vs. Uncertainties	Detected sample result is less than 2X analysis uncertainty.	Positive results are flagged as estimated.	J	Soil/Building	Gamma Spec. Isotopes	84923
				Material	Thorium Isotopes (Alpha Spec.)	84923
				Soil/Sediment	Gamma Spec. Isotopes	82966, 83134, 83248
				Soil	Gamma Spec. Isotopes	82245, 83132, 83150, 83245, 84764, 84215, 88809, 88841, 88982, 88984, 88986, 89271
					Thorium Isotopes (Alpha Spec.)	83132
					Uranium Isotopes (Alpha Spec.)	82245
				Sediment	Gamma Spec. Isotopes	88377, 88399
				Building Material	Gamma Spec. Isotopes	83741, 83952
					Thorium Isotopes (Alpha Spec.)	83741, 83952

Table 4-5. Data Quality Summary - Phase I Soil, Sediment, and Building Material Data (continued)

Review Category	Data Issues[1]	Actions	Applied Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Sample Results vs. Uncertainties (continued)	Detected sample result is less than the absolute value of associated uncertainty.	Positive results are flagged as non-detects.	U	Soil/Sediment	Gamma Spec.	83248
				Soil	Gamma Spec.	83245, 88809
					Thorium Isotopes (Alpha Spec.)	83132
				Sediment	Thorium-234 and Uranium-238 (Gamma Spec.)	88399

[1]Only data issues that resulted in applied actions/qualifications, with the exception of sample reanalysis and secondary dilutions, are presented in the table.
[2]The following are definitions of applied qualifiers:
J = Estimated value
U = Non-detect
UJ = Value of non-detect is estimated at the reported level
[3]ICP/MS QC evaluation methods (i.e., for method blanks, LCSs, duplicates, and matrix spikes) were applied to radiochemistry parameters as well.
[4]Blank action levels were calculated for each constituent detected in laboratory blanks (per the Quality Assurance Project Plan) as being equal to 5X the maximum concentration detected in any blank. However, for radiochemistry parameters, blank action levels were calculated as being equal to 2X the maximum concentration detected in any blank in order to reflect the lesser variabilities observed among radiochemistry sample results.
CVAA - Cold Vapor Atomic Absorption
ICP/MS - Inductively Coupled Plasma/Mass Spectrometry
IDL - instrument detection limit
LCS - laboratory control sample
MS - matrix spike
QC - quality control
PAH - polycyclic aromatic hydrocarbon
RDL - required detection limit
RPD - relative percent difference
SDG - sample delivery group
TPH-DRO - total petroleum hydrocarbons - diesel-range organics

Table 4-6. Data Quality Summary - Phase II Groundwater and Surface Water Data

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Sample Holding Time/Preservation	Sample was not properly preserved.	Qualify detected result as estimated.	J	Groundwater	Radium-228 (Filtered)	120462
ICP/MS Tune	No raw data were provided for evaluation of the ICP/MS tune and internal standard. (This QC element was not a required review category per the QAPP [Parsons/SAIC, 2003], and as such, was not included in the verifications of Phase I metals data that were performed by SAIC.)	All Phase II surface water results (all detects) are qualified as estimated.	J	Surface Water	Lithium (Unfiltered) Molybdenum (Unfiltered)	113811/113812
Blanks	Sample concentration was less than or barely greater than the associated method blank concentration.	Positive detections and/or uncertain quantifications (the latter qualified "X" by laboratory for thorium-230) are qualified as non-detects.	U	Groundwater	Radium-228 (Unfiltered)	120346, 120350
					Radium-228 (Filtered)	120346
					Thorium-230 (Unfiltered)	119909, 120025, 120104, 120265, 120346, 120350, 120433
					Thorium-230 (Filtered)	119910, 120104, 120239, 120346, 120350
					Total Uranium (Filtered)	120346
	Sample concentration was less than five times the associated method blank concentration[4].	Positive and/or uncertain quantifications (the latter qualified "X" by laboratory for thorium-230) are qualified as estimated.	J	Groundwater	Radium-226 (Unfiltered)	119909, 120025, 120104, 120239
					Radium-226 (Filtered)	119909, 120025
					Radium-228 (Unfiltered)	120265, 120346
					Radium-228 (Filtered)	120346
					Thorium-230 (Unfiltered)	120346
					Thorium-230 (Filtered)	120025, 120104, 120239, 120265, 120346, 120457, 120458

Table 4-6. Data Quality Summary - Phase II Groundwater and Surface Water Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Blanks (continued)	Sample concentration was less than five times the associated method blank concentration[4] (continued)	Positive and/or uncertain quantifications are qualified as estimated. (continued)	J (continued)	Groundwater (continued)	Total Uranium (Unfiltered)	120346
					Total Uranium (Filtered)	120346
Radiological Concentration Quantification	Detection limit did not meet requested reporting limit.	None	None	Surface Water	Total Uranium (Unfiltered)	113811/113812
ICP/MS or CVAA QC [3]	High percent recovery for CRI standard.	Detected results are flagged as estimated.	J	Groundwater	Selenium (Dissolved)	119910
		Verifier code (E) was applied, but no validation code was applied to detected result.	None		Selenium (Total)	120350
	Serial dilution is outside of control limits.	Detected results are flagged as estimated.	J	Groundwater	Potassium (Total)	120577
Radiological QC	Laboratory duplicate RPD was above QAPP limits.	None	None	Groundwater	Total Uranium (Unfiltered & Filtered)	120539
	Matrix spike and/or matrix spike duplicate recoveries were outside of control limits.	Detected and non-detect results are qualified as estimated.	Detects – J; Non-detects - UJ	Groundwater	Uranium-233/234 (Unfiltered)	120539, 120543, 120565, 120566
					Uranium-235/236 (Unfiltered)	120539, 120543, 120565, 120566
					Uranium-238 (Unfiltered)	120539, 120543, 120565, 120566
					Uranium-233/234 (Filtered)	120543, 120565, 120566
					Uranium-235/236 (Filtered)	120543, 120565, 120566
					Uranium-238 (Filtered)	120543, 120565, 120566

Table 4-6. Data Quality Summary - Phase II Groundwater and Surface Water Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Calibration	CCV out of compliance; however, there is likely little effect on the relatively high sample result(s).	None	None	Groundwater	Iron (Total)	120104
					Iron (Dissolved)	120104
Radiological Results vs. Uncertainties	Detected sample result is less than the absolute value of associated uncertainty.	Positive results are flagged as non-detects.	U	Groundwater	Thorium-232 (Unfiltered)	120346
					Uranium-235/236 (Unfiltered)	120025
					Uranium-235/236 (Filtered)	119910
Sample Reanalysis	Samples were reanalyzed due to an out of compliance continuing calibration verification standard.	None	None	Groundwater	Iron (Dissolved)	120025

Table 4-6. Data Quality Summary - Phase II Groundwater and Surface Water Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Secondary Dilutions	The detection limit did not meet the reporting limit as the samples were analyzed at dilution due to matrix interference. Sample result was reported as non-detect at an elevated detection limit for affected parameter.	None	None	Groundwater	Selenium (Total)	120577
					Selenium (Dissolved)	120104
					Thallium (Total)	120104
					Thallium (Dissolved)	120104
	The detection limit did not meet the reporting limit as the samples were analyzed at dilution due high concentrations of target analytes. Sample result was reported as non-detect at an elevated detection limit for affected parameter.	None	None	Groundwater	Aluminum (Total)	120433
					Chromium (Total)	120350
					Chromium (Dissolved)	120350
					Selenium (Total)	120265, 120433
					Selenium (Dissolved)	120350

[1]Only data issues that resulted in applied actions/qualifications, with the exception of sample reanalysis and secondary dilutions, are presented.
[2]The following are definitions of applied qualifiers: J = Estimated value; U = Non-detect; UJ = Value of non-detect is estimated at the reported level.
[3]ICP/MS QC evaluation methods (i.e., for method blanks, LCSs, duplicates, and matrix spikes) were applied to radiochemistry parameters as well.
[4]For radiochemistry parameters, blank action levels were calculated as being equal to 2X the maximum concentration detected in any blank in order to reflect the lesser variabilities observed among radiochemistry sample results.
CVAA - Cold Vapor Atomic Absorption
ICP/MS - Inductively Coupled Plasma/Mass Spectrometry
LCS - laboratory control sample
QAPP - Quality Assurance Project Plan
QC - quality control
RPD - relative percent difference
SDG - sample delivery group
TPH-DRO - total petroleum hydrocarbons - diesel-range organics

Table 4-7. Data Quality Summary - Phase II Soil and Sediment Data

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
ICP/MS Tune	No raw data were provided for evaluation of the ICP/MS tune and internal standard. (This QC element was not a required review category per the QAPP, and as such, was not included in the verifications of Phase I metals data that were performed by SAIC.)	All Phase II soil/sediment results are qualified as estimated.	Detects – J; Non-detects - UJ	Soil	Lithium	113622, 119585, 119665, 119741, 124196
					Molybdenum	113622, 119585, 119665, 119741, 124196
					Nickel	113622, 124294
					Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc	124294
				Sediment	Lithium, Molybdenum	113811/113812
Blanks	Sample concentration was greater than the MDA but less than five times the associated method blank concentration.	Detected result was qualified as estimated.	J	Soil	Thorium-230	113714, 120260
					Thorium-232	120260

Table 4-7. Data Quality Summary - Phase II Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Concentration Quantification	Detection limit did not meet requested reporting limit.	None	None	Soil	Americium-241	124196, 124294, 125798
					Bismuth-212	124196, 124294
					Lead-212	124196, 124294
					Lead-214	124196, 124294, 125798
					Thorium-228	113621
					Thorium-230	124196
					Thorium-234	124196, 124294, 125798
					Uranium-235	124196, 124294
					Uranium-238	124196, 124294, 125798
				Sediment	Beryllium-7, Bismuth-212, Cesium-137, Lead-214, Uranium-238, Total Uranium	113811/113812
	Detection limit did not meet requested reporting limit. Sample result was reported as non-detect at an elevated detection limit for affected parameter.	Non-detect sample result was qualified as estimated.	UJ	Soil	Americium-241	113714, 120260
					Uranium-238	113623, 120260

Table 4-7. Data Quality Summary - Phase II Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
ICP/MS or CVAA QC [3]	Laboratory duplicate RPD was above control limit.	Sample results were previously qualified as estimated (J or UJ) for lack of raw data to evaluate ICP/MS tuning (See "ICP/MS Tune" above.).	UJ (continued)	Soil	Lithium	119585
					Mercury	113622
					Molybdenum	113622, 119585, 119665, 119741, 124196
					Nickel	113622
					Aluminum, Barium, Beryllium, Calcium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Zinc	124294
				Sediment	Molybdenum	113811/113812
	MS and/or MSD recoveries and/or RPD were outside of QC limits.	Sample results were previously qualified for lack of raw data to evaluate ICP/MS tuning (See "ICP/MS Tune" above.).	None	Soil	Antimony	124294
					Lithium	113622, 119585, 119665, 119741, 124196
					Molybdenum	119585, 119665, 119741, 124196
					Selenium	124294
				Sediment	Lithium, Molybdenum	113811/113812
	Serial dilution percent difference is above control limit.	Sample results were previously qualified for lack of raw data to evaluate ICP/MS tuning (See "ICP/MS Tune" above.).	None	Soil	Lithium	124196
					Aluminum, Calcium, Copper, Iron, Lead, Manganese, Nickel, Zinc	124294

Table 4-7. Data Quality Summary - Phase II Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological QC[3]	Laboratory duplicate RPD was above control limit.	RPD not high enough to warrant data qualification.	None	Soil	Actinium-228	113714
					Potassium-40	113714
					Thorium-228	113621, 113714, 124196
					Thorium-232	125798
					Thorium-234	124196, 124294
					Thallium-208	113623
					Uranium-235	113714
					Uranium-238	124196, 124294
				Sediment	Actinium-228, Bismuth-212, Radium-228	113811/113812
	MS/MSD RPD was above control limit.	RPD not high enough to warrant data qualification.	None	Soil	Thorium-232	120260

[1]Only data issues that resulted in applied actions and validation qualifiers, with the exception of sample reanalysis and secondary dilutions, are presented.
[2]The following are definitions of applied validation qualifiers:
J = Estimated value
U = Non-detect
UJ = Value of non-detect is estimated at the reported level
[3]ICP/MS QC evaluation methods (i.e., for method blanks, LCSs, duplicates, and matrix spikes) were applied to radiochemistry parameters as well.
CVAA - Cold Vapor Atomic Absorption
ICP/MS - Inductively Coupled Plasma/Mass Spectrometry
LCS - laboratory control sample
MDA - maximum detectable activity
MS/MSD - matrix spike/matrix spike duplicate
QAPP - Quality Assurance Project Plan
QC - quality control
RPD - relative percent difference
SDG - sample delivery group

Table 4-8. Data Quality Summary - Phase III Soil and Sediment Data

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Sample Holding Time/Preservation	Samples outside of the standard radiological holding time of six months[3]	None	None	Soil		178262, 176511, 178001
Blanks	There were method blank detections of at least one analyte.	None	None	Soil/Sediment	Thallium-230	178326, 177563, 177197, 178001
					Thallium-232	177563
					Uranium-233/234	177563
					Uranium-234	178322, 178326, 178314
					Uranium-235	177197
					Uranium-238	178326, 178314, 177563
					Total Uranium	178326, 178314
Radiological Concentration Quantification	Detection limits did not meet the reporting limits for many isotopes. Any sample result that was below the achieved detection limit but that was above the requested reporting limit, was flagged for the potential to be a false negative.	Non-detect sample result was qualified as estimated.	UJ	Soil	Actinium-228	178314
					Americium-241	178262
					Bismuth-212	178322, 178314, 176511
					Thallium-208	176511
					Thorium-230	178314
					Thorium-234	177197
					Uranium-235	177504
					Uranium-235/236	177504
					Uranium-238	178262, 178326, 178322, 178314, 177563, 177197, 177504, 178001

Table 4-8. Data Quality Summary - Phase III Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Concentration Quantification (continued)	Analyte not detected above the level of the reported sample quantitation limit	Parameters are flagged as non-detects.	U	Soil	Actinium-227	178262, 178362, 178322, 178314, 177563, 177197, 177504, 178001
					Actinium-228	178362, 177197
					Americium-241	178262, 178362, 178322, 178314, 177563, 177197, 177504, 178001
					Bismuth-212	178362, 178322, 177197, 177504, 176511
					Bismuth-214	177197
					Cesium-137	178262, 178362, 178322, 178314, 177563, 177197, 177504, 176511, 178001
					Lead-214	178362
					Protactinium-231	178262, 178362, 178322, 178314, 177563, 177197, 177504, 176511, 178001
					Radium-226	177197
					Radium-228	178362, 177197
					Thallium-208	178362, 178314
					Thorium-227	178262, 178362, 178322, 178314, 177563, 177197, 177504, 178001
					Thorium-228	178362
					Thorium-230	178362, 177197
					Thorium-232	178362, 177197

Table 4-8. Data Quality Summary - Phase III Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Concentration Quantification (continued)	Analyte not detected above the level of the reported sample quantitation limit (continued)	Parameters are flagged as non-detects. (continued)	U (continued)	Soil (continued)	Thorium-234	178262, 178362, 178322, 178314, 177563, 177197, 177504, 178001
					Uranium-235	178262, 178362, 178322, 178314, 177563, 177197, 177504, 178001, 178001
					Uranium-235/236	178362, 178314, 177197, 177504
					Uranium-238	178262, 178262, 178322, 177563, 177197, 177504, 178001
				Sediment	Actinium-227	177563, 177735
					Actinium-228	177563
					Americium-241	177563, 177735
					Bismuth-212	177563, 177735
					Cesium-137	177563, 177735
					Protactinium-231	177563
					Protactinium-231	177563, 177735
					Radium-228	177563
					Thallium-208	177563
					Thorium-227	177563, 177735
					Thorium-234	177563
					Uranium-235	177563, 177735
					Uranium-238	177563
Radiological QC	Laboratory duplicates RPDS were above the QAPP limits	None	None	Soil/Sediment	Actinium-228	176511
					Bismuth-212	177735, 177197, 176511, 177563
					Lead-212	176511
					Radium-228	176511

Table 4-8. Data Quality Summary - Phase III Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological QC (continued)	Laboratory duplicates RPDS were above the QAPP limits (continued)	None (continued)	None (continued)	Soil/Sediment (continued)	Thallium-228	177504, 178262, 178326
					Thallium-230	177735, 177197, 177563
					Thallium-232	177735, 177197, 177563, 178262, 178326
					Uranium-233/234	177735, 177735
					Uranium-234	176511, 177197
					Uranium-235	177735, 177197
					Uranium-235/236	178001, 177735, 177504, 177563
					Uranium-238	
					Total Uranium	
					See Appendix	178314
	Associated numerical value is the approximate concentration of the analyte in the sample.	Detected results are flagged as estimated	J	Soil	Thorium-230	178326, 178001
					Uranium-233/234	178326, 176511
					Uranium-235/236	176511
					Uranium-238	178326
					Total Uranium	178326
				Sediment	Thorium-230	177563
					Uranium-233/234	177563
Radiological Results vs. Uncertainties	Samples flagged by the laboratory with a UI[4]	Results were rejected.	R	Soil	Actinium-227	178262, 178322, 178314, 177563, 177504, 176511
					Actinium-228	178326, 176511
					Americium-241	178262, 178322, 178314, 177563, 177504, 176511

Table 4-8. Data Quality Summary - Phase III Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Results vs. Uncertainties (continued)	Samples flagged by the laboratory with a UI[4] (continued)	Results were rejected. (continued)	R (continued)	Soil (continued)	Bismuth-212	178262, 178326, 178322, 178314, 177563, 177197, 176511
					Cesium-137	178322, 178314, 178314, 177563, 177197, 177504
					Lead-212	178326
					Potassium-40	178326, 178314, 177197
					Radium-226	178326
					Radium-228	178326, 178314, 176511
					Thallium-208	178326, 177197
					Thorium-227	178262, 178322, 178314, 177563, 177197, 177504, 176511
					Thorium-230	178326
					Thorium-234	178262, 178314, 177563, 177197, 177197, 177504
					Uranium-235	178326, 178322, 178314, 177563, 177197
					Uranium-238	178262, 178314, 178314, 177563, 177197, 177504
				Sediment	Actinium-227	177735
					Actinium-228	177735
					Americium-241	177735
					Bismuth-212	177735
					Radium-228	177735
					Thallium-208	177735
					Thorium-227	177735
					Uranium-238	177563

Table 4-8. Data Quality Summary - Phase III Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Results vs. Uncertainties (continued)	Absolute value of a negative result was larger than the sample uncertainty, indicating improper background subtraction or a potential background shift	Results were rejected. (continued)	R (continued)	Soil (continued)	Actinium-227	177197
					Americium-241	177197
					Cesium-137	178326, 178322
					Protactinium-231	178262, 178314, 178314, 177563, 177197, 177504
					Thorium-227	177197, 177504
	Sample had a high uncertainty relative to the sample result	Detected results are flagged as estimated	J	Soil	Actinium-228	178326
					Bismuth-212	177563, 177504
					Cesium-137	177197, 177504, 177504
					Radium-228	178326
					Thorium-230	177197
					Thorium-234	177197, 177504
					Uranium-235/236	177197
					Uranium-238	177197, 177504

[1]Only data issues that resulted in applied actions and validation qualifiers, with the exception of sample reanalysis and secondary dilutions, are presented.
[2]The following are definitions of applied validation qualifiers:
J = Estimated value
U = Non-detect
UJ = Value of non-detect is estimated at the reported level
R = Rejected
[3]Some guidance (Laboratory Data Validation Guidelines For Evaluating Radionuclide Analyses by Rucker and Johnson, Rev. 7.2, June 2004) indicates that this may only be necessary for water samples, or for radionuclides with short half-lives. As these were soil samples analyzed for radionuclides with long half-lives, the six month holding time is not considered to be a stringent requirement. As such the data will be usable without any further qualification for holding time issues.
[4]Samples were flagged by the lab with a UI for 6 potential reasons. The reasons are: low abundance, no valid peak interference, short half-life, high peak width and high counting uncertainty.
MDA - maximum detectable activity
MS/MSD - matrix spike/matrix spike duplicate
QAPP - Quality Assurance Project Plan
QC - quality control
RPD - relative percent difference
SDG - sample delivery group

Table 4-9. Data Quality Summary - Phase IV Soil and Sediment Data

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Sample Holding Time/Preservation	Samples outside of the standard radiological holding time of six months[3]	None	None	Soil		F7G2280115, F7G280216
Blanks	The method blank contained target analytes above the MDC. All results were greater than 10 times this value.	None	None	Soil	Thorium-230	F7H180193
					Uranium-238	F7G280216
	Method blank contained target analytes above the MDC in at least one batch for a given parameter. All samples results were greater than five time this amount.	None	None	Soil	Thorium-230	F7G280216, F7I110235
					Uranium-235	F7G2280115
					Uranium-238	F7G2280115, F7I110235
	The method blank contained target analytes above the MDC in at least one batch.	None	None	Soil	Gross alpha	F7G280152
					Thorium-230	F7G280152
					Uranium-234	F7G280152
					Uranium-238	F7G280152
Radiological Concentration Quantification	Detection limits did not meet the reporting limits. Sample result was below the achieved detection limit but that was above the requested reporting limit.	Results were rejected	R	Soil	Cesium-137	F7H180193
	Analyte not detected above the level of the reported sample quantitation limit.	Parameters are flagged as non-detects.	U	Soil	Actinium-227	F7G2280115, F7G280216, F7H180193, F7I110235
					Americium-241	F7G2280115, F7G280216, F7H180193, F7I110235

Table 4-9. Data Quality Summary - Phase IV Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Concentration Quantification (continued)	Analyte not detected above the level of the reported sample quantitation limit. (continued)	Parameters are flagged as non-detects. (continued)	U (continued)	Soil (continued)	Cesium-137	F7G2280115, F7G280216, F7H180193, F7I110235
					Europium-152	F7G2280115, F7G280216, F7H180193, F7I110235
					Europium-154	F7G2280115, F7G280216, F7H180193, F7I110235
					Neptunium-237	F7H180193, F7I110235, F7I110235
					Plutonium-238	F7G2280115, F7G280216, F7I110235
					Plutonium-239/240	F7G2280115, F7G280216, F7I110235
					Protactinium-231	F7G2280115, F7G280216, F7H180193, F7I110235
					Radium-228	F7H180193
					Technetium-99	F7G2280115, F7G280216, F7I110235
					Thorium-228	F7H180193
					Thorium-232	F7H180193
					Uranium-233	F7G2280115, F7G280216, F7I110235
					Uranium-234	F7G2280115, F7G280216, F7I110235
					Uranium-235	F7H180193, F7I110235
					Uranium-235/236	F7H180193
					Uranium-236	F7G2280115, F7G280216, F7I110235
					Uranium-238	F7I110235

Table 4-9. Data Quality Summary - Phase IV Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Concentration Quantification (continued)	Analyte not detected above the level of the reported sample quantitation limit. (continued)	Parameters are flagged as non-detects. (continued)	U (continued)	Sediment	Actinium-227	F7G20216, F7I110235
					Americium-241	F7G20216, F7I110235
					Cesium-137	F7G20216, F7I110235
					Europium-152	F7G20216, F7I110235
					Europium-154	F7G20216, F7I110235
					Neptunium-237	F7I110235
					Plutonium-238	F7G20216, F7I110235
					Plutonium-239/240	F7G20216, F7I110235
					Protactinium-231	F7G20216, F7I110235
					Radium-228	F7I110235
					Technetium-99	F7G20216
					Uranium-233	F7I110235
					Uranium-234	F7I110235
					Uranium-235	F7I110235
					Uranium-235/236	F7I110235
					Uranium-236	F7G20216, F7I110235
					Uranium-238	F7I110235
	Results between the MDL and the reporting limit.	Detected results are flagged as estimated	J	Soil	Uranium-234	F7G20216
					Uranium-236	F7G20216
Radiological QC	The laboratory duplicate exceeded criteria in for at least one analyte in at least one batch.	None	None	Soil	Gross alpha	F7G2280115
					Gross alpha	F7G280216
					Radium-228	F7G2280115, F7G280216
					Thorium-228	F7G280152, F7H180193, F7G280216
					Thorium-232	F7G280152, F7G280216
					Uranium-233/234	F7G280216
					Uranium-238	F7G280216

Table 4-9. Data Quality Summary - Phase IV Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological QC (continued)	The MS recoveries were above criteria.	None	None	Soil	Uranium-234	F7G2280115
					Uranium-238	F7G2280115
	The MS recoveries were below criteria.	None	None	Soil	Gross alpha	F7G2280115, F7G280216
					Gross beta	F7G2280115, F7G280216
	Ra-226 is reported from the 609.31 keV line of Bi-214. Because the samples have not had a 21 day in-growth the activity for Ra-226 is an estimated value and may be biased low. The bias is caused by the disruption of secular equilibrium between Ra-226 and Bi-214 by the loss of Rn-222 during sample preparation.	Detected results are flagged as estimated	J	Soil	Radium-226	F7I110235
				Sediment	Radium-226	F7I110235
	Gamma Spec Results for U-238 recalculated using abundance of 3.81 for Th-234, values were less than 5 times the MDC.	Detected results are flagged as estimated	J	Soil	Uranium-238	F7I110235
	Associated numerical value is the approximate concentration of the analyte in the sample.	Detected results are flagged as estimated	J	Soil	Gross alpha	F7G2280115, F7G280216
					Gross beta	F7G2280115, F7G280216
					Protactinium-234	F7G2280115
					Plutonium-239/240	F7G2280115
					Thorium-228	F7G2280115, F7G280216
					Thorium-230	F7G2280115, F7G280216, F7H180193
					Thorium-232	F7G2280115, F7G280216, F7H180193

Table 4-9. Data Quality Summary - Phase IV Soil and Sediment Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological QC (continued)	Associated numerical value is the approximate concentration of the analyte in the sample. (continued)	Detected results are flagged as estimated (continued)	J (continued)	Soil (continued)	Uranium-233/234	F7H180193
					Uranium-238	F7H180193
				Sediment	Plutonium-239/240	F7G20216
					Thorium-228	F7G20216, F7I110235
					Thorium-230	F7G20216, F7I110235
					Thorium-232	F7I110235
					Uranium-235/236	F7G20216

[1]Only data issues that resulted in applied actions and validation qualifiers, with the exception of sample reanalysis and secondary dilutions, are presented.
[2]The following are definitions of applied validation qualifiers:
J = Estimated value
U = Non-detect
UJ = Value of non-detect is estimated at the reported level
R = Rejected
[3]Some guidance (Laboratory Data Validation Guidelines For Evaluating Radionuclide Analyses by Rucker and Johnson, Rev. 7.2, June 2004) indicates that this may only be necessary for water samples, or for radionuclides with short half-lives. As these were soil samples analyzed for radionuclides with long half-lives, the six month holding time is not considered to be a stringent requirement. As such the data will be usable without any further qualification for holding time issues.
MDA - maximum detectable activity
MS/MSD - matrix spike/matrix spike duplicate
QAPP - Quality Assurance Project Plan
QC - quality control
RPD - relative percent difference
SDG - sample delivery group

Table 4-10. Data Quality Summary - Phase IV Groundwater Data

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Blanks	The method blank contained target analytes above the MDC in at least one batch.	None	None	Groundwater	Neptunium-237	F7G280152
					Thorium-228	F7G2280115, F7G280152, F7G280118
					Thorium-230	F7G2280115, F7G280152, F7G280118
	There was a method blank detection in at least one of the batches	None	None	Groundwater	Uranium-238	F7G280118
	Method bank was elevated above the MDL for U-238. Those values for U-238 that had a detectable value above the MDL and less than five times the method blank were flagged for possible bias.	Detected results are flagged as estimated	J	Groundwater	Uranium-238	F7G280212
Radiological Concentration Quantification	Detection limits did not meet the reporting limits. Sample result was below the achieved detection limit but that was above the requested reporting limit.	Results were rejected	R	Groundwater	Gross alpha	F7G2280115, F7G280152
					Gross beta	F7G280118, F7G280152
	Results between the MDL and the reporting limit.	Detected results are flagged as estimated	J	Groundwater	Uranium-234	F7G280212
					Uranium-235	F7G280212
					Uranium-236	F7G280212
	Gross Alpha Beta samples had several samples that did not meet the reporting limit.	Parameters are flagged as non-detects.	U	Groundwater	Gross alpha	F7G280212
					Gross beta	F7G280212

Table 4-10. Data Quality Summary - Phase IV Groundwater Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Concentration Quantification (continued)	Analyte not detected above the level of the reported sample quantitation limit.	Parameters are flagged as non-detects.	U	Groundwater	Americium-241	F7G2280115, F7G280118, F7G2800152, F7G280212
					Neptunium-237	F7G2280115, F7G280118, F7G2800152, F7G280212
					Cesium-137	F7G2280115, F7G280118, F7G2800152, F7G280212
					Europium-152	F7G2280115, F7G280118, F7G2800152, F7G280212
					Europium-154	F7G2280115, F7G280118, F7G2800152, F7G280212
					Potassium-40	F7G2280115, F7G280118, F7G2800152, F7G280212
					Radium-226	F7G280118, F7G2800152, F7G280212
					Radium-228	F7G280118, F7G2800152, F7G280212
					Gross alpha	F7G280118, F7G2800152, F7G280212
					Plutonium-238	F7G2280115, F7G280118, F7G2800152, F7G280212
					Plutonium-239/240	F7G2280115, F7G280118, F7G2800152, F7G280212

Table 4-10. Data Quality Summary - Phase IV Groundwater Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological Concentration Quantification (continued)	Analyte not detected above the level of the reported sample quantitation limit. (continued)	Parameters are flagged as non-detects. (continued)	U (continued)	Groundwater (continued)	Thorium-228	F7G2280115, F7G280118, F7G2800152, F7G280212
					Thorium-230	F7G280118, F7G2800152, F7G280212
					Thorium-232	F7G280118, F7G2800152, F7G280212
					Technetium-99	F7G2280115, F7G280118, F7G2800152, F7G280212
					Uranium-233	F7G2280115, F7G280118, F7G2800152
					Uranium-234	F7G2280115, F7G280118, F7G2800152
					Uranium-235	F7G280118, F7G2800152
					Uranium-236	F7G2280115, F7G2800152
					Uranium-238	F7G2280115, F7G2800152
Radiological QC	The laboratory duplicate exceeded criteria in for at least one analyte in at least one batch.	None	None	Groundwater	Gross beta	F7G280152, F7G280118
					Thorium-230	F7G280152
Radiological QC	The MS recoveries were below criteria.	None	None	Groundwater	Uranium-234	F7G280152
					Uranium-238	F7G280152
Radiological QC	Sample had a high tracer recovery indicating a potential low bias for the sample result. Yields were truncated to 100% to eliminate a low biased result.	Detected results are flagged as estimated	J	Groundwater	Technetium-99	F7G280212

Table 4-10. Data Quality Summary - Phase IV Groundwater Data (continued)

Review Category	Data Issues[1]	Actions	Applied Validation Qualifiers[2]	Sample Matrix	Affected Parameters	Affected SDGs
Radiological QC	Associated numerical value is the approximate concentration of the analyte in the sample.	Detected results are flagged as estimated	J	Groundwater	Neptunium-237	F7G2800152, F7G280212
					Pa-234	F7G2280115
					Plutonium-238	F7G280212
					Plutonium-239/240	F7G2280115
					Radium-226	F7G2280115, F7G280118, F7G2800152, F7G280212
					Radium-228	F7G2800152, F7G280212
					Thorium-228	F7G2280115, F7G280118, F7G2800152, F7G280212
					Thorium-230	F7G2280115, F7G280118, F7G2800152, F7G280212
					Thorium-232	F7G2280115, F7G280118, F7G280212
					Uranium-233	F7G280212
					Uranium-234	F7G2800152, F7G280212
					Uranium-235	F7G280118, F7G2800152, F7G280212
					Uranium-236	F7G2280115, F7G280212
					Uranium-238	F7G280118, F7G2800152

[1]Only data issues that resulted in applied actions and validation qualifiers, with the exception of sample reanalysis and secondary dilutions, are presented.
[2]The following are definitions of applied validation qualifiers:
J = Estimated value
U = Non-detect
UJ = Value of non-detect is estimated at the reported level
R = Rejected
MDA - maximum detectable activity
MS/MSD - matrix spike/matrix spike duplicate
QAPP - Quality Assurance Project Plan
QC - quality control
RPD - relative percent difference
SDG - sample delivery group

Table 4-11. XRF Calibration Standard Results

Date	Time	Result (ppm)	Measurement Error (ppm)
Molybdenum 50 ppm			
11/29/2006	13:45	55	4
11/29/2006	13:57	59	4
11/29/2006	14:00	54	4
11/29/2006	14:09	52	4
11/29/2006	14:11	63	4
11/29/2006	14:14	51	4
11/29/2006	14:21	53	4
11/29/2006	14:24	61	4
11/29/2006	14:26	48	4
11/29/2006	14:29	51	4
Molybdenum 150 ppm			
11/29/2006	14:33	156	4
11/29/2006	14:35	157	4
11/29/2006	14:38	152	4
11/29/2006	14:40	156	4
11/29/2006	14:42	155	4
11/29/2006	14:45	149	4
11/29/2006	14:47	158	4
11/29/2006	14:49	151	4
11/29/2006	14:51	149	4
11/29/2006	14:55	153	4
11/29/2006	14:57	156	4
Uranium 50 ppm			
11/29/2006	11:52	26	8
11/29/2006	11:58	34	8
11/29/2006	12:03	<LOD	23
11/29/2006	12:05	39	8
11/29/2006	12:09	33	8
11/29/2006	12:12	27	8
11/29/2006	12:14	37	8
11/29/2006	12:20	24	8
11/29/2006	12:23	39	8
11/29/2006	12:26	<LOD	23
Uranium 150 ppm			
11/29/2006	12:34	124	9
11/29/2006	12:41	112	9
11/29/2006	12:44	120	9
11/29/2006	12:47	128	9
11/29/2006	12:49	125	9
11/29/2006	12:53	119	9
11/29/2006	12:56	121	8
11/29/2006	12:58	104	8
11/29/2006	13:00	120	9
11/29/2006	13:04	126	9
11/29/2006	13:06	121	9

Table 4-11. XRF Calibration Standard Results (continued)

Date	Time	Result (ppm)	Measurement Error (ppm)
Molybdenum/Uranium 100 ppm			
Molybdenum			
11/29/2006	13:12	118	4
11/29/2006	13:15	116	4
11/29/2006	13:17	129	4
11/29/2006	13:20	125	4
11/29/2006	13:28	123	4
11/29/2006	13:30	114	4
11/29/2006	13:33	120	4
11/29/2006	13:35	124	4
11/29/2006	13:37	118	4
11/29/2006	13:40	118	4
Uranium			
11/29/2006	13:12	87	8
11/29/2006	13:15	87	8
11/29/2006	13:17	75	8
11/29/2006	13:20	64	8
11/29/2006	13:28	85	8
11/29/2006	13:30	68	8
11/29/2006	13:33	84	8
11/29/2006	13:35	78	8
11/29/2006	13:37	87	8
11/29/2006	13:40	83	8
Rattlesnake Creek Sand Uranium 100 ppm			
11/29/2006	15:03	91	3
11/29/2006	15:06	90	3
11/29/2006	15:08	85	3
11/29/2006	15:10	88	3
11/29/2006	15:13	94	3
11/29/2006	15:15	89	3
11/29/2006	15:17	87	3
11/29/2006	15:19	91	3
11/29/2006	15:21	90	3
11/29/2006	15:25	84	3
Rattlesnake Creek Sand Uranium 200 ppm			
11/29/2006	15:29	171	4
11/29/2006	15:32	168	4
11/29/2006	15:34	176	4
11/29/2006	15:36	176	4
11/29/2006	15:38	174	4
11/29/2006	15:41	173	4
11/29/2006	15:43	177	4
11/29/2006	15:46	174	4
11/29/2006	15:51	183	4
11/29/2006	15:54	178	4

Table 4-11. XRF Calibration Standard Results (continued)

Date	Time	Result (ppm)	Measurement Error (ppm)
Rattlesnake Creek Silt Uranium 200 ppm			
11/29/2006	15:56	200	6
11/29/2006	15:59	194	6
11/29/2006	16:01	209	6
11/29/2006	16:03	202	6
11/29/2006	16:05	197	6
11/29/2006	16:07	195	6
11/29/2006	16:10	193	6
11/29/2006	16:12	193	6
11/29/2006	16:14	208	6
11/29/2006	16:16	202	6

Notes:
Count time = 120 seconds
Measurement error reported as 1-sigma

Table 4-12. XRF Daily Calibration Results

Date	Time	Result (ppm)	Measurement Error (ppm)
Molybdenum 50 ppm			
12/4/2006	12:01	52	4
12/4/2006	17:30	49	4
12/5/2006	8:13	50	4
12/5/2006	18:04	56	4
12/6/2006	7:09	49	4
12/6/2006	17:20	48	4
12/7/2006	8:11	43	4
12/7/2006	17:25	47	4
12/8/2006	7:53	45	4
12/8/2006	17:44	57	4
12/9/2006	8:14	49	4
12/9/2006	16:13	49	4
12/12/2006	10:48	49	4
12/12/2006	17:26	57	4
12/14/2006	9:00	47	4
12/14/2006	16:39	46	4
12/15/2006	9:04	49	4
12/15/2006	16:30	46	4
12/16/2006	9:02	48	4
12/16/2006	18:08	40	4
12/17/2006	8:37	43	4
12/17/2006	15:10	48	4
12/18/2006	9:18	46	4
12/18/2006	12:29	45	4
12/20/2006	15:31	48	4
12/20/2006	16:36	46	4
12/21/2006	10:27	55	4
12/21/2006	15:26	49	4
Molybdenum 150 ppm			
12/4/2006	12:05	150	4
12/4/2006	17:33	156	4
12/5/2006	8:16	149	4
12/5/2006	18:07	143	4
12/6/2006	7:12	141	4
12/6/2006	8:09	153	4
12/6/2006	17:27	151	4
12/7/2006	8:14	153	4
12/7/2006	17:29	152	4
12/8/2006	7:55	150	4
12/8/2006	17:47	156	4

Table 4-12. XRF Daily Calibration Results (continued)

Date	Time	Result (ppm)	Measurement Error (ppm)
12/9/2006	8:25	156	4
12/9/2006	16:16	147	4
12/12/2006	10:59	153	4
12/12/2006	17:29	160	4
12/12/2006	17:33	160	4
12/12/2006	17:35	171	4
12/12/2006	17:39	154	4
12/14/2006	9:03	154	4
12/14/2006	16:43	154	4
12/15/2006	9:08	156	4
12/15/2006	16:34	136	11
12/16/2006	9:05	151	4
12/16/2006	18:11	159	4
12/17/2006	8:40	153	4
12/17/2006	15:13	156	4
12/18/2006	9:21	143	4
12/18/2006	12:33	145	4
12/20/2006	15:34	148	4
12/20/2006	16:39	151	4
12/21/2006	10:55	151	4
12/21/2006	15:29	153	4
Molybdenum/Uranium 100 ppm			
Molybdenum			
12/4/2006	12:09	119	4
12/4/2006	17:37	122	4
12/5/2006	8:19	120	4
12/9/2006	8:35	109	4
Uranium			
12/4/2006	12:09	109	9
12/4/2006	17:37	88	8
12/5/2006	8:19	126	9
12/9/2006	8:35	120	9
Uranium 50 ppm			
12/4/2006	11:52	56	8
12/4/2006	17:22	37	8
12/4/2006	17:51	39	8
12/5/2006	8:07	60	8
12/5/2006	17:58	64	8
12/6/2006	7:04	89	8
12/6/2006	8:15	65	8
12/6/2006	17:14	54	8
12/7/2006	8:01	62	8
12/7/2006	17:19	57	8
12/8/2006	7:44	77	8
12/8/2006	7:47	76	8

Table 4-12. XRF Daily Calibration Results (continued)

Date	Time	Result (ppm)	Measurement Error (ppm)
12/8/2006	17:28	48	8
12/9/2006	8:02	71	8
12/9/2006	8:05	74	8
12/9/2006	8:27	75	8
12/9/2006	8:42	67	8
12/9/2006	8:45	47	8
12/9/2006	16:00	61	8
12/12/2006	10:17	71	8
12/12/2006	10:22	76	8
12/12/2006	10:36	52	8
12/12/2006	17:14	43	8
12/14/2006	8:53	59	8
12/14/2006	16:18	86	8
12/14/2006	16:22	89	8
12/14/2006	16:30	59	8
12/15/2006	8:35	74	8
12/15/2006	8:57	66	8
12/15/2006	16:24	54	8
12/16/2006	8:56	43	8
12/16/2006	18:02	60	8
12/17/2006	8:27	69	8
12/17/2006	8:30	62	8
12/17/2006	14:42	55	8
12/18/2006	9:12	66	8
12/18/2006	12:10	71	8
12/18/2006	12:14	70	8
12/18/2006	12:17	63	8
12/20/2006	15:23	38	8
12/20/2006	16:28	70	8
12/20/2006	16:30	43	8
12/21/2006	10:13	69	8
12/21/2006	10:21	54	8
12/21/2006	15:07	67	8
12/21/2006	15:13	71	8
12/21/2006	15:16	67	8
12/21/2006	15:19	53	8
Uranium 150 ppm			
12/4/2006	11:58	138	9
12/4/2006	17:26	126	9
12/5/2006	8:10	162	9
12/5/2006	18:02	140	9
12/6/2006	7:07	163	9
12/6/2006	17:17	133	9
12/7/2006	8:04	132	8
12/7/2006	8:08	137	8

Table 4-12. XRF Daily Calibration Results (continued)

Date	Time	Result (ppm)	Measurement Error (ppm)
12/7/2006	17:21	136	8
12/8/2006	7:50	137	9
12/8/2006	17:33	122	9
12/8/2006	17:35	128	9
12/8/2006	17:38	118	8
12/8/2006	17:41	144	9
12/9/2006	8:09	174	9
12/9/2006	8:11	173	9
12/9/2006	8:48	142	9
12/9/2006	16:05	128	9
12/9/2006	16:08	147	9
12/12/2006	10:28	192	9
12/12/2006	10:41	150	9
12/12/2006	17:17	103	10
12/12/2006	17:19	111	8
12/14/2006	8:56	144	9
12/14/2006	16:34	139	9
12/15/2006	9:01	156	9
12/15/2006	16:27	142	9
12/16/2006	8:59	146	9
12/16/2006	18:05	159	9
12/17/2006	8:34	163	9
12/17/2006	14:47	160	9
12/18/2006	9:16	149	9
12/18/2006	12:21	179	9
12/18/2006	12:27	161	9
12/20/2006	15:27	155	9
12/20/2006	16:33	141	9
12/21/2006	10:24	143	9
12/21/2006	15:22	148	9
Rattlesnake Creek Sand Uranium 100 ppm			
12/4/2006	12:20	105	3
12/4/2006	17:47	101	3
12/5/2006	8:22	98	3
Rattlesnake Creek Sand Uranium 200 ppm			
12/4/2006	12:12	193	4
12/4/2006	17:41	190	4
12/5/2006	8:24	193	4
12/12/2006	17:23	191	4

Table 4-12. XRF Daily Calibration Results (continued)

Date	Time	Result (ppm)	Measurement Error (ppm)
Rattlesnake Creek Silt Uranium 200 ppm			
12/4/2006	12:17	179	5
12/4/2006	17:44	186	5
12/5/2006	8:27	182	5
12/6/2006	8:12	176	5
12/6/2006	17:30	175	5
12/7/2006	8:18	186	5
12/7/2006	17:32	178	5
12/8/2006	7:58	188	6
12/8/2006	17:50	184	5
12/9/2006	16:19	189	6

Notes:
Count time = 120 seconds
Measurement error reported as 1-sigma

Table 4-13. Summary of XRF Uranium and Molybdenum Results

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA03-SB0152	12/4/2006	0	0.25	<LOD	20.61	84.45	9.38	Composite sample HSSB1495 (0-1.25 ft); Biased sample HSSB1494 (0.25-0.75 ft) removed.
	12/4/2006	0.25	0.75	24.07	6.62	114.10	9.54	
	12/4/2006	0.75	1.25	<LOD	18.46	45.07	7.25	
	12/18/2006	1.5	2	21.93	6.88	70.74	8.96	Biased sample HSSB1591 (1.5-2 ft)
	12/17/2006	2	2.5	<LOD	18.93	23.08	7.29	Composite sample HSSB1589 (2-4.5 ft)
	12/17/2006	2.5	3	<LOD	18.63	<LOD	20.54	
	12/17/2006	3	3.5	<LOD	18.46	27.50	7.12	
	12/17/2006	3.5	4	<LOD	18.28	<LOD	19.47	
	12/17/2006	4	4.5	<LOD	17.89	<LOD	19.17	
	12/17/2006	4.5	5	<LOD	18.32	<LOD	19.41	Biased sample HSSB1588 (4.5-5 ft)
	12/4/2006	5	5.5	<LOD	18.83	<LOD	20.16	Composite sample HSSB1496 (5-6 ft)
	12/4/2006	5.5	6	<LOD	18.06	<LOD	18.89	
	12/4/2006	6	6.5	<LOD	18.12	<LOD	19.45	Composite sample HSSB1497 (6-8 ft)
	12/4/2006	6.5	7	<LOD	17.57	<LOD	18.72	
	12/4/2006	7	7.5	<LOD	18.52	<LOD	19.94	
	12/4/2006	7.5	8	<LOD	18.00	<LOD	19.05	
IA03-SB0153	12/17/2006	0	0.5	<LOD	22.66	128.19	11.39	Composite sample HSSB1500 (0-2 ft); Biased sample HSSB1498 (0-0.5 ft) removed.
	12/17/2006	0.5	1	<LOD	18.55	<LOD	20.45	
	12/17/2006	1	1.5	<LOD	18.77	<LOD	20.61	
	12/17/2006	1.5	2	<LOD	18.34	<LOD	19.54	
	12/17/2006	2	2.5	<LOD	18.44	<LOD	19.95	Composite sample HSSB1501 (2-4 ft)
	12/17/2006	2.5	3	<LOD	18.48	<LOD	19.29	
	12/17/2006	3	3.5	<LOD	18.24	<LOD	19.81	
	12/17/2006	3.5	4	<LOD	18.20	<LOD	19.71	
	12/17/2006	4	4.5	<LOD	18.66	<LOD	19.80	Composite sample HSSB1502 (4-6 ft); Biased sample HSSB1499 (5.5-6 ft) removed.
	12/17/2006	5	5.5	<LOD	19.69	<LOD	22.26	
	12/17/2006	5.5	6	<LOD	20.58	60.44	8.64	
	12/17/2006	6	6.5	<LOD	19.01	28.09	7.28	Composite sample HSSB1503 (6-8 ft)
	12/17/2006	6.5	7	<LOD	18.31	<LOD	18.67	
	12/17/2006	7	7.5	<LOD	18.14	<LOD	19.81	
	12/17/2006	7.5	8	<LOD	18.27	<LOD	19.92	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA03-SB0153	12/17/2006	8	8.5	<LOD	17.96	<LOD	19.82	No sample collected.
	12/17/2006	8.5	9	<LOD	18.08	<LOD	20.35	
IA03-SB0154	12/18/2006	0	0.5	21.82	6.83	72.04	8.72	Composite sample HSSB1505 (0-2 ft); Biased sample HSSB1504 (0-0.5 ft) removed.
	12/18/2006	0.5	1	<LOD	20.51	64.55	8.82	
	12/18/2006	1	1.5	<LOD	18.27	<LOD	19.70	
	12/18/2006	1.5	2	<LOD	18.16	<LOD	19.55	
	12/18/2006	2	2.5	<LOD	18.39	<LOD	19.51	Composite sample HSSB1506 (2-4 ft)
	12/18/2006	2.5	3	<LOD	18.46	<LOD	19.75	
	12/18/2006	3	3.5	<LOD	18.13	<LOD	19.47	
	12/18/2006	3.5	4	<LOD	19.05	<LOD	20.48	
	12/18/2006	4	4.5	<LOD	19.23	<LOD	21.83	Composite sample HSSB1507 (4-6 ft)
	12/18/2006	4.5	5	<LOD	19.96	<LOD	22.33	
	12/18/2006	5	5.5	<LOD	18.88	<LOD	21.78	
	12/18/2006	5.5	6	<LOD	18.32	<LOD	19.50	
	12/18/2006	6	6.5	<LOD	18.07	<LOD	19.29	Composite sample HSSB1508 (6-7.5 ft)
	12/18/2006	6.5	7	<LOD	18.34	<LOD	19.94	
	12/18/2006	7	7.5	<LOD	18.38	<LOD	19.26	
IA03-SB0155	12/15/2006	0.5	1	42.44	7.65	366.42	15.86	Composite sample HSSB1511 (0.5-2 ft); Biased sample HSSB1509 (0.5-1 ft) removed.
	12/15/2006	1	1.5	<LOD	18.56	32.58	7.31	
	12/15/2006	1.5	2	<LOD	17.79	<LOD	19.36	
	12/15/2006	2	2.5	<LOD	17.68	<LOD	18.49	Composite sample HSSB1512 (2-4 ft)
	12/15/2006	2.5	3	<LOD	18.14	<LOD	19.44	
	12/15/2006	3	3.5	<LOD	18.04	<LOD	18.57	
	12/15/2006	3.5	4	<LOD	17.98	24.22	6.76	
	12/15/2006	4	4.5	<LOD	17.35	<LOD	18.43	Composite sample HSSB1513 (4-6 ft); Biased sample HSSB1510 (5-5.5 ft) removed.
	12/15/2006	4.5	5	<LOD	17.81	<LOD	18.58	
	12/15/2006	5	5.5	<LOD	18.02	24.16	6.89	
	12/15/2006	5.5	6	<LOD	17.79	<LOD	18.86	
	12/15/2006	6	6.5	<LOD	17.92	<LOD	19.10	Composite sample HSSB1587 (6-7.5 ft)
	12/14/2006	6.5	7	<LOD	17.80	<LOD	18.28	
	12/14/2006	7	7.5	<LOD	17.54	<LOD	18.87	
IA03-SB0156	12/9/2006	0	0.5	<LOD	22.83	<LOD	24.02	Composite sample HSSB1519 (0-1 ft)
	12/9/2006	0.5	1	<LOD	25.40	<LOD	28.30	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA03-SB0157	12/9/2006	0	0.5	37.13	7.47	<LOD	22.08	Composite sample HSSB1518 (0-2 ft)
	12/9/2006	0.5	1	37.35	7.75	<LOD	22.95	
	12/9/2006	1	1.5	26.66	7.27	<LOD	21.24	
	12/9/2006	1.5	2	<LOD	23.37	<LOD	26.65	
IA04-SB0057	12/4/2006	0	0.5	<LOD	20.49	<LOD	20.08	Composite sample HSSB1464 (0-2 ft)
	12/4/2006	0.5	1	<LOD	22.00	<LOD	21.96	
	12/5/2006	1	1.5	<LOD	19.57	<LOD	17.47	
	12/5/2006	1.5	2	<LOD	18.44	<LOD	14.19	
	12/5/2006	2	2.5	<LOD	19.01	<LOD	14.20	Composite sample HSSB1465 (2-3.75 ft)
	12/5/2006	2.5	3	<LOD	18.56	<LOD	14.50	
	12/5/2006	3	3.5	<LOD	18.90	<LOD	14.41	
	12/5/2006	3.5	3.75	<LOD	19.41	<LOD	15.42	
	12/16/2006	4	4.5	<LOD	19.29	<LOD	17.76	Composite sample HSSB1475 (4-5 ft)
	12/16/2006	4.5	5	<LOD	19.03	<LOD	18.69	
	12/5/2006	5	5.5	<LOD	19.10	<LOD	16.68	Composite sample HSSB1466 (5-6 ft)
	12/5/2006	5.5	6	<LOD	18.11	<LOD	18.51	
	12/5/2006	6	6.5	<LOD	18.31	<LOD	17.68	Composite sample HSSB1467 (6-8 ft)
	12/5/2006	6.5	7	<LOD	16.95	<LOD	16.79	
	12/5/2006	7	7.5	<LOD	17.61	<LOD	17.42	
	12/5/2006	7.5	8	<LOD	16.50	<LOD	15.92	
IA04-SB0058	12/5/2006	0	0.5	<LOD	17.74	<LOD	14.65	Composite sample HSSB1468 (0-2 ft)
	12/5/2006	0.5	1	<LOD	19.62	<LOD	18.63	
	12/5/2006	1	1.5	<LOD	20.91	<LOD	21.51	
	12/5/2006	1.5	2	<LOD	19.95	<LOD	20.46	
	12/5/2006	2	2.5	<LOD	18.43	<LOD	15.83	Composite sample HSSB1469 (2-4 ft)
	12/5/2006	2.5	3	<LOD	17.88	<LOD	14.14	
	12/5/2006	3	3.5	<LOD	18.30	<LOD	14.47	
	12/5/2006	3.5	4	<LOD	18.30	<LOD	14.15	
	12/16/2006	4	4.5	<LOD	18.26	<LOD	14.09	Composite sample HSSB1590 (4-5 ft)
	12/16/2006	4.5	5	<LOD	18.42	<LOD	13.59	
	12/5/2006	5	5.5	<LOD	18.37	<LOD	15.53	Composite sample HSSB1470 (5-6 ft)
	12/5/2006	5.5	6	<LOD	19.64	<LOD	17.82	
	12/5/2006	6	6.5	25.23	6.17	<LOD	16.24	Composite sample HSSB1471 (6-8 ft)
	12/5/2006	6.5	7	<LOD	15.60	<LOD	13.91	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA04-SB0058	12/5/2006	7	7.5	<LOD	15.44	<LOD	15.99	Composite sample HSSB1471 (6-8 ft) (continued)
	12/5/2006	7.5	8	<LOD	15.65	<LOD	15.24	
IA04-SB0059	12/17/2006	0	0.5	<LOD	19.18	<LOD	17.91	Composite sample HSSB1478 (0-2 ft)
	12/17/2006	0.5	1	<LOD	18.75	<LOD	18.95	
	12/17/2006	1	1.5	<LOD	20.31	<LOD	22.04	
	12/17/2006	1.5	2	<LOD	18.15	<LOD	18.73	
	12/17/2006	2	2.5	<LOD	18.25	<LOD	18.91	Composite sample HSSB1476 (2-4 ft)
	12/17/2006	2.5	3	<LOD	18.22	<LOD	18.88	
	12/17/2006	3	3.5	<LOD	18.17	<LOD	19.34	
	12/17/2006	3.5	4	<LOD	18.61	<LOD	18.29	
	12/17/2006	4	4.5	<LOD	17.69	<LOD	17.18	Composite sample HSSB1477 (4-6 ft)
	12/17/2006	4.5	5	<LOD	17.95	<LOD	17.48	
	12/17/2006	5	5.5	<LOD	18.30	<LOD	17.77	
	12/17/2006	5.5	6	<LOD	18.10	<LOD	17.57	
	12/17/2006	6	6.5	<LOD	17.77	<LOD	18.07	Composite sample HSSB1479 (6-7 ft)
	12/17/2006	6.5	7	<LOD	17.63	<LOD	17.24	
	12/17/2006	9	9.5	<LOD	18.21	<LOD	17.64	No sample collected.
	12/17/2006	9.5	10	<LOD	18.11	<LOD	17.22	
IA04-SB0060	12/16/2006	0	0.5	22.25	6.60	<LOD	16.84	Composite sample HSSB1472 (0-2 ft)
	12/16/2006	0.5	1	<LOD	24.71	<LOD	19.94	
	12/16/2006	1	1.5	55.95	6.93	<LOD	17.40	
	12/16/2006	1.5	2	<LOD	18.07	<LOD	16.86	
	12/16/2006	2	2.5	105.22	7.25	<LOD	15.27	Composite sample HSSB1473 [Dup HSSB9114] (2-4 ft)
	12/16/2006	2.5	3	99.67	7.35	<LOD	17.56	
	12/16/2006	3	3.5	34.28	6.05	<LOD	15.44	
	12/16/2006	3.5	4	<LOD	16.07	<LOD	13.32	
	12/16/2006	4	4.5	21.98	5.50	<LOD	13.37	Composite sample HSSB1474 (4-5.5 ft)
	12/16/2006	4.5	5	<LOD	18.42	<LOD	14.55	
	12/16/2006	5	5.5	<LOD	17.38	<LOD	14.03	
IA04-SB0061	12/12/2006	0	0.5	<LOD	18.93	<LOD	16.08	Composite sample HSSB1473 [Dup HSSB9114] (2-4 ft)
	12/12/2006	0.5	1	<LOD	18.75	<LOD	14.85	
	12/12/2006	1	1.5	<LOD	20.20	<LOD	19.97	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA04-SB0061	12/12/2006	1.5	2	<LOD	21.43	<LOD	22.00	Composite sample HSSB1473 [Dup HSSB9114] (2-4 ft) (continued)
	12/12/2006	2	2.5	<LOD	18.30	<LOD	14.53	Composite sample HSSB1487 (2-4 ft)
	12/12/2006	2.5	3	<LOD	17.76	<LOD	14.14	
	12/12/2006	3	3.5	<LOD	18.67	<LOD	15.21	
	12/12/2006	3.5	4	<LOD	18.51	<LOD	15.30	
	12/12/2006	4	4.5	<LOD	18.15	<LOD	14.68	Composite sample HSSB1488 (4-6 ft)
	12/14/2006	4.5	5	<LOD	17.99	<LOD	15.30	
	12/14/2006	5	5.5	<LOD	18.08	<LOD	14.68	
	12/14/2006	5.5	6	<LOD	18.06	<LOD	14.29	
IA04-SB0062	12/14/2006	0	0.5	<LOD	18.18	<LOD	15.79	Composite sample HSSB1480 (0-2 ft)
	12/14/2006	0.5	1	<LOD	20.25	<LOD	19.12	
	12/14/2006	1	1.5	<LOD	17.68	<LOD	16.82	
	12/14/2006	1.5	2	<LOD	19.40	<LOD	19.27	
	12/14/2006	2	2.5	<LOD	18.48	<LOD	20.12	Composite sample HSSB1481 [Dup HSSB9116] (2-4 ft)
	12/14/2006	2.5	3	<LOD	18.92	<LOD	17.00	
	12/14/2006	3	3.5	<LOD	17.83	<LOD	13.41	
	12/14/2006	3.5	4	21.76	6.55	<LOD	23.79	
	12/14/2006	4	4.5	<LOD	19.25	<LOD	22.06	Composite sample HSSB1482 (4-6 ft)
	12/14/2006	4.5	5	<LOD	18.12	<LOD	18.74	
	12/14/2006	5	5.5	<LOD	16.99	<LOD	17.38	
	12/14/2006	5.5	6	<LOD	17.32	<LOD	18.11	
	12/14/2006	6	6.5	<LOD	17.70	<LOD	17.86	Composite sample HSSB1483 (6-8 ft)
	12/16/2006	7.5	8	<LOD	17.34	<LOD	18.66	
	12/16/2006	8	8.5	<LOD	20.74	<LOD	21.37	Composite sample HSSB1484 (8-10 ft); Biased sample HSSB1485 (9-9.5 ft) removed.
	12/16/2006	8.5	9	<LOD	18.06	<LOD	18.43	
	12/16/2006	9	9.5	<LOD	18.34	<LOD	18.70	
	12/16/2006	9.5	10	<LOD	18.19	<LOD	18.51	
IA04-SB0063	12/9/2006	0	0.5	<LOD	21.32	<LOD	22.21	Composite sample HSSB1520 (0-1.5 ft)
	12/9/2006	0.5	1	<LOD	20.93	<LOD	19.18	
	12/9/2006	1	1.5	<LOD	18.93	<LOD	18.85	
	12/9/2006	1	1.5	41.62	7.25	330.29	14.55	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA04-SB0063	12/9/2006	0.5	1	<LOD	18.31	<LOD	18.19	Biased sample HSSB1521 (1-1.5 ft) removed.
	12/9/2006	1	1.5	41.62	7.25	330.29	14.55	
	12/9/2006	1.5	2	27.25	6.52	166.35	10.27	
IA04-SB0065	12/9/2006	0	0.5	<LOD	17.77	<LOD	15.66	Composite sample HSSB1523 [Dup HSSB9113] (0-2 ft)
	12/9/2006	0.5	1	<LOD	17.77	<LOD	15.82	
	12/9/2006	1	1.5	<LOD	17.71	<LOD	15.97	
	12/9/2006	1.5	2	<LOD	17.45	<LOD	16.09	
IA05-SB0057	12/9/2006	0	0.5	<LOD	19.80	<LOD	20.17	Composite sample HSSB1515 [Dup HSSB9112] (0-2 ft)
	12/9/2006	0.5	1	<LOD	18.28	<LOD	18.37	
	12/9/2006	1	1.5	<LOD	18.30	<LOD	19.01	
	12/9/2006	1.5	2	<LOD	18.11	<LOD	17.95	
IA05-SB0058	12/9/2006	0	0.5	<LOD	19.20	<LOD	20.43	Composite sample HSSB1514 (0-2 ft)
	12/9/2006	0.5	1	<LOD	18.17	<LOD	18.03	
	12/9/2006	1	1.5	<LOD	18.12	<LOD	18.31	
	12/9/2006	1.5	2	<LOD	18.05	<LOD	18.26	
IA05-SB0059	12/9/2006	0	0.5	<LOD	18.16	<LOD	18.76	Composite sample HSSB1517 (0-2 ft)
	12/9/2006	0.5	1	<LOD	18.31	<LOD	19.66	
	12/9/2006	1	1.5	<LOD	18.13	<LOD	17.23	
	12/9/2006	1.5	2	<LOD	18.16	<LOD	17.51	
IA05-SB0060	12/9/2006	0	0.5	<LOD	18.45	<LOD	18.80	Composite sample HSSB1516 (0-2 ft)
	12/9/2006	0.5	1	<LOD	18.11	<LOD	18.04	
	12/9/2006	1	1.5	<LOD	18.14	<LOD	18.25	
	12/9/2006	1.5	2	<LOD	18.03	<LOD	18.71	
IA06-SB0012	12/5/2006	0	0.5	<LOD	16.79	<LOD	14.05	Discrete sample HSSB1544 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	16.30	<LOD	14.06	Composite sample HSSB1554 [Dup HSSB9105] (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	16.75	<LOD	14.30	
	12/6/2006	1.5	2	<LOD	17.06	<LOD	15.10	
	12/6/2006	2	2.5	<LOD	16.87	<LOD	14.43	
	12/6/2006	2.5	3	<LOD	18.09	<LOD	16.33	
	12/6/2006	3	3.5	<LOD	18.44	<LOD	17.96	
	12/6/2006	5	5.5	<LOD	17.12	<LOD	15.10	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0012	12/6/2006	5.5	6	<LOD	17.42	<LOD	15.27	Composite sample HSSB1554 [Dup HSSB9105] (0.5-8 ft) (continued)
	12/6/2006	6	6.5	<LOD	18.32	<LOD	16.19	
	12/6/2006	6.5	7	<LOD	17.63	<LOD	15.48	
	12/6/2006	7	7.5	<LOD	19.98	<LOD	18.03	
	12/6/2006	7.5	8	<LOD	18.48	<LOD	16.22	
IA06-SB0013	12/5/2006	0	0.5	<LOD	16.62	<LOD	14.02	Discrete sample HSSB1524 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	16.11	<LOD	13.62	Composite sample HSSB1557 [Dup HSSB9107] (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	16.38	<LOD	13.55	
	12/6/2006	1.5	2	<LOD	16.64	<LOD	14.12	
	12/6/2006	2	2.5	<LOD	16.86	<LOD	14.75	
	12/6/2006	2.5	3	<LOD	16.63	<LOD	14.09	
	12/6/2006	3	3.5	<LOD	16.92	<LOD	14.33	
	12/6/2006	5	5.5	<LOD	16.57	<LOD	14.34	
	12/6/2006	5.5	6	<LOD	16.72	<LOD	14.09	
	12/6/2006	6	6.5	<LOD	17.42	<LOD	15.29	
	12/6/2006	6.5	7	<LOD	18.27	<LOD	15.93	
	12/6/2006	7	7.5	<LOD	18.50	<LOD	15.83	
	12/6/2006	7.5	8	<LOD	18.58	<LOD	17.28	
IA06-SB0014	12/5/2006	0	0.5	<LOD	16.06	<LOD	13.04	Discrete sample HSSB1541 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	15.38	<LOD	12.44	Composite sample HSSB1555 (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	15.79	<LOD	12.86	
	12/6/2006	1.5	2	<LOD	15.84	<LOD	13.48	
	12/6/2006	2	2.5	<LOD	16.69	<LOD	14.67	
	12/6/2006	2.5	3	<LOD	17.08	<LOD	14.19	
	12/6/2006	3	3.5	<LOD	16.04	<LOD	13.30	
	12/6/2006	3.5	4	<LOD	16.51	<LOD	14.37	
	12/6/2006	5	5.5	<LOD	16.44	<LOD	13.49	
	12/6/2006	5.5	6	<LOD	15.92	<LOD	12.88	
	12/6/2006	6	6.5	<LOD	16.07	<LOD	13.42	
	12/6/2006	6.5	7	<LOD	16.18	<LOD	13.95	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0014	12/6/2006	7	7.5	<LOD	17.21	<LOD	15.53	Composite sample HSSB1555 (0.5-8 ft) (continued)
	12/6/2006	7.5	8	<LOD	16.61	<LOD	14.46	
IA06-SB0015	12/5/2006	0	0.5	<LOD	16.11	<LOD	13.71	Discrete sample HSSB1528 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	17.84	<LOD	16.57	Composite sample HSSB1558 (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	17.33	<LOD	15.54	
	12/6/2006	1.5	2	<LOD	16.31	<LOD	13.66	
	12/6/2006	2	2.5	<LOD	16.37	<LOD	13.79	
	12/6/2006	2.5	3	<LOD	16.92	<LOD	15.03	
	12/6/2006	3	3.5	<LOD	16.39	<LOD	13.91	
	12/6/2006	5	5.5	<LOD	17.07	<LOD	14.18	
	12/6/2006	5.5	6	<LOD	17.16	<LOD	14.94	
	12/6/2006	6	6.5	<LOD	16.92	<LOD	14.62	
	12/6/2006	6.5	7	<LOD	16.71	<LOD	14.59	
	12/6/2006	7	7.5	<LOD	17.14	<LOD	15.49	
	12/6/2006	7.5	8	<LOD	17.28	<LOD	15.82	
IA06-SB0016	12/5/2006	0	0.5	<LOD	17.25	<LOD	15.36	Discrete sample HSSB1530 (0-0.5 ft)
	12/7/2006	0.5	1	<LOD	17.12	<LOD	15.08	Composite sample HSSB1563 (0.5-8 ft)
	12/7/2006	1	1.5	<LOD	16.48	<LOD	13.67	
	12/7/2006	1.5	2	<LOD	16.42	<LOD	13.98	
	12/7/2006	2	2.5	<LOD	16.72	<LOD	13.88	
	12/7/2006	2.5	3	<LOD	17.16	<LOD	14.60	
	12/7/2006	3	3.5	<LOD	16.72	<LOD	14.19	
	12/7/2006	5	5.5	<LOD	17.00	<LOD	14.63	
	12/7/2006	5.5	6	<LOD	16.66	<LOD	14.36	
	12/7/2006	6	6.5	<LOD	17.36	<LOD	15.16	
	12/7/2006	6.5	7	<LOD	18.03	<LOD	15.71	
	12/7/2006	7	7.5	<LOD	18.39	<LOD	16.82	
	12/7/2006	7.5	8	<LOD	17.06	<LOD	15.28	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0017	12/5/2006	0	0.5	<LOD	18.08	<LOD	17.15	Discrete sample HSSB1533 (0-0.5 ft)
	12/8/2006	0.5	1	<LOD	17.58	<LOD	16.58	Composite sample HSSB1570 (0.5-8 ft)
	12/8/2006	1	1.5	<LOD	17.85	<LOD	16.54	
	12/8/2006	1.5	2	<LOD	16.52	<LOD	14.64	
	12/8/2006	2	2.5	<LOD	16.14	<LOD	14.05	
	12/8/2006	2.5	3	<LOD	17.23	<LOD	15.09	
	12/8/2006	3	3.5	<LOD	17.80	<LOD	15.65	
	12/8/2006	3.5	4	<LOD	16.62	<LOD	13.96	
	12/8/2006	5	5.5	<LOD	17.15	<LOD	15.01	
	12/8/2006	5.5	6	<LOD	17.36	<LOD	14.95	
	12/8/2006	6	6.5	<LOD	16.85	<LOD	15.51	
	12/8/2006	6.5	7	<LOD	16.18	<LOD	13.43	
	12/8/2006	7	7.5	<LOD	16.28	<LOD	13.66	
	12/8/2006	7.5	8	<LOD	16.25	<LOD	13.22	
IA06-SB0018	12/5/2006	0	0.5	<LOD	17.75	<LOD	16.16	Discrete sample HSSB1535 (0-0.5 ft)
	12/9/2006	0.5	1	<LOD	17.61	<LOD	16.38	Composite sample HSSB1579 (0.5-8 ft)
	12/9/2006	1	1.5	<LOD	17.41	<LOD	15.93	
	12/9/2006	1.5	2	<LOD	18.11	<LOD	16.21	
	12/9/2006	2	2.5	<LOD	17.92	<LOD	16.02	
	12/9/2006	2.5	3	<LOD	16.79	<LOD	14.31	
	12/9/2006	3	3.5	<LOD	16.47	<LOD	14.19	
	12/9/2006	3.5	4	<LOD	16.47	<LOD	13.85	
	12/9/2006	5	5.5	<LOD	16.36	<LOD	13.65	
	12/9/2006	5.5	6	<LOD	16.23	<LOD	13.81	
	12/9/2006	6	6.5	<LOD	14.71	<LOD	12.42	
	12/9/2006	6.5	7	<LOD	16.45	<LOD	14.05	
	12/9/2006	7	7.5	<LOD	16.67	<LOD	14.28	
	12/9/2006	7.5	8	<LOD	16.17	<LOD	13.67	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0019	12/5/2006	0	0.5	<LOD	16.16	<LOD	13.77	Discrete sample HSSB1532 (0-0.5 ft)
	12/7/2006	0.5	1	<LOD	16.88	<LOD	14.34	Composite sample HSSB1562 (0.5-8 ft)
	12/7/2006	1	1.5	<LOD	16.61	<LOD	14.22	
	12/7/2006	1.5	2	<LOD	16.29	<LOD	13.39	
	12/7/2006	2	2.5	<LOD	17.73	<LOD	15.61	
	12/7/2006	2.5	3	<LOD	17.64	<LOD	15.75	
	12/7/2006	3	3.5	<LOD	17.48	<LOD	15.64	
	12/7/2006	5	5.5	<LOD	17.14	<LOD	14.26	
	12/7/2006	5.5	6	<LOD	17.19	<LOD	14.09	
	12/7/2006	6	6.5	<LOD	16.81	<LOD	14.06	
	12/7/2006	6.5	7	<LOD	16.96	<LOD	14.38	
	12/7/2006	7	7.5	<LOD	15.97	<LOD	13.11	
	12/7/2006	7.5	8	<LOD	17.36	<LOD	14.20	
IA06-SB0020	12/5/2006	0	0.5	<LOD	17.90	<LOD	16.20	Discrete sample HSSB1536 (0-0.5 ft)
	12/8/2006	0.5	1	<LOD	18.04	<LOD	16.28	Composite sample HSSB1569 [Dup HSSB9110] (0.5-8 ft)
	12/8/2006	1	1.5	<LOD	17.70	<LOD	16.07	
	12/8/2006	1.5	2	<LOD	17.84	<LOD	15.57	
	12/8/2006	2	2.5	<LOD	17.92	<LOD	16.24	
	12/8/2006	2.5	3	<LOD	17.55	<LOD	15.65	
	12/8/2006	3	3.5	<LOD	17.61	<LOD	16.09	
	12/8/2006	3.5	4	<LOD	17.44	<LOD	15.57	
	12/8/2006	5	5.5	<LOD	17.53	<LOD	15.75	
	12/8/2006	5.5	6	<LOD	17.12	<LOD	14.95	
	12/8/2006	6	6.5	<LOD	17.25	<LOD	15.08	
	12/8/2006	6.5	7	<LOD	16.80	<LOD	14.22	
	12/8/2006	7	7.5	<LOD	16.95	<LOD	14.65	
	12/8/2006	7.5	8	<LOD	16.67	<LOD	14.10	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0021	12/5/2006	0	0.5	<LOD	20.93	<LOD	18.02	Discrete sample HSSB1550 (0-0.5 ft)
	12/7/2006	0.5	1	<LOD	22.43	<LOD	21.20	Composite sample HSSB1565 (0.5-8 ft)
	12/7/2006	1	1.5	<LOD	21.02	<LOD	20.05	
	12/7/2006	1.5	2	<LOD	17.83	<LOD	17.65	
	12/7/2006	2	2.5	<LOD	17.72	<LOD	16.70	
	12/7/2006	2.5	3	<LOD	17.64	<LOD	16.41	
	12/7/2006	3	3.5	<LOD	17.50	<LOD	16.29	
	12/7/2006	3.5	4	<LOD	18.07	<LOD	17.87	
	12/7/2006	5	5.5	<LOD	18.93	<LOD	17.52	
	12/7/2006	5.5	6	<LOD	18.20	<LOD	17.38	
	12/7/2006	6	6.5	<LOD	17.73	<LOD	16.27	
	12/7/2006	6.5	7	<LOD	17.69	<LOD	16.88	
	12/7/2006	7	7.5	<LOD	17.65	<LOD	15.94	
	12/7/2006	7.5	8	<LOD	17.42	<LOD	15.50	
IA06-SB0022	12/5/2006	0	0.5	<LOD	21.62	<LOD	20.45	Discrete sample HSSB1547 (0-0.5 ft)
	12/8/2006	0.5	1	<LOD	21.45	<LOD	18.53	Composite sample HSSB1568 (0.5-8 ft)
	12/8/2006	1	1.5	<LOD	18.08	<LOD	16.70	
	12/8/2006	1.5	2	<LOD	17.52	<LOD	15.80	
	12/8/2006	2	2.5	<LOD	17.89	<LOD	17.09	
	12/8/2006	2.5	3	<LOD	18.17	<LOD	18.50	
	12/8/2006	5	5.5	<LOD	18.47	<LOD	17.71	
	12/8/2006	5.5	6	<LOD	18.65	<LOD	18.21	
	12/8/2006	6	6.5	<LOD	18.11	<LOD	18.52	
	12/8/2006	6.5	7	<LOD	18.24	<LOD	18.25	
	12/8/2006	7	7.5	<LOD	17.88	<LOD	17.61	
	12/8/2006	7.5	8	<LOD	17.97	<LOD	17.74	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0023	12/5/2006	0	0.5	<LOD	18.50	<LOD	16.34	Discrete sample HSSB1548 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	18.20	<LOD	18.59	Composite sample HSSB1556 [Dup HSSB9106] (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	18.26	<LOD	18.03	
	12/6/2006	1.5	2	<LOD	18.23	<LOD	18.32	
	12/6/2006	2	2.5	<LOD	17.74	<LOD	16.70	
	12/6/2006	2.5	3	<LOD	17.76	<LOD	16.04	
	12/6/2006	3	3.5	<LOD	17.90	<LOD	17.27	
	12/6/2006	3.5	4	<LOD	18.24	<LOD	18.11	
	12/6/2006	4	4.5	<LOD	18.05	<LOD	17.59	
	12/6/2006	4.5	5	<LOD	18.22	<LOD	17.37	
	12/6/2006	5	5.5	<LOD	17.18	<LOD	15.86	
	12/6/2006	5.5	6	<LOD	17.85	<LOD	17.59	
	12/6/2006	6	6.5	<LOD	20.26	<LOD	20.40	
	12/6/2006	6.5	7	<LOD	18.22	<LOD	17.58	
	12/6/2006	7	7.5	<LOD	17.73	<LOD	17.08	
	12/6/2006	7.5	8	<LOD	18.37	<LOD	18.69	
IA06-SB0024	12/5/2006	0	0.5	<LOD	18.90	20.58	6.65	Discrete sample HSSB1546 (0-0.5 ft)
	12/7/2006	0.5	1	26.26	7.00	97.89	9.59	Composite sample HSSB1572 [Dup HSSB9111] (0.5-8 ft); Biased sample HSSB1571 (0.5-1 ft) removed.
	12/7/2006	1	1.5	<LOD	19.10	24.33	6.93	
	12/7/2006	1.5	2	<LOD	19.08	24.95	6.76	
	12/7/2006	2	2.5	<LOD	19.13	<LOD	17.93	
	12/7/2006	2.5	3	<LOD	18.84	<LOD	18.18	
	12/7/2006	3	3.5	<LOD	18.94	21.35	6.55	
	12/7/2006	3.5	4	<LOD	17.15	<LOD	15.61	
	12/7/2006	5	5.5	<LOD	17.57	<LOD	16.73	
	12/7/2006	5.5	6	<LOD	17.12	<LOD	15.15	
	12/7/2006	6	6.5	<LOD	16.43	<LOD	13.87	
	12/7/2006	6.5	7	<LOD	16.96	<LOD	15.11	
	12/7/2006	7	7.5	<LOD	18.05	<LOD	16.90	
	12/7/2006	7.5	8	<LOD	17.91	<LOD	16.45	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0024	12/17/2006	0.5	1	<LOD	19.58	90.33	8.81	Biased sample HSSB1592 (0.5-1 ft) for Mo.
IA06-SB0025	12/5/2006	0	0.5	<LOD	18.12	<LOD	16.83	Discrete sample HSSB1527 (0-0.5 ft)
	12/5/2006	0.5	1	<LOD	18.48	<LOD	18.95	Composite sample HSSB1553 [Dup HSSB9104] (0.5-8 ft)
	12/5/2006	1	1.5	<LOD	19.42	<LOD	19.79	
	12/5/2006	1.5	2	<LOD	19.02	<LOD	19.86	
	12/5/2006	2	2.5	<LOD	18.14	<LOD	18.11	
	12/5/2006	2.5	3	<LOD	19.06	<LOD	20.04	
	12/5/2006	3	3.5	<LOD	18.55	<LOD	19.09	
	12/5/2006	3.5	4	<LOD	18.46	<LOD	19.22	
	12/5/2006	5	5.5	<LOD	18.15	<LOD	17.90	
	12/5/2006	5.5	6	<LOD	18.34	<LOD	18.37	
	12/5/2006	6	6.5	<LOD	18.44	<LOD	18.40	
	12/5/2006	6.5	7	<LOD	18.64	<LOD	18.62	
	12/5/2006	7	7.5	<LOD	18.06	<LOD	19.06	
	12/5/2006	7.5	8	<LOD	18.34	<LOD	19.84	
IA06-SB0026	12/5/2006	0	0.5	<LOD	18.56	<LOD	18.55	Discrete sample HSSB1549 (0-0.5 ft)
	12/9/2006	0.5	1	<LOD	20.76	<LOD	24.73	Composite sample HSSB1578 (0.5-8 ft)
	12/9/2006	1	1.5	<LOD	19.63	<LOD	21.45	
	12/9/2006	1.5	2	<LOD	18.58	<LOD	19.49	
	12/9/2006	2	2.5	<LOD	18.16	<LOD	17.82	
	12/9/2006	2.5	3	<LOD	17.19	<LOD	15.17	
	12/9/2006	3	3.5	<LOD	16.27	<LOD	13.85	
	12/9/2006	3.5	4	<LOD	16.71	<LOD	14.97	
	12/9/2006	5	5.5	<LOD	16.81	<LOD	14.59	
	12/9/2006	5.5	6	<LOD	17.55	<LOD	16.13	
	12/9/2006	6	6.5	<LOD	17.16	<LOD	14.58	
	12/9/2006	6.5	7	<LOD	18.05	<LOD	17.00	
	12/9/2006	7	7.5	<LOD	17.54	<LOD	15.77	
	12/9/2006	7.5	8	<LOD	16.29	<LOD	14.23	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0027	12/5/2006	0	0.5	<LOD	18.50	<LOD	16.90	Discrete sample HSSB1545 (0-0.5 ft)
	12/5/2006	0.5	1	<LOD	18.79	<LOD	17.86	Composite sample HSSB1552 (0.5-8 ft); Biased sample HSSB1551 (6.5-7 ft) removed.
	12/5/2006	1	1.5	<LOD	18.44	<LOD	16.71	
	12/5/2006	1.5	2	<LOD	18.71	<LOD	17.26	
	12/5/2006	2	2.5	<LOD	20.90	<LOD	19.51	
	12/5/2006	2.5	3	<LOD	19.25	<LOD	18.33	
	12/5/2006	5	5.5	<LOD	20.48	32.95	7.46	
	12/5/2006	5.5	6	<LOD	19.24	<LOD	18.23	
	12/5/2006	6	6.5	<LOD	20.88	51.00	7.97	
	12/5/2006	6.5	7	22.60	7.07	61.15	8.33	
	12/5/2006	7	7.5	<LOD	20.47	48.39	7.70	
	12/5/2006	7.5	8	<LOD	21.09	49.41	8.26	
	12/18/2006	0	0.5	<LOD	20.67	<LOD	19.81	No sample collected.
	12/18/2006	0.5	1	<LOD	19.25	<LOD	18.31	
	12/18/2006	1	1.5	<LOD	19.08	<LOD	17.84	
	12/18/2006	1.5	2	<LOD	18.95	<LOD	17.72	
	12/18/2006	2	2.5	<LOD	19.02	<LOD	17.80	
	12/18/2006	8	8.5	<LOD	19.61	48.44	7.37	Biased sample HSSB1594 (8-8.5 ft)
	12/18/2006	8.5	9	<LOD	19.53	40.23	7.21	Composite sample HSSB1595 (8.5-10.5 ft)
	12/18/2006	9	9.5	<LOD	17.03	<LOD	14.75	
	12/18/2006	9.5	10	<LOD	16.76	<LOD	14.84	
	12/18/2006	10	10.5	<LOD	17.17	<LOD	14.70	No sample collected.
	12/17/2006	12.5	13	<LOD	17.03	<LOD	15.22	
	12/17/2006	13	13.5	<LOD	17.85	<LOD	17.16	
	12/17/2006	13.5	14	<LOD	17.98	<LOD	16.91	Biased sample HSSB1593 (13.5-14 ft)
	12/17/2006	14	14.5	<LOD	17.33	<LOD	15.25	No sample collected.
	12/17/2006	14.5	15	<LOD	17.62	<LOD	15.95	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0028	12/5/2006	0	0.5	<LOD	17.96	<LOD	17.09	Discrete sample HSSB1538 (0-0.5 ft)
	12/7/2006	0.5	1	<LOD	19.21	<LOD	20.27	Composite sample HSSB1567 (0.5-8 ft)
	12/7/2006	1	1.5	<LOD	26.03	<LOD	39.24	
	12/7/2006	1.5	2	<LOD	20.36	<LOD	28.68	
	12/7/2006	2	2.5	<LOD	17.94	<LOD	20.35	
	12/7/2006	5	5.5	<LOD	18.88	<LOD	20.67	
	12/7/2006	5.5	6	<LOD	17.58	<LOD	16.19	
	12/7/2006	6	6.5	<LOD	16.90	<LOD	14.87	
	12/7/2006	6.5	7	<LOD	17.27	<LOD	15.31	
	12/7/2006	7	7.5	<LOD	16.67	<LOD	14.67	
	12/7/2006	7.5	8	<LOD	16.79	<LOD	14.85	
IA06-SB0029	12/5/2006	0	0.5	<LOD	18.34	<LOD	17.46	Discrete sample HSSB1542 (0-0.5 ft)
	12/8/2006	0.5	1	<LOD	18.44	<LOD	16.95	Composite sample HSSB1574 (0.5-8 ft)
	12/8/2006	1	1.5	<LOD	17.96	<LOD	16.74	
	12/8/2006	1.5	2	<LOD	17.57	<LOD	15.57	
	12/8/2006	2	2.5	<LOD	17.64	<LOD	16.26	
	12/8/2006	2.5	3	<LOD	17.73	<LOD	16.13	
	12/8/2006	3	3.5	<LOD	17.71	<LOD	16.19	
	12/8/2006	3.5	4	<LOD	17.72	<LOD	16.16	
	12/8/2006	4	4.5	<LOD	17.35	<LOD	15.91	
	12/8/2006	5	5.5	<LOD	17.92	<LOD	16.28	
	12/8/2006	5.5	6	<LOD	17.78	<LOD	16.72	
	12/8/2006	6	6.5	<LOD	17.19	<LOD	14.66	
	12/8/2006	6.5	7	<LOD	16.69	<LOD	14.01	
	12/8/2006	7	7.5	<LOD	17.39	<LOD	14.07	
	12/8/2006	7.5	8	<LOD	16.86	<LOD	14.90	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0030	12/5/2006	0	0.5	<LOD	17.12	<LOD	15.13	Discrete sample HSSB1534 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	18.45	<LOD	18.99	Composite sample HSSB1560 [Dup HSSB9109] (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	18.19	<LOD	18.14	
	12/6/2006	1.5	2	<LOD	18.19	<LOD	18.34	
	12/6/2006	2	2.5	<LOD	18.15	<LOD	18.50	
	12/6/2006	2.5	3	<LOD	18.03	<LOD	18.21	
	12/6/2006	3	3.5	<LOD	18.45	<LOD	17.31	
	12/6/2006	5	5.5	<LOD	18.51	<LOD	17.10	
	12/6/2006	5.5	6	<LOD	17.92	<LOD	16.26	
	12/6/2006	6	6.5	<LOD	17.94	<LOD	15.97	
	12/6/2006	6.5	7	<LOD	18.34	<LOD	17.01	
	12/6/2006	7	7.5	<LOD	17.88	<LOD	16.37	
	12/6/2006	7.5	8	<LOD	17.16	<LOD	14.71	
IA06-SB0031	12/5/2006	0	0.5	<LOD	19.44	<LOD	17.38	Discrete sample HSSB1540 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	19.01	<LOD	19.05	Composite sample HSSB1561 (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	19.83	<LOD	18.03	
	12/6/2006	1.5	2	<LOD	18.80	<LOD	19.60	
	12/6/2006	2	2.5	<LOD	18.98	<LOD	20.61	
	12/6/2006	2.5	3	<LOD	18.56	<LOD	20.51	
	12/6/2006	3	3.5	<LOD	18.77	<LOD	20.77	
	12/6/2006	3.5	4	<LOD	18.48	<LOD	20.54	
	12/6/2006	4	4.5	<LOD	18.26	<LOD	19.66	
	12/6/2006	5	5.5	<LOD	18.14	<LOD	19.84	
	12/6/2006	5.5	6	<LOD	17.60	<LOD	17.88	
	12/6/2006	6	6.5	<LOD	17.45	<LOD	15.94	
	12/6/2006	6.5	7	<LOD	17.25	<LOD	16.03	
	12/6/2006	7	7.5	<LOD	17.33	<LOD	15.84	
	12/6/2006	7.5	8	<LOD	17.03	<LOD	15.24	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0032	12/5/2006	0	0.5	18.59	5.99	<LOD	15.87	Discrete sample HSSB1526 (0-0.5 ft)
	12/8/2006	0.5	1	<LOD	17.83	<LOD	16.55	Composite sample HSSB1573 (0.5-8 ft)
	12/8/2006	1	1.5	<LOD	17.55	<LOD	16.53	
	12/8/2006	1.5	2	<LOD	17.66	<LOD	16.31	
	12/8/2006	2	2.5	<LOD	16.96	<LOD	15.76	
	12/8/2006	2.5	3	<LOD	17.15	<LOD	15.11	
	12/8/2006	3	3.5	<LOD	17.18	<LOD	15.58	
	12/8/2006	3.5	4	<LOD	16.43	<LOD	14.52	
	12/8/2006	5	5.5	<LOD	17.52	<LOD	15.82	
	12/8/2006	5.5	6	<LOD	17.00	<LOD	14.65	
	12/8/2006	6	6.5	<LOD	17.40	<LOD	16.34	
	12/8/2006	6.5	7	<LOD	17.17	<LOD	15.63	
	12/8/2006	7	7.5	<LOD	17.12	<LOD	15.11	
	12/8/2006	7.5	8	<LOD	17.00	<LOD	14.65	
IA06-SB0033	12/5/2006	0	0.5	<LOD	19.56	<LOD	17.61	Discrete sample HSSB1531 (0-0.5 ft)
	12/9/2006	0.5	1	<LOD	18.28	<LOD	17.12	Composite sample HSSB1577 (0.5-7.5 ft)
	12/9/2006	1	1.5	<LOD	17.90	<LOD	16.68	
	12/9/2006	1.5	2	<LOD	17.55	<LOD	16.17	
	12/9/2006	2	2.5	<LOD	17.29	<LOD	15.81	
	12/9/2006	2.5	3	<LOD	17.20	<LOD	15.44	
	12/9/2006	3	3.5	<LOD	17.46	<LOD	15.42	
	12/9/2006	5	5.5	<LOD	17.91	<LOD	15.99	
	12/9/2006	5.5	6	<LOD	17.27	<LOD	15.87	
	12/9/2006	6	6.5	<LOD	17.18	<LOD	15.65	
	12/9/2006	6.5	7	<LOD	17.50	<LOD	15.54	
	12/9/2006	7	7.5	<LOD	17.32	<LOD	15.46	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0034	12/5/2006	0	0.5	<LOD	17.83	<LOD	16.26	Discrete sample HSSB1543 (0-0.5 ft)
	12/8/2006	0.5	1	<LOD	16.88	<LOD	15.66	Composite sample HSSB1576 (0.5-8 ft)
	12/8/2006	1	1.5	<LOD	17.10	<LOD	15.91	
	12/8/2006	1.5	2	<LOD	17.39	<LOD	15.49	
	12/8/2006	2	2.5	<LOD	18.85	<LOD	17.72	
	12/8/2006	2.5	3	<LOD	21.53	<LOD	22.18	
	12/8/2006	5	5.5	<LOD	20.48	<LOD	19.51	
	12/8/2006	5.5	6	<LOD	16.45	<LOD	14.87	
	12/8/2006	6	6.5	<LOD	17.54	<LOD	16.39	
	12/8/2006	6.5	7	<LOD	17.42	<LOD	16.46	
	12/8/2006	7	7.5	<LOD	16.81	<LOD	15.29	
	12/8/2006	7.5	8	<LOD	16.81	<LOD	14.39	
IA06-SB0035	12/5/2006	0	0.5	<LOD	18.30	<LOD	17.59	Discrete sample HSSB1537 (0-0.5 ft)
	12/7/2006	0.5	1	<LOD	17.52	<LOD	16.15	Composite sample HSSB1566 (0.5-7.5 ft)
	12/7/2006	1	1.5	<LOD	17.77	<LOD	16.30	
	12/7/2006	1.5	2	<LOD	17.59	<LOD	16.22	
	12/7/2006	2	2.5	<LOD	18.12	<LOD	16.79	
	12/7/2006	2.5	3	<LOD	16.95	<LOD	15.49	
	12/7/2006	3	3.5	<LOD	17.70	<LOD	16.00	
	12/7/2006	3.5	4	<LOD	17.58	<LOD	15.96	
	12/7/2006	5	5.5	<LOD	17.28	<LOD	15.50	
	12/7/2006	5.5	6	<LOD	17.09	<LOD	14.83	
	12/7/2006	6	6.5	<LOD	16.91	<LOD	15.14	
	12/7/2006	6.5	7	<LOD	16.84	<LOD	14.15	
	12/7/2006	7	7.5	<LOD	17.43	<LOD	13.59	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0036	12/5/2006	0	0.5	<LOD	18.24	<LOD	16.80	Discrete sample HSSB1529 (0-0.5 ft)
	12/6/2006	0.5	1	<LOD	18.14	<LOD	16.98	Composite sample HSSB1559 [Dup HSSB9108] (0.5-8 ft)
	12/6/2006	1	1.5	<LOD	17.47	<LOD	15.81	
	12/6/2006	1.5	2	<LOD	17.41	<LOD	15.96	
	12/6/2006	2	2.5	<LOD	18.02	<LOD	15.86	
	12/6/2006	2.5	3	<LOD	17.54	<LOD	15.12	
	12/6/2006	3	3.5	<LOD	17.36	<LOD	15.52	
	12/6/2006	3.5	4	<LOD	17.45	<LOD	15.94	
	12/6/2006	4	4.5	<LOD	17.21	<LOD	15.15	
	12/6/2006	5	5.5	<LOD	17.29	<LOD	15.94	
	12/6/2006	5.5	6	<LOD	17.33	<LOD	15.36	
	12/6/2006	6	6.5	<LOD	17.27	<LOD	15.05	
	12/6/2006	6.5	7	<LOD	17.59	<LOD	15.55	
	12/6/2006	7	7.5	<LOD	17.18	<LOD	14.30	
	12/6/2006	7.5	8	<LOD	16.84	<LOD	14.73	
IA06-SB0037	12/5/2006	0	0.5	<LOD	18.18	<LOD	16.03	Discrete sample HSSB1525 (0-0.5 ft)
	12/8/2006	0.5	1	<LOD	19.45	<LOD	18.09	Composite sample HSSB1575 (0.5-8 ft)
	12/8/2006	1	1.5	<LOD	17.38	<LOD	15.09	
	12/8/2006	1.5	2	<LOD	16.44	<LOD	13.20	
	12/8/2006	2	2.5	<LOD	17.00	<LOD	14.55	
	12/8/2006	2.5	3	<LOD	18.16	<LOD	16.12	
	12/8/2006	5	5.5	<LOD	17.22	<LOD	14.97	
	12/8/2006	5.5	6	<LOD	17.57	<LOD	16.32	
	12/8/2006	6	6.5	<LOD	17.76	<LOD	15.80	
	12/8/2006	6.5	7	<LOD	16.42	<LOD	13.93	
	12/8/2006	7	7.5	<LOD	17.05	<LOD	15.10	
	12/8/2006	7.5	8	<LOD	16.98	<LOD	14.61	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0038	12/5/2006	0	0.5	<LOD	18.81	<LOD	17.62	Discrete sample HSSB1539 (0-0.5 ft)
	12/7/2006	0.5	1	<LOD	18.42	<LOD	17.78	Composite sample HSSB1564 (0.5-8 ft)
	12/7/2006	1	1.5	<LOD	18.22	<LOD	16.88	
	12/7/2006	1.5	2	<LOD	18.33	<LOD	15.96	
	12/7/2006	2	2.5	<LOD	18.09	<LOD	17.27	
	12/7/2006	2.5	3	<LOD	17.85	<LOD	16.88	
	12/7/2006	5	5.5	<LOD	17.64	<LOD	14.85	
	12/7/2006	5.5	6	<LOD	17.54	<LOD	16.14	
	12/7/2006	6	6.5	<LOD	17.35	<LOD	15.48	
	12/7/2006	6.5	7	<LOD	17.32	<LOD	14.81	
	12/7/2006	7	7.5	<LOD	17.21	<LOD	15.48	
	12/7/2006	7.5	8	<LOD	16.99	<LOD	14.23	
IA06-SB0039	12/16/2006	0.5	1	47.41	6.71	23.77	6.58	Discrete sample HSSB1580 (0.5-1 ft)
	12/16/2006	1	1.5	<LOD	18.78	<LOD	18.98	Composite sample HSSB1582 [Dup HSSB9115] (1-8 ft); Biased sample HSSB1581 (4.5-5 ft) removed.
	12/16/2006	1.5	2	<LOD	18.56	<LOD	19.46	
	12/16/2006	2	2.5	<LOD	18.65	<LOD	19.62	
	12/16/2006	2.5	3	<LOD	18.72	31.75	6.94	
	12/16/2006	3	3.5	<LOD	18.30	21.62	6.39	
	12/16/2006	3.5	4	<LOD	18.93	27.63	6.94	
	12/16/2006	4	4.5	<LOD	18.82	40.19	7.28	
	12/16/2006	4.5	5	<LOD	19.04	41.70	7.53	
	12/16/2006	5	5.5	<LOD	18.46	32.47	6.91	
	12/16/2006	5.5	6	<LOD	18.39	27.14	6.69	
	12/16/2006	6	6.5	<LOD	17.68	<LOD	16.02	
	12/16/2006	6.5	7	<LOD	17.12	<LOD	15.07	
	12/16/2006	7	7.5	<LOD	17.22	<LOD	15.21	
	12/16/2006	7.5	8	<LOD	17.77	<LOD	16.00	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0039	12/16/2006	8	8.5	<LOD	17.43	<LOD	15.74	No sample collected.
	12/16/2006	8.5	9	<LOD	17.26	<LOD	15.55	
	12/16/2006	9	9.5	<LOD	17.26	<LOD	14.70	
	12/16/2006	9.5	10	<LOD	17.36	<LOD	15.65	
	12/16/2006	11.5	12	<LOD	17.61	<LOD	16.71	
	12/16/2006	12	12.5	<LOD	17.41	<LOD	15.41	
	12/16/2006	12.5	13	<LOD	16.71	<LOD	14.36	
	12/16/2006	13	13.5	<LOD	17.05	<LOD	14.61	
	12/16/2006	13.5	14	<LOD	16.96	<LOD	14.69	
	12/16/2006	14	14.5	<LOD	16.80	<LOD	14.06	
	12/16/2006	14.5	15	<LOD	17.23	<LOD	14.06	
IA06-SB0040	12/15/2006	0	0.5	<LOD	18.68	<LOD	17.56	Discrete sample HSSB1585 (0-0.5 ft)
	12/15/2006	0.5	1	<LOD	19.02	<LOD	18.94	Composite sample HSSB1586 (0.5-3 ft)
	12/15/2006	1	1.5	<LOD	18.95	<LOD	18.11	
	12/15/2006	1.5	2	<LOD	19.28	<LOD	19.43	
	12/15/2006	2	2.5	<LOD	18.93	<LOD	18.72	
	12/15/2006	2.5	3	<LOD	19.26	<LOD	19.03	
	12/15/2006	8	8.5	<LOD	18.72	<LOD	18.26	No sample collected.
	12/15/2006	8.5	9	<LOD	18.82	<LOD	18.30	
	12/16/2006	9	9.5	<LOD	18.13	<LOD	17.72	
	12/15/2006	9.5	10	<LOD	17.40	<LOD	15.72	
	12/15/2006	10	10.5	<LOD	18.66	<LOD	17.91	
	12/15/2006	10.5	11	<LOD	16.78	<LOD	15.18	
	12/16/2006	11	11.5	<LOD	17.89	<LOD	16.48	
	12/15/2006	12	12.5	<LOD	17.79	<LOD	16.51	
	12/15/2006	12.5	13	<LOD	17.46	<LOD	16.13	
	12/16/2006	13	13.5	<LOD	18.14	<LOD	16.44	
	12/15/2006	13.5	14	<LOD	16.95	<LOD	14.84	
	12/16/2006	14	14.5	<LOD	16.97	<LOD	14.56	
	12/16/2006	14.5	15	<LOD	16.87	<LOD	14.61	

Table 4-13. Summary of XRF Uranium and Molybdenum Results (continued)

Borehole ID	Date	Top Depth (ft)	Bottom Depth (ft)	Mo (ppm)	Mo +/-*	U (ppm)	U +/-*	Comments
IA06-SB0041	12/17/2006	0	0.5	<LOD	17.35	<LOD	16.15	Discrete sample HSSB1583 (0-0.5 ft)
	12/17/2006	0.5	1	<LOD	17.89	<LOD	15.65	Composite sample HSSB1584 (0.5-8 ft)
	12/17/2006	1	1.5	<LOD	21.20	<LOD	21.90	
	12/17/2006	1.5	2	<LOD	22.75	<LOD	27.33	
	12/17/2006	2	2.5	<LOD	18.37	<LOD	18.31	
	12/17/2006	2.5	3	<LOD	18.61	<LOD	19.09	
	12/17/2006	3	3.5	<LOD	18.52	<LOD	18.98	
	12/17/2006	3.5	4	<LOD	19.24	<LOD	19.72	
	12/17/2006	4	4.5	<LOD	17.16	<LOD	14.70	
	12/17/2006	4.5	5	<LOD	16.62	<LOD	14.17	
	12/17/2006	5	5.5	<LOD	17.80	<LOD	16.22	
	12/17/2006	5.5	6	<LOD	17.13	<LOD	14.53	
	12/17/2006	6	6.5	<LOD	17.22	<LOD	14.87	
	12/17/2006	6.5	7	<LOD	16.49	<LOD	14.08	
	12/17/2006	7	7.5	<LOD	17.06	<LOD	14.85	
	12/17/2006	7.5	8	<LOD	16.79	<LOD	14.42	
	12/17/2006	8	8.5	<LOD	16.77	<LOD	13.76	No sample collected.
	12/17/2006	10	10.5	<LOD	16.59	<LOD	14.04	
	12/17/2006	10.5	11	<LOD	18.08	<LOD	16.26	
	12/17/2006	11	11.5	<LOD	17.19	<LOD	14.39	
	12/17/2006	11.5	12	<LOD	17.14	<LOD	13.82	
	12/17/2006	12	12.5	<LOD	16.96	<LOD	14.77	
	12/17/2006	12.5	13	<LOD	17.31	<LOD	14.17	
	12/17/2006	13	13.5	<LOD	15.61	<LOD	12.90	
	12/17/2006	13.5	14	<LOD	15.65	<LOD	13.18	

* Entry corresponds to the detection limit (3 sigma) when "<LOD" is the reported result

Table 5-1. Summary of Site-Specific Background and Preliminary Remediation Goals

COI	Units	Calculated Background[b]	Site-Specific Preliminary Remediation Goals[a]						
			Subsistence Adult	Resident Adult	Construction Worker	Maintenance Worker	Industrial Worker	Recreational Adult	Recreational Adolescent
Surface Soil (0'-2')									
Actinium-227	pCi/g	8.71E-02	NA	NA	NA	NA	NA	NA	NA
Americium-241	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Cesium-137	pCi/g	4.29E-01	NA	NA	NA	NA	NA	NA	NA
Europium-152	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Europium-154	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Neptunium-237	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Protactinium-231	pCi/g	8.71E-02	NA	NA	NA	NA	NA	NA	NA
Lead-210+D	pCi/g	1.45+00	1.8E+00	1.3E+01	8.5E+01	4.1E+02	8.2E+02	7.9E+03	5.3E+03
Plutonium-238	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Plutonium-239	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Radium-226+D	pCi/g	1.39+00	1.0E+00	4.7E+00	1.0E+01	1.0E+01	2.2E+01	2.0E+02	2.0E+02
Radium-228+D	pCi/g	1.87+00	1.6E+00	6.8E+00	1.5E+01	1.6E+01	3.4E+01	3.1E+02	3.1E+02
Technetium-99	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Thorium-228	pCi/g	1.41E+00	4.2E+00	8.9E+00	1.3E+01	1.4E+01	2.8E+01	2.6E+02	2.6E+02
Thorium-230	pCi/g	1.21E+00	3.6E+00	1.6E+01	3.5E+01	4.5E+01	9.4E+01	8.6E+02	8.5E+02
Thorium-232	pCi/g	1.41E+00	1.1E+00	3.7E+00	6.4E+00	7.7E+00	1.6E+01	1.5E+02	1.5E+02
Total Uranium	pCi/g	4.05E+00	3.8E+01	3.0E+02	4.0E+02	1.1E+03	2.3E+03	2.1E+04	2.0E+04
Total Uranium (chemical)	mg/kg	5.94E+00	1.1E+03	1.9E+03	8.5E+02	7.7E+03	6.1E+03	1.5E+04	8.8E+03
Uranium -233	µg/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Uranium -234	pCi/g	1.98E+00	3.7E+01	3.2E+02	5.5E+02	7.6E+03	1.5E+04	1.6E+05	1.1E+05
Uranium -235	pCi/g	8.71E-02	3.4E+01	9.3E+01	1.2E+02	1.5E+02	3.2E+02	2.9E+03	2.9E+03
Uranium -236	µg/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Uranium -238	pCi/g	1.98E+00	3.9E+01	3.2E+02	3.4E+02	7.1E+02	1.5E+03	1.4E+04	1.3E+04
Lithium	mg/kg	3.17E+01	9.8E+01	1.1E+03	5.7E+02	5.1E+03	4.1E+03	9.8E+03	5.9E+03
Molybdenum	mg/kg	4.07E+00	NA	NA	NA	NA	NA	NA	NA
Kerosene (TPH-DRO)	mg/kg	1.90E+01	1.9E+03	7.9E+03	6.0E+03	4.0E+04	6.1E+04	9.8E+04	6.0E+04
Total Soil (0'-13')[c]									
Actinium-227	pCi/g	1.06E-01	NA	NA	NA	NA	NA	NA	NA
Americium-241	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Cesium-137	pCi/g	5.40E-01	NA	NA	NA	NA	NA	NA	NA
Europium-152	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Europium-154	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Neptunium-237	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Protactinium-231	pCi/g	1.06E-01	NA	NA	NA	NA	NA	NA	NA
Lead-210+D	pCi/g	1.41E+00	1.8E+00	1.3E+01	8.5E+01	4.1E+02	8.2E+02	7.9E+03	5.3E+03
Lead-238	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Plutonium-239	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Radium-226+D	pCi/g	1.41E+00	1.0E+00	4.7E+00	1.0E+01	1.0E+01	2.2E+01	2.0E+02	2.0E+02
Radium-228+D	pCi/g	1.79E+00	1.6E+00	6.8E+00	1.5E+01	1.6E+01	3.4E+01	3.1E+02	3.1E+02
Technetium-99	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Thorium-228	pCi/g	1.41E+00	4.2E+00	8.9E+00	1.3E+01	1.4E+01	2.8E+01	2.6E+02	2.6E+02
Thorium-230	pCi/g	1.21E+00	3.6E+00	1.6E+01	3.5E+01	4.5E+01	9.4E+01	8.6E+02	8.5E+02
Thorium-232	pCi/g	1.41E+00	1.1E+00	3.7E+00	6.4E+00	7.7E+00	1.6E+01	1.5E+02	1.5E+02
Total Uranium	pCi/g	4.94E+00	3.8E+01	3.0E+02	4.0E+02	1.1E+03	2.3E+03	2.1E+04	2.0E+04
Total Uranium (Chemical)	mg/kg	7.26E+00	1.1E+03	1.9E+03	8.5E+02	7.7E+03	6.1E+03	1.5E+03	8.8E+04
Uranium -233	µg/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Uranium -234	pCi/g	2.42E+00	3.7E+01	3.2E+02	5.5E+02	7.6E+03	1.5E+04	1.6E+05	1.1E+05
Uranium -235	pCi/g	1.06E-01	3.4E+01	9.3E+01	1.2E+02	1.5E+02	3.2E+02	2.9E+03	2.9E+03
Uranium -236	µg/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Uranium -238	pCi/g	2.42E+00	3.9E+01	3.2E+02	3.4E+02	7.1E+02	1.5E+03	1.4E+04	1.3E+04
Lithium	mg/kg	3.17E+01	9.8E+01	1.1E+03	5.7E+02	5.1E+03	4.1E+03	9.8E+03	5.9E+03
Molybdenum	mg/kg	4.13E+00	NA	NA	NA	NA	NA	NA	NA
Kerosene (TPH-DRO)	mg/kg	1.90E+01	1.9E+03	7.9E+03	6.0E+03	4.0E+04	6.1E+04	9.8E+04	6.0E+04

Table 5-1. Summary of Site-Specific Background and Preliminary Remediation Goals (continued)

COI	Units	Calculated Background[b]	Site-Specific Preliminary Remediation Goals[a]						
			Subsistence Adult	Resident Adult	Construction Worker	Maintenance Worker	Industrial Worker	Recreational Adolescent	Recreational Adult
Sediment									
Actinium-227	pCi/g	1.13E-01	NA	NA	NA	NA	NA	NA	NA
Americium-241	pCi/g	0.00E+00	NA	NA	NA	NA	NA	NA	NA
Cesium-137	pCi/g	7.91E-02	NA	NA	NA	NA	NA	NA	NA
Protactinium-231	pCi/g	1.13E-01	NA	NA	NA	NA	NA	NA	NA
Lead-210+D	pCi/g	1.55E+00	NA	NA	NA	NA	NA	NA	NA
Radium-226+D	pCi/g	1.55E+00	NA	NA	NA	NA	NA	NA	NA
Radium-228+D	pCi/g	1.06E+00	NA	NA	NA	NA	NA	NA	NA
Thorium-228	pCi/g	1.06E+00	NA	NA	NA	NA	NA	NA	NA
Thorium-232	pCi/g	1.06E+00	NA	NA	NA	NA	NA	NA	NA
Thorium-230	pCi/g	1.55E+00	NA	NA	NA	NA	NA	NA	NA
Total Uranium (chemical)	mg/kg	7.71E+00	NA	NA	NA	NA	NA	NA	NA
Uranium-234	pCi/g	2.57E+00	NA	NA	NA	NA	NA	NA	NA
Uranium-235	pCi/g	1.13E-01	NA	NA	NA	NA	NA	NA	NA
Uranium-238	pCi/g	2.57E+00	NA	NA	NA	NA	NA	NA	NA
Lithium	mg/kg	2.87E+01	NA	NA	NA	NA	NA	NA	NA
Molybdenum	mg/kg	9.45E+00	NA	NA	NA	NA	NA	NA	NA
Kerosene (TPH-DRO)	mg/kg	5.17E+02	NA	NA	NA	NA	NA	NA	NA
Surface Water									
Total Uranium (chemical)	mg/L	1.50E-03	NA	NA	NA	NA	NA	NA	NA
Lithium	mg/L	2.45E-02	NA	NA	NA	NA	NA	NA	NA
Molybdenum	mg/L	3.32E-02	NA	NA	NA	NA	NA	NA	NA
Kerosene (TPH-DRO)	mg/L	2.00E-01	NA	NA	NA	NA	NA	NA	NA
Groundwater									
Actinium-227	pCi/L	1.16E-01[d]	NA	NA	NA	NA	NA	NA	NA
Americium-241	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Cesium-137	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Europium-152	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Europium-154	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Neptunium-237	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Protactinium-231	pCi/L	1.16E-01[d]	NA	NA	NA	NA	NA	NA	NA
Lead-210+D	pCi/L	1.50E+00[d]	NA	NA	NA	NA	NA	NA	NA
Plutonium-238	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Plutonium-239	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Radium-226+D	pCi/L	1.50E+00[d]	NA	NA	NA	NA	NA	NA	NA
Radium-228	pCi/L	2.78E+00[d]	NA	NA	NA	NA	NA	NA	NA
Technetium-99	pCi/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Thorium-228	pCi/L	3.57E+00[d]	NA	NA	NA	NA	NA	NA	NA
Thorium-230	pCi/L	4.20E-01[d]	8.80E+00	--	8.80E+00	8.80E+00	--	--	--
Thorium-232	pCi/L	5.70E-02[d]	NA	NA	NA	NA	NA	NA	NA
Total Uranium	pCi/L	6.16E-03[d]	1.70E+01	--	1.70E+01	1.70E+01	--	--	--
Total Uranium (Chemical)	mg/L	6.84E-03[d]	9.2E-02	--	1.3E+02	3.2E+02	--	--	--
Uranium-234	pCi/L	2.70E+00[d]	NA	NA	NA	NA	NA	NA	NA
Uranium-235	pCi/g	3.81E-01[d]	NA	NA	NA	NA	NA	NA	NA
Uranium-236	µg/L	0.00E+00[d]	NA	NA	NA	NA	NA	NA	NA
Uranium-238	pCi/L	2.63+00[d]	NA	NA	NA	NA	NA	NA	NA
Lithium (Chemical)	mg/L	3.42E-02[d]	6.1E-02	NA	8.5E+01	2.1E+02	NA	NA	NA
Molybdenum (Chemical)	mg/L	1.78E-02[d]	NA	NA	NA	NA	NA	NA	NA
Kerosene/TPH-DRO (Chemical)	mg/L	2.20E-01[d]	NA	NA	NA	NA	NA	NA	NA

[a] PRG values for soil pCi/g can be found in Tables 8-7, 8-27, and 8-28.
[b] Site-specific background values are the lower of the 95th percentile upper tolerance limit (UTL) or the maximum detected concentration of the background data set. When surface soil and total soil background differ, the lower of the two values is presented.
[c] For soil samples >13 ft bgs, background values for total soil were used.
[d] Background values presented for total in groundwater, not dissolved.
COI - constituent of interest
NA - not applicable (not a Significant COPC)
TPH-DRO - total petroleum hydrocarbons - diesel range organics
-- not an applicable exposure pathway for that receptor

Table 6-1. Summary of Statistical Evaluation of Uranium in Near-Surface and Surface Soil Samples

Location	Depth	Number of Data Pairs	Distribution	Two-Sample Paired Test		
				Test Used	P-Value*	Result
Background	0-0.5 ft	24	Normal	t-Test	0.33	Not significantly different
	0-2 ft		Normal			
IA03	0-0.5 ft	33	Lognormal	t-Test (log-transformed data)	0.94	Not significantly different
	0-2 ft		Lognormal			
IA04	0-0.5 ft	14	Nonparametric	Sign test (nonparametric)	0.11	Not significantly different
	0-2 ft		Lognormal			
IA05	0-0.5 ft	15	Nonparametric	Sign test (nonparametric)	0.30	Not significantly different
	0-2 ft		Nonparametric			
IA-06	0-0.5 ft	17	Lognormal	t-Test (log-transformed data)	0.11	Not significantly different
	0-2 ft		Lognormal			

*p-value<0.05 indicates a statistically significant difference between the 0-0.5 ft and 0-2 ft depths.

Table 6-2. Calculated Uranium-235 to Uranium-238 Ratios in Soil using Gamma Spectroscopy Results

IA	Station	Sample No	Depth (ft bgs)	U-235	U-235 Uncertainty	U-238	U-238 Uncertainty	Ratio[a]	Total Uncertainty[b] (pCi/g)	Upper Bound[c] (pCi/g)	Lower Bound[d] (pCi/g)	U-235:U-238 Ratio Sig. Diff. than 0.046:1[e] (Y/N)
Background Soil Samples												
BKG	BKG-SB0002	HSSB0004	0 - 0.5	0.137	0.065	2.29	0.70	0.0598	0.034	0.094	0.026	N
BKG	BKG-SB0002	HSSB0005	0 - 2	0.197	0.091	2.02	0.79	0.0975	0.059	0.157	0.039	N
BKG	BKG-SB0007	HSSB0018	0 - 0.5	0.104	0.048	1.69	0.58	0.0615	0.036	0.098	0.026	N
BKG	BKG-SB0011	HSSB0015	8 - 10	0.126	0.061	1.75	0.77	0.0720	0.047	0.119	0.025	N
BKG	BKG-SB0015	HSSB0884	0 - 0.5	0.145	0.102	2.17	0.56	0.0668	0.050	0.117	0.017	N
On-Site Soil Samples												
IA03	BEGE-SB0007	HSSB0837	0 - 0.6	0.276	0.095	5.53	1.30	0.0499	0.021	0.071	0.029	N
IA03	BEGE-SB0008	HSSB0838	0 - 0.3	0.450	0.125	8.13	1.85	0.0554	0.020	0.075	0.035	N
IA03	BEGE-SB0009	HSSB0839	0 - 1	3.610	0.682	67.20	12.80	0.0537	0.014	0.068	0.040	N
IA03	BEGE-SB0010	HSSB0840	0 - 0.7	2.850	0.517	48.70	9.49	0.0585	0.016	0.075	0.043	N
IA03	BEGE-SB0011	HSSB0841	0 - 0.8	177.000	32.700	2710.00	507.00	0.0653	0.017	0.082	0.048	Y
IA03	BEGE-SB0012	HSSB0842	0 - 1	7.700	1.410	118.00	22.30	0.0653	0.017	0.082	0.048	Y
IA03	BEGE-SB0013	HSSB0843	0 - 1	0.414	0.114	6.79	1.56	0.0610	0.022	0.083	0.039	N
IA03	BEGE-SB0014	HSSB0844	0 - 1	0.312	0.109	6.47	1.56	0.0482	0.020	0.068	0.028	N
IA03	BEGE-SB0015	HSSB0845	0 - 0.4	12.900	2.270	244.00	47.80	0.0529	0.014	0.067	0.039	N
IA03	BEGE-SB0016	HSSB0846	0 - 0.3	6.330	1.150	112.00	22.80	0.0565	0.016	0.073	0.041	N
IA03	BEGE-SB0017	HSSB0847	0 - 0.3	2.640	0.497	48.70	11.30	0.0542	0.016	0.070	0.038	N
IA03	BEGE-SB0018	HSSB0848	0 - 0.3	1.390	0.280	26.10	5.03	0.0533	0.015	0.068	0.038	N
IA03	IA03-SB0001	HSSB0092	1.8 - 2.9	0.563	0.119	9.77	1.86	0.0576	0.016	0.074	0.042	N
IA03	IA03-SB0001	HSSB0093	2.9 - 4.9	0.182	0.080	3.61	0.84	0.0504	0.025	0.075	0.025	N
IA03	IA03-SB0001	HSSB0096	0 - 1.8	0.415	0.120	9.05	2.00	0.0459	0.017	0.063	0.029	N
IA03	IA03-SB0002	HSSB0094	0.9 - 2.9	0.412	0.122	5.24	1.34	0.0786	0.031	0.110	0.048	Y
IA03	IA03-SB0002	HSSB0095	3.5 - 5.5	0.181	0.089	2.39	0.81	0.0757	0.045	0.121	0.031	N
IA03	IA03-SB0002	HSSB0097	0 - 0.9	0.598	0.140	10.10	2.29	0.0592	0.019	0.078	0.040	N
IA03	IA03-SB0005	HSSB0085	0 - 2	1.000	0.192	18.30	3.57	0.0546	0.015	0.070	0.040	N
IA03	IA03-SB0005	HSSB0091	3.4 - 5.4	0.201	0.069	3.63	0.71	0.0554	0.022	0.077	0.033	N
IA03	IA03-SB0007	HSSB0069	0 - 2	2.510	0.468	43.80	8.56	0.0573	0.015	0.072	0.042	N
IA03	IA03-SB0007	HSSB0082	4 - 6	0.156	0.096	3.01	1.04	0.0518	0.037	0.089	0.015	N
IA03	IA03-SB0007	HSSB9006	0 - 2	2.320	0.414	43.60	8.35	0.0532	0.014	0.067	0.039	N
IA03	IA03-SB0007	HSSB9008	4 - 6	0.154	0.092	3.91	1.42	0.0394	0.027	0.066	0.012	N
IA03	IA03-SB0009	HSSB0080	0 - 2	12.000	2.230	212.00	39.70	0.0566	0.015	0.072	0.042	N
IA03	IA03-SB0009	HSSB0081	8 - 10	0.221	0.138	3.87	1.48	0.0571	0.042	0.099	0.015	N
IA03	IA03-SB0009	HSSB9007	0 - 2	11.800	2.160	216.00	41.00	0.0546	0.015	0.070	0.040	N
IA03	IA03-SB0013	HSSB0359	0 - 2	0.058	0.029	0.91	0.34	0.0640	0.040	0.104	0.024	N
IA03	IA03-SB0013	HSSB0360	5 - 7	0.078	0.042	1.32	0.41	0.0591	0.037	0.096	0.022	N
IA03	IA03-SB0014	HSSB0208	0 - 2	10.300	1.820	184.00	35.40	0.0560	0.015	0.071	0.041	N
IA03	IA03-SB0014	HSSB0209	8 - 10	0.137	0.062	2.80	0.75	0.0489	0.026	0.075	0.023	N
IA03	IA03-SB0015	HSSB0204	0 - 2	12.900	2.350	201.00	38.00	0.0642	0.017	0.081	0.047	Y
IA03	IA03-SB0015	HSSB0205	3.6 - 5.6	0.283	0.076	4.45	0.99	0.0636	0.022	0.086	0.042	N
IA03	IA03-SB0016	HSSB0098	0 - 2	0.491	0.159	6.98	1.84	0.0703	0.029	0.099	0.041	N
IA03	IA03-SB0017	HSSB0058	0 - 2	2.600	0.458	49.40	9.42	0.0526	0.014	0.067	0.039	N
IA03	IA03-SB0017	HSSB0061	3.7 - 5.7	0.318	0.137	3.99	1.63	0.0797	0.047	0.127	0.033	N
IA03	IA03-SB0018	HSSB0062	0 - 2	0.081	0.066	1.60	0.63	0.0504	0.045	0.095	0.005	N

Table 6-2. Calculated Uranium-235 to Uranium-238 Ratios in Soil using Gamma Spectroscopy Results (continued)

IA	Station	Sample No	Depth (ft bgs)	U-235	U-235 Uncertainty	U-238	U-238 Uncertainty	Ratio[a]	Total Uncertainty[b] (pCi/g)	Upper Bound[c] (pCi/g)	Lower Bound[d] (pCi/g)	U-235:U-238 Ratio Sig. Diff. than 0.046:1[e] (Y/N)
IA03	IA03-SB0018	HSSB0063	3.2 - 5.2	0.161	0.101	2.20	0.93	0.0732	0.055	0.128	0.018	N
IA03	IA03-SB0019	HSSB0064	0 - 2	0.848	0.199	16.30	3.41	0.0520	0.016	0.068	0.036	N
IA03	IA03-SB0019	HSSB0065	3.5 - 5.5	1.090	0.237	20.90	4.18	0.0522	0.015	0.067	0.037	N
IA03	IA03-SB0020	HSSB0066	0 - 1.4	2.210	0.428	42.80	8.03	0.0516	0.014	0.066	0.038	N
IA03	IA03-SB0020	HSSB0067	4 - 6	0.136	0.102	1.91	0.81	0.0712	0.061	0.132	0.010	N
IA03	IA03-SB0033	HSSB0076	0 - 2	1.380	0.283	29.70	6.28	0.0465	0.014	0.060	0.032	N
IA03	IA03-SB0033	HSSB0100	0 - 0.5	12.100	2.160	208.00	40.10	0.0582	0.015	0.073	0.043	N
IA03	IA03-SB0033	HSSB0202	0 - 2	3.150	0.588	60.00	11.40	0.0525	0.014	0.066	0.038	N
IA03	IA03-SB0033	HSSB0203	3.5 - 5.5	0.201	0.065	3.25	0.75	0.0618	0.024	0.086	0.038	N
IA03	IA03-SB0037	HSSB0059	0 - 2	0.431	0.109	8.40	1.82	0.0513	0.017	0.068	0.034	N
IA03	IA03-SB0037	HSSB0060	4 - 6	0.305	0.137	4.69	1.57	0.0650	0.036	0.101	0.029	N
IA03	IA03-SB0038	HSSB0068	0 - 1.5	11.500	2.050	234.00	53.60	0.0491	0.014	0.063	0.035	N
IA03	IA03-SB0038	HSSB0077	4 - 6	0.106	0.076	1.61	0.80	0.0658	0.058	0.124	0.008	N
IA03	IA03-SB0038	HSSB9005	0 - 1.5	14.800	2.630	277.00	63.40	0.0534	0.015	0.068	0.038	N
IA03	IA03-SB0085	HSSB1088	2 - 4	14.400	2.430	251.00	44.60	0.0574	0.014	0.071	0.043	N
IA03	IA03-SB0087	HSSB1091	2 - 4	1.170	0.298	21.80	2.04	0.0537	0.015	0.069	0.039	N
IA03	IA03-SB0108	HSSB1132	0 - 2	2.630	0.524	37.90	6.74	0.0694	0.018	0.087	0.051	Y
IA03	IA03-SB0111	HSSB1098	0 - 2	10.100	0.648	129.00	6.19	0.0783	0.006	0.084	0.072	Y
IA03	IA03-SB0112	HSSB1137	0 - 2	2.850	0.621	46.20	10.10	0.0617	0.019	0.081	0.043	N
IA03	IA03-SB0116	HSSB0970	3.25 - 5.25	4.900	0.902	82.80	14.70	0.0592	0.015	0.074	0.044	Y
IA03	IA03-SB0132	HSSB1379	0 - 2	0.502	0.272	2.21	1.27	0.2271	0.179	0.406	0.048	Y
IA03	IA03-SB0152	HSSB1494	0.25 - 0.75	2.360	0.573	44.60	8.91	0.0529	0.017	0.070	0.036	N
IA03	IA03-SB0152	HSSB1495	0 - 1.25	1.070	0.270	19.90	2.86	0.0538	0.016	0.070	0.038	N
IA03	IA03-SB0152	HSSB1589	2 - 4.5	0.455	0.268	6.11	1.71	0.0745	0.048	0.122	0.026	N
IA03	IA03-SB0152	HSSB1591	1.5 - 2	1.460	0.420	25.70	3.92	0.0568	0.019	0.076	0.038	N
IA03	IA03-SB0153	HSSB1498	0 - 0.5	2.510	0.649	54.00	10.40	0.0465	0.015	0.061	0.031	N
IA03	IA03-SB0153	HSSB1499	5.5 - 6	1.410	0.421	25.60	5.11	0.0551	0.020	0.075	0.035	N
IA03	IA03-SB0154	HSSB1504	0 - 0.5	1.430	0.356	28.90	5.73	0.0495	0.016	0.065	0.033	N
IA03	IA03-SB0154	HSSB1505	0.5 - 2	0.656	0.284	10.90	1.99	0.0602	0.028	0.088	0.032	N
IA03	IA03-SB0155	HSSB1509	0.5 - 1	9.800	0.657	139.00	3.15	0.0705	0.005	0.076	0.066	Y
IA03	IA03-SB0155	HSSB1510	5 - 5.5	0.626	0.240	8.14	1.90	0.0769	0.035	0.112	0.042	N
IA03	IA03-SB0155	HSSB1511	1 - 2	0.533	0.278	8.04	2.12	0.0663	0.039	0.105	0.027	N
IA03	IA03-SB0155	HSSB1512	2 - 4	0.332	0.268	4.06	1.14	0.0818	0.070	0.152	0.012	N
IA03	IA03-SB0156	HSSB1519	0 - 1	0.514	0.367	6.70	1.59	0.0767	0.058	0.135	0.019	N
IA03	IA09-SB0002	HSSB0235	3 - 5	0.438	0.161	6.45	2.02	0.0679	0.033	0.101	0.035	N
IA03	IA09-SB0003	HSSB0238	16 - 18	0.109	0.049	1.70	0.52	0.0641	0.035	0.099	0.029	N
IA03	IA09-SB0004	HSSB0237	2.4 - 4.4	0.122	0.071	2.05	0.88	0.0595	0.043	0.103	0.017	N
IA04	IA04-SB0001	HSSB0383	0 - 2	0.158	0.072	1.65	0.68	0.0958	0.059	0.155	0.037	N
IA04	IA04-SB0004	HSSB0397	0 - 2	3.280	0.584	58.10	13.30	0.0565	0.016	0.072	0.040	N
IA04	IA04-SB0004	HSSB0398	3.1 - 5.1	0.214	0.086	3.34	0.71	0.0641	0.029	0.093	0.035	N
IA04	IA04-SB0010	HSSB0392	0 - 2	0.112	0.079	0.82	0.57	0.1373	0.136	0.273	0.001	N
IA04	IA04-SB0011	HSSB0399	0 - 2	0.282	0.102	5.42	1.28	0.0520	0.022	0.074	0.030	N
IA04	IA04-SB0011	HSSB0400	8 - 10	51.600	9.140	873.00	177.00	0.0591	0.016	0.075	0.043	N
IA04	IA04-SB0011	HSSB9013	0 - 2	0.257	0.106	5.89	1.39	0.0436	0.021	0.065	0.023	N

Table 6-2. Calculated Uranium-235 to Uranium-238 Ratios in Soil using Gamma Spectroscopy Results (continued)

IA	Station	Sample No	Depth (ft bgs)	U-235	U-235 Uncertainty	U-238	U-238 Uncertainty	Ratio[a]	Total Uncertainty[b] (pCi/g)	Upper Bound[c] (pCi/g)	Lower Bound[d] (pCi/g)	U-235:U-238 Ratio Sig. Diff. than 0.046:1[e] (Y/N)
IA04	IA04-SB0012	HSSB0855	0 - 2	0.177	0.085	2.46	0.79	0.0720	0.042	0.114	0.030	N
IA04	IA04-SB0012	HSSB0856	4 - 6	0.273	0.087	4.75	1.08	0.0575	0.022	0.079	0.035	N
IA04	IA04-SB0013	HSSB0403	0 - 2	0.847	0.182	16.10	3.06	0.0526	0.015	0.068	0.038	N
IA04	IA04-SB0013	HSSB0416	0 - 0.5	4.480	0.791	82.00	14.00	0.0546	0.014	0.069	0.041	N
IA04	IA04-SB0032	HSSB1288	0 - 2	1.930	0.482	25.30	4.65	0.0763	0.024	0.100	0.052	Y
IA04	IA04-SB0035	HSSB1418	0 - 2	4.690	0.943	82.40	14.80	0.0569	0.015	0.072	0.042	N
IA04	IA04-SB0036	HSSB1287	4 - 6	19.000	3.290	250.00	44.50	0.0760	0.019	0.095	0.057	Y
IA04	IA04-SB0044	HSSB1402	0 - 2	8.720	0.760	153.00	8.59	0.0570	0.006	0.063	0.051	Y
IA04	IA04-SB0054	HSSB1425	0 - 2	8.420	1.570	141.00	25.40	0.0597	0.016	0.076	0.044	Y
IA04	IA04-SB0058	HSSB1468	0 - 2	0.374	0.265	3.35	1.38	0.1116	0.092	0.204	0.020	N
IA04	IA04-SB0061	HSSB9117	0 - 2	0.327	0.259	2.83	1.51	0.1155	0.111	0.227	0.005	N
IA04	IA04-SB0062	HSSB1483	6 - 8	0.432	0.305	2.52	1.72	0.1714	0.168	0.339	0.003	N
IA04	IA04-SB0064	HSSB1521	1 - 1.5	9.450	0.500	150.00	2.68	0.0630	0.004	0.067	0.059	Y
IA04	IA04-SB0064	HSSB1522	0 - 2	1.020	0.255	16.20	1.28	0.0630	0.017	0.080	0.046	Y
IA04	STM-TR1	HSTR0005	5.5 - 6	1.580	1.260	27.50	9.23	0.0575	0.049	0.106	0.008	N
IA05	BEGE-SB0001	HSSB0831	0 - 1	26.200	4.770	462.00	87.60	0.0567	0.015	0.072	0.042	N
IA05	BEGE-SB0002	HSSB0832	0 - 0.9	1.090	0.219	19.40	3.65	0.0562	0.015	0.071	0.041	N
IA05	BEGE-SB0004	HSSB0834	0 - 0.8	0.211	0.100	2.33	0.71	0.0906	0.051	0.142	0.040	N
IA05	IA05-SB0007	HSSB0544	0 - 2	37.600	6.590	697.00	159.00	0.0539	0.016	0.070	0.038	N
IA05	IA05-SB0007	HSSB0545	4 - 6	1.250	0.219	25.10	4.75	0.0498	0.013	0.063	0.037	N
IA05	IA05-SB0009	HSSB0542	0 - 2	0.139	0.077	1.66	0.82	0.0837	0.062	0.146	0.022	N
IA05	IA05-SB0009	HSSB0543	3.5 - 5.5	5.210	0.934	98.80	20.50	0.0527	0.015	0.068	0.038	N
IA05	IA05-SB0010	HSSB0550	0 - 2	0.640	0.156	12.60	2.40	0.0508	0.016	0.067	0.035	N
IA05	IA05-SB0022	HSSB0539	0 - 2	0.289	0.111	3.93	1.11	0.0735	0.035	0.109	0.039	N
IA05	IA05-SB0022	HSSB0540	3.6 - 5.6	0.099	0.048	1.76	0.53	0.0564	0.032	0.088	0.024	N
IA05	IA05-SB0026	HSSB1072	8 - 10	1.090	0.292	22.80	4.55	0.0478	0.016	0.064	0.032	N
IA05	IA05-SB0027	HSSB1050	4 - 6	1.360	0.390	24.70	5.58	0.0551	0.020	0.075	0.035	N
IA05	IA05-SB0027	HSSB9062	4 - 6	1.300	0.324	23.50	4.76	0.0553	0.018	0.073	0.037	N
IA05	IA05-SB0032	HSSB1083	6.75 - 9.25	6.670	1.230	101.00	20.60	0.0660	0.018	0.084	0.048	Y
IA05	IA05-SB0035	HSSB1113	0 - 1.5	4.440	0.822	72.70	15.30	0.0611	0.017	0.078	0.044	Y
IA05	IA05-SB0048	HSSB1320	3.5 - 5.5	11.200	0.583	176.00	6.32	0.0636	0.004	0.068	0.060	Y
IA05	IA09-SB0006	HSSB0234	1.5 - 3.5	0.251	0.107	1.75	0.92	0.1434	0.097	0.240	0.046	Y
IA06	BEGE-SB0005	HSSB0835	0 - 0.6	0.911	0.231	16.30	4.03	0.0559	0.020	0.076	0.036	N
IA06	BEGE-SB0006	HSSB0836	0 - 0.6	0.402	0.122	8.08	1.76	0.0498	0.019	0.069	0.031	N
IA06	IA06-SB0001	HSSB0692	0 - 2	0.359	0.142	4.66	1.24	0.0770	0.037	0.114	0.040	N
IA06	IA06-SB0024	HSSB1546	0 - 0.5	0.582	0.338	7.39	1.96	0.0788	0.050	0.129	0.029	N
IA06	IA06-SB0024	HSSB1571	0.5 - 1	2.390	0.349	36.20	1.52	0.0660	0.010	0.076	0.056	Y
IA06	IA06-SB0025	HSSB9104	0.5 - 8	0.511	0.273	2.11	1.18	0.2422	0.187	0.429	0.055	Y
IA06	IA06-SB0027	HSSB1551	6.5 - 7	1.460	0.310	18.20	1.11	0.0802	0.018	0.098	0.062	Y
IA06	IA06-SB0027	HSSB1552	0.5 - 8	0.635	0.264	8.20	2.29	0.0774	0.039	0.116	0.038	N
IA06	IA06-SB0027	HSSB1593	13.5 - 14	0.205	0.171	5.95	2.32	0.0345	0.031	0.065	0.003	N
IA06	IA06-SB0027	HSSB1594	8 - 8.5	0.812	0.306	9.16	0.92	0.0886	0.035	0.124	0.054	Y
IA06	IA06-SB0039	HSSB1580	0.5 - 1	0.678	0.253	9.38	1.81	0.0723	0.030	0.102	0.042	N
IA06	IA06-SB0039	HSSB1581	4.5 - 5	0.731	0.297	15.50	2.65	0.0472	0.021	0.068	0.026	N

Table 6-2. Calculated Uranium-235 to Uranium-238 Ratios in Soil using Gamma Spectroscopy Results (continued)

IA	Station	Sample No	Depth (ft bgs)	U-235	U-235 Uncertainty	U-238	U-238 Uncertainty	Ratio[a]	Total Uncertainty[b] (pCi/g)	Upper Bound[c] (pCi/g)	Lower Bound[d] (pCi/g)	U-235:U-238 Ratio Sig. Diff. than 0.046:1[e] (Y/N)
IA06	IA06-SB0039	HSSB9115	1 - 8	0.514	0.337	5.38	1.03	0.0955	0.066	0.162	0.030	N
IA07	BEGE-SB0022	HSSB0852	0 - 0.3	0.093	0.070	1.02	0.47	0.0912	0.080	0.171	0.011	N
IA07	IA07-SB0006	HSSB0759	0 - 1.3	0.238	0.134	3.67	1.18	0.0649	0.042	0.107	0.023	N
IA07	IA07-SB0006	HSSB0765	4 - 6	0.220	0.092	2.53	0.85	0.0870	0.047	0.134	0.040	N
IA07	IA07-SB0007	HSSB0938	4 - 6	0.628	0.287	11.40	2.49	0.0551	0.028	0.083	0.027	N
IA07	IA07-SB0008	HSSB9044	6 - 8	0.274	0.270	3.24	1.25	0.0846	0.090	0.175	-0.005	N
IA07	IA07-SB0012	HSSB0787	0 - 2	0.283	0.079	5.31	1.32	0.0533	0.020	0.073	0.033	N
IA07	IA07-SB0022	HSSB0775	0 - 1	0.115	0.041	0.97	0.35	0.1189	0.060	0.179	0.059	Y
IA07	IA07-SB0027	HSSB0773	0 - 1.4	0.101	0.049	1.33	0.53	0.0759	0.048	0.124	0.028	N
IA07	IA07-SB0030	HSSB1117	0 - 0.5	103.000	1.520	1680.00	20.70	0.0613	0.001	0.062	0.060	Y
IA07	IA07-SB0037	HSSB1392	1 - 2	0.487	0.245	2.84	1.64	0.1715	0.131	0.302	0.040	N
IA07	IA07-SB0038	HSSB1390	0 - 0.8	68.200	1.860	1120.00	8.06	0.0609	0.002	0.063	0.059	Y
			Minimum	**0.06**		**0.82**		**0.034**				
			Maximum	**177.00**		**2710.00**		**0.242**				
			Average	**5.73**		**94.55**		**0.068**				
			Median	**0.66**		**10.90**		**0.059**				

[a] Ratio = U-235 Result (pCi/g) / U-238 Result (pCi/g); qualified results are not included
[b] Total Uncertainty [pCi/g] =((((U-235 Uncertainty [pCi/g] / U-235 Result [pCi/g])2)+((U-238 Uncertainty [pCi/g] / U-238 Result [pCi/g])2))0.5) * Ratio
[c] Upper Bound [pCi/g] = Ratio [pCi/g] + Total Uncertainty [pCi/g]
[d] Lower Bound [pCi/g] = Ratio [pCi/g] - Total Uncertainty [pCi/g]
[e] Ratio Sig. Diff. than 0.044:1 (Y/N) - Ratio significantly different (95% confidence level) if the Upper and Lower bound is not inclusive of the expected natural U-235/U-238 activity ratio (0.044:1).

Table 6-3. Calculated Uranium Ratios in Soil Using Alpha Spectroscopy Results

IA	Station	Sample No	Depth (ft bgs)	U-238	U-238 Uncertainty	U-234	U-234 Uncertainty	U-235	U-235 Uncertainty	U-234: U-238 Ratio	U-235: U-238 Ratio
Background Soil Samples											
BKG	BKG-SB0028	HSSB1598	0 - 0.5	1.1600 J	0.2700	1.0800 J	0.2500	0.0620 U	0.0620		
BKG	BKG-SB0028	HSSB1599	0.5 - 2	1.4100 J	0.2800	1.2800 J	0.2700	0.0300 U	0.0420		
BKG	BKG-SB0029	HSSB1596	0 - 0.5	0.6300 J	0.1800	0.6200 J	0.1800	0.0100 U	0.0270		
BKG	BKG-SB0029	HSSB9118	0 - 0.5	0.7900 J	0.2000	0.8600 J	0.2100	0.0180 U	0.0390		
BKG	BKG-SB0029	HSSB1597	0.5 - 2	0.9800 J	0.2300	0.9200 J	0.2200	0.0370 J	0.0500		
BKG	BKG-SB0030	HSSB1604	0 - 0.5	0.8700 J	0.2100	0.8200 J	0.2000	0.0480 J	0.0540		
BKG	BKG-SB0030	HSSB1605	0.5 - 2	0.8700 J	0.2100	0.8200 J	0.2100	0.0300 U	0.0460		
BKG	BKG-SB0031	HSSB1602	0 - 0.5	0.9600 J	0.2300	0.9600 J	0.2300	0.0500 U	0.0540		
BKG	BKG-SB0031	HSSB1603	0.5 - 2	0.7800 J	0.2000	0.7600 J	0.2000	0.0930 J	0.0710		
BKG	BKG-SB0032	HSSB1600	0 - 0.5	1.0800 J	0.2600	0.9700 J	0.2400	0.0240 U	0.0450		
BKG	BKG-SB0032	HSSB1601	0.5 - 2	1.1800 J	0.2600	0.9900 J	0.2400	0.0130 U	0.0360		
On-Site Soil Samples											
IA03	BEGE-SB0007	HSSB0837	0 - 0.6	6.4500	1.6300	5.3700 J	1.4500	0.5980	0.4450		0.093
IA03	BEGE-SB0008	HSSB0838	0 - 0.3	19.2000	3.2700	17.2000 J	3.0100	1.1800	0.5910		0.061
IA03	BEGE-SB0009	HSSB0839	0 - 1	129.0000	19.0000	128.0000	18.9000	14.2000	2.8500	0.992	0.110
IA03	BEGE-SB0010	HSSB0840	0 - 0.7	79.8000	10.6000	77.9000	10.3000	6.3200	1.4700	0.976	0.079
IA03	BEGE-SB0011	HSSB0841	0 - 0.8	4430.0000	677.0000	4270.0000	657.0000	1230.0000	271.0000	0.964	0.278
IA03	BEGE-SB0012	HSSB0842	0 - 1	127.0000	18.7000	135.0000	19.7000	23.9000	5.9100	1.063	0.188
IA03	BEGE-SB0013	HSSB0843	0 - 1	16.6000	2.6000	16.8000	2.6200	1.5800	0.5700	1.012	0.095
IA03	BEGE-SB0014	HSSB0844	0 - 1	16.3000	2.6800	15.5000	2.5800	1.6700	0.6270	0.951	0.102
IA03	BEGE-SB0015	HSSB0845	0 - 0.4	406.0000	52.7000	406.0000	52.8000	46.4000	9.5000	1.000	0.114
IA03	BEGE-SB0016	HSSB0846	0 - 0.3	281.0000	39.6000	259.0000	36.8000	24.1000	6.0700	0.922	0.086
IA03	BEGE-SB0017	HSSB0847	0 - 0.3	63.7000	9.1000	58.6000	8.4500	4.7600	1.3200	0.920	0.075
IA03	BEGE-SB0018	HSSB0848	0 - 0.3	43.2000	5.7800	43.9000	5.8600	3.2200	0.8980	1.016	0.075
IA03	IA03-SB0152	HSSB1494	0.25 - 0.75	29.3000	1.2000	28.1000	1.1700	2.1700	0.3620	0.959	0.074
IA03	IA03-SB0152	HSSB1495	0 - 1.25	11.7000	0.7140	11.3000	0.7020	0.7650	0.2040	0.966	0.065
IA03	IA03-SB0152	HSSB1496	5 - 6	1.9200	0.3060	2.0600	0.3170	0.1680 J	0.1020	1.073	
IA03	IA03-SB0152	HSSB1497	6 - 8	1.5500	0.3790	1.6200	0.3880	0.1190 J	0.1160	1.045	
IA03	IA03-SB0152	HSSB1588	4.5 - 5	1.9200	0.1460	1.8300	0.1420	0.1090	0.0420	0.953	0.057
IA03	IA03-SB0152	HSSB1589	2 - 4.5	5.0700	0.5780	4.4400	0.5410	0.8130	0.2590	0.876	0.160
IA03	IA03-SB0152	HSSB1591	1.5 - 2	22.1000	0.5170	21.4000	0.5100	1.3400	0.1450	0.968	0.061
IA03	IA03-SB0153	HSSB1498	0 - 0.5	50.3000	1.2800	49.1000	1.2600	3.8700	0.3930	0.976	0.077
IA03	IA03-SB0153	HSSB1499	5.5 - 6	29.5000	0.8290	28.7000	0.8180	2.7600	0.2830	0.973	0.094
IA03	IA03-SB0153	HSSB1500	0.5 - 2	2.7000	0.2390	2.5800	0.2350	0.1810	0.0698	0.956	0.067
IA03	IA03-SB0153	HSSB1501	2 - 4	1.2800	0.1160	1.3900	0.1200	0.0901	0.0352	1.086	0.070
IA03	IA03-SB0153	HSSB1502	4 - 5.5	4.1800	0.2070	3.9500	0.2040	0.2990	0.0635	0.945	0.072
IA03	IA03-SB0153	HSSB1503	6 - 8	5.3200	0.2250	5.2300	0.2230	0.3230	0.0621	0.983	0.061
IA03	IA03-SB0154	HSSB1504	0 - 0.5	31.1000	0.5730	29.6000	0.5600	2.5200	0.1820	0.952	0.081
IA03	IA03-SB0154	HSSB1505	0.5 - 2	10.8000	0.3200	9.9800	0.3090	0.7860	0.0966	0.924	0.073
IA03	IA03-SB0154	HSSB1506	2 - 4	1.4600	0.1240	1.4300	0.1230	0.0838	0.0354	0.979	0.057
IA03	IA03-SB0154	HSSB1507	4 - 6	6.7000	0.2560	6.8300	0.2590	0.5150	0.0796	1.019	0.077
IA03	IA03-SB0154	HSSB1508	6 - 7.5	1.3100	0.1190	1.2700	0.1180	0.0724	0.0310	0.969	0.055

Table 6-3. Calculated Uranium Ratios in Soil Using Alpha Spectroscopy Results (continued)

IA	Station	Sample No	Depth (ft bgs)	U-238	U-238 Uncertainty	U-234	U-234 Uncertainty	U-235	U-235 Uncertainty	U-234: U-238 Ratio	U-235: U-238 Ratio
IA03	IA03-SB0155	HSSB1509	0.5 - 1	179.0000	2.5400	170.0000	2.4800	12.5000	0.7490	0.950	0.070
IA03	IA03-SB0155	HSSB1510	5 - 5.5	12.5000	0.3820	12.3000	0.3790	0.6810	0.0995	0.984	0.054
IA03	IA03-SB0155	HSSB1511	1 - 2	9.2100	0.3350	9.1600	0.3340	0.5500	0.0930	0.995	0.060
IA03	IA03-SB0155	HSSB1512	2 - 4	4.1300	0.2290	3.9500	0.2240	0.2940	0.0687	0.956	0.071
IA03	IA03-SB0155	HSSB1513	4 - 6	1.5500	0.1320	1.4300	0.1290	0.1010	0.0386	0.923	0.065
IA03	IA03-SB0155	HSSB1587	6 - 7.5	1.4200	0.1310	1.3500	0.1280	0.0650	0.0326	0.951	0.046
IA03	IA03-SB0156	HSSB1519	0 - 1	6.0000	0.5370	5.8900	0.5320	0.8220	0.2190	0.982	0.137
IA03	IA03-SB0157	HSSB1518	0 - 2	8.2700	0.4630	8.6100	0.4720	0.6240	0.1410	1.041	0.075
IA04	IA04-SB0013	HSSB0416	0 - 0.5	112.0000	3.3700	110.0000	3.3300	5.2600	0.8140	0.982	0.047
IA04	IA04-SB0035	HSSB1418	0 - 2	59.1000	2.8300	58.0000 J	2.8100	3.8800	0.8080		0.066
IA04	IA04-SB0036	HSSB1287	4 - 6	512.0000	23.4000	503.0000	23.2000	40.5000	7.3100	0.982	0.079
IA04	IA04-SB0044	HSSB1402	0 - 2	156.0000	6.8900	146.0000	6.6800	8.5800	1.8000	0.936	0.055
IA04	IA04-SB0048	HSSB1410	4 - 6	792.0000	35.1000	781.0000	34.9000	66.0000	11.3000	0.986	0.083
IA04	IA04-SB0054	HSSB1425	0 - 2	86.9000	3.6600	86.5000	3.6500	5.1900	0.9960	0.995	0.060
IA04	IA04-SB0054	HSSB9092	0 - 2	213.0000	13.3000	196.0000	12.8000	18.9000	4.4100	0.920	0.089
IA04	IA04-SB0057	HSSB1464	0 - 2	1.5900	0.2960	1.4500	0.2830	0.0844 J	0.0782	0.912	
IA04	IA04-SB0057	HSSB1465	2 - 3.75	0.0609	0.0535	0.0887	0.0657	0.0682 J	0.0597	1.456	
IA04	IA04-SB0057	HSSB1466	5 - 6	2.4100	0.3060	2.1900	0.2920	0.2460 J	0.1090	0.909	
IA04	IA04-SB0057	HSSB1467	6 - 8	2.2000	0.3090	2.3000	0.3160	0.1850 J	0.1030	1.045	
IA04	IA04-SB0057	HSSB1475	4 - 5	2.3900	0.2390	2.5100	0.2440	0.0946	0.0570	1.050	0.040
IA04	IA04-SB0058	HSSB1468	0 - 2	2.9100	0.4170	3.2500	0.4410	0.1490 J	0.1070	1.117	
IA04	IA04-SB0058	HSSB1469	2 - 4	0.2980	0.1260	0.2810	0.1230	0.0129 U	0.0342	0.943	
IA04	IA04-SB0058	HSSB1470	5 - 6	0.3630	0.1310	0.4050	0.1370	0.0890 J	0.0712	1.116	
IA04	IA04-SB0058	HSSB1471	6 - 8	1.8700	0.3300	1.5000	0.2960	0.1310 J	0.0973	0.802	
IA04	IA04-SB0058	HSSB1590	4 - 5	0.1050 J	0.0434	0.0945 J	0.0450	0.0173 U	0.0208		
IA04	IA04-SB0059	HSSB1476	2 - 4	1.7300	0.1980	1.4000	0.1780	0.0970	0.0560	0.809	0.056
IA04	IA04-SB0059	HSSB1477	4 - 6	1.2800	0.1710	1.1700	0.1650	0.0944	0.0597	0.914	0.074
IA04	IA04-SB0059	HSSB1478	0 - 2	3.0200	0.2680	3.2900	0.2800	0.1450	0.0653	1.089	0.048
IA04	IA04-SB0059	HSSB1479	6 - 7	1.3400	0.1840	1.3200	0.1830	0.1410	0.0676	0.985	0.105
IA04	IA04-SB0060	HSSB1472	0 - 2	0.8380	0.1410	0.8650	0.1420	0.0549 U	0.0484	1.032	
IA04	IA04-SB0060	HSSB1473	2 - 4	0.7880	0.1370	0.8530	0.1450	0.0456 U	0.0409	1.082	
IA04	IA04-SB0060	HSSB1474	4 - 5.5	0.8280	0.1400	0.9780	0.1540	0.0445 U	0.0438	1.181	
IA04	IA04-SB0060	HSSB9114	2 - 4	0.8980	0.1060	0.9200	0.1100	0.0672	0.0338	1.024	0.075
IA04	IA04-SB0061	HSSB1486	0 - 2	2.9500	0.2270	3.0500	0.2320	0.2500	0.0742	1.034	0.085
IA04	IA04-SB0061	HSSB1487	2 - 4	0.5500	0.1280	0.5690	0.1320	-0.0049 U	0.0246	1.035	
IA04	IA04-SB0061	HSSB1488	4 - 6	0.3230	0.0947	0.5440	0.1240	0.0482 U	0.0480	1.684	
IA04	IA04-SB0061	HSSB9117	0 - 2	3.3000	0.1870	3.1200	0.1820	0.1690	0.0488	0.945	0.051
IA04	IA04-SB0062	HSSB1480	0 - 2	1.0300	0.1370	1.0800	0.1410	0.1220	0.0520	1.049	0.118
IA04	IA04-SB0062	HSSB1481	2 - 4	0.4990	0.1090	0.4960	0.1080	0.0533 U	0.0434	0.994	
IA04	IA04-SB0062	HSSB1482	4 - 6	1.8200	0.2640	1.5600	0.2450	0.0772	0.0645	0.857	0.042
IA04	IA04-SB0062	HSSB1483	6 - 8	1.8100	0.2560	1.7000	0.2480	0.0901	0.0646	0.939	0.050
IA04	IA04-SB0062	HSSB1484	8 - 10	1.6200	0.1700	1.6000	0.1690	0.1330	0.0548	0.988	0.082
IA04	IA04-SB0062	HSSB1485	9 - 9.5	1.6400	0.1710	1.4200	0.1590	0.1360	0.0546	0.866	0.083
IA04	IA04-SB0062	HSSB9116	2 - 4	0.8650	0.0988	0.8560	0.0996	0.0425	0.0240	0.990	0.049
IA04	IA04-SB0063	HSSB1520	0 - 1.5	1.6100	0.2140	1.3200	0.1960	0.1450	0.0712	0.820	0.090

Table 6-3. Calculated Uranium Ratios in Soil Using Alpha Spectroscopy Results (continued)

IA	Station	Sample No	Depth (ft bgs)	U-238	U-238 Uncertainty	U-234	U-234 Uncertainty	U-235	U-235 Uncertainty	U-234: U-238 Ratio	U-235: U-238 Ratio
IA04	IA04-SB0064	HSSB1521	1 - 1.5	1.0500	0.1590	1.0200	0.1570	0.1140	0.0579	0.971	0.109
IA04	IA04-SB0064	HSSB1522	0 - 2	20.1000	0.7730	20.1000	0.7730	1.2500	0.2160	1.000	0.062
IA04	IA04-SB0065	HSSB1523	0 - 2	0.8430	0.1450	0.7450	0.1400	0.0727	0.0525	0.884	0.086
IA04	IA04-SB0065	HSSB9113	0 - 2	0.8960	0.1530	0.8260	0.1430	0.0786	0.0487	0.922	0.088
IA04	IA04-TR1	HSTR0003	4.5 - 5	3.2900	0.2820	3.1100	0.2740	0.6460	0.1400	0.945	0.196
IA04	IA04-TR1	HSTR0004	3.5 - 5	1.1000	0.1110	1.2100	0.1180	0.0827	0.0338	1.100	0.075
IA04	IA04-TR1	HSTR9000	3.5 - 5	1.0300	0.1050	1.1400	0.1130	0.0573	0.0356	1.107	0.056
IA04	IA04-TR2	HSTR0001	3.5 - 4	2.7200	0.1650	2.6700	0.1640	0.1440	0.0466	0.982	0.053
IA04	IA04-TR2	HSTR0002	3.5 - 4	0.4270	0.0697	0.5190	0.0763	0.0515	0.0260	1.215	0.121
IA04	SAN-TR1	HSTR0007	2.5 - 3	1.1000	0.1480	1.0500	0.1440	0.0759	0.0429	0.955	0.069
IA04	SAN-TR1	HSTR0009	5.5 - 6	0.8620	0.1440	0.8740	0.1450	0.0465	0.0372	1.014	0.054
IA04	SAN-TR1	HSTR0010	7.5 - 8	1.6600	0.2740	1.7600	0.2820	0.1870	0.1020	1.060	0.113
IA04	SAN-TR1	HSTR0014	8.5 - 9	0.8380	0.1310	0.9720	0.1420	0.0531	0.0368	1.160	0.063
IA04	STM-TR1	HSTR0005	5.5 - 6	35.2000	0.6450	33.8000	0.6310	2.3100	0.1840	0.960	0.066
IA04	STM-TR1	HSTR0006	3.5 - 4	0.2740	0.0593	0.2590 J	0.0578	0.0186 U	0.0242		
IA05	BEGE-SB0001	HSSB0831	0 - 1	1600.0000	277.0000	1620.0000 J	279.0000	101.0000	24.1000		0.063
IA05	BEGE-SB0002	HSSB0832	0 - 0.9	59.3000	9.6700	59.8000 J	9.7400	4.9700	1.4700		0.084
IA05	BEGE-SB0003	HSSB0833	0 - 0.1	0.6950 U	0.5670	1.3000 J	0.7160	0.9010 U	0.6840		
IA05	BEGE-SB0004	HSSB0834	0 - 0.8	2.8100	0.9310	3.3000 J	1.0200	0.4820 U	0.3950		
IA05	IA05-SB0010	HSSB0593	7.4 - 9.4	80.4000	4.1000	79.1000	4.0700	3.1600	0.9240	0.984	0.039
IA05	IA05-SB0030	HSSB1003	3.75 - 5.75	355.0000	23.3000	373.0000	23.9000	23.0000	6.6100	1.051	0.065
IA05	IA05-SB0030	HSSB1068	9.75 - 13.8	70.5000	3.2100	64.5000	3.0700	4.7000	0.9230	0.915	0.067
IA05	IA05-SB0047	HSSB1321	3 - 5	44.8000	2.3300	45.6000	2.3500	3.0200	0.6720	1.018	0.067
IA05	IA05-SB0047	HSSB1327	0 - 1.4	71.4000	3.7700	69.1000	3.7100	3.9600	0.9900	0.968	0.055
IA05	IA05-SB0048	HSSB1317	6.5 - 8.5	75.2000	3.3900	74.4000	3.3800	6.5100	1.1100	0.989	0.087
IA05	IA05-SB0048	HSSB1320	3.5 - 5.5	187.0000	11.2000	182.0000	11.1000	11.4000	3.0900	0.973	0.061
IA05	IA05-SB0049	HSSB1314	4.8 - 6.8	82.6000	4.6100	85.1000	4.6800	4.0700	1.1500	1.030	0.049
IA05	IA05-SB0049	HSSB9087	4.8 - 6.8	116.0000	10.3000	113.0000	10.2000	7.3300	2.8900	0.974	0.063
IA05	IA05-SB0057	HSSB1515	0 - 2	1.4900	0.1900	1.4200	0.1850	0.1460	0.0656	0.953	0.098
IA05	IA05-SB0057	HSSB9112	0 - 2	1.2700	0.1740	1.2700	0.1750	0.1750	0.0715	1.000	0.138
IA05	IA05-SB0058	HSSB1514	0 - 2	1.4000	0.1960	1.4600	0.2010	0.1230	0.0643	1.043	0.088
IA05	IA05-SB0059	HSSB1517	0 - 2	1.3800	0.1870	1.4600	0.1960	0.1630	0.0748	1.058	0.118
IA05	IA05-SB0060	HSSB1516	0 - 2	84.9000	1.6600	82.7000	1.6300	6.3100	0.5020	0.974	0.074
IA06	BEGE-SB0005	HSSB0835	0 - 0.6	19.8000	3.3900	19.6000 J	3.3600	2.6000	0.9180		0.131
IA06	BEGE-SB0006	HSSB0836	0 - 0.6	10.6000	2.2700	10.1000 J	2.2000	2.0100	0.8290		0.190
IA06	IA06-SB0012	HSSB1544	0 - 0.5	0.5490	0.1540	0.4770	0.1440	0.0345 U	0.0474	0.869	
IA06	IA06-SB0012	HSSB1554	0.5 - 8	0.4960	0.2310	0.7440	0.2580	0.0575 U	0.1350	1.500	
IA06	IA06-SB0012	HSSB9105	0.5 - 8	0.8580	0.1390	0.9160	0.1460	0.0573	0.0444	1.068	0.067
IA06	IA06-SB0013	HSSB1524	0 - 0.5	0.4350	0.1450	0.4410	0.1470	0.0773 J	0.0678	1.014	
IA06	IA06-SB0013	HSSB1557	0.5 - 8	0.7080	0.1920	0.6430	0.2080	0.0000 U	0.0915	0.908	
IA06	IA06-SB0013	HSSB9107	0.5 - 8	0.6150	0.1260	0.7390	0.1420	0.0647 U	0.0549	1.202	
IA06	IA06-SB0014	HSSB1541	0 - 0.5	0.3080	0.1140	0.3160	0.1160	0.0502 U	0.0527	1.026	
IA06	IA06-SB0014	HSSB1555	0.5 - 8	0.5750	0.1920	0.3790	0.1670	0.0520 U	0.0899	0.659	
IA06	IA06-SB0015	HSSB1528	0 - 0.5	0.4830	0.1860	0.4010	0.1720	0.0117 U	0.0466	0.830	
IA06	IA06-SB0015	HSSB1558	0.5 - 8	0.7810	0.2550	0.4550	0.2470	-0.0804 U	0.1110	0.583	

Table 6-3. Calculated Uranium Ratios in Soil Using Alpha Spectroscopy Results (continued)

IA	Station	Sample No	Depth (ft bgs)	U-238	U-238 Uncertainty	U-234	U-234 Uncertainty	U-235	U-235 Uncertainty	U-234: U-238 Ratio	U-235: U-238 Ratio
IA06	IA06-SB0016	HSSB1530	0 - 0.5	0.8550	0.2230	0.8400	0.2210	0.0514 U	0.0638	0.982	
IA06	IA06-SB0016	HSSB1563	0.5 - 8	0.9810	0.2330	0.8850	0.2310	0.1180 UJ	0.1190	0.902	
IA06	IA06-SB0017	HSSB1533	0 - 0.5	1.2300	0.2230	1.1000	0.2110	0.0876	0.0674	0.894	0.071
IA06	IA06-SB0017	HSSB1570	0.5 - 8	0.8280	0.1610	0.9240	0.1700	0.1670	0.0796	1.116	0.202
IA06	IA06-SB0018	HSSB1535	0 - 0.5	0.7820	0.1790	0.8550	0.1880	0.0795	0.0636	1.093	0.102
IA06	IA06-SB0018	HSSB1579	0.5 - 8	0.6360	0.1230	0.7840	0.1380	0.0382 U	0.0396	1.233	
IA06	IA06-SB0019	HSSB1532	0 - 0.5	0.6020	0.1530	0.7480	0.1710	0.0498 J	0.0488	1.243	
IA06	IA06-SB0019	HSSB1562	0.5 - 8	0.8120	0.1990	0.9120	0.2160	0.1240	0.0894	1.123	0.153
IA06	IA06-SB0020	HSSB1536	0 - 0.5	0.6780	0.1690	0.7710	0.1810	0.0508 U	0.0533	1.137	
IA06	IA06-SB0020	HSSB1569	0.5 - 8	0.9480	0.1590	0.8360	0.1550	0.1550	0.0731	0.882	0.164
IA06	IA06-SB0020	HSSB9110	0.5 - 8	0.7130	0.2000	0.8410	0.2200	0.0472 U	0.1020	1.180	
IA06	IA06-SB0021	HSSB1550	0 - 0.5	0.8320	0.2020	0.8860	0.2080	0.0672 U	0.0700	1.065	
IA06	IA06-SB0021	HSSB1565	0.5 - 8	1.1500	0.1700	1.2300	0.1740	0.1650	0.0740	1.070	0.143
IA06	IA06-SB0022	HSSB1547	0 - 0.5	1.1500	0.2450	1.0200	0.2320	0.1000	0.0800	0.887	0.087
IA06	IA06-SB0022	HSSB1568	0.5 - 8	1.0600	0.1680	1.1700	0.1780	0.0601 U	0.0510	1.104	
IA06	IA06-SB0023	HSSB1548	0 - 0.5	1.3500	0.2600	1.0900	0.2340	0.0727 U	0.0713	0.807	
IA06	IA06-SB0023	HSSB1556	0.5 - 8	1.2300	0.3220	1.3700	0.3330	0.1320 UJ	0.1610	1.114	
IA06	IA06-SB0023	HSSB9106	0.5 - 8	1.3300	0.1800	1.2100	0.1750	0.1230	0.0675	0.910	0.092
IA06	IA06-SB0024	HSSB1546	0 - 0.5	7.9700	0.6090	8.3000	0.6220	0.6100	0.1880	1.041	0.077
IA06	IA06-SB0024	HSSB1571	0.5 - 1	37.1000	2.2400	37.6000	2.2500	2.3800	0.6380	1.013	0.064
IA06	IA06-SB0024	HSSB1572	1 - 8	3.6700	0.3060	3.8400	0.3130	0.3100	0.0986	1.046	0.084
IA06	IA06-SB0024	HSSB9111	1 - 8	4.6100	0.4690	3.9100	0.4450	0.3750	0.1740	0.848	0.081
IA06	IA06-SB0025	HSSB1527	0 - 0.5	1.8700	0.3360	1.7700	0.3280	0.2660 J	0.1420	0.947	
IA06	IA06-SB0025	HSSB1553	0.5 - 8	2.3700	0.3470	2.2500	0.3420	0.1110 UJ	0.1200	0.949	
IA06	IA06-SB0025	HSSB9104	0.5 - 8	3.1000	0.6220	2.8200	0.5970	0.2280	0.1910	0.910	0.074
IA06	IA06-SB0026	HSSB1549	0 - 0.5	2.2200	0.3150	2.3000	0.3220	0.1690	0.0978	1.036	0.076
IA06	IA06-SB0026	HSSB1578	0.5 - 8	2.0500	0.2310	2.1300	0.2350	0.1250	0.0633	1.039	0.061
IA06	IA06-SB0027	HSSB1545	0 - 0.5	1.5500	0.2860	1.4200	0.2750	0.1020	0.0814	0.916	0.066
IA06	IA06-SB0027	HSSB1551	6.5 - 7	25.0000	1.7600	24.1000	1.7300	1.4300	0.4760	0.964	0.057
IA06	IA06-SB0027	HSSB1552	0.5 - 8	10.8000	1.1000	10.8000	1.1000	0.5210	0.2840	1.000	0.048
IA06	IA06-SB0027	HSSB1593	13.5 - 14	6.1600	0.2640	5.8800	0.2580	0.3000	0.0661	0.955	0.049
IA06	IA06-SB0027	HSSB1594	8 - 8.5	13.4000	0.3790	12.7000	0.3700	0.9940	0.1160	0.948	0.074
IA06	IA06-SB0027	HSSB1595	8.5 - 10.5	3.9400	0.2920	3.8800	0.2890	0.2340	0.0788	0.985	0.059
IA06	IA06-SB0028	HSSB1538	0 - 0.5	1.2400	0.2270	1.0100	0.2050	0.1200	0.0785	0.815	0.097
IA06	IA06-SB0028	HSSB1567	0.5 - 8	1.2400	0.1770	1.2400	0.1800	0.1540	0.0729	1.000	0.124
IA06	IA06-SB0029	HSSB1542	0 - 0.5	1.3800	0.2360	1.4600	0.2430	0.1040	0.0718	1.058	0.075
IA06	IA06-SB0029	HSSB1574	0.5 - 8	1.8000	0.2050	1.5400	0.1900	0.1200	0.0586	0.856	0.067
IA06	IA06-SB0030	HSSB1534	0 - 0.5	1.3400	0.2400	1.3900	0.2440	0.1370	0.0850	1.037	0.102
IA06	IA06-SB0030	HSSB1560	0.5 - 8	2.0900	0.3960	2.0600	0.4000	0.0458 U	0.1560	0.986	
IA06	IA06-SB0030	HSSB9109	0.5 - 8	1.9600	0.3240	1.6800	0.3050	0.0837 U	0.1090	0.857	
IA06	IA06-SB0031	HSSB1540	0 - 0.5	0.7610	0.1890	0.7800	0.1920	0.0750	0.0657	1.025	0.099
IA06	IA06-SB0031	HSSB1561	0.5 - 8	1.3700	0.3280	1.4000	0.3360	0.0685 U	0.1610	1.022	
IA06	IA06-SB0032	HSSB1526	0 - 0.5	1.0000	0.2190	1.0800	0.2290	0.0767 J	0.0673	1.080	
IA06	IA06-SB0032	HSSB1573	0.5 - 8	1.3700	0.2020	1.3900	0.2040	0.1520	0.0747	1.015	0.111
IA06	IA06-SB0033	HSSB1531	0 - 0.5	0.7070	0.1770	0.6900	0.1760	0.0994 J	0.0736	0.976	

Table 6-3. Calculated Uranium Ratios in Soil Using Alpha Spectroscopy Results (continued)

IA	Station	Sample No	Depth (ft bgs)	U-238	U-238 Uncertainty	U-234	U-234 Uncertainty	U-235	U-235 Uncertainty	U-234: U-238 Ratio	U-235: U-238 Ratio
IA06	IA06-SB0033	HSSB1577	0.5 - 7.5	1.1100	0.1660	0.9040	0.1530	0.1020	0.0598	0.814	0.092
IA06	IA06-SB0034	HSSB1543	0 - 0.5	1.0900	0.2530	1.1700	0.2630	0.0330 U	0.0527	1.073	
IA06	IA06-SB0034	HSSB1576	0.5 - 8	1.1100	0.1600	1.2500	0.1710	0.0823	0.0486	1.126	0.074
IA06	IA06-SB0035	HSSB1537	0 - 0.5	1.3500	0.2430	1.4100	0.2490	0.1200	0.0831	1.044	0.089
IA06	IA06-SB0035	HSSB1566	0.5 - 7.5	0.8910	0.1560	1.0000	0.1650	0.0571 U	0.0480	1.122	
IA06	IA06-SB0036	HSSB1529	0 - 0.5	2.4800	0.3710	1.8800	0.3240	0.2140 J	0.1210	0.758	
IA06	IA06-SB0036	HSSB1559	0.5 - 8	1.2100	0.2150	1.0900	0.2150	0.0819 U	0.0760	0.901	
IA06	IA06-SB0036	HSSB9108	0.5 - 8	0.9110	0.1540	0.9050	0.1590	0.0399 U	0.0414	0.993	
IA06	IA06-SB0037	HSSB1525	0 - 0.5	1.2800	0.2410	1.0600	0.2210	0.1390 J	0.0908	0.828	
IA06	IA06-SB0037	HSSB1575	0.5 - 8	0.6860	0.1390	0.6370	0.1340	0.0519	0.0415	0.929	0.076
IA06	IA06-SB0038	HSSB1539	0 - 0.5	1.8200	0.3320	1.5500	0.3070	0.0925 J	0.0857	0.852	
IA06	IA06-SB0038	HSSB1564	0.5 - 8	1.4800	0.2820	1.0900	0.2500	0.1130 UJ	0.1140	0.736	
IA06	IA06-SB0039	HSSB1580	0.5 - 1	9.9000	0.3570	10.1000	0.3610	0.5050	0.0918	1.020	0.051
IA06	IA06-SB0039	HSSB1581	4.5 - 5	16.5000	0.4780	15.9000	0.4690	1.0000	0.1330	0.964	0.061
IA06	IA06-SB0039	HSSB1582	1 - 8	6.9300	0.3340	6.6100	0.3260	0.3440	0.0872	0.954	0.050
IA06	IA06-SB0039	HSSB9115	1 - 8	6.7000	0.2710	6.2000	0.2610	0.2390	0.0655	0.925	0.036
IA06	IA06-SB0040	HSSB1585	0 - 0.5	1.1500	0.1060	1.1400	0.1070	0.1050	0.0368	0.991	0.091
IA06	IA06-SB0040	HSSB1586	0.5 - 3	1.7000	0.1250	1.7100	0.1260	0.1100	0.0353	1.006	0.065
IA06	IA06-SB0041	HSSB1583	0 - 0.5	1.1900	0.1610	1.1400	0.1590	0.1150	0.0593	0.958	0.097
IA06	IA06-SB0041	HSSB1584	0.5 - 8	1.2100	0.1090	1.2200	0.1110	0.1040	0.0366	1.008	0.086
IA07	BEGE-SB0019	HSSB0849	0 - 1	0.7560	0.4060	0.7600	0.4370	0.0781 U	0.1500	1.005	
IA07	BEGE-SB0020	HSSB0850	0 - 1	0.8050	0.4200	1.4100	0.5680	0.0258 U	0.1050	1.752	
IA07	BEGE-SB0021	HSSB0851	0 - 1	0.6030	0.3990	0.8530	0.4950	0.0471 U	0.1280	1.415	
IA07	BEGE-SB0022	HSSB0852	0 - 0.3	1.9200	0.6380	1.4500	0.5560	0.1910 U	0.2390	0.755	
IA07	BEGE-SB0023	HSSB0853	0 - 0.4	1.3200	0.5720	1.2200	0.6590	-0.0242 U	0.1280	0.924	
IA07	BEGE-SB0024	HSSB0854	0 - 0.8	1.5800	0.6550	2.0200	0.7550	1.1600	0.5600	1.278	0.734
IA07	IA07-SB0006	HSSB0731	8 - 10	1.8700	0.2790	1.7800	0.2720	0.0796	0.0637	0.952	0.043
IA07	IA07-SB0015	HSSB0739	3.2 - 5.2	1.7900	0.3050	1.4600	0.2760	0.0713 U	0.0743	0.816	
IA07	IA07-SB0030	HSSB1117	0 - 0.5	3290.0000 J	107.0000	3020.0000 J	102.0000	252.0000 J	33.0000		
IA07	IA07-SB0038	HSSB1390	0 - 0.8	1790.0000	67.0000	1670.0000	64.6000	160.0000	22.3000	0.933	0.089
			Minimum	**0.06**		**0.09**		**-0.08**		**0.583**	**0.036**
			Maximum	**4430.00**		**4270.00**		**1230.00**		**1.752**	**0.734**
			Average	**79.11**		**76.06**		**10.50**		**0.997**	**0.088**
			Median	**1.59**		**1.46**		**0.12**		**0.983**	**0.075**

Notes:

All results in pCi/g

Ratios calculated only from results without data qualifiers

Analytical Methods: DOE EML HASL 300/U-02-RC MOD; A-01-R MOD (background samples only)

Table 6-4. Uranium Isotope Concentrations and Isotope Ratios in Surface Soils and Groundwater by ICP-MS

Station	Sample No	U-234 Mass	U-235 Mass	U-236 Mass	U-238 Mass	U-234:U-238 Mass	U-235:U-238 Mass	U-234 Activity	U-235 Activity	U-238 Activity	U-234:U-238 Activity	U-235:U-238 Activity
Background Soil												
BKG-SB0029	HSSB1596	0.0100 (U)	0.018	0.0100 (U)	2.4		0.00750		0.039	0.81		0.0482
BKG-SB0029	HSSB1597	0.0100 (U)	0.021	0.0100 (U)	2.7		0.00778		0.045	0.91		0.0500
BKG-SB0028	HSSB1598	0.0100 (U)	0.026	0.0100 (U)	3.4		0.00765		0.056	1.14		0.0492
BKG-SB0028	HSSB1599	0.0100 (U)	0.032	0.0100 (U)	4.2		0.00762		0.069	1.41		0.0490
BKG-SB0032	HSSB1600	0.0100 (U)	0.022	0.0100 (U)	2.8		0.00786		0.048	0.94		0.0505
BKG-SB0032	HSSB1601	0.0100 (U)	0.027	0.0100 (U)	3.5		0.00771		0.058	1.18		0.0496
BKG-SB0031	HSSB1602	0.0100 (U)	0.019	0.0100 (U)	2.5		0.00760		0.041	0.84		0.0489
BKG-SB0031	HSSB1603	0.0100 (U)	0.021	0.0100 (U)	2.6		0.00808		0.045	0.87		0.0519
BKG-SB0030	HSSB1604	0.0100 (U)	0.021	0.0100 (U)	2.8		0.00750		0.045	0.94		0.0482
BKG-SB0030	HSSB1605	0.0100 (U)	0.022	0.0100 (U)	2.8		0.00786		0.048	0.94		0.0505
					AVG		**0.00771**					**0.0496**
					SDEV		**0.00017**					**0.0011**
					RSD%		**2.23**					**2.23**
					N		**10**					**10**
On-Site Soil												
IA03-SB0019	HSSB0148	0.0110	1.400	0.0100 (U)	219.0	5.02E-05	0.00639	68.3	3.03	73.6	0.928	0.0411
IA03-SB0038	HSSB0163	0.0690	9.800	0.0820	1460.0	4.73E-05	0.00671	428.3	21.18	490.6	0.873	0.0432
IA03-SB0033	HSSB0193	0.0160	2.100	0.0100 (U)	319.0	5.02E-05	0.00658	99.3	4.54	107.2	0.927	0.0423
IA03-SB0062	HSSB0232	0.0550	7.600	0.0100 (U)	1260.0	4.37E-05	0.00603	341.4	16.42	423.4	0.806	0.0388
IA03-SB0015	HSSB0242	0.0480	6.600	0.0110	977.0	4.91E-05	0.00676	297.9	14.26	328.3	0.908	0.0434
IA03-SB0014	HSSB0248	0.0290	3.700	0.0140	590.0	4.92E-05	0.00627	180.0	8.00	198.2	0.908	0.0403
IA03-SB0054	HSSB0267	0.0350	4.600	0.0210	758.0	4.62E-05	0.00607	217.2	9.94	254.7	0.853	0.0390
IA04-SB0001	HSSB0367	0.0100 (U)	0.023	0.0100 (U)	3.3		0.00697		0.05	1.1		0.0448
IA04-SB0010	HSSB0427	0.0100 (U)	0.037	0.0100 (U)	5.6		0.00661		0.08	1.9		0.0425
IA07-SB0025	HSSB0740	0.0100 (U)	0.041	0.0100 (U)	5.6		0.00732		0.09	1.9		0.0471
BEGE-SB0009	HSSB0839	0.0140	1.800	0.0130	296.0	4.73E-05	0.00608	86.9	3.89	99.5	0.874	0.0391
BEGE-SB0012	HSSB0842	0.0200	2.500	0.0220	427.0	4.68E-05	0.00585	124.1	5.40	143.5	0.865	0.0377
BEGE-SB0016	HSSB0846	0.0300	3.900	0.0130	629.0	4.77E-05	0.00620	186.2	8.43	211.3	0.881	0.0399
IA05-SB0030	HSSB1004	0.0120	1.600	0.0100 (U)	282.0	4.26E-05	0.00567	74.5	3.46	94.8	0.786	0.0365
IA03-SB0090	HSSB1201	0.0330	4.300	0.0170	711.0	4.64E-05	0.00605	204.8	9.29	238.9	0.857	0.0389
IA03-SB0135	HSSB1235	0.0200	2.700	0.0100 (U)	384.0	5.21E-05	0.00703	124.1	5.83	129.0	0.962	0.0452
IA03-SB0125	HSSB1340	0.0160	2.200	0.0049 (J)	363.0	4.41E-05	0.00606	99.3	4.75	122.0	0.814	0.0390
IA03-SB0152	HSSB1700	0.0310 (U)	1.800	0.0310 (U)	296.0		0.00608		3.89	99.5		0.0391
IA03-SB0154	HSSB1701	0.0310 (U)	0.540	0.0310 (U)	88.0		0.00614		1.17	29.6		0.0395
IA03-SB0155	HSSB1702	0.0310 (U)	3.200	0.0310 (U)	532.0		0.00602		6.92	178.8		0.0387
IA04-SB0057	HSSB1703	0.0031 (U)	0.075	0.0031 (U)	11.4		0.00658		0.16	3.8		0.0423
IA04-SB0060	HSSB1704	0.0031 (U)	0.019	0.0031 (U)	2.8		0.00679		0.04	0.9		0.0436
IA04-SB0064	HSSB1705	0.0310 (U)	0.380	0.0310 (U)	61.5		0.00618		0.82	20.7		0.0397
IA04-SB0064	HSSB1706	0.0031 (U)	0.270	0.0031 (U)	41.2		0.00655		0.58	13.8		0.0421
IA05-SB0060	HSSB1707	0.0031 (U)	0.046	0.0031 (U)	6.9		0.00667		0.10	2.3		0.0429
IA06-SB0024	HSSB1708	0.0031 (U)	0.270	0.0031 (U)	41.1		0.00657		0.58	13.8		0.0423
IA06-SB0024	HSSB1709	0.0310 (U)	0.440	0.0310 (U)	73.0		0.00603		0.95	24.5		0.0388
IA06-SB0027	HSSB1710	0.0031 (U)	0.024	0.0031 (U)	3.6		0.00667		0.05	1.2		0.0429

Table 6-4. Uranium Isotope Concentrations and Isotope Ratios in Surface Soils and Groundwater by ICP-MS (continued)

Station	Sample No	U-234 Mass	U-235 Mass	U-236 Mass	U-238 Mass	U-234:U-238 Mass	U-235:U-238 Mass	U-234 Activity	U-235 Activity	U-238 Activity	U-234:U-238 Activity	U-235:U-238 Activity
On-Site Soil (continued)												
IA03-SB0111	HSSB1711	0.0310 (U)	0.760	0.0310 (U)	125.0		0.00608		1.64	42.0		0.0391
IA06-SB0039	HSSB1712	0.0031 (U)	0.130	0.0031 (U)	20.7		0.00628		0.28	7.0		0.0404
					AVG	**4.73E-05**	**0.00638**				**0.874**	**0.0410**
					SDEV	**2.70E-06**	**0.00039**				**0.0499**	**0.0025**
					RSD%	**5.71**	**6.05**				**5.71**	**6.05**
					N	**14**	**30**				**14**	**30**
Surface Water												
IA09-SW0010	HSSW0035	0.0220 (J)	2.800	0.0500 (U)	458.0	4.80E-05	0.00611	137	6.05	154	0.887	0.0393
IA09-SW0012	HSSW0036	0.0500 (U)	1.200	0.0500 (U)	187.0		0.00642		2.59	62.8		0.0413
IA09-SW0102	HSSW0037	0.0500 (U)	0.050 (U)	0.0500 (U)	0.9					0.30		
IA09-SW0105	HSSW0038	0.0500 (U)	0.037 (J)	0.0500 (U)	5.8		0.00638		0.08	1.95		0.0410
					AVG	**4.80E-05**	**0.00630**				**0.887**	**0.0405**
					SDEV		**0.00014**					**0.0009**
					RSD		**2.14**					**2.14**
					N	**1**	**3**				**1**	**3**
Background Groundwater												
BKG-MW0002	HSGW0002	0.0500 (U)	0.050 (U)	0.0500 (U)	0.1 (J)					0.02		
BKG-MW0001	HSGW0132	0.0500 (U)	0.050 (U)	0.0500 (U)	1.3					0.44		
BKG-MW0003	HSGW0134	0.0500 (U)	0.037 (J)	0.0500 (U)	5.8		0.00638		0.08	1.95		0.0410
BKG-MW0005	HSGW0135	0.0500 (U)	0.050 (U)	0.0500 (U)	0.2					0.07		
					AVG		**0.00638**					**0.0410**
					SDEV							
					RSD%							
					N		**1**					**1**
Groundwater												
BKA48	HSGW0136	0.0130 (J)	1.600	0.0500 (U)	250.0	5.20E-05	0.00640	80.7	3.46	84.0	0.961	0.0412
RMW35	HSGW0137	0.0500 (U)	0.050 (U)	0.0500 (U)	1.4					0.47		
IA03-TW0005	HSGW0138	0.0630	7.900	0.0240 (J)	1320	4.77E-05	0.00598	391	17.1	444	0.882	0.0385
IA03-TW0006	HSGW0139	4.3000 (J)	445.000	2.3000 (J)	84400	5.09E-05	0.00527	26690	962	28358	0.941	0.0339
RMW38	HSGW0140	0.0500 (U)	0.027 (J)	0.0500 (U)	4.4		0.00614		0.06	1.48		0.0395
IA10-MW0001	HSGW0141	0.0500 (U)	0.100	0.0500 (U)	15.6		0.00641		0.22	5.24		0.0412
DM15	HSGW0142	0.0500 (U)	0.160	0.0500 (U)	24.8		0.00645		0.35	8.33		0.0415
IA10-MW0002	HSGW0143	0.0500 (U)	0.050 (U)	0.0500 (U)	0.1					0.03		
DM28R	HSGW0144	0.0500 (U)	0.050 (U)	0.0500 (U)	0.1					0.03		
IA04-TP0003	HSGW0145	0.0500 (U)	0.050 (U)	0.0500 (U)	0.0 (J)					0.01		
IA04-TW0004	HSGW0146	0.0050 (U)	0.012	0.0050 (U)	1.9		0.00645		0.03	0.62		0.0415
IA04-TP0004	HSGW0147	0.0500 (U)	0.050 (U)	0.0500 (U)	0.8					0.28		
IA10-MW0004	HSGW0148	0.0500 (U)	0.042 (J)	0.0500 (U)	6.6		0.00636		0.09	2.22		0.0409
BKA53	HSGW0149	0.0500 (U)	0.050 (U)	0.0500 (U)	0.1					0.04		
IA05-TW0001	HSGW0150	0.0500 (U)	0.050 (U)	0.0500 (U)	0.1 (J)					0.03		
IA09-SD0010	HSSD0074	0.0350	4.700	0.0051 (J)	697	5.02E-05	0.00674	217	10.2	234	0.928	0.0434
IA09-SD0105	HSSD0090	0.0031 (U)	0.016	0.0031 (U)	2.5		0.00640		0.03	0.84		0.0412

Table 6-4. Uranium Isotope Concentrations and Isotope Ratios in Surface Soils and Groundwater by ICP-MS (continued)

Station	Sample No	U-234 Mass	U-235 Mass	U-236 Mass	U-238 Mass	U-234:U-238 Mass	U-235:U-238 Mass	U-234 Activity	U-235 Activity	U-238 Activity	U-234:U-238 Activity	U-235:U-238 Activity
Groundwater(continued)												
					AVG	**5.02E-05**	**0.00626**				**0.928**	**0.0403**
					SDEV	**1.82E-06**	**0.00040**				**0.0336**	**0.0026**
					RSD%	**3.62**	**6.40**				**3.62**	**6.40**
					N	**4**	**10**				**4**	**10**

Notes:
U – Analyte not detected
J – Analyte is estimated
ICP-MS = Inductively Coupled Plasma-Mass Spectrometry, EPA Method SW846-6020.
Units for mass calculations are mg/kg for soil and ug/L for water.
Units for activity are pCi/g for soils and pCi/L for water.
U234 pCi/g = U234 mg/kg x 6207
U234 pCi/L = U234 ug/L x 6207
U235 pCi/g = U235 mg/kg x 2.161
U235 pCi/L = U235 ug/L x 2.161
U238 pCi/g = U238 mg/kg x 0.336
U238 pCi/L = U238 ug/L x 0.336

Table 6-5. FIDLER and NaI 2x2 Sample Data

Study ID	Sample ID	U-238[a] (pCi/g)	Th-232[b] (pCi/g)	Alpha Spectroscopy Uranium[b]	IA	FIDLER gcpm	FIDLER ncpm	FIDLER ncpm/ pCi/g U-238	FIDLER ncpm/ pCi/g Th-232	NaI 2x2 gcpm	NaI 2x2 ncpm	NaI 2x2 ncpm/pCi/g U-238	NaI 2x2 ncpm/pCi/g Th-232
Bkg-1	HSSB0853	<0	0.699	2.5	IA07	4,922	NA	NA	NA	4,842	NA	NA	NA
Uranium-1	HSSB0831	551.1	1.02	3321.0	IA05	11,966	7,044	13	6,906	6,920	2,078	4	2,037
Uranium -2	HSSB0839	65.4	1.08	271.2	IA03	6,172	1,250	19	1,157	5,282	440	7	407
Uranium -3	HSSB0840	52.6	1.58	164.0	IA03	5,732	810	15	513	5,135	293	6	185
Uranium -4	HSSB0841	3379	1.19	9930.0	IA03	64,508	59,586	18	50,072	23,253	18,411	5	15,471
Uranium -5	HSSB0842	145.7	0.83	285.9	IA03	6,926	2,004	14	2,414	5,540	698	5	841
Uranium -6	HSSB0845	247.7	0.406	858.4	IA03	8,750	3,828	15	9,429	6,147	1,305	5	3,214
Uranium -7	HSSB0846	127.4	0.467	564.1	IA03	7,208	2,286	18	4,895	6,007	1,165	9	2,495
Uranium -8	HSSB0847	38.4	0.531	127.1	IA03	5,948	1,026	27	1,932	5,622	780	20	1,469
Uranium -9	HSSB0848	25.6	0.505	90.3	IA03	5,730	808	32	1,600	5,476	634	25	1,255
Uranium -10	HSSB0832	22.7	0.986	124.1	IA05	5,934	1,012	45	1,026	5,355	513	23	520
Uranium -11	HSSB0835	15.9	1.06	42.0	IA06	5,623	701	44	661	5,526	684	43	645
Uranium -12	HSSB0836	9.6	0.896	22.7	IA06	5,628	706	74	788	5,599	757	79	845
Thorium-1	HSSB0849	2.4	15.8	1.5	IA07	6,500	1,578	658	100	6,119	1,277	532	81
Thorium -2	HSSB0531	8	140.7	NA	IA05	24,318	19,396	2,425	138	16,190	11,348	1,419	81
Thorium -3	HSSB0517	12.6	165.2	NA	IA05	22,405	17,483	1,388	106	15,227	10,385	824	63

[a] By on-site BEGe laboratory analysis.
[b] Off-site alpha spectroscopy U-233/234+U-235/236+U-238 (for information only).
gcpm - gross counts per minute
ncpm - net counts per minute

Table 6-6. Spearman Rank Correlation for BEGe, FIDLER, and NaI 2x2

Instrument		BEGe U-238 (pCi/g)	FIDLER (NCPM)	NaI 2x2 (NCPM)
BEGe U-238 (pCi/g)	**r**	--	0.95	0.60
	n	--	12	12
	p-value	--	0.0016	0.046
FIDLER (ncpm)	**r**	0.95	--	0.69
	n	12	--	12
	p-value	0.0016	--	0.022
NaI 2x2 (ncpm)	**r**	0.60	0.69	--
	n	12	12	--
	p-value	0.046	0.022	--

All statistical analyses were performed with Statgraphics® Plus Version 5.
-- analysis not applicable
r – Correlation coefficient
n – Total number of sample pairs
p-value – Probability of obtaining a sample result that is more unlikely than the observed sample result
ncpm - net counts per minute

Table 6-7. Stream Water Elevation Measurements

Stream Gauge	Location	X Coordinate	Y Coordinate	Elevation[a] (at zero datum)	Stream Gauge Measurement Events		
					10/21/2004 Event	12/14/2004 Event	05/03/2005 Event
1	East bank of the Cuyahoga River, opposite of the Big Creek confluence	2192160.4	649235.6	573.40	NM	575.2	575.75
2	Big Creek at railroad bridge pillar, southwest of IA05	2191621.3	649513.3	572.95	NM	574.95	575.51
3	Cuyahoga River at the Harvard Avenue bridge foundation, northeast corner	2192069.0	649848.9	571.99	NM	574.14	574.74
4	Cuyahoga River at former viaduct pillar base, northeast of IA04	2192657.2	650459.4	571.69	572.49	573.49	574.61

[a] Elevation at zero datum calculated from surveyed reference mark on gauge
NM - not measured

Table 6-8. Source Water Field Blanks Sample Results

Station Sample No Collection Date	On-Site Polyethylene Tank HSFB0001 5/20/2003	Drillers Water Tank HSFB0002 6/3/2003
Metals		
Copper, Dissolved (µg/L)	1.43	NA
Copper, Total (µg/L)	1.64	NA
Lithium, Dissolved (µg/L)	12.2	2.01
Lithium, Total (µg/L)	12.3	2.03
Mercury, Dissolved (µg/L)	0.095	0.095
Mercury, Total (µg/L)	0.095	0.095
Molybdenum, Dissolved (µg/L)	0.754	1.18
Molybdenum, Total (µg/L)	0.778	1.18
Nickel, Dissolved (µg/L)	1.83	1.64
Nickel, Total (µg/L)	1.71	1.37
PAHs		
1-Methylnaphthalene (µg/L)	ND	ND
2-Methylnaphthalene (µg/L)	ND	ND
Acenaphthene (µg/L)	ND	ND
Acenaphthylene (µg/L)	ND	ND
Anthracene (µg/L)	ND	ND
Benzo(a)anthracene (µg/L)	ND	ND
Benzo(a)pyrene (µg/L)	ND	ND
Benzo(b)fluoranthene (µg/L)	ND	ND
Benzo(g,h,i)perylene (µg/L)	ND	ND
Benzo(k)fluoranthene (µg/L)	ND	ND
Chrysene (µg/L)	ND	ND
Dibenzo(a,h)anthracene (µg/L)	ND	ND
Fluoranthene (µg/L)	ND	ND
Fluorene (µg/L)	ND	ND
Indeno(1,2,3-cd)pyrene (µg/L)	ND	ND
Napthalene (µg/L)	ND	ND
Phenanthrene (µg/L)	ND	ND
Pyrene (µg/L)	ND	ND
Radiological Compounds		
Actinium-228 (pCi/L)	ND	ND
Americium-241 (pCi/L)	ND	ND
Bismuth-212 (pCi/L)	ND	ND
Bismuth-214 (pCi/L)	ND	ND
Cesium-137 (pCi/L)	ND	ND
Potassium-40 (pCi/L)	ND	ND
Lead-212 (pCi/L)	ND	ND
Lead-214 (pCi/L)	ND	ND
Radium-228 (pCi/L)	ND	ND
Thorium-230 (pCi/L)	ND	ND
Thorium-234 (pCi/L)	ND	ND
Thallium-208 (pCi/L)	ND	ND
Total Activity (pCi/L)	ND	ND
Uranium-235 (pCi/L)	ND	ND
Uranium-238 (pCi/L)	ND	ND

Table 6-8. Source Water Field Blanks Sample Results (continued)

Station **Sample No** **Collection Date**	**On-Site Polyethylene Tank** **HSFB0001** **5/20/2003**	**Drillers Water Tank** **HSFB0002** **6/3/2003**
Semi-Volatile Organic Compounds		
TPH-DRO (mg/L)	0.1	ND

NA = not analyzed
ND = result non-detect

Table 6-9. Geochemical Sample Results

IA	Station	Sample Number	Alkalinity, Total as CaCO3 (mg/L)	Alkalinity, Total as CaCO3, dissolved (mg/L)	Chloride (mg/L)	Chloride, dissolved (mg/L)	Fluoride (mg/L)	Fluoride, dissolved (mg/L)	Nitrate (mg/L)	Nitrate, dissolved (mg/L)	Nitrite (mg/L)	Nitrite, dissolved (mg/L)	Ortho-phosphate (mg/L)	Ortho-phosphate, dissolved (mg/L)	Sulfate (mg/L)	Sulfate, dissolved (mg/L)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)
IA10	Big Creek Grab	HSSW-0128	123	NA	173	NA	0.527	NA	0.484	NA	0.129	NA	0.2	NA	71	NA	553	2.8
IA10	BKA48	HSGW-0103	315	NA	36.2	NA	4.09	NA	0.083	NA	0.1	NA	0.2	NA	308	NA	904	10
IA10	BKA53	HSGW-0125	267	NA	344	NA	3.74	NA	0.034	NA	0.054	NA	0.151	NA	115	NA	1050	24
BKG	BKG-MW0004	HSGW-0093	197	NA	120	NA	0.245	NA	0.1	NA	0.1	NA	0.2	NA	176	NA	776	60
BKG	BKG-MW0005	HSGW-0092	NA	185	NA	775	NA	0.091	NA	0.1	NA	0.1	NA	0.2	NA	75.4	NA	NA
IA10	Cuyahoga River Grab	HSSW-0129	128	NA	117	NA	0.434	NA	4.19	NA	0.531	NA	0.2	NA	62.9	NA	484	26.4
IA10	DM26	HSGW-0122	71.3	NA	799	NA	0.502	NA	0.1	NA	0.1	NA	0.2	NA	677	NA	2640	10.8
IA10	DM27R	HSGW-0123	98.6	NA	18.5	NA	7.51	NA	0.625	NA	0.235	NA	0.2	NA	1340	NA	2300	0.8
IA10	DM30R	HSGW-0113	163	NA	378	NA	14.6	NA	0.071	NA	0.1	NA	0.2	NA	1610	NA	3320	136
IA10	IA04-TP0004	HSGW-0101	78.7	NA	34.6	NA	10.9	NA	0.1	NA	0.1	NA	0.2	NA	236	NA	513	83
IA10	IA10-MW0002	HSGW-0102	143	NA	622	NA	0.18	NA	0.1	NA	0.1	NA	0.119	NA	500	NA	2060	21
IA10	IA10-MW0004	HSGW-0107	115	NA	135	NA	0.367	NA	0.1	NA	0.1	NA	0.2	NA	996	NA	2040	1.8
IA10	RMW35	HSGW-0108	241	NA	54.2	NA	3.25	NA	0.1	NA	0.1	NA	0.2	NA	356	NA	852	48
IA10	RMW38	HSGW-0116	316	NA	77.1	NA	1.95	NA	0.1	NA	0.1	NA	0.2	NA	735	NA	1520	2.8

NA - not analyzed

Table 6-10. Geotechnical Sample Results

Sample ID	**HSSB0947**	**HSSB0949**	**HSSB0950**
Station	**IA04-TP0002**	**IA04-TP0005**	**IA03-TP0001**
Sample Depth	**16-25 ft**	**14-37 ft**	**10-19 ft**
Geologic Horizon (based on model)	**Till**	**Till**	**Till**
Parameter			
Hydraulic Conductivity, vertical[a] (cm/sec)	2.10E-05	2.22E-05	3.99E-05
Hydraulic Conductivity, horizontal (cm/sec)	1.36E-07	2.43E-07	3.55E-07
Total Organic Carbon (mg/kg)	6470	16,000	16,800
Total Organic Carbon #2 (mg/kg)	6190	12,000	14,500
Total Organic Carbon #3 (mg/kg)	6470	16,100	19,300
Total Organic Carbon #4 (mg/kg)	6180	15,100	15,300
Total Organic Carbon Average (mg/kg)	6330	14,800	16,500
Bulk Density (g/mL)	2.44	2.35	2.16
Moisture content, initial (%)	21.28	26.33	23.38
Porosity, initial[a]	0.381	0.505	0.415

[a]Vertical permeability and porosity were analyzed from undisturbed soil in Shelby tube from 18-20 ft bgs (HSSB0947), 20-22 ft bgs (HSSB0949), or 10-12 ft bgs (HSSB0950). All other parameters were analyzed from composited soil over the entire sample interval

Table 6-11. Background Soil Sample Results

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0001 HSSB0001 9/18/2003 0-0.5	BKG-SB0001 HSSB0002 9/18/2003 0-2	BKG-SB0001 HSSB0003 9/18/2003 3.7-5	BKG-SB0002 HSSB0004 9/18/2003 0-0.5	BKG-SB0002 HSSB0005 9/18/2003 0-2	BKG-SB0002 HSSB0006 9/18/2003 7.7-9	BKG-SB0003 HSSB0007 9/18/2003 0-0.5
Metals							
Lithium (µg/kg)	21900	20300	25300	28800	14100	24400	16600
Mercury (µg/kg)	46.9	69.4	426	14.3	51.3	16.3	38
Molybdenum (µg/kg)	4810	3290	7200	2320	3350	6620	4040
Nickel (µg/kg)	25200	22500	25400	22600	24300	37400	23300
Uranium-233 (mg/kg)							
Uranium -234 (mg/kg)							
Uranium -235 (mg/kg)							
Uranium -236 (mg/kg)							
Uranium -238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	383 (U)	376 (U)	21.6 (U)	937 (U)	370 (U)	22.2 (U)	374 (U)
2-Methylnaphthalene (µg/kg)	383 (U)	376 (U)	21.6 (U)	937 (U)	370 (U)	22.2 (U)	374 (U)
Acenaphthene (µg/kg)	383 (U)	376 (U)	21.6 (U)	937 (U)	370 (U)	22.2 (U)	374 (U)
Acenaphthylene (µg/kg)	383 (U)	376 (U)	21.6 (U)	937 (U)	370 (U)	22.2 (U)	374 (U)
Anthracene (µg/kg)	202	376 (U)	21.6 (U)	1020	400	22.2 (U)	528
Benzo(a)anthracene (µg/kg)	1680	495	2.16 (U)	4210	1600	2.22 (U)	2820
Benzo(a)pyrene (µg/kg)	1320	351	2.16 (U)	2740	2030	3.23	2020
Benzo(b)fluoranthene (µg/kg)	2450	694	2.16 (U)	5410	37 (U)	2.22 (U)	3700
Benzo(g,h,i)perylene (µg/kg)	833	37.6 (U)	1.78	1390	37 (U)	2.22 (U)	1150
Benzo(k)fluoranthene (µg/kg)	916	18.8 (U)	1.08 (U)	1910	18.5 (U)	1.11 (U)	1380
Chrysene (µg/kg)	1160	320	1.88	3010	1140	1.93	1980
Dibenzo(a,h)anthracene (µg/kg)	38.3 (U)	37.6 (U)	2.16 (U)	93.7 (U)	37 (U)	2.22 (U)	37.4 (U)
Fluoranthene (µg/kg)	2630	818	2.16 (U)	8730	2990	3.1	5890
Fluorene (µg/kg)	383 (U)	376 (U)	21.6 (U)	937 (U)	370 (U)	22.2 (U)	374 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	38.3 (U)	37.6 (U)	2.16 (U)	93.7 (U)	37 (U)	2.22 (U)	37.4 (U)
Napthalene (µg/kg)	383 (U)	376 (U)	21.6 (U)	937 (U)	370 (U)	22.2 (U)	374 (U)
Phenanthrene (µg/kg)	1440	561	21.6 (U)	6330	1860	22.2 (U)	4000
Pyrene (µg/kg)	2540	883	2.16 (U)	7460	4660	7.6	4800
Radiological Compounds							
Actinium-227 (pCi/g)	0.0774	0.0669	0.07	0.101	0.0889	0.0849	0.115
Actinium-228 (pCi/g)	1.07	0.957	1.29	0.866	0.87	1.16	1.01
Bismuth-212 (pCi/g)	0.647	0.591	0.921	0.529	0.581	0.791	0.648
Bismuth-214 (pCi/g)	1.75	1.31	1.11	1.56	1.52	1.01	1.43
Cesium-137 (pCi/g)	0.0129	0.00537 (U)	-0.0106 (U)	0.0413	0.0126	-0.00192 (U)	0.017
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	8.34	9.12	21.5	7.59	8.87	20.8	12.2
Protactinium-231 (pCi/g)	0.0774	0.0669	0.07	0.101	0.0889	0.0849	0.115
Lead-210 (pCi/g)	1.84	1.44	1.42	1.57	1.46	1.31	1.36
Lead-212 (pCi/g)	1.18	1.01	1.39	0.96	1.04	1.28	1.12
Lead-214 (pCi/g)	2.07	1.52	1.25	1.79	1.77	1.15	1.71
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	1.84	1.44	1.42	1.57	1.46	1.31	1.36
Radium-228 (pCi/g)	1.07	0.957	1.29	0.866	0.87	1.16	1.01
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	1.07	0.957	1.29	0.866	0.87	1.16	1.01
Thorium-230 (pCi/g)	1.84	1.44	1.42	1.57	1.46	1.31	1.36
Thorium-232 (pCi/g)	1.07	0.957	1.29	0.866	0.87	1.16	1.01
Thallium-208 (pCi/g)	0.334	0.301	0.412	0.277	0.305	0.395	0.331
Total Uranium (pCi/g)	3.6	3.11	3.25	4.68	4.13	3.94	5.36
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.76	1.52	1.59	2.29	2.02	1.93	2.62
Uranium-235 (pCi/g)	0.0774	0.0669	0.07	0.101	0.0889	0.0849	0.115
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.76	1.52	1.59	2.29	2.02	1.93	2.62
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	234	210	5.4	292	2140	6.5	104

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0003 HSSB0008 9/18/2003 0-2	BKG-SB0003 HSSB0009 9/18/2003 3.7-5	BKG-SB0004 HSSB0869 9/21/2003 0-0.5	BKG-SB0004 HSSB0870 9/21/2003 0-2	BKG-SB0004 HSSB0871 9/21/2003 4-6	BKG-SB0005 HSSB0872 9/21/2003 0-0.5	BKG-SB0005 HSSB0873 9/21/2003 0-2
Metals							
Lithium (µg/kg)	20600	24100	18800	12500	27100	14400	18100
Mercury (µg/kg)	68.3	563	78.4	8.96	16.7	89.7	43.5
Molybdenum (µg/kg)	2730	6910	2270	2720	4970	2760	2050
Nickel (µg/kg)	26400	30700	75600	64700	28100	98400	63500
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	374 (U)	22.3 (U)	3880 (U)	4230 (U)	20.6 (U)	3960 (U)	4140 (U)
2-Methylnaphthalene (µg/kg)	374 (U)	22.3 (U)	3880 (U)	4230 (U)	20.6 (U)	3960 (U)	4140 (U)
Acenaphthene (µg/kg)	374 (U)	22.3 (U)	3880 (U)	4230 (U)	20.6 (U)	3960 (U)	4140 (U)
Acenaphthylene (µg/kg)	374 (U)	6.88	3880 (U)	1520	0.964	3960 (U)	4140 (U)
Anthracene (µg/kg)	143	22.3 (U)	3880 (U)	4230 (U)	20.6 (U)	3960 (U)	4140 (U)
Benzo(a)anthracene (µg/kg)	789	2.23 (U)	2100	2900	1.63	2240	2430
Benzo(a)pyrene (µg/kg)	495	17	1790	2330	2.06 (U)	1670	1740
Benzo(b)fluoranthene (µg/kg)	980	2.23 (U)	2970	4280	2.06 (U)	3260	3130
Benzo(g,h,i)perylene (µg/kg)	37.4 (U)	25.1	1020	1240	2.06 (U)	396 (U)	414 (U)
Benzo(k)fluoranthene (µg/kg)	18.7 (U)	1.11 (U)	1740	2140	1.03 (U)	198 (U)	207 (U)
Chrysene (µg/kg)	511	7.38	1640	2170	1.51	1590	1820
Dibenzo(a,h)anthracene (µg/kg)	37.4 (U)	2.23 (U)	388 (U)	423 (U)	2.06 (U)	396 (U)	414 (U)
Fluoranthene (µg/kg)	1510	8.81	4760	6820	3.44	4710	6390
Fluorene (µg/kg)	374 (U)	22.3 (U)	3880 (U)	4230 (U)	20.6 (U)	3960 (U)	4140 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	37.4 (U)	2.23 (U)	388 (U)	423 (U)	2.06 (U)	396 (U)	414 (U)
Napthalene (µg/kg)	374 (U)	22.3 (U)	3880 (U)	4230 (U)	20.6 (U)	3960 (U)	4140 (U)
Phenanthrene (µg/kg)	970	13.2	2550	4230 (U)	2.39	2990	5260
Pyrene (µg/kg)	1250	19.6	3810	5530	2.65	3860	5290
Radiological Compounds							
Actinium-227 (pCi/g)	0.0528	0.0827	0.0946	0.0805	0.148	0.0726	0.0994
Actinium-228 (pCi/g)	1.11	1.21	0.847	0.97	1.22	0.924	0.79
Bismuth-212 (pCi/g)	0.735	0.837	0.473	0.789	0.989	0.601	0.492
Bismuth-214 (pCi/g)	1.24	1.18	1.29	1.51	1.49	1.58	1.12
Cesium-137 (pCi/g)	0.0129 (U)	0.00238 (U)	0.0855	0.042	-0.00866 (U)	0.12	0.0491
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	14.5	20	8.97	10.7	21.4	7.94	8.75
Protactinium-231 (pCi/g)	0.0528	0.0827	0.0946	0.0805	0.148	0.0726	0.0994
Lead-210 (pCi/g)	1.32	1.34	1.15	1.3	1.32	1.5	0.881
Lead-212 (pCi/g)	1.09	1.26	0.884	0.931	1.39	0.873	0.747
Lead-214 (pCi/g)	1.36	1.38	1.52	1.57	1.61	1.62	1.25
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	1.32	1.34	1.15	1.3	1.32	1.5	0.881
Radium-228 (pCi/g)	1.11	1.21	0.847	0.97	1.22	0.924	0.79
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	1.11	1.21	0.847	0.97	1.22	0.924	0.79
Thorium-230 (pCi/g)	1.32	1.34	1.15	1.3	1.32	1.5	0.881
Thorium-232 (pCi/g)	1.11	1.21	0.847	0.97	1.22	0.924	0.79
Thallium-208 (pCi/g)	0.351	0.385	0.252	0.31	0.452	0.318	0.27
Total Uranium (pCi/g)	2.45	3.84	4.39	3.74	6.87	3.37	4.62
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.2	1.88	2.15	1.83	3.36	1.65	2.26
Uranium-235 (pCi/g)	0.0528	0.0827	0.0946	0.0805	0.148	0.0726	0.0994
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.2	1.88	2.15	1.83	3.36	1.65	2.26
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	484	149	108	81.4	5.4 (U)	140	119

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0005 HSSB0874 9/21/2003 8-10	BKG-SB0006 HSSB0875 9/21/2003 0-0.5	BKG-SB0006 HSSB0876 9/21/2003 0-2	BKG-SB0006 HSSB0877 9/21/2003 4-6	BKG-SB0007 HSSB0018 9/19/2003 0-0.5	BKG-SB0007 HSSB0019 9/19/2003 0-2	BKG-SB0007 HSSB0020 9/19/2003 4-6
Metals							
Lithium (µg/kg)	22200	23200	13200	24400	19200	25300	23600
Mercury (µg/kg)	14.9	62.3	165	14.8	173	88.9	27.3
Molybdenum (µg/kg)	4600	2540	1720	3680	5810	5310	6010
Nickel (µg/kg)	27000	71400	53100	30100	113000	54200	38000
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	21.3 (U)	3860 (U)	2050 (U)	20.5 (U)	385 (U)	100	22 (U)
2-Methylnaphthalene (µg/kg)	35	1490	2050 (U)	20.5 (U)	385 (U)	150	22 (U)
Acenaphthene (µg/kg)	18.9	3860 (U)	2050 (U)	20.5 (U)	385 (U)	396 (U)	22 (U)
Acenaphthylene (µg/kg)	2.7	816	595	5.05	385 (U)	396 (U)	22 (U)
Anthracene (µg/kg)	9.83	3860 (U)	2050 (U)	20.5 (U)	385 (U)	396 (U)	22 (U)
Benzo(a)anthracene (µg/kg)	38	386 (U)	205 (U)	2.05 (U)	580	327	16.6
Benzo(a)pyrene (µg/kg)	37.1	1270	1050	2.05 (U)	580	305	16.4
Benzo(b)fluoranthene (µg/kg)	44.2	1670	988	4.75	772	457	29.1
Benzo(g,h,i)perylene (µg/kg)	24.1	765	650	2.05 (U)	355	195	10.7
Benzo(k)fluoranthene (µg/kg)	1.06 (U)	193 (U)	103 (U)	1.02 (U)	557	297	16.5
Chrysene (µg/kg)	29.2	386 (U)	205 (U)	2.05 (U)	474	266	15.8
Dibenzo(a,h)anthracene (µg/kg)	2.13 (U)	329	205 (U)	2.05 (U)	38.5 (U)	39.6 (U)	1.86
Fluoranthene (µg/kg)	71.8	386 (U)	205 (U)	1.68	952	814	34
Fluorene (µg/kg)	10.6	3860 (U)	2050 (U)	20.5 (U)	385 (U)	396 (U)	22 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	2.13 (U)	386 (U)	205 (U)	2.05 (U)	38.5 (U)	39.6 (U)	2.2 (U)
Napthalene (µg/kg)	116	3860 (U)	2050 (U)	20.5 (U)	127	105	3.91
Phenanthrene (µg/kg)	45.9	3860 (U)	2050 (U)	20.5 (U)	618	395	21.6
Pyrene (µg/kg)	66.1	2310	1900	1.57	979	666	32.7
Radiological Compounds							
Actinium-227 (pCi/g)	0.0651 (U)	0.084	0.0827	0.0788	0.0744	0.0858	0.0638
Actinium-228 (pCi/g)	1.39	0.787	0.818	1.39	1.02	1.12	1.36
Bismuth-212 (pCi/g)	0.953	0.595	0.589	0.946	0.68	0.812	0.863
Bismuth-214 (pCi/g)	1.57	1.5	1.2	1.44	1.26	1.34	1.41
Cesium-137 (pCi/g)	0.00586 (U)	0.102	0.048	0.00246 (U)	0.0341	0.0197	-0.0159 (U)
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	22.3	6.31	8.5	22.4	15.8	16.8	21.2
Protactinium-231 (pCi/g)	0.0651 (U)	0.084	0.0827	0.0788	0.0744	0.0858	0.0638
Lead-210 (pCi/g)	1.37	1.42	1.17	1.39	1.24	1.4	1.38
Lead-212 (pCi/g)	1.66	0.979	0.851	1.51	1.12	1.21	1.46
Lead-214 (pCi/g)	1.77	1.73	1.38	1.7	1.44	1.59	1.65
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	1.37	1.42	1.17	1.39	1.24	1.4	1.38
Radium-228 (pCi/g)	1.39	0.787	0.818	1.39	1.02	1.12	1.36
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	1.39	0.787	0.818	1.39	1.02	1.12	1.36
Thorium-230 (pCi/g)	1.37	1.42	1.17	1.39	1.24	1.4	1.38
Thorium-232 (pCi/g)	1.39	0.787	0.818	1.39	1.02	1.12	1.36
Thallium-208 (pCi/g)	0.51	0.318	0.272	0.445	0.336	0.377	0.452
Total Uranium (pCi/g)	3.03	3.9	3.84	3.66	3.45	3.99	2.96
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.48 (U)	1.91	1.88	1.79	1.69	1.95	1.45
Uranium-235 (pCi/g)	0.0651 (U)	0.084	0.0827	0.0788	0.0744	0.0858	0.0638
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.48 (U)	1.91	1.88	1.79	1.69	1.95	1.45
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	52.9	116	160	3 (U)	47.3	9.2	2.1

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0008 HSSB0021 9/19/2003 0-0.5	BKG-SB0008 HSSB0022 9/19/2003 0-2	BKG-SB0008 HSSB0023 9/19/2003 8-10	BKG-SB0009 HSSB0024 9/19/2003 0-0.5	BKG-SB0009 HSSB0858 9/19/2003 0-2	BKG-SB0009 HSSB0859 9/19/2003 4-6	BKG-SB0010 HSSB0010 9/18/2003 0-0.5
Metals							
Lithium (µg/kg)	9030	7840	20100	7820	6610	24800	6590
Mercury (µg/kg)	214	64.9	16.4	34.1	119	17.5 (U)	45.6
Molybdenum (µg/kg)	3940	2930	7140	5230	2390	5670	17700
Nickel (µg/kg)	122000	97600	79400	114000	40100	26200	193000
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	203	76	20.4 (U)	40	190 (U)	19.8 (U)	55.9
2-Methylnaphthalene (µg/kg)	403 (U)	145	20.4 (U)	19 (U)	190 (U)	19.8 (U)	18.1 (U)
Acenaphthene (µg/kg)	403 (U)	21.7 (U)	20.4 (U)	19 (U)	190 (U)	19.8 (U)	18.1 (U)
Acenaphthylene (µg/kg)	403 (U)	21.7 (U)	20.4 (U)	19 (U)	190 (U)	19.8 (U)	18.1 (U)
Anthracene (µg/kg)	197	35.6	20.4 (U)	38.4	74.9	19.8 (U)	11
Benzo(a)anthracene (µg/kg)	790	226	2.04 (U)	224	258	1.98 (U)	73.5
Benzo(a)pyrene (µg/kg)	678	227	2.04 (U)	219	214	1.98 (U)	84
Benzo(b)fluoranthene (µg/kg)	1170	267	2.04 (U)	256	350	1.98 (U)	117
Benzo(g,h,i)perylene (µg/kg)	404	131	2.04 (U)	140	19 (U)	1.98 (U)	69.9
Benzo(k)fluoranthene (µg/kg)	20.2 (U)	1.08 (U)	1.02 (U)	0.95 (U)	9.52 (U)	0.99 (U)	0.904 (U)
Chrysene (µg/kg)	589	165	2.04 (U)	164	198	1.98 (U)	63.5
Dibenzo(a,h)anthracene (µg/kg)	40.3 (U)	2.17 (U)	2.04 (U)	1.9 (U)	19 (U)	1.98 (U)	13.1
Fluoranthene (µg/kg)	1370	315	0.911	359	464	1.98 (U)	129
Fluorene (µg/kg)	403 (U)	21.7 (U)	20.4 (U)	19 (U)	190 (U)	19.8 (U)	18.1 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	40.3 (U)	2.17 (U)	2.04 (U)	1.9 (U)	19 (U)	1.98 (U)	1.81 (U)
Napthalene (µg/kg)	234	106	2.68	54.6	190 (U)	19.8 (U)	17.4
Phenanthrene (µg/kg)	1060	204	20.4 (U)	193	384	19.8 (U)	71.5
Pyrene (µg/kg)	1400	406	2.04 (U)	363	456	1.98 (U)	129
Radiological Compounds							
Actinium-227 (pCi/g)	0.0682	0.0664	0.0774	0.041	0.0704	0.0735	0.0695
Actinium-228 (pCi/g)	0.646	0.742	1.26	0.567	0.785	1.42	0.315
Bismuth-212 (pCi/g)	0.414	0.492	0.711	0.368	0.431	1.01	0.277
Bismuth-214 (pCi/g)	0.995	1.05	1.34	0.859	0.977	1.52	0.869
Cesium-137 (pCi/g)	0.0319	0.0207	-0.00798 (U)	0.0639	0.0181	0.00843 (U)	0.0704
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	7.4	10.2	19.9	6.83	9.86	23.7	2.65
Protactinium-231 (pCi/g)	0.0682	0.0664	0.0774	0.041	0.0704	0.0735	0.0695
Lead-210 (pCi/g)	1	1.08	1.11	0.804	1.11	1.45	0.717
Lead-212 (pCi/g)	0.699	0.808	1.29	0.675	0.839	1.48	0.369
Lead-214 (pCi/g)	1.11	1.22	1.47	0.983	1.19	1.73	0.999
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	1	1.08	1.11	0.804	1.11	1.45	0.717
Radium-228 (pCi/g)	0.646	0.742	1.26	0.567	0.785	1.42	0.315
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	0.646	0.742	1.26	0.567	0.785	1.42	0.315
Thorium-230 (pCi/g)	1	1.08	1.11	0.804	1.11	1.45	0.717
Thorium-232 (pCi/g)	0.646	0.742	1.26	0.567	0.785	1.42	0.315
Thallium-208 (pCi/g)	0.224	0.251	0.402	0.186	0.249	0.479	0.116
Total Uranium (pCi/g)	3.17	3.09	3.6	1.9	3.27	3.41	3.23
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.55	1.51	1.76	0.931	1.6	1.67	1.58
Uranium-235 (pCi/g)	0.0682	0.0664	0.0774	0.041	0.0704	0.0735	0.0695
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.55	1.51	1.76	0.931	1.6	1.67	1.58
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	81.2	54.9	4.3	21.2	11.9	1.5	80

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0010 HSSB0011 (9/18/2003) 0-2	BKG-SB0010 HSSB0012 9/18/2003 4-6	BKG-SB0011 HSSB0013 9/18/2003 0-0.5	BKG-SB0011 HSSB0014 9/18/2003 0-2	BKG-SB0011 HSSB0015 9/18/2003 8-10	BKG-SB0012 HSSB0860 9/19/2003 0-0.5	BKG-SB0012 HSSB0861 9/19/2003 0-2
Metals							
Lithium (µg/kg)	7010	25200	9610	13400	21500	6930	8450
Mercury (µg/kg)	40.3	29.5	32.6	101	16.5	110	238
Molybdenum (µg/kg)	9930	4050	13800	6520	5830	8720	5590
Nickel (µg/kg)	229000	25800	120000	76200	30100	116000	119000
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	193 (U)	20.9 (U)	74.2	390 (U)	20.6 (U)	388 (U)	391 (U)
2-Methylnaphthalene (µg/kg)	193 (U)	20.9 (U)	181 (U)	390 (U)	20.6 (U)	60.6	391 (U)
Acenaphthene (µg/kg)	193 (U)	20.9 (U)	181 (U)	390 (U)	20.6 (U)	388 (U)	391 (U)
Acenaphthylene (µg/kg)	193 (U)	20.9 (U)	27.6	390 (U)	20.6 (U)	388 (U)	391 (U)
Anthracene (µg/kg)	193 (U)	20.9 (U)	181 (U)	280	20.6 (U)	388 (U)	154
Benzo(a)anthracene (µg/kg)	160	2.09 (U)	273	1180	2.06 (U)	290	659
Benzo(a)pyrene (µg/kg)	153	2.09 (U)	269	972	2.06 (U)	227	573
Benzo(b)fluoranthene (µg/kg)	207	2.09 (U)	399	1380	2.06 (U)	433	999
Benzo(g,h,i)perylene (µg/kg)	19.3 (U)	2.09 (U)	194	578	2.06 (U)	125	307
Benzo(k)fluoranthene (µg/kg)	9.64 (U)	1.05 (U)	9.07 (U)	917	1.03 (U)	269	19.5 (U)
Chrysene (µg/kg)	140 (U)	2.09 (U)	215	912	2.06 (U)	229	498
Dibenzo(a,h)anthracene (µg/kg)	19.3 (U)	2.09 (U)	18.1 (U)	39 (U)	2.06 (U)	38.8 (U)	39.1 (U)
Fluoranthene (µg/kg)	309 (U)	0.639	407	2340	2.06 (U)	590	1200
Fluorene (µg/kg)	193 (U)	20.9 (U)	181 (U)	390 (U)	20.6 (U)	388 (U)	391 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	19.3 (U)	2.09 (U)	18.1 (U)	39 (U)	2.06 (U)	38.8 (U)	39.1 (U)
Napthalene (µg/kg)	46.7 (U)	20.9 (U)	181 (U)	390(U)	20.6 (U)	78.2	149
Phenanthrene (µg/kg)	216	20.9 (U)	206	1320	20.6 (U)	344	682
Pyrene (µg/kg)	294	2.09 (U)	384	1920	2.06 (U)	488	1030
Radiological Compounds							
Actinium-227 (pCi/g)	0.0757	0.095	0.0237	0.0519	0.077	0.0228	0.023 (U)
Actinium-228 (pCi/g)	0.535	1.3	0.211	0.466	1.39	0.312	0.397
Bismuth-212 (pCi/g)	0.296	0.863	.554	0.268	0.866	0.193	0.279
Bismuth-214 (pCi/g)	0.0542	1.4	0.0503	0.853	1.34	0.61	0.715
Cesium-137 (pCi/g)		-0.00135 (U)		0.0557	0.00027 (U)	0.0621	0.052
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	7.22	23.5	1.04	5.07	23.5	1.99	3.4
Protactinium-231 (pCi/g)	0.0757	0.095	0.0237	0.0519	1.077	0.0228	0.023 (U)
Lead-210 (pCi/g)	0.828	1.66	0.461	0.706	1.54	0.56	0.613
Lead-212 (pCi/g)	0.624	1.47	0.245	0.534	1.48	0.352	0.488
Lead-214 (pCi/g)	1.01	1.6	0.621	1.01	1.57	0.651	0.869
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	0.828	1.66	0.461	0.706	1.54	0.56	0.613
Radium-228 (pCi/g)	0.535	1.3	0.211	0.466	1.39	0.312	0.397
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	0.535	1.3	0.211	0.466	1.39	0.312	0.397
Thorium-230 (pCi/g)	0.828	1.66	0.461	0.706	1.54	0.56	0.613
Thorium-232 (pCi/g)	0.535	1.3	0.211	0.466	1.39	0.312	0.397
Thallium-208 (pCi/g)	0.168	0.441	0.0759	0.155	0.45	0.113	0.126
Total Uranium (pCi/g)	3.52	4.42	1.1	2.41	3.58	1.06	1.07
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.72	2.16	0.539	1.18	1.75	0.519	0.523 (U)
Uranium-235 (pCi/g)	0.0757	0.095	0.0237	0.0519	0.077	0.0228	0.023 (U)
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.72	2.16	0.539	1.18	1.75	0.519	0.523 (U)
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	53.2	2.8	138	69.6	4.3	137	122

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0012 HSSB0862 9/19/2003 4-6	BKG-SB0013 HSSB0878 9/21/2003 0-0.5	BKG-SB0013 HSSB0879 9/21/2003 0-2	BKG-SB0013 HSSB0880 9/21/2003 3.6-5	BKG-SB0014 HSSB0881 9/21/2003 0-0.5	BKG-SB0014 HSSB0882 9/21/2003 0-2	BKG-SB0014 HSSB0883 9/21/2003 7.5-9
Metals							
Lithium (µg/kg)	27000	11500	9760	25700	8980	10400	21100
Mercury (µg/kg)	23.8 (U)	138	79.8	19.3	131	186	30.5
Molybdenum (µg/kg)	4640	3140	2170	5120	4260	3650	19900
Nickel (µg/kg)	26300	25100	14800	30400	84400	140000	43600
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	20.5 (U)	36600 (U)	18800 (U)	198 (U)	9390 (U)	4400 (U)	209 (U)
2-Methylnaphthalene (µg/kg)	20.5 (U)	36600 (U)	18800 (U)	198 (U)	9390 (U)	409	209 (U)
Acenaphthene (µg/kg)	20.5 (U)	36600 (U)	8520	198 (U)	9390 (U)	4400 (U)	389
Acenaphthylene (µg/kg)	20.5 (U)	30800	18800 (U)	198 (U)	1290	4400 (U)	209 (U)
Anthracene (µg/kg)	20.5 (U)	36600 (U)	11300	156	9390 (U)	4400 (U)	234
Benzo(a)anthracene (µg/kg)	0.802	6680	19800	399	2730	294	723
Benzo(a)pyrene (µg/kg)	2.05 (U)	30500	13500	345	2430	2100	535
Benzo(b)fluoranthene (µg/kg)	2.05 (U)	56500	25000	382	3710	440 (U)	847
Benzo(g,h,i)perylene (µg/kg)	2.05 (U)	11200	5730	192	939 (U)	1020	253
Benzo(k)fluoranthene (µg/kg)	1.03 (U)	1830 (U)	12900	195	1930	220 (U)	486
Chrysene (µg/kg)	2.05 (U)	3660 (U)	14100	287	2140	440 (U)	554
Dibenzo(a,h)anthracene (µg/kg)	2.05 (U)	3660 (U)	1880 (U)	19.8 (U)	939 (U)	440 (U)	20.9 (U)
Fluoranthene (µg/kg)	1.65	3660 (U)	46300	799	5400	440 (U)	1590
Fluorene (µg/kg)	20.5 (U)	19800	18800 (U)	198 (U)	9390 (U)	4400 (U)	381
Indeno(1,2,3-cd)pyrene (µg/kg)	2.05 (U)	3660 (U)	1880 (U)	19.8 (U)	939 (U)	440 (U)	20.9 (U)
Napthalene (µg/kg)	1.35 (U)	8670	4310	198 (U)	9390 (U)	800	430
Phenanthrene (µg/kg)	20.5 (U)	138000	44600	548	3240	4610	1980
Pyrene (µg/kg)	1.39	114000	38700	707	4690	4270	1500
Radiological Compounds							
Actinium-227 (pCi/g)	0.0823	0.0673	0.0964	0.0986	0.155	0.103	0.0867
Actinium-228 (pCi/g)	1.37	1.11	0.941	1.34	1.12	1.08	1.44
Bismuth-212 (pCi/g)	0.861	0.754	0.74	0.793	0.64	0.707	0.845
Bismuth-214 (pCi/g)	1.46	1.33	1.16	1.38	1.56	1.43	1.41
Cesium-137 (pCi/g)	-0.00589 (U)	0.00773 (U)	-0.00269 (U)	-0.00386 (U)	0.116	0.0547	0.0112 (U)
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	22.8	7.58	11	21.1	5.21	11.7	23.9
Protactinium-231 (pCi/g)	0.0823	0.0673	0.0964	0.0986	0.155	0.103	0.0867
Lead-210 (pCi/g)	1.57	1.42	1.09	1.35	1.94	1.37	1.36
Lead-212 (pCi/g)	1.37	1.18	1.04	1.43	1.14	1.17	1.59
Lead-214 (pCi/g)	1.61	1.51	1.4	1.58	1.85	1.67	1.69
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	1.57	1.42	1.09	1.35	1.94	1.37	1.36
Radium-228 (pCi/g)	1.37	1.11	0.941	1.34	1.12	1.08	1.44
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	1.37	1.11	0.941	1.34	1.12	1.08	1.44
Thorium-230 (pCi/g)	1.57	1.42	1.09	1.35	1.94	1.37	1.36
Thorium-232 (pCi/g)	1.37	1.11	0.941	1.34	1.12	1.08	1.44
Thallium-208 (pCi/g)	0.429	0.353	0.306	0.425	0.396	0.394	0.468
Total Uranium (pCi/g)	3.82	3.13	4.48	4.58	7.22	4.8	4.03
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.87	1.53	2.19	2.24	3.53	2.35	1.97
Uranium-235 (pCi/g)	0.0823	0.0673	0.0964	0.0986	0.155	0.103	0.0867
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.87	1.53	2.19	2.24	3.53	2.35	1.97
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	1.8	1390	754	17.9	416	256	17.5

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0015 HSSB0884 9/21/2003 0-0.5	BKG-SB0015 HSSB0885 9/21/2003 0-2	BKG-SB0015 HSSB0886 9/21/2003 3.4-5	BKG-SB0016 HSSB0888 9/22/2003 0-0.5	BKG-SB0016 HSSB0889 9/22/2003 0-2	BKG-SB0016 HSSB0890 9/22/2003 4-6	BKG-SB0017 HSSB0891 9/22/2003 0-0.5
Metals							
Lithium (µg/kg)	7910	14700	35600	20900	19000	23700	29200
Mercury (µg/kg)	137	127	27.4	64.2	116	30.3	66.3
Molybdenum (µg/kg)	2730	3430	3350	2950	2880	3140	3780
Nickel (µg/kg)	104000	42300	20000	26600	24300	28800	38900
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	19300 (U)	11000 (U)	220 (U)	196 (U)	402 (U)	210 (U)	240 (U)
2-Methylnaphthalene (µg/kg)	19300 (U)	11000 (U)	220 (U)	196 (U)	402 (U)	210 (U)	240 (U)
Acenaphthene (µg/kg)	19300 (U)	11000 (U)	220 (U)	196 (U)	402 (U)	210 (U)	240 (U)
Acenaphthylene (µg/kg)	4060	1630	34.5	196 (U)	402 (U)	210 (U)	240 (U)
Anthracene (µg/kg)	19300 (U)	11000 (U)	220 (U)	196 (U)	402 (U)	210 (U)	240 (U)
Benzo(a)anthracene (µg/kg)	7500	3390	22 (U)	71.1	83	21 (U)	38
Benzo(a)pyrene (µg/kg)	5830	3180	87.9	67.1	94.7	21 (U)	46.8
Benzo(b)fluoranthene (µg/kg)	10000	1100 (U)	178	109	141	21 (U)	72.3
Benzo(g,h,i)perylene (µg/kg)	2310	1540	55.1	46.6	65.6	21 (U)	32.4
Benzo(k)fluoranthene (µg/kg)	4280	1880	11 (U)	33.7	20.1 (U)	10.5 (U)	26.6
Chrysene (µg/kg)	5210	2540	22 (U)	60.4	82	8.04	41.4
Dibenzo(a,h)anthracene (µg/kg)	1930 (U)	1100 (U)	22 (U)	19.6 (U)	40.2 (U)	21 (U)	24 (U)
Fluoranthene (µg/kg)	1930 (U)	1100 (U)	22 (U)	139	185	13.8	92
Fluorene (µg/kg)	19300 (U)	11000 (U)	220 (U)	196 (U)	402 (U)	210 (U)	240 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	1930 (U)	1100 (U)	22 (U)	19.6 (U)	40.2 (U)	21 (U)	24 (U)
Napthalene (µg/kg)	6740	11000 (U)	220 (U)	196 (U)	402 (U)	210 (U)	240 (U)
Phenanthrene (µg/kg)	19300 (U)	11000 (U)	220 (U)	56	79.3	210 (U)	35.4
Pyrene (µg/kg)	12400	5710	131	130	176	12.2	79.2
Radiological Compounds							
Actinium-227 (pCi/g)	0.0955	0.129	0.142	0.0695	0.0282 (U)	0.0427 (U)	0.0871
Actinium-228 (pCi/g)	0.658	1.13	1.36	1.1	1.04	1.11	1.26
Bismuth-212 (pCi/g)	0.506	0.745	0.941	0.667	0.827	0.647	0.759
Bismuth-214 (pCi/g)	0.911	1.6	1.71	1.14	0.976	1.01	1.21
Cesium-137 (pCi/g)	0.324	0.103	0.00665 (U)	0.0932	0.0713	0.0344	0.195
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	5.99	10.9	21.4	19.4	17.2	17.1	19.8
Protactinium-231 (pCi/g)	0.0955	0.129	0.142	0.0695	0.0282 (U)	0.0427 (U)	0.0871
Lead-210 (pCi/g)	1.2	1.56	1.38	0.954	0.998	1.05	0.997
Lead-212 (pCi/g)	0.659	1.15	1.44	1.25	1.07	1.24	1.25
Lead-214 (pCi/g)	0.966	1.77	1.64	1.31	1.14	1.12	1.29
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	1.2	1.56	1.38	0.954	0.998	1.05	0.997
Radium-228 (pCi/g)	0.658	1.13	1.36	1.1	1.04	1.11	1.26
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	0.658	1.13	1.36	1.1	1.04	1.11	1.26
Thorium-230 (pCi/g)	1.2	1.56	1.38	0.954	0.998	1.05	0.997
Thorium-232 (pCi/g)	0.658	1.13	1.36	1.1	1.04	1.11	1.26
Thallium-208 (pCi/g)	0.19	0.389	0.528	0.375	0.343	0.377	0.409
Total Uranium (pCi/g)	4.44	6.01	6.6	3.23	1.31	1.98	4.05
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	2.17	2.94	3.23	1.58	0.642 (U)	0.97 (U)	1.98
Uranium-235 (pCi/g)	0.0955	0.129	0.142	0.0695	0.0282 (U)	0.0427 (U)	0.0871
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	2.17	2.94	3.23	1.58	0.642 (U)	0.97 (U)	1.98
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	217	549	4 (U)	10.6	19	8.1	3.4

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0017 HSSB0892 9/22/2003 0-2	BKG-SB0017 HSSB0893 9/22/2003 8-10	BKG-SB0018 HSSB0894 9/22/2003 0-0.5	BKG-SB0018 HSSB0895 9/22/2003 0-2	BKG-SB0018 HSSB0896 9/22/2003 4-6	BKG-SB0019 HSSB0897 9/22/2003 0-0.5	BKG-SB0019 HSSB0898 9/22/2003 0-2
Metals							
Lithium (µg/kg)	26300	8520	24400	23800	30200	22900	27600
Mercury (µg/kg)	36.4	6.18	55.8	54.1	33.2	92.8	83.1
Molybdenum (µg/kg)	3270	1580	2790	2870	3710	3180	3400
Nickel (µg/kg)	33900	12600	27900	28200	32100	30400	34400
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	210 (U)	19 (U)	217 (U)	42.1 (U)	4.29	103 (U)	105 (U)
2-Methylnaphthalene (µg/kg)	210 (U)	19 (U)	217 (U)	42.1 (U)	40.7 (U)	103 (U)	105 (U)
Acenaphthene (µg/kg)	210 (U)	19 (U)	217 (U)	42.1 (U)	40.7 (U)	103 (U)	105 (U)
Acenaphthylene (µg/kg)	210 (U)	19 (U)	217 (U)	42.1 (U)	40.7 (U)	103 (U)	105 (U)
Anthracene (µg/kg)	210 (U)	19 (U)	217 (U)	42.1 (U)	40.7 (U)	103 (U)	105 (U)
Benzo(a)anthracene (µg/kg)	19.6	1.9 (U)	42.2	28.8	4.36	43.2	23.2
Benzo(a)pyrene (µg/kg)	25.3	1.9 (U)	48.6	30.5	5.3	45.7	27.9
Benzo(b)fluoranthene (µg/kg)	36.3	1.9 (U)	71.2	4.21 (U)	10.4	64	43.1
Benzo(g,h,i)perylene (µg/kg)	21 (U)	1.9 (U)	35.3	21.9	4.07 (U)	31.5	20.3
Benzo(k)fluoranthene (µg/kg)	19.4	0.953 (U)	28.5	18.7	2.03 (U)	27.1	15.5
Chrysene (µg/kg)	20.9	1.9 (U)	42.7	26.7	4.62	38.2	24.3
Dibenzo(a,h)anthracene (µg/kg)	21 (U)	1.9 (U)	21.7 (U)	4.21 (U)	4.07 (U)	10.3 (U)	10.5 (U)
Fluoranthene (µg/kg)	43.9	1.9 (U)	91.9	58.9	9.58	77.6	50.1
Fluorene (µg/kg)	210 (U)	19 (U)	217 (U)	42.1 (U)	40.7 (U)	103 (U)	105 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	21 (U)	1.9 (U)	21.7 (U)	4.21 (U)	4.07 (U)	10.3 (U)	10.5 (U)
Napthalene (µg/kg)	210 (U)	19 (U)	217 (U)	6.19	40.7 (U)	103 (U)	105 (U)
Phenanthrene (µg/kg)	21	19 (U)	48.3	27.7	4.58	37.6	22.5
Pyrene (µg/kg)	36.7	1.9 (U)	88.1	56	9.87	79.2	50.9
Radiological Compounds							
Actinium-227 (pCi/g)	0.0651 (U)	0.0488	0.0783	0.0774	0.0423 (U)	0.0607	0.0682
Actinium-228 (pCi/g)	1.38	0.635	1.2	1.41	1.34	1.06	1.04
Bismuth-212 (pCi/g)	1.31	0.523	0.778	0.777	0.834	0.702	0.645
Bismuth-214 (pCi/g)	1.3	0.646	1.18	1.06	1.08	1.17	0.846
Cesium-137 (pCi/g)	0.0917	-0.00714 (U)	0.206	0.103	-0.00572 (U)	0.239	0.145
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	21.9	11.6	17.9	20.4	21.7	17.8	18
Protactinium-231 (pCi/g)	0.0651 (U)	0.0488	0.0783	0.0774	0.0423 (U)	0.0607	0.0682
Lead-210 (pCi/g)	1.04	0.581	1.05	0.878	0.99	0.95	0.905
Lead-212 (pCi/g)	1.53	0.706	1.28	1.36	1.47	1.26	1.15
Lead-214 (pCi/g)	1.47	0.695	1.28	1.23	1.23	1.28	0.962
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	1.04	0.581	1.05	0.878	0.99	0.95	0.905
Radium-228 (pCi/g)	1.38	0.635	1.2	1.41	1.34	1.06	1.04
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	1.38	0.635	1.2	1.41	1.34	1.06	1.04
Thorium-230 (pCi/g)	1.04	0.581	1.05	0.878	0.99	0.95	0.905
Thorium-232 (pCi/g)	1.38	0.635	1.2	1.41	1.34	1.06	1.04
Thallium-208 (pCi/g)	0.462	0.217	0.38	0.433	0.456	0.382	0.324
Total Uranium (pCi/g)	3.03	2.27	3.64	3.6	1.97	2.82	3.17
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.48 (U)	1.11	1.78	1.76	0.962 (U)	1.38	1.55
Uranium-235 (pCi/g)	0.0651 (U)	0.0488	0.0783	0.0774	0.0423 (U)	0.0607	0.0682
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.48 (U)	1.11	1.78	1.76	0.962 (U)	1.38	1.55
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	2.3	2	5.5	5	1.7	9.7	3.9

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0019 HSSB0899 9/22/2003 8-10	BKG-SB0020 HSSB0016 9/23/2003 0-2	BKG-SB0020 HSSB0887 9/23/2003 0-0.5	BKG-SB0020 HSSB0906 9/23/2003 4-6	BKG-SB0021 HSSB0903 9/22/2003 0-0.5	BKG-SB0021 HSSB0904 9/22/2003 0-2	BKG-SB0021 HSSB0905 9/22/2003 8-10
Metals							
Lithium (µg/kg)	12300	29100	31700	29000	21700	23100	19000
Mercury (µg/kg)	17.6	109	194	20.2	117	54.8	18.8
Molybdenum (µg/kg)	2070	3320	4130	1120	2930	2930	3400
Nickel (µg/kg)	16200	39500	44900	26300	31300	32400	25500
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	20.1 (U)	2150 (U)	2250 (U)	20.6 (U)	76.2	67.1	22.4 (U)
2-Methylnaphthalene (µg/kg)	20.1 (U)	2150 (U)	2250 (U)	20.6 (U)	447 (U)	451 (U)	22.4 (U)
Acenaphthene (µg/kg)	20.1 (U)	2150 (U)	2250 (U)	20.6 (U)	447 (U)	451 (U)	22.4 (U)
Acenaphthylene (µg/kg)	20.1 (U)	2150 (U)	114	3.91	447 (U)	451 (U)	22.4 (U)
Anthracene (µg/kg)	20.1 (U)	2150 (U)	2250 (U)	20.6 (U)	447 (U)	451 (U)	22.4 (U)
Benzo(a)anthracene (µg/kg)	2.01 (U)	215 (U)	210	2.06 (U)	106	84.2	2.24 (U)
Benzo(a)pyrene (µg/kg)	2.01 (U)	215 (U)	225 (U)	2.06 (U)	117	92.1	2.24 (U)
Benzo(b)fluoranthene (µg/kg)	2.01 (U)	215 (U)	282	2.06 (U)	178	140	2.24 (U)
Benzo(g,h,i)perylene (µg/kg)	2.01 (U)	215 (U)	225 (U)	2.06 (U)	76.5	60	2.24 (U)
Benzo(k)fluoranthene (µg/kg)	1.01 (U)	107 (U)	164	1.03 (U)	65	52.9	1.12 (U)
Chrysene (µg/kg)	2.01 (U)	215 (U)	202	2.06 (U)	101	81.5	2.24 (U)
Dibenzo(a,h)anthracene (µg/kg)	2.01 (U)	215 (U)	225 (U)	2.06 (U)	44.7 (U)	45.1 (U)	2.24 (U)
Fluoranthene (µg/kg)	2.01 (U)	128	564	0.693	237	185	1.18
Fluorene (µg/kg)	20.1 (U)	2150 (U)	2250 (U)	20.6 (U)	447 (U)	451 (U)	22.4 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	2.01 (U)	215 (U)	225 (U)	2.06 (U)	44.7 (U)	45.1 (U)	2.24 (U)
Napthalene (µg/kg)	20.1 (U)	2150 (U)	2250 (U)	20.6 (U)	447 (U)	451 (U)	22.4 (U)
Phenanthrene (µg/kg)	20.1 (U)	2150 (U)	263	20.6 (U)	113	76.6	22.4 (U)
Pyrene (µg/kg)	2.01 (U)	215 (U)	440	2.06 (U)	217	171	2.24 (U)
Radiological Compounds							
Actinium-227 (pCi/g)	0.00127 (U)	0.0849	0.0678	0.0805	0.0243 (U)	0.0642	0.066
Actinium-228 (pCi/g)	0.778	1.2	1.36	1.32	0.974	1.08	1.09
Bismuth-212 (pCi/g)	0.451	0.787	0.764	0.876	0.72	0.719	0.576
Bismuth-214 (pCi/g)	0.831	1.38	1.47	1.22	0.89	1.08	1.03
Cesium-137 (pCi/g)	-0.00483 (U)	0.0709	0.125	-0.00461 (U)	0.174	0.147	0.00199 (U)
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	12.4	20.3	23.3	20.5	15.3	17.2	16.1
Protactinium-231 (pCi/g)	0.00127 (U)	0.0849	0.0678	0.0805	0.0243 (U)	0.0642	0.066
Lead-210 (pCi/g)	0.623	0.976	1.21	0.973	0.854	0.905	0.897
Lead-212 (pCi/g)	0.837	1.39	1.4	1.4	0.974	1.18	1.19
Lead-214 (pCi/g)	0.89	1.56	1.59	1.38	1.03	1.32	1.16
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	0.623	0.976	1.21	0.973	0.854	0.905	0.897
Radium-228 (pCi/g)	0.778	1.2	1.36	1.32	0.974	1.08	1.09
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	0.778	1.2	1.36	1.32	0.974	1.08	1.09
Thorium-230 (pCi/g)	0.623	0.976	1.21	0.973	0.854	0.905	0.897
Thorium-232 (pCi/g)	0.778	1.2	1.36	1.32	0.974	1.08	1.09
Thallium-208 (pCi/g)	0.271	0.435	0.435	0.425	0.307	0.355	0.385
Total Uranium (pCi/g)	0.0591	3.94	3.15	3.74	1.13	2.98	3.07
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	0.0289 (U)	1.93	1.54	1.83	0.552 (U)	1.46	1.5
Uranium-235 (pCi/g)	0.00127 (U)	0.0849	0.0678	0.0805	0.0243 (U)	0.0642	0.066
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	0.0289 (U)	1.93	1.54	1.83	0.552 (U)	1.46	1.5
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	1.6	12.3	12.5	2.1 (U)	11	6.6	2.2 (U)

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0022 HSSB0907 9/23/2003 0-0.5	BKG-SB0022 HSSB0908 9/23/2003 0-2	BKG-SB0022 HSSB0909 9/23/2003 8-10	BKG-SB0023 HSSB0910 9/23/2003 0-0.5	BKG-SB0023 HSSB0911 9/23/2003 0-2	BKG-SB0023 HSSB0912 9/23/2003 4-6	BKG-SB0024 HSSB0900 9/22/2003 0-0.5
Metals							
Lithium (µg/kg)	22700	23700	15600	22600	20400	19500	19300
Mercury (µg/kg)	107	68.7	16.3	98.2	88.1	12.5	66
Molybdenum (µg/kg)	3080	2950	2600	3240	2810	2440	2660
Nickel (µg/kg)	29500	29600	20500	29200	24200	24500	25300
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	2470 (U)	3120 (U)	204 (U)	396 (U)
2-Methylnaphthalene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	2470 (U)	3120 (U)	204 (U)	396 (U)
Acenaphthene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	2470 (U)	3120 (U)	204 (U)	396 (U)
Acenaphthylene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	134	3120 (U)	204 (U)	396 (U)
Anthracene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	2470 (U)	3120 (U)	204 (U)	396 (U)
Benzo(a)anthracene (µg/kg)	117	217 (U)	2.08 (U)	114	312 (U)	20.4 (U)	80.9
Benzo(a)pyrene (µg/kg)	223 (U)	217 (U)	2.08 (U)	247 (U)	312 (U)	20.4 (U)	91.4
Benzo(b)fluoranthene (µg/kg)	135	217 (U)	2.08 (U)	247 (U)	312 (U)	20.4 (U)	142
Benzo(g,h,i)perylene (µg/kg)	223 (U)	217 (U)	2.08 (U)	247 (U)	312 (U)	20.4 (U)	61.5
Benzo(k)fluoranthene (µg/kg)	96.1	109 (U)	1.04 (U)	136	156 (U)	10.2 (U)	53.7
Chrysene (µg/kg)	122	217 (U)	2.08 (U)	119	312 (U)	20.4 (U)	84.4
Dibenzo(a,h)anthracene (µg/kg)	223 (U)	217 (U)	2.08 (U)	247 (U)	312 (U)	20.4 (U)	39.6 (U)
Fluoranthene (µg/kg)	274	136	2.08 (U)	271	168	20.4 (U)	193
Fluorene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	2470 (U)	3120 (U)	204 (U)	396 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	223 (U)	217 (U)	2.08 (U)	247 (U)	312 (U)	20.4 (U)	39.6 (U)
Napthalene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	2470 (U)	3120 (U)	204 (U)	396 (U)
Phenanthrene (µg/kg)	2230 (U)	2170 (U)	20.8 (U)	2470 (U)	3120 (U)	204 (U)	90.6
Pyrene (µg/kg)	210	217 (U)	2.08 (U)	205	312 (U)	20.4 (U)	176
Radiological Compounds							
Actinium-227 (pCi/g)	0.0532	0.0664	0.0647	0.0801	0.0329 (U)	0.038	0.043
Actinium-228 (pCi/g)	1.09	1.23	0.891	0.944	1.03	0.861	1.06
Bismuth-212 (pCi/g)	0.738	0.867	0.784	0.629	0.746	0.476	0.655
Bismuth-214 (pCi/g)	1.09	1.14	0.886	0.968	0.967	0.829	0.958
Cesium-137 (pCi/g)	0.225	0.0976	0.00411 (U)	0.236	0.124	-0.00226 (U)	0.208
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	18.1	19.7	15.3	16.4	16.9	14	15.2
Protactinium-231 (pCi/g)	0.0532	0.0664	0.0647	0.0801	0.0329 (U)	0.038	0.043
Lead-210 (pCi/g)	0.919	0.969	0.724	0.883	0.919	0.671	0.82
Lead-212 (pCi/g)	1.22	1.31	1.1	1.06	1.19	0.858	1.03
Lead-214 (pCi/g)	1.32	1.37	1.06	1.09	1.12	0.92	0.999
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	0.919	0.969	0.724	0.883	0.919	0.671	0.82
Radium-228 (pCi/g)	1.09	1.23	0.891	0.944	1.03	0.861	1.06
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	1.09	1.23	0.891	0.944	1.03	0.861	1.06
Thorium-230 (pCi/g)	0.919	0.969	0.724	0.883	0.919	0.671	0.82
Thorium-232 (pCi/g)	1.09	1.23	0.891	0.944	1.03	0.861	1.06
Thallium-208 (pCi/g)	0.369	0.448	0.318	0.324	0.352	0.251	0.33
Total Uranium (pCi/g)	2.47	3.09	3	3.72	1.53	1.76	2
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.21	1.51	1.47	1.82	0.748 (U)	0.863	0.978
Uranium-235 (pCi/g)	0.0532	0.0664	0.0647	0.0801	0.0329 (U)	0.038	0.043
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.21	1.51	1.47	1.82	0.748 (U)	0.863	0.978
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	10.3	6.1	1.5	16.1	10.9	1.7	15.5

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0024 HSSB0901 9/22/2003 0-2	BKG-SB0024 HSSB0902 9/22/2003 4-6	BKG-SB0025 HSSB0919 9/23/2003 0-0.5	BKG-SB0025 HSSB0920 9/23/2003 0-2	BKG-SB0025 HSSB0921 9/23/2003 4-6	BKG-SB0026 HSSB0916 9/23/2003 0-0.5	BKG-SB0026 HSSB0917 9/23/2003 0-2
Metals							
Lithium (µg/kg)	21100	23700	21700	21700	22900	11800	15700
Mercury (µg/kg)	59.3	20.2	113	80.9	28.4	44.7	23.2
Molybdenum (µg/kg)	2780	2930	2530	2570	3270	1850	2240
Nickel (µg/kg)	27900	28300	25500	25700	27500	15900	19700
Uranium-233 (mg/kg)							
Uranium-234 (mg/kg)							
Uranium-235 (mg/kg)							
Uranium-236 (mg/kg)							
Uranium-238 (mg/kg)							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	401 (U)	21.5 (U)	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
2-Methylnaphthalene (µg/kg)	401 (U)	21.5 (U)	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
Acenaphthene (µg/kg)	401 (U)	21.5 (U)	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
Acenaphthylene (µg/kg)	401 (U)	21.5 (U)	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
Anthracene (µg/kg)	401 (U)	21.5 (U)	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
Benzo(a)anthracene (µg/kg)	38.3	2.15 (U)	93	205 (U)	2.14 (U)	200 (U)	202 (U)
Benzo(a)pyrene (µg/kg)	48	2.32	203 (U)	205 (U)	2.14 (U)	200 (U)	202 (U)
Benzo(b)fluoranthene (µg/kg)	69.6	2.66	122	205 (U)	2.14 (U)	200 (U)	202 (U)
Benzo(g,h,i)perylene (µg/kg)	40.1 (U)	1.97	203 (U)	205 (U)	2.14 (U)	200 (U)	202 (U)
Benzo(k)fluoranthene (µg/kg)	24.8	1.07 (U)	87.8	103 (U)	1.07 (U)	99.9 (U)	101 (U)
Chrysene (µg/kg)	43	2	98.3	205 (U)	2.14 (U)	200 (U)	202 (U)
Dibenzo(a,h)anthracene (µg/kg)	40.1 (U)	2.15 (U)	203 (U)	205 (U)	2.14 (U)	200 (U)	202 (U)
Fluoranthene (µg/kg)	92	3.25	223	118	0.585	119	58.1
Fluorene (µg/kg)	401 (U)	21.5 (U)	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
Indeno(1,2,3-cd)pyrene (µg/kg)	40.1 (U)	2.15 (U)	443	205 (U)	2.14 (U)	200 (U)	202 (U)
Napthalene (µg/kg)	401 (U)	21.5 (U)	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
Phenanthrene (µg/kg)	40.3	2.81	2030 (U)	2050 (U)	21.4 (U)	2000 (U)	2020 (U)
Pyrene (µg/kg)	85.2	3.35	209	205 (U)	2.14 (U)	200 (U)	202 (U)
Radiological Compounds							
Actinium-227 (pCi/g)	0.0546	0.0889	0.0351 (U)	0.0506 (U)	0.0937	0.0836	0.0299 (U)
Actinium-228 (pCi/g)	1.06	1.12	1.09	1.07	1.32	0.663	0.67
Bismuth-212 (pCi/g)	0.683	0.702	0.696	0.726	0.843	0.48	0.442
Bismuth-214 (pCi/g)	0.998	0.979	0.969	1.01	1.16	0.753	0.658
Cesium-137 (pCi/g)	0.0893	-0.00333 (U)	0.195	0.113	0.0078 (U)	0.181	0.077
Europium-152 (pCi/g)							
Europium-154 (pCi/g)							
Gross Alpha (pCi/g)							
Gross Beta (pCi/g)							
Potassium-40 (pCi/g)	16.4	17.3	15.9	17.3	20.7	11.1	11.4
Protactinium-231 (pCi/g)	0.0546	0.0889	0.0351 (U)	0.0506 (U)	0.0937	0.0836	0.0299 (U)
Lead-210 (pCi/g)	0.863	0.905	0.915	0.857	1.11	0.627	0.627
Lead-212 (pCi/g)	1.03	1.23	1.13	1.15	1.36	0.753	0.733
Lead-214 (pCi/g)	1.01	1.11	1.14	1.19	1.3	0.737	0.763
Plutonium-238 (pCi/g)							
Plutonium-239/240 (pCi/g)							
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	0.863	0.905	0.915	0.857	1.11	0.627	0.627
Radium-228 (pCi/g)	1.06	1.12	1.09	1.07	1.32	0.663	0.67
Technetium-99 (pCi/g)							
Thorium-228 (pCi/g)	1.06	1.12	1.09	1.07	1.32	0.663	0.67
Thorium-230 (pCi/g)	0.863	0.905	0.915	0.857	1.11	0.627	0.627
Thorium-232 (pCi/g)	1.06	1.12	1.09	1.07	1.32	0.663	0.67
Thallium-208 (pCi/g)	0.337	0.407	0.351	0.399	0.432	0.28	0.223
Total Uranium (pCi/g)	2.53	4.13	1.63	2.35	4.35	3.88	1.39
Uranium-233/234 (pCi/g)							
Uranium-234 (pCi/g)	1.24	2.02	0.798 (U)	1.15 (U)	2.13	1.9	0.68 (U)
Uranium-235 (pCi/g)	0.0546	0.0889	0.0351 (U)	0.0506 (U)	0.0937	0.0836	0.0299 (U)
Uranium-235/236 (pCi/g)							
Uranium-238 (pCi/g)	1.24	2.02	0.798 (U)	1.15 (U)	2.13	1.9	0.68 (U)
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	12	1.9	12.6	6.5	1.7	8.8	3.6

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0026 HSSB0918 9/23/2003 8-10	BKG-SB0027 HSSB0913 9/23/2003 0-0.5	BKG-SB0027 HSSB0914 9/23/2003 0-2	BKG-SB0027 HSSB0915 9/23/2003 4-6	BKG-SB0028 HSSB1598 7/26/2007 0-0.5	BKG-SB0028 HSSB1599 7/26/2007 0.5-2	BKG-SB0029 HSSB1596 7/26/2007 0-0.5
Metals							
Lithium (µg/kg)	20300	23000	18400	11400			
Mercury (µg/kg)	11.1	94	84.6	17.1			
Molybdenum (µg/kg)	2680	2890	2460	1660			
Nickel (µg/kg)	24300	28700	21900	15700			
Uranium-233 (mg/kg)					0.01 (U)	0.01 (U)	0.01 (U)
Uranium-234 (mg/kg)					0.01 (U)	0.01 (U)	0.01 (U)
Uranium-235 (mg/kg)					0.026	0.032	0.018
Uranium-236 (mg/kg)					0.01 (U)	0.01 (U)	0.01 (U)
Uranium-238 (mg/kg)					3.4	4.2	2.4
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
2-Methylnaphthalene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
Acenaphthene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
Acenaphthylene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
Anthracene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
Benzo(a)anthracene (µg/kg)	2.11 (U)	216 (U)	226 (U)	10.6			
Benzo(a)pyrene (µg/kg)	2.11 (U)	216 (U)	226 (U)	21.3 (U)			
Benzo(b)fluoranthene (µg/kg)	2.11 (U)	216 (U)	226 (U)	21.3 (U)			
Benzo(g,h,i)perylene (µg/kg)	2.11 (U)	216 (U)	226 (U)	21.3 (U)			
Benzo(k)fluoranthene (µg/kg)	1.05 (U)	108 (U)	113 (U)	10.6 (U)			
Chrysene (µg/kg)	2.11 (U)	80.6	226 (U)	9.98			
Dibenzo(a,h)anthracene (µg/kg)	2.11 (U)	216 (U)	226 (U)	21.3 (U)			
Fluoranthene (µg/kg)	2.11 (U)	169	226 (U)	18.8			
Fluorene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
Indeno(1,2,3-cd)pyrene (µg/kg)	2.11 (U)	216 (U)	226 (U)	21.3 (U)			
Napthalene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
Phenanthrene (µg/kg)	21.1 (U)	2160 (U)	2260 (U)	213 (U)			
Pyrene (µg/kg)	2.11 (U)	140	226 (U)	23.4			
Radiological Compounds							
Actinium-227 (pCi/g)	0.106	0.0656	0.0488 (U)	0.0519			
Actinium-228 (pCi/g)	1.1	1.05	1.13	1.05	1.45	1.91	0.98
Bismuth-212 (pCi/g)	0.789	0.898	0.678	0.715			
Bismuth-214 (pCi/g)	0.991	1.15	1.04	0.944	1.39	1.15	0.98
Cesium-137 (pCi/g)	-0.0108 (U)	0.167	0.0923	-0.00235 (U)			
Europium-152 (pCi/g)					-0.09 (U)	0.06 (U)	-0.05 (U)
Europium-154 (pCi/g)					0.24 (U)	0.13 (U)	0 (U)
Gross Alpha (pCi/g)					6.3	3.65	3.14
Gross Beta (pCi/g)					14.7	12.7	9.3
Potassium-40 (pCi/g)	17.3	17.2	16.3	14.2	22.6	20.9	17.6
Protactinium-231 (pCi/g)	0.106	0.0656	0.0488 (U)	0.0519			
Lead-210 (pCi/g)	0.762	0.89	0.896	0.776			
Lead-212 (pCi/g)	1.25	1.17	1.18	1.01	1.43	2.02	1.49
Lead-214 (pCi/g)	1.3	1.2	1.23	1.05	1.76	1.52	0.93
Plutonium-238 (pCi/g)					0.067 (U)	-0.006 (U)	-0.018 (U)
Plutonium-239/240 (pCi/g)					-0.006 (U)	0 (U)	-0.006 (U)
Radium-224 (pCi/g)							
Radium-226 (pCi/g)	0.762	0.89	0.896	0.776			
Radium-228 (pCi/g)	1.1	1.05	1.13	1.05			
Technetium-99 (pCi/g)					0.07 (U)	0.03 (U)	0.14 (U)
Thorium-228 (pCi/g)	1.1	1.05	1.13	1.05	0.44	0.64	0.74
Thorium-230 (pCi/g)	0.762	0.89	0.896	0.776	0.74	0.92	0.57
Thorium-232 (pCi/g)	1.1	1.05	1.13	1.05	0.64	0.52	1.04
Thallium-208 (pCi/g)	0.396	0.388	0.347	0.325	0.82	0.59	0.369
Total Uranium (pCi/g)	4.95	3.05	2.27	2.41			
Uranium-233/234 (pCi/g)					1.08	1.28	0.62
Uranium-234 (pCi/g)	2.42	1.49	1.11 (U)	1.18			
Uranium-235 (pCi/g)	0.106	0.0656	0.0488 (U)	0.0519			
Uranium-235/236 (pCi/g)					0.062 (U)	0.03 (U)	0.01 (U)
Uranium-238 (pCi/g)	2.42	1.49	1.11 (U)	1.18	1.5 (U)	5.8	2.7
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)	2.11 (U)	6.8	5.6	3.5			

U - Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-11. Background Soil Sample Results (continued)

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SB0029 HSSB1597 7/26/2007 0.5-2	BKG-SB0030 HSSB1604 7/26/2007 0-0.5	BKG-SB0030 HSSB1605 7/26/2007 0.5-2	BKG-SB0031 HSSB1602 7/26/2007 0-0.5	BKG-SB0031 HSSB1603 7/26/2007 0.5-2	BKG-SB0032 HSSB1600 7/26/2007 0-0.5	BKG-SB0032 HSSB1601 7/26/2007 0.5-2
Metals							
Lithium (µg/kg)							
Mercury (µg/kg)							
Molybdenum (µg/kg)							
Nickel (µg/kg)							
Uranium-233 (mg/kg)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)
Uranium-234 (mg/kg)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)
Uranium-235 (mg/kg)	0.021	0.021	0.022	0.019	0.021	0.022	0.027
Uranium-236 (mg/kg)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)	0.01 (U)
Uranium-238 (mg/kg)	2.7	2.8	2.8	2.5	2.6	2.8	3.5
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene (µg/kg)							
2-Methylnaphthalene (µg/kg)							
Acenaphthene (µg/kg)							
Acenaphthylene (µg/kg)							
Anthracene (µg/kg)							
Benzo(a)anthracene (µg/kg)							
Benzo(a)pyrene (µg/kg)							
Benzo(b)fluoranthene (µg/kg)							
Benzo(g,h,i)perylene (µg/kg)							
Benzo(k)fluoranthene (µg/kg)							
Chrysene (µg/kg)							
Dibenzo(a,h)anthracene (µg/kg)							
Fluoranthene (µg/kg)							
Fluorene (µg/kg)							
Indeno(1,2,3-cd)pyrene (µg/kg)							
Napthalene (µg/kg)							
Phenanthrene (µg/kg)							
Pyrene (µg/kg)							
Radiological Compounds							
Actinium-227 (pCi/g)							
Actinium-228 (pCi/g)	1.45	0.89	0.97	0.92	0.94	1.17	2.28
Bismuth-212 (pCi/g)		0.9					1.24
Bismuth-214 (pCi/g)	1.15	0.89	1.49	1.07	0.76	0.76	1.29
Cesium-137 (pCi/g)							
Europium-152 (pCi/g)	-0.02 (U)	-0.04 (U)	-0.04 (U)	0 (U)	0.14 (U)	-0.04 (U)	0.04 (U)
Europium-154 (pCi/g)	0.1 (U)	-0.12 (U)	0.12 (U)	-0.07 (U)	-0.04 (U)	0.01 (U)	-0.11 (U)
Gross Alpha (pCi/g)	7.7	5.6	3.9	4.6	3.3	3.63	4.6
Gross Beta (pCi/g)	18.6	14.2	13	14.3	12.6	14.2	13.9
Potassium-40 (pCi/g)	15.5	18.2	19.1	15.2	17.5	20.5	23.4
Protactinium-231 (pCi/g)							
Lead-210 (pCi/g)							
Lead-212 (pCi/g)	1.14	1.49	1.51	1.41	1.47	1.68	1.71
Lead-214 (pCi/g)	1.11	0.92	0.94	1.21	0.89	1.19	1.7
Plutonium-238 (pCi/g)	0.003 (U)	-0.016 (U)	-0.015 (U)	-0.023 (U)	0.013 (U)	-0.002 (U)	0.022 (U)
Plutonium-239/240 (pCi/g)	0.0006 (U)	-0.005 (U)	-0.004 (U)	-0.009 (U)	-0.008 (U)	-0.006 (U)	-0.002 (U)
Radium-224 (pCi/g)							2.4
Radium-226 (pCi/g)							
Radium-228 (pCi/g)							
Technetium-99 (pCi/g)	-0.19 (U)	0.23 (U)	0.05 (U)	0.06 (U)	-0.08 (U)	0.14 (U)	0.28 (U)
Thorium-228 (pCi/g)	0.99	0.84	0.41	0.43	0.43	0.32	0.55
Thorium-230 (pCi/g)	1.21	1.07	0.61	0.96	0.49	0.46	1.12
Thorium-232 (pCi/g)	1.13	0.57	0.38	0.42	0.42	0.47	0.69
Thallium-208 (pCi/g)	0.35	0.37	0.56	0.5	0.42	0.6	0.68
Total Uranium (pCi/g)							
Uranium-233/234 (pCi/g)	0.92	0.82	0.82	0.96	0.76	0.97	0.99
Uranium-234 (pCi/g)							
Uranium-235 (pCi/g)							
Uranium-235/236 (pCi/g)	0.037 (U)	0.048 (U)	0.03 (U)	0.05 (U)	0.093	0.024 (U)	0.013 (U)
Uranium-238 (pCi/g)	2.8	4.9	4	2.8	2.55	1.1 (U)	4
Semi-Volatile Organic Compounds							
TPH-DRO (mg/kg)							

U – Analyte not detected.
Results for Actinium-227 are presented using Uranium-235 as a surrogate.
Results for Protactinium-231 are presented using Uranium-235 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Thorium-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Thorium-230 are presented from TA alpha spectroscopy. If not available, results are presented using Radium-226 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-12. Background Sediment Sample Results

Station Sample No Collection Date Sample Depth (ft bgs)	BKG-SD0001 HSSD0003 6/29/2003 0-1	BKG-SD0002 HSSD0002 6/29/2003 0-1	BKG-SD0003 HSSD0001 6/29/2003 0-1	BKG-SD0004 HSSD0008 9/18/2003 0-1	BKG-SD0005 HSSD0009 9/18/2003 0-1	BKG-SD0006 HSSD0010 9/18/2003 0-1	BKG-SD0007 HSSD0011 9/18/2003 0-1	BKG-SD0008 HSSD0012 9/18/2003 0-1	BKG-SD0009 HSSD0007 9/17/2003 0-1	BKG-SD0010 HSSD0006 9/17/2003 0-1	BKG-SD0011 HSSD0005 9/17/2003 0-1	BKG-SD0012 HSSD0004 9/17/2003 0-1
Metals												
Lithium (µg/kg)	16200	19300	13600	12900	16300	12000	9030	9320	7130	9800	10800	8870
Mercury (µg/kg)	28.1	4.81	17.1	71.9	113	65.3	100	23.1	22.3	39.1	12	54.6
Molybdenum (µg/kg)	9450	9270	6670	1840	3090	1890	1480	1630	1260	1480	1310	1500
Nickel (µg/kg)	35900	53900	28800	18600	27300	16900	12500	13800	9960	13100	11200	12500
Radiological Compounds												
Actinium-227 (pCi/g)	0.0832	0.113	0.0413	0.0616 (U)	0.0876	0.0274 (U)	0.0373	0.0497	0.0462	0.0423	0.0638	0.0376
Actinium-228 (pCi/g)	0.946	1.06	1	0.67	1	0.519	0.604	0.403	0.376	0.556	0.634	0.368
Bismuth-212 (pCi/g)	0.58	0.774	0.514	0.505	0.733	0.258	0.496	0.315	0.448	0.382	0.494	0.24
Bismuth-214 (pCi/g)	1.09	1.5	0.865	0.614	0.764	0.64	0.564	0.445	0.38	0.54	0.675	0.415
Cesium-137 (pCi/g)	0.0129 (U)	0.0181 (U)	0.0248 (U)	0.0235 (U)	0.0791	0.0273 (U)	0.0119 (U)	0.00688 (U)	0.0438	0.0475	0.00891 (U)	0.0152
Potassium-40 (pCi/g)	15.9	0 (U)	14.1	11.9	16	10.8	10.5	8.39	8.19	10.3	9.04	8.32
Protactinium-231 (pCi/g)	0.0832	0.113	0.0413	0.0616 (U)	0.0876	0.0274 (U)	0.0373	0.0497	0.0462	0.0423	0.0638	0.0376
Lead-210 (pCi/g)	1.09	1.5	0.865	0.614	0.764	0.64	0.564	0.445	0.38	0.54	0.675	0.415
Lead-212 (pCi/g)	0.958	1.17	0.77	0.7	0.959	0.696	0.703	0.502	0.548	0.676	0.783	0.463
Lead-214 (pCi/g)	1.2	1.9	0.917	0.718	0.981	0.711	0.709	0.54	0.461	0.639	0.809	0.482
Radium-226 (pCi/g)	1.09	1.5	0.865	0.614	0.764	0.64	0.564	0.445	0.38	0.54	0.675	0.415
Radium-228 (pCi/g)	0.946	1.06	1	0.67	1	0.519	0.604	0.403	0.376	0.556	0.634	0.368
Thorium-228 (pCi/g)	0.946	1.06	1	0.67	1	0.519	0.604	0.403	0.376	0.556	0.634	0.368
Thorium-230 (pCi/g)	1.09	1.5	0.865	0.614	0.764	0.64	0.564	0.445	0.38	0.54	0.675	0.415
Thorium-232 (pCi/g)	0.946	1.06	1	0.67	1	0.519	0.604	0.403	0.376	0.556	0.634	0.368
Thorium-234 (pCi/g)	1.89	2.57	0.938	1.4 (U)	1.99	0.622 (U)	0.847	1.13	1.05	0.961	1.45	0.855
Thallium-208 (pCi/g)	0.237	0.331	0.289	0.203	0.273	0.2	0.231	0.134	0.15	0.179	0.217	0.13
Total Uranium (pCi/g)	3.86	5.25	1.92	2.86	4.07	1.27	1.73	2.31	2.15	1.96	2.96	1.75
Uranium-234 (pCi/g)	1.89	2.57	0.938	1.4 (U)	1.99	0.622 (U)	0.847	1.13	1.05	0.961	1.45	0.855
Uranium-235 (pCi/g)	0.0832	0.113	0.0413	0.0616 (U)	0.0876	0.0274 (U)	0.0373	0.0497	0.0462	0.0423	0.0638	0.0376
Uranium-238 (pCi/g)	1.89	2.57	0.938	1.4 (U)	1.99	0.622 (U)	0.847	1.13	1.05	0.961	1.45	0.855
Semi-Volatile Organic Compounds												
TPH-DRO (mg/kg)	148	223	371	4.3	17	33.4	26.5	17.4	59.2	48.8	10.4	56.6

U – Analyte not detected
Results for Actinium-227 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
Results for Lead-210 are presented using Bismuth-214 as a surrogate.
Results for Radium-226 are presented using Bismuth-214 as a surrogate.
Results for Thorium-228 are presented using Radium-228 as a surrogate.
Results for Thorium-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Radium-228 as a surrogate.
Results for Uranium-234 are presented using Uranium-238 as a surrogate.
Results for Uranium-235 are presented using Uranium-238 as a surrogate.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-13. Background Surface Water Sample Results

Station	BKG-SW0001	BKG-SW0002	BKG-SW0003	BKG-SW0004	BKG-SW0005	BKG-SW0006	BKG-SW0007	BKG-SW0008	BKG-SW0009	BKG-SW0010	BKG-SW0011	BKG-SW0012
Sample No	HSSW0003	HSSW0002	HSSW0001	HSSW0011	HSSW0010	HSSW0009	HSSW0008	HSSW0012	HSSW0007	HSSW0006	HSSW0005	HSSW0004
Collection Date	6/29/2003	6/29/2003	6/29/2003	9/18/2003	9/18/2003	9/18/2003	9/18/2003	9/18/2003	9/17/2003	9/17/2003	9/17/2003	9/17/2003
Sample Depth (ft bgs)	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0	0-0
Metals												
Lithium (µg/L)	22.8	23.1	24.5	15.2	14.7	14	14.3	15.3	14	13.4	13.6	13.9
Lithium, Dissolved (µg/L)	20	21.7	24.9									
Mercury (µg/L)	0.599	0.095 (UJ)	0.095 (UJ)	0.033 (UJ)	0.033 (UJ)	0.033 (UJ)	0.033 (UJ)	0.033 (UJ)	0.033 (UJ)	0.033 (UJ)	0.033 (UJ)	0.033 (UJ)
Mercury, Dissolved (µg/L)	0.095 (UJ)	0.095 (UJ)	0.095 (UJ)									
Molybdenum (µg/L)	13.3	13.1	13.1	32.5	31.5	30.6	30.7	33.2	22.2	21.7	21.2	20.6
Molybdenum, Dissolved (µg/L)	13.1	13.4	13.6									
Nickel (µg/L)	5.49	5.45	5.75	9.2	8.7	8.57	8.4	9.45	10	9.77	9.84	10.8
Nickel, Dissolved (µg/L)	5.41	5.49	6.56									
Polycyclic Aromatic Hydrocarbons												
1-Methylnaphthalene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
2-Methylnaphthalene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
Acenaphthene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
Acenaphthylene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
Anthracene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
Benzo(a)anthracene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Benzo(a)pyrene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Benzo(b)fluoranthene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Benzo(g,h,i)perylene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Benzo(k)fluoranthene (µg/L)	0.0248 (U)	0.0245 (U)	0.0245 (U)									
Chrysene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Dibenzo(a,h)anthracene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Fluoranthene (µg/L)	0.0194	0.0292	0.02									
Fluorene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
Indeno(1,2,3-cd)pyrene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Napthalene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
Phenanthrene (µg/L)	0.495 (U)	0.49 (U)	0.49 (U)									
Pyrene (µg/L)	0.0495 (U)	0.049 (U)	0.049 (U)									
Radiological Compounds												
Total Uranium (µg/L)	1.5	1.14	1.15	0.295 (U)	0.165 (U)	0.409 (U)	0.329 (U)	0.193 (U)	1.36	1.46	0.807	1.41
Semi-Volatile Organic Compounds												
TPH-DRO (mg/L)	0.2	0.19	0.17	0.16	0.17	0.17	0.18	0.17	0.16	0.17	0.16	0.14

U – Analyte was not detected.
UJ – Analyte was not detected, detection limit is estimated.
Results for Total Uranium are presented by KPA analysis.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-14. Background Groundwater Sample Results

Station Sample No Collection Date	BKG-MW0001 HSGW0087 11/4/2003	BKG-MW0001 HSGW-009 8/24/2004	BKG-MW0001 HSGW0132 7/26/2007	BKG-MW0002 HSGW0002 7/26/2007	BKG-MW0002 HSGW0086 11/5/2003	BKG-MW0002 HSGW-009 8/25/2004	BKG-MW0003 HSGW0085 11/6/2003	BKG-MW0003 HSGW-009 8/25/2004	BKG-MW0003 HSGW0134 7/27/2007	BKG-MW0004 HSGW0084 11/6/2003	BKG-MW0004 HSGW-009 8/24/2004	BKG-MW0005 HSGW0083 11/5/2003	BKG-MW0005 HSGW-009 8/25/2004	BKG-MW0005 HSGW0135 7/27/2007
Alkalinity, Total as CaCO3 (mg/L)											197			
Alkalinity, Total as CaCO3, Dissolved (mg/L)													185	
Chloride (mg/L)											120			
Chloride, Dissolved (mg/L)													775	
Fluoride (mg/L)											0.245			
Fluoride, Dissolved (mg/L)													0.091	
Nitrate (mg/L)											0.1 (U)			
Nitrate, Dissolved (mg/L)													0.1 (U)	
Nitrite (mg/L)											0.1 (U)			
Nitrite, Dissolved (mg/L)													0.1 (U)	
Ortho-phosphate (mg/L)											0.2 (U)			
Ortho-phosphate, Dissolved (mg/L)													0.2 (U)	
Sulfate (mg/L)											176			
Sulfate, Dissolved (mg/L)													75.4	
Total Dissolved Solids (mg/L)											776			
Total Suspended Solids (mg/L)											60			
Metals														
Aluminum (µg/L)											61			
Aluminum, Dissolved (µg/L)											14.7 (U)		34.3	
Antimony (µg/L)											5.08 (U)			
Antimony, Dissolved (µg/L)											5.08 (U)		5.08 (U)	
Arsenic (µg/L)											28.8			
Arsenic, Dissolved (µg/L)											26.6		4.24	
Barium (µg/L)											61.9			
Barium, Dissolved (µg/L)											62.4		409	
Beryllium (µg/L)											0.158 (U)			
Beryllium, Dissolved (µg/L)											0.158 (U)		0.158 (U)	
Cadmium (µg/L)											0.313 (U)			
Cadmium, Dissolved (µg/L)											0.313 (U)		0.415	
Calcium (µg/L)											155000			
Calcium, Dissolved (µg/L)											153000		323000	
Chromium (µg/L)											0.503 (U)			
Chromium, Dissolved (µg/L)											0.503 (U)		0.503 (U)	
Cobalt (µg/L)											156			
Cobalt, Dissolved (µg/L)											159		0.541 (U)	
Copper (µg/L)											1.39 (U)			
Copper, Dissolved (µg/L)											1.39 (U)		1.39 (U)	
Iron (µg/L)											34500			
Iron, Dissolved (µg/L)											34700		21900	
Lead (µg/L)											1.72 (U)			
Lead, Dissolved (µg/L)											1.72 (U)		1.72 (U)	
Lithium (µg/L)	7.98				9.3		9.37			34.2		29.4		
Lithium, Dissolved (µg/L)	7.37				9.23		8.57			32.6		25.7		

Table 6-14. Background Groundwater Sample Results (continued)

Station Sample No Collection Date	BKG-MW0001 HSGW0087 11/4/2003	BKG-MW0001 HSGW-009 8/24/2004	BKG-MW0001 HSGW0132 7/26/2007	BKG-MW0002 HSGW0002 7/26/2007	BKG-MW0002 HSGW0086 11/5/2003	BKG-MW0002 HSGW-009 8/25/2004	BKG-MW0003 HSGW0085 11/6/2003	BKG-MW0003 HSGW-009 8/25/2004	BKG-MW0003 HSGW0134 7/27/2007	BKG-MW0004 HSGW0084 11/6/2003	BKG-MW0004 HSGW-009 8/24/2004	BKG-MW0005 HSGW0083 11/5/2003	BKG-MW0005 HSGW-009 8/25/2004	BKG-MW0005 HSGW0135 7/27/2007
Magnesium (µg/L)											28200			
Magnesium, Dissolved (µg/L)											28100		71100	
Manganese (µg/L)											2490			
Manganese, Dissolved (µg/L)											2470		386	
Mercury (µg/L)	0.041 (UJ)				0.045 (UJ)		0.033 (UJ)			0.033 (UJ)	0.0472 (U)	0.049 (UJ)		
Mercury, Dissolved (µg/L)	0.049 (UJ)				0.034 (UJ)		0.033 (UJ)			0.033 (UJ)	0.0472 (U)	0.036 (UJ)	0.0472 (U)	
Molybdenum (µg/L)	17.8				1.45		1.87			5.42	4.43	2.3		
Molybdenum, Dissolved (µg/L)	17.9				1.51		1.82			5.22	3.07	2.79	3.67	
Nickel (µg/L)	11.6				43.6		254			6110	6060	16.8		
Nickel, Dissolved (µg/L)	10.7				45.7		331			6390	6190	15.8	1.86	
Potassium (µg/L)											4860			
Potassium, Dissolved (µg/L)											4820		3640	
Selenium (µg/L)											2.81 (U)			
Selenium, Dissolved (µg/L)											5.58		5.24	
Silver (µg/L)											0.835 (U)			
Silver, Dissolved (µg/L)											0.835 (U)		0.835 (U)	
Sodium (µg/L)											37000			
Sodium, Dissolved (µg/L)											35100		105000	
Thallium (µg/L)											10 (U)			
Thallium, Dissolved (µg/L)											10 (U)		10 (U)	
Uranium-233 (µg/L)			0.05 (U)	0.05 (U)					0.05 (U)					0.05 (U)
Uranium-233, Dissolved (µg/L)			0.05 (U)	0.05 (U)					0.05 (U)					0.05 (U)
Uranium-234 (µg/L)			0.05 (U)	0.05 (U)					0.05 (U)					0.05 (U)
Uranium-234, Dissolved (µg/L)			0.05 (U)	0.05 (U)					0.05 (U)					0.05 (U)
Uranium-235 (µg/L)			0.05 (U)	0.05 (U)					0.037					0.05 (U)
Uranium-235, Dissolved (µg/L)			0.05 (U)	0.05 (U)					0.036					0.05 (U)
Uranium-236 (µg/L)			0.05 (U)	0.05 (U)					0.05 (U)					0.05 (U)
Uranium-236, Dissolved (µg/L)			0.05 (U)	0.05 (U)					0.05 (U)					0.05 (U)
Uranium-238 (µg/L)			1.3	0.067					5.8					0.2
Uranium-238, Dissolved (µg/L)			1.4	0.05					5.6					0.19
Vanadium (µg/L)											0.606 (U)			
Vanadium, Dissolved (µg/L)											0.606 (U)		1.37	
Zinc (µg/L)											32.3			
Zinc, Dissolved (µg/L)											31.8		0.883 (U)	
Radiological Compounds														
Actinium-227 (pCi/L)	0.0259	0.00893 (U)			0.0013 (U)	0.00673 (U)	0.116	0.0906		0.0103 (U)	0.0123 (U)	0.00349 (U)	0.00135(U)	
Americium-241 (pCi/L)			-0.011 (U)	0.032 (U)					0.053 (U)					-0.025 (U)
Americium-241, Dissolved (pCi/L)			0.002 (U)	-0.017 (U)					0 (U)					-0.023 (U)
Cesium-137 (pCi/L)			2.5 (U)	1.8 (U)					1 (U)					3.6 (U)
Cesium-137, Dissolved (pCi/L)			-2.3 (U)	-0.3 (U)					2 (U)					-2.7 (U)
Europium-152 (pCi/L)			-0.6 (U)	8 (U)					7 (U)					-0.7 (U)
Europium-152, Dissolved (pCi/L)			-2 (U)	-3 (U)					-3 (U)					5 (U)
Europium-154 (pCi/L)			-12 (U)	23 (U)					-9 (U)					26 (U)
Europium-154, Dissolved (pCi/L)			-9 (U)	-13 (U)					0 (U)					22 (U)

Table 6-14. Background Groundwater Sample Results (continued)

Station Sample No Collection Date	BKG-MW0001 HSGW0087 11/4/2003	BKG-MW0001 HSGW-009 8/24/2004	BKG-MW0001 HSGW0132 7/26/2007	BKG-MW0002 HSGW0002 7/26/2007	BKG-MW0002 HSGW0086 11/5/2003	BKG-MW0002 HSGW-009 8/25/2004	BKG-MW0003 HSGW0085 11/6/2003	BKG-MW0003 HSGW-009 8/25/2004	BKG-MW0003 HSGW0134 7/27/2007	BKG-MW0004 HSGW0084 11/6/2003	BKG-MW0004 HSGW-009 8/24/2004	BKG-MW0005 HSGW0083 11/5/2003	BKG-MW0005 HSGW-009 8/25/2004	BKG-MW0005 HSGW0135 7/27/2007
Radiological Compounds (continued)														
Gross Alpha (pCi/L)			7.5	7.3					8.7					3.6 (U)
Gross Alpha, Dissolved (pCi/L)			9.8	3.8					5.7					4.1 (U)
Gross Beta (pCi/L)			17.3	2.7 (U)					8.7					3.7 (U)
Gross Beta, Dissolved (pCi/L)			21	2.6 (U)					6.7					1.2 (U)
Potassium-40 (pCi/L)			12 (U)	-30 (U)					-60 (U)					84 (U)
Potassium-40, Dissolved (pCi/L)			-20 (U)	0 (U)					30 (U)					-40 (U)
Neptunium-237 (pCi/L)			0.016 (U)	0.061 (U)					0.031 (U)					0.01 (U)
Neptunium-237, Dissolved (pCi/L)			0.051 (U)	0.062 (U)					0.04 (U)					0.094
Protactinium-231 (pCi/L)	0.0143	0.0324			0.0013 (U)	0.000739(U)	0.0911	0.0906		0.0051 (U)	0.0123 (U)	0.0016 (U)	0.0141 (U)	
Lead-210 (pCi/L)		0.776				0.832		0.163 (U)			0.202 (U)		1.5	
Plutonium-238 (pCi/L)			-0.003 (U)	-0.023 (U)					-0.008 (U)					-0.015 (U)
Plutonium-238, Dissolved (pCi/L)			-0.005 (U)	-0.011 (U)					0.038 (U)					0.03 (U)
Plutonium-239/240 (pCi/L)			-0.004 (U)	0.028 (U)					-0.004 (U)					-0.003 (U)
Plutonium-239/240, Dissolved (pCi/L)			0.008 (U)	-0.004 (U)					-0.004 (U)					-0.013 (U)
Radium-226 (pCi/L)		0.775				0.832		0.163 (U)			0.325 (U)		1.5	
Radium-226, Dissolved (pCi/L)		0.776		0.94					0.27		0.202 (U)			2.29
Radium-228 (pCi/L)		2.28				1.49 (U)		0.799 (U)			1.47 (U)		2.78	
Radium-228, Dissolved (pCi/L)		1.57		0.35 (U)					0.48 (U)		1.65 (U)			1.58
Technetium-99 (pCi/L)			-0.1 (U)	0.04 (U)					0.8 (U)					0.4 (U)
Technetium-99, Dissolved (pCi/L)			1.2 (U)	-0.8 (U)					-0.3 (U)					0.5 (U)
Thorium-228 (pCi/L)	0.272 (U)	-0.159 (U)			2.63	-0.192 (U)	0.112 (U)	0.0715 (U)		-0.0259 (U)	0.227 (U)	0.279 (U)	-0.0664 (U)	
Thorium-228, Dissolved (pCi/L)	-0.0224 (U)	0.112 (U)			-0.0728 (U)	-0.0927 (U)	0.43 (U)	0.00451 (U)		0.0289 (U)	0.0519 (U)	0.0158 (U)	0.223 (U)	
Thorium-230 (pCi/L)	0.206 (U)	0.511 (U)			1.04 (U)	0.531 (U)	0.27 (U)	0.315 (U)		0.431 (U)	0.266 (U)	0.117 (U)	0.456 (U)	
Thorium-230, Dissolved (pCi/L)	0.0995 (U)	0.47 (U)			0.124 (U)	0.65 (U)	0.727 (U)	-0.136 (U)		1.25 (U)	0.563 (U)	0.358 (U)	0.721	
Thorium-232 (pCi/L)	0.000352 (U)	0.229 (U)			0.112 (U)	-0.0727 (U)	0.0887 (U)	-0.0145 (U)		-0.00169 (U)	0 (U)	0.019 (U)	0.28 (U)	
Thorium-232, Dissolved (pCi/L)	0.0559 (U)	0.238 (U)			0.00843 (U)	-0.381 (U)	0.0413 (U)	-0.0189 (U)		0.187 (U)	0.144 (U)	0.033 (U)	0.0772 (U)	
Total Uranium (µg/L)	1.31	0.797			0.245	0 (U)	6.84	4.34		0.481	0.855	0.427	0 (U)	
Total Uranium, Dissolved (µg/L)	1.38	0.668			0 (U)	0 (U)	6.7	5.65		0.47	0.431	0.282	0 (U)	
Uranium-233/234 (pCi/L)	0.466	0.344 (U)			0.0944 (U)	0.14 (U)	2.7	1.97		0.105 (U)	0.451 (U)	0.0567 (U)	0.0766 (U)	
Uranium-233/234, Dissolved (pCi/L)	0.765	0.295 (U)			0.147 (U)	-0.115 (U)	2.93	2.65		0.379	0.983	-0.0557 (U)	0.453 (U)	
Uranium-235/236 (pCi/L)	0.0634 (U)	0.083 (U)			0.0241 (U)	0.059 (U)	0.381	0.212 (U)		-0.0115 (U)	0.0189 (U)	0.0102 (U)	-0.074 (U)	
Uranium-235/236, Dissolved (pCi/L)	0.117 (U)	0.0377 (U)			0.0125 (U)	-0.0357 (U)	0.11 (U)	0.151 (U)		0.224	0.208 (U)	-0.0223 (U)	0.0354 (U)	
Uranium-238 (pCi/L)	0.326	0.203 (U)			0.0463 (U)	0.153 (U)	2.63	1.98		0.116 (U)	0.336 (U)	0.0364 (U)	0.321 (U)	
Uranium-238, Dissolved (pCi/L)	0.589	0.737			0.0296 (U)	-0.0168 (U)	2.07	2.06		0.233 (U)	0.28 (U)	0.0794 (U)	-0.0307 (U)	
Semi-Volatile Organic Compounds														
TPH-DRO (mg/L)	0.18				0.12		0.12			0.22		0.038		

U – Analyte was not detected.
UJ - Analyte was not detected, detection limit is estimated.
Results for Actinium-227 are presented using Uranium-238 as a surrogate.
Results for Protactinium-231 are presented using Uranium-238 as a surrogate.
Results for Lead-210 are presented using Radium-226 as a surrogate.
Results for Total Uranium are presented by KPA analysis.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-15. RI Data Summary -Volumetric Building Material Sample Results

Station	Sample No	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA01-BM0001	HSBM0002	0.20 (U)	0.84 (U)	39.20	0.21 (U)	**4,291.00**
IA01-BM0002	HSBM0013	0.30 (U)	0.55 (U)	2.87	0.42	**552.80**
IA01-BM0003	HSBM0012	0.00 (U)	1.14	10.40	0.20 (U)	**2,315.30**
IA01-BM0004	HSBM0004	0.00 (U)	0.22 (U)	2.13	0.20	**74.34**
IA01-BM0005	HSBM0001	0.30 (U)	0.02 (U)	2.46	0.07 (U)	**2,138.70**
IA01-BM0006	HSBM0003	0.16 (U)	0.14 (U)	0.33	0.21 (U)	6.09
IA01-BM0007	HSBM0011	1.25	1.01	1.70	0.93	**844.10**
IA01-BM0008	HSBM0026	0.28	1.00 (U)	2.05	0.34	**226.90**
IA01-BM0009	HSBM0025	0.60	1.00 (U)	1.26	0.77	**72.76**
IA01-BM0010	HSBM0024	0.50 (U)	1.00 (U)	0.73	1.00 (U)	**774.70**
IA01-BM0011	HSBM0023	0.50 (U)	1.00 (U)	1.02	0.42	**167.66**
IA01-BM0012	HSBM0022	0.18	0.46 (U)	31.10	0.34 (U)	**359.31**
IA01-BM0013	HSBM0021	0.00 (U)	0.74 (U)	1.70	0.40	**1,610.20**
IA01-BM0014	HSBM0019	0.29	0.31 (U)	1.91	0.26 (U)	**87.85**
IA01-BM0015	HSBM0020	0.31 (U)	0.55 (U)	833.00	3.28	**13,381.00**
IA01-BM0016	HSBM0009	0.00 (U)	0.14 (U)	0.79	0.60	**359.90**
IA01-BM0017	HSBM0010	0.65	0.68	2.65	0.76	**743.50**
IA01-BM0018	HSBM0005	0.16 (U)	0.03 (U)	1.47	0.13 (U)	**313.50**
IA01-BM0019	HSBM0006	1.90	2.09	33.60	1.82	**419.70**
IA01-BM0020	HSBM0007	0.00 (U)	0.73	92.90	0.64	**734.10**
IA01-BM0025	HSBM0067	0.00 (U)	0.81	11.50	0.44	**2,358.80**
IA01-BM0026	HSBM0068	0.47	0.60	5.00	0.58	**247.38**
IA02-BM0005	HSBM0048	0.22 (U)	0.08 (U)	3.14	0.11 (U)	**540.90**
IA02-BM0006	HSBM0049	0.07 (U)	0.58 (U)	1.03	0.26	**124.75**
IA02-BM0007	HSBM0050	0.19 (U)	0.41 (U)	0.27 (U)	0.19 (U)	2.15
IA02-BM0009	HSBM0046	0.12 (U)	0.12 (U)	0.26 (U)	0.19 (U)	2.47
IA02-BM0010	HSBM0074	0.05 (U)	0.30 (U)	0.37	0.02 (U)	**17.93**
IA02-BM0011	HSBM0078	0.20 (U)	0.48 (U)	0.88	0.62	0.00
IA02-BM0012	HSBM0073	0.00 (U)	0.07 (U)	0.24 (U)	0.25	0.00
IA02-BM0013	HSBM0076	0.11 (U)	0.24 (U)	0.59	0.25	2.74
IA02-BM0014	HSBM0047	0.19 (U)	0.40 (U)	0.68	0.53	0.44
IA02-BM0015	HSBM0071	0.73	1.05	2.74	0.88	**89.21**
IA02-BM0016	HSBM0072	0.85	1.02	4.45	1.11	**30.70**
IA02-BM0101	HSBM0102	0.13 (U)	0.25	0.50	0.16	7.17
IA02-BM0104	HSBM0103	0.35	1.07	1.48	0.74	**15.60**
IA02-BM0105	HSBM0105	0.74	0.77	1.54	0.81	**20.82**
IA02-BM0106	HSBM0106	0.47	0.63	1.58	0.75	12.85
IA02-BM0108	HSBM0104	0.14	0.14	0.45	0.21	6.01

U - Not detected

Bold indicates results above screening level of 13 pCi/g of Total Uranium.

Table 6-16. Volumetric Building Material Sample Results - Waste Characterization

Station Sample No Collection Date	IA01-BM0002 HSBM0013 6/30/2003	IA01-BM0003 HSBM0012 6/30/2003	IA01-BM0007 HSBM0011 6/30/2003	IA01-BM0009 HSBM0025 7/11/2003	IA01-BM0013 HSBM0021 7/10/2003	IA01-BM0017 HSBM0010 6/30/2003
Miscellaneous						
Paint Filter (NA)	Fail	Pass	Fail	Pass	Pass	Fail
pH (SU)	7.11	6.65	12	11.1	9.98	8.63
Reactive Releasable Cyanide (µg/kg)	ND	ND	ND	25	498	12.3
Reactive Releasable Sulfide (mg/kg)	43.7	33.1	247	ND	36.7	50.9
Setaflash-200 (Fahrenheit)	200	200	200	200	200	200
Radiological Compounds						
Actinium-228 (pCi/g)	ND	ND	1.25	ND	ND	0.651
Americium-241 (pCi/g)	ND	ND	ND	ND	ND	ND
Bismuth-212 (pCi/g)	ND	ND	0.699	ND	ND	ND
Bismuth-214 (pCi/g)	0.931	0.282	0.911	0.562	0.483	2.44
Cesium-137 (pCi/g)	ND	0.176	ND	ND	ND	ND
Potassium-40 (pCi/g)	2.36	4.66	16.4	5.64	4.07	7.46
Lead-212 (pCi/g)	0.337	ND	ND	0.59	0.145	0.937
Lead-214 (pCi/g)	1.12	0.507	1.04	0.611	0.628	2.97
Radium-228 (pCi/g)	ND	ND	1.25	0.599	ND	0.651
Thorium-228 (pCi/g)	ND	1.14	1.01	ND	ND	0.684
Thorium-230 (pCi/g)	2.87	10.4	1.7	1.26	1.7	2.65
Thorium-232 (pCi/g)	0.425	ND	0.934	0.772	0.404	0.764
Thorium-234 (pCi/g)	269	1130	410	35.5	782	361
Thallium-208 (pCi/g)	0.111	ND	0.358	0.165	ND	0.265
Total Activity (pCi/g) (liquid scintillation counting)	617	634	2060	77.1	5100	1260
Total Uranium (pci/g)	552.8	2315.3	844.1	72.76	1610.2	743.5
Uranium-235 (pCi/g)	14.8	55.3	24.1	1.76	46.2	21.5
Uranium-238 (pCi/g)	269	1130	410	35.5	782	361
Herbicides						
2,4,5-TP-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
2,4-D-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Metals						
Arsenic-TCLP (mg/L)	0.034	0.033	0.033	0.033	0.033	0.033
Barium-TCLP (mg/L)	0.743	0.884	0.427	0.289	0.149	0.405

Table 6-16. Volumetric Building Material Sample Results - Waste Characterization (continued)

Station Sample No Collection Date	IA01-BM0002 HSBM0013 6/30/2003	IA01-BM0003 HSBM0012 6/30/2003	IA01-BM0007 HSBM0011 6/30/2003	IA01-BM0009 HSBM0025 7/11/2003	IA01-BM0013 HSBM0021 7/10/2003	IA01-BM0017 HSBM0010 6/30/2003
Metals (continued)						
Cadmium-TCLP (mg/L)	0.007	0.01	0.007	0.007	0.007	0.007
Chromium-TCLP (mg/L)	0.017	0.002	0.018	0.017	0.036	0.114
Lead-TCLP (mg/L)	0.024	0.078	0.024	0.027	0.024	0.024
Mercury-TCLP (mg/L)	0.001	0.001	0.001	0.001	0.001	0.001
Selenium-TCLP (mg/L)	0.034	0.034	0.034	0.034	0.034	0.034
Silver-TCLP (mg/L)	0.017	0.017	0.017	0.017	0.017	0.017
Pesticides						
Chlordane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Endrin-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
gamma-BHC-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Heptachlor epoxide-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Heptachlor-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Methoxychlor-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Toxaphene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Semi-Volatile Organic Compounds						
1,4-Dichlorobenzene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Hexachlorobenzene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Hexachloroethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
m,p-Cresols-TCLP (mg/L)	0.31	0.13	ND	ND	ND	ND
Nitrobenzene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
o-Cresol-TCLP (mg/L)	0.11	0.037	ND	ND	ND	ND
Pentachlorophenol-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Pyridine-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds						
1,1,1-Trichloroethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND

Table 6-16. Volumetric Building Material Sample Results - Waste Characterization (continued)

Station Sample No Collection Date	IA01-BM0002 HSBM0013 6/30/2003	IA01-BM0003 HSBM0012 6/30/2003	IA01-BM0007 HSBM0011 6/30/2003	IA01-BM0009 HSBM0025 7/11/2003	IA01-BM0013 HSBM0021 7/10/2003	IA01-BM0017 HSBM0010 6/30/2003
Volatile Organic Compounds (continued)						
1,1-Dichloroethylene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
2-Butanone-TCLP (mg/L)	ND	ND	ND	0.031	0.031	ND
2-Hexanone-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Acetone-TCLP (mg/L)	ND	ND	ND	0.074	ND	ND
Benzene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Bromodichloromethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Bromoform-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Bromomethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Carbon Disulfide-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Chlorobenzene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Chloroethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Chloroform-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Chloromethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropylene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Dibromochloromethane-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Ethylbenzene-TCLP (mg/L)	0.004	0.005	ND	ND	ND	ND
Hexachlorobutadiene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Methylene Chloride-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Styrene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Tetrachloroethylene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Toluene-TCLP (mg/L)	0.006	0.006	ND	ND	ND	ND
trans-1,3-Dichloropropylene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Trichloroethylene-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Vinyl acetate-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Vinyl Chloride-TCLP (mg/L)	ND	ND	ND	ND	ND	ND
Xylene (total)-TCLP (mg/L)	0.004	ND	ND	ND	ND	ND

ND-not detected TCLP- Toxicity Characteristic Leaching Procedure

Table 6-17. Building G-1 Exterior Survey Data Summary

Unit	Description	No. of Locations	Minimum[a]		Maximum[a]		Mean[a]		Median[a]		% > Criteria[b]	
			Total	Smear	Total	Smear	Total	Smear	Total	Smear	Total	Smear
1M1	Exterior Walls	305	0	0	104,861	89	6,951	7	3,994	0	26.9	0.0
1M2	Roof	179	408	0	395,830	455	33,486	39	14,483	16	63.7	0.0
1M5	Windowsills – Exterior	84	905	0	324,820	66	47,798	7	32,800	0	89.3	0.0
1M10	Discretionary – Exterior	29	0	0	205,273	32	37,735	9	16,463	4	58.6	0.0

[a]Disintegrations per minute (dpm)/ 100 cm^2.
[b]Criteria are 1,000 dpm/100 cm^2 for removable beta activity and 5,000 dpm/100 cm^2 for total beta activity.
Except for "% > Criteria," all data are rounded to the nearest whole number.

Table 6-18. Building G-1 Interior Survey Data Summary

Unit	Description	No. of Locations	Minimum[a]		Maximum[a]		Mean[a]		Median[a]		% > Criteria[b]	
			Total	Smear	Total	Smear	Total	Smear	Total	Smear	Total	Smear
1M3	S. Structure Walls	366	62	0	1,518,459	1,733	42,655	54	17,642	16	70.2	0.7
1M4	N. Structure Walls	339	0	0	534,270	2,048	21,720	75	9,058	13	50.1	1.3
1M6	1st Floor	169	0	0	490,088	847	43,299	144	25,593	64	84.6	0.0
1M7	2nd Floor	47	467	0	231,133	355	48,082	74	37,395	54	55.3	0.0
1M8	Mezzanine Floor	3	6,536	0	370,540	56	134,986	19	28,801	0	100.0	0.0
1M9	E. Structure 2nd Floor	7	3,994	0	26,366	103	9,754	31	10,464	22	71.4	0.0
1M11	E. Structure Walls	32	117	0	275,067	246	31,878	51	17,682	26	59.4	0.0
1M12	2nd Level Walls	245	64	0	441,785	2,442	14,205	59	7,532	11	42.0	1.4
1M13	E. Structure 2nd/3rd Walls	70	280	0	247,683	87	58,454	20	64,658	13	82.9	0.0
1M14	E. Structure 3rd Floor	7	5032	0	257,220	4,100	60,466	803	26,315	8	100.0	22.2

[a]Disintegrations per minute (dpm)/ 100 cm^2.
[b]Criteria are 1,000 dpm/100 cm^2 for removable beta activity and 5,000 dpm/100 cm^2 for total beta activity.
Except for "% > Criteria," all data are rounded to the nearest whole number.

Table 6-19. Boiler House Survey Data Summary

Unit	Description	No. of Locations	Minimum[a]		Maximum[a]		Mean[a]		Median[a]		% > Criteria[b]	
			Total	Smear	Total	Smear	Total	Smear	Total	Smear	Total	Smear
2M1	Exterior Walls	169	0	0	5,102	82	964	11	1,055	2	0.6	0.0
2M2	Window Sills – Exterior	20	2,179	0	42,381	32	16,000	16	11,188	18	95.0	0.0
2M3	Roof	46	0	0	1,340	32	206	11	146	8	0.0	0.0
2M4	Interior Walls -	266	0	0	1,899	48	827	6	860	0	0.0	0.0
2M5	Floor and Mezzanine	64	0	0	3,299	16	525	2	260	0	0.0	0.0

[a]Disintegrations per minute (dpm)/ 100 cm^2.
[b]Criteria are 1,000 dpm/100 cm^2 for removable beta activity and 5,000 dpm/100 cm^2 for total beta activity.
Except for "% > Criteria," all data are rounded to the nearest whole number.

Table 6-20. Foundry Survey Data Summary

Unit	Description	No. of Locations	Minimum[a]		Maximum[a]		Mean[a]		Median[a]		% > Criteria[b]	
			Total	Smear	Total	Smear	Total	Smear	Total	Smear	Total	Smear
3M1	Exterior Walls	222	0	0	18,603	64	699	7	582	0	1.8	0.0
3M2	Window Sills – Exterior	24	0	0	800,613	11	55,899	2	8,102	0	75.0	0.0
3M3	Roof	101	0	0	12,826	39	657	8	116	4	5.0	0.0

[a]Disintegrations per minute (dpm)/ 100 cm^2.
[b]Criteria are 1,000 dpm/100 cm^2 for removable beta activity and 5,000 dpm/100 cm^2 for total beta activity.
Except for "% > Criteria," all data are rounded to the nearest whole number.

Table 6-21. Warehouse Survey Data Summary

Unit	Description	No. of Locations	Minimum[a]		Maximum[a]		Mean[a]		Median[a]		% > Criteria[b]	
			Total	Smear	Total	Smear	Total	Smear	Total	Smear	Total	Smear
4M1	Exterior Walls -	358	0	0	3158	48	123	5	0	0	0.0	0.0
4M2	Ramps – Exterior	62	0	0	4305	45	366	5	104	0	0.0	0.0
4M3	Window Sills – Exterior	61	0	0	6104	39	851	7	500	0	1.6	0.0
4M4	Labs and Offices	102	0	0	693	24	46	5	0	0	0.0	0.0
4M5	Roof	247	0	0	4272	52	435	5	124	0	0.0	0.0
4M6	Roof Structures	245	0	0	1779	52	257	8	120	0	0.0	0.0
4M8	Discretionary Points – Exterior	20	0	0	2343	29	328	10	100	0	0.0	0.0

[a]Disintegrations per minute (dpm)/ 100 cm^2.
[b]Criteria are 1,000 dpm/100 cm^2 for removable beta activity and 5,000 dpm/100 cm^2 for total beta activity.
Except for "% > Criteria," all data are rounded to the nearest whole number.

Table 6-22. Garage Survey Data Summary

Unit	Description	No. of Locations	Minimum[a]		Maximum[a]		Mean[a]		Median[a]		% > Criteria[b]	
			Total	Smear	Total	Smear	Total	Smear	Total	Smear	Total	Smear
5M1	Exterior Walls	130	0	0	1679	41	154	7	93	0	0.0	0.0
5M2	Window Sills – Exterior	23	0	0	3765	18	1265	6	926	2	0.0	0.0
5M3	Roof	20	0	0	317	34	54	10	0	3	0.0	0.0

[a]Disintegrations per minute (dpm)/ 100 cm^2.
[b]Criteria are 1,000 dpm/100 cm^2 for removable beta activity and 5,000 dpm/100 cm^2 for total beta activity.
Except for "% > Criteria," all data are rounded to the nearest whole number.

Table 6-23. Scale House Survey Data Summary

Unit	Description	No. of Locations	Minimum[a]		Maximum[a]		Mean[a]		Median[a]		% > Criteria[b]	
			Total	Smear	Total	Smear	Total	Smear	Total	Smear	Total	Smear
6M1	Exterior Walls and Roof	37	0	0	1024.0	4	560	1	584	0	0.0	0.0
6M2	Interior Walls and Floor	20	7	0	1375.0	0	590	0	508	0	0.0	0.0

[a]Disintegrations per minute (dpm)/ 100 cm^2.
[b]Criteria are 1,000 dpm/100 cm^2 for removable beta activity and 5,000 dpm/100 cm^2 for total beta activity.
Except for "% > Criteria," all data are rounded to the nearest whole number.

Table 6-24. Building Radiation Survey Reference Measurement Results

Instrument	Count	Alpha									Beta								
		Steel	Tile	Brick	Concrete	Cinder	Glass	Cubes	Drywall	Wood	Steel	Tile	Brick	Concrete	Cinder	Glass	Cubes	Drywall	Wood
Instrument 1 S.N. 193676 On: 5/14/2003	1	1	1	0	1	0	3	4	2	NS	202	245	337	250	382	200	218	197	NS
	2	1	0	0	1	2	3	5	4	NS	199	247	369	238	380	173	185	187	NS
	3	2	0	3	1	0	4	3	2	NS	197	241	404	330	275	179	190	211	NS
	4	1	2	1	4	1	2	0	3	NS	190	267	369	342	337	191	181	187	NS
	5	0	1	3	1	1	2	0	1	NS	207	260	427	318	347	211	153	172	NS
	Average	**1**	**0.8**	**1.4**	**1.2**		**4.4**		**2.4**	NS	**199**	**252**	**381.2**	**319.9**		**188.1**		**190.8**	NS
Instrument 2 S.N. 193667 On: 5/14/2003	1	5	1	2	1	1	2	0	1	NS	200	211	379	286	353	160	176	223	NS
	2	0	0	0	2	1	2	2	1	NS	225	243	396	249	323	219	202	219	NS
	3	2	1	0	6	1	2	1	1	NS	198	266	316	290	416	197	211	184	NS
	4	1	1	1	1	0	5	1	1	NS	198	263	345	332	266	164	197	194	NS
	5	2	2	5	0	2	5	0	2	NS	184	253	370	317	383	219	168	169	NS
	Average	**2**	**1**	**1.6**	**1.5**		**2**		**1.2**	NS	**201**	**247.2**	**361.2**	**321.5**		**191.3**		**197.8**	NS
Instrument 3 S.N. 193692 On: 5/14/2003	1	0	1	0	0	0	2	0	1	NS	158	226	322	269	340	124	205	139	NS
	2	3	1	1	1	0	1	3	0	NS	167	215	297	236	358	193	135	179	NS
	3	1	0	2	1	0	3	4	2	NS	170	231	316	195	242	174	183	195	NS
	4	1	2	1	1	1	2	0	1	NS	209	198	346	251	312	178	176	189	NS
	5	2	2	2	0	0	5	4	1	NS	165	202	328	231	337	189	182	204	NS
	Average	**1.4**	**1.2**	**1.2**	**0.4**		**2.4**		**1**	NS	**173.8**	**214.4**	**321.8**	**277.1**		**173.9**		**181.2**	NS
Instrument 4 S.N. 185777 On: 5/14/2003	1	1	1	0	1	1	0	1	0	NS	158	220	372	291	240	147	165	182	NS
	2	1	0	3	2	0	2	2	3	NS	182	213	337	222	342	198	182	181	NS
	3	1	2	0	0	2	3	2	1	NS	185	244	291	253	347	170	212	161	NS
	4	0	0	3	0	1	3	2	2	NS	175	201	291	300	308	190	149	169	NS
	5	1	1	1	0	4	2	0	1	NS	157	208	352	323	269	186	175	158	NS
	Average	**0.8**	**0.8**	**1.4**	**1.1**		**1.7**		**1.4**	NS	**171.4**	**217.2**	**328.6**	**289.5**		**177.4**		**170.2**	NS
Instrument 5 S.N. 193664 On: 5/14/2003	1	1	2	1	0	2	2	2	4	NS	210	237	349	300	261	148	206	167	NS
	2	1	2	0	0	1	2	4	0	NS	167	212	304	330	326	202	179	161	NS
	3	1	1	3	3	1	2	2	0	NS	169	212	317	248	376	195	200	155	NS
	4	1	1	0	2	3	9	3	1	NS	167	262	388	189	353	181	146	197	NS
	5	0	2	0	5	3	3	5	3	NS	186	265	315	253	323	185	185	183	NS
	Average	**0.8**	**1.6**	**0.8**	**2**		**3.4**		**1.6**	NS	**179.8**	**237.6**	**334.6**	**295.9**		**182.7**		**172.6**	NS
Instrument 6 S.N. 145469 On: 5/14/2003	1	0	2	1	1	2	4	3	3	NS	184	249	308	327	462	186	221	182	NS
	2	1	0	0	0	1	4	0	2	NS	195	247	351	302	379	216	227	207	NS
	3	1	0	0	3	1	3	0	1	NS	200	288	415	237	315	204	227	180	NS
	4	1	0	2	0	2	3	5	1	NS	185	245	452	259	324	214	208	209	NS
	5	1	1	1	1	1	3	4	1	NS	211	264	365	300	360	212	163	221	NS
	Average	**0.8**	**0.6**	**0.8**	**1.2**		**2.9**		**1.6**	NS	**195**	**258.6**	**378.2**	**326.5**		**207.8**		**199.8**	NS
Instrument 7 S.N. 193664 On: 6/4/2003	1	2	6	0	1	2	1	2	3	NS	142	181	254	209	244	142	151	145	NS
	2	2	0	3	0	0	1	2	3	NS	140	136	243	175	303	121	139	138	NS
	3	2	3	5	2	3	5	5	3	NS	138	154	228	214	224	156	170	125	NS
	4	0	2	1	0	1	3	6	2	NS	139	174	263	177	222	157	121	124	NS
	5	1	3	2	0	2	1	5	3	NS	138	162	257	187	188	150	131	149	NS
	Average	**1.4**	**2.8**	**2.2**	**1.1**		**3.1**		**2.8**	NS	**139.4**	**161.4**	**249**	**214.3**		**143.8**		**136.2**	NS
Instrument 8 S.N. 184959 On: 6/4/2003	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1258	NS	NS	NS	NS	NS
	2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1112	NS	NS	NS	NS	NS
	3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1271	NS	NS	NS	NS	NS
	4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1236	NS	NS	NS	NS	NS
	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1294	NS	NS	NS	NS	NS
	Average	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1234.2**	NS	NS	NS	NS	NS

Table 6-24. Building Radiation Survey Reference Measurement Results (continued)

Instrument	Count	Alpha									Beta								
		Steel	Tile	Brick	Concrete	Cinder	Glass	Cubes	Drywall	Wood	Steel	Tile	Brick	Concrete	Cinder	Glass	Cubes	Drywall	Wood
Instrument 9 S.N. 184949 On: 6/4/2003	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1183	NS	NS	NS	NS	NS
	2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1020	NS	NS	NS	NS	NS
	3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1093	NS	NS	NS	NS	NS
	4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1149	NS	NS	NS	NS	NS
	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1052	NS	NS	NS	NS	NS
	Average	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1099.4**	NS	NS	NS	NS	NS
Instrument A S.N.NA On: 5/19/2004	1	1	NS	0	NS	NS	1	NS	NS	0	229	NS	370	1183	NS	193	NS	NS	242
	2	1	NS	1	NS	NS	1	NS	NS	1	224	NS	402	1020	NS	230	NS	NS	248
	3	1	NS	1	NS	NS	2	NS	NS	1	225	NS	355	1093	NS	225	NS	NS	217
	4	1	NS	1	NS	NS	1	NS	NS	0	200	NS	367	1149	NS	247	NS	NS	282
	5	0	NS	1	NS	NS	1	NS	NS	2	199	NS	363	1052	NS	253	NS	NS	266
	Average	**0.8**	NS	**0.8**	NS	NS	**1.2**	NS	NS	**0.8**	**215.4**	NS	**371.4**	**1099.4**	NS	**229.6**	NS	NS	**251**
Instrument B S.N. NA On: 5/19/2004	1	2	NS	1	NS	NS	2	NS	NS	2	299	NS	509	1183	NS	355	NS	NS	300
	2	3	NS	2	NS	NS	1	NS	NS	2	308	NS	541	1020	NS	303	NS	NS	263
	3	0	NS	1	NS	NS	3	NS	NS	2	307	NS	471	1093	NS	279	NS	NS	319
	4	2	NS	2	NS	NS	1	NS	NS	1	262	NS	487	1149	NS	281	NS	NS	383
	5	2	NS	4	NS	NS	3	NS	NS	0	280	NS	463	1052	NS	277	NS	NS	353
	Average	**1.8**	NS	**2**	NS	NS	**2**	NS	NS	**1.4**	**291.2**	NS	**494.2**	**1099.4**	NS	**299**	NS	NS	**323.6**
Instrument C S.N. NA On: 5/19/2004	1	1	NS	2	NS	NS	3	NS	NS	0	309	NS	464	1183	NS	250	NS	NS	306
	2	1	NS	1	NS	NS	1	NS	NS	1	228	NS	474	1020	NS	263	NS	NS	273
	3	0	NS	1	NS	NS	1	NS	NS	1	232	NS	417	1093	NS	259	NS	NS	283
	4	2	NS	2	NS	NS	0	NS	NS	2	251	NS	445	1149	NS	285	NS	NS	358
	5	2	NS	1	NS	NS	0	NS	NS	1	241	NS	459	1052	NS	292	NS	NS	319
	Average	**1.2**	NS	**1.4**	NS	NS	**1**	NS	NS	**1**	**252.2**	NS	**451.8**	**1099.4**	NS	**269.8**	NS	NS	**307.8**
Instrument D S.N. 185777 On: 5/19/2004	1	3	NS	0	NS	NS	2	NS	NS	2	301	NS	409	1183	NS	221	NS	NS	237
	2	1	NS	4	NS	NS	3	NS	NS	3	273	NS	465	1020	NS	247	NS	NS	227
	3	0	NS	0	NS	NS	1	NS	NS	0	242	NS	407	1093	NS	215	NS	NS	248
	4	0	NS	1	NS	NS	2	NS	NS	3	246	NS	454	1149	NS	236	NS	NS	329
	5	0	NS	0	NS	NS	0	NS	NS	3	242	NS	408	1052	NS	246	NS	NS	284
	Average	**0.8**	NS	**1**	NS	NS	**1.6**	NS	NS	**2.2**	**260.8**	NS	**428.6**	**1099.4**	NS	**233**	NS	NS	**265**

NS = not surveyed
Phase I background for wood and roofing material = steel, and background for ceramic tile = brick
In order to limit the number of surface types, concrete/cinderblock and glass/window cubes were combined

Table 6-25. Historical Soil Data Summary

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
A3	Chev-Par-A-Grid A3s SL06/30/1997	0 - 2	**9.20**
ABH196	ParA-ENG196-A(0-2) SL	0 - 2	**9.80** (U)
ABH197	ParA-ENG197-A(0-2) SL	0 - 2	**28.00**
ABH198	ParA-ENG198-A(0-2) SL	0 - 2	**9.00** (U)
ABH199	ParA-ENG199-A(0-2) SL	0 - 2	**15.80**
ABH200	ParA-ENG200-A(0-2) SL	0 - 2	**17.40**
ABH201	ParA-ENG201-A(0-2) SL	0 - 2	**17.40**
ABH202	ParA-ENG202-A(0-2) SL	0 - 2	**21.80**
ABH203	ParA-ENG203-A(0-2) SL	0 - 2	**20.80**
ABH204	ParA-ENG204-A(0-2) SL	0 - 2	**10.80**
ABH205	ParA-ENG205-A(0-2) SL	0 - 2	**11.60**
ABH206	ParA-ENG206-A(0-2) SL	0 - 2	**12.40**
ABH206	ParA-ENG206-B(2-4) SL	2 - 4	**17.20**
ABH207	ParA-ENG207-A(1-2) SL	1 - 2	**10.60**
ABH207	ParA-ENG207-B(2-4) SL	2 - 4	**18.00**
ABH208	ParA-ENG208-A(0-1) SL	0 - 1	**13.40**
ABH208	ParA-ENG208-B(1-2) SL	1 - 2	**8.40** (U)
ABH208	ParA-ENG208-C(2-3) SL	2 - 3	**47.20**
ABH208	ParA-ENG208-D(3-4) SL	3 - 4	**11.80**
ABH209	ParA-ENG209-A(0-2) SL	0 - 2	**13.40**
ABH210	ParA-ENG210-A(0-2) SL	0 - 2	**27.00**
ABH211	ParA-ENG211-A(0-2) SL	0 - 2	**6.40**
ABH212	ParA-ENG212-A(0-2) SL	0 - 2	**8.80**
ABH213	ParA-ENG213-A(0-2) SL	0 - 2	**11.20**
ABH214	ParA-ENG214-A(0-1) SL	0 - 1	**45.20**
ABH214	ParA-ENG214-B(2-3) SL	2 - 3	**24.40**
ABH215	ParA-ENG215-A(0-2) SL	0 - 2	**5.40** (U)
ABH215	ParA-ENG215-B(2-4) SL	2 - 4	**12.20**
ABH216	ParA-ENG216-A(0-2) SL	0 - 2	**6.40**
ABH217	ParA-ENG217-A(0-2) SL	0 - 2	**25.00**
ABH218	ParA-ENG218-A(0-2) SL	0 - 2	**54.80**
ABH218	ParA-ENG218-B(2-4) SL	2 - 4	**12.80**
ABH219	ParA-ENG219-A(0-1) SL	0 - 1	**30.00**
ABH219	ParA-ENG219-B(2-3) SL	2 - 3	**18.20**
ABH220	ParA-ENG220-A(0-1) SL	0 - 1	**55.60**
ABH220	ParA-ENG220-B(2-3) SL	2 - 3	**42.40**
ABH221	ParA-ENG221-A(0-1) SL	0 - 1	**20.60**
ABH221	ParA-ENG221-B(3-4) SL	3 - 4	**45.60**
ABH222	ParA-ENG222-A(0-1) SL	0 - 1	**83.60**
ABH222	ParA-ENG222-B(2-3) SL	2 - 3	**100.60**
ABH223	ParA-ENG223-A(0-1) SL	0 - 1	**47.80**
ABH223	ParA-ENG223-B(2-3) SL	2 - 3	**99.20**
ABH223	ParA-ENG223-C(3-4) SL	3 - 4	**268.00**
ABH224	ParA-ENG224-A(0-1) SL	0 - 1	**1,502.00**
ABH224	ParA-ENG224-B(2-3) SL	2 - 3	**542.00**
ABH224	ParA-ENG224-C(4-5) SL	4 - 5	**900.00**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
ABH225	ParA-ENG225-A(0-1) SL	0 - 1	**60.60**
ABH225	ParA-ENG225-B(2-3) SL	2 - 3	**16.80**
ABH226	ParA-ENG226-A(0-1) SL	0 - 1	**53.60**
ABH226	ParA-ENG226-B(2-3) SL	2 - 3	**70.00**
ABH226	ParA-ENG226-C(3-4) SL	3 - 4	**16.60**
ABH227	ParA-ENG227-A(0-1) SL	0 - 1	**49.00**
ABH227	ParA-ENG227-B(2-3) SL	2 - 3	**44.20**
ABH228	ParA-ENG228-A(0-1) SL	0 - 1	**30.60**
ABH228	ParA-ENG228-B(1-2) SL	1 - 2	**302.00**
ABH228	ParA-ENG228-C(3-4) SL	3 - 4	**22.80**
ABH229	ParA-ENG229-A(0-1) SL	0 - 1	**36.20**
ABH229	ParA-ENG229-B(1-2) SL	1 - 2	**118.80**
ABH229	ParA-ENG229-C(2-3) SL	2 - 3	**11.40**
ABH230	ParA-ENG230-A(0-1) SL	0 - 1	**350.00**
ABH230	ParA-ENG230-B(2-3) SL	2 - 3	**276.00**
ABH231	ParA-ENG231-A(0-1) SL	0 - 1	**34.60**
ABH231	ParA-ENG231-B(2-3) SL	2 - 3	**11.60** (U)
ABH232	ParA-ENG232-A(0-1) SL	0 - 1	**21.20**
ABH232	ParA-ENG232-B(2-3) SL	2 - 3	**19.40**
ABH233	ParA-ENG233-A(0-1) SL	0 - 1	**33.40**
ABH233	ParA-ENG233-B(2-3) SL	2 - 3	**11.20**
ABH234	ParA-ENG234-A(0-1) SL	0 - 1	**26.80**
ABH234	ParA-ENG234-B(2-3) SL	2 - 3	**29.40**
ABH235	ParA-ENG235-A(0-1) SL	0 - 1	**105.40**
ABH235	ParA-ENG235-B(1-2) SL	1 - 2	**112.20**
ABH235	ParA-ENG235-C(2-3) SL	2 - 3	**126.20**
ABH236	ParA-ENG236-A(0-1) SL	0 - 1	**24.40**
ABH236	ParA-ENG236-B(2-3) SL	2 - 3	**128.40**
ABH238	ParA-ENG238-A(0-1) SL	0 - 1	**59.20**
ABH238	ParA-ENG238-B(2-3) SL	2 - 3	**18.20**
ABH238	ParA-ENG238-C(3-4) SL	3 - 4	**17.60**
ABH241	ParA-ENG241-A(0-1) SL	0 - 1	**65.80**
ABH241	ParA-ENG241-B(2-3) SL	2 - 3	**38.80**
ABH243	ParA-ENG243-A(0-1) SL	0 - 1	**71.20**
ABH243	ParA-ENG243-B(2-3) SL	2 - 3	**14.20**
ABH245	ParA-ENG245-A(0-1) SL	0 - 1	**84.00**
ABH245	ParA-ENG245-B(2-3) SL	2 - 3	**68.80**
ABH246	ParA-ENG246-A(0-2) SL	0 - 2	**48.20**
ABH246	ParA-ENG246-B(2-4) SL	2 - 4	**109.60**
ABH248	ParA-ENG248-A(0-1) SL	0 - 1	**41.20**
ABH248	ParA-ENG248-B(2-3) SL	2 - 3	**16.80** (U)
ABH251	ParA-ENG251-A(0-1) SL	0 - 1	**180.40**
ABH251	ParA-ENG251-B(2-3) SL	2 - 3	**430.00**
ABH251	ParA-ENG251-C(3-4) SL	3 - 4	**256.00**
ABH252	ParA-ENG252-A(0-1) SL	0 - 1	**496.00**
ABH252	ParA-ENG252-B(1-2) SL	1 - 2	**1,018.00**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)	
ABH252	ParA-ENG252-C(2-3) SL	2 - 3	**238.00**	
ABH252	ParA-ENG252-D(3-4) SL	3 - 4	**175.00**	
B2	Chev-Par-A-Grid B2s SL06/30/1997	0 - 2	**673.00**	
B3	Chev-Par-A-Grid B3s SL06/30/1997	0 - 2	**7.60**	(U)
C1	Chev-Par-A-Grid C1s SL06/30/1997	0 - 2	**560.00**	
C2	Chev-Par-A-Grid C2s SL06/30/1997	0 - 2	**1,156.00**	
C3	Chev-Par-A-Grid C3s SL06/30/1997	0 - 2	**37.60**	
C4	Chev-Par-A-Grid C4s SL06/30/1997	0 - 2	**5.60**	(U)
NBH1	ENG-01-001S(0-6") SL	0 - 0.5	**5.90**	(U)
NBH1	ENG-01-002(6"-2') SL	0.5 - 2	**4.80**	(U)
NBH1	ENG-01-003(2'-4') SL	2 - 4	**6.40**	(U)
NBH10	ENG-10-028S(0-6") SL	0 - 0.5	**6.20**	(U)
NBH10	ENG-10-029(6"-2') SL	0.5 - 2	**7.30**	(U)
NBH10	ENG-10-030(2'-4') SL	2 - 4	**9.10**	(U)
NBH100	ENG-100-311S(0-6") SL	0 - 0.5	**43.60**	
NBH100	ENG-100-312(6"-1') SL	0.5 - 1	**127.80**	
NBH100	ENG-100-313(1'-2') SL	1 - 2	**117.40**	
NBH100	ENG-100-314(2'-3') SL	2 - 3	**115.20**	
NBH100	ENG-100-315(3'-4') SL	3 - 4	**5.40**	(U)
NBH101	ENG-101-316S(0-6") SL	0 - 0.5	**122.40**	
NBH101	ENG-101-317(6"-1') SL	0.5 - 1	**53.40**	
NBH101	ENG-101-318(1'-2') SL	1 - 2	**30.80**	
NBH101	BH101A-1(0-2') SL04/03/1998	0 - 2	**56.40**	
NBH101	ENG-101-319(2'-3') SL	2 - 3	**24.00**	
NBH101	BH101A-2(2-3') SL04/03/1998	2 - 3	**78.60**	
NBH101	BH101A-3(3-4') SL04/03/1998	3 - 4	**6.20**	(U)
NBH101	ENG-101-320(3'-4') SL	3 - 4	**94.40**	
NBH102	ENG-102-321S(0-1') SL	0 - 1	**25.40**	
NBH102	ENG-102-322(1'-2') SL	1 - 2	**7.70**	
NBH102	ENG-102-323(2'-4') SL	2 - 4	**7.30**	
NBH103	ENG-103-324S(0-6") SL	0 - 0.5	**28.00**	
NBH103	ENG-103-325(6"-2') SL	0.5 - 2	**133.10**	
NBH103	ENG-103-326(2'-4') SL	2 - 4	**62.00**	
NBH104	ENG-104-327S(0-6") SL	0 - 0.5	3.20	(U)
NBH104	ENG-104-328(6"-2') SL	0.5 - 2	**27.00**	
NBH104	ENG-104-329(2'-3') SL	2 - 3	**108.20**	
NBH105	ENG-105-330S(0-6") SL	0 - 0.5	**5.90**	(U)
NBH105	ENG-105-331(6"-2') SL	0.5 - 2	**39.60**	
NBH105	ENG-105-332(2'-4') SL	2 - 4	**6.50**	(U)
NBH106	ENG-106-333S(0-6") SL	0 - 0.5	**151.80**	
NBH106	ENG-106-334(6"-1') SL	0.5 - 1	**228.00**	
NBH106	ENG-106-335(1'-1.5') SL	1 - 1.5	**67.20**	
NBH106	ENG-106-336(1.5'-2') SL	1.5 - 2	**42.00**	
NBH107	ENG-107-337S(0-6") SL	0 - 0.5	**4,760.00**	
NBH107	BH107A-1(0-2') SL	0 - 2	**636.00**	
NBH107	BH107A-2(2-4') SL	2 - 4	**9.60**	

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH107	ENG-107-338(6"-10") SL	6 - 10	**1,050.00**
NBH108	ENG-108-339S(0-6") SL	0 - 0.5	**90.80**
NBH108	ENG-108-340(6"-1') SL	0.5 - 1	**118.80**
NBH108	ENG-108-341(1'-2') SL	1 - 2	**87.80**
NBH109	ENG-109-342S(0-6") SL	0 - 0.5	**127.80**
NBH11	ENG-11-031S(0-6") SL	0 - 0.5	**48.00**
NBH11	ENG-11-032(6"-2') SL	0.5 - 2	**4.60**
NBH11	ENG-11-033(2'-4') SL	2 - 4	**20.40**
NBH110	ENG-110-343S(0-6") SL	0 - 0.5	**39.20**
NBH110	ENG-110-344(6"-1') SL	0.5 - 1	**97.40**
NBH110	ENG-110-345(1'-1.5') SL	1 - 1.5	**93.60**
NBH110	BH110A-1(0-2') SL04/03/1998	0 - 2	**75.40**
NBH110	ENG-110-346(1.5'-2') SL	1.5 - 2	**110.80**
NBH110	BH110A-2(2-4') SL04/03/1998	2 - 4	**25.80**
NBH111	ENG-111-347S(0-6") SL	0 - 0.5	**55.60**
NBH111	ENG-111-348(6"-1') SL	0.5 - 1	**47.00**
NBH112	ENG-112-349S(0-6") SL	0 - 0.5	**45.60**
NBH112	ENG-112-350(6"-9") SL	6 - 9	**34.40**
NBH113	ENG-113-351S(0-6") SL	0 - 0.5	**67.20**
NBH113	ENG-113-352(6"-10") SL	6 - 10	**67.20**
NBH114	ENG-114-353S(0-6") SL	0 - 0.5	**17.30**
NBH114	ENG-114-354(6"-1') SL	0.5 - 1	**25.40**
NBH115	ENG-115-355S(0-6") SL	0 - 0.5	**29.80**
NBH115	ENG-115-356(6"-10") SL	6 - 10	**31.00**
NBH116	ENG-116-357S(0-6") SL	0 - 0.5	**33.80**
NBH116	ENG-116-358(6"-10") SL	6 - 10	**26.60**
NBH117	ENG-117-359S(0-6") SL	0 - 0.5	**26.80**
NBH12	ENG-12-034S(0-6") SL	0 - 0.5	**9.00** (U)
NBH12	ENG-12-035(6"-2') SL	0.5 - 2	**7.00** (U)
NBH12	ENG-12-036(2'-4') SL	2 - 4	**6.20** (U)
NBH126	ENG-BH-126(0-2') SL04/02/1998	0 - 2	**30.00**
NBH126	ENG-BH-126(2-4') SL04/02/1998	2 - 4	**25.60**
NBH126	ENG-BH-126(4-6') SL04/02/1998	4 - 6	**14.80**
NBH126	ENG-BH-126(6-8') SL04/02/1998	6 - 8	**6.60**
NBH127	ENG-BH-127(0-2') SL04/02/1998	0 - 2	**8.40**
NBH127	ENG-BH-127(2-4') SL04/02/1998	2 - 4	**8.80** (U)
NBH127	ENG-BH-127(4-8') SL04/02/1998	4 - 8	**6.60**
NBH13	ENG-13-037S(0-6") SL	0 - 0.5	**31.80**
NBH13	ENG-13-038(6"-1') SL	0.5 - 1	**48.00**
NBH13	ENG-13-039(1'-3.5') SL	1 - 3.5	**5.50** (U)
NBH14	ENG-14-040S(0-6") SL07/17/1995	0 - 0.5	**959.00**
NBH14	ENG-14-041(6"-2') SL07/17/1995	0.5 - 2	**6.30** (U)
NBH14	ENG-14-042(2'-4') SL07/17/1995	2 - 4	**5.40** (U)
NBH15	ENG-15-043S(0-6") SL	0 - 0.5	**45.20**
NBH15	ENG-15-044(6"-2') SL	0.5 - 2	**7.70**
NBH15	ENG-15-045(2'-4') SL	2 - 4	**22.80**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH151	ENG-BH-151(0-2') SL04/03/1998	0 - 2	**16.40**
NBH151	ENG-BH-151(2-4') SL04/03/1998	2 - 4	**9.40** (U)
NBH152	ENG-BH-152(0-2') SL04/03/1998	0 - 2	**24.00**
NBH152	ENG-BH-152(2-4') SL04/03/1998	2 - 4	**6.80**
NBH153	ENG-BH-153(0-2') SL04/03/1998	0 - 2	**59.60**
NBH153	ENG-BH-153(2-4') SL04/03/1998	2 - 4	**12.00**
NBH154	ENG-BH-154(0-2') SL04/03/1998	0 - 2	**35.80**
NBH154	ENG-BH-154(2-3') SL04/03/1998	2 - 3	**5.80**
NBH154	ENG-BH-154(3-4') SL04/03/1998	3 - 4	**9.20** (U)
NBH155	ENG-BH-155(0-2') SL04/03/1998	0 - 2	**6.80**
NBH155	ENG-BH-155(2-4') SL04/03/1998	2 - 4	**7.20** (U)
NBH16	ENG-16-046S(0-6") SL	0 - 0.5	**5.80** (U)
NBH16	ENG-16-047(6"-2') SL	0.5 - 2	**4.60** (U)
NBH16	ENG-16-048(2'-4') SL	2 - 4	**4.10** (U)
NBH160	ENG-BH-160(0-2') SL04/07/1998	0 - 2	**8.40**
NBH160	ENG-BH-160(2-4') SL04/07/1998	2 - 4	**39.60**
NBH160	ENG-BH-160(4-6') SL04/07/1998	4 - 6	**9.80**
NBH17	ENG-17-049S(0-6") SL	0 - 0.5	**9.50** (U)
NBH17	ENG-17-050(6"-2') SL	0.5 - 2	2.70 (U)
NBH17	ENG-17-051(2'-4') SL	2 - 4	2.50 (U)
NBH178	ENG-BH-178(0-2') SL	0 - 2	**8.00**
NBH178	ENG-BH-178(2-4') SL	2 - 4	**17.40**
NBH178	ENG-BH-178(4-5') SL	4 - 5	**10.20**
NBH178	ENG-BH-178(5-6') SL	5 - 6	**7.20** (U)
NBH179	ENG-BH-179(0-2') SL	0 - 2	**13.60**
NBH179	ENG-BH-179(2-4') SL	2 - 4	**23.20**
NBH179	ENG-BH-179(4-6') SL	4 - 6	**15.00**
NBH179	ENG-BH-179(6-8') SL	6 - 8	**16.00**
NBH179	ENG-BH-179(8-10') SL	8 - 10	**7.60**
NBH179	ENG-BH-179(10-12') SL	10 - 12	**7.40** (U)
NBH18	ENG-18-052S(0-6") SL	0 - 0.5	**59.80**
NBH18	ENG-18-053(6"-2') SL	0.5 - 2	**56.20**
NBH18	ENG-18-054(2'-4') SL	2 - 4	**10.90**
NBH180	ENG-BH-180(0-4') SL	0 - 4	**37.80**
NBH180	ENG-BH-180(8-10') SL	8 - 10	**10.00**
NBH180	ENG-BH-180(10-12') SL	10 - 12	**7.60** (U)
NBH181	ENG-BH-181(0-2') SL	0 - 2	**8.00** (U)
NBH181	ENG-BH-181(2-4') SL	2 - 4	**7.80** (U)
NBH182	ENG-BH-182(0-2') SL	0 - 2	**8.00**
NBH182	ENG-BH-182(2-4') SL	2 - 4	**8.20** (U)
NBH183	ENG-BH-183(0-2') SL	0 - 2	**8.60**
NBH183	ENG-BH-183(2-4') SL	2 - 4	**7.80** (U)
NBH184	ENG-BH-184(0-2') SL	0 - 2	**7.80**
NBH184	ENG-BH-184(2-4') SL	2 - 4	**7.80**
NBH185	ENG-BH-185(0-2') SL	0 - 2	**9.40**
NBH185	ENG-BH-185(2-4') SL	2 - 4	**7.00** (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH185	ENG-BH-185(4-8') SL	4 - 8	**10.00**
NBH185	ENG-BH-185(8-9') SL	8 - 9	**8.80**
NBH185	ENG-BH-185(9-10') SL	9 - 10	**7.80** (U)
NBH19	ENG-19-055S(0-6") SL07/18/1995	0 - 0.5	**73.40**
NBH19	ENG-19-056(6"-2') SL07/18/1995	0.5 - 2	**8.90**
NBH19	ENG-19-057(2'-4') SL07/18/1995	2 - 4	**10.60**
NBH2	ENG-02-004S(0-6") SL	0 - 0.5	**72.20**
NBH2	ENG-02-005(6"-2') SL	0.5 - 2	**14.30**
NBH2	ENG-02-006(2'-4') SL	2 - 4	**7.90** (U)
NBH20	ENG-20-058S(0-6") SL07/18/1995	0 - 0.5	**19.70**
NBH20	ENG-20-059(6"-2') SL07/18/1995	0.5 - 2	**33.20**
NBH20	ENG-20-060(2'-4') SL07/18/1995	2 - 4	**20.10**
NBH21	ENG-21-061S(0-6") SL07/18/1995	0 - 0.5	**29.40**
NBH21	ENG-21-062(6"-2') SL07/18/1995	0.5 - 2	**5.00** (U)
NBH21	ENG-21-063(2'-4') SL07/18/1995	2 - 4	**31.20**
NBH22	ENG-22-064S(0-6") SL07/18/1995	0 - 0.5	**34.80**
NBH22	BH22A-1(0-2') SL04/03/1998	0 - 2	**452.00**
NBH22	ENG-22-065(6"-2') SL07/18/1995	0.5 - 2	**13.80**
NBH22	BH22A-2(0-4') SL04/03/1998	0 - 4	**14.20**
NBH22	ENG-22-066(2'-4') SL07/18/1995	2 - 4	**36.20**
NBH23	ENG-23-067S(0-6") SL	0 - 0.5	**7.10** (U)
NBH23	ENG-23-068(6"-2') SL	0.5 - 2	**5.50** (U)
NBH23	ENG-23-069(2'-4') SL	2 - 4	**6.40** (U)
NBH24	ENG-24-070S(0-6") SL	0 - 0.5	**29.20**
NBH24	ENG-24-071(6"-2') SL	0.5 - 2	**10.00**
NBH24	ENG-24-072(2'-4') SL	2 - 4	**12.40**
NBH25	ENG-25-073S(0-6") SL	0 - 0.5	**43.00**
NBH25	ENG-25-074(6"-2') SL	0.5 - 2	**5.50** (U)
NBH26	ENG-26-076S(0-6") SL	0 - 0.5	**7.60** (U)
NBH26	ENG-26-077(6"-2') SL	0.5 - 2	**34.00**
NBH26	ENG-26-078(2'-4') SL	2 - 4	3.70 (U)
NBH27	ENG-27-079S(0-6") SL	0 - 0.5	**6.40** (U)
NBH27	ENG-27-080(6"-2') SL	0.5 - 2	**4.10** (U)
NBH27	ENG-27-081(2'-4') SL	2 - 4	**4.40** (U)
NBH28	ENG-28-082S(0-6") SL	0 - 0.5	**5.50** (U)
NBH28	ENG-28-083(6"-2') SL	0.5 - 2	**6.50** (U)
NBH28	ENG-28-084(2'-4') SL	2 - 4	**22.60**
NBH29	ENG-29-085S(0-6") SL10/31/1997	0 - 0.5	**4.50** (U)
NBH29	ENG-29-086(6"-2') SL10/31/1997	0.5 - 2	**5.10** (U)
NBH29	ENG-29-087(2'-4') SL10/31/1997	2 - 4	**5.40** (U)
NBH3	ENG-03-007S(0-6") SL	0 - 0.5	**5.80** (U)
NBH3	ENG-03-008(6"-2') SL	0.5 - 2	**11.40**
NBH3	ENG-03-009(2'-4') SL	2 - 4	**6.70** (U)
NBH30	ENG-30-088S(0-6") SL	0 - 0.5	**4.70** (U)
NBH30	ENG-30-089(6"-2') SL	0.5 - 2	**5.60** (U)
NBH30	ENG-30-090(2'-4') SL	2 - 4	**4.40** (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH31	ENG-31-091S(0-6") SL	0 - 0.5	0.10 (U)
NBH31	ENG-31-092(6"-2') SL	0.5 - 2	**4.10** (U)
NBH31	ENG-31-093(2'-4') SL	2 - 4	**14.80**
NBH32	ENG-32-094S(0-6") SL	0 - 0.5	**6.40** (U)
NBH32	ENG-32-095(6"-2') SL	0.5 - 2	**5.00** (U)
NBH32	ENG-32-096(2'-4') SL	2 - 4	**6.20** (U)
NBH33	ENG-33-097S(0-6") SL	0 - 0.5	**6.00** (U)
NBH33	ENG-33-098(6"-2') SL	0.5 - 2	**4.30** (U)
NBH33	ENG-33-099(2'-4') SL	2 - 4	**5.00** (U)
NBH34	ENG-34-100S(0-6") SL	0 - 0.5	**7.20** (U)
NBH34	ENG-34-101(6"-2') SL	0.5 - 2	**24.40**
NBH34	ENG-34-102(2'-4') SL	2 - 4	**6.20** (U)
NBH35	ENG-35-103S(0-6") SL	0 - 0.5	**6.20** (U)
NBH35	ENG-35-104(6"-2') SL	0.5 - 2	**6.90** (U)
NBH35	ENG-35-105(2'-4') SL	2 - 4	**6.10** (U)
NBH36	ENG-36-106S(0-6") SL	0 - 0.5	**19.60**
NBH36	ENG-36-107(6"-2') SL	0.5 - 2	**31.00**
NBH36	ENG-36-108(2'-4') SL	2 - 4	**19.20**
NBH37	ENG-37-109S(0-6") SL07/18/1995	0 - 0.5	**959.00**
NBH37	ENG-37-110(6"-1') SL07/18/1995	0.5 - 1	**77.00**
NBH37	BH37A-1(0-2') SL04/03/1998	0 - 2	**744.00**
NBH37	ENG-37-111(1'-2') SL07/18/1995	1 - 2	**47.80**
NBH37	ENG-37-112(2'-2.5') SL07/18/1995	2 - 2.5	**29.20**
NBH37	BH37A-2(2-4') SL04/03/1998	2 - 4	**92.00**
NBH37	ENG-37-113(2.5'-4') SL07/18/1995	2.5 - 4	**86.60**
NBH37	BH37A-3(4-6') SL04/03/1998	4 - 6	**59.20**
NBH37	BH37A-4(6-8') SL04/03/1998	6 - 8	**8.20**
NBH38	ENG-38-115S(0-6") SL	0 - 0.5	**8.20** (U)
NBH38	ENG-38-116(6"-2') SL	0.5 - 2	**18.60**
NBH38	ENG-38-117(2'-4') SL	2 - 4	**14.10**
NBH39	ENG-39-118S(0-6") SL	0 - 0.5	**8.00** (U)
NBH39	ENG-39-119(6"-2') SL	0.5 - 2	**6.00** (U)
NBH39	ENG-39-120(2'-4') SL	2 - 4	**7.10** (U)
NBH4	ENG-04-010S(0-6") SL	0 - 0.5	**7.80** (U)
NBH4	ENG-04-011(6"-2') SL	0.5 - 2	**39.40**
NBH4	ENG-04-012(2'-4') SL	2 - 4	3.54 (U)
NBH40	ENG-40-121S(0-6") SL	0 - 0.5	**53.20**
NBH40	ENG-40-122(6"-2') SL	0.5 - 2	-6.50 (U)
NBH40	ENG-40-123(2'-4') SL	2 - 4	**5.00** (U)
NBH41	ENG-41-124S(0-6") SL	0 - 0.5	**5.00** (U)
NBH41	ENG-41-125(6"-2') SL	0.5 - 2	**8.10** (U)
NBH41	ENG-41-126(2'-4') SL	2 - 4	**6.80** (U)
NBH42	ENG-42-127S(0-6") SL	0 - 0.5	3.80 (U)
NBH42	ENG-42-128(6"-2') SL	0.5 - 2	**8.50** (U)
NBH42	ENG-42-129(2'-4') SL	2 - 4	**9.00** (U)
NBH43	ENG-43-130S(0-6") SL10/31/1997	0 - 0.5	**6.90** (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH43	ENG-43-131(6"-2') SL10/31/1997	0.5 - 2	**6.60** (U)
NBH43	ENG-43-132(2'-4') SL10/31/1997	2 - 4	**6.10** (U)
NBH43	ENG-43-133(4'-6') SL10/31/1997	4 - 6	**5.50** (U)
NBH44	ENG-44-134S(0-6") SL	0 - 0.5	**15.80**
NBH44	ENG-44-135(6"-1') SL	0.5 - 1	**10.40** (U)
NBH44	ENG-44-136(1'-2') SL	1 - 2	**6.30** (U)
NBH45	ENG-45-137S(0-6") SL	0 - 0.5	**4.60** (U)
NBH45	ENG-45-138(6"-2') SL	0.5 - 2	**6.60** (U)
NBH45	ENG-45-139(2'-4') SL	2 - 4	**6.40** (U)
NBH46	ENG-46-140S(0-6") SL	0 - 0.5	**8.90** (U)
NBH46	ENG-46-141(6"-2') SL	0.5 - 2	**8.60** (U)
NBH46	ENG-46-142(2'-4') SL	2 - 4	**8.60** (U)
NBH47	ENG-47-143S(0-6") SL	0 - 0.5	**7.00** (U)
NBH47	ENG-47-144(6"-2') SL	0.5 - 2	**9.20** (U)
NBH47	ENG-47-145(2'-4') SL	2 - 4	**6.80** (U)
NBH48	ENG-48-146S(0-6") SL	0 - 0.5	**6.60** (U)
NBH48	ENG-48-147(6"-2') SL	0.5 - 2	**8.40** (U)
NBH48	ENG-48-148(2'-4') SL	2 - 4	**4.60** (U)
NBH49	ENG-49-149S(0-6") SL	0 - 0.5	**4.20** (U)
NBH49	ENG-49-150(6"-2') SL	0.5 - 2	**7.70** (U)
NBH49	ENG-49-151(2'-4') SL	2 - 4	**5.90** (U)
NBH5	ENG-05-013S(0-6") SL	0 - 0.5	**12.40**
NBH5	ENG-05-014(6"-2') SL	0.5 - 2	**16.40**
NBH5	ENG-05-015(2'-4') SL	2 - 4	3.60 (U)
NBH50	ENG-50-152S(0-6") SL	0 - 0.5	**14.90**
NBH50	ENG-50-153(6"-2') SL	0.5 - 2	**46.20**
NBH50	ENG-50-154(2'-3') SL	2 - 3	3.60 (U)
NBH51	ENG-51-155S(0-6") SL	0 - 0.5	**11.00**
NBH51	ENG-51-156(6"-2') SL	0.5 - 2	**6.10** (U)
NBH51	ENG-51-157(2'-4') SL	2 - 4	3.90 (U)
NBH52	ENG-52-158S(0-6") SL	0 - 0.5	3.70 (U)
NBH52	ENG-52-159(6"-2') SL	0.5 - 2	3.80 (U)
NBH52	ENG-52-160(2'-3') SL	2 - 3	3.80 (U)
NBH53	ENG-53-161S(0-6") SL	0 - 0.5	**21.20**
NBH53	ENG-53-162(6"-2') SL	0.5 - 2	**6.20** (U)
NBH53	ENG-53-163(2'-4') SL	2 - 4	3.80 (U)
NBH54	ENG-54-164S(0-6") SL	0 - 0.5	**28.00**
NBH54	ENG-54-165(6"-2') SL	0.5 - 2	**36.40**
NBH54	ENG-54-166(2'-3') SL	2 - 3	**6.40** (U)
NBH55	ENG-55-167S(0-6") SL07/19/1995	0 - 0.5	**58.40**
NBH55	ENG-55-168(6"-2') SL07/19/1995	0.5 - 2	**7.20** (U)
NBH55	ENG-55-169(2'-4') SL07/19/1995	2 - 4	2.70 (U)
NBH56	ENG-56-170S(0-6") SL	0 - 0.5	**39.60**
NBH56	ENG-56-171(6"-2') SL	0.5 - 2	**5.10** (U)
NBH56	ENG-56-172(2'-4') SL	2 - 4	**5.60** (U)
NBH57	ENG-57-173S(0-6") SL	0 - 0.5	**15.50**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH57	ENG-57-174(6"-2') SL	0.5 - 2	**4.50** (U)
NBH57	ENG-57-175(2'-4') SL	2 - 4	**5.50** (U)
NBH58	ENG-58-176S(0-6") SL07/19/1995	0 - 0.5	**164.10**
NBH58	ENG-58-177(6"-1') SL07/19/1995	0.5 - 1	**60.20**
NBH58	BH58A-1(0-2') SL04/03/1998	0 - 2	**252.00**
NBH58	ENG-58-178(1'-2') SL07/19/1995	1 - 2	**64.20**
NBH58	ENG-58-179(2'-4') SL07/19/1995	2 - 4	**41.20**
NBH58	BH58A-2(2-4') SL04/03/1998	2 - 4	**133.80**
NBH58	BH58A-3(4-6') SL04/03/1998	4 - 6	**20.80**
NBH58	BH58A-4(6-8') SL04/03/1998	6 - 8	**8.00**
NBH59	ENG-59-180S(0-6") SL07/19/1995	0 - 0.5	**81.20**
NBH59	ENG-59-181(6"-1') SL07/19/1995	0.5 - 1	**90.20**
NBH59	ENG-59-182(1'-2') SL07/19/1995	1 - 2	**27.00**
NBH59	ENG-59-183(2'-4') SL07/19/1995	2 - 4	**38.80**
NBH6	ENG-06-016S(0-6") SL	0 - 0.5	**37.00**
NBH6	ENG-06-017(6"-2') SL	0.5 - 2	**69.60**
NBH6	ENG-06-018(2'-4') SL	2 - 4	**11.70**
NBH60	ENG-60-184S(0-6") SL	0 - 0.5	**72.40**
NBH60	ENG-60-185(6"-1') SL	0.5 - 1	**31.20**
NBH60	ENG-60-186(1'-2') SL	1 - 2	**34.40**
NBH60	ENG-60-187(2'-4') SL	2 - 4	**7.00** (U)
NBH61	ENG-61-188S(0-6") SL	0 - 0.5	**31.20**
NBH61	ENG-61-189(6"-1') SL	0.5 - 1	**73.00**
NBH61	ENG-61-190(1'-2') SL	1 - 2	**36.20**
NBH61	ENG-61-191(2'-4') SL	2 - 4	**6.00**
NBH62	ENG-62-192S(0-6") SL	0 - 0.5	**143.40**
NBH62	ENG-62-193(6"-2') SL	0.5 - 2	**104.80**
NBH62	ENG-62-194(2'-4') SL	2 - 4	**5.94** (U)
NBH63	ENG-63-195S(0-6") SL	0 - 0.5	**41.80**
NBH63	ENG-63-196(6"-1') SL	0.5 - 1	**55.80**
NBH63	ENG-63-197(1'-2') SL	1 - 2	**165.60**
NBH63	ENG-63-198(2'-4') SL	2 - 4	**31.40**
NBH64	ENG-64-199S(0-6") SL	0 - 0.5	**53.40**
NBH64	ENG-64-200(6"-2') SL	0.5 - 2	**129.60**
NBH64	ENG-64-201(2'-4') SL	2 - 4	**5.20** (U)
NBH65	ENG-65-202S(0-6") SL	0 - 0.5	**32.00**
NBH65	ENG-65-203(6"-2') SL	0.5 - 2	3.60 (U)
NBH65	ENG-65-204(2'-4') SL	2 - 4	**5.50** (U)
NBH66	ENG-66-205S(0-6") SL	0 - 0.5	**129.80**
NBH66	ENG-66-206(6"-2') SL	0.5 - 2	**12.30**
NBH66	ENG-66-207(2'-4') SL	2 - 4	**13.20**
NBH67	ENG-67-208S(0-6") SL	0 - 0.5	**4.30** (U)
NBH67	ENG-67-209(6"-1') SL	0.5 - 1	**230.00**
NBH67	BH67A-1(0-2') SL04/02/1998	0 - 2	**63.60**
NBH67	BH67A-2(2-4') SL04/02/1998	2 - 4	**41.00**
NBH67	BH67A-3(4-6') SL04/02/1998	4 - 6	**17.40**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH68	ENG-68-210S(0-6") SL	0 - 0.5	**89.80**
NBH68	ENG-68-211(6"-2') SL	0.5 - 2	**15.30**
NBH68	ENG-68-212(2'-4') SL	2 - 4	**43.00**
NBH69	ENG-69-213S(0-6") SL	0 - 0.5	**65.60**
NBH69	ENG-69-214(6"-2') SL	0.5 - 2	**61.60**
NBH69	ENG-69-215(2'-4') SL	2 - 4	3.30 (U)
NBH7	ENG-07-019S(0-6") SL	0 - 0.5	**164.20**
NBH7	ENG-07-020(6"-2') SL	0.5 - 2	**31.00**
NBH7	ENG-07-021(2'-4') SL	2 - 4	**6.20** (U)
NBH70	ENG-70-216S(0-6") SL	0 - 0.5	**47.60**
NBH70	ENG-70-217(6"-1.5') SL	0.5 - 1.5	**14.30**
NBH70	ENG-70-218(1.5'-4') SL	1.5 - 4	**6.00** (U)
NBH71	ENG-71-219S(0-6") SL	0 - 0.5	**5.90** (U)
NBH71	ENG-71-220(6"-2') SL	0.5 - 2	**4.30** (U)
NBH71	ENG-71-221(2'-4') SL	2 - 4	**5.60** (U)
NBH72	ENG-72-222S(0-6") SL	0 - 0.5	**5.40** (U)
NBH72	ENG-72-223(6"-2') SL	0.5 - 2	**156.20**
NBH72	BH72A-1(0-2') SL03/30/1998	0 - 2	**38.40**
NBH72	ENG-72-224(2'-4') SL	2 - 4	**68.40**
NBH72	BH72A-2(2-4') SL03/30/1998	2 - 4	**8.00**
NBH72	BH72A-3(4-6') SL03/30/1998	4 - 6	**7.20** (U)
NBH73	ENG-73-225S(0-6") SL	0 - 0.5	**11.80**
NBH73	ENG-73-226(6"-2') SL	0.5 - 2	3.10 (U)
NBH73	ENG-73-227(2'-4') SL	2 - 4	**7.10**
NBH74	ENG-74-228S(0-6") SL	0 - 0.5	**5.70** (U)
NBH74	BH74A-1(0-2') SL04/01/1998	0 - 2	**416.00**
NBH74	ENG-74-229(6"-2') SL	0.5 - 2	**782.00**
NBH74	BH74A-2(2-4') SL04/01/1998	2 - 4	**137.80**
NBH74	ENG-74-230(2'-4') SL	2 - 4	**242.00**
NBH74	BH74A-3(4-6') SL04/01/1998	4 - 6	**284.00**
NBH74	BH74A-4(6-8') SL04/01/1998	6 - 8	**14.40**
NBH75	ENG-75-231S(0-6") SL	0 - 0.5	3.10 (U)
NBH75	ENG-75-232(6"-2') SL	0.5 - 2	2.30 (U)
NBH75	ENG-75-233(2'-2.5') SL	2 - 2.5	**61.00**
NBH76	ENG-76-234S(0-6") SL	0 - 0.5	4.00 (U)
NBH76	ENG-76-235(6"-2') SL	0.5 - 2	**14.70**
NBH77	ENG-77-236S(0-6") SL	0 - 0.5	**28.60**
NBH77	ENG-77-237(6"-2') SL	0.5 - 2	**49.00**
NBH77	ENG-77-238(2'-4') SL	2 - 4	4.00 (U)
NBH78	ENG-78-239S(0-6") SL	0 - 0.5	**35.80**
NBH78	ENG-78-240(6"-2') SL	0.5 - 2	**69.80**
NBH78	BH78A-1(0-2') SL04/01/1998	0 - 2	**5.60**
NBH78	ENG-78-241(2'-4') SL	2 - 4	**122.40**
NBH78	BH78A-2(2-4') SL04/01/1998	2 - 4	**4.80**
NBH78	BH78A-3(4-6') SL04/01/1998	4 - 6	**6.40**
NBH79	ENG-79-242S(0-6") SL	0 - 0.5	**5.30** (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH79	ENG-79-243(6"-2') SL	0.5 - 2	**11.80**
NBH79	ENG-79-244(2'-4') SL	2 - 4	**6.10** (U)
NBH8	ENG-08-022S(0-6") SL	0 - 0.5	**46.00**
NBH8	ENG-08-023(6"-2') SL	0.5 - 2	**15.50**
NBH8	ENG-08-024(2'-4') SL	2 - 4	**4.20** (U)
NBH80	ENG-80-245S(0-6") SL	0 - 0.5	**24.40**
NBH80	ENG-80-246(6"-2') SL	0.5 - 2	**4.80** (U)
NBH80	ENG-80-247(2'-4') SL	2 - 4	**4.40** (U)
NBH81	ENG-81-248S(0-6") SL	0 - 0.5	**5.30** (U)
NBH81	ENG-81-249(6"-2') SL	0.5 - 2	**4.20** (U)
NBH81	ENG-81-250(2'-4') SL	2 - 4	**4.70** (U)
NBH82	ENG-82-251S(0-6") SL	0 - 0.5	**28.00**
NBH82	ENG-82-252(6"-2') SL	0.5 - 2	**51.00**
NBH82	ENG-82-253(2'-4') SL	2 - 4	**5.00**
NBH83	ENG-83-254S(0-6") SL	0 - 0.5	**12.80**
NBH83	ENG-83-255(6"-2') SL	0.5 - 2	**36.20**
NBH83	ENG-83-256(2'-3') SL	2 - 3	**6.20** (U)
NBH83	ENG-83-257(3'-4') SL	3 - 4	**5.90** (U)
NBH83	ENG-83-258(4'-5') SL	4 - 5	**6.10** (U)
NBH83	ENG-83-259(5'-6') SL	5 - 6	**5.20** (U)
NBH84	ENG-84-260S(0-6") SL	0 - 0.5	**6.70** (U)
NBH85	ENG-85-261S(0-6") SL	0 - 0.5	**248.00**
NBH85	ENG-85-262(6"-2') SL	0.5 - 2	**39.80**
NBH85	ENG-85-263(2'-3') SL	2 - 3	**346.00**
NBH85	ENG-85-264(3'-4') SL	3 - 4	**52.80**
NBH85	ENG-85-265(4'-5') SL	4 - 5	**4.40** (U)
NBH85	ENG-85-266(5'-6') SL	5 - 6	**5.50** (U)
NBH86	ENG-86-267S(0-6") SL	0 - 0.5	**16.20**
NBH86	ENG-86-268(6"-2') SL	0.5 - 2	**4.30** (U)
NBH86	ENG-86-269(2'-4') SL	2 - 4	**4.70** (U)
NBH87	ENG-87-270S(0-6") SL	0 - 0.5	**9.70**
NBH87	ENG-87-271(6"-2') SL	0.5 - 2	**72.60**
NBH87	ENG-87-272(2'-4') SL	2 - 4	**12.30**
NBH88	ENG-88-273S(0-6") SL	0 - 0.5	**48.20**
NBH88	ENG-88-274(6"-2') SL	0.5 - 2	**6.80** (U)
NBH88	ENG-88-275(2'-4') SL	2 - 4	**5.80** (U)
NBH89	ENG-89-276S(0-6") SL	0 - 0.5	**160.20**
NBH89	ENG-89-277(6"-2') SL	0.5 - 2	**5.50** (U)
NBH89	ENG-89-278(2'-2.5') SL	2 - 2.5	**10.30**
NBH9	ENG-09-025S(0-6") SL	0 - 0.5	**62.60**
NBH9	ENG-09-026(6"-2') SL	0.5 - 2	**11.90**
NBH9	ENG-09-027(2'-4') SL	2 - 4	**6.30** (U)
NBH90	ENG-90-279S(0-6") SL	0 - 0.5	**54.80**
NBH90	ENG-90-280(6"-2') SL	0.5 - 2	**15.30**
NBH90	ENG-90-281(2'-4') SL	2 - 4	**84.60**
NBH91	ENG-91-282S(0-6") SL	0 - 0.5	**177.40**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH91	ENG-91-283(6"-1') SL	0.5 - 1	**120.60**
NBH91	ENG-91-284(1'-2') SL	1 - 2	**6.60** (U)
NBH91	ENG-91-285(2'-4') SL	2 - 4	**28.80**
NBH92	ENG-92-286S(0-6") SL	0 - 0.5	**5.00** (U)
NBH92	ENG-92-287(6"-2') SL	0.5 - 2	**20.60**
NBH92	ENG-92-288(2'-4') SL	2 - 4	**19.10**
NBH93	ENG-93-289S(0-1') SL	0 - 1	3.00 (U)
NBH93	ENG-93-290(1'-2') SL	1 - 2	**112.20**
NBH93	ENG-93-291(2'-4') SL	2 - 4	3.40 (U)
NBH94	ENG-94-292S(0-6") SL	0 - 0.5	2.60 (U)
NBH94	ENG-94-293(6"-1') SL	0.5 - 1	**11.30**
NBH94	ENG-94-294(1'-2') SL	1 - 2	**4.90** (U)
NBH94	ENG-94-295(2'-4') SL	2 - 4	**6.00** (U)
NBH95	ENG-95-296S(0-6") SL	0 - 0.5	3.40 (U)
NBH95	ENG-95-297(6"-1') SL	0.5 - 1	**7.80**
NBH95	ENG-95-298(1'-2') SL	1 - 2	**7.70** (U)
NBH95	ENG-95-299(2'-4') SL	2 - 4	3.90 (U)
NBH96	ENG-96-300S(0-6") SL	0 - 0.5	**10.40**
NBH96	ENG-96-301(6"-2') SL	0.5 - 2	**5.10** (U)
NBH96	ENG-96-302(2'-4') SL	2 - 4	**25.20**
NBH97	ENG-97-303S(0-6") SL	0 - 0.5	**14.50**
NBH97	ENG-97-304(6"-2') SL	0.5 - 2	3.90 (U)
NBH97	ENG-97-305(2'-4') SL	2 - 4	**5.50** (U)
NBH98	ENG-98-306(0-6") SL	0 - 0.5	**5.70** (U)
NBH98	ENG-98-307(6"-2') SL	0.5 - 2	**56.00**
NBH99	ENG-99-308S(0-6") SL	0 - 0.5	3.90 (U)
NBH99	ENG-99-309(6"-2') SL	0.5 - 2	**13.70**
NBH99	ENG-99-310(2'-4') SL	2 - 4	**17.60**
NGP13	0-6-13(0-0.5') SL12/11/1996	0 - 0.5	**10.00**
NGP13	6-24-13(0.5-2') SL12/11/1996	0.5 - 2	**90.80**
NGP13	2-4-13(2-4') SL12/11/1996	2 - 4	**298.00**
NGP13	4-6-13(4-6') SL12/11/1996	4 - 6	**32.60**
NGP13	6-8-13(6-8') SL12/11/1996	6 - 8	**9.60**
NGP13	8-10-13(8-10') SL12/11/1996	8 - 10	**100.20**
NGP13	10-12-13(10-12') SL12/11/1996	10 - 12	**15.80**
NGP13	12-14-13(12-14') SL12/11/1996	12 - 14	**10.20** (U)
NGP13	14-16-13(14-16') SL12/11/1996	14 - 16	**58.20**
NGP15	0-6-15(0-0.5') SL12/11/1996	0 - 0.5	**1,428.00**
NGP15	6-12-15(0.5-2') SL12/11/1996	0.5 - 2	**105.00**
NGP15	2-4-15(2-4') SL12/11/1996	2 - 4	**15.00**
NGP15	4-6-15(4-6') SL12/11/1996	4 - 6	**9.80** (U)
NGP15	6-8-15(6-8') SL12/11/1996	6 - 8	**8.20**
NGP15	8-10-15(8-10') SL12/11/1996	8 - 10	**10.80**
NGP15	10-12-15(10-12') SL12/11/1996	10 - 12	**13.00**
NGP15	12-14-15(12-14') SL12/11/1996	12 - 14	**9.40**
NSS1	ENG-SSS-01 SL	0 - 0.5	**19.40**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NSS10	ENG-SSS-10 SL	0 - 0.5	**9.80**
NSS11	ENG-SSS-11 SL	0 - 0.5	**6.30** (U)
NSS12	ENG-SSS-12 SL	0 - 0.5	**42.40**
NSS15	ENG-SSS-15 SL	0 - 0.5	2.80 (U)
NSS17	ENG-SSS-17 SL	0 - 0.5	**5.70** (U)
NSS19	ENG-SSS-19 SL	0 - 0.5	**18.70**
NSS2	ENG-SSS-02 SL	0 - 0.5	**11.40**
NSS20	ENG-SSS-20 SL	0 - 0.5	**5.90** (U)
NSS21	ENG-SSS-21 SL	0 - 0.5	**5.40** (U)
NSS22	ENG-SSS-22 SL	0 - 0.5	**7.30**
NSS23	ENG-SSS-23 SL	0 - 0.5	**7.70** (U)
NSS24	ENG-SSS-24 SL	0 - 0.5	**15.10**
NSS25	ENG-SSS-25 SL	0 - 0.5	**4.40** (U)
NSS26	ENG-SSS-26 SL	0 - 0.5	**13.40**
NSS27	ENG-SSS-27 SL	0 - 0.5	**6.50** (U)
NSS28	ENG-SSS-28 SL	0 - 0.5	3.10 (U)
NSS29	ENG-SSS-29 SL	0 - 0.5	**4.30** (U)
NSS3	ENG-SSS-03 SL	0 - 0.5	**4.20** (U)
NSS30	ENG-SSS-30 SL	0 - 0.5	**5.10** (U)
NSS31	ENG-SSS-31 SL	0 - 0.5	**5.90** (U)
NSS32	ENG-SSS-32 SL	0 - 0.5	**7.00**
NSS33	ENG-SSS-33 SL	0 - 0.5	**23.40**
NSS34	ENG-SSS-34 SL	0 - 0.5	**13.90**
NSS35	ENG-SSS-35 SL	0 - 0.5	2.10 (U)
NSS36	ENG-SSS-36 SL	0 - 0.5	**167.20**
NSS37	ENG-SSS-37 SL	0 - 0.5	**21.20**
NSS38	ENG-SSS-38 SL	0 - 0.5	**125.60**
NSS39	ENG-SSS-39 SL	0 - 0.5	**73.20**
NSS4	ENG-SSS-04 SL	0 - 0.5	**5.90**
NSS40	ENG-SSS-40 SL	0 - 0.5	**53.00**
NSS41	ENG-SSS-41 SL	0 - 0.5	**67.20**
NSS42	ENG-SSS-42 SL	0 - 0.5	**36.00**
NSS43	ENG-SSS-43 SL	0 - 0.5	**27.00**
NSS44	ENG-SSS-44 SL	0 - 0.5	**24.40**
NSS45	ENG-SSS-45 SL	0 - 0.5	**4.20** (U)
NSS46	ENG-SSS-46 SL	0 - 0.5	**20.00**
NSS47	ENG-SSS-47 SL	0 - 0.5	**15.90**
NSS48	ENG-SSS-48 SL	0 - 0.5	**42.60**
NSS49	ENG-SSS-49 SL	0 - 0.5	**62.20**
NSS5	ENG-SSS-05 SL	0 - 0.5	**86.00**
NSS50	ENG-SSS-50 SL	0 - 0.5	**6.20** (U)
NSS51	ENG-SSS-51 SL	0 - 0.5	**5.60** (U)
NSS52	ENG-SSS-52 SL	0 - 0.5	**33.40**
NSS53	ENG-SSS-53 SL	0 - 0.5	**9.60**
NSS54	ENG-SSS-54 SL	0 - 0.5	**5.20** (U)
NSS55	ENG-SSS-55 SL	0 - 0.5	**46.80**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NSS56	ENG-SSS-56 SL	0 - 0.5	**21.60**
NSS57	ENG-SSS-57 SL	0 - 0.5	**12.10**
NSS58	ENG-SSS-58 SL	0 - 0.5	**10.80**
NSS59	ENG-SSS-59 SL	0 - 0.5	**8.10** (U)
NSS6	ENG-SSS-06 SL	0 - 0.5	**113.60**
NSS60	ENG-SSS-60 SL	0 - 0.5	**12.20**
NSS61	ENG-SSS-61 SL	0 - 0.5	**12.60**
NSS63	ENG-SSS-63 SL	0 - 0.5	**6.10** (U)
NSS64	ENG-SSS-64 SL	0 - 0.5	**40.60**
NSS67	ENG-SSS-67 SL	0 - 0.5	**117.40**
NSS68	ENG-SSS-68 SL	0 - 0.5	**21.20**
NSS69	ENG-SSS-69 SL	0 - 0.5	**29.00**
NSS7	ENG-SSS-07 SL	0 - 0.5	**45.20**
NSS70	ENG-SSS-70 SL03/13/1996	0 - 0.5	**342.00**
NSS71	ENG-SSS-71 SL03/14/1996	0 - 0.5	**18.60**
NSS72	ENG-SSS-72 SL03/14/1996	0 - 0.5	**10.60**
NSS73	ENG-SSS-73 SL03/14/1996	0 - 0.5	**16.40**
NSS74	ENG-SSS-74 SL03/14/1996	0 - 0.5	**11.20**
NSS75	ENG-SSS-75 SL03/14/1996	0 - 0.5	**17.60**
NSS8	ENG-SSS-08 SL	0 - 0.5	3.30 (U)
NSS9	ENG-SSS-09 SL	0 - 0.5	**14.00**
A9	Chev-Par-A-Grid A9s SL06/30/1997	0 - 2	**12.40** (U)
B8	Chev-Par-A-Grid B8s SL06/30/1997	0 - 2	**15.40** (U)
NBH118	ENG-BH-118(0-2') SL04/02/1998	0 - 2	**17.00**
NBH118	ENG-BH-118(2-4') SL04/02/1998	2 - 4	**9.80**
NBH118	ENG-BH-118(4-6') SL04/02/1998	4 - 6	**14.00**
NBH118	ENG-BH-118(6-8') SL04/02/1998	6 - 8	**7.20**
NBH118	ENG-BH-118(8-10') SL04/02/1998	8 - 10	**6.40**
NBH118	ENG-BH-118(10-12') SL04/02/1998	10 - 12	**10.80**
NBH119	ENG-BH- 119(0-2') SL04/02/1998	0 - 2	**14.60**
NBH119	ENG-BH- 119(2-4') SL04/02/1998	2 - 4	**7.40**
NBH119	ENG-BH- 119(4-6') SL04/02/1998	4 - 6	**6.80**
NBH119	ENG-BH- 119(6-8') SL04/02/1998	6 - 8	**5.80**
NBH119	ENG-BH- 119(8-10') SL04/02/1998	8 - 10	**6.00**
NBH120	ENG-BH-120(0-2') SL04/02/1998	0 - 2	**10.00**
NBH120	ENG-BH-120(2-4') SL04/02/1998	2 - 4	**7.40**
NBH120	ENG-BH-120(4-6') SL04/02/1998	4 - 6	**6.80**
NBH121	ENG-BH-121(0-2') SL04/02/1998	0 - 2	**7.20**
NBH121	ENG-BH-121(2-3') SL04/02/1998	2 - 3	**8.60**
NBH121	ENG-BH-121(3-4') SL04/02/1998	3 - 4	**7.20**
NBH122	ENG-BH-122(0-2') SL04/02/1998	0 - 2	**6.80**
NBH122	ENG-BH-122(2-4') SL04/02/1998	2 - 4	**14.60**
NBH122	ENG-BH-122(4-6') SL04/02/1998	4 - 6	**15.80**
NBH122	ENG-BH-122(6-8') SL04/02/1998	6 - 8	3.40 (U)
NBH122	ENG-BH-122(8-10') SL04/02/1998	8 - 10	**5.00** (U)
NBH124	ENG-BH-124(0-2') SL04/02/1998	0 - 2	**8.40**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
NBH124	ENG-BH-124(2-4') SL04/02/1998	2 - 4	**4.40** (U)
NBH124	ENG-BH-124(4-6') SL04/02/1998	4 - 6	3.60
NBH124	ENG-BH-124(6-8') SL04/02/1998	6 - 8	**5.00** (U)
NBH124	ENG-BH-124(8-10') SL04/02/1998	8 - 10	**4.80** (U)
NBH124	ENG-BH-124(10-12') SL04/02/1998	10 - 12	3.40 (U)
NBH124	ENG-BH-124(12-14') SL04/02/1998	12 - 14	3.80
NBH124	ENG-BH-124(14-15') SL04/02/1998	14 - 15	**4.60** (U)
NBH124	ENG-BH-124(15-16') SL04/02/1998	15 - 16	**5.80**
NBH125	ENG-BH-125(0-2') SL04/02/1998	0 - 2	**5.60** (U)
NBH125	ENG-BH-125(2-4') SL04/02/1998	2 - 4	**4.40**
NBH128	ENG-BH-128(0-2') SL04/02/1998	0 - 2	**5.60** (U)
NBH128	ENG-BH-128(2-4') SL04/02/1998	2 - 4	**5.80** (U)
NBH128	ENG-BH-128(4-6') SL04/02/1998	4 - 6	**5.80**
NBH129	ENG-BH-129(0-2') SL04/02/1998	0 - 2	**7.60**
NBH129	ENG-BH-129(2-4') SL04/02/1998	2 - 4	**6.40** (U)
NBH129	ENG-BH-129(4-6') SL04/02/1998	4 - 6	3.20
NBH129	ENG-BH-129(6-8') SL04/02/1998	6 - 8	4.00 (U)
NBH130	ENG-BH-130(0-2') SL04/02/1998	0 - 2	**7.20** (U)
NBH130	ENG-BH-130(2-4') SL04/02/1998	2 - 4	**5.60**
NBH131	ENG-BH-131(0-2') SL04/02/1998	0 - 2	**7.80**
NBH131	ENG-BH-131(2-4') SL04/02/1998	2 - 4	**8.20** (U)
NBH132	ENG-BH-132(0-2') SL04/02/1998	0 - 2	**21.00**
NBH132	ENG-BH-132(2-4') SL04/02/1998	2 - 4	**8.60**
NBH132	ENG-BH-132(4-6') SL04/02/1998	4 - 6	**19.20**
NBH132	ENG-BH-132(6-8') SL04/02/1998	6 - 8	**17.60**
NBH132	ENG-BH-132(8-10') SL04/02/1998	8 - 10	**9.20**
NBH133	ENG-BH-133(0-2') SL04/02/1998	0 - 2	**20.20**
NBH133	ENG-BH-133(2-4') SL04/02/1998	2 - 4	**12.00**
NBH133	ENG-BH-133(4-6') SL04/02/1998	4 - 6	**6.40** (U)
NBH133	ENG-BH-133(6-8') SL04/02/1998	6 - 8	**9.20** (U)
NBH134	ENG-BH-134(0-2') SL04/02/1998	0 - 2	**5.40**
NBH134	ENG-BH-134(2-4') SL04/02/1998	2 - 4	**7.00** (U)
NBH134	ENG-BH-134(4-6') SL04/02/1998	4 - 6	**4.80** (U)
NBH134	ENG-BH-134(6-8') SL04/02/1998	6 - 8	**6.20**
NBH135	ENG-BH-135(4-6') SL04/02/1998	4 - 6	**5.40** (U)
NBH135	ENG-BH-135(6-8') SL04/02/1998	6 - 8	**15.40**
NBH147	ENG-BH-147(0-2') SL04/03/1998	0 - 2	**6.80** (U)
NBH147	ENG-BH-147(2-4') SL04/03/1998	2 - 4	**10.60**
NBH148	ENG-BH-148(0-2') SL04/03/1998	0 - 2	**5.00** (U)
NBH148	ENG-BH-148(2-3') SL04/03/1998	2 - 3	**11.00**
NBH149	ENG-BH-149(0-2') SL04/03/1998	0 - 2	**10.80**
NBH149	ENG-BH-149(2-4') SL04/03/1998	2 - 4	**15.00**
NBH150	ENG-BH-150(0-2') SL04/03/1998	0 - 2	**7.20** (U)
NBH150	ENG-BH-150(2-4') SL04/03/1998	2 - 4	**11.00**
NBH156	ENG-BH-156(0-2') SL04/03/1998	0 - 2	**14.20**
NBH156	ENG-BH-156(2-4') SL04/03/1998	2 - 4	4.00 (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)	
NBH159	ENG-BH-159(0-2') SL04/07/1998	0 - 2	**8.20**	
NBH159	ENG-BH-159(2-4') SL04/07/1998	2 - 4	**7.20**	(U)
NBH159	ENG-BH-159(4-6') SL04/07/1998	4 - 6	**10.20**	
NBH161	ENG-BH-161(0-2') SL04/07/1998	0 - 2	**9.80**	
NBH161	ENG-BH-161(2-4') SL04/07/1998	2 - 4	**9.40**	(U)
NBH161	ENG-BH-161(4-6') SL04/07/1998	4 - 6	**10.80**	
NBH162	ENG-BH-162(0-2') SL04/07/1998	0 - 2	**4.80**	(U)
NBH162	ENG-BH-162(2-4') SL04/07/1998	2 - 4	**6.60**	(U)
NBH163	ENG-BH-163(0-6') SL	0 - 6	**7.00**	
NBH164	ENG-BH-164(0-6") SL	0 - 0.5	**12.80**	
NBH165	ENG-BH-165(0-6") SL	0 - 0.5	**4.60**	(U)
NBH167	ENG-BH-167(0-6") SL	0 - 0.5	**7.60**	(U)
NBH168	ENG-BH-168(0-2') SL04/07/1998	0 - 2	**13.40**	
NBH168	ENG-BH-168(2-5') SL04/07/1998	2 - 5	**7.60**	
NBH186	ENG-BH-186(0-2') SL	0 - 2	**10.20**	
NBH186	ENG-BH-186(2-4') SL	2 - 4	**6.20**	(U)
NBH186	ENG-BH-186(4-6') SL	4 - 6	**5.80**	
NBH186	ENG-BH-186(6-8') SL	6 - 8	**5.60**	(U)
NBH186	ENG-BH-186(8-10') SL	8 - 10	**6.20**	(U)
NBH186	ENG-BH-186(10- 12') SL	10 - 12	**5.80**	(U)
NSS13	ENG-SSS-13 SL	0 - 0.5	**4.20**	(U)
NSS14	ENG-SSS-14 SL	0 - 0.5	2.60	(U)
NSS16	ENG-SSS-16 SL	0 - 0.5	**4.30**	(U)
NSS18	ENG-SSS-18 SL	0 - 0.5	**5.70**	(U)
Q17	Chev-Par-A-Grid Q17s SL06/30/1997	0 - 2	**7.60**	(U)
SBH13	ENG BH13-111(0-2') SL10/31/1997	0 - 2	**5.00**	
SBH136	ENG-BH-136(0-2') SL03/31/1998	0 - 2	**26.40**	
SBH136	ENG-BH-136(2-4') SL03/31/1998	2 - 4	**7.80**	
SBH137	ENG-BH-137(0-2') SL04/01/1998	0 - 2	**149.40**	
SBH137	ENG-BH-137(2-4') SL04/01/1998	2 - 4	**1,130.00**	
SBH137	ENG-BH-137(4-6') SL04/01/1998	4 - 6	**254.00**	
SBH137	ENG-BH-137(6-8') SL04/01/1998	6 - 8	**13.40**	
SBH137	ENG-BH-137(8-10') SL04/01/1998	8 - 10	**5.20**	
SBH137	ENG-BH-137(10-12') SL04/01/1998	10 - 12	**4.60**	
SBH14	ENG BH14-112(0-2') SL10/31/1997	0 - 2	**5.40**	
SBH15	ENG BH15-113(0-2') SL10/31/1997	0 - 2	0.00	(U)
SBH157	ENG-BH-157(0-2') SL04/03/1998	0 - 2	**8.60**	
SBH157	ENG-BH-157(2-4') SL04/03/1998	2 - 4	**6.20**	(U)
SBH158	ENG-BH-158(0-2') SL04/03/1998	0 - 2	**10.00**	
SBH158	ENG-BH-158(2-4') SL04/03/1998	2 - 4	**5.80**	
SBH16	ENG BH16-114(0-2') SL10/31/1997	0 - 2	0.00	(U)
SBH169	ENG-BH-169(0-2') SL04/07/1998	0 - 2	**208.00**	
SBH169	ENG-BH-169(2-4') SL04/07/1998	2 - 4	**4.40**	
SBH169	ENG-BH-169(4-6') SL04/07/1998	4 - 6	**7.80**	
SBH17	ENG BH17-115(0-2') SL10/31/1997	0 - 2	0.00	(U)
SBH170	ENG-BH-170(0-2') SL04/07/1998	0 - 2	**6.00**	

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH170	ENG-BH-170(2-4') SL04/07/1998	2 - 4	**6.80**
SBH170	ENG-BH-170(6-8') SL04/07/1998	6 - 8	**6.20** (U)
SBH170	ENG-BH-170(8-10') SL04/07/1998	8 - 10	**9.20**
SBH170	ENG-BH-170(10-12') SL04/07/1998	10 - 12	**6.00** (U)
SBH171	ENG-BH-171(0-2') SL04/07/1998	0 - 2	**8.80** (U)
SBH171	ENG-BH-171(2-4') SL04/07/1998	2 - 4	**30.00**
SBH172	ENG-BH-172(0-2') SL04/07/1998	0 - 2	**10.00** (U)
SBH172	ENG-BH-172(2-4') SL04/07/1998	2 - 4	**10.40**
SBH172	ENG-BH-172(4-6') SL04/07/1998	4 - 6	**6.60** (U)
SBH172	ENG-BH-172(6-8') SL04/07/1998	6 - 8	**6.60** (U)
SBH172	ENG-BH-172(8-10') SL04/07/1998	8 - 10	**12.60**
SBH172	ENG-BH-172(10-12') SL04/07/1998	10 - 12	**18.60**
SBH173	ENG-BH-173(0-2') SL04/07/1998	0 - 2	**9.60** (U)
SBH173	ENG-BH-173(2-4') SL04/07/1998	2 - 4	**16.40**
SBH174	ENG-BH-174(0-2') SL04/07/1998	0 - 2	**7.20** (U)
SBH174	ENG-BH-174(2-5') SL04/07/1998	2 - 5	**6.80** (U)
SBH175	ENG-BH-175(0-2') SL04/07/1998	0 - 2	**10.80**
SBH176	ENG-BH-176(0-6") SL04/07/1998	0 - 0.5	**5.40** (U)
SBH177	ENG-BH-177(0-7") SL04/07/1998	0 - 0.58	**9.00** (U)
SBH18	ENG BH18-116(0-2') SL10/31/1997	0 - 2	**7.40**
SBH187	ENG-BH-187(0-4') SL	0 - 4	**11.40**
SBH187	ENG-BH-187(4-6') SL	4 - 6	**9.80**
SBH187	ENG-BH-187(6-8') SL	6 - 8	**13.80**
SBH187	ENG-BH-187(8-10,) SL	8 - 10	**14.20**
SBH187	ENG-BH-187(10-12') SL	10 - 12	**12.20**
SBH187	ENG-BH-187(12-14') SL	12 - 14	**11.80** (U)
SBH187	ENG-BH-187(14-16') SL	14 - 16	**10.00**
SBH187	ENG-BH-187(16-18') SL	16 - 18	**12.20**
SBH187	ENG-BH-187(18-20') SL	18 - 20	**9.40**
SBH187	ENG-BH-187(20-22') SL	20 - 22	**8.00**
SBH187	ENG-BH-187(22-24') SL	22 - 24	**8.40**
SBH187	ENG-BH-187(24-26') SL	24 - 26	**5.40** (U)
SBH187	ENG-BH-187(26-28') SL	26 - 28	**6.60**
SBH188	ENG-BH-188(0-2') SL	0 - 2	**28.20**
SBH188	ENG-BH-188(2-4') SL	2 - 4	**140.60**
SBH188	ENG-BH-188(4-6') SL	4 - 6	**56.00**
SBH188	ENG-BH-188(6-8') SL	6 - 8	**15.60**
SBH188	ENG-BH-188(8-10') SL	8 - 10	**60.40**
SBH188	ENG-BH-188(10-12') SL	10 - 12	**208.00**
SBH188	ENG-BH-188(12-14') SL	12 - 14	**152.40**
SBH188	ENG-BH-188(14-16') SL	14 - 16	**59.40**
SBH189	ENG-BH-189(0-2') SL	0 - 2	**6.40** (U)
SBH189	ENG-BH-189(2-4') SL	2 - 4	**69.00**
SBH189	ENG-BH-189(4-6') SL	4 - 6	**16.20**
SBH189	ENG-BH-189(6-8') SL	6 - 8	**6,646.00**
SBH189	ENG-BH-189(8-10') SL	8 - 10	**650.00**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH189	ENG-BH-189(10-12') SL	10 - 12	**23.60**
SBH19	ENG BH19-117(0-2') SL10/31/1997	0 - 2	**8.60**
SBH190	ENG-BH-190(0-2') SL	0 - 2	**8.40**
SBH190	ENG-BH-190(2-4') SL	2 - 4	**15.20**
SBH190	ENG-BH-190(4-6') SL	4 - 6	**12.00**
SBH190	ENG-BH-190(6-8') SL	6 - 8	**6.20**
SBH190	ENG-BH-190(8-10') SL	8 - 10	**14.20**
SBH190	ENG-BH-190(10-12') SL	10 - 12	**7.00**
SBH191	ENG-BH-191(0-2') SL	0 - 2	**10.80**
SBH191	ENG-BH-191(2-4') SL	2 - 4	**6.80** (U)
SBH191	ENG-BH-191(4-6') SL	4 - 6	**6.60**
SBH191	ENG-BH-191(6-8') SL	6 - 8	**6.60** (U)
SBH191	ENG-BH-191(8-12') SL	8 - 12	**11.20**
SBH191	ENG-BH-191(16-18') SL	16 - 18	**8.40**
SBH191	ENG-BH-191(18-20') SL	18 - 20	**55.80**
SBH192	ENG-BH-192(0-2') SL	0 - 2	**6.40** (U)
SBH192	ENG-BH-192(2-4') SL	2 - 4	**10.20**
SBH192	ENG-BH-192(4-6') SL	4 - 6	**12.60**
SBH192	ENG-BH-192(6-8') SL	6 - 8	**7.60**
SBH192	ENG-BH-192(8-10') SL	8 - 10	**10.80**
SBH192	ENG-BH-192(10-12') SL	10 - 12	**206.00**
SBH192	ENG-BH-192(12-14') SL	12 - 14	**49.20**
SBH192	ENG-BH-192(14-16') SL	14 - 16	**25.80**
SBH193	ENG-BH-193(0-3') SL	0 - 3	**9.80**
SBH193	ENG-BH-193(3-5') SL	3 - 5	**7.20** (U)
SBH193	ENG-BH-193(5-7') SL	5 - 7	**8.20**
SBH194	ENG-BH-194(0-2') SL	0 - 2	**11.40**
SBH194	ENG-BH-194(2-4') SL	2 - 4	**7.40**
SBH194	ENG-BH-194(4-6') SL	4 - 6	**6.20** (U)
SBH194	ENG-BH-194(6-8') SL	6 - 8	**6.40**
SBH195	ENG-BH-195(0-2') SL	0 - 2	**8.60**
SBH195	ENG-BH-195(2-4') SL	2 - 4	**8.00**
SBH195	ENG-BH-195(4-6') SL	4 - 6	**10.40**
SBH195	ENG-BH-195(6-8') SL	6 - 8	**10.20**
SBH195	ENG-BH-195(8-10') SL	8 - 10	**7.40**
SBH195	ENG-BH-195(10-12') SL	10 - 12	**8.20**
SBH20	ENG BH20-118(0-2) SL10/31/1997	0 - 2	0.00 (U)
SBH21	ENG BH21-119(0-2') SL10/31/1997	0 - 2	**12.20**
SBH22	ENG BH22-120(0-2') SL10/31/1997	0 - 2	**7.60**
SBH23	ENG BH23-121(0-2) SL10/31/1997	0 - 2	**7.60**
SBH24	ENG BH24-122(0-2') SL10/31/1997	0 - 2	**7.40**
SBH25	ENG BH25-123(0-18") SL10/31/1997	0 - 1.5	**11.60**
SBH26	ENG BH26-124(0-2) SL10/31/1997	0 - 2	0.00 (U)
SBH27	ENG BH27-125(0-2') SL10/31/1997	0 - 2	**9.60**
SBH28	ENG BH28-126(0-2') SL10/31/1997	0 - 2	**10.00**
SBH29	ENG BH29-127(0-2') SL10/31/1997	0 - 2	**452.00**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH30	ENG BH30-128(0-2') SL10/31/1997	0 - 2	0.00 (U)
SBH31	ENG BH31-129(0-2') SL10/31/1997	0 - 2	**5.60**
SBH32	ENG BH32-130(0-2') SL10/31/1997	0 - 2	**13.20**
SBH33	ENG BH33-131(0-1') SL10/31/1997	0 - 1	**14.40**
SBH34	ENG BH34-132(0-2') SL10/31/1997	0 - 2	**12.20**
SBH35	ENG BH35-133(0-2') SL10/31/1997	0 - 2	**10.80**
SBH36	ENG BH36-134(0-2') SL10/31/1997	0 - 2	**5.60**
SBH37	ENG BH37-135(0-2') SL10/31/1997	0 - 2	0.00 (U)
SBH38	ENG BH38-136(0-2') SL10/31/1997	0 - 2	**6.40**
SBH39	ENG BH39-137(0-2') SL10/31/1997	0 - 2	0.00 (U)
SBH39	ENG BH39-138(2'-4') SL10/31/1997	2 - 4	0.00 (U)
SBH39	ENG BH39-139(4'-8') SL10/31/1997	4 - 8	**28.80**
SBH40	ENG BH40-140(0-2') SL10/31/1997	0 - 2	**11.20**
SBH40	ENG BH40-141(2'-4') SL10/31/1997	2 - 4	0.00 (U)
SBH40	ENG BH40-142(4'-6') SL10/31/1997	4 - 6	**14.40**
SBH40	ENG BH40-143(6'-8') SL10/31/1997	6 - 8	**7.40**
SBH41	ENG BH41-144(0-2') SL10/31/1997	0 - 2	**86.60**
SBH41	ENG BH41-145(2'-4') SL10/31/1997	2 - 4	**21.40**
SBH41	ENG BH41-146(4'-6') SL10/31/1997	4 - 6	**27.40**
SBH41	ENG BH41-147(6'-8') SL10/31/1997	6 - 8	0.00 (U)
SBH42	ENG BH42-148(0-2') SL10/31/1997	0 - 2	**17.40**
SBH42	ENG BH42-149(2'-4') SL10/31/1997	2 - 4	**110.20**
SBH42	ENG BH42-150(4'-6') SL10/31/1997	4 - 6	**15.60**
SBH42	ENG BH42-151(6'-8') SL10/31/1997	6 - 8	0.00 (U)
SBH43	ENG BH43-152(0-2') SL10/31/1997	0 - 2	**47.00**
SBH49	ENG-BH-49(0-2') SL03/30/1998	0 - 2	**10.00**
SBH49	ENG-BH-49(2-4') SL03/30/1998	2 - 4	**5.60** (U)
SBH49	ENG-BH-49(4-6') SL03/30/1998	4 - 6	**10.60**
SBH50	ENG-BH-50(0-2') SL03/30/1998	0 - 2	**9.60**
SBH50	ENG-BH-50(2-4') SL03/30/1998	2 - 4	**9.20**
SBH50	ENG-BH-50(4-6') SL03/30/1998	4 - 6	**6.00**
SBH51	ENG-BH-51(0-2') SL03/30/1998	0 - 2	**8.20**
SBH51	ENG-BH-51(2-4') SL03/30/1998	2 - 4	**9.80**
SBH52	ENG-BH-52(0-2') SL03/30/1998	0 - 2	**15.80**
SBH52	ENG-BH-52(2-4') SL03/30/1998	2 - 4	**9.40**
SBH52	ENG-BH-52(4-6') SL03/30/1998	4 - 6	**6.80**
SBH52	ENG-BH-52(6-8') SL03/30/1998	6 - 8	**5.60**
SBH52	ENG-BH-52(8-9') SL03/30/1998	8 - 9	**8.00**
SBH54	ENG-BH-54(0-2') SL03/30/1998	0 - 2	**14.00**
SBH54	ENG-BH-54(2-4') SL03/30/1998	2 - 4	**6.80**
SBH54	ENG-BH-54(4-6') SL03/30/1998	4 - 6	**17.20**
SBH54	ENG-BH-54(6-8') SL03/30/1998	6 - 8	**8.00**
SBH54	ENG-BH-54(8-10') SL03/30/1998	8 - 10	**7.20**
SBH54	ENG-BH-54(10-12') SL03/30/1998	10 - 12	**8.40**
SBH54	ENG-BH-54(12-14') SL03/30/1998	12 - 14	**11.60**
SBH55	ENG-BH-55(0-2') SL03/30/1998	0 - 2	**10.20**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH55	ENG-BH-55(2-4') SL03/30/1998	2 - 4	**9.20**
SBH55	ENG-BH-55(4-6') SL03/30/1998	4 - 6	**12.00**
SBH55	ENG-BH-55(6-8') SL03/30/1998	6 - 8	**16.00**
SBH55	ENG-BH-55(8-10') SL03/30/1998	8 - 10	**16.80**
SBH55	ENG-BH-55(10-12') SL03/30/1998	10 - 12	**19.20**
SBH55	ENG-BH-55(12-14') SL03/30/1998	12 - 14	**10.60**
SBH55	ENG-BH-55(14-16') SL03/30/1998	14 - 16	**28.80**
SBH55	ENG-BH-55(16-18') SL03/30/1998	16 - 18	**7.40** (U)
SBH56	ENG-BH-56(0-2') SL03/30/1998	0 - 2	**30.20**
SBH56	ENG-BH-56(2-4') SL03/30/1998	2 - 4	**8.20** (U)
SBH56	ENG-BH-56(4-6') SL03/30/1998	4 - 6	**9.40**
SBH56	ENG-BH-56(6-8') SL03/30/1998	6 - 8	**7.20** (U)
SBH57	ENG-BH-57(0-2') SL03/30/1998	0 - 2	**10.40**
SBH57	ENG-BH-57(2-4') SL03/30/1998	2 - 4	**9.60** (U)
SBH57	ENG-BH-57(4-6') SL03/30/1998	4 - 6	**7.20**
SBH57	ENG-BH-57(6-8') SL03/30/1998	6 - 8	**13.20**
SBH57	ENG-BH-57(8-9') SL03/30/1998	8 - 9	**6.20** (U)
SBH58	ENG-BH-58(0-2') SL03/30/1998	0 - 2	**62.60**
SBH58	ENG-BH-58(2-4') SL03/30/1998	2 - 4	**384.00**
SBH58	ENG-BH-58(4-6') SL03/30/1998	4 - 6	**61.80**
SBH58	ENG-BH-58(6-8') SL03/30/1998	6 - 8	**16.00**
SBH59	ENG-BH-59(0-2') SL03/30/1998	0 - 2	**14.20**
SBH59	ENG-BH-59(2-4') SL03/30/1998	2 - 4	**16.00**
SBH59	ENG-BH-59(4-6') SL03/30/1998	4 - 6	**14.60**
SBH59	ENG-BH-59(6-8') SL03/30/1998	6 - 8	**13.60**
SBH59	ENG-BH-59(8-10') SL03/30/1998	8 - 10	**10.20**
SBH59	ENG-BH-59(10-12') SL03/30/1998	10 - 12	**13.40**
SBH60	ENG-BH-60(0-2') SL03/30/1998	0 - 2	**13.40**
SBH60	ENG-BH-60(2-4') SL03/30/1998	2 - 4	**8.40**
SBH60	ENG-BH-60(4-6') SL03/30/1998	4 - 6	**9.80**
SBH60	ENG-BH-60(6-8') SL03/30/1998	6 - 8	**6.80**
SBH60	ENG-BH-60(8-10') SL03/30/1998	8 - 10	**10.00**
SBH60	ENG-BH-60(10-12') SL03/30/1998	10 - 12	**6.80**
SBH60	ENG-BH-60(12-14') SL03/30/1998	12 - 14	**5.60**
SBH60	ENG-BH-60(14-16') SL03/30/1998	14 - 16	**6.80**
SBH60	ENG-BH-60(16-18') SL03/30/1998	16 - 18	**5.80**
SBH61	ENG-BH-61(0-2') SL03/30/1998	0 - 2	**7.20**
SBH61	ENG-BH-61(2-4') SL03/30/1998	2 - 4	**4.20**
SBH61	ENG-BH-61(4-6') SL03/30/1998	4 - 6	**8.00**
SBH61	ENG-BH-61(6-8') SL03/30/1998	6 - 8	**4.20**
SBH61	ENG-BH-61(8-10') SL03/30/1998	8 - 10	**9.60**
SBH61	ENG-BH-61(10-11') SL03/30/1998	10 - 11	**8.00**
SBH62	ENG-BH-62(0-2') SL03/30/1998	0 - 2	**12.60**
SBH62	ENG-BH-62(2-4') SL03/30/1998	2 - 4	**5.20**
SBH62	ENG-BH-62(4-6') SL03/30/1998	4 - 6	**13.20**
SBH62	ENG-BH-62(6-8') SL03/30/1998	6 - 8	**7.00**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH62	ENG-BH-62(8-10') SL03/30/1998	8 - 10	**8.60**
SBH62	ENG-BH-62(10-12') SL03/30/1998	10 - 12	**12.20**
SBH62	ENG-BH-62(12-14') SL03/30/1998	12 - 14	**7.60**
SBH62	ENG-BH-62(14-16') SL03/30/1998	14 - 16	**9.80**
SBH63	ENG-BH-63(0-2') SL03/31/1998	0 - 2	**6.20**
SBH63	ENG-BH-63(2-4') SL03/31/1998	2 - 4	**13.60**
SBH63	ENG-BH-63(4-6') SL03/31/1998	4 - 6	**18.80**
SBH63	ENG-BH-63(6-8') SL03/31/1998	6 - 8	**12.00**
SBH63	ENG-BH-63(8-10') SL03/31/1998	8 - 10	**6.60**
SBH63	ENG-BH-63(10-12') SL03/31/1998	10 - 12	**7.60**
SBH63	ENG-BH-63(12-14') SL03/31/1998	12 - 14	**8.00**
SBH64	ENG-BH-64(0-2') SL03/30/1998	0 - 2	**17.20**
SBH64	ENG-BH-64(2-4') SL03/30/1998	2 - 4	**52.80**
SBH64	ENG-BH-64(4-6') SL03/30/1998	4 - 6	**442.00**
SBH64	ENG-BH-64(6-8') SL03/30/1998	6 - 8	**67.40**
SBH64	ENG-BH-64(8-10') SL03/30/1998	8 - 10	**290.00**
SBH64	ENG-BH-64(10-12') SL03/30/1998	10 - 12	**139.20**
SBH64	ENG-BH-64(12-16') SL03/30/1998	12 - 16	**268.00**
SBH64	ENG-BH-64(16-18') SL03/30/1998	16 - 18	**56.00**
SBH64	ENG-BH-64(18-20') SL03/30/1998	18 - 20	**14.80**
SBH65	ENG-BH-65(0-2') SL04/01/1998	0 - 2	**228.00**
SBH65	ENG-BH-65(2-4') SL04/01/1998	2 - 4	**180.20**
SBH65	ENG-BH-65(4-6') SL04/01/1998	4 - 6	**44.40**
SBH65	ENG-BH-65(6-8') SL04/01/1998	6 - 8	**17.60**
SBH65	ENG-BH-65(8-10') SL04/01/1998	8 - 10	**31.40**
SBH65	ENG-BH-65(10-12') SL04/01/1998	10 - 12	**8.40**
SBH65	ENG-BH-65(12-14') SL04/01/1998	12 - 14	**7.60**
SBH65	ENG-BH-65(14-16') SL04/01/1998	14 - 16	**8.00**
SBH66	ENG-BH-66(0-2') SL03/30/1998	0 - 2	**7.00**
SBH66	ENG-BH-66(2-4') SL03/30/1998	2 - 4	**33.40**
SBH66	ENG-BH-66(4-6') SL03/30/1998	4 - 6	**7.80**
SBH67	ENG-BH-67(0-2') SL03/30/1998	0 - 2	**10.80**
SBH67	ENG-BH-67(2-4') SL03/30/1998	2 - 4	**7.20**
SBH67	ENG-BH-67(4-6') SL03/30/1998	4 - 6	**7.80** (U)
SBH67	ENG-BH-67(6-8') SL03/30/1998	6 - 8	**6.20** (U)
SBH69	ENG-BH-69(0-2') SL03/30/1998	0 - 2	**15.20**
SBH69	ENG-BH-69(2-4') SL03/30/1998	2 - 4	**9.80** (U)
SBH69	ENG-BH-69(4-6') SL03/30/1998	4 - 6	**12.20**
SBH69	ENG-BH-69(6-8') SL03/30/1998	6 - 8	**14.40**
SBH69	ENG-BH-69(8-10') SL03/30/1998	8 - 10	**8.20** (U)
SBH70	ENG-BH-70(0-2') SL03/30/1998	0 - 2	**6.60**
SBH70	ENG-BH-70(2-4') SL03/30/1998	2 - 4	**8.00**
SBH70	ENG-BH-70(4-6') SL03/30/1998	4 - 6	**6.20**
SBH70	ENG-BH-70(6-8') SL03/30/1998	6 - 8	**10.00** (U)
SBH70	ENG-BH-70(8-10') SL03/30/1998	8 - 10	**7.00**
SBH70	ENG-BH-70(10-12') SL03/30/1998	10 - 12	**5.00** (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH70	ENG-BH-70(12-14') SL03/30/1998	12 - 14	**6.00** (U)
SBH71	ENG-BH-71(0-2') SL03/30/1998	0 - 2	**15.80**
SBH71	ENG-BH-71(2-4') SL03/30/1998	2 - 4	**5.60**
SBH71	ENG-BH-71(4-6') SL03/30/1998	4 - 6	**7.20** (U)
SBH71	ENG-BH-71(6-8') SL03/30/1998	6 - 8	**6.40**
SBH71	ENG-BH-71(8-10') SL03/30/1998	8 - 10	**6.20** (U)
SBH71	ENG-BH-71(10-12') SL03/30/1998	10 - 12	**8.00**
SBH71	ENG-BH-71(12-14') SL03/30/1998	12 - 14	**7.20**
SBH71	ENG-BH-71(14-16') SL03/30/1998	14 - 16	**4.60** (U)
SBH72	ENG-BH-72(0-2') SL03/30/1998	0 - 2	**9.20** (U)
SBH72	ENG-BH-72(2-4') SL03/30/1998	2 - 4	**386.00**
SBH72	ENG-BH-72(4-6') SL03/30/1998	4 - 6	**3,720.00**
SBH72	ENG-BH-72(6-8') SL03/30/1998	6 - 8	**118.00**
SBH73	ENG-BH-73(0-2') SL03/30/1998	0 - 2	**4.60**
SBH73	ENG-BH-73(2-4') SL03/30/1998	2 - 4	**9.40** (U)
SBH73	ENG-BH-73(4-6') SL03/30/1998	4 - 6	**6.20**
SBH73	ENG-BH-73(6-8') SL03/30/1998	6 - 8	**6.60** (U)
SBH73	ENG-BH-73(8-9') SL03/30/1998	8 - 9	**5.20**
SBH74	ENG-BH-74(0-2') SL03/30/1998	0 - 2	**9.00**
SBH74	ENG-BH-74(24') SL03/30/1998	2 - 4	**6.60**
SBH74	ENG-BH-74(4-6') SL03/30/1998	4 - 6	**8.00** (U)
SBH74	ENG-BH-74(6-8') SL03/30/1998	6 - 8	**7.40**
SBH74	ENG-BH-74(8-9.5') SL03/30/1998	8 - 9.5	**8.00** (U)
SBH75	ENG-BH-75(0-2') SL03/31/1998	0 - 2	**8.60** (U)
SBH75	ENG-BH-75(2-4') SL03/31/1998	2 - 4	**9.60**
SBH75	ENG-BH-75(4-6') SL03/31/1998	4 - 6	**6.80** (U)
SBH75	ENG-BH-75(6-8') SL03/31/1998	6 - 8	**4.40**
SBH75	ENG-BH-75(8-10') SL03/31/1998	8 - 10	**8.40** (U)
SBH76	ENG-BH-76(0-2') SL03/31/1998	0 - 2	**4.20**
SBH76	ENG-BH-76(2-4') SL03/31/1998	2 - 4	**9.40** (U)
SBH76	ENG-BH-76(4-6') SL03/31/1998	4 - 6	**21.20**
SBH76	ENG-BH-76(6-8') SL03/31/1998	6 - 8	**41.80**
SBH76	ENG-BH-76(12-16') SL03/31/1998	12 - 16	**27.00**
SBH77	ENG-BH-77(0-2') SL03/31/1998	0 - 2	**7.60**
SBH77	ENG-BH-77(2-4') SL03/31/1998	2 - 4	4.00 (U)
SBH78	ENG-BH-78(0-2') SL03/31/1998	0 - 2	**6.00**
SBH78	ENG-BH-78(2-4') SL03/31/1998	2 - 4	**6.40**
SBH79	ENG-BH-79(0-2') SL03/31/1998	0 - 2	**6.20**
SBH79	ENG-BH-79(2-4') SL03/31/1998	2 - 4	3.60
SBH80	ENG-BH-80(0-2') SL03/31/1998	0 - 2	3.60
SBH80	ENG-BH-80(2-4') SL03/31/1998	2 - 4	3.00 (U)
SBH81	ENG-BH-81(0-2') SL03/31/1998	0 - 2	3.00 (U)
SBH81	ENG-BH-81(2-4') SL03/31/1998	2 - 4	**5.00**
SBH82	ENG-BH-82(0-2') SL04/02/1998	0 - 2	**4.40** (U)
SBH82	ENG-BH-82(2-4') SL04/02/1998	2 - 4	**5.60**
SBH83	ENG-BH-83(0-2') SL04/02/1998	0 - 2	**6.60**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH83	ENG-BH-83(2-4') SL04/02/1998	2 - 4	**11.00**
SBH84	ENG-BH-84(0-2') SL04/02/1998	0 - 2	**9.00**
SBH84	ENG-BH-84(2-4') SL04/02/1998	2 - 4	**6.80**
SBH84	ENG-BH-84(4-6') SL04/02/1998	4 - 6	**8.80**
SBH84	ENG-BH-84(6-8') SL04/02/1998	6 - 8	**10.00**
SBH84	ENG-BH-84(8-10') SL04/02/1998	8 - 10	**6.80**
SBH84	ENG-BH-84(10-12') SL04/02/1998	10 - 12	**5.80**
SBH85	ENG-BH-85(0-2') SL04/02/1998	0 - 2	**4.60**
SBH85	ENG-BH-85(2-4') SL04/02/1998	2 - 4	**5.60**
SBH85	ENG-BH-85(4-6') SL04/02/1998	4 - 6	**6.40**
SBH85	ENG-BH-85(6-8') SL04/02/1998	6 - 8	**6.60**
SBH86	ENG-BH-86(0-2') SL04/02/1998	0 - 2	**4.40**
SBH86	ENG-BH-86(2-4') SL04/02/1998	2 - 4	**6.20** (U)
SBH87	ENG-BH-87(0-2') SL04/02/1998	0 - 2	**6.20**
SBH87	ENG-BH-87(2-4') SL04/02/1998	2 - 4	**6.00**
SBH88	ENG-BH-88(0-2') SL	0 - 2	**7.00**
SBH88	ENG-BH-88(2-4') SL	2 - 4	**10.00** (U)
SBH88	ENG-BH-88(4-6') SL	4 - 6	**6.60**
SBH88	ENG-BH-88(6-8') SL	6 - 8	**5.60**
SSS1	ENG SSS-1-62 SL10/29/1997	0 - 0.5	**13.40**
SSS10	ENG SSS-10-71 SL10/29/1997	0 - 0.5	0.00 (U)
SSS11	ENG SSS-11-72 SL10/29/1997	0 - 0.5	**27.60**
SSS12	ENG SSS-12-73 SL10/29/1997	0 - 0.5	0.00 (U)
SSS13	ENG SSS-13-74 SL10/29/1997	0 - 0.5	0.00 (U)
SSS14	ENG SSS-14-75 SL10/29/1997	0 - 0.5	0.00 (U)
SSS15	ENG SSS-15-76 SL10/29/1997	0 - 0.5	0.00 (U)
SSS16	ENG SSS-16-77 SL10/29/1997	0 - 0.5	**19.20**
SSS17	ENG SSS-17-78 SL10/29/1997	0 - 0.5	**14.20**
SSS18	ENG SSS-18-79 SL10/29/1997	0 - 0.5	**26.60**
SSS2	ENG SSS-2-63 SL10/29/1997	0 - 0.5	**19.20**
SSS20	ENG SSS-20-81 SL10/29/1997	0 - 0.5	**9.80**
SSS21	ENG SSS-21-82 SL10/29/1997	0 - 0.5	**26.60**
SSS22	ENG SSS-22-83 SL10/29/1997	0 - 0.5	0.00 (U)
SSS23	ENG SSS-23-84 SL10/29/1997	0 - 0.5	0.00 (U)
SSS24	ENG SSS-24-85 SL10/29/1997	0 - 0.5	**17.00**
SSS25	ENG SSS-25-86 SL10/29/1997	0 - 0.5	**12.80**
SSS26	ENG SSS-26-87 SL10/29/1997	0 - 0.5	0.00 (U)
SSS27	ENG SSS-27-88 SL10/29/1997	0 - 0.5	**16.40**
SSS28	ENG SSS-28-89 SL10/29/1997	0 - 0.5	0.00 (U)
SSS29	ENG SSS-29-90 SL10/29/1997	0 - 0.5	**12.60**
SSS3	ENG SSS-3-64 SL10/29/1997	0 - 0.5	0.00 (U)
SSS30	ENG SSS-30-91 SL10/29/1997	0 - 0.5	0.00 (U)
SSS31	ENG SSS-31-92 SL10/29/1997	0 - 0.5	**12.20**
SSS32	ENG SSS-32-93 SL10/29/1997	0 - 0.5	0.00 (U)
SSS33	ENG SSS-33-94 SL10/29/1997	0 - 0.5	0.00 (U)
SSS34	ENG SSS-34-95 SL10/29/1997	0 - 0.5	0.00 (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SSS35	ENG SSS-35-96 SL10/29/1997	0 - 0.5	**13.20**
SSS4	ENG SSS-4-65 SL10/29/1997	0 - 0.5	**18.80**
SSS6	ENG SSS-6-67 SL10/29/1997	0 - 0.5	0.00 (U)
SSS7	ENG SSS-7-68 SL10/29/1997	0 - 0.5	0.00 (U)
SSS8	ENG SSS-8-69 SL10/29/1997	0 - 0.5	**14.00**
SSS9	ENG SSS-9-70 SL10/29/1997	0 - 0.5	**5.40**
BSS1	Chev-B-1 SL08/10/1999	0 - 2	**7.20** (U)
BSS10	Chev-B-10 SL08/10/1999	0 - 2	**13.40**
BSS11	Chev-B-11 SL08/10/1999	0 - 2	**9.20** (U)
BSS12	Chev-B-12 SL08/10/1999	0 - 2	**11.00**
BSS13	Chev-B-13 SL08/10/1999	0 - 2	**7.20** (U)
BSS14	Chev-B-14 SL08/10/1999	0 - 2	**8.00** (U)
BSS15	Chev-B-15 SL08/10/1999	0 - 2	**10.80** (U)
BSS16	Chev-B-16 SL08/10/1999	0 - 2	**7.80** (U)
BSS17	Chev-B-17 SL08/10/1999	0 - 2	**9.00** (U)
BSS18	Chev-B-18 SL08/10/1999	0 - 2	**7.80** (U)
BSS19	Chev-B-19 SL08/10/1999	0 - 2	**4.80** (U)
BSS2	Chev-B-2 SL08/10/1999	0 - 2	**7.80** (U)
BSS20	Chev-B-20 SL08/10/1999	0 - 2	**7.80** (U)
BSS21	Chev-B-21 SL08/10/1999	0 - 2	**5.80** (U)
BSS22	Chev-B-22 SL08/10/1999	0 - 2	**7.00** (U)
BSS23	Chev-B-23 SL08/10/1999	0 - 2	**7.60** (U)
BSS24	Chev-B-24 SL08/10/1999	0 - 2	**6.00** (U)
BSS25	Chev-B-25 SL08/10/1999	0 - 2	**5.40** (U)
BSS26	Chev-B-26 SL08/10/1999	0 - 2	**13.60** (U)
BSS27	Chev-B-27 SL08/10/1999	0 - 2	**10.80** (U)
BSS28	Chev-B-28 SL08/10/1999	0 - 2	**19.60**
BSS29	Chev-B-29 SL08/10/1999	0 - 2	**12.80** (U)
BSS3	Chev-B-3 SL08/10/1999	0 - 2	**7.80** (U)
BSS30	Chev-B-30 SL08/10/1999	0 - 2	**6.60** (U)
BSS4	Chev-B-4 SL08/10/1999	0 - 2	**5.60** (U)
BSS5	Chev-B-5 SL08/10/1999	0 - 2	**9.80** (U)
BSS6	Chev-B-6 SL08/10/1999	0 - 2	**14.40** (U)
BSS7	Chev-B-7 SL08/10/1999	0 - 2	**6.40** (U)
BSS8	Chev-B-8 SL08/10/1999	0 - 2	**10.00** (U)
BSS9	Chev-B-9 SL08/10/1999	0 - 2	**18.20** (U)
CSS1	Chev-C-1('0.25') SL10/12/1999	0 - 0.25	**4.86** (U)
CSS10	Chev-C-10('0.25') SL10/12/1999	0 - 0.25	3.67 (U)
CSS11	Chev-C-11('0.25') SL10/12/1999	0 - 0.25	**4.98** (U)
CSS12	Chev-C-12('0.25') SL10/12/1999	0 - 0.25	3.89 (U)
CSS13	Chev-C-13('0.25') SL10/12/1999	0 - 0.25	3.51 (U)
CSS14	Chev-C-14('0.25') SL10/12/1999	0 - 0.25	**6.47** (U)
CSS15	Chev-C-15('0.25') SL10/12/1999	0 - 0.25	3.51 (U)
CSS16	Chev-C-16('0.25') SL10/12/1999	0 - 0.25	**121.00**
CSS17	Chev-C-17('0.25') SL10/12/1999	0 - 0.25	**173.00**
CSS18	Chev-C-18('0.25') SL10/12/1999	0 - 0.25	2.27 (U)

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
CSS19	Chev-C-19('0.25') SL10/12/1999	0 - 0.25	**9.94**
CSS2	Chev-C-2('0.25') SL10/12/1999	0 - 0.25	**4.54** (U)
CSS20	Chev-C-20('0.25') SL10/12/1999	0 - 0.25	3.96 (U)
CSS21	Chev-C-21('0.25') SL10/12/1999	0 - 0.25	**4.11** (U)
CSS22	Chev-C-22('0.25') SL10/12/1999	0 - 0.25	**4.73** (U)
CSS23	Chev-C-23('0.25') SL10/12/1999	0 - 0.25	3.06 (U)
CSS24	Chev-C-24('0.25') SL10/12/1999	0 - 0.25	3.71 (U)
CSS25	Chev-C-25('0.25') SL10/12/1999	0 - 0.25	3.15 (U)
CSS26	Chev-C-26('0.25') SL10/12/1999	0 - 0.25	2.95 (U)
CSS27	Chev-C-27('0.25') SL10/12/1999	0 - 0.25	**5.84** (U)
CSS28	Chev-C-28('0.25') SL10/12/1999	0 - 0.25	3.33 (U)
CSS29	Chev-C-29('0.25') SL10/12/1999	0 - 0.25	**4.10** (U)
CSS3	Chev-C-3('0.25') SL10/12/1999	0 - 0.25	3.28 (U)
CSS30	Chev-C-30('0.25') SL10/12/1999	0 - 0.25	**6.24** (U)
CSS4	Chev-C-4('0.25') SL10/12/1999	0 - 0.25	3.85 (U)
CSS5	Chev-C-5('0.25') SL10/12/1999	0 - 0.25	**4.41** (U)
CSS6	Chev-C-6('0.25') SL10/12/1999	0 - 0.25	2.16 (U)
CSS7	Chev-C-7('0.25') SL10/12/1999	0 - 0.25	2.13 (U)
CSS8	Chev-C-8('0.25') SL10/12/1999	0 - 0.25	**8.39** (U)
CSS9	Chev-C-9('0.25') SL10/12/1999	0 - 0.25	2.14 (U)
SBH138	ENG-BH-138(0-2') SL04/03/1998	0 - 2	**9.40**
SBH138	ENG-BH-138(2-4') SL04/03/1998	2 - 4	**9.40**
SBH138	ENG-BH-138(4-6') SL04/03/1998	4 - 6	**7.40**
SBH139	ENG-BH-139(0-2') SL04/03/1998	0 - 2	**6.20**
SBH139	ENG-BH-139(2-4') SL04/03/1998	2 - 4	**11.60**
SBH139	ENG-BH-139(4-6') SL04/03/1998	4 - 6	**5.00** (U)
SBH140	ENG-BH-140(0-2') SL04/03/1998	0 - 2	**6.20**
SBH140	ENG-BH-140(2-4') SL04/03/1998	2 - 4	**8.80**
SBH140	ENG-BH-140(4-6') SL04/03/1998	4 - 6	**7.60** (U)
SBH141	ENG-BH-141(0-2') SL04/03/1998	0 - 2	**9.20**
SBH141	ENG-BH-141(2-4') SL04/03/1998	2 - 4	**8.00**
SBH141	ENG-BH-141(4-6') SL04/03/1998	4 - 6	**7.60**
SBH142	ENG-BH-142(0-2') SL04/03/1998	0 - 2	**7.00** (U)
SBH142	ENG-BH-142(2-4') SL04/03/1998	2 - 4	**11.60**
SBH143	ENG-BH-143(0-2') SL04/03/1998	0 - 2	**6.40** (U)
SBH143	ENG-BH-143(2-4') SL04/03/1998	2 - 4	**15.20**
SBH144	ENG-BH-144(0-2') SL04/03/1998	0 - 2	**6.60** (U)
SBH144	ENG-BH-144(24') SL04/03/1998	2 - 4	**11.80**
SBH145	ENG-BH-145(0-2') SL04/03/1998	0 - 2	**7.60** (U)
SBH145	ENG-BH-145(2-4') SL04/03/1998	2 - 4	**13.60**
SBH145	ENG-BH-145(4-6') SL04/03/1998	4 - 6	**9.40**
SBH146	ENG-BH-146(0-2') SL04/03/1998	0 - 2	**7.80** (U)
SBH146	ENG-BH-146(2-4') SL04/03/1998	2 - 4	**10.40**
SBH146	ENG-BH-146(4-6') SL04/03/1998	4 - 6	**6.60**
SBH146	ENG-BH-146(6-8') SL04/03/1998	6 - 8	**11.20** (U)
SBH146	ENG-BH-146(8-10') SL04/03/1998	8 - 10	**9.80**

Table 6-25. Historical Soil Data Summary (continued)

Station	Sample No	Depth (ft bgs)	Total Uranium (pCi/g)
SBH146	ENG-BH-146(10-12') SL04/03/1998	10 - 12	**6.40** (U)
SBH68	ENG-BH-68(0-2') SL04/03/1998	0 - 2	**5.00** (U)
SBH68	ENG-BH-68(2-8') SL04/03/1998	2 - 8	**10.00** (U)

Notes:
All units are in pCi/g.
Bold indicates values above calculated natural background. For constituents with different backgrounds for surface and total soil, the lower value was used for comparison.
U - Analyte not detected.

Table 6-26. RI Data Summary - IA03 COI Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Soil 0-13' bgs					
Americium-241	pCi/g	425	416	7.01	1.38
Cesium-137	pCi/g	91	71	7.85	0.53
Europium-152	pCi/g	17	17	NA	NA
Europium-154	pCi/g	17	17	NA	NA
Neptunium-237	pCi/g	4	4	NA	NA
Plutonium-238	pCi/g	17	17	NA	NA
Plutonium-239/240	pCi/g	17	11	0.78	0.26
Radium-226/ Lead-210	pCi/g	428	0	14.88	1.57
Radium-228	pCi/g	297	0	2.42	1.03
Technetium-99	pCi/g	17	15	1.13	1.08
Thorium-228	pCi/g	304	4	3.92	1.14
Thorium-230	pCi/g	77	0	632.00	27.59
Thorium-232	pCi/g	304	3	4.84	1.07
Total Uranium	pCi/g	417	0	5,597.00	60.91
Lithium	µg/kg	42	0	48,200.00	24,207.38
Molybdenum	µg/kg	42	0	15,200.00	5,045.48
TPH-DRO	mg/kg	42	3	5,960.00	328.91
Soil >13' bgs					
Americium-241	pCi/g	9	0	NA	NA
Radium-226/ Lead-210	pCi/g	9	0	2.07	1.50
Radium-228	pCi/g	4	0	1.27	1.12
Thorium-228	pCi/g	4	0	1.27	1.12
Thorium-232	pCi/g	4	0	1.27	1.12
Total Uranium	pCi/g	9	0	11.32	7.06

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
BEGE-SB0007	HSSB0837	0 - 0.6	1.19	0.90		0.90	**11.34**		
BEGE-SB0008	HSSB0838	0 - 0.3	**1.51**	1.00		1.00	**16.71**		
BEGE-SB0009	HSSB0839	0 - 1	**3.39**	1.07	**17.30** (J)	0.51 (J)	**138.01**		
BEGE-SB0010	HSSB0840	0 - 0.7	**3.10**	1.66	**12.10**	**1.96**	**100.25**		
BEGE-SB0011	HSSB0841	0 - 0.8	**1.91**	0.77	**8.85**	1.32	**5,597.00**		
BEGE-SB0012	HSSB0842	0 - 1	**2.58**	0.86	1.07 (J)	0.40 (J)	**243.70**		
BEGE-SB0013	HSSB0843	0 - 1	**3.05**	1.19		1.19	**13.99**		
BEGE-SB0014	HSSB0844	0 - 1	**2.25**	0.97		0.97	**13.25**		
BEGE-SB0015	HSSB0845	0 - 0.4	1.09	0.47	**3.45**	0.84	**500.90**		
BEGE-SB0016	HSSB0846	0 - 0.3	1.17	0.47	0.94 (J)	0.19 (J)	**230.33**		
BEGE-SB0017	HSSB0847	0 - 0.3	1.37	0.70		0.70	**100.04**		
BEGE-SB0018	HSSB0848	0 - 0.3	1.13	0.49		0.49	**53.59**		
IA03-SB0001	HSSB0096	0 - 1.8	1.05	0.96		0.96	**18.52**	24,400.00 (J)	**253.00** (B)
IA03-SB0001	HSSB0092	1.8 - 2.9	0.87	0.98		0.98	**20.10**	**31,900.00** (J)	**252.00** (B)
IA03-SB0001	HSSB0093	2.9 - 4.9	1.23	1.31		1.31	**7.40**	31,400.00 (J)	8.20 (B)
IA03-SB0001	HSSB0223	6.9 - 8.9	1.15	1.23		1.23	**13.12**		
IA03-SB0001	HSSB0224	14.9 - 16.9	1.05	1.06		1.06	**4.74**		
IA03-SB0002	HSSB0097	0 - 0.9	0.62	0.59		0.59	**20.80**	11,400.00 (J)	**29.40** (B)
IA03-SB0002	HSSB0094	0.9 - 2.9	1.10	1.16		1.16	**10.89**	31,100.00 (J)	**25.10** (B)
IA03-SB0002	HSSB0095	3.5 - 5.5	0.77	1.40		1.40	**4.96**	**48,200.00** (J)	**19.70** (B)
IA03-SB0003	HSSB0084	0 - 2	**1.81**	1.22		1.22	**5,437.04**	10,100.00 (J)	13.40 (B)
IA03-SB0003	HSSB0083	3.5 - 5.5	1.07	**2.42**		**2.42**	**113.03**	29,900.00 (J)	8.20 (B)
IA03-SB0003	HSSB0220	7.5 - 9.5	0.95	1.19	**5.58**	1.13	**17.92**		
IA03-SB0004	HSSB0071	0 - 2	0.47	1.30		1.30	**719.49**	13,400.00 (J)	6.40 (U)
IA03-SB0004	HSSB0070	3.5 - 5.5	0.94	0.56		0.56	2.51	**35,100.00** (J)	3.00 (U)
IA03-SB0004	HSSB0219	7.5 - 9	0.87	1.27		1.27	3.39		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0005	HSSB0085	0 - 2	1.06	1.13		1.13	**37.60**	28,000.00 (J)	15.50 (B)
IA03-SB0005	HSSB0091	3.4 - 5.4	1.01	1.21		1.21	**7.46**	26,100.00 (J)	3.90 (U)
IA03-SB0005	HSSB0221	7.4 - 9.4	0.97	0.97		0.97	**25.78**		
IA03-SB0005	HSSB0222	15.4 - 17.4	0.81	1.00		1.00	**4.95**		
IA03-SB0006	HSSB1400	0 - 2	4.25				173.80	20,400.00 (J)	100.00 (B)
IA03-SB0006	HSSB1200	2 - 4	2.28				136.28		
IA03-SB0006	HSSB1401	4 - 6	2.15				6.89	30,000.00 (J)	11.40 (B)
IA03-SB0006	HSSB1196	8 - 10	1.85				3.15		
IA03-SB0007	HSSB0166	0 - 0.5	3.38	0.72	399.00	4.12	216.93		
IA03-SB0007	HSSB0069	0 - 2	**1.57**	0.84		0.84	**90.11**	**36,000.00** (J)	**315.00**
IA03-SB0007	HSSB0082	4 - 6	1.09	1.23		1.23	**6.18**	18,800.00 (J)	1.60 (J)
IA03-SB0007	HSSB0181	8 - 10	1.25	1.41		1.41	**5.61**		
IA03-SB0008	HSSB0196	0 - 0.5	1.38	0.93		0.93	2.33		
IA03-SB0008	HSSB0197	0 - 2	1.15	0.94		0.94	1.94		
IA03-SB0008	HSSB0198	4 - 6	1.29	1.34		1.34	**6.80**		
IA03-SB0008	HSSB0199	8 - 10	1.27	1.26		1.26	**5.74**		
IA03-SB0009	HSSB0080	0 - 2	**2.01**	0.74		0.74	**436.00**	22,200.00 (J)	**79.00**
IA03-SB0009	HSSB0176	4 - 6	1.23	1.34		1.34	**17.97**		
IA03-SB0009	HSSB0081	8 - 10	1.21	1.31		1.31	**7.96**	24,200.00 (J)	18.60
IA03-SB0010	HSSB0177	0 - 0.5	1.00	0.74		0.74	**4.99**		
IA03-SB0010	HSSB0178	0 - 2	1.28	0.63		0.63	**8.05**		
IA03-SB0010	HSSB0179	4 - 6	1.19	1.38		1.38	**5.65**		
IA03-SB0010	HSSB0180	8 - 10	0.94	1.08		1.08	2.01		
IA03-SB0011	HSSB0112	0 - 0.5	1.09	1.08		1.08	**40.81**		
IA03-SB0011	HSSB0113	0 - 2	1.11	0.96		0.96	**38.55**		
IA03-SB0011	HSSB0114	3.4 - 5.4	1.04	1.16		1.16	**8.68**		
IA03-SB0011	HSSB0115	7.4 - 9.4	1.13	1.04		1.04	**6.50**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0012	HSSB0053	0 - 0.5	0.79	0.61		0.61	**9.79**		
IA03-SB0012	HSSB0054	0 - 2	0.78	0.62		0.62	**23.77**		
IA03-SB0012	HSSB0055	4 - 6	1.27	1.28		1.28	**5.10**		
IA03-SB0012	HSSB0056	8 - 10	1.07	1.11		1.11	**5.12**		
IA03-SB0013	HSSB0272	0 - 0.5	0.64	0.43	0.95	0.50	3.62		
IA03-SB0013	HSSB0359	0 - 2	0.70	0.53		0.53	1.87	15,300.00 (J)	5.10
IA03-SB0013	HSSB0273	2 - 4	1.09	0.95	1.13	0.97	1.15		
IA03-SB0013	HSSB0360	5 - 7	1.13	1.16		1.16	2.72	29,300.00 (J)	16.40
IA03-SB0014	HSSB0248	0 - 0.5	**1.75**	0.95	**41.80** (J)	0.01 (U)			
IA03-SB0014	HSSB0208	0 - 2	**2.07**	1.17		1.17	**378.30**	31,300.00 (J)	**52.60**
IA03-SB0014	HSSB0210	4 - 6	1.13	1.13		1.13	**40.46**		
IA03-SB0014	HSSB0209	8 - 10	1.07	1.20		1.20	**5.74**	**37,200.00** (J)	3.70
IA03-SB0015	HSSB0242	0 - 0.5	**10.36**	1.19	**305.00** (J)	**1.50** (U)			
IA03-SB0015	HSSB0204	0 - 2	**6.95**	1.09		1.09	**414.90**	15,100.00 (J)	12.50
IA03-SB0015	HSSB0205	3.6 - 5.6	1.20	1.23		1.23	**9.18**	**38,900.00** (J)	3.20
IA03-SB0015	HSSB0243	7.6 - 9.6	1.32	1.13		1.13	**19.26**		
IA03-SB0016	HSSB0226	0 - 0.5	1.38	1.19		1.19	**22.96**		
IA03-SB0016	HSSB0098	0 - 2	1.33	1.26		1.26	**14.45**	28,000.00 (J)	**30.60** (B)
IA03-SB0016	HSSB0099	3.3 - 5.3	0.80	1.36		1.36	1.39	**38,300.00** (J)	**20.20** (B)
IA03-SB0017	HSSB0144	0 - 0.5	**1.69**	1.18		1.18	**204.87**		
IA03-SB0017	HSSB0058	0 - 2	1.36	1.09		1.09	**101.40**	7,120.00 (J)	**5,960.00**
IA03-SB0017	HSSB0061	3.7 - 5.7	1.02	1.29		1.29	**8.30**	30,900.00 (J)	**1,610.00**
IA03-SB0017	HSSB0145	7.7 - 9.7	1.04	1.23		1.23	3.67		
IA03-SB0018	HSSB0146	0 - 0.5	0.65	0.46		0.46	3.01		
IA03-SB0018	HSSB0062	0 - 2	0.62	0.60		0.60	3.28	8,080.00 (J)	**22.30**
IA03-SB0018	HSSB0063	3.2 - 5.2	1.33	1.36		1.36	**4.56**	25,900.00 (J)	5.10
IA03-SB0018	HSSB0147	7.2 - 9.2	1.24	1.30		1.30	1.79		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0019	HSSB0148	0 - 0.5	1.09	0.75	1.19 (J)	0.56 (J)			
IA03-SB0019	HSSB0064	0 - 2	1.08	0.99		0.99	**33.45**	11,900.00 (J)	**229.00**
IA03-SB0019	HSSB0065	3.5 - 5.5	1.29	1.24		1.24	**42.89**	31,600.00 (J)	**24.80**
IA03-SB0019	HSSB0149	7.5 - 9.5	1.09	1.25		1.25	**6.82**		
IA03-SB0020	HSSB0150	0 - 0.5	1.02	0.76		0.76	**113.08**		
IA03-SB0020	HSSB0066	0 - 1.4	1.05	0.83		0.83	**87.81**	12,500.00 (J)	**151.00**
IA03-SB0020	HSSB0067	4 - 6	1.02	1.23		1.23	3.96	23,500.00 (J)	4.60
IA03-SB0020	HSSB0151	8 - 10	1.12	1.09		1.09	**4.49**		
IA03-SB0021	HSSB0140	0 - 0.5	**1.55**	1.04		1.04	**32.74**		
IA03-SB0021	HSSB0141	0 - 2	**1.57**	1.19		1.19	**21.60**		
IA03-SB0021	HSSB0142	4 - 6	0.98	1.42		**1.42**	1.27		
IA03-SB0022	HSSB0136	0 - 0.5	0.63	0.58		0.58	2.06		
IA03-SB0022	HSSB0137	0 - 2	0.67	0.65		0.65	2.19		
IA03-SB0022	HSSB0138	3.4 - 5.4	1.03	1.09		1.09	**4.40**		
IA03-SB0022	HSSB0139	7.4 - 9.4	1.17	1.22		1.22	-0.16		
IA03-SB0023	HSSB0132	0 - 0.5	0.50	0.39		0.39	2.50		
IA03-SB0023	HSSB0133	0 - 2	0.78	0.63		0.63	**30.30**		
IA03-SB0023	HSSB0134	3.5 - 5.5	1.07	1.04		1.04	**22.04**		
IA03-SB0023	HSSB0135	7.5 - 9.5	1.24	1.15		1.15	**17.13**		
IA03-SB0023	HSSB0218	11.5 - 13.5	1.36	1.27		1.27	**8.70**		
IA03-SB0023	HSSB0354	18.5 - 20.5	1.13	1.16		1.16	2.98		
IA03-SB0024	HSSB0152	0 - 0.5	0.62	0.32		0.32	**7.27**		
IA03-SB0024	HSSB0153	0 - 2	0.73	0.50		0.50	**7.18**		
IA03-SB0024	HSSB0154	4 - 6	0.96	1.03		1.03	**4.23**		
IA03-SB0024	HSSB0155	8 - 9.7	0.89	1.09		1.09	2.63		
IA03-SB0025	HSSB0159	0 - 0.5	0.60	0.46		0.46	**6.26**		
IA03-SB0025	HSSB0160	0 - 2	0.68	0.70		0.70	**8.63**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0025	HSSB0161	4 - 6	1.02	1.24		1.24	3.02		
IA03-SB0025	HSSB0162	8 - 10	1.07	1.09		1.09	3.27		
IA03-SB0026	HSSB0128	0 - 0.5	0.52	0.43		0.43	0.11		
IA03-SB0026	HSSB0129	0 - 2	0.73	0.66		0.66	3.41		
IA03-SB0026	HSSB0130	3.5 - 5.5	1.03	0.90		0.90	2.47		
IA03-SB0026	HSSB0131	7.5 - 9.5	1.27	1.29		1.29	2.22		
IA03-SB0027	HSSB0124	0 - 0.5	1.08	0.80	**1.65**	0.94	**85.75**		
IA03-SB0027	HSSB0125	0 - 2	1.03	0.86	1.15	0.74	**23.62**		
IA03-SB0027	HSSB0126	3.45 - 5.45	0.99	1.29		1.29	**4.28**		
IA03-SB0027	HSSB0127	7.45 - 9.45	1.16	1.18		1.18	4.04		
IA03-SB0028	HSSB0120	0 - 0.5	**1.76**	0.97		0.97	**5.28**		
IA03-SB0028	HSSB0121	0 - 2	1.30	0.93		0.93	**6.87**		
IA03-SB0028	HSSB0122	3.25 - 5.25	**1.50**	1.32		1.32	**6.14**		
IA03-SB0028	HSSB0123	7.25 - 9.25	1.17	1.03		1.03	2.48		
IA03-SB0029	HSSB0116	0 - 0.5	0.87	0.44		0.44	2.40		
IA03-SB0029	HSSB0117	0 - 2	0.79	0.58		0.58	**4.35**		
IA03-SB0029	HSSB0118	3.2 - 5.2	0.86	0.64		0.64	**5.03**		
IA03-SB0029	HSSB0119	7.2 - 9.2	1.20	1.26		1.26	**4.74**		
IA03-SB0030	HSSB0244	0 - 0.5	1.11	0.67		0.67	**66.70**		
IA03-SB0030	HSSB0245	0 - 2	0.97	0.56		0.56	**64.58**		
IA03-SB0030	HSSB0246	3.6 - 5.6	1.10	1.04		1.04	**7.20**		
IA03-SB0030	HSSB0247	7.6 - 9.6	1.16	1.28		1.28	**4.66**		
IA03-SB0031	HSSB0049	0.5 - 1	0.74	0.56		0.56	**6.75**		
IA03-SB0031	HSSB0050	0.5 - 2	0.95	0.82		0.82	**8.30**		
IA03-SB0031	HSSB0051	4 - 6	1.11	1.17		1.17	**5.39**		
IA03-SB0031	HSSB0052	8 - 10	1.08	1.11		1.11	3.00		
IA03-SB0032	HSSB0057	0 - 0.5	0.80	0.62	**3.81**	0.71	**37.79**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0032	HSSB0101	0 - 2	1.40	0.64	**52.20**	**2.05**	**52.89**		
IA03-SB0032	HSSB0102	4 - 6	1.04	0.98		0.98	**9.17**		
IA03-SB0032	HSSB0103	8 - 10	1.02	0.98		0.98	**4.77**		
IA03-SB0033	HSSB0100	0 - 0.5	**1.83**	0.94		0.94	**428.10**	11,000.00 (J)	**437.00** (B)
IA03-SB0033	HSSB0193	0 - 0.5	**2.02**	1.43	**5.53**	0.67 (J)			
IA03-SB0033	HSSB0076	0 - 2	1.17	1.22		1.22	**60.78**	21,400.00 (J)	**393.00** (J)
IA03-SB0033	HSSB0202	0 - 2	1.26	1.15		1.15	**123.15**	19,200.00 (J)	**125.00** (B)
IA03-SB0033	HSSB0203	3.5 - 5.5	1.12	1.22		1.22	**6.70**	25,900.00 (J)	15.30
IA03-SB0033	HSSB0241	7.5 - 9.5	1.44	1.39		1.39	**5.70**		
IA03-SB0034	HSSB0045	1 - 1.5	1.21	0.62		0.62	3.71		
IA03-SB0034	HSSB0046	1 - 2.5	0.88	0.86		0.86	**4.25**		
IA03-SB0034	HSSB0047	4.5 - 6.5	1.09	1.15		1.15	1.66		
IA03-SB0034	HSSB0048	8.5 - 10.5	0.95	1.04		1.04	2.83		
IA03-SB0035	HSSB0040	0 - 0.5	1.10	0.39		0.39	**5.54**		
IA03-SB0035	HSSB0041	0 - 2	0.98	0.42		0.42	**5.11**		
IA03-SB0035	HSSB0042	4 - 6	**1.65**	0.95		0.95	0.97		
IA03-SB0035	HSSB0043	8 - 10	**1.60**	1.11		1.11	2.17		
IA03-SB0036	HSSB0108	0 - 0.5	0.50	0.52		0.52	2.39		
IA03-SB0036	HSSB0109	0 - 2	0.69	0.68		0.68	2.58		
IA03-SB0036	HSSB0110	4 - 6	1.10	1.30		1.30	1.69		
IA03-SB0036	HSSB0111	8 - 10	1.17	1.22		1.22	3.30		
IA03-SB0037	HSSB0104	0 - 0.5	0.67	0.41		0.41	**7.66**		
IA03-SB0037	HSSB0059	0 - 2	0.86	0.62		0.62	**17.23**	14,900.00 (J)	**31.50**
IA03-SB0037	HSSB0060	4 - 6	0.99	1.24		1.24	**9.68**	31,000.00 (J)	**94.70**
IA03-SB0037	HSSB0107	8 - 10	1.11	1.09		1.09	**5.13**		
IA03-SB0038	HSSB0163	0 - 0.5	1.06	0.73	**1.79** (J)	0.58 (J)			
IA03-SB0038	HSSB0068	0 - 1.5	0.98	0.61		0.61	**479.50**	6,710.00 (J)	**2,420.00**

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0038	HSSB0077	4 - 6	1.24	1.26		1.26	3.33	29,100.00 (J)	9.80
IA03-SB0038	HSSB0174	8 - 10	1.04	1.27		1.27	2.48		
IA03-SB0039	HSSB0164	0 - 0.5	0.88	0.56		0.56	**4.18**		
IA03-SB0039	HSSB0078	0 - 2	0.71	0.47		0.47	2.77		
IA03-SB0039	HSSB0079	4 - 6	1.13	1.26		1.26	**5.23**		
IA03-SB0039	HSSB0175	8 - 10	1.01	1.37		1.37	3.77		
IA03-SB0040	HSSB0168	0 - 2	**1.51**	1.38		1.38	**9.28**		
IA03-SB0040	HSSB0169	4 - 6	1.30	1.33		1.33	**5.02**		
IA03-SB0041	HSSB0172	0 - 2	1.04	1.18		1.18	2.43		
IA03-SB0041	HSSB0173	4 - 6	1.13	1.33		1.33	3.35		
IA03-SB0042	HSSB0170	0 - 2	**1.51**	1.37		1.37	**41.22**		
IA03-SB0042	HSSB0171	4 - 6	**1.55**	1.31		1.31	**12.14**		
IA03-SB0043	HSSB0182	0 - 2	1.04	1.01		1.01	**14.17**		
IA03-SB0043	HSSB0183	4 - 6	1.27	1.19		1.19	3.92		
IA03-SB0043	HSSB0184	8 - 10	1.08	1.31		1.31	1.01		
IA03-SB0044	HSSB0185	0 - 2	0.89	0.97		0.97	**14.03**		
IA03-SB0044	HSSB0186	4 - 6	1.05	1.23		1.23	3.44		
IA03-SB0044	HSSB0187	8 - 10	0.98	1.04		1.04	**5.01**		
IA03-SB0045	HSSB0188	0 - 2	1.00	1.20		1.20	**7.85**		
IA03-SB0045	HSSB0189	4 - 6	1.16	1.20		1.20	3.80		
IA03-SB0045	HSSB0190	8 - 10	1.07	1.28		1.28	**4.16**		
IA03-SB0046	HSSB0191	0 - 2	0.86	0.99		0.99	3.35		
IA03-SB0046	HSSB0192	4 - 6	1.39	1.25		1.25	2.25		
IA03-SB0048	HSSB0411	0 - 2	1.37	1.22		1.22	**6.99**		
IA03-SB0049	HSSB0410	0 - 2	0.66	0.70		0.70	1.24		
IA03-SB0050	HSSB0405	0 - 2	**1.54**	0.91		0.91	**6.02**		
IA03-SB0051	HSSB0406	0 - 2	1.36	0.93		0.93	**5.90**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0052	HSSB0407	0 - 2	1.35	1.13		1.13	**10.94**		
IA03-SB0053	HSSB0408	0 - 2	0.74	0.84		0.84	1.20		
IA03-SB0053	HSSB0409	4 - 6	1.43	1.18		1.18	3.11		
IA03-SB0054	HSSB0267	0 - 2	1.40	0.54	**17.40** (J)	0.29 (U)			
IA03-SB0054	HSSB0268	4 - 6	1.13	1.34		1.34	**6.18**		
IA03-SB0054	HSSB0269	8 - 10	1.14	1.40		1.40	**6.73**		
IA03-SB0055	HSSB0270	0 - 2	0.85	0.72		0.72	**35.53**		
IA03-SB0055	HSSB0271	4 - 6	1.10	1.12		1.12	**7.35**		
IA03-SB0056	HSSB0357	0 - 2	1.14	1.06		1.06	**4.10**		
IA03-SB0056	HSSB0358	3.4 - 5.4	1.19	1.35		1.35	2.30		
IA03-SB0057	HSSB0264	0 - 2	1.15	1.08		1.08	**34.89**		
IA03-SB0057	HSSB0265	3.3 - 5.3	1.04	1.22		1.22	**8.51**		
IA03-SB0057	HSSB0266	7.3 - 9.3	1.00	1.22		1.22	**6.35**		
IA03-SB0058	HSSB0211	0 - 2	0.69	0.41		0.41	**22.31**		
IA03-SB0058	HSSB0212	4 - 6	1.03	0.93		0.93	**35.97**		
IA03-SB0058	HSSB0213	8 - 10	1.32	1.24		1.24	**6.98**		
IA03-SB0059	HSSB0355	0 - 2	**1.91**	1.23		1.23	**8.59**		
IA03-SB0059	HSSB0356	4 - 6	**1.64**	1.30		1.30	**4.28**		
IA03-SB0060	HSSB0227	0 - 2	**1.69**	1.20		1.20	**8.46**		
IA03-SB0060	HSSB0240	4 - 6	1.33	1.29		1.29	**7.62**		
IA03-SB0061	HSSB0215	0 - 2	0.74	0.55	0.79 (J)	0.56	**13.06**		
IA03-SB0061	HSSB0216	3.6 - 5.6	1.34	1.22		1.22	**4.81**		
IA03-SB0061	HSSB0217	7.6 - 9.6	1.15	1.07		1.07	**6.21**		
IA03-SB0062	HSSB0232	0 - 1.5	**1.75**	0.83	**1.43** (J)	0.56 (J)			
IA03-SB0062	HSSB0233	3.7 - 5.7	0.93	1.03		1.03	**78.66**		
IA03-SB0063	HSSB0228	0 - 2	**1.58**	0.84		0.84	**12.65**		
IA03-SB0063	HSSB0229	4 - 6	1.32	1.30		1.30	3.26		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0064	HSSB0230	0 - 2	1.10	0.95		0.95	**4.15**		
IA03-SB0064	HSSB0231	4 - 6	0.97	1.26		1.26	3.74		
IA03-SB0065	HSSB1188	0 - 2	**2.06**				**30.28**		
IA03-SB0065	HSSB1189	4 - 6	**2.09**				4.03		
IA03-SB0066	HSSB1190	0 - 2	**1.60**				**16.09**		
IA03-SB0066	HSSB1191	4 - 6	**2.26**				**5.68**		
IA03-SB0067	HSSB1194	0 - 2	**2.06**				**11.16**		
IA03-SB0067	HSSB1195	4 - 6	**2.38**				1.85		
IA03-SB0068	HSSB1183	0 - 2	**2.13**				**55.32**		
IA03-SB0068	HSSB1184	2 - 4	**1.56**				**69.83**		
IA03-SB0068	HSSB1185	4 - 6	**2.41**				**5.04**		
IA03-SB0069	HSSB1186	0 - 2	**2.20**				**33.11**		
IA03-SB0069	HSSB1187	4 - 6	**2.16**				**7.76**		
IA03-SB0070	HSSB1192	0 - 2	**2.14**				**20.44**		
IA03-SB0070	HSSB1193	4 - 6	**2.41**				3.57		
IA03-SB0071	HSSB1181	0 - 2	**2.93**				**13.88**		
IA03-SB0071	HSSB1182	4 - 6	**2.09**				**4.55**		
IA03-SB0072	HSSB1203	0 - 2	**2.86**				**7.37**		
IA03-SB0072	HSSB1204	4 - 6	**2.03**				2.31		
IA03-SB0072	HSSB1205	8 - 10	**1.78**				2.33		
IA03-SB0073	HSSB1206	0 - 2	**2.08**				**6.18**		
IA03-SB0073	HSSB1207	4 - 6	**1.83**				**6.60**		
IA03-SB0073	HSSB1208	8 - 10	**1.63**				3.18		
IA03-SB0074	HSSB1209	0 - 2	**1.52**				**26.22**		
IA03-SB0074	HSSB1210	4 - 6	**1.88**				**5.17**		
IA03-SB0074	HSSB1211	8 - 10	**1.53**				**4.44**		
IA03-SB0075	HSSB1212	0 - 2	**2.08**				**35.65**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0075	HSSB1213	4 - 6	**1.89**				3.21		
IA03-SB0075	HSSB1214	8 - 10	**1.58**				**4.54**		
IA03-SB0076	HSSB1155	0 - 2	**1.94**				**36.12**		
IA03-SB0076	HSSB1156	4 - 6	**2.18**	1.57		**1.57**	0.68		
IA03-SB0076	HSSB1157	8 - 10	**2.09**				3.66		
IA03-SB0077	HSSB1173	0 - 2	**2.48**				**116.73**		
IA03-SB0077	HSSB1174	4 - 6	**1.89**				**8.24**		
IA03-SB0077	HSSB1175	8 - 10	**1.94**	1.53		**1.53**	1.10		
IA03-SB0078	HSSB1176	0 - 2	**2.71**				**20.66**		
IA03-SB0078	HSSB1177	4 - 6	**1.99**				3.17		
IA03-SB0078	HSSB1178	8 - 10	1.45				**105.77**		
IA03-SB0078	HSSB1179	10 - 12	1.42				**126.57**		
IA03-SB0078	HSSB1180	12 - 14	1.44				**11.32**		
IA03-SB0079	HSSB1160	0 - 2	**1.50**				**24.82**		
IA03-SB0079	HSSB1161	4 - 6	**2.21**				**10.59**		
IA03-SB0079	HSSB1162	8 - 10	**2.02**				**4.19**		
IA03-SB0080	HSSB1163	0 - 2	1.26				**106.69**		
IA03-SB0080	HSSB1164	4 - 6	**1.86**				**20.85**		
IA03-SB0080	HSSB1165	8 - 10	**1.88**				**6.81**		
IA03-SB0081	HSSB1166	0 - 2	1.18				**11.39**		
IA03-SB0081	HSSB1167	4 - 6	**2.59**				**4.46**		
IA03-SB0081	HSSB1168	8 - 10	**1.95**				**5.77**		
IA03-SB0082	HSSB1171	0 - 2	1.13				**12.14**		
IA03-SB0082	HSSB1172	4 - 6	**2.12**				**12.91**		
IA03-SB0082	HSSB1143	8 - 10	**2.09**				**5.34**		
IA03-SB0083	HSSB1144	0 - 2	1.28				**37.07**		
IA03-SB0083	HSSB1145	4 - 6	**2.32**				2.55		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0083	HSSB1146	8 - 10	**2.16**				3.24		
IA03-SB0084	HSSB1147	0 - 2	1.02				**7.51**		
IA03-SB0084	HSSB1148	4 - 6	**1.78**				**4.20**		
IA03-SB0084	HSSB1149	8 - 10	**1.58**				3.39		
IA03-SB0085	HSSB1088	2 - 4	**3.65**	1.29	**158.00**	**2.22**	**516.40**		
IA03-SB0085	HSSB1089	4 - 6	1.32	1.35		1.35	3.30		
IA03-SB0086	HSSB1090	2 - 4	0.71	0.64		0.64	**56.07**		
IA03-SB0087	HSSB1091	2 - 4	1.11	1.06	**5.05**	**2.16**	**44.77**		
IA03-SB0088	HSSB1241	0 - 2	**4.95**				**613.90**		
IA03-SB0088	HSSB1244	2 - 4	**5.26**				**176.37**		
IA03-SB0088	HSSB1242	4 - 6	**2.47**				**11.72**		
IA03-SB0088	HSSB1243	8 - 10	**2.08**				**4.45**		
IA03-SB0088	HSSB1245	10 - 12	**2.27**				**7.16**		
IA03-SB0089	HSSB1265	0 - 2	**2.88**				**79.54**		
IA03-SB0089	HSSB1266	2 - 4	**2.33**				**76.10**		
IA03-SB0090	HSSB1197	0 - 2	**4.57**				**271.07**		
IA03-SB0090	HSSB1201	2 - 4	**1.64**		**8.90**	0.92 (J)			
IA03-SB0090	HSSB1198	4 - 6	**2.04**				**142.45**		
IA03-SB0090	HSSB1202	6 - 8	**2.00**				**20.67**		
IA03-SB0090	HSSB1199	8 - 10	**1.90**				**7.48**		
IA03-SB0090	HSSB1215	10 - 12	**2.13**				**4.10**		
IA03-SB0090	HSSB1216	12 - 14	**2.07**				**4.61**		
IA03-SB0091	HSSB1267	0 - 2	**2.44**				**58.03**		
IA03-SB0091	HSSB1268	4 - 6	**2.51**				**7.99**		
IA03-SB0091	HSSB1269	8 - 10	**2.00**				2.97		
IA03-SB0092	HSSB1246	0 - 2	1.05				**6.09**		
IA03-SB0092	HSSB1247	4 - 6	**2.14**	1.76		**1.76**	3.37		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0092	HSSB1248	8 - 10	**1.98**				**4.45**		
IA03-SB0093	HSSB1152	0 - 2	1.32				**7.16**		
IA03-SB0093	HSSB1153	4 - 6	**1.87**				**5.84**		
IA03-SB0093	HSSB1154	8 - 10	**1.92**				3.98		
IA03-SB0094	HSSB1158	0 - 2	1.18				**14.55**		
IA03-SB0094	HSSB1159	4 - 6	**2.00**				**9.57**		
IA03-SB0095	HSSB1087	1.3 - 3.3	1.02	1.04		1.04	2.34		
IA03-SB0096	HSSB1086	1.4 - 3.4	0.98	0.93		0.93	2.72		
IA03-SB0097	HSSB1124	2 - 4	0.97	0.94		0.94	3.79		
IA03-SB0098	HSSB1123	2 - 4	0.68	0.62	**1.28**	0.46	**17.51**		
IA03-SB0099	HSSB1103	0 - 2	0.91	0.94		0.94	**17.27**		
IA03-SB0099	HSSB1104	4 - 6	0.77	0.71		0.71	**27.28**		
IA03-SB0100	HSSB1105	0 - 2	1.15	0.92		0.92	**56.41**		
IA03-SB0100	HSSB1106	4 - 6	1.20	1.42		**1.42**	3.46		
IA03-SB0101	HSSB1107	0 - 2	**1.56**	0.91		0.91	**45.56**		
IA03-SB0101	HSSB1108	4 - 6	1.44	1.42		**1.42**	**29.33**		
IA03-SB0102	HSSB1169	0 - 2	**2.48**				2.87		
IA03-SB0102	HSSB1170	4 - 6	**2.06**				**9.02**		
IA03-SB0103	HSSB1084	0 - 2	1.33	1.02		1.02	**117.13**		
IA03-SB0103	HSSB1085	4 - 6	1.22	1.34		1.34	**7.85**		
IA03-SB0104	HSSB1094	0 - 2	0.89	0.92		0.92	**10.29**		
IA03-SB0104	HSSB1095	4 - 6	1.38	1.33		1.33	**6.01**		
IA03-SB0105	HSSB1092	0 - 2	1.23	1.16	**2.34**	0.85 (J)	**11.49**		
IA03-SB0105	HSSB1093	4 - 6	1.31	1.16		1.16	**5.35**		
IA03-SB0106	HSSB1128	0 - 2	1.17	1.05	**1.82**	0.87	**17.87**		
IA03-SB0106	HSSB1129	4 - 6	1.34	1.42		**1.42**	3.62		
IA03-SB0107	HSSB1125	0 - 2	0.78	0.68	0.98	0.50	**16.01**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0107	HSSB1126	4 - 6	1.01	1.14	**1.28**	1.04	2.03		
IA03-SB0108	HSSB1132	0 - 2	**1.59**	0.80	**75.60**	0.80	**78.43**		
IA03-SB0108	HSSB1133	4 - 6	0.94	1.12		1.12	3.38		
IA03-SB0108	HSSB1134	8 - 10	1.03	1.34		1.34	2.78		
IA03-SB0109	HSSB1131	6 - 8	1.04	1.11		1.11	**7.61**		
IA03-SB0110	HSSB1120	0 - 2	0.53	0.48	0.67	0.85	0.86		
IA03-SB0110	HSSB1121	4 - 6	1.12	1.13	**1.42**	1.20	2.72		
IA03-SB0110	HSSB1122	8 - 10	1.04	1.13		1.13	1.40		
IA03-SB0111	HSSB1098	0 - 2	**5.94**	1.00	**632.00**	**4.84**	**268.10**		
IA03-SB0111	HSSB1099	4 - 6	1.04	1.12		1.12	**6.06**		
IA03-SB0111	HSSB1100	8 - 10	1.20	0.96		0.96	**13.05**		
IA03-SB0112	HSSB1137	0 - 2	**1.99**	1.44	**40.60**	**1.96**	**95.25**		
IA03-SB0112	HSSB1138	4 - 6	1.14	1.17		1.17	1.99		
IA03-SB0113	HSSB1130	2 - 4	1.13	1.09		1.09	**12.59**		
IA03-SB0114	HSSB1101	0 - 2	0.90	0.94		0.94	3.55		
IA03-SB0114	HSSB1102	4 - 6	1.02	1.08		1.08	3.15		
IA03-SB0115	HSSB1135	0 - 2	**1.47**	0.95		0.95	**62.05**		
IA03-SB0115	HSSB1136	4 - 6	1.10	1.26		1.26	0.96		
IA03-SB0116	HSSB0969	0 - 2	1.09	1.11		1.11	**7.26**		
IA03-SB0116	HSSB0970	3.25 - 5.25	0.90	0.82	**1.27** (J)	0.93 (J)	**170.50**		
IA03-SB0116	HSSB0971	7.25 - 9.25	0.41	0.43		0.43	**76.96**		
IA03-SB0117	HSSB0958	0 - 2	1.18	1.13	**1.43**	0.96	3.28		
IA03-SB0117	HSSB0959	2 - 4	1.13	1.21	1.10	0.72	2.74		
IA03-SB0117	HSSB0957	5.2 - 7.2	1.32	1.43		**1.43**	3.74		
IA03-SB0118	HSSB0963	0 - 2	1.08	0.88	1.11	0.98	**52.30**		
IA03-SB0118	HSSB0964	3.2 - 5.2	1.06	1.11	**1.24**	1.04	3.15		
IA03-SB0119	HSSB0966	0 - 2	0.87	0.90	1.03	0.79	**431.83**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0119	HSSB0967	3.5 - 5.5	1.03	1.19	**1.59**	1.25	**52.50**		
IA03-SB0119	HSSB0968	7.5 - 9.5	1.02	1.09		1.09	**9.64**		
IA03-SB0120	HSSB0960	0 - 2	0.56	0.57		0.57	3.76		
IA03-SB0120	HSSB0961	3 - 5	1.19	1.06		1.06	**5.37**		
IA03-SB0120	HSSB0962	7 - 9	1.36	1.36		1.36	3.28		
IA03-SB0121	HSSB0951	0 - 2	0.96	0.99		0.99	**4.43**		
IA03-SB0123	HSSB1298	0 - 2	1.20				**9.26**		
IA03-SB0123	HSSB1299	4 - 6	**2.01**				**4.48**		
IA03-SB0124	HSSB1296	0 - 2	1.44				**45.19**		
IA03-SB0124	HSSB1297	4 - 6	**2.02**				0.32		
IA03-SB0125	HSSB1340	0 - 2	**3.60**		1.10 (J)	0.47 (J)			
IA03-SB0125	HSSB1341	4 - 6	**2.67**				**4.62**		
IA03-SB0126	HSSB1302	0 - 2	**2.61**				**24.46**		
IA03-SB0126	HSSB1303	4 - 6	**2.32**				**8.16**		
IA03-SB0127	HSSB1342	0 - 2	**2.36**				**26.51**		
IA03-SB0127	HSSB1343	4 - 6	**2.33**				**17.64**		
IA03-SB0128	HSSB1344	0 - 2	**2.25**				**22.15**		
IA03-SB0128	HSSB1345	4 - 6	**2.26**				**6.72**		
IA03-SB0129	HSSB1300	0.5 - 2.5	**2.00**				**15.89**		
IA03-SB0129	HSSB1301	4 - 6	**2.20**				**6.79**		
IA03-SB0130	HSSB1356	0 - 2	**2.18**				**9.98**		
IA03-SB0130	HSSB1357	3.5 - 5.5	**1.76**				**4.92**		
IA03-SB0131	HSSB1381	0 - 2	**3.32**		**42.50**	1.19	**75.69**		
IA03-SB0131	HSSB1382	4 - 6	**1.76**		**1.62**	0.92	3.93		
IA03-SB0131	HSSB1383	8 - 10	**1.68**		**1.73**	1.23	**4.27**		
IA03-SB0132	HSSB1379	0 - 2	**1.79**	1.21	**3.64**	1.26	**4.92**		
IA03-SB0132	HSSB1380	3.25 - 5.25	**1.69**		**1.23**	**1.61**	3.06		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0133	HSSB1388	0 - 2	0.80	0.45	**1.62**	0.58	**4.42**		
IA03-SB0133	HSSB1389	4 - 6	0.67	0.34	0.68	0.43	1.66		
IA03-SB0134	HSSB1233	0 - 2	0.97				3.82		
IA03-SB0134	HSSB1234	4 - 6	1.24				3.12		
IA03-SB0135	HSSB1235	0 - 2	**2.84**		**14.40** (J)	0.49 (J)			
IA03-SB0135	HSSB1236	3.5 - 5.5	**1.78**				**11.96**		
IA03-SB0136	HSSB1237	0 - 2	**2.08**				**54.20**		
IA03-SB0136	HSSB1238	5.5 - 7.5	**2.47**				**4.47**		
IA03-SB0136	HSSB1239	9.5 - 11.5	**2.33**				**24.53**		
IA03-SB0136	HSSB1240	15.5 - 17.5	**1.78**				**7.57**		
IA03-SB0137	HSSB1358	0 - 2	**2.27**				**32.44**		
IA03-SB0137	HSSB1359	5.5 - 7.5	**1.98**				**9.16**		
IA03-SB0137	HSSB1360	9.5 - 11.5	**2.40**				**8.01**		
IA03-SB0137	HSSB1361	15.5 - 17.5	**2.05**				**8.90**		
IA03-SB0138	HSSB1218	0 - 1	**2.04**				**4.98**		
IA03-SB0139	HSSB1219	0 - 1	**1.50**				**7.09**		
IA03-SB0140	HSSB1220	0 - 1	**1.49**				**16.16**		
IA03-SB0141	HSSB1222	0 - 1	**14.88**				**22.71**		
IA03-SB0142	HSSB1221	0 - 1	**2.52**				**8.39**		
IA03-SB0143	HSSB1223	0 - 1	1.41				**26.61**		
IA03-SB0144	HSSB1228	0 - 1	**3.00**				**29.37**		
IA03-SB0145	HSSB1229	0 - 1	**1.60**				**17.60**		
IA03-SB0146	HSSB1230	0 - 1	**1.55**				**24.36**		
IA03-SB0147	HSSB1254	0 - 2	**2.48**				**16.13**		
IA03-SB0147	HSSB1255	4 - 6	**2.12**				**4.73**		
IA03-SB0148	HSSB1429	0 - 2	**2.06**				**7.20**		
IA03-SB0148	HSSB1430	4 - 6	**1.93**				**9.26**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0148	HSSB1431	8 - 10	**2.25**				2.25		
IA03-SB0149	HSSB1447	0 - 2	**3.22**				**44.36**		
IA03-SB0149	HSSB1448	8 - 10	**2.43**				**6.74**		
IA03-SB0149	HSSB1449	14 - 16	**1.76**				**9.80**		
IA03-SB0150	HSSB1434	0 - 1	**3.52**				**89.51**		
IA03-SB0150	HSSB1435	1 - 2	**3.58**				**30.46**		
IA03-SB0151	HSSB1433	0 - 1	**4.75**				**22.71**		
IA03-SB0152	HSSB1494	0.25 - 0.75	**1.65**	0.88	**3.33**	0.96	**91.56**		
IA03-SB0152	HSSB1495	0 - 1.25	1.11	0.86	**1.64**	0.82	**40.87**		
IA03-SB0152	HSSB1591	1.5 - 2	1.40	0.95	**3.91**	0.70	**52.86**		
IA03-SB0152	HSSB1589	2 - 4.5	1.21	1.08	**2.80**	1.14	**12.68**		
IA03-SB0152	HSSB1588	4.5 - 5	1.28	1.35	**1.33**	1.17	**6.30**		
IA03-SB0152	HSSB1496	5 - 6	1.16	1.24	**1.77**	1.16	**9.69**		
IA03-SB0152	HSSB1497	6 - 8	1.28	1.34	**1.33**	1.24	**5.66**		
IA03-SB0153	HSSB1498	0 - 0.5	1.41	0.97	**7.13**	1.01	**110.51**		
IA03-SB0153	HSSB1500	0.5 - 2	1.05	1.20	**1.33**	**1.99**			
IA03-SB0153	HSSB1501	2 - 4	1.25	1.37	**1.41**	1.22	1.79		
IA03-SB0153	HSSB1502	4 - 5.5	1.17	1.24	**1.90**	1.37	**12.02**		
IA03-SB0153	HSSB1499	5.5 - 6	1.38	1.07	**3.73**	1.02	**52.61**		
IA03-SB0153	HSSB1503	6 - 8	1.27	1.22	**1.78**	1.34	**8.99**		
IA03-SB0154	HSSB1504	0 - 0.5	**1.49**	0.99	**15.20**	1.07	**59.23**		
IA03-SB0154	HSSB1505	0.5 - 2	1.22	1.01	**1.30**	1.25	**22.46**		
IA03-SB0154	HSSB1506	2 - 4	1.33	1.19	**1.69**	1.28	1.45		
IA03-SB0154	HSSB1507	4 - 6	1.03	1.06	0.58	0.77	**13.33**		
IA03-SB0154	HSSB1508	6 - 7.5	1.10	1.17	**1.27**	**1.63**	2.86		
IA03-SB0155	HSSB1509	0.5 - 1	**4.34**	0.90	**164.00**	**1.97**	**287.80**		
IA03-SB0155	HSSB1511	1 - 2	1.29	1.17	**1.80**	1.25	**16.61**		

Table 6-27. RI Data Summary - IA03 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)	TPH-DRO (mg/kg)
IA03-SB0155	HSSB1512	2 - 4	1.13	1.28	**3.00**	1.06	**8.45**		
IA03-SB0155	HSSB1510	5 - 5.5	1.10	1.24	**4.08**	**1.48**	**16.91**		
IA03-SB0155	HSSB1513	4 - 6	1.10	1.42	1.14	1.16	2.66		
IA03-SB0155	HSSB1587	6 - 7.5	0.98	1.02	**1.45**	**1.46**	2.58		
IA03-SB0156	HSSB1519	0 - 1	1.24	0.66	**1.99**	0.67	**13.91**		
IA03-SB0157	HSSB1518	0 - 2	**2.89**	1.54	**1.94**	0.93	**16.72**		

U - Analyte not detected. UJ - Analyte was not detected, detection limit is estimated. J - Analyte is estimated.
Bold indicates values above calculated natural background. For constituents with different backgrounds for surface and total soil, the lower value was used for comparison.
Results for Ra-226 are presented from the on-site BEGe laboratory. Ra-226 is used as a surrogate for Pb-210.
Results for Ra-228 are presented from GEL gamma spectroscopy. If not available, results are presented from the on-site BEGe laboratory.
Results for Th-230 are presented from GEL alpha spectroscopy.
Results for Th-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Ra-228 as a surrogate.
Results for Total Uranium are calculated from the formula in Section 6.0, using GEL gamma spectroscopy results if available.
For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-28. RI Data Summary - IA04 COI Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Soil 0-13' bgs					
Americium-241	pCi/g	153	151	3.32	2.46
Cesium-137	pCi/g	64	50	0.16	0.08
Europium-152	pCi/g	11	11	NA	NA
Europium-154	pCi/g	11	11	NA	NA
Neptunium-237	pCi/g	9	8	0.96	0.96
Plutonium-238	pCi/g	6	6	NA	NA
Plutonium-239/240	pCi/g	6	6	NA	NA
Radium-226/ Lead-210	pCi/g	153	8	9.97	1.41
Radium-228	pCi/g	114	11	2.04	0.86
Technetium-99	pCi/g	6	6	NA	NA
Thorium-228	pCi/g	126	8	4.04	1.00
Thorium-230	pCi/g	62	2	230.00	10.32
Thorium-232	pCi/g	126	8	3.48	0.88
Total Uranium	pCi/g	149	0	2,311.73	106.62
Lithium	µg/kg	26	0	36,600.00	16,201.15
Molybdenum	µg/kg	26	0	289,000.00	16,489.62
TPH-DRO	mg/kg	26	0	777.00	126.42
Soil >13' bgs					
Americium-241	pCi/g	22	22	NA	NA
Radium-226/ Lead-210	pCi/g	22	0	2.46	0.82
Radium-228	pCi/g	16	4	1.25	0.73
Thorium-228	pCi/g	17	4	3.31	1.09
Thorium-230	pCi/g	4	0	11.50	3.69
Thorium-232	pCi/g	17	4	1.16	0.70
Total Uranium	pCi/g	22	0	347.77	24.74
Lithium	µg/kg	14	0	22,300.00	9,722.86
Molybdenum	µg/kg	14	0	12,600.00	3,951.07
TPH-DRO	mg/kg	14	0	410.00	105.06

Table 6-29. RI Data Summary - IA04 Soil Significant COPC Results

Station	Sample No.	Depth (ft. bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA04-SB0001	HSSB0367	0 - 0.5	**1.64**	1.12	0.45	
IA04-SB0001	HSSB0383	0 - 2	**1.64**		1.02	3.46
IA04-SB0001	HSSB0384	3.6 - 5.6	**1.64**		1.31	2.76
IA04-SB0001	HSSB0368	7.6 - 9.6	1.44		1.21	1.89
IA04-SB0002	HSSB0369	0.2 - 0.7	0.98		0.26	2.71
IA04-SB0002	HSSB0385	0.2 - 2.2	1.15		0.36	3.50
IA04-SB0002	HSSB0386	3.5 - 5.5	**1.82**		1.22	3.90
IA04-SB0002	HSSB0370	7.5 - 9.5	**1.69**		1.14	**4.38**
IA04-SB0003	HSSB0371	0 - 0.5	1.20		0.62	3.97
IA04-SB0003	HSSB0387	0 - 2	1.17		0.70	3.09
IA04-SB0003	HSSB0372	4.4 - 5.4	**1.83**		1.39	**6.10**
IA04-SB0003	HSSB0388	7.4 - 9.4	**1.81**		1.23	3.64
IA04-SB0004	HSSB0375	0 - 0.5	**1.60**	**2.25**	0.73	**125.77**
IA04-SB0004	HSSB0397	0 - 2	**1.81**		0.92	**119.48**
IA04-SB0004	HSSB0398	3.1 - 5.1	**2.04**		0.82	**6.89**
IA04-SB0004	HSSB0376	7.1 - 9.1	**1.92**		1.32	**5.79**
IA04-SB0005	HSSB0365	0 - 0.5	0.75	0.64	0.29	3.00
IA04-SB0005	HSSB0381	0 - 2	0.62		0.45	1.65
IA04-SB0005	HSSB0366	2.5 - 4.5	0.88	0.82	0.39	3.07
IA04-SB0005	HSSB0382	6.5 - 8.5	1.02		0.74	2.86
IA04-SB0007	HSSB0363	0 - 0.5	0.67	0.65	0.19	0.79
IA04-SB0007	HSSB0379	0 - 2	0.62		0.21	1.35
IA04-SB0007	HSSB0380	3.8 - 5.8	0.53		0.21	1.10
IA04-SB0007	HSSB0364	7.8 - 9.8	**1.99**	**1.59**	**1.56**	1.73
IA04-SB0008	HSSB0361	0 - 0.5	0.85	1.03	1.04	**4.71**
IA04-SB0008	HSSB0377	0 - 2	1.02		1.13	2.29
IA04-SB0008	HSSB0378	2.6 - 4.6	1.08		1.09	1.94
IA04-SB0008	HSSB0362	6.6 - 8.6	1.08		1.19	3.89

Table 6-29. RI Data Summary - IA04 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA04-SB0009	HSSB0373	0 - 0.5	1.09	1.07	0.51	2.43
IA04-SB0009	HSSB0389	0 - 2	1.24		0.67	3.94
IA04-SB0009	HSSB0390	4 - 6	1.28		1.19	2.64
IA04-SB0009	HSSB0374	8 - 10	1.00		1.04	2.79
IA04-SB0010	HSSB0426	0 - 0.5	0.67	**1.55**	0.61	1.36
IA04-SB0010	HSSB0392	0 - 2	0.73		0.38	1.74
IA04-SB0010	HSSB0427	3.5 - 5.5	1.29		1.27	
IA04-SB0010	HSSB0393	7.5 - 9.5	1.08		1.20	2.82
IA04-SB0011	HSSB0414	0 - 0.5	1.09		0.77	**9.43**
IA04-SB0011	HSSB0399	0 - 2	0.88		0.85	**11.12**
IA04-SB0011	HSSB0415	4 - 6	**3.32**	**134.00**	1.18	**355.01**
IA04-SB0011	HSSB0400	8 - 10	**2.68**		0.51	**1,797.60**
IA04-SB0011	HSSB0420	18 - 20	0.73		0.43	**54.44**
IA04-SB0011	HSSB0421	24 - 26	0.74		0.62	**11.95**
IA04-SB0012	HSSB0418	0 - 0.5	**1.54**		0.92	**10.79**
IA04-SB0012	HSSB0855	0 - 2	0.95		0.57	**5.10**
IA04-SB0012	HSSB0856	4 - 6	1.13		0.13	**9.77**
IA04-SB0012	HSSB0419	8 - 10	0.18		0.12	**5.83**
IA04-SB0013	HSSB0416	0 - 0.5	0.75		1.01	**168.48**
IA04-SB0013	HSSB0403	0 - 2	0.85		0.84	**33.05**
IA04-SB0013	HSSB0417	4 - 6	0.86		0.84	**5.01**
IA04-SB0013	HSSB0404	8 - 10	0.91		1.07	3.31
IA04-SB0014	HSSB0422	0 - 0.5	1.27		0.75	3.32
IA04-SB0014	HSSB0423	0 - 2	0.83		0.71	1.83
IA04-SB0014	HSSB0424	4 - 6	0.70		0.96	3.72
IA04-SB0014	HSSB0425	8 - 10	0.57		0.74	-0.72
IA04-SB0019	HSSB0394	0 - 2	0.64		0.84	2.11
IA04-SB0019	HSSB0395	4 - 5	0.73		0.93	2.68
IA04-SB0020	HSSB1150	0 - 2	**1.55**			3.04
IA04-SB0020	HSSB1151	2 - 4	1.33			**23.35**

Table 6-29. RI Data Summary - IA04 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA04-SB0021	HSSB0982	0 - 2	1.10		0.86	**19.97**
IA04-SB0021	HSSB0983	2 - 4	0.75		0.57	3.33
IA04-SB0022	HSSB0980	0 - 2	1.22		0.95	**6.86**
IA04-SB0022	HSSB1053	2 - 4	1.28		0.88	**5.64**
IA04-SB0022	HSSB0981	8 - 10	1.07		1.09	**5.18**
IA04-SB0022	HSSB0993	12 - 14	0.96		1.16	2.33
IA04-SB0022	HSSB0994	24 - 26	0.39		0.42	0.21
IA04-SB0023	HSSB0978	0.5 - 2.5	1.01	**7.70**	**1.73**	**237.71**
IA04-SB0023	HSSB0979	8 - 10	0.94	**2.10**	1.10	**19.28**
IA04-SB0023	HSSB0991	12 - 14	0.84		0.76	3.43
IA04-SB0023	HSSB0992	24 - 26	0.72		0.83	2.09
IA04-SB0024	HSSB0984	0 - 2	0.93		0.78	1.77
IA04-SB0024	HSSB0985	8 - 10	0.69		0.32	**5.78**
IA04-SB0024	HSSB0995	12 - 14	0.77		0.50	3.62
IA04-SB0024	HSSB0996	24 - 26	0.10		0.05	0.20
IA04-SB0025	HSSB1035	0 - 2	0.84	**10.20**	0.86	**21.18**
IA04-SB0025	HSSB1036	8 - 10	0.27		0.11	**4.67**
IA04-SB0025	HSSB0987	12 - 14	0.21		0.18	0.66
IA04-SB0025	HSSB0988	24 - 26	0.69		0.65	1.49
IA04-SB0026	HSSB1038	0 - 2	1.12	0.85	0.83	**13.03**
IA04-SB0026	HSSB1039	8 - 10	0.07 (U)		0.03	-0.22
IA04-SB0026	HSSB1013	12 - 14	0.19		0.11	0.96
IA04-SB0026	HSSB1014	24 - 26	0.66	1.19	0.97	**4.38**
IA04-SB0027	HSSB1037	0 - 2	0.66	**1.28**	0.86	2.06
IA04-SB0027	HSSB1045	8 - 10	0.16 (U)		0.06	0.66
IA04-SB0027	HSSB0989	12 - 14	0.30		0.19	0.48
IA04-SB0027	HSSB0990	24 - 26	0.64	0.52	0.58	**15.29**
IA04-SB0028	HSSB0972	0 - 2	0.90	1.05	0.60	-0.47
IA04-SB0028	HSSB0973	8 - 10	0.99		0.86	2.18
IA04-SB0028	HSSB1011	12 - 14	1.18	**1.55**	1.16	**6.49**

Table 6-29. RI Data Summary - IA04 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA04-SB0028	HSSB1012	24 - 26	0.63		0.81	1.63
IA04-SB0029	HSSB1042	0 - 2	**1.78**	**2.01**	0.74	**30.78**
IA04-SB0029	HSSB1043	2 - 4	**1.74**		0.81	**4.95**
IA04-SB0030	HSSB1040	0 - 2	0.57		0.36	0.66
IA04-SB0030	HSSB1041	2 - 4	0.82		0.78	3.68
IA04-SB0031	HSSB1054	0 - 2	0.64		0.51	1.35
IA04-SB0031	HSSB1055	1.6 - 3.6	1.06		0.89	**7.56**
IA04-SB0032	HSSB1288	0 - 2	**3.34**		1.03	**52.53**
IA04-SB0032	HSSB1289	8 - 10	**8.23**	**1.45**	**1.82**	**2,232.53**
IA04-SB0032	HSSB1290	16 - 18	1.30	**11.50**	0.21	**347.77**
IA04-SB0033	HSSB1280	0 - 2	**1.92**	**1.94**	1.01	**8.38**
IA04-SB0033	HSSB1284	4 - 6	**7.61**	**230.00**	**3.48**	**1,940.08**
IA04-SB0033	HSSB1281	8 - 10	**9.97**	**125.00**	0.86	**1,281.15**
IA04-SB0033	HSSB1282	16 - 18	1.30			**33.64**
IA04-SB0033	HSSB1283	22 - 24	1.28			2.97
IA04-SB0035	HSSB1418	0 - 2	0.99		1.25	**169.49**
IA04-SB0035	HSSB1419	4 - 6	**1.75**			**42.98**
IA04-SB0035	HSSB1420	8 - 10	**2.06**			**8.05**
IA04-SB0036	HSSB1286	0 - 2	1.45	**6.84**	1.07	**49.26**
IA04-SB0036	HSSB1287	4 - 6	0.68	0.88	0.42	**519.00**
IA04-SB0037	HSSB1364	0 - 2	**2.09**			**7.44**
IA04-SB0037	HSSB1365	2 - 4	**1.95**			**6.77**
IA04-SB0038	HSSB1366	0 - 2	0.81			0.35
IA04-SB0038	HSSB1367	2 - 4	**1.64**			3.77
IA04-SB0039	HSSB1368	0 - 2	**2.26**			3.36
IA04-SB0039	HSSB1369	2 - 4	**1.85**			-0.21
IA04-SB0040	HSSB1224	0 - 1	**2.38**	**16.40**	1.11	**2,311.73**
IA04-SB0041	HSSB1225	0 - 1	**1.82**	**26.00**	**2.19**	**830.55**
IA04-SB0042	HSSB1226	0 - 1	**1.66**			**6.41**
IA04-SB0043	HSSB1227	0 - 1	**2.25**			**4.28**

Table 6-29. RI Data Summary - IA04 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA04-SB0044	HSSB1402	0 - 2	**2.30**		1.12	**314.72**
IA04-SB0044	HSSB1403	4 - 6	**1.92**			**4.45**
IA04-SB0044	HSSB1404	8 - 10	**1.79**			**5.39**
IA04-SB0044	HSSB1405	12 - 14	**1.52**			**8.05**
IA04-SB0048	HSSB1406	0 - 2	**1.79**			**6.89**
IA04-SB0048	HSSB1410	4 - 6	**3.28**			**882.28**
IA04-SB0048	HSSB1407	8 - 10	0.79			**19.41**
IA04-SB0049	HSSB1411	0 - 2	**2.00**			**6.19**
IA04-SB0049	HSSB1412	8 - 10	**2.70**			**5.23**
IA04-SB0049	HSSB1413	16 - 18	**2.46**			**18.23**
IA04-SB0049	HSSB1414	20 - 22	0.34			**24.01**
IA04-SB0051	HSSB1415	0 - 2	**1.95**			**4.96**
IA04-SB0051	HSSB1416	4 - 6	**1.64**			**11.46**
IA04-SB0051	HSSB1417	8 - 10	**1.83**			**5.01**
IA04-SB0053	HSSB1421	0 - 2	1.28	**1.74**	0.79	**155.73**
IA04-SB0053	HSSB1422	4 - 6	0.57			**8.95**
IA04-SB0053	HSSB1423	8 - 10	1.21	1.16	0.45	**314.27**
IA04-SB0053	HSSB1424	10 - 12	0.31			**9.73**
IA04-SB0054	HSSB1425	0 - 2	**2.25**		**1.50**	**290.42**
IA04-SB0054	HSSB1426	4 - 6	0.13 (U)			0.30
IA04-SB0054	HSSB1427	8 - 10	0.01 (U)			-0.06
IA04-SB0054	HSSB1428	10 - 12	0.09 (U)			1.17
IA04-SB0055	HSSB1436	0 - 1	1.45			3.96
IA04-SB0056	HSSB1432	0 - 0.5	**1.95**	**1.94**	0.98	**720.42**
IA04-SB0057	HSSB1464	0 - 2	1.09	1.01	0.60	2.27
IA04-SB0057	HSSB1465	2 - 3.75	0.08 (U)	0.58	0.17	
IA04-SB0057	HSSB1475	4 - 5	0.82	0.94	0.48	**6.81**
IA04-SB0057	HSSB1466	5 - 6	0.79	0.77	0.56	**5.44**
IA04-SB0057	HSSB1467	6 - 8	1.16	**1.41**	1.04	**4.48**
IA04-SB0058	HSSB1468	0 - 2	**1.85**	**2.92**	1.08	**7.07**

Table 6-29. RI Data Summary - IA04 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA04-SB0058	HSSB1469	2 - 4	0.30	0.28	0.07	1.42
IA04-SB0058	HSSB1590	4 - 5		0.02 (U)	0.11 (U)	0.13
IA04-SB0058	HSSB1470	5 - 6	0.60	0.63	0.36	1.43
IA04-SB0058	HSSB1471	6 - 8	**1.69**	**1.52**	1.21	
IA04-SB0059	HSSB1478	0 - 2	1.19	**1.26**	0.87	**5.52**
IA04-SB0059	HSSB1476	2 - 4	1.10	**1.42**	1.24	3.23
IA04-SB0059	HSSB1477	4 - 6	0.84	**1.41**	1.40	1.45
IA04-SB0059	HSSB1479	6 - 7	1.05	**1.29**	1.13	1.97
IA04-SB0060	HSSB1472	0 - 2	0.63	0.62	0.31	2.29
IA04-SB0060	HSSB1473	2 - 4	0.92	**1.25**	1.17	2.39
IA04-SB0060	HSSB1474	4 - 5.5	0.64	0.54	0.31	2.49
IA04-SB0061	HSSB1486	0 - 2	1.09	0.89	0.46	**7.52**
IA04-SB0061	HSSB1487	2 - 4	0.15	0.10 (U)	0.08 (U)	2.02
IA04-SB0061	HSSB1488	4 - 6	0.09	0.15	-0.01	2.06
IA04-SB0062	HSSB1480	0 - 2	1.13	**1.34**	0.99	**5.46**
IA04-SB0062	HSSB1481	2 - 4	0.54	0.45	0.38	0.83
IA04-SB0062	HSSB1482	4 - 6	0.93	**1.45**	1.05	**4.42**
IA04-SB0062	HSSB1483	6 - 8	1.44	**1.88**	**1.61**	**5.47**
IA04-SB0062	HSSB1485	9 - 9.5	**1.49**	**1.74**	**1.68**	**9.12**
IA04-SB0062	HSSB1484	8 - 10	**1.77**	**1.93**	**1.84**	1.23
IA04-SB0063	HSSB1520	0 - 1.5	0.88	0.94	1.06	
IA04-SB0064	HSSB1521	1 - 1.5	1.26	**1.98**	1.17	**309.45**
IA04-SB0064	HSSB1522	0 - 2	0.65	1.19	0.76	**33.42**
IA04-SB0065	HSSB1523	0 - 2	0.70	0.88	0.57	2.86

Table 6-29. RI Data Summary - IA04 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA04-TR1	HSTR0003	4.5 - 5	0.07 (U)	0.25	0.15	0.94
IA04-TR1	HSTR0004	3.5 - 5	**2.10**	**2.65**	0.53	2.33
IA04-TR2	HSTR0002	3.5 - 4	0.04 (U)	0.12	0.12	0.61
IA04-TR2	HSTR0001	3.5 - 4	0.54	0.55	0.40	**6.50**

U - Analyte not detected. J - Analyte is estimated.
Bold indicates values above calculated natural background. For constituents with different backgrounds for surface and total soil, the lower value was used for comparison.
Results for Ra-226 are presented from the on-site BEGe laboratory. Ra-226 is used as a surrogate for Pb-210.
Results for Th-230 are presented from GEL alpha spectroscopy.
For a full explanation of presented data surrogates and their rationales see Table 8-2.

Table 6-30. RI Data Summary - IA05 COI Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Soil 0-13' bgs					
Americium-241	pCi/g	145	144	0.85	0.85
Cesium-137	pCi/g	34	21	0.50	0.10
Europium-152	pCi/g	3	3		
Europium-154	pCi/g	3	3		
Neptunium-237	pCi/g	2	2		
Plutonium-238	pCi/g	2	2		
Plutonium-239/240	pCi/g	2	2		
Radium-226/ Lead-210	pCi/g	145	2	19.23	1.50
Radium-228	pCi/g	115	5	165.25	3.57
Technetium-99	pCi/g	2	2		
Thorium-228	pCi/g	115	6	602.00	7.85
Thorium-230	pCi/g	31	0	84.50	7.38
Thorium-232	pCi/g	115	5	329.00	5.06
Total Uranium	pCi/g	144	0	1,431.60	42.96
Lithium	µg/kg	30	0	42,700.00	22,263.33
Molybdenum	µg/kg	30	0	142,000.00	10,612.43
TPH-DRO	mg/kg	30	1	1,440.00	125.87
Soil >13' bgs					
Americium-241	pCi/g	33	33		
Radium-226/ Lead-210	pCi/g	33	0	2.77	1.18
Radium-228	pCi/g	21	0	1.24	1.00
Thorium-228	pCi/g	21	0	2.09	1.04
Thorium-230	pCi/g	1	0	2.07	2.07
Thorium-232	pCi/g	21	0	1.37	1.01
Total Uranium	pCi/g	33	0	84.57	12.75
Lithium	µg/kg	3	0	21,700.00	16,666.67
Molybdenum	µg/kg	3	0	9,600.00	6,276.67
TPH-DRO	mg/kg	3	0	41.30	17.20

Table 6-31. RI Data Summary - IA05 Soil Significant COPC Results

Station	Sample No.	Depth (ft. bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)
BEGE-SB0001	HSSB0831	0 - 1	**3.06**	0.95	1.15	**44.20**	0.93	**950.20**	
BEGE-SB0002	HSSB0832	0 - 0.9	**2.51**	0.82	1.26	**8.71**	0.78	**39.89**	
BEGE-SB0003	HSSB0833	0 - 0.1	1.02	0.68	**1.57**	1.19	0.52	2.19	
BEGE-SB0004	HSSB0834	0 - 0.8	**1.98**	0.97	0.97		0.97	**4.87**	
IA05-SB0003	HSSB0525	0 - 0.5	1.27	0.40	**1.55**	**2.22**	0.81	1.62	
IA05-SB0003	HSSB0585	0 - 0.5	1.12	0.48	0.98	**2.43**	0.73	2.52	17900.00 (J)
IA05-SB0003	HSSB0546	0 - 1.3	0.64	0.25	0.25		0.25	1.39	20000.00 (J)
IA05-SB0003	HSSB0537	0 - 2	1.36	1.49	**1.49**		**1.49**	**17.58**	14200.00 (J)
IA05-SB0003	HSSB0538	3.8 - 5.8	1.08	1.78	**1.78**		**1.78**	**10.14**	
IA05-SB0003	HSSB0587	11.8 - 13.8	0.84	1.06	1.06		1.06	**8.08**	
IA05-SB0003	HSSB0586	17.8 - 19.8	0.83	1.04	1.04		1.04	1.40	
IA05-SB0005	HSSB0582	0 - 0.5	1.12	0.76	1.37	**1.97**	0.95	**7.31**	19700.00 (J)
IA05-SB0005	HSSB0548	0 - 2	1.35	**1.91**	**1.91**		**1.91**	**30.86**	24600.00 (J)
IA05-SB0005	HSSB0583	4 - 6	**1.57**	0.85	**1.46**	**2.00**	1.01	3.68	
IA05-SB0005	HSSB0549	8 - 10	**1.49**	1.52	**1.52**		**1.52**	**15.37**	
IA05-SB0005	HSSB0584	13.5 - 15.5	0.98	1.00	1.00		1.00	**10.85**	
IA05-SB0007	HSSB0523	0 - 0.5	**1.65**	0.70	**2.35**	**84.50**	**1.51**	**866.92**	
IA05-SB0007	HSSB0544	0 - 2	**1.68**	1.00	1.00		1.00	**1,431.60**	
IA05-SB0007	HSSB0545	4 - 6	0.78	0.68	0.68		0.68	**51.45**	13200.00 (J)
IA05-SB0007	HSSB0524	8 - 10	0.94	0.78	1.06	**6.26**	0.80	**75.57**	20200.00 (J)
IA05-SB0007	HSSB0578	12 - 14	1.15	1.24	1.24		1.24	**5.30**	
IA05-SB0007	HSSB0577	16 - 18	0.82	1.12	1.12		1.12	2.70	
IA05-SB0007	HSSB0579	20 - 22	0.73	0.87	0.87		0.87	1.86	
IA05-SB0009	HSSB0521	0 - 0.5	1.16	0.89	0.89		0.89	1.09	
IA05-SB0009	HSSB0542	0 - 2	1.17	0.83	0.83		0.83	3.46	31200.00 (J)
IA05-SB0009	HSSB0543	3.5 - 5.5	1.23	0.94	0.94		0.94	**202.81**	18700.00 (J)
IA05-SB0009	HSSB0558	13.5 - 15.5	0.89	1.01	1.01		1.01	**72.10**	

Table 6-31. RI Data Summary - IA05 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)
IA05-SB0010	HSSB0592	0 - 0.5	**1.82**	1.19	1.19		1.19	**8.31**	19800.00 (J)
IA05-SB0010	HSSB0550	0 - 2	1.43	1.17	1.17		1.17	**25.84**	**34700.00** (J)
IA05-SB0010	HSSB0551	3.4 - 5.4	1.10	1.06	1.06		1.06	4.01	
IA05-SB0010	HSSB0593	7.4 - 9.4	0.91	1.12	1.12		1.12	**99.16**	
IA05-SB0010	HSSB0594	13.4 - 15.4	0.96	1.03	1.03		1.03	3.83	
IA05-SB0014	HSSB0519	0 - 0.5	1.06	0.94	**3.56**	**1.63**	0.97	**4.19**	
IA05-SB0014	HSSB0533	0 - 2	1.17	0.96	0.96		0.96	2.96	
IA05-SB0014	HSSB0534	3.5 - 5.5	1.04	1.01	1.01		1.01	1.54	
IA05-SB0014	HSSB0520	7.5 - 9.5	1.02	1.15	1.15		1.15	**4.87**	15600.00 (J)
IA05-SB0014	HSSB0530	12.5 - 14.5	1.06	1.07	1.07		1.07	3.09	27300.00 (J)
IA05-SB0015	HSSB0517	0 - 0.5	**19.23**	**165.25**	**602.00**	**44.00**	**329.00**	**25.80**	
IA05-SB0015	HSSB0531	0 - 2	**17.65**	**127.00**	**127.00**		**127.00**	**30.25**	
IA05-SB0015	HSSB0532	3.5 - 5.5	0.97	1.03	1.03		1.03	2.25	
IA05-SB0015	HSSB0518	7.5 - 9.5	1.01	1.02	1.21 (U)	1.18	0.90	**4.74**	30100.00 (J)
IA05-SB0015	HSSB0527	11.5 - 13.5	1.07	1.23	**2.09**	**2.07**	1.37	1.80	26500.00 (J)
IA05-SB0016	HSSB0595	0 - 0.5	1.34	1.20	1.20		1.20	2.69	25600.00 (J)
IA05-SB0016	HSSB0552	0 - 2	1.14	1.05	1.05		1.05	2.41	30500.00 (J)
IA05-SB0016	HSSB0553	3.2 - 5.2	1.08	1.14	1.14		1.14	2.72	
IA05-SB0016	HSSB0596	7.2 - 9.2	1.06	1.11	1.11		1.11	3.52	
IA05-SB0018	HSSB0559	0 - 2	0.33	0.15	0.15		0.15	0.18	
IA05-SB0018	HSSB0560	2 - 4	0.34	0.15	0.15		0.15	0.61	
IA05-SB0018	HSSB0561	4 - 6	0.33	0.23 (U)	0.23 (U)		0.23 (U)	0.17	
IA05-SB0018	HSSB0562	6 - 8	0.42	0.27 (U)	0.27 (U)		0.27 (U)	1.34	
IA05-SB0018	HSSB0563	8 - 10	1.03	0.90	0.90		0.90	**4.51**	
IA05-SB0018	HSSB0564	10 - 12	0.79	0.71	0.71		0.71	1.38	
IA05-SB0019	HSSB0571	0 - 2	1.09	1.31	**3.47**	1.05	1.13	1.68	
IA05-SB0019	HSSB0572	3.5 - 5.5	0.94	0.95	**3.57**	**1.25**	1.08	2.59	
IA05-SB0020	HSSB0573	0 - 2	1.45	0.89	**4.08**	**1.78**	0.87	3.04	
IA05-SB0020	HSSB0574	4 - 6	1.07	1.22	1.22		1.22	**4.24**	
IA05-SB0021	HSSB0575	0 - 2	1.00	1.13	**5.02**	**1.53**	0.93	1.04	
IA05-SB0021	HSSB0576	3.4 - 5.4	0.64	0.66	0.66		0.66	0.48	

Table 6-31. RI Data Summary - IA05 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)
IA05-SB0022	HSSB0589	0 - 0.5	1.36	1.17	1.17		1.17	**7.59**	**42700.00** (J)
IA05-SB0022	HSSB0539	0 - 2	1.34	1.16	1.16		1.16	**8.15**	30100.00 (J)
IA05-SB0022	HSSB0540	3.6 - 5.6	1.04	1.15	1.15		1.15	3.62	
IA05-SB0022	HSSB0590	7.6 - 9.6	1.06	0.95	0.95		0.95	**4.41**	
IA05-SB0022	HSSB0591	11.6 - 13.6	0.81	0.85	0.85		0.85	**5.92**	
IA05-SB0023	HSSB0580	0 - 0.5	1.18	0.92	**1.91**	1.12	0.95	3.32	29500.00 (J)
IA05-SB0023	HSSB0535	0 - 2	1.04	**1.83**	**1.83**		**1.83**	**12.33**	26200.00 (J)
IA05-SB0023	HSSB0536	3.5 - 5.5	0.93	**1.85**	**1.85**		**1.85**	**6.56**	
IA05-SB0023	HSSB0581	7.5 - 9.5	1.02	0.99	0.99		0.99	1.48	
IA05-SB0024	HSSB0565	0 - 2	0.38	0.26	0.26		0.26	1.53	
IA05-SB0024	HSSB0566	2 - 4	0.32	0.17	0.17		0.17	0.48	
IA05-SB0024	HSSB0567	4 - 6	0.38	0.17 (U)	0.17 (U)		0.17 (U)	1.22	
IA05-SB0024	HSSB0568	6 - 8	0.33	0.22	0.22		0.22	1.17	
IA05-SB0024	HSSB0569	8 - 10	0.47	0.35	0.35		0.35	1.79	
IA05-SB0024	HSSB0570	10 - 11	0.42	0.21	0.21		0.21	-1.17	
IA05-SB0025	HSSB1073	0 - 2	0.29	0.14 (U)	0.14 (U)		0.14 (U)	0.48	
IA05-SB0025	HSSB1075	4 - 6	0.89	0.51	0.51		0.51	**6.02**	
IA05-SB0025	HSSB1074	8 - 10	1.39	0.83	0.83		0.83	**7.56**	
IA05-SB0025	HSSB1116	18 - 20	1.00	1.04	1.04		1.04	**5.34**	
IA05-SB0026	HSSB1070	0 - 2	0.40	0.23	0.23		0.23	0.98	
IA05-SB0026	HSSB1071	4 - 6	0.50	0.31	0.31		0.31	**7.42**	
IA05-SB0026	HSSB1072	8 - 10	1.07	1.21	1.32	**1.68**	1.32	**46.69**	
IA05-SB0026	HSSB1078	18 - 20	0.87	0.95	0.95		0.95	2.78	
IA05-SB0027	HSSB1049	0 - 2	0.33	0.15	0.15		0.15	-0.22	
IA05-SB0027	HSSB1050	4 - 6	1.02	1.20	1.16	**1.65**	**1.63**	**50.76**	
IA05-SB0027	HSSB1051	8 - 10	0.70	0.78	0.78		0.78	**12.47**	
IA05-SB0027	HSSB1079	18 - 20	0.77	0.78	0.78		0.78	4.05	
IA05-SB0028	HSSB1046	0 - 2	0.30	0.18	0.18		0.18	0.26	
IA05-SB0028	HSSB1047	4 - 6	0.92	1.03	1.03		1.03	**4.38**	
IA05-SB0028	HSSB1048	8 - 10	0.98	1.13	1.13		1.13	1.40	
IA05-SB0028	HSSB1080	18 - 20	0.81	0.98	0.98		0.98	2.13	

Table 6-31. RI Data Summary - IA05 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)
IA05-SB0029	HSSB1016	0 - 2	1.17	0.69	0.69		0.69	**4.50**	20000.00 (J)
IA05-SB0029	HSSB1017	3.5 - 5.5	**1.50**	0.82	0.82		0.82	**14.77**	20000.00 (J)
IA05-SB0029	HSSB1018	7.5 - 9.5	0.99	0.77	0.77		0.77	**18.14**	13700.00 (J)
IA05-SB0030	HSSB1002	0.05 - 2.05	1.03	0.67	0.67		0.67	**4.82**	17400.00 (J)
IA05-SB0030	HSSB1003	3.75 - 5.75	0.85	0.59	0.59		0.59	**253.97**	20500.00 (J)
IA05-SB0030	HSSB1004	7.75 - 9.75	1.13	0.86	0.44	1.09	0.33		19600.00 (J)
IA05-SB0030	HSSB1068	9.75 - 13.8	0.94	0.74	0.74		0.74	**84.57**	
IA05-SB0030	HSSB1069	13.8 - 17.8	1.08	1.14	1.14		1.14	**10.96**	
IA05-SB0031	HSSB1056	0 - 2	**1.87**	1.29	1.29		1.29	**13.72**	
IA05-SB0031	HSSB1057	3.5 - 5.5	1.02	0.20 (U)	0.20 (U)		0.20 (U)	**8.74**	
IA05-SB0031	HSSB1058	7.5 - 9.5	1.05	0.96	0.96		0.96	2.45	
IA05-SB0032	HSSB1083	6.75 - 9.25	0.62	0.66	0.55	**1.72**	0.65	**208.67**	16000.00 (J)
IA05-SB0032	HSSB1001	14.8 - 16.8	0.78	0.91	0.91		0.91	**32.07**	12300.00 (J)
IA05-SB0032	HSSB1015	18.8 - 20.8	0.79	0.88	0.88		0.88	**4.73**	
IA05-SB0033	HSSB1059	0 - 2	**2.09**	1.44	**1.44**		**1.44**	**11.32**	
IA05-SB0033	HSSB1060	3.5 - 5.5	0.99	0.71	0.71		0.71	**17.17**	
IA05-SB0033	HSSB1061	7.5 - 9.5	**1.57**	1.02	1.02		1.02	**6.42**	
IA05-SB0033	HSSB1062	11.5 - 13.5	0.87	1.05	1.05		1.05	**24.42**	
IA05-SB0034	HSSB0997	0 - 2	1.43	0.78	0.78		0.78	3.38	12800.00 (J)
IA05-SB0034	HSSB0998	4 - 6	1.23	0.72	0.72		0.72	2.22	11300.00 (J)
IA05-SB0034	HSSB0999	8 - 10	1.33	1.06	1.06		1.06	2.32	14300.00 (J)
IA05-SB0034	HSSB1000	12 - 14	1.30	1.00	1.00		1.00	2.86	21700.00 (J)
IA05-SB0035	HSSB1113	0 - 1.5	1.08	**2.05**	**1.97**	**4.99**	**1.60**	**149.84**	
IA05-SB0035	HSSB1114	3.5 - 5.5	1.09	1.26	1.26		1.26	**4.98**	
IA05-SB0035	HSSB1115	7.5 - 9.5	0.93	1.13	1.13		1.13	**6.62**	
IA05-SB0036	HSSB0953	0.05 - 2.05	1.28	1.05	1.05		1.05	**5.13**	
IA05-SB0036	HSSB0952	3.35 - 5.35	1.01	1.15	1.15		1.15	2.96	
IA05-SB0036	HSSB0986	7.35 - 9.35	0.91	1.01	1.01		1.01	2.53	
IA05-SB0037	HSSB1067	0 - 2	1.04	1.03	**1.91**	0.94	0.89	**4.75**	
IA05-SB0037	HSSB1052	2 - 4	1.01	1.08	1.08		1.08	-1.29	
IA05-SB0038	HSSB1065	0 - 2	1.06	1.05	**2.35**	**1.32**	0.81	1.43	

Table 6-31. RI Data Summary - IA05 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)
IA05-SB0038	HSSB1066	2 - 4	0.91	0.94	**1.87**	1.09	0.83	0.35	
IA05-SB0039	HSSB1076	0 - 2	1.10	1.25	**3.35**	**1.39**	1.13	**4.94**	
IA05-SB0039	HSSB1077	2 - 4	1.05	0.97	**2.17**	0.98	0.84	2.73	
IA05-SB0040	HSSB0600	0 - 0.5	1.41	0.99	0.99		0.99	2.80	
IA05-SB0040	HSSB0554	0 - 2	**1.53**	0.97	0.97		0.97	**4.59**	
IA05-SB0041	HSSB0601	0 - 0.5	1.15	0.93	0.93		0.93	**5.78**	
IA05-SB0041	HSSB0556	0 - 2	**1.51**	1.01	1.01		1.01	**5.15**	
IA05-SB0042	HSSB0602	0 - 0.5	0.87	0.82	0.82		0.82	2.74	
IA05-SB0042	HSSB0603	0 - 2	1.13	0.96	0.96		0.96	0.47	
IA05-SB0043	HSSB0604	0 - 0.5	1.00	0.84	0.84		0.84	0.47	
IA05-SB0043	HSSB0605	0 - 2	0.98	0.90	0.90		0.90	1.87	
IA05-SB0044	HSSB1262	0 - 1.5	**1.74**					**36.26**	
IA05-SB0044	HSSB1263	3.5 - 5.5	**1.64**					2.19	
IA05-SB0045	HSSB1274	3.8 - 5.8	**2.61**					**11.30**	
IA05-SB0045	HSSB1275	7.8 - 9.8	**2.51**					**28.52**	
IA05-SB0045	HSSB1276	15.8 - 17.8	**1.71**					**12.71**	
IA05-SB0045	HSSB1277	19.8 - 21.8	1.17					**4.87**	
IA05-SB0046	HSSB1270	3.5 - 5.5	**2.09**					**6.16**	
IA05-SB0046	HSSB1271	7.5 - 9.5	**1.64**					2.47	
IA05-SB0046	HSSB1272	15.5 - 17.5	1.45					**15.25**	
IA05-SB0046	HSSB1273	19.5 - 21.5	1.21					3.59	
IA05-SB0047	HSSB1327	0 - 1.4	**3.20**					**93.06**	
IA05-SB0047	HSSB1321	3 - 5	**2.36**					**74.96**	
IA05-SB0047	HSSB1322	7 - 9	**1.94**					**61.07**	
IA05-SB0047	HSSB1325	15 - 17	**1.79**					**7.54**	
IA05-SB0047	HSSB1326	19 - 21	1.29					**11.53**	
IA05-SB0048	HSSB1316	0.5 - 2.5	**2.53**					**14.84**	
IA05-SB0048	HSSB1320	3.5 - 5.5	0.79	0.82	0.82		0.82	**363.20**	
IA05-SB0048	HSSB1317	6.5 - 8.5	0.74					**111.75**	
IA05-SB0048	HSSB1318	10.5 - 12.5	1.13					**21.30**	
IA05-SB0048	HSSB1319	14.5 - 16.5	1.19					**13.28**	

Table 6-31. RI Data Summary - IA05 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)
IA05-SB0049	HSSB1310	1.8 - 3.8	**2.32**					**31.51**	
IA05-SB0049	HSSB1314	4.8 - 6.8	0.43 (U)					**249.39**	
IA05-SB0049	HSSB1311	7.8 - 9.8	0.15 (U)					1.71	
IA05-SB0049	HSSB1315	9.8 - 11.8	**2.79**					**44.62**	
IA05-SB0049	HSSB1312	11.8 - 13.8	**2.77**					**25.31**	
IA05-SB0049	HSSB1313	15.8 - 17.8	**2.12**					**19.80**	
IA05-SB0050	HSSB1260	0 - 2	**1.85**					3.36	
IA05-SB0050	HSSB1261	3.5 - 5.5	**2.11**					**7.73**	
IA05-SB0051	HSSB1258	0 - 1.7	**2.57**					**19.65**	
IA05-SB0051	HSSB1259	3 - 5	**1.59**					1.69	
IA05-SB0052	HSSB1256	0 - 1.4	**2.69**					**7.20**	
IA05-SB0052	HSSB1257	3 - 5	**2.06**					3.51	
IA05-SB0053	HSSB1278	0 - 1.5	**1.64**					3.52	
IA05-SB0053	HSSB1279	3.5 - 5.5	**1.63**					2.51	
IA05-SB0054	HSSB1346	4 - 6	**1.79**					**14.70**	
IA05-SB0054	HSSB1347	8 - 10	**1.85**					**7.65**	
IA05-SB0054	HSSB1348	12 - 14	**1.61**					**5.03**	
IA05-SB0055	HSSB1352	3.5 - 5.5	**1.96**					1.84	
IA05-SB0055	HSSB1353	7.5 - 9.5	**1.85**					0.16	
IA05-SB0055	HSSB1354	11.5 - 13.5	**1.71**					**5.71**	
IA05-SB0056	HSSB1349	3.5 - 5.5	**1.87**					**4.95**	
IA05-SB0056	HSSB1350	7.5 - 9.5	**1.77**					3.15	
IA05-SB0056	HSSB1351	11.5 - 13.5	**1.73**					**5.35**	

Table 6-31. RI Data Summary - IA05 Soil Significant COPC Results (continued)

Station	Sample No.	Depth (ft. bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)	Lithium (µg/kg)
IA05-SB0057	HSSB1515	0 - 2	1.15	1.08	0.91	**1.64**	1.20	3.94	
IA05-SB0058	HSSB1514	0 - 2	1.13	1.17	1.13	0.72	1.03	1.70	
IA05-SB0059	HSSB1517	0 - 2	0.96	1.07	0.59	1.15	1.01	3.15	
IA05-SB0060	HSSB1516	0 - 2	1.25	1.22	1.25	**1.46**	0.95	2.15	

U - Analyte not detected. J - Analyte is estimated.

Bold indicates values above calculated natural background. For constituents with different backgrounds for surface and total soil, the lower value was used for comparison.

Results for Ra-226 are presented from the on-site BEGe laboratory. Ra-226 is used as a surrogate for Pb-210.

Results for Ra-228 are presented from GEL gamma spectroscopy. If not available, results are presented from the on-site BEGe laboratory.

Results for Th-228 are presented from GEL alpha spectroscopy. If not available, results are presented using Ra-228 as a surrogate.

Results for Th-230 are presented from GEL alpha spectroscopy.

Results for Th-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Ra-228 as a surrogate.

Results for Total Uranium are calculated from the formula in Section 6.0, using GEL gamma spectroscopy results if available.

For a full explanation of presented data surrogates and their rationales see Table 8-2.

Table 6-32. RI Data Summary - IA06 COI Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Soil 0-13' bgs					
Americium-241	pCi/g	95	94	0.28	0.28
Cesium-137	pCi/g	76	31	1.09	0.14
Europium-152	pCi/g	4	4	NA	NA
Europium-154	pCi/g	4	4	NA	NA
Neptunium-237	pCi/g	4	4	NA	NA
Plutonium-238	pCi/g	4	4	NA	NA
Plutonium-239/240	pCi/g	4	4	NA	NA
Radium-226/ Lead-210	pCi/g	98	0	2.36	0.88
Radium-228	pCi/g	98	0	1.46	0.79
Technetium-99	pCi/g	4	4	NA	NA
Thorium-228	pCi/g	98	0	2.98	0.94
Thorium-230	pCi/g	74	0	10.00	1.35
Thorium-232	pCi/g	98	0	1.56	0.82
Total Uranium	pCi/g	93	0	74.79	6.00
Lithium	µg/kg	14	0	30,100.00	20,035.71
Molybdenum	µg/kg	14	0	5,630.00	3,476.43
TPH-DRO	mg/kg	14	0	322.00	101.21
Soil >13' bgs					
Americium-241	pCi/g	1	1	NA	NA
Cesium-137	pCi/g	1	1	NA	NA
Radium-226/ Lead-210	pCi/g	1	0	0.76	0.76
Radium-228	pCi/g	1	0	1.03	1.03
Thorium-228	pCi/g	1	0	1.20	1.20
Thorium-230	pCi/g	1	0	1.18	1.18
Thorium-232	pCi/g	1	0	1.11	1.11
Total Uranium	pCi/g	1	0	12.11	12.11

Table 6-33. RI Data Summary - IA06 Soil Significant COPC Results

Station	Sample No	Depth (ft bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Total Uranium (pCi/g)
BEGE-SB0005	HSSB0835	0 - 0.6	**2.36**	**2.45**	**33.51**
BEGE-SB0006	HSSB0836	0 - 0.6	**2.06**	**1.37**	**16.56**
IA06-SB0001	HSSB0696	0 - 0.5	**2.31**	**2.12**	**24.33**
IA06-SB0001	HSSB0692	0 - 2	**2.06**		**9.68**
IA06-SB0001	HSSB0697	4 - 6	1.15		2.75
IA06-SB0001	HSSB0693	8 - 10	1.42		2.58
IA06-SB0002	HSSB0720	0 - 0.5	**1.49**		1.40
IA06-SB0002	HSSB0714	0 - 2	**1.60**		3.07
IA06-SB0002	HSSB0715	4 - 6	0.73		3.09
IA06-SB0002	HSSB0721	8 - 10	1.22		1.26
IA06-SB0003	HSSB0698	0 - 0.5	0.72	1.03	**4.91**
IA06-SB0003	HSSB0706	0 - 2	0.63		2.49
IA06-SB0003	HSSB0707	4 - 6	0.83		1.65
IA06-SB0004	HSSB0699	0 - 0.5	1.20		3.71
IA06-SB0004	HSSB0708	0 - 2	0.72		2.29
IA06-SB0004	HSSB0700	6 - 8	1.38		3.39
IA06-SB0004	HSSB0709	8 - 10	1.00		2.17
IA06-SB0005	HSSB0718	0 - 0.5	1.10		-1.18
IA06-SB0005	HSSB0712	0 - 2	1.08		3.19
IA06-SB0005	HSSB0717	4 - 6	0.99		1.32
IA06-SB0005	HSSB0713	8 - 10	0.64		3.00
IA06-SB0006	HSSB0701	0 - 0.5	0.69	**1.70**	3.45
IA06-SB0006	HSSB0710	0 - 2	0.78		2.66
IA06-SB0006	HSSB0702	6 - 8	0.64		3.18
IA06-SB0006	HSSB0711	8 - 10	0.67		2.60

Table 6-33. RI Data Summary - IA06 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Total Uranium (pCi/g)
IA06-SB0007	HSSB0705	0 - 0.5	1.22		-0.87
IA06-SB0007	HSSB0695	0 - 2	0.91		1.16
IA06-SB0007	HSSB0704	4 - 6	0.56		1.34
IA06-SB0007	HSSB0694	8 - 10	0.69		1.13
IA06-SB0008	HSSB0691	0 - 2	1.13	**2.01**	**11.26**
IA06-SB0009	HSSB0954	0 - 2	1.15	**1.53**	**12.74**
IA06-SB0010	HSSB0955	0 - 2	1.22	**2.06**	**13.82**
IA06-SB0011	HSSB0956	0 - 2	0.96	**5.75**	**18.88**
IA06-SB0012	HSSB1544	0 - 0.5	0.44	0.37	3.43
IA06-SB0012	HSSB1554	0.5 - 8	0.52	0.29	0.62
IA06-SB0013	HSSB1524	0 - 0.5	0.45	0.49	0.64
IA06-SB0013	HSSB1557	0.5 - 8	0.38	0.63	1.91
IA06-SB0014	HSSB1541	0 - 0.5	0.21	0.23	1.38
IA06-SB0014	HSSB1555	0.5 - 8	0.40	0.54	1.94
IA06-SB0015	HSSB1528	0 - 0.5	0.42	0.55	1.28
IA06-SB0015	HSSB1558	0.5 - 8	0.36	0.78	0.14
IA06-SB0016	HSSB1530	0 - 0.5	0.73	1.14	2.11
IA06-SB0016	HSSB1563	0.5 - 8	0.44	0.75	1.28
IA06-SB0017	HSSB1533	0 - 0.5	1.00	1.21	2.84
IA06-SB0017	HSSB1570	0.5 - 8	0.54	0.76	0.69
IA06-SB0018	HSSB1535	0 - 0.5	0.70	1.09	0.17
IA06-SB0018	HSSB1579	0.5 - 8	0.51	0.75	2.25
IA06-SB0019	HSSB1532	0 - 0.5	0.43	0.56	
IA06-SB0019	HSSB1562	0.5 - 8	0.44	0.74	0.63
IA06-SB0020	HSSB1536	0 - 0.5	0.67	1.08	**5.60**
IA06-SB0020	HSSB1569	0.5 - 8	0.72	0.72	1.26
IA06-SB0021	HSSB1550	0 - 0.5	0.62	0.63	0.99
IA06-SB0021	HSSB1565	0.5 - 8	0.98	**1.47**	2.68
IA06-SB0022	HSSB1547	0 - 0.5	0.54	0.68	1.89
IA06-SB0022	HSSB1568	0.5 - 8	1.00	1.11	1.43

Table 6-33. RI Data Summary - IA06 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Total Uranium (pCi/g)
IA06-SB0023	HSSB1548	0 - 0.5	0.76	1.18	
IA06-SB0023	HSSB1556	0.5 - 8	1.01	1.16	3.82
IA06-SB0024	HSSB1546	0 - 0.5	1.02	**2.13**	**15.36**
IA06-SB0024	HSSB1571	0.5 - 1	**1.78**	**3.65**	**74.79**
IA06-SB0024	HSSB1572	1 - 8	0.63	0.91	**7.03**
IA06-SB0025	HSSB1527	0 - 0.5	0.82	1.21	**9.57**
IA06-SB0025	HSSB1553	0.5 - 8	1.18	**1.31**	**4.80**
IA06-SB0026	HSSB1549	0 - 0.5	0.67	0.91	**5.78**
IA06-SB0026	HSSB1578	0.5 - 8	0.63	0.84	**4.37**
IA06-SB0027	HSSB1545	0 - 0.5	0.92	1.14	2.25
IA06-SB0027	HSSB1551	6.5 - 7	1.09	**10.00**	**37.86**
IA06-SB0027	HSSB1552	0.5 - 8	1.16	**2.26**	**17.04**
IA06-SB0027	HSSB1594	8 - 8.5	0.84	**2.74**	**19.13**
IA06-SB0027	HSSB1595	8.5 - 10.5	0.62	1.04	**5.74**
IA06-SB0027	HSSB1593	13.5 - 14	0.76	1.18	**12.10**
IA06-SB0028	HSSB1538	0 - 0.5	1.02	**1.28**	3.62
IA06-SB0028	HSSB1567	0.5 - 8	0.73	1.10	2.02
IA06-SB0029	HSSB1542	0 - 0.5	1.01	0.75	3.66
IA06-SB0029	HSSB1574	0.5 - 8	0.64	0.65	2.17
IA06-SB0030	HSSB1534	0 - 0.5	0.49	0.90	0.31
IA06-SB0030	HSSB1560	0.5 - 8	0.93	1.10	**4.33**
IA06-SB0031	HSSB1540	0 - 0.5	0.75	0.89	1.57
IA06-SB0031	HSSB1561	0.5 - 8	0.82	1.18	2.06
IA06-SB0032	HSSB1526	0 - 0.5	1.03	**1.29**	
IA06-SB0032	HSSB1573	0.5 - 8	0.87	**1.53**	2.58
IA06-SB0033	HSSB1531	0 - 0.5	0.87	**1.24**	1.96
IA06-SB0033	HSSB1577	0.5 - 7.5	0.67	**1.48**	**4.07**
IA06-SB0034	HSSB1543	0 - 0.5	0.91	1.07	
IA06-SB0034	HSSB1576	0.5 - 8	0.88	1.21	**4.46**
IA06-SB0035	HSSB1537	0 - 0.5	0.98	**1.47**	2.80

Table 6-33. RI Data Summary - IA06 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/Pb-210 (pCi/g)	Th-230 (pCi/g)	Total Uranium (pCi/g)
IA06-SB0035	HSSB1566	0.5 - 7.5	0.58	1.09	1.52
IA06-SB0036	HSSB1529	0 - 0.5	1.00	1.21	3.58
IA06-SB0036	HSSB1559	0.5 - 8	0.79	1.05	3.35
IA06-SB0037	HSSB1525	0 - 0.5	0.80	1.19	1.38
IA06-SB0037	HSSB1575	0.5 - 8	0.71	1.15	0.89
IA06-SB0038	HSSB1539	0 - 0.5	1.02	1.00	3.97
IA06-SB0038	HSSB1564	0.5 - 8	0.69	1.20	
IA06-SB0039	HSSB1580	0.5 - 1	0.57	**1.24**	**19.44**
IA06-SB0039	HSSB1581	4.5 - 5	1.01	**1.68**	**31.73**
IA06-SB0039	HSSB1582	1 - 8	0.73	1.03	**10.34**
IA06-SB0040	HSSB1585	0 - 0.5	0.69	1.00	1.28
IA06-SB0040	HSSB1586	0.5 - 3	1.17	**1.23**	3.11
IA06-SB0041	HSSB1583	0 - 0.5	0.48	1.04	0.11
IA06-SB0041	HSSB1584	0.5 - 8	0.69	0.95	2.92

Bold indicates values above calculated natural background. For constituents with different backgrounds for surface and total soil, the lower value was used for comparison.
Results for RA-226 are presented from the on-site BEGe laboratory. RA-226 is used as a surrogate for PB-210.
Results for TH-230 are presented from GEL alpha spectroscopy.
Results for Total Uranium are calculated from the formula in Section 6.0, using GEL gamma spectroscopy results if available.
For a full explanation of presented data surrogates and their rationales see Table 8-2.

Table 6-34. RI Data Summary - IA07 COI Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Soil 0-13' bgs					
Americium-241	pCi/g	93	91	0.95	0.90
Cesium-137	pCi/g	70	35	0.39	0.09
Europium-152	pCi/g	3	3	NA	NA
Europium-154	pCi/g	3	3	NA	NA
Neptunium-237	pCi/g	2	2	NA	NA
Plutonium-238	pCi/g	1	1	NA	NA
Plutonium-239/240	pCi/g	1	1	NA	NA
Radium-226/ Lead-210	pCi/g	77	3	7.98	1.41
Radium-228	pCi/g	86	3	51.00	2.71
Technetium-99	pCi/g	1	1	NA	NA
Thorium-228	pCi/g	93	6	88.00	4.39
Thorium-230	pCi/g	28	3	10.10	2.46
Thorium-232	pCi/g	93	7	74.80	3.50
Total Uranium	pCi/g	92	0	3,463.00	66.83
Lithium	µg/kg	45	0	30,800.00	14,534.44
Molybdenum	µg/kg	45	0	389,000.00	15,057.33
TPH-DRO	mg/kg	36	0	186.00	66.46
Soil >13' bgs					
Americium-241	pCi/g	3	3	NA	NA
Radium-226/ Lead-210	pCi/g	3	0	1.25	1.13
Radium-228	pCi/g	3	0	1.12	1.01
Thorium-228	pCi/g	3	0	1.12	1.01
Thorium-232	pCi/g	3	0	1.12	1.01
Total Uranium	pCi/g	3	0	14.79	7.21

Table 6-35. RI Data Summary - IA07 Soil Significant COPC Results

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
BEGE-SB0019	HSSB0849	0 - 1	1.00	**15.20**	**45.30**	**5.70**	**26.40**	**7.79**
BEGE-SB0020	HSSB0850	0 - 1	0.48	0.81	**2.34**	0.72	0.80	0.61
BEGE-SB0021	HSSB0851	0 - 1	0.55	0.27	0.27		0.27	1.50
BEGE-SB0022	HSSB0852	0 - 0.3	1.32	0.81	1.39	**2.01**	0.73	2.13
BEGE-SB0023	HSSB0853	0 - 0.4	1.43	0.80	**1.67**	**1.55**	0.49	2.19
BEGE-SB0024	HSSB0854	0 - 0.8	**1.70**	0.83	0.83		0.83	2.90
IA07-SB0001	HSSB0725	0 - 2	1.12	0.83	0.83		0.83	2.39
IA07-SB0001	HSSB0723	4 - 6	**1.66**	1.00	1.00		1.00	2.21
IA07-SB0001	HSSB0761	8 - 10	**1.57**	1.04	1.04		1.04	2.47
IA07-SB0002	HSSB0726	0 - 2	1.33	0.84	0.84		0.84	3.43
IA07-SB0002	HSSB0724	4 - 6	**1.59**	0.94	0.94		0.94	2.58
IA07-SB0002	HSSB0762	8 - 10	1.28	0.95	0.95		0.95	1.45
IA07-SB0003	HSSB0757	0 - 2	1.44	0.98	0.98		0.98	2.92
IA07-SB0003	HSSB0764	4 - 6	**1.66**	1.38	1.38		1.38	3.45
IA07-SB0003	HSSB0729	8 - 10	1.42	0.96	0.96		0.96	2.73
IA07-SB0004	HSSB0758	0 - 2	1.04	0.52	0.52		0.52	**4.54**
IA07-SB0004	HSSB0732	4 - 6	0.94	0.31	0.31		0.31	**4.58**
IA07-SB0004	HSSB0766	6 - 8	1.34	0.87	0.87		0.87	2.80
IA07-SB0004	HSSB0733	8 - 10	**1.50**	0.93	0.93		0.93	3.26
IA07-SB0005	HSSB0760	0 - 2	0.14	0.12	0.15 (U)	0.72 (U)	0.18 (U)	1.32
IA07-SB0005	HSSB0734	4 - 6	0.64	0.36	0.36		0.36	1.70
IA07-SB0005	HSSB0735	6 - 8	0.77	0.59	0.59		0.59	1.79
IA07-SB0005	HSSB0767	8 - 10	1.05	1.12	**1.50**	**1.74** (U)	**1.48**	3.68
IA07-SB0006	HSSB0759	0 - 1.3	**2.13**	1.15	1.15		1.15	**7.58**
IA07-SB0006	HSSB0765	4 - 6	**1.84**	0.91	0.91		0.91	**5.28**
IA07-SB0006	HSSB0730	6 - 8	**2.11**	1.01	1.01		1.01	**5.28**
IA07-SB0006	HSSB0731	8 - 10	**1.53**	1.27	1.27		1.27	**4.32**

Table 6-35. RI Data Summary - IA07 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA07-SB0007	HSSB0937	0 - 2		0.73	0.73		0.73	1.22
IA07-SB0007	HSSB0938	4 - 6		0.77	0.77		0.77	**23.43**
IA07-SB0007	HSSB0945	6 - 8		1.44	**1.44**		**1.44**	**5.50**
IA07-SB0007	HSSB0946	8 - 10		1.32	1.32		1.32	**5.54**
IA07-SB0008	HSSB0933	0 - 2		**2.04**	**2.04**		**2.04**	**4.82**
IA07-SB0008	HSSB0934	4 - 6		1.42	**1.42**		**1.42**	**8.16**
IA07-SB0008	HSSB0941	6 - 8		1.23	1.23		1.23	3.72
IA07-SB0008	HSSB0942	8 - 10		1.54	**1.54**		**1.54**	1.10
IA07-SB0009	HSSB0935	0 - 2		1.65	**1.65**		**1.65**	2.06
IA07-SB0009	HSSB0936	2 - 4		1.49	**1.49**		**1.49**	**6.01**
IA07-SB0009	HSSB0943	6 - 8		0.00 (U)	0.00 (U)		0.00 (U)	**14.96**
IA07-SB0009	HSSB0944	8 - 10		1.23	1.23		1.23	3.41
IA07-SB0010	HSSB0756	0 - 1.5	**1.52**	0.94	0.94		0.94	2.15
IA07-SB0010	HSSB0728	4 - 6	**1.51**	0.97	0.97		0.97	4.05
IA07-SB0010	HSSB0763	8 - 10	1.08	0.78	0.78		0.78	2.37
IA07-SB0011	HSSB0932	0 - 2		0.40	0.40		0.40	2.15
IA07-SB0011	HSSB0931	6 - 8		0.21 (U)	0.21 (U)		0.21 (U)	3.31
IA07-SB0011	HSSB0939	8 - 10		0.21 (U)	0.21 (U)		0.21 (U)	0.77
IA07-SB0011	HSSB0940	10 - 12		1.43	**1.43**		**1.43**	**8.03**
IA07-SB0012	HSSB0787	0 - 2	0.62	0.26	0.26		0.26	**10.90**
IA07-SB0012	HSSB0788	4 - 6	0.26	0.18	0.18		0.18	1.63
IA07-SB0012	HSSB0744	20 - 22	1.13	0.90	0.90		0.90	**14.79**
IA07-SB0012	HSSB0745	22.5 - 23.5	1.02	1.01	1.01		1.01	2.64
IA07-SB0013	HSSB0769	0 - 2	1.10	0.58	0.58		0.58	1.94
IA07-SB0013	HSSB0770	4 - 6	**1.70**	1.09	1.09		1.09	**5.62**
IA07-SB0013	HSSB0727	8 - 10	**1.47**	1.13	1.13		1.13	**5.13**
IA07-SB0014	HSSB0785	0 - 2	0.64	0.62	0.62		0.62	1.74
IA07-SB0014	HSSB0786	4 - 6	0.97	0.91	0.91		0.91	2.68
IA07-SB0014	HSSB0741	8 - 10	**1.53**	1.36	1.36		1.36	**4.89**
IA07-SB0014	HSSB0742	25.5 - 27.5	1.25	1.12	1.12		1.12	**4.18**

Table 6-35. RI Data Summary - IA07 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA07-SB0015	HSSB0781	0 - 2	0.92	0.77	0.77		0.77	2.35
IA07-SB0015	HSSB0739	3.2 - 5.2	1.20	1.77	**1.77**		**1.77**	2.72
IA07-SB0015	HSSB0782	7.2 - 9.2	1.26	1.34	1.34		1.34	**6.19**
IA07-SB0016	HSSB0779	0 - 2	1.37	1.19	1.19		1.19	3.33
IA07-SB0016	HSSB0780	3.7 - 5.7	1.20	1.23	1.23		1.23	3.58
IA07-SB0016	HSSB0738	7.7 - 9.7	1.28	1.26	1.26		1.26	3.69
IA07-SB0017	HSSB0755	0 - 1.2	0.30	0.20	0.32	0.42 (U)	0.29	0.84
IA07-SB0018	HSSB0771	0 - 2	0.75	1.15	0.53	0.77	0.26 (U)	**6.79**
IA07-SB0019	HSSB0778	0 - 2	**2.01**	1.35	1.35		1.35	**4.82**
IA07-SB0020	HSSB0768	0 - 2	0.98	0.88	0.88		0.88	2.15
IA07-SB0021	HSSB0777	0 - 2	1.06	0.72	0.72		0.72	2.02
IA07-SB0022	HSSB0775	0 - 1	1.15	0.64	0.64		0.64	2.05
IA07-SB0023	HSSB0774	0 - 1.5	1.39	1.13	1.13		1.13	3.62
IA07-SB0024	HSSB0776	0 - 1	1.07	0.98	0.98		0.98	3.07
IA07-SB0025	HSSB0783	0 - 2	1.03	0.82	0.82		0.82	2.74
IA07-SB0025	HSSB0784	3.2 - 5.2	1.22	1.30	1.30		1.30	3.43
IA07-SB0025	HSSB0740	7.2 - 9.2	1.19	1.13	0.49	0.90	0.48	
IA07-SB0026	HSSB0772	0 - 2	0.93	0.68	0.63	1.20	0.76	3.76
IA07-SB0027	HSSB0773	0 - 1.4	0.71	0.62	0.74	**1.72**	0.85	2.76
IA07-SB0028	HSSB0737	0 - 2	1.21	0.81	0.81		0.81	**5.15**
IA07-SB0029	HSSB0736	0 - 2	0.20 (U)	**20.62**	**69.60**	**5.84**	**38.20**	-5.59
IA07-SB0030	HSSB1117	0 - 0.5	1.27	**1.94**	**1.94**		**1.94**	**3,463.00**
IA07-SB0031	HSSB1119	0.5 - 1	0.51 (U)	**51.00**	**88.00**	**10.10**	**74.80**	2.56
IA07-SB0032	HSSB1118	0 - 0.5	0.37 (U)	**34.30**	**67.30**	**7.73**	**61.00**	3.39
IA07-SB0033	HSSB1370	0 - 2	**1.96**	1.00	0.63	**1.93**	0.83	**6.54**
IA07-SB0033	HSSB1371	4 - 6	**2.05**	0.91	1.40	**1.75**	1.03	**4.91**
IA07-SB0033	HSSB1372	8 - 10	**1.53**		0.86	**1.69**	0.68	**4.30**
IA07-SB0034	HSSB1373	0 - 2	**1.70**		0.64	**1.40**	0.50	-0.40
IA07-SB0034	HSSB1374	4 - 6	0.32		0.31	0.52	0.10 (U)	-0.22
IA07-SB0034	HSSB1375	8 - 10	1.30	0.84	**1.44**	**1.37**	0.97	2.41

Table 6-35. RI Data Summary - IA07 Soil Significant COPC Results (continued)

Station	Sample No	Depth (ft bgs)	Ra-226/ Pb-210 (pCi/g)	Ra-228 (pCi/g)	Th-228 (pCi/g)	Th-230 (pCi/g)	Th-232 (pCi/g)	Total Uranium (pCi/g)
IA07-SB0035	HSSB1376	0 - 2	**1.59**		0.48	1.07	0.53	2.47
IA07-SB0035	HSSB1377	4 - 6	0.82		0.25 (U)	0.33	0.05 (U)	2.86
IA07-SB0035	HSSB1378	8 - 10	1.33		0.62	0.98	0.67	2.64
IA07-SB0036	HSSB1393	0 - 1	**2.20**	1.27	0.74	1.03	0.87	1.46
IA07-SB0037	HSSB1391	0 - 1	**7.98**	1.41	**2.21**	**4.72**	1.29	**9.20**
IA07-SB0037	HSSB1392	1 - 2	**3.18**	0.75	0.78	**2.18**	1.05	**6.17**
IA07-SB0038	HSSB1390	0 - 0.8	**1.52**	1.03	1.03		1.03	**2,308.20**
IA07-SB0039	HSSB1386	1 - 2	0.52		0.17 (U)	0.74	0.26	**41.64**
IA07-SB0040	HSSB1385	1 - 2	1.29	**27.30**	**29.50**	**3.64**	**23.30**	3.66

U - Analyte not detected.
Bold indicates values above calculated natural background. For constituents with different backgrounds for surface and total soil, the lower value was used for comparison.
Results for Ra-226 are presented from the on-site BEGe laboratory. Ra-226 is used as a surrogate for Pb-210.
Results for Ra-228 are presented from GEL gamma spectroscopy. If not available, results are presented from the on-site BEGe laboratory.
Results for Th-228 are presented from GEL alpha spectroscopy. If not avaliable, results are presented using Ra-228 as a surrogate.
Results for Th-230 are presented from GEL alpha spectroscopy.
Results for Th-232 are presented from GEL alpha spectroscopy. If not available, results are presented using Ra-228 as a surrogate.
Results for Total Uranium are calculated from the formula in Section 6.0, using GEL gamma spectroscopy results if available.
For a full explanation of presented data surrogates and their rationales see Table 8-2.

Table 6-36. Soil ICP-MS Results

Station	Sample No	Depth (ft bgs)	U-233	U-234	U-235	U-236	U-238
BEGE-SB0009	HSSB0839	0 - 1	0.01 (U)	0.014	1.8	0.013	296
BEGE-SB0012	HSSB0842	0 - 1	0.01 (U)	0.02	2.5	0.022	427
BEGE-SB0016	HSSB0846	0 - 0.3	0.01 (U)	0.03	3.9	0.013	629
BKG-SB0028	HSSB1598	0 - 0.5	0.01 (U)	0.01 (U)	0.026	0.01 (U)	3.4
BKG-SB0028	HSSB1599	0.5 - 2	0.01 (U)	0.01 (U)	0.032	0.01 (U)	4.2
BKG-SB0029	HSSB1596	0 - 0.5	0.01 (U)	0.01 (U)	0.018	0.01 (U)	2.4
BKG-SB0029	HSSB1597	0.5 - 2	0.01 (U)	0.01 (U)	0.021	0.01 (U)	2.7
BKG-SB0030	HSSB1604	0 - 0.5	0.01 (U)	0.01 (U)	0.021	0.01 (U)	2.8
BKG-SB0030	HSSB1605	0.5 - 2	0.01 (U)	0.01 (U)	0.022	0.01 (U)	2.8
BKG-SB0031	HSSB1602	0 - 0.5	0.01 (U)	0.01 (U)	0.019	0.01 (U)	2.5
BKG-SB0031	HSSB1603	0.5 - 2	0.01 (U)	0.01 (U)	0.021	0.01 (U)	2.6
BKG-SB0032	HSSB1600	0 - 0.5	0.01 (U)	0.01 (U)	0.022	0.01 (U)	2.8
BKG-SB0032	HSSB1601	0.5 - 2	0.01 (U)	0.01 (U)	0.027	0.01 (U)	3.5
IA03-SB0014	HSSB0248	0 - 0.5	0.01 (U)	0.029	3.7	0.014	590
IA03-SB0015	HSSB0242	0 - 0.5	0.01 (U)	0.048	6.6	0.011	977
IA03-SB0019	HSSB0148	0 - 0.5	0.01 (U)	0.011	1.4	0.01 (U)	219
IA03-SB0033	HSSB0193	0 - 0.5	0.01 (U)	0.016	2.1	0.01 (U)	319
IA03-SB0038	HSSB0163	0 - 0.5	0.01 (U)	0.069	9.8	0.082	1460
IA03-SB0054	HSSB0267	0 - 2	0.01 (U)	0.035	4.6	0.021	758
IA03-SB0062	HSSB0232	0 - 1.5	0.01 (U)	0.055	7.6	0.01 (U)	1260
IA03-SB0090	HSSB1201	2 - 4	0.01 (U)	0.033	4.3	0.017	711
IA03-SB0111	HSSB1711	0 - 0.5	0.0031 (U)	0.031 (U)	0.76	0.031 (U)	125
IA03-SB0125	HSSB1340	0 - 2	0.01 (U)	0.016	2.2	0.0049 (J)	363
IA03-SB0135	HSSB1235	0 - 2	0.01 (U)	0.02	2.7	0.01 (U)	384
IA03-SB0152	HSSB1700	0.3 - 1.3	0.0031 (U)	0.031 (U)	1.8	0.031 (U)	296
IA03-SB0154	HSSB1701	0 - 0.5	0.0031 (U)	0.031 (U)	0.54	0.031 (U)	88
IA03-SB0155	HSSB1702	0.5 - 1	0.0031 (U)	0.031 (U)	3.2	0.031 (U)	532
IA04-SB0001	HSSB0367	0 - 0.5	0.01 (U)	0.01 (U)	0.023	0.01 (U)	3.3
IA04-SB0010	HSSB0427	3.5 - 5.5	0.01 (U)	0.01 (U)	0.037	0.01 (U)	5.6
IA04-SB0057	HSSB1703	0 - 2	0.0031 (U)	0.0031 (U)	0.075	0.0031 (U)	11.4
IA04-SB0060	HSSB1704	0 - 1	0.0031 (U)	0.0031 (U)	0.019	0.0031 (U)	2.8

Table 6-36. Soil ICP-MS Results (continued)

Station	Sample No	Depth (ft bgs)	U-233	U-234	U-235	U-236	U-238
IA04-SB0064	HSSB1705	1 - 1.5	0.0031 (U)	0.031 (U)	0.38	0.031 (U)	61.5
IA04-SB0064	HSSB1706	0 - 2	0.0031 (U)	0.0031 (U)	0.27	0.0031 (U)	41.2
IA05-SB0030	HSSB1004	7.8 - 9.8	0.01 (U)	0.012	1.6	0.01 (U)	282
IA05-SB0060	HSSB1707	0 - 2	0.0031 (U)	0.0031 (U)	0.046	0.0031 (U)	6.9
IA06-SB0024	HSSB1708	0 - 0.5	0.0031 (U)	0.0031 (U)	0.27	0.0031 (U)	41.1
IA06-SB0024	HSSB1709	0.5 - 1	0.0031 (U)	0.031 (U)	0.44	0.031 (U)	73
IA06-SB0027	HSSB1710	0 - 0.5	0.0031 (U)	0.0031 (U)	0.024	0.0031 (U)	3.6
IA06-SB0039	HSSB1712	0 - 2	0.0031 (U)	0.0031 (U)	0.13	0.0031 (U)	20.7
IA07-SB0025	HSSB0740	7.2 - 9.2	0.01 (U)	0.01 (U)	0.041	0.01 (U)	5.6

All analyte units are in mg/kg.
U - Analyte not detected
J - Analyte is estimated

Table 6-37. RI Data Summary - IA08 Sediment Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Sediment					
Americium-241	pCi/g	16	16	NA	NA
Cesium-137	pCi/g	16	14	0.07	0.07
Lead-210	pCi/g	16	1	1.22	0.73
Radium-226	pCi/g	20	1	1.22	0.72
Radium-228	pCi/g	16	0	1.08	0.74
Thorium-228	pCi/g	20	0	1.27	0.76
Thorium-230	pCi/g	16	1	1.22	0.73
Thorium-232	pCi/g	16	0	1.08	0.74
Total Uranium	pCi/g	16	0	14.78	3.07
Lithium	µg/kg	12	0	17,500.00	12,964.17
Molybdenum	µg/kg	12	0	9,820.00	4,245.00
TPH-DRO	mg/kg	12	0	148.00	39.87

Table 6-38. RI Data Summary - IA08 Surface Water Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Surface Water					
Total Uranium	pCi/g	12	6	1.59	1.16
Lithium	µg/kg	12	0	22.60	15.36
Molybdenum	µg/kg	12	0	17.80	11.97
TPH-DRO	mg/kg	12	0	0.29	0.22

Table 6-39. RI Data Summary - IA09 Sediment Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Sediment					
Americium-241	pCi/g	29	28	1.07	1.07
Cesium-137	pCi/g	29	14	1.32	0.21
Europium-152	pCi/g	2	2	NA	NA
Europium -154	pCi/g	2	2	NA	NA
Neptunium-237	pCi/g	1	1	NA	NA
Lead-210	pCi/g	29	0	1.67	0.89
Plutonium-238	pCi/g	2	1	0.07	0.07
Plutonium-239/240	pCi/g	2	2	NA	NA
Radium-226	pCi/g	40	0	1.67	0.86
Radium-228	pCi/g	27	1	2.24	0.78
Technetium-99	pCi/g	2	2	NA	NA
Thorium-228	pCi/g	49	1	2.24	0.72
Thorium-230	pCi/g	29	0	1.67	0.89
Thorium-232	pCi/g	31	0	0.97	0.58
Total Uranium	pCi/g	29	0	480.34	36.62
Lithium	µg/kg	18	0	28500.00	13934.44
Molybdenum	µg/kg	18	0	33200.00	10485.00
TPH-DRO	mg/kg	18	0	28800.00	4033.78

Table 6-40. RI Data Summary - IA09 Surface Water Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Surface Water					
Cesium-137	pCi/g	4	4	NA	NA
Europium-152	pCi/g	4	4	NA	NA
Europium-154	pCi/g	4	4	NA	NA
Neptunium-237	pCi/g	4	3	0.14	0.14
Plutonium-238	pCi/g	4	4	NA	NA
Plutonium-239/240	pCi/g	4	4	NA	NA
Technetium-99	pCi/g	4	4	NA	NA
Total Uranium	pCi/g	10	0	2820.00	300.43
Lithium	µg/kg	10	0	52.00	25.65
Molybdenum	µg/kg	10	0	31.90	17.32
TPH-DRO	mg/kg	10	0	61.70	10.84

Table 6-41. RI Data Summary - IA09 Soil

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Soil 0-13' bgs					
Americium-241	pCi/g	9	9	NA	NA
Cesium-137	pCi/g	10	9	373.00	373.00
Europium-152	pCi/g	1	1	NA	NA
Europium-154	pCi/g	1	1	NA	NA
Neptunium-237	pCi/g	1	1	NA	NA
Radium-226/ Lead-210	pCi/g	10	0	1.52	0.95
Radium-228	pCi/g	10	0	1.31	0.88
Thorium-228	pCi/g	10	0	1.51	0.88
Thorium-230	pCi/g	6	0	15.80	3.52
Thorium-232	pCi/g	10	0	2.26	0.91
Total Uranium	pCi/g	8	0	56.58	10.78
Lithium	µg/kg	4	0	34,600.00	27,325.00
Molybdenum	µg/kg	4	0	4,270.00	3,612.50
TPH-DRO	mg/kg	4	0	13.80	9.18
Soil >13' bgs					
Americium-241	pCi/g	1	1	NA	NA
Cesium-137	pCi/g	1	1	NA	NA
Radium-226/ Lead-210	pCi/g	1	0	0.83	0.83
Radium-228	pCi/g	1	0	1.08	1.08
Thorium-228	pCi/g	1	0	1.08	1.08
Thorium-232	pCi/g	1	0	1.08	1.08
Total Uranium	pCi/g	1	0	3.51	3.51
Lithium	µg/kg	1	0	23,100.00	23,100.00
Molybdenum	µg/kg	1	0	11,300.00	11,300.00
TPH-DRO	mg/kg	1	0	8.30	8.30

Table 6-42. Sediment and Surface Water ICP-MS Results

Station	Sample No	U-233	U-234	U-235	U-236	U-238
Sediment						
IA09-SD0010	HSSD0074	0.01 (U)	0.035	4.7	0.0051 (J)	697
IA09-SD0105	HSSD0090	0.0031 (U)	0.0031 (U)	0.016	0.0031 (U)	2.5
Surface Water						
IA09-SW0010	HSSW0035	0.05 (U)	0.022 (J)	2.8	0.05 (U)	458
IA09-SW0012	HSSW0036	0.05 (U)	0.05 (U)	1.2	0.05 (U)	187
IA09-SW0102	HSSW0037	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.9
IA09-SW0105	HSSW0038	0.05 (U)	0.05 (U)	0.037 (J)	0.05 (U)	5.8

Notes:
Units are mg/kg for sediment samples and µg/L for groundwater samples.
U - Analyte not detected
J - Analyte is estimated

Table 6-43. Summary of Existing Pre-RI Monitoring Well Evaluation

Well	IA	Measured Water level (ft. btoc)	Measured TD (ft. btoc)	Well Log TD (ft. btoc)	Surface Completion Type	Well Integrity/Condition		Potential Use In RI?
						Protective Casing/Surface Completion	Inner Casing/Riser	
DM-1	IA04	13.72	22.29	22.42	Stick-Up	• Rusted protective casing. • Unlocked protective casing cover ajar, rusty and dirty.	• Four 1 ½" vertical slits at top of inner casing. • Could not lower PVC pipe into inner casing. • Screened interval may not be vertical.	No
DM-2	IA04	10.45	15.00	15.29	Flush Mount	• No lockable cap.	• Four 1" vertical slits at top of inner casing. • Dirt covering well cap. • Firm bottom when tagged with water level indicator.	Yes
DM-3	IA04	2.85	12.63	12.19	Flush Mount	• Steel protective casing cover placed upside down. • No lockable cap.	• Four 1 ½" vertical slits at top of inner casing. • Slightly rusted inner casing with mildew or moss on cover. • Firm bottom when tagged with water level indicator.	Yes
DM-4	IA04	4.46	13.83	14.13	Flush Mount	• Rusty protective casing cover. • No lockable cap.	• Four 1 ½" vertical slits at top of inner casing. • Screened interval may not be vertical.	No
DM-5	IA04	14.25	20.34	18.16	Stick-Up	• Steel protective casing painted yellow. • Protective casing cover broken, could not lock.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator.	Yes
DM-6	NA	NA	NA	NA	NA	Well not found	NA	NA
DM-7	NA	NA	NA	26.86	NA	Well not found	NA	NA
DM-8	NA	NA	NA	NA	NA	Well not found	NA	NA
DM-9	IA03	16.87	22.53	22.03	Stick-Up	• Steel protective casing painted yellow, and not cemented to ground; easily removed from the ground.	• Soft bottom when tagged with water level indicator. • Sandy sediment on tip of level indicator	Yes
DM-10	IA03	12.73	28.88	29.07	Flush Mount	• Rusted protective casing cover and lock. • No lockable cap.	• Four 1 ½" vertical slits at top of inner casing. • Inner casing cover locked, but lifted off easily. • Soft bottom when tagged with water level indicator.	Yes
DM-11	IA03	14.20	26.15	22.78	Stick-Up	• Steel protective casing painted yellow.	• Dedicated bailer bottom contained dry white film. • Soft bottom when tagged with water level indicator.	Yes

Table 6-43. Summary of Existing Pre-RI Monitoring Well Evaluation (continued)

Well	IA	Measured Water level (ft. btoc)	Measured TD (ft. btoc)	Well Log TD (ft. btoc)	Surface Completion Type	Well Integrity/Condition		Potential Use In RI?
						Protective Casing/Surface Completion	Inner Casing/Riser	
DM-12	IA03	14.55	26.08	30.01	Stick-Up	• Steel protective casing painted yellow.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator.	Yes
DM-13	NA	NA	NA	NA	NA	Well not found	NA	NA
DM-14	IA03	11.53	20.84	18.71	Stick-Up	• Steel protective casing painted yellow. • Protective casing cover broken, could not lock.	• Contained dedicated bailer. • Firm bottom when tagged with water level indicator.	Yes
DM-15	IA03	14.54	19.86	19.04	Stick-Up	• Steel protective casing painted yellow. • PID reading of 26 ppm max from sewer line next to protective casing. • Protective casing cover broken, no new lock.	• Contained dedicated bailer. • Inner casing top rusty • Soft bottom when tagged with water level indicator. • PVC pipe covered with rusty residue.	Yes
DM-16	NA	NA	NA	6.08	NA	Well not found	NA	NA
DM-17	NA	NA	NA	15	NA	Well not found	NA	NA
DM-18	NA	NA	NA	NA	NA	Well not found	NA	NA
DM-19	NA	NA	NA	22	NA	Well not found, asphalt pavement.	NA	NA
DM-20	NA	NA	NA	25	NA	Well not found, asphalt pavement.	NA	NA
DM-21	NA	NA	NA	NA	NA	Well not found	NA	NA
DM-22R	IA05	21.42	35.63	NA	Stick-Up	• Locked rusted protective casing.	• Soft bottom when tagged with water level indicator.	Yes
DM-23R	IA05	19.98	36.52	NA	NA	• Protective casing cover broken, no could not lock.	• Contained dedicated bailer.	Yes
DM-24	NA	NA	NA	NA	NA	Well not found	NA	NA
DM-25R	IA04	19.46	30.07	29.55	Flush Mount	• Protective casing filled with water, and cap pressurized with rusty lock.	• Soft bottom when tagged with water level indicator. • PVC pipe covered with brown sediment.	Yes

Table 6-43. Summary of Existing Pre-RI Monitoring Well Evaluation (continued)

Well	IA	Measured Water level (ft. btoc)	Measured TD (ft. btoc)	Well Log TD (ft. btoc)	Surface Completion Type	Well Integrity/Condition		Potential Use In RI?
						Protective Casing/Surface Completion	Inner Casing/Riser	
DM-26	IA04	19.62	35.21	34	Flush Mount	• Bolts missing and rusty lock on protective casing cover. • Protective casing filled with water. • No lockable cap.	• Soft bottom when tagged with water level indicator. • Potential rusted screen. • PVC pipe covered with rusty residue.	Yes
DM-27R	IA04	22.11	36	NA	Stick-Up	• Steel protective casing painted yellow. • Lock rusted open and cap ajar.	• Contained dedicated bailer. • Unable to lower PVC pipe to total depth. • Screened interval may not be vertical.	No
DM-28R	IA04	22.85	36.64	NA	Stick-Up	• Steel protective casing painted yellow.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator.	
DM-29R	IA04	23.17	37.10	NA	Stick-Up	• Steel protective casing painted yellow. • Rusty unlocked lock on protective casing cover.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator.	Yes
DM-30R	IA04	22.77	37.90	NA	Stick-Up	• Steel protective casing painted yellow. • Rusty lock on protective casing cover.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator. • PVC pipe met with resistance. • Screened interval may not be vertical.	No
RMW-31	NA	NA	NA	21	NA	Well not found	NA	NA
RMW-32	NA	NA	NA	20.5	NA	Well not found	NA	NA
RMW-33	NA	NA	NA	23	NA	Well not found	NA	NA
RMW-34	NA	NA	NA	22	NA	Well not found	NA	NA
RMW-35	IA03	14.44	20.23	18	Stick-Up	• Steel protective casing. • Located within Building G-1 fenced area.	• Soft bottom when tagged with water level indicator. • Level indicator contained mud with brown rust. • PVC pipe covered with rusty clayey silt.	Yes
RPZ-36	IA03	NA	NA	23	NA	Well not found	NA	NA
RPZ-37	NA	NA	NA	23	NA	Well not found	NA	NA

Table 6-43. Summary of Existing Pre-RI Monitoring Well Evaluation (continued)

Well	IA	Measured Water level (ft. btoc)	Measured TD (ft. btoc)	Well Log TD (ft. btoc)	Surface Completion Type	Well Integrity/Condition		Potential Use In RI?
						Protective Casing/Surface Completion	Inner Casing/Riser	
RMW-38	IA03	12.56	22.49	22	Stick-Up	• Steel protective casing painted yellow. • Protective casing cover broken, could not lock.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator.	Yes
RMW-39	IA03	14.53	18.05	19	Stick-Up	• Steel protective casing painted yellow. • Unlocked protective casing cover with cracked cement base around outer casing.	• Contained dedicated bailer. • Firm bottom when tagged with water level indicator. • PVC pipe met with resistance. • Screened interval may not be vertical. • PVC pipe covered with sediment.	No
RMW-40	NA	NA	NA	NA	NA	Well not found	NA	NA
RMW-41	NA	NA	NA	19	NA	Well not found	NA	NA
RMW-42	NA	NA	NA	19	NA	Well not found	NA	NA
RMW-43	NA	NA	NA	19	NA	Well not found	NA	NA
RMW-44	NA	NA	NA	19	NA	Well not found	NA	NA
ERM-45	NA	NA	NA	29.63	NA	Well not found	NA	NA
ERM-46	NA	NA	NA	31.41	NA	Well not found	NA	NA
ERM-47	IA04	4.15	25.42	28.7	Flush Mount	• Protective casing cover broken, could not lock.	• Vegetative debris in well box with rusty cap and inner casing. • Firm bottom when tagged with water level indicator.	Yes
BKA-48	IA03	13.68	18.64	NA	Stick-Up	• Steel protective casing painted yellow. • Protective casing cover broken, could not lock.	• Contained dedicated bailer. • Firm bottom when tagged with water level indicator. • PVC pipe covered with black sediment.	Yes
BKA-49	NA	NA	NA	NA	NA	Well not found	NA	NA
BKA-50	NA	NA	NA	NA	NA	Well not found	NA	NA
BKA-51	IA05	20.82	37.37	NA	Stick-Up	• Locked rusted outer metal casing.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator.	Yes

Table 6-43. Summary of Existing Pre-RI Monitoring Well Evaluation (continued)

Well	IA	Measured Water level (ft. btoc)	Measured TD (ft. btoc)	Well Log TD (ft. btoc)	Surface Completion Type	Well Integrity/Condition		Potential Use In RI?
						Protective Casing/Surface Completion	Inner Casing/Riser	
BKA-52	IA05	19.68	36.00	NA	Flush Mount	• Cracked concrete pad • No lockable cap.	• Contained dedicated bailer. • Very soft bottom when tagged with water level indicator.	Yes
BKA-53	IA05	20.32	35.96	35.5	Stick-Up	• Rusted protective casing.	• Contained dedicated bailer. • Soft bottom when tagged with water level indicator. • PVC pipe covered with grayish silt.	Yes
ST-54	NA	NA	NA	NA	NA	No right of entry for property.	NA	NA
ST-5	NA	NA	NA	NA	NA	No right of entry for property.	NA	NA
Piezometer 1	IA07	11.94	25.63	N/A	Stick-Up	• No intact well cap. • No protective casing, PVC riser only.	• Soft bottom when tagged with water level indicator. • Very muddy water. • PVC pipe covered with black silt.	No
Piezometer 2	IA07	17.72	20.78	N/A	Stick-Up	• No intact well cap. • No protective casing, PVC riser only.	• Very soft bottom when tagged with water level indicator. • PVC pipe covered with brown mud.	No
Piezometer 3	IA07	23.11	26.11	N/A	Stick-Up	• No protective casing, PVC riser only.	• Remnants of well cap prevent the PVC pipe from entering. • Would need to cut off top to assess piezometer.	No

Table 6-44. Groundwater Level Measurement Events

Well Identification	OHSP Easting (ft)	OHSP Northing (ft)	TOC Elevation (ft)	Ground Surface Elevation (ft)	Water Levels									
					06/03/2003 Event	07/03/2003 Event	12/03/2003 Event	05/23/2004 Event	08/24/2004 Event	08/27/2004 Event	10/21/2004 Event	12/14/2004 Event	05/03/2005 Event	11/16/2006 Event
BKA-48	2191690	650842.78	594.8675	592.6951	581.6651	583.2067	584.7575	586.6475	581.9675	581.8775	581.6275	584.1475	586.1475	584.6475
BKA-51	2191592.3	649653.75	595.7644	593.1833	568.6833	582.3963	576.8944	585.0444	575.1244	NM	574.8344	576.1944	577.9044	579.3044
BKA-52	2191758.1	649730.48	593.1334	593.4032	573.9032	578.8188	575.7134	585.4634	574.1534	NM	573.8734	575.0334	576.3334	NM[a]
BKA-53	2191937.3	649459.32	593.3973	591.1571	571.3571	580.0958	575.4173	585.9173	573.7973	NM	573.6573	574.8773	575.5873	580.0473
BKG-MW0001	2191081.1	649708.88	592.0973	592.6716	NM[a]	NM[a]	581.3073	584.0173	580.5873	NM	580.3973	592.0973	582.3573	581.9873
BKG-MW0002	2191322	649989.17	593.4181	594.3908	NM[a]	NM[a]	581.8681	580.0281	580.0081	NM	578.3281	577.8981	581.0081	580.4081
BKG-MW0003	2191324.8	650473.3	591.9827	592.7324	NM[a]	NM[a]	584.7727	587.2527	582.2827	NM	581.7327	583.9727	586.7627	NM[a]
BKG-MW0004	2191331.2	650541.24	592.3026	592.6853	NM[a]	NM[a]	584.8026	587.1626	582.2826	NM	581.6926	583.9626	586.7426	584.3226
BKG-MW0005	2191218.2	651099.73	592.196	592.3664	NM[a]	NM[a]	584.596	586.476	582.126	NM	581.766	583.916	585.996	583.806
CDT-MW0001	2191310.4	649612.52	588.0922	588.4163	NM[b]	NM[b]	578.7922	583.4122	577.3022	NM	577.0422	578.1022	580.5722	NM[a]
CDT-MW0002	2191471.7	649538.84	587.2084	587.4314	NM[b]	NM[b]	577.6984	581.0484	575.8084	NM	575.2484	576.0984	577.9584	NM[a]
DM-1	2191465.8	650137.02	596.1269	593.7089	580.6689	584.9362	582.7469	582.3169	581.6169	578.0869	578.4369	580.7969	586.0569	585.2369
DM-10	2191405.9	650534.87	592.7064	593.2064	582.7	583.38	583.14	585.6064	580.5764	580.4664	579.9864	582.3664	585.2664	NM[a]
DM-11	2191520.5	650597.82	595.8884	593.8771	582.1671	584.4113	585.2884	587.8384	582.3484	582.2184	581.6684	584.5984	587.3284	584.4884
DM-12	2191426	650643.8	596.1311	593.9329	581.7929	583.7085	584.9311	587.3211	582.1611	582.0611	581.6211	584.1611	587.0211	584.2811
DM-14	2191443.5	650747.03	596.3342	594.1857	581.4157	581.922	584.7342	587.1042	582.0542	581.9042	581.5142	584.0642	586.9242	584.4142
DM-15	2191564.9	650795.45	596.4613	594.2605	581.2705	581.7972	584.7213	587.1113	582.0613	581.8913	581.2813	584.2513	586.7513	584.0313
DM-2	2191511.8	650188.4	594.0159	594.2506	586.3806	586.8162	586.8459	589.1559	584.7359	584.5059	582.8659	586.2159	586.0859	587.0259
DM-22R	2191721.4	649560.49	594.8122	592.6995	571.7095	579.0609	575.8422	585.9622	574.0822	NM	573.8822	575.2022	576.1222	579.9022
DM-23R	2191933.5	649357.34	593.0635	590.817	571.347	583.6618	575.6035	586.1835	573.8435	NM	573.7035	575.0235	575.7335	580.2635
DM-25R	2191937.1	650039.94	592.8395	593.3682	573.6182	575.8782	575.3595	582.4295	573.9495	NM	573.5395	574.5295	575.5995	578.1295
DM-26	2191850.7	650200.89	592.986	593.4788	574.0588	575.7864	575.536	582.366	574.406	NM	573.966	574.616	576.316	580.296
DM-27R	2192072.4	650184.85	594.778	592.2889	570.7089	572.5346	575.198	582.238	573.848	NM	573.388	574.358	575.258	577.988
DM-28R	2192219.3	650346.09	595.0901	592.571	570.301	577.5188	574.5101	583.6401	573.3901	NM	572.9301	573.9501	574.7401	579.0301
DM-29R	2192116.3	650463.86	595.4928	593.1618	570.8118	579.6565	574.6328	582.9328	573.5328	NM	572.9628	574.0228	575.0028	578.1728
DM-3	2191431.2	650291.16	594.1355	594.4801	592.1101	590.9601	592.5055	592.7555	591.6555	591.4855	591.6055	592.6255	592.4655	592.8055
DM-30R	2192328.3	650525.05	594.9123	593.0228	570.8028	576.3969	574.3623	582.9423	573.3023	NM	572.7123	573.8023	574.6923	578.2323
DM-4	2191471.9	650294.53	593.8376	594.202	589.832	589.1376	590.1376	590.8976	589.0976	588.9176	588.6476	589.9676	590.4176	589.7376
DM-5	2191432.2	650360.73	596.3614	594.1329	581.9929	582.6113	584.9914	587.2014	582.6714	582.5614	582.0914	584.2514	587.0814	584.9514
DM-9	2191527	650452.64	598.0055	594.8335	583.9335	582.731	584.1855	586.3355	581.7655	581.5155	581.0655	583.6155	585.9655	584.0955
ERM-47	2191934.6	650347.59	593.0587	593.5637	573.5637	577.4317	NM	583.4287	574.0787	NM	573.4387	574.4587	575.8887	579.1787
IA03-TP0001	2191564.5	650912.66	594.1646	591.503	NM[a]	NM[a]	NM	NM	NM	NM	580.7046	582.8446	582.8446	582.6746
IA03-TW0001	2191929.1	650543.65	596.5031	593.9031	NM[a]	589.2831	NM	589.9531	588.7931	NM	591.3031	591.9731	586.8731	592.8031
IA03-TW0002	2191860.4	650782.56	595.39	592	NM[a]	581.57	585.98	586.77	585.22	NM	584.71	585.08	586.61	586.35
IA03-TW0003	2191537.9	650917.84	593.3908	590.4908	NM[a]	580.6008	582.1408	584.4608	579.4308	579.3708	579.3108	581.4108	583.0608	NM[a]
IA03-TW0004	2191684.6	650974.55	592.9191	589.7991	NM[a]	582.0991	583.4491	584.9691	580.6691	NM	580.3391	582.8891	584.5391	583.2791
IA03-TW0005[d]	2191736.9	650685.07	NA	596	NM[a]	NM[a]	NM	591.4	594.6	NM	NM	587.6351	591.3451	NM[a]
IA03-TW0006[d]	2191832.9	650657.07	NA	596	NM[a]	NM[a]	NM	NM	595	NM	NM	587.5951	591.3251	NM[a]
IA04-TP0001	2191682.6	650370.27	596.3221	594.3403	NM[a]	NM[a]	NM	595	585.5121	NM	584.0821	584.7521	585.4021	584.0721
IA04-TP0002	2191844.2	650322.94	595.7426	593.3293	NM[a]	NM[a]	NM	582.1226	574.5826	NM	573.9026	574.6726	576.3926	577.5526
IA04-TP0003	2192021.5	650325.15	595.3946	592.7745	NM[a]	NM[a]	NM	NM	573.8046	NM	573.2746	574.1846	574.1846	578.1946
IA04-TP0004	2192065.1	650553.99	595.2046	593.3016	NM[a]	NM[a]	NM	582.3946	578.2946	NM	578.6546	580.3946	581.9546	580.8546
IA04-TP0005	2192240.1	650616.47	594.4736	591.9167	NM[a]	NM[a]	NM	576.1136	573.3936	NM	572.8236	573.6236	574.8336	578.0136
IA04-TW0001	2191867.5	649878.02	595.1598	592.7098	NM[a]	576.5798	575.0598	582.3398	573.5998	NM	573.1898	574.4498	575.3698	NM[a]

Table 6-44. Groundwater Level Measurement Events (continued)

Well Identification	OHSP Easting (ft)	OHSP Northing (ft)	TOC Elevation (ft)	Ground Surface Elevation (ft)	Water Levels									
					06/03/2003 Event	07/03/2003 Event	12/03/2003 Event	05/23/2004 Event	08/24/2004 Event	08/27/2004 Event	10/21/2004 Event	12/14/2004 Event	05/03/2005 Event	11/16/2006 Event
IA04-TW0002	2191510.3	649967.14	593.5893	591.8593	NM[a]	579.3193	577.7893	NM	576.2793	NM	575.6693	576.9093	579.1593	NM[a]
IA04-TW0003	2192075.2	650700.56	596.0285	592.9385	NM[a]	579.4585	585.8685	585.4185	583.5185	NM	583.3885	585.7085	586.5285	586.2985
IA04-TW0004	2192426.4	650466.22	594.4423	591.2223	NM[a]	577.6923	575.8623	584.8923	574.7423	NM	574.1323	575.2823	576.1223	NM[a]
IA04-TW0005	2192128	650840.91	593.234	590.244	NM[a]	583.074	583.034	584.824	581.184	NM	580.594	582.224	584.164	582.754
IA04-TW0006	2192521.6	650652.21	589.7125	586.3525	NM[a]	574.0025	572.6725	576.9025	571.6925	NM	571.2125	571.9825	573.0625	574.8325
IA05-TW0001	2191929.2	649644.71	598.6367	596.2667	NM[a]	580.1567	578.4367	578.8267	577.0267	NM	576.8067	577.9267	578.6567	NM[a]
IA10-MW0001	2191641.1	651100.68	593.856	591.6059	NM[a]	NM[a]	584.926	586.356	581.936	NM	581.676	585.356	585.826	584.656
IA10-MW0002	2191965.7	650913.46	595.7199	593.6943	NM[a]	NM[a]	584.8699	586.3899	582.1499	NM	581.7699	584.1199	585.9899	584.6699
IA10-MW0003	2191901.6	650614.32	597.9843	595.5487	NM[a]	NM[a]	585.1543	585.6643	583.3843	NM	582.8543	584.1843	586.4743	584.7843
IA10-MW0004	2192091.1	650693.74	595.8802	593.5437	NM[a]	NM[a]	585.8802	587.5102	582.6702	NM	581.8002	584.5202	586.7602	585.5502
RMW-35	2191566.1	650682.82	596.4441	594.6467	582.5467	583.8734	585.4441	587.9341	582.6441	NM	581.8441	584.7841	587.2441	NM[a]
RMW-38	2191739	650453.12	596.7645	594.546	583.336	586.0111	NM	587.7645	584.7145	NM	583.8645	585.3545	587.5345	586.2645
RMW-39	2191523.3	650696.53	595.9333	593.7831	581.8431	584.1216	585.3833	587.4933	582.4333	582.2133	581.4333	585.1533	587.2133	584.8733

[a] Well not installed at the time.

[b] Well not accessible due to property rights of entry.

NA – not applicable

NM - not measured

OHSP – Ohio State Plane

TOC – Top of Casing

Table 6-45. Slug Test Results

Well Identification	Slug Test Date	Hydraulic Conductivity (cm/s)	Hydraulic Conductivity (ft/min)	Hydraulic Conductivity (ft/day)	Screened Interval (ft bgs)	Static Depth to Water (ft below TOC)	Formation Material
Phase I							
BKA-48 (Falling)	6/28/2003	3.E-03	6.E-03	9	6-16	11.04	Alluvial Deposits
BKA-48 (Rising)	6/28/2003	4.E-03	7.E-03	10	6-16	11.03	Alluvial Deposits
BKA-52 (Falling)	6/29/2003	1.E-03	2.E-03	3	27-37	19.38	SAND and GRAVEL
BKA-52 (Rising)	6/29/2003	1.E-03	2.E-03	3	27-37	19.38	SAND and GRAVEL
DM-1 (Falling)	6/24/2003	2.E-04	4.E-04	1	12-22	12.52	clayey SAND and GRAVEL
DM-1 (Rising)	6/24/2003	2.E-04	3.E-04	0.43	12-22	12.54	clayey SAND and GRAVEL
DM-4 (Falling)	6/28/2003	9.E-05	2.E-04	0.29	4.5-14.5	4.09	SILT, CLAY, SAND
DM-4 (Rising)	6/28/2003	5.E-05	9.E-05	0.13	4.5-14.5	4.14	SILT, CLAY, SAND
DM-9 (Falling)	6/27/2003	1.E-03	2.E-03	3	8-18	14.54	SILT, CLAY, SAND, and GRAVEL
DM-9 (Rising)	6/28/2003	2.E-03	4.E-03	6	8-18	14.54	SILT, CLAY, SAND, and GRAVEL
DM-14 (Falling)	6/24/2003	5.E-04	1.E-03	2	9-19	12.17	SILT, SAND, and GRAVEL
DM-14 (Rising)	6/24/2003	8.E-04	2.E-03	2	9-19	12.17	SILT, SAND, and GRAVEL
DM-22R (Falling)	6/28/2003	9.E-03	2.E-02	24	30-35	20.89	SAND and GRAVEL
DM-22R (Rising)	6/28/2003	1.E-02	2.E-02	29	30-35	20.88	SAND and GRAVEL
DM-23R (Falling)	6/26/2003	1.E-02	3.E-02	41	29-36	19.46	SAND and GRAVEL
DM-23R (Rising)	6/26/2003	1.E-02	2.E-02	36	29-36	19.48	SAND and GRAVEL
DM-25R (Falling)	6/23/2003	4.E-03	8.E-03	11	19-29	19.02	SAND and GRAVEL with Silt
DM-25R (Rising)	6/23/2003	9.E-03	2.E-02	25	19-29	19.01	SAND and GRAVEL with Silt
DM-27R (Falling)	6/28/2003	6.E-03	1.E-02	16	25-35	21.52	SAND and GRAVEL
DM-27R (Rising)	6/28/2003	7.E-03	1.E-02	19	25-35	21.74	SAND and GRAVEL
DM-29R (Falling)	6/25/2003	2.E-02	4.E-02	54	31-36	22.33	SAND and GRAVEL
DM-29R (Rising)	6/25/2003	3.E-02	5.E-02	74	31-36	22.34	SAND and GRAVEL
RMW-38 (Falling)	6/29/2003	6.E-05	1.E-04	0.14	12-22	11.06	Shale
RMW-38 (Falling)	6/29/2003	5.E-05	1.E-04	0.14	12-22	11.08	Shale
Phase II							
BKA-48 (Falling)	5/19/2004	7.E-04	1.E-03	1.87	6-16	10.19	SAND, GRAVEL, and SILT
BKA-48 (Rising)	5/19/2004	6.E-04	1.E-03	1.6	6-16	10.19	SAND, GRAVEL, and SILT
BKG MW0001 (Falling)	5/18/2004	7.E-03	1.E-02	20.87	11-16	10.67	Alluvial Deposits
BKG MW0001 (Rising)	5/18/2004	8.E-03	2.E-02	23.63	11-16	10.67	Alluvial Deposits
BKG MW0005 (Falling)	5/19/2004	5.E-04	1.E-03	1.41	13-28	7.53	Alluvial Deposits
BKG MW0005 (Rising)	5/19/2004	1.E-03	3.E-03	3.63	13-29	7.53	Alluvial Deposits
DM-26 (Falling)	5/18/2004	2.E-03	3.E-03	4.25	28-34	18.04	SAND and GRAVEL with CLAY
DM-26 (Rising)	5/18/2004	2.E-03	3.E-03	4.36	28-34	18.04	SAND and GRAVEL with CLAY
DM-28 (Falling)	5/19/2004	2.E-04	4.E-04	0.6	29-34	18.58	SAND and GRAVEL with Gypsum and clay fill
DM-28 (Rising)	5/19/2004	1.E-04	2.E-04	0.31	29-34	18.58	SAND and GRAVEL with Gypsum and clay fill
DM-30R (Falling)	5/19/2004	5.E-02	9.E-02	136.27	29-34	18.6	Medium to coarse Gypsum crystals (fill)
DM-30R (Rising)	5/19/2004	5.E-02	1.E-01	151.92	29-34	18.6	Medium to coarse Gypsum crystals (fill)
IA04 TP0002 (Falling)	5/23/2004	8.E-04	2.E-03	2.26	15.6-25.6	13.55	SAND, GRAVEL, and SILT
IA04 TP0002 (Rising)	5/23/2004	3.E-03	5.E-03	7.27	15.6-25.6	13.55	SAND, GRAVEL, and SILT
IA04 TP0004 (Falling)	5/26/2004	2.E-05	4.E-05	0.06	13.45-23.45	12.43	SILT, CLAY, and SAND
IA04 TP0004 (Rising)	5/26/2004	1.E-05	2.E-05	0.03	13.45-23.45	12.38	SILT, CLAY, and SAND
IA04 TP0005 (Falling)	5/26/2004	3.E-04	6.E-04	0.82	28.0-38.0	18.50	SAND, GRAVEL, and SILT
IA04 TP0005 (Rising)	5/26/2004	4.E-04	7.E-04	1.07	28.0-38.0	18.53	SAND, GRAVEL, and SILT
IA010 MW0001 (Falling)	5/20/2004	2.E-03	4.E-03	6.1	15-30	8.90	Alluvial Deposits
IA010 MW0001 (Rising)	5/20/2004	1.E-03	2.E-03	2.92	15-30	8.90	Alluvial Deposits
IA010 MW0004 (Falling)	5/20/2004	5.E-05	9.E-05	0.13	14.5-19.5	9.70	Alluvial Deposits
IA010 MW0004 (Rising)	5/20/2004	4.E-05	8.E-05	0.12	14.5-19.5	9.62	Alluvial Deposits

TOC - top of casing

Table 6-46. RI Data Summary – IA10 Groundwater COI Results

Parameter	Units	Total Results	Non-Detect Results	Maximum Result	Mean (Detects)
Groundwater					
Americium-241	pCi/g	13	13	NA	NA
Cesium-137	pCi/g	27	27	NA	NA
Europium-152	pCi/g	13	13	NA	NA
Europium-154	pCi/g	13	13	NA	NA
Neptunium-237	pCi/g	13	9	0.19	0.13
Lead-210	pCi/g	36	5	3.17	0.97
Plutonium-238	pCi/g	13	13	NA	NA
Plutonium-239/240	pCi/g	13	13	NA	NA
Radium-226	pCi/g	27	4	3.17	1.01
Radium-228	pCi/g	40	24	3.02	1.96
Technetium-99	pCi/g	15	14	9.00	9.00
Thorium-228	pCi/g	49	45	0.76	0.62
Thorium-230	pCi/g	49	41	17400.00	2175.91
Thorium-232	pCi/g	49	47	0.74	0.46
Total Uranium	pCi/g	89	33	184000.00	3415.92
Lithium	µg/kg	22	0	451.00	95.11
Molybdenum	µg/kg	32	1	75.80	11.57
TPH-DRO	mg/kg	19	0	1.20	0.23

Table 6-47. RI Data Summary - IA10 Phase I Groundwater Significant COPC Results

Station	Sample Number	Th-230 (pCi/L)	Total Uranium (µg/L)	Lithium (µg/L)
BKA48	HSGW0015		**578**	
BKA48	HSGW0041	**0.814** (U)	**367**	**110** (J)
BKA51	HSGW0030		0.0771 (U)	
BKA52	HSGW0029		0.119 (U)	
BKA53	HSGW0007		0.0233 (U)	
BKA53	HSGW0043	-0.0595 (U)	0 (U)	33 (J)
CDT-MW0001	HSGW0077	**0.621** (U)	0.309	**35.7** (J)
CDT-MW0002	HSGW0075	0.236 (U)	-0.0751 (U)	19.6 (J)
DM1	HSGW0024		0 (U)	
DM1	HSGW0038	0.166 (U)	0 (U)	**86.6** (J)
DM10	HSGW0014		0.125 (U)	
DM11	HSGW0017		-0.0392 (U)	
DM12	HSGW0006		0.224	
DM12	HSGW0042	0.145 (U)	0 (U)	30.9 (J)
DM14	HSGW0019		3.56	
DM14	HSGW0079	**1.09** (U)	3.04	**451** (J)
DM15	HSGW0018		**20.5**	
DM2	HSGW0025		0.316	
DM22R	HSGW0032		0 (U)	
DM22R	HSGW0044	0.287 (U)	0 (U)	17.2 (J)
DM23R	HSGW0033		0.557	
DM25R	HSGW0008		0.0602 (U)	
DM25R	HSGW0039	0.184 (U)	0.293	12.8 (J)
DM26	HSGW0022		0.199	
DM27R	HSGW0013		**15.9**	
DM27R	HSGW0073	**0.863** (U)	**23.3**	28.1 (J)
DM28R	HSGW0010		0.559	
DM28R	HSGW0040	0.264 (U)	0 (U)	**154** (J)
DM29R	HSGW0009		0.484	
DM3	HSGW0016		0.127 (U)	
DM30R	HSGW0026		0.189 (U)	
DM30R	HSGW0078	1.07 (U)	-0.351 (U)	**104** (J)
DM4	HSGW0021		0 (U)	
DM5	HSGW0012		0.341	
DM5	HSGW0076	**0.567** (J)	0.228	24.3 (J)
DM9	HSGW0011		0.293	
ERM47	HSGW0028		0.037 (U)	
ERM47	HSGW0074	**0.938** (J)	-0.0933 (U)	**154** (J)
IA03-TW0001	HSGW0045		5.32	
IA03-TW0002	HSGW0046		**38.9**	
IA03-TW0003	HSGW0047		0 (U)	
IA03-TW0004	HSGW0051		0.225	
IA03-TW0005	HSGW0055		**4130**	
IA03-TW0005	HSGW0082			**142** (J)

Table 6-47. RI Data Summary - IA10 Phase I Groundwater Significant COPC Results (continued)

Station	Sample Number	Th-230 (pCi/L)	Total Uranium (µg/L)	Lithium (µg/L)
IA04-TW0001	HSGW0054		0 (U)	
IA04-TW0002	HSGW0052		0 (U)	
IA04-TW0002	HSGW0081			10.4 (J)
IA04-TW0003	HSGW0048		**96.4**	
IA04-TW0004	HSGW0056		**9.89**	
IA04-TW0004	HSGW0080			**210** (J)
IA04-TW0005	HSGW0050		0 (U)	
IA04-TW0006	HSGW0049		0 (U)	
IA05-TW0001	HSGW0053		0.117 (U)	
IA10-MW0001	HSGW0088	**0.459** (U)	**29.3**	**58.1** (J)
IA10-MW0002	HSGW0089	0.208 (U)	0.289	**40.7** (J)
IA10-MW0003	HSGW0090	**0.424** (U)	6.26	**144** (J)
IA10-MW0004	HSGW0091	0.281 (U)	**9.46**	**102** (J)
RMW35	HSGW0023		1.85	
RMW38	HSGW0027		**38.2**	
RMW38	HSGW0037	0.417 (U)	**82.3**	**124** (J)
RMW39	HSGW0020		4.24	

U - not detected

Bold indicates values above background.

Results for Total Uranium (chemical) are presented from KPA method.

Lithium not included in RI Phase II sampling.

For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-48. RI Data Summary - IA10 Phase II Groundwater Significant COPC Results

Station	Sample No	Th-230 (pCi/L)		Total Uranium (µg/L)	
BKA48	HSGW-0103	0.15	(U)	**453.00**	
BKA53	HSGW-0125	**0.80**	(U)	0.22	
CDT-MW0001	HSGW-0097	**0.52**	(U)	0.00	(U)
CDT-MW0002	HSGW-0098	**0.68**	(U)	0.00	(U)
DM11	HSGW-0110	0.03	(U)	0.26	
DM15	HSGW-0104	**1.76**		**29.80**	
DM23R	HSGW-0126	0.05	(U)	1.38	
DM25R	HSGW-0124	**1.41**	(U)	-0.02	(U)
DM26	HSGW-0122	**0.60**	(U)	0.11	(U)
DM27R	HSGW-0123	**0.91**		**40.50**	
DM28R	HSGW-0121	**1.12**	(U)	-0.05	(U)
DM29R	HSGW-0118	**1.02**	(U)	0.66	
DM30R	HSGW-0113	**0.82**	(U)	0.10	(U)
DM9	HSGW-0115	0.09	(U)	0.26	
IA03-TP0001	HSGW-0106	**0.59**	(U)	1.26	
IA03-TW0002	HSGW-0105			**27.00**	
IA03-TW0004	HSGW-0100	**0.51**	(U)	0.58	
IA03-TW0005	HSGW-0109	**0.79**		**1,170.00**	
IA03-TW0006	HSGW-0130			**184,000.00**	
IA03-TW0006	HSGW-0131	**17,400.00**			
IA04-TP0001	HSGW-0119	0.27	(U)	**10.20**	
IA04-TP0002	HSGW-0120	0.26	(U)	0.42	
IA04-TP0003	HSGW-0117	**0.44**	(U)	0.00	(U)
IA04-TP0004	HSGW-0101	**0.93**	(U)	0.79	
IA04-TP0005	HSGW-0112	**1.49**		1.27	
IA04-TW0004	HSGW-0114	**1.03**	(U)	4.81	
IA10-MW0001	HSGW-0099	**0.66**	(U)	6.63	
IA10-MW0002	HSGW-0102	**0.70**	(U)	0.79	
IA10-MW0003	HSGW-0111	**0.85**		**11.60**	
IA10-MW0004	HSGW-0107	0.37	(U)	5.77	
RMW35	HSGW-0108	**1.11**	(U)	2.39	
RMW38	HSGW-0116	**0.62**	(U)	**54.00**	

U - not detected

Bold indicates values above background.

Results for Total Uranium (chemical) are presented from KPA method.

Lithium not included in RI Phase II sampling.

For a full explanation of presented data surrogates and their rationales see Table 8-1.

Table 6-49. Groundwater ICP-MS Results

Station	Sample No	U-233	U-233, Dissolved	U-234	U-234, Dissolved	U-235	U-235, Dissolved	U-236	U-236, Dissolved	U-238	U-238, Dissolved
BKA48	HSGW0136	0.05 (U)	0.05 (U)	0.013 (J)	0.25 (U)	1.6	1.6	0.05 (U)	0.25 (U)	250	248
BKA53	HSGW0149	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.11	0.063
BKG-MW0001	HSGW0132	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	1.3	1.4
BKG-MW0002	HSGW0002	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.067 (J)	0.05 (J)
BKG-MW0003	HSGW0134	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.037 (J)	0.036 (J)	0.05 (U)	0.05 (U)	5.8	5.6
BKG-MW0005	HSGW0135	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.2	0.19
DM15	HSGW0142	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.16	0.15	0.05 (U)	0.05 (U)	24.8	22.2
DM28R	HSGW0144	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.076	0.012 (J)
IA03-TW0005	HSGW0138	0.05 (U)		0.063		7.9		0.024 (J)		1320	
IA03-TW0006	HSGW0139	0.05 (U)		4.3 (J)		445		2.3 (J)		84400	
IA04-TP0003	HSGW0145	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.028 (J)	0.014 (U)
IA04-TP0004	HSGW0147	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.82	0.59
IA04-TW0004	HSGW0146	0.005 (U)	0.005 (U)	0.005 (U)	0.005 (U)	0.012	0.012	0.005 (U)	0.005 (U)	1.86	1.83
IA05-TW0001	HSGW0150	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.093 (J)	0.042 (J)
IA10-MW0001	HSGW0141	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.1	0.1	0.05 (U)	0.05 (U)	15.6	15.7
IA10-MW0002	HSGW0143	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.087	0.08
IA10-MW0004	HSGW0148	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.042 (J)	0.043 (J)	0.05 (U)	0.05 (U)	6.6	6.7
RMW35	HSGW0137	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	1.4	1.5
RMW38	HSGW0140	0.05 (U)	0.05 (U)	0.05 (U)	0.05 (U)	0.027 (J)	0.027 (J)	0.05 (U)	0.05 (U)	4.4	4.3

All units analytes are in µg/L.

J - Analyte is estimated

U - Analyte not detected

Table 6-50. Soil IDW Sample Results

Station	Units	WS1-CG1		WS4-CG1		WS4-CG2		WS4-CG3		WS4-CG4		WS4-CG5		WS4-CG6		WS4-CG7		WS4-CG8	
		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Miscellaneous																			
Reactive Releasable Sulfide	mg/kg	500	(U)	500	(U)	48.3	(J)	128	(U)										
Paint Filter Test	NA			PASS		PASS		PASS		PASS		PASS		PASS				PASS	
pH	SU	6.35	(H)	8.33	(H)	9.91	(H)	7.79	(H)	8.83	(H)	8.46	(H)						
Reactive Releasable Cyanide	ug/kg	64.1	(J)	64.8	(J)	12.5	(J)	9.14	(J)	250000	(U)	250000	(U)						
Radionuclides																			
Americium-241	pCi/g	0.091	(U)	0.032	(U)	0.03	(U)	-0.017	(U)	-0.004	(U)	0.003	(U)	0.04	(U)	-0.02	(U)	0.08	(U)
Carbon-14	pCi/g	0.37	(U)	0.47	(U)	0.29	(U)	0.22	(U)	-0.1	(U)	0.08	(U)	-0.11	(U)	0.05	(U)	-0.32	(U)
Curium-242	pCi/g	-0.006	(U)	-0.006	(U)	-0.006	(U)	-0.006	(U)	0.0006	(U)	-0.006	(U)	-0.006	(U)	-0.01	(U)	0	(U)
Cobalt-60	pCi/g	-0.01	(U)	-0.018	(U)	-0.024	(U)	0.03	(U)	-0.007	(U)	0	(U)	0	(U)	-0.008	(U)	-0.0006	(U)
Cesium-137	pCi/g	0.14	(U)	0.05	(U)	0.018	(U)	0.119	(J)	0.001	(U)	-0.02	(U)	0.028	(U)	0.02	(U)	0.033	(U)
Iodine-129	pCi/g	-0.3	(U)	0.13	(U)	0.05	(U)	-0.02	(U)	0.1	(U)	0.12	(U)	0.02	(U)	0.12	(U)	-0.04	(U)
Niobium-94	pCi/g	0.0457	(U)	-0.003	(U)	0.021	(U)	0.023	(U)	0.011	(U)	-0.006	(U)	0.009	(U)	0.024	(U)	0.034	(U)
Nickel-59	pCi/g	0	(U)	0	(U)	0	(U)	0	(U)	0	(U)	0	(U)	0	(U)	0.0192	(U)	0	(U)
Nickel-63	pCi/g	0.51	(U)	-0.4	(U)	-0.2	(U)	0.8	(U)	0.1	(U)	-0.2	(U)	0.55	(U)	-0.3	(U)	0.23	(U)
Plutonium-238	pCi/g	-0.008	(U)	0.011	(U)	0.017	(U)	-0.02	(U)	-0.006	(U)	0.002	(U)	-0.005	(U)	0.003	(U)	-0.008	(U)
Plutonium-239/240	pCi/g	0.44	(J)	0.014	(U)	0.099	(J)	0.044	(U)	0.009	(U)	-0.022	(U)	0.009	(U)	0.007	(U)	0.0006	(U)
Plutonium-241	pCi/g	1.7	(U)	0.36	(U)	0.47	(U)	1.17	(U)	0.82	(U)	1.49	(U)	0.29	(U)	0.36	(U)	1.15	(U)
Radium-226	pCi/g	2.23		1.41		1.58		1.3		1.27		1.37		1.42		1.41		1.58	
Radium-228	pCi/g	0.28	(U)	1.51		0.9	(J)	0.79	(J)	1.02		1.31		0.82	(J)	1.01		0.97	(J)
Strontium-90	pCi/g	0.37	(U)	0.24	(U)	-0.14	(U)	0.24	(U)	0.16	(U)	0.05	(U)	0.49	(U)	0.23	(U)	0.35	(U)
Technetium-99	pCi/g	-0.86	(U)	-0.6	(U)	-0.87	(U)	-0.5	(U)	-0.53	(U)	-0.58	(U)	-0.49	(U)	-0.78	(U)	-0.77	(U)
Thorium-228	pCi/g	0.05	(U)	1.17		0.97	(J)	1.06		1.31		1.35		0.98	(J)	0.87	(J)	0.95	(J)
Thorium-230	pCi/g	89		1.34		6.47		6.9		1.68		1.52		3.35		1.35		1.09	
Thorium-232	pCi/g	0.81	(U)	0.82	(J)	0.88	(J)	0.82	(J)	1.58		1.35		1.1		0.67	(J)	0.9	(J)
Total Activity	pCi/g	1190		2	(U)	82		114		6.5	(U)	5.6	(U)	23.3		8	(U)	2	(U)
Tritium	pCi/g	-0.14	(U)	0.2	(U)	0.89	(J)	0.47	(U)	0.14	(U)	0.33	(U)	0.24	(U)	0.22	(U)	0.53	(J)
Uranium-233/234	pCi/g	960		1.29		29.1		49.1		1.8		2.05		10.8		3.28		2.47	
Uranium-235/236	pCi/g	76	(J)	0.032	(U)	1.51		2.55		0.097	(J)	0.18	(J)	0.5	(J)	0.17	(J)	0.063	(J)
Uranium-238	pCi/g	1010		1.19		27.9		49.5		1.57		1.84		10.6		3.78		2.26	
Herbicides - TCLP																			
2,4,5-TP-TCLP	mg/L	0.095	(U)	0.095	(U)	0.095	(U)	0.095	(U)	0.095	(U)	0.095	(U)	0.01	(U)	0.01	(U)	0.01	(U)
2,4-D-TCLP	mg/L	0.095	(U)	0.095	(U)	0.095	(U)	0.095	(U)	0.095	(U)	0.095	(U)	0.04	(U)	0.04	(U)	0.04	(U)
Metals - TCLP																			
Arsenic-TCLP	mg/L	0.027	(UJ)	0.027	(UJ)	0.133	(UJ)	0.027	(UJ)	0.133	(UJ)	0.053	(UJ)	0.5	(U)	0.5	(U)	0.5	(U)
Barium-TCLP	mg/L	0.512	(J)	0.446	(J)	0.245	(J)	0.165	(J)	0.423	(UJ)	0.215	(UJ)	0.193		0.0952	(B)	0.134	
Cadmium-TCLP	mg/L	0.295	(J)	0.027	(J)	0.096	(J)	0.206	(J)	0.004	(UJ)	0.017	(J)	0.0285		0.0494		0.448	
Chromium-TCLP	mg/L	0.067	(J)	0.003	(UJ)	0.003	(UJ)	0.003	(UJ)	0.003	(UJ)	0.003	(UJ)	0.0625	(U)	0.0114	(B)	0.0625	(U)
Lead-TCLP	mg/L	11.7	(J)	0.07	(J)	0.107	(J)	0.372	(J)	0.018	(UJ)	0.049	(J)	0.0806	(B)	0.733		3.5	
Mercury-TCLP	mg/L	0.0003	(UJ)	0.0003	(UJ)	0.0003	(UJ)	0.0003	(UJ)	0.00033	(UJ)	0.00033	(UJ)	0.01	(U)	0.01	(U)	0.01	(U)
Selenium-TCLP	mg/L	0.045	(UJ)	0.225	(UJ)	0.225	(UJ)	0.225	(UJ)	0.225	(UJ)	0.045	(UJ)	0.5	(U)	0.5	(U)	0.5	(U)
Silver-TCLP	mg/L	0.005	(UJ)	0.005	(UJ)	0.005	(UJ)	0.005	(UJ)	0.005	(UJ)	0.005	(UJ)	0.04	(U)	0.04	(U)	0.04	(U)
Zinc-TCLP	mg/L	46	(J)	2.11	(J)	4.14	(J)	2.44	(J)	0.1	(UJ)	0.345	(UJ)	0.525		0.633		2.28	

Table 6-50. Soil IDW Sample Results (continued)

Station	Units	WS1-CG1		WS4-CG1		WS4-CG2		WS4-CG3		WS4-CG4		WS4-CG5		WS4-CG6		WS4-CG7		WS4-CG8	
		Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
Pesticides - TCLP																			
Chlordane-TCLP	mg/L	0.0025	(U)	0.0025	(U)	0.0025	(U)	0.0025	(U)	0.0025	(U)	0.0025	(U)	0.005	(U)	0.005	(U)	0.005	(U)
Endrin-TCLP	mg/L	0.0004	(U)	0.0004	(U)	0.0004	(U)	0.0004	(U)	0.0004	(U)	0.0004	(U)	0.0005	(U)	0.0005	(U)	0.0005	(U)
gamma-BHC-TCLP	mg/L	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0005	(U)	0.0005	(U)	0.0005	(U)
Heptachlor-TCLP	mg/L	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0005	(U)	0.0005	(U)	0.0005	(U)
Heptachlor epoxide-TCLP	mg/L	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0002	(U)	0.0005	(U)	0.0005	(U)	0.0005	(U)
Methoxychlor-TCLP	mg/L	0.002	(U)	0.002	(U)	0.002	(U)	0.002	(U)	0.002	(U)	0.002	(U)	0.001	(U)	0.001	(U)	0.001	(U)
Toxaphene-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.02	(U)	0.02	(U)	0.02	(U)
SVOC - TCLP																			
1,4-Dichlorobenzene-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
2,4,5-Trichlorophenol-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
2,4,6-Trichlorophenol-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)						
2,4-Dinitrotoluene-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
3-Methylphenol & 4-Methylphenol-TCLP	mg/L													0.1	(U)	0.1	(U)	0.1	(U)
Hexachlorobenzene-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
Hexachlorobutadiene-TCLP	mg/L													0.05	(U)	0.05	(U)	0.05	(U)
Hexachloroethane-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
m,p-Cresols-TCLP	mg/L	0.035	(J)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)						
Nitrobenzene-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
o-Cresol-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
Pentachlorophenol-TCLP	mg/L	0.044	(J)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.25	(U)	0.25	(U)	0.25	(U)
Pyridine-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.1	(U)	0.1	(U)	0.1	(U)
VOC – TCLP																			
1,1-Dichloroethene-TCLP	mg/L													0.05	(U)	0.05	(U)	0.05	(U)
1,1-Dichloroethylene-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)						
1,2-Dichloroethane-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.05	(U)	0.05	(U)	0.05	(U)
1,4-Dichlorobenzene-TCLP	mg/L													0.05	(U)	0.05	(U)	0.05	(U)
2-Butanone-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)
Benzene-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.05	(U)	0.05	(U)	0.05	(U)
Carbon Tetrachloride-TCLP	mg/L	0.01	(UJ)	0.01	(UJ)	0.01	(UJ)	0.01	(UJ)	0.01	(U)	0.01	(U)						
Chlorobenzene-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.0034	(J)	0.01	(U)	0.01	(U)	0.05	(U)	0.05	(U)	0.05	(U)
Chloroform-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.05	(U)	0.05	(U)	0.05	(U)
Hexachlorobutadiene-TCLP	mg/L	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)	0.05	(U)						
Tetrachloroethene-TCLP	mg/L													0.05	(U)	0.05	(U)	0.05	(U)
Tetrachloroethylene-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.0035	(J)	0.01	(U)	0.01	(U)						
Trichloroethene-TCLP	mg/L													0.05	(U)	0.05	(U)	0.05	(U)
Trichloroethylene-TCLP	mg/L	0.01	(UJ)	0.01	(UJ)	0.01	(UJ)	0.01	UJ	0.01	(U)	0.01	(U)						
Vinyl chloride-TCLP	mg/L	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.01	(U)	0.1	(U)	0.1	(U)	0.1	(U)

Qualifiers:
B: Result greater than calibrated range
H: Holding time exceeded
U: Non-detect
UJ: Estimated non-detect

Table 6-51. Water IDW Sample Results

Station	Units	WS5-CG1		WS5-CG2	
		Result	Qual	Result	Qual
Miscellaneous					
Bromide-TCLP	mg/L	0.299			
Chlorine, Residual	mg/L	0.05	(HU)		
Fluoride-TCLP	mg/L	5.09			
Nitrogen, Ammonia	mg/L	2.59			
Total Suspended Solids	mg/L	2.5			
Reactive Releasable Cyanide	mg/l	0.025	(U)	0.025	(U)
Reactive Releasable Sulfide	mg/L	18.6	(J)	18.6	(J)
pH	SU	6.67	(H)	6.88	(H)
PAHs					
2-Methylnaphthalene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Acenaphthene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Acenaphthylene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Anthracene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Benzo(a)anthracene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Benzo(a)pyrene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Benzo(b)fluoranthene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Benzo(g,h,i)perylene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Benzo(k)fluoranthene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Chrysene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Dibenzo(a,h)anthracene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Fluoranthene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Fluorene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Indeno(1,2,3-cd)pyrene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Napthalene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Phenanthrene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
Pyrene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
PCBs					
PCB-1016-TCLP	mg/l	0.0001	(U)	0.000095	(UJ)
PCB-1221-TCLP	mg/l	0.0001	(U)	0.000095	(UJ)
PCB-1232-TCLP	mg/l	0.0001	(U)	0.000095	(UJ)
PCB-1242-TCLP	mg/l	0.0001	(U)	0.000095	(UJ)
PCB-1248-TCLP	mg/l	0.0001	(U)	0.000095	(UJ)
PCB-1254-TCLP	mg/l	0.0001	(U)	0.000095	(UJ)
PCB-1260-TCLP	mg/l	0.0001	(U)	0.000095	(UJ)
Radionuclides					
Americium-241	pCi/L			0.033	(U)
Carbon-14	pCi/L			9.1	(U)
Curium-242	pCi/L			0	(U)
Cobalt-60	pCi/L			1	(U)
Cesium-137	pCi/L			0.4	(U)
Iodine-129	pCi/L			-0.08	(U)
Niobium-94	pCi/L			1.1	(U)
Nickel-59	pCi/L			0	(U)
Nickel-63	pCi/L			5.2	(U)

Table 6-51. Water IDW Sample Results (continued)

Station	Units	WS5-CG1		WS5-CG2	
		Result	Qual	Result	Qual
Radionuclides (continued)					
Protactinium-238	pCi/L			0.001	(U)
Plutonium-239/240	pCi/L			-0.012	(U)
Plutonium-241	pCi/L			0.23	(U)
Radium-226	pCi/L			0.95	(J)
Radium-228	pCi/L			0.78	(J)
Strontium-90-TCLP	pCi/L			0.52	(U)
Technetium-99	pCi/L			0.4	(U)
Thorium-228	pCi/L			1.29	
Thorium-230	pCi/L			1.4	
Thorium-232	pCi/L			0.95	(J)
Total Activity	pCi/L			200	(U)
Tritium	pCi/L			390	(J)
Uranium-233/234	pCi/L			113	
Uranium-235/236	pCi/L			5.9	
Uranium-238	pCi/L			118	
2,4,5-TP-TCLP	mg/l	0.00046	(U)	0.00046	(U)
2,4,5-T-TCLP	mg/l	0.00046	(U)	0.00046	(U)
2,4-D-TCLP	mg/l	0.00046	(U)	0.00046	(U)
Metals - TCLP					
Aluminum-TCLP	mg/l	1.14			
Antimony-TCLP	mg/l	0.00103	(B)		
Arsenic-TCLP	mg/l	0.00466		0.00323	
Barium-TCLP	mg/l	0.0663		0.0498	
Beryllium-TCLP	mg/l	0.000281			
Cadmium-TCLP	mg/l	0.000761	(B)	0.0017	
Calcium-TCLP	mg/l	180			
Chromium-TCLP	mg/l	0.00193	(B)	0.00375	
Cobalt-TCLP	mg/l	0.0196			
Copper-TCLP	mg/l	0.00455			
Hexavalent Chromium-TCLP	mg/L	0.01	HU		
Iron-TCLP	mg/l	0.948			
Lead-TCLP	mg/l	0.000258	(B)	0.00122	(B)
Magnesium-TCLP	mg/l	53.7			
Manganese-TCLP	mg/l	2.68			
Mercury-TCLP	mg/l	0.000033	(U)	0.000033	(U)
Nickel-TCLP	mg/l	1.49			
Potassium-TCLP	mg/l	10.3			
Selenium-TCLP	mg/l	0.00156	(U)	0.00156	(U)
Silver-TCLP	mg/l	0.000018	(B)	0.000042	(B)
Sodium-TCLP	mg/l	24.5			
Thallium-TCLP	mg/l	0.00012	(B)		
Vanadium-TCLP	mg/l	0.000904	(U)		
Zinc-TCLP	mg/l	0.131		0.124	
Pesticides - TCLP					
4,4'-DDD-TCLP	mg/l	0.00004	(U)	0.0000396	UJ

Table 6-51. Water IDW Sample Results (continued)

Station	Units	WS5-CG1		WS5-CG2	
		Result	Qual	Result	Qual
Pesticides – TCLP (continued)					
4,4'-DDE-TCLP	mg/l	0.0000118	(J)	0.0000147	(J)
4,4'-DDT-TCLP	mg/l	0.0000601		0.0000587	(J)
Aldrin-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
alpha-BHC-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
beta-BHC-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
Chlordane-TCLP	mg/l	0.00025	(U)	0.000248	UJ
delta-BHC-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
Dieldrin-TCLP	mg/l	0.00004	(U)	0.0000396	UJ
Endosulfan II-TCLP	mg/l	0.00004	(U)	0.0000396	UJ
Endosulfan I-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
Endosulfan sulfate-TCLP	mg/l	0.00004	(U)	0.0000396	UJ
Endrin aldehyde-TCLP	mg/l	0.00004	(U)	0.0000396	UJ
Endrin ketone-TCLP	mg/l	0.00004	(U)	0.0000396	UJ
Endrin-TCLP	mg/l	0.00000613	(J)	0.0000396	UJ
gamma-BHC-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
Heptachlor epoxide-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
Heptachlor-TCLP	mg/l	0.00002	(U)	0.0000198	UJ
Methoxychlor-TCLP	mg/l	0.0002	(U)	0.000198	UJ
Toxaphene-TCLP	mg/l	0.001	(U)	0.00099	UJ
SVOC - TCLP					
1,2,4-Trichlorobenzene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
1,2-Dichlorobenzene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
1,3-Dichlorobenzene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
1,4-Dichlorobenzene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2,4,5-Trichlorophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2,4,6-Trichlorophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2,4-Dichlorophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2,4-Dimethylphenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2,4-Dinitrophenol-TCLP	mg/l	0.0194	(U)	0.0194	(U)
2,4-Dinitrotoluene-TCLP	mg/l	0.0097	(U)	0.0097	(UJ)
2,6-Dinitrotoluene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2-Chloronaphthalene-TCLP	mg/l	0.00097	(U)	0.00097	(U)
2-Chlorophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2-Methyl-4,6-dinitrophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
2-Nitrophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
3,3'-Dichlorobenzidine-TCLP	mg/l	0.0097	(U)	0.0097	(UJ)
4-Bromophenyl-phenylether-TCLP	mg/l	0.0097	(U)	0.0097	(U)
4-Chloro-3-methylphenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
4-Chloroaniline-TCLP	mg/l	0.0097	(U)	0.0097	(U)
4-Chlorophenyl-phenylether-TCLP	mg/l	0.0097	(U)	0.0097	(U)
4-Nitrophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
bis(2-chloroethoxy)methane-TCLP	mg/l	0.0097	(U)	0.0097	(U)
bis(2-chloroethyl)ether-TCLP	mg/l	0.0097	(UJ)	0.0097	(UJ)
bis(2-Chloroisopropyl)ether-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Butylbenzylphthalate-TCLP	mg/l	0.0097	(U)	0.0097	(U)

Table 6-51. Water IDW Sample Results (continued)

Station	Units	WS5-CG1		WS5-CG2	
		Result	Qual	Result	Qual
SVOC – TCLP (continued)					
bis(2-Ethylhexyl)phthalate-TCLP	mg/l	0.0097	(U)	0.0015	(J)
Carbarzole-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Dibenzofuran-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Diethylphthalate-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Dimethylphthalate-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Di-n-butylphalate-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Di-n-octyphthalate-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Diphenylamine-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Hexachlorobenzene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Hexachlorocyclopentadiene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Hexachloroethane-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Isophorone-TCLP	mg/l	0.0097	(U)	0.0097	(U)
m,p-Cresols-TCLP	mg/l	0.0097	(U)	0.0097	(U)
m-Nitroaniline-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Nitrobenzene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
N-Nitrosodipropylamine-TCLP	mg/l	0.0097	(U)	0.0097	(U)
o-Cresol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
o-Nitroaniline-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Pentachlorophenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Phenol-TCLP	mg/l	0.0097	(U)	0.0097	(U)
p-Nitroaniline-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Pyridine-TCLP	mg/l	0.0097	(U)	0.0097	(U)
VOC – TCLP					
1,1,1-Trichloroethane	mg/l	0.001	(U)	0.001	(U)
1,1,2,2-Tetrachloroethane	mg/l	0.001	(U)	0.001	(U)
1,1,2-Trichloroethane	mg/l	0.001	(U)	0.001	(U)
1,1-Dichloroethane	mg/l	0.001	(U)	0.001	(U)
1,1-Dichloroethylene	mg/l	0.001	(U)	0.001	(U)
1,2-Dichloroethane-TCLP	mg/l	0.001	(U)	0.00087	(J)
1,2-Dichloroethylene (total)-TCLP	mg/l	0.002		0.001	(U)
1,2-Dichloropropane-TCLP	mg/l	0.001	(U)	0.001	(U)
2-Butanone-TCLP	mg/l	0.005	(U)	0.005	(U)
2-Hexanone-TCLP	mg/l	0.005	(U)	0.005	(U)
4-Methyl-2-pentanone-TCLP	mg/l	0.005	(U)	0.005	(U)
Acetone-TCLP	mg/l	5.26	(E)	0.005	(U)
Benzene-TCLP	mg/l	0.001	(U)	0.001	(U)
Bromodichloromethane-TCLP	mg/l	0.001	(U)	0.001	(U)
Bromoform-TCLP	mg/l	0.001	(U)	0.001	(U)
Bromomethane-TCLP	mg/l	0.001	(U)	0.001	(U)
Carbon Disulfide-TCLP	mg/l	0.005	(U)	0.005	(U)
Carbon Tetrachloride-TCLP	mg/l	0.001	(U)	0.001	(U)
Chlorobenzene-TCLP	mg/l	0.001	(U)	0.001	(U)
Chloroethane-TCLP	mg/l	0.001	(U)	0.001	(U)
Chloroform-TCLP	mg/l	0.001	(U)	0.001	(U)
Chloromethane-TCLP	mg/l	0.001	(U)	0.001	(U)

Table 6-51. Water IDW Sample Results (continued)

Station	Units	WS5-CG1		WS5-CG2	
		Result	Qual	Result	Qual
VOC – TCLP					
cis-1,3-Dichloropropylene-TCLP	mg/l	0.001	(U)	0.001	(U)
Dibromochloromethane-TCLP	mg/l	0.001	(U)	0.001	(U)
Ethylbenzene-TCLP	mg/l	0.001	(U)	0.001	(U)
Hexachlorobutadiene-TCLP	mg/l	0.0097	(U)	0.0097	(U)
Methylene Chloride-TCLP	mg/l	0.005	(U)	0.005	(U)
Styrene-TCLP	mg/l	0.001	(U)	0.001	(U)
Tetrachloroethylene-TCLP	mg/l	0.00034	(J)	0.001	(U)
Toluene-TCLP	mg/l	0.001	(U)	0.001	(sU)
trans-1,3-Dichloropropylene-TCLP	mg/l	0.001	(U)	0.001	(U)
Trichloroethylene-TCLP	mg/l	0.00096	(J)	0.001	(U)
Vinyl Chloride-TCLP	mg/l	0.001	(U)	0.001	(U)
Xylene (total)-TCLP	mg/l	0.001	(U)	0.001	(U)

Qualifiers:
B: Result greater than calibrated range
E: Serial dilution +/- 10%
U: Non-detect
UJ: Estmated non-detect

Table 7-1. Monitoring Well Potentiometry

Well Identification	OHSP Easting (ft)	OHSP Northing (ft)	TOC Elevation (ft)	Ground Elevation (ft)	Water Level Measurement Date									Average of Measurements (ft)	Standard Deviation (ft)	Range (ft)
					6/3/2003	7/3/2003	12/3/2003	5/23/2004[d]	8/24/2004	8/27/2004	10/21/2004	12/14/2004	5/3/2005			
BKA-48	2191690.02	650842.78	594.87	592.70	581.67	583.21	584.76	586.65	581.97	581.88	581.63	584.15	586.15	583.56	1.96	5.02
BKA-51	2191592.31	649653.75	595.76	593.18	568.68	582.40	576.89	585.04	575.12	NM[c]	574.83	576.19	577.90	577.13	4.96	16.36
BKA-52	2191758.05	649730.48	593.13	593.40	573.90	578.82	575.71	585.46	574.15	NM[c]	573.87	575.03	576.33	576.66	3.92	11.59
BKA-53	2191937.30	649459.32	593.40	591.16	571.36	580.10	575.42	585.92	573.80	NM[c]	573.66	574.88	575.59	576.34	4.60	14.56
BKG-MW0001	2191081.12	649708.88	592.10	592.67	NM[a]	NM[a]	581.31	584.02	580.59	NM[c]	580.40	592.10	582.36	583.46	4.44	11.70
BKG-MW0002	2191322.01	649989.17	593.42	594.39	NM[a]	NM[a]	581.87	580.03	580.01	NM[c]	578.33	577.90	581.01	579.86	1.52	3.97
BKG-MW0003	2191324.77	650473.30	591.98	592.73	NM[a]	NM[a]	584.77	587.25	582.28	NM[c]	581.73	583.97	586.76	584.46	2.26	5.52
BKG-MW0004	2191331.18	650541.24	592.30	592.69	NM[a]	NM[a]	584.80	587.16	582.28	NM[c]	581.69	583.96	586.74	584.44	2.25	5.47
BKG-MW0005	2191218.21	651099.72	592.20	592.37	NM[a]	NM[a]	584.60	586.48	582.13	NM[c]	581.77	583.92	586.00	584.15	1.94	4.71
CDT-MW0001	2191310.37	649612.52	588.09	588.42	NM[b]	NM[b]	578.79	583.41	577.30	NM[c]	577.04	578.10	580.57	579.20	2.42	6.37
CDT-MW0002	2191471.66	649538.84	587.21	587.43	NM[b]	NM[b]	577.70	581.05	575.81	NM[c]	575.25	576.10	577.96	577.31	2.12	5.80
DM-1	2191465.84	650137.02	596.13	593.71	580.67	584.94	582.75	582.32	581.62	578.09	578.44	580.80	586.06	581.74	2.66	7.97
DM-10	2191405.93	650534.87	592.71	593.21	582.70	583.38	583.14	585.61	580.58	580.47	579.99	582.37	585.27	582.61	2.02	5.62
DM-11	2191520.52	650597.82	595.89	593.88	582.17	584.41	585.29	587.84	582.35	582.22	581.67	584.60	587.33	584.21	2.30	6.17
DM-12	2191426.01	650643.80	596.13	593.93	581.79	583.71	584.93	587.32	582.16	582.06	581.62	584.16	587.02	583.86	2.20	5.70
DM-14	2191443.51	650747.03	596.33	594.19	581.42	581.92	584.73	587.10	582.05	581.90	581.51	584.06	586.92	583.52	2.29	5.69
DM-15	2191564.93	650795.45	596.46	594.26	581.27	581.80	584.72	587.11	582.06	581.89	581.28	584.25	586.75	583.46	2.32	5.84
DM-2	2191511.78	650188.40	594.02	594.25	586.38	586.82	586.85	589.16	584.74	584.51	582.87	586.22	586.09	585.96	1.77	6.29
DM-22R	2191721.35	649560.49	594.81	592.70	571.71	579.06	575.84	585.96	574.08	NM[c]	573.88	575.20	576.12	576.48	4.38	14.25
DM-23R	2191933.53	649357.34	593.06	590.82	571.35	583.66	575.60	586.18	573.84	NM[c]	573.70	575.02	575.73	576.89	5.19	14.84
DM-25R	2191937.08	650039.94	592.84	593.37	573.62	575.88	575.36	582.43	573.95	NM[c]	573.54	574.53	575.60	575.61	2.90	8.89
DM-26	2191850.75	650200.89	592.99	593.48	574.06	575.79	575.54	582.37	574.41	NM[c]	573.97	574.62	576.32	575.88	2.76	8.40
DM-27R	2192072.44	650184.85	594.78	592.29	570.71	572.53	575.20	582.24	573.85	NM[c]	573.39	574.36	575.26	574.69	3.39	11.53
DM-28R	2192219.27	650346.09	595.09	592.57	570.30	577.52	574.51	583.64	573.39	NM[c]	572.93	573.95	574.74	575.12	3.99	13.34
DM-29R	2192116.32	650463.86	595.49	593.16	570.81	579.66	574.63	582.93	573.53	NM[c]	572.96	574.02	575.00	575.44	3.93	12.12
DM-3	2191431.18	650291.16	594.14	594.48	592.11	590.96	592.51	592.76	591.66	591.49	591.61	592.63	592.47	592.02	0.62	1.80
DM-30R	2192328.28	650525.05	594.91	593.02	570.80	576.40	574.36	582.94	573.30	NM[c]	572.71	573.80	574.69	574.88	3.64	12.14
DM-4	2191471.88	650294.53	593.84	594.20	589.83	589.14	590.14	590.90	589.10	588.92	588.65	589.97	590.42	589.67	0.76	2.25
DM-5	2191432.21	650360.73	596.36	594.13	581.99	582.61	584.99	587.20	582.67	582.56	582.09	584.25	587.08	583.94	2.07	5.21
DM-9	2191527.01	650452.64	598.01	594.83	583.93	582.73	584.19	586.34	581.77	581.52	581.07	583.62	585.97	583.46	1.88	5.27
ERM-47	2191934.55	650347.59	593.06	593.56	573.56	577.43	NM	583.43	574.08	NM[c]	573.44	574.46	575.89	576.04	3.55	9.99
IA03-TP0001	2191564.45	650912.66	594.165	591.50	NM[a]	NM[a]	NM	NM	NM	NM[c]	580.70	582.84	582.84	582.13	1.24	2.14
IA03-TW0001	2191929.07	650543.65	596.50	593.90	NM[a]	589.28	NM	589.95	588.79	NM[c]	591.30	591.97	586.87	589.70	1.83	5.10
IA03-TW0002	2191860.42	650782.56	595.39	592.00	NM[a]	581.57	585.98	586.77	585.22	NM[c]	584.71	585.08	586.61	585.13	1.75	5.20
IA03-TW0003	2191537.92	650917.84	593.39	590.49	NM[a]	580.60	582.14	584.46	579.43	579.37	579.31	581.41	583.06	581.22	1.91	5.15
IA03-TW0004	2191684.59	650974.55	592.92	589.80	NM[a]	582.10	583.45	584.97	580.67	NM[c]	580.34	582.89	584.54	582.71	1.79	4.63
IA03-TW0005[e]	2191736.91	650685.07	NA	596.00	NM[a]	NM[a]	NM	591.40	594.60	NM[c]	NM	587.64	591.35	591.25	2.85	6.96
IA03-TW0006[e]	2191832.86	650657.07	NA	596.00	NM[a]	NM[a]	NM	NM	595.00	NM[c]	NM	587.60	591.33	591.31	3.70	7.40
IA04-TP0001	2191682.62	650370.27	596.32	594.34	NM[a]	NM[a]	NM	595.00	585.51	NM[c]	584.08	584.75	585.40	586.95	4.54	10.92
IA04-TP0002	2191844.20	650322.94	595.74	593.33	NM[a]	NM[a]	NM	582.12	574.58	NM[c]	573.90	574.67	576.39	576.33	3.36	8.22
IA04-TP0003	2192021.55	650325.15	595.39	592.77	NM[a]	NM[a]	NM	NM	573.80	NM[c]	573.27	574.18	574.18	573.86	0.43	0.91
IA04-TP0004	2192065.09	650553.99	595.20	593.30	NM[a]	NM[a]	NM	582.39	578.29	NM[c]	578.65	580.39	581.95	580.34	1.86	4.10
IA04-TP0005	2192240.10	650616.47	594.47	591.92	NM[a]	NM[a]	NM	576.11	573.39	NM[c]	572.82	573.62	574.83	574.16	1.32	3.29

Table 7-1. Monitoring Well Potentiometry (continued)

Well Identification	OHSP Easting (ft)	OHSP Northing (ft)	Reference Elevation (ft)	Ground Elevation (ft)	Water Level Measurement Date									Average of Measurements (ft)	Standard Deviation (ft)	Range (ft)
					6/3/2003	7/3/2003	12/3/2003	5/23/2004[d]	8/24/2004	8/27/2004[b]	10/21/2004	12/14/2004	5/3/2005			
IA04-TW0001	2191867.55	649878.02	595.16	592.71	NM[a]	576.58	575.06	582.34	573.60	NM[c]	573.19	574.45	575.37	575.80	3.10	9.15
IA04-TW0002	2191510.29	649967.14	593.59	591.86	NM[a]	579.32	577.79	NM	576.28	NM[c]	575.67	576.91	579.16	577.52	1.51	3.65
IA04-TW0003	2192075.24	650700.56	596.03	592.94	NM[a]	579.46	585.87	585.42	583.52	NM[c]	583.39	585.71	586.53	584.27	2.43	7.07
IA04-TW0004	2192426.35	650466.22	594.44	591.22	NM[a]	577.69	575.86	584.89	574.74	NM[c]	574.13	575.28	576.12	576.96	3.68	10.76
IA04-TW0005	2192127.99	650840.91	593.23	590.24	NM[a]	583.07	583.03	584.82	581.18	NM[c]	580.59	582.22	584.16	582.73	1.52	4.23
IA04-TW0006	2192521.62	650652.21	589.71	586.35	NM[a]	574.00	572.67	576.90	571.69	NM[c]	571.21	571.98	573.06	573.08	1.93	5.69
IA05-TW0001	2191929.22	649644.71	598.64	596.27	NM[a]	580.16	578.44	578.83	577.03	NM[c]	576.81	577.93	578.66	578.26	1.14	3.35
IA10-MW0001	2191641.11	651100.68	593.86	591.61	NM[a]	NM[a]	584.93	586.36	581.94	NM[c]	581.68	585.36	585.83	584.35	2.03	4.68
IA10-MW0002	2191965.68	650913.46	595.72	593.69	NM[a]	NM[a]	584.87	586.39	582.15	NM[c]	581.77	584.12	585.99	584.21	1.93	4.62
IA10-MW0003	2191901.56	650614.32	597.98	595.55	NM[a]	NM[a]	585.15	585.66	583.38	NM[c]	582.85	584.18	586.47	584.62	1.39	3.62
IA10-MW0004	2192091.07	650693.74	595.88	593.54	NM[a]	NM[a]	585.88	587.51	582.67	NM[c]	581.80	584.52	586.76	584.86	2.28	5.71
RMW-35	2191566.09	650682.82	596.44	594.65	582.55	583.87	585.44	587.93	582.64	NM[c]	581.84	584.78	587.24	584.54	2.24	6.09
RMW-38	2191739.01	650453.12	596.76	594.55	583.34	586.01	NM	587.76	584.71	NM[c]	583.86	585.35	587.53	585.51	1.71	4.43
RMW-39	2191523.35	650696.53	595.93	593.78	581.84	584.12	585.38	587.49	582.43	582.21	581.43	585.15	587.21	584.14	2.30	6.06
														Site Wide Average ==>	2.50	6.97

a - Well not installed at the time.
b - Well not accessible due to property rights of entry.
c - No measurement for pump and treat analysis.
d - Potentiometric measurements coincided with a high-water flood event in the Cuyahoga River; elevated groundwater evident in wells adjacent to the river.
e - IA03-TW0005 and -TW0006 survey data are estimated (located in G-1 building).
NA – not applicable
NM - not measured
OHSP – Ohio State Plane
TOC – Top of Casing

Table 7-2. Comparison of Static Water Levels Against Operating Extraction System Levels

Well	Non-Operating Condition		Operating Condition		Drawdown	Distance[a] (ft)
	8/24/2004	8/24/2004	8/27/2004	8/27/2004		
BKA-48	12.90	581.97	12.99	581.88	0.09	70
DM-15	14.40	582.06	14.57	581.89	0.17	18
DM-1	14.51	581.62	18.04	578.09	3.53	3
DM-2	9.28	584.74	9.51	584.51	0.23	11
DM-10	12.13	580.58	12.24	580.47	0.11	120
DM-11	13.54	582.35	13.67	582.22	0.13	10
DM-12	13.97	582.16	14.07	582.06	0.10	95
DM-14	14.28	582.05	14.43	581.90	0.15	83
RMW-39	13.50	582.43	13.72	582.21	0.22	13
DM-3	2.48	591.66	2.65	591.49	0.17	125
DM-4	4.74	589.10	4.92	588.92	0.18	82
DM-5	13.69	582.67	13.80	582.56	0.11	110
DM-9	16.24	581.77	16.49	581.52	0.25	10
IA03-TP0001	13.24	580.93	13.31	580.86	0.07	55
IA03-TW0003	13.96	579.43	14.02	579.37	0.06	80
		Without DM-1				
Minimum Drawdown	0.06	0.06				
Maximum Drawdown	3.53	0.25				
Average Drawdown	0.37	0.14				

[a]Indicates distance to nearest point along the sewer line during pumping.

Table 7-3. Cuyahoga River, Big Creek, and Sewer-Line Drain Conductance Input

Discharge Boundary Reach	PEST Index Value[a]	Bed Conductance Value (ft^2/day)	Comment
Western Third of Big Creek	-21 (RIV)	8.50	Gaining Reach
Central Third of Big Creek	-22 (RIV)	0.001	Equilibrium Reach
Eastern Third of Big Creek	-23 (RIV)	7.99	Gaining Reach
Cuyahoga River from Big Creek Confluence to Harvard Ave. Bridge	-36 (RIV)	2.50	Gaining to Equilibrium Reach
Cuyahoga River from Harvard Ave. Bridge to North End of Warehouse	-35 (RIV)	32.76	Gaining Reach
Cuyahoga River from North End of Warehouse to Northeast Corner of IA04	-34 (RIV)	24.72	Gaining Reach
Cuyahoga River from Northeast Corner of IA04 Around Bend to North of Dennison St. Bridge	-33 (RIV)	24.72	Equilibrium Reach
Cuyahoga River from North of Dennison St. Bridge to Midpoint of Chemical Solvent Property	-32 (RIV)	14.72	Gaining Reach
Cuyahoga River from Midpoint of Chemical Solvent Property to Model Boundary	-31 (RIV)	3.36	Gaining to Equilibrium Reach
Sewer-Line Bedding from Chemical Solvent to Harvard Road	NA	280.00	K value (ft/day) represents gravel bedding in sewer trench
Sewer-line Extraction Well #1	-90 (WELL)	-170.00	Installed along sewer line
Sewer-line Extraction Well #2	-91 (WELL)	-125.92	Installed along sewer line
Sewer-line Extraction Well #3	-92 (WELL)	-117.71	Installed along sewer line
Sewer-line Extraction Well #4	-93 (WELL)	-121.84	Installed along sewer line
Sewer-line Extraction Well #5	-94 (WELL)	-170.00	Installed along sewer line
Sewer-line Extraction Well #6	-95 (WELL)	-50.79	Installed north of Warehouse
Sewer-line Extraction Well #7	-96 (WELL)	-50.92	Installed east of Foundry
Sewer-line Extraction Well #8	-97 (WELL)	-107.27	Installed along sewer line

Table 7-4. Geotechnical Input to Model

Parameter	Model Layer		
	1 - Overburden	2 - Upper Bedrock	Units
Bulk Density	2.17	2.44	g/cc
	61.54	69.09	kg/ft^3
Effective Porosity	0.18	0.08	unitless

Table 7-5. Calibration Statistics

Well Identification	Observed Head (5/3/2005) (ft amsl)	Computed Head (ft amsl)	Residual (ft)	Calibration Indicators - Only Site Data Mean Error of Residuals (ft)	Statistics for All Measured Wells
BKA-48	586.15	586.9998	0.85	Residual Standard Deviation (ft)	1.80
BKA-51	577.9	577.8664	-0.03	Mean Absolute Error of Residuals (ft)	1.43
BKA-52	576.33	577.2449	0.91	Root Mean Squared Error of Residuals (ft)	1.85
BKA-53	575.59	576.535	0.94	Minimum Residual (ft)	-4.02
BKG-MW0001	582.36	580.6	-1.76	Maximum Residual (ft)	3.88
BKG-MW0002	581.01	582.7708	1.76	Observed Head Range (ft)	19.41
BKG-MW0003	586.76	589.8612	3.10	Kurtosis of Residuals	0.02
BKG-MW0004	586.74	589.5882	2.85	Skewness of Residuals	-0.33
BKG-MW0005	586	588.0201	2.02	Mean Error of Residuals/Head Range	0.024
CDT-MW0001	580.57	579.0791	-1.49	Residual Standard Deviation/Head Range	0.093
CDT-MW0002	577.96	577.9153	-0.04	Absolute Residual Error/Head Range	0.073
DM-1	586.06	582.6479	-3.41	Root Mean Squared Error/Head Range	0.095
DM-10	585.27	589.153	3.88		
DM-11	587.33	587.5701	0.24		
DM-12	587.02	589.0245	2.00		
DM-14	586.92	588.7941	1.87	Calibration Indicators - Site and Control Data	
DM-15	586.75	586.4601	-0.29	Mean Error of Residuals (ft)	0.11
DM-2	586.09	582.6385	-3.45	Residual Standard Deviation (ft)	1.73
DM-22R	576.12	577.0995	0.98	Mean Absolute Error of Residuals (ft)	1.34
DM-23R	575.73	576.3256	0.60	Root Mean Squared Error of Residuals (ft)	1.69
DM-25R	575.6	575.2979	-0.30	Minimum Residual (ft)	-4.02
DM-26	576.32	575.5303	-0.79	Maximum Residual (ft)	3.88
DM-27R	575.26	574.9486	-0.31	Observed Head Range (ft)	19.41
DM-28R	574.74	575.2885	0.55	Kurtosis of Residuals	-0.16
DM-29R	575	576.131	1.13	Skewness of Residuals	-0.09

Table 7-5. Calibration Statistics (continued)

Well Identification	Observed Head (5/3/2005) (ft amsl)	Computed Head (ft amsl)	Residual (ft)	Calibration Indicators - Only Site Data Mean Error of Residuals (ft)	Statistics for All Measured Wells
DM-3	592.47	592.5546	0.08	Mean Error of Residuals/Head Range	0.006
DM-30R	574.69	575.2971	0.61	Residual Standard Deviation/Head Range	0.089
DM-4	590.42	591.9	1.48	Absolute Residual Error/Head Range	0.069
DM-5	587.08	590.5932	3.51	Root Mean Squared Error/Head Range	0.087
DM-9	585.97	587.3773	1.41		
ERM-47	575.89	576.3172	0.43		
IA03-TW0001	586.87	585.3879	-1.48		

Table 7-6. Recharge Rates Input to Model

Recharge Zone	PEST Estimated Recharge Range			
	Minimum (ft/day)	Maximum (ft/day)	Minimum (in/yr)	Maximum (in/yr)
Unpaved Scrub Cover			0	0
Degraded Concrete Cover			0	0
Competent Concrete or Building Cover			0	0
Literature Values	--	~0.00539	--	~23.6
HELP Model - Vegetated Thin Fill Areas (2 ft)	0.00126	0.00393	5.5188	17.2134
HELP Model - Degraded Cover Over Thick Fill (5 ft)	0.00237	0.00717	10.3806	31.4046
SESOIL Model - Thin Fill Areas (2 ft)	--	0.0020	--	8.6
SESOIL Model - Degraded Cover Over Thick Fill (5 ft)	--	0.0008	--	3.6

Table 7-7. Volumetric Flow Budget of Steady-State Model

Source	Inflow ft^3/day	Percent	Outflow ft^3/day	Percent
Constant Head Boundaries	1224.6	8.8	939.6	6.7
General Head Boundaries	646.6	4.6	319.4	2.3
Cuyahoga River Boundaries	0.3	0.0	8393.6	60.2
Big Creek River Boundaries	0.1	0.0	3369.3	24.2
Sewer-Line Extraction System	0.0	0.0	914.5	6.6
Aerial Recharge	12063.3	86.6	0.0	0.0
Total In/Out	13934.9		13936.4	
In-Out Error	-1.5			
Pecent Discrepancy	-0.011			

Table 7-8. Sensitivity Analysis Summary

Model Input Parameter	Parametric Multiplier			Relative Sensitivity[a]
	0.1	Steady State (1.0)	10	
Mean Residual Errors (ft)				
Hydraulic Conductivity - All Layers	0.427	0.11	-0.608	Low
Horizontal Anisotropy	2.423	0.11	-0.887	Low to Moderate
Recharge	0.686	0.11	0.686	Low to Moderate
River Boundary Conductance	2.98	0.11	-0.264	Low to Moderate
Extraction Well Discharge	0.852	0.11	6428.7	Moderate to High
General Head Boundary Conductance	0.099	0.11	0.156	Low
Mean Absolute Errors (ft)				
Hydraulic Conductivity - All Layers	1.485	1.34	1.411	Low
Horizontal Anisotropy	3.046	1.34	1.882	Low to Moderate
Recharge	1.753	1.34	1.753	Low to Moderate
River Boundary Conductance	3.139	1.34	1.864	Low to Moderate
Extraction Well Discharge	1.715	1.34	6436.6	Moderate to High
General Head Boundary Conductance	1.38	1.34	1.381	Low
Root Mean Squared Errors				
Hydraulic Conductivity - All Layers	2.012	1.69	1.933	Low
Horizontal Anisotropy	4.089	1.69	2.602	Low to Moderate
Recharge	2.253	1.69	2.253	Low to Moderate
River Boundary Conductance	3.855	1.69	2.39	Low to Moderate
Extraction Well Discharge	2.215	1.69	32383.2	Moderate to High
General Head Boundary Conductance	1.726	1.69	1.745	Low

[a] Relative Sensitivity designations are semi-quantitative based on orders of magnitude changes.
See Table 7-7 for details on Steady-State Residual data.

Table 7-9. Distribution Coefficients of HCC Site Soil Using Site Groundwater[a]

Soil Sample ID	HSSB0949			HSSB0950			HSSB0947		
	rep 1	**rep 2**	**rep 3**	**rep 1**	**rep 2**	**rep 3**	**rep 1**	**rep 2**	**rep 3**
Initial KPA (µg/L)	1000	1000	1000	453	453	453	54	54	54
Final KPA (µg/L)	704	746	682	239	221	183	33.5	34	36.8
Final KPA (µg/mL)	0.704	0.746	0.682	0.239	0.221	0.183	0.0335	0.034	0.0368
Delta KPA (µg/mL)	0.296	0.254	0.318	0.214	0.232	0.27	0.0205	0.02	0.0172
Volume of Solution (mL)	174.4	174.4	174.4	162.4	162.4	162.4	179.6	179.6	179.6
Total U to Soil (µg)	51.62	44.30	55.46	34.75	37.68	43.85	3.68	3.59	3.09
Mass of Soil (g)	8.72	8.72	8.72	8.12	8.12	8.12	8.98	8.98	8.98
Soil Concentration (µg/g)	5.92	5.08	6.36	4.28	4.64	5.4	0.41	0.4	0.344
Conc. Water/Conc. Soil	0.119	0.147	0.107	0.056	0.048	0.034	0.082	0.085	0.107
K_d (mL/g) as Soil C/Final KPA	8.41	6.81	9.33	17.91	21.00	29.51	12.24	11.76	9.35
Soil Type (from model/boring log)	Till			Till			Till		
Data Statistics	**Avg**	**Max**	**Min**	**GeoMean**	**St Dev**	**Median**	**95% Confidence About the Mean**		
K_d (mL/g) for Soil	**14.03**	**29.51**	**6.81**	**12.59**	**7.41**	**11.76**	**9.19**	**to**	**18.88**
Model K_d (ft^3/kg) for Soil	**0.495**	**1.042**	**0.24**	**0.445**	**0.262**	**0.145**	**0.325**	**to**	**0.667**

[a]K_d values assigned in the model are 14.03 mL/g for the Overburden Layer (Fill and Alluvium), and 29.51 mL/g for the Bedrock.

Table 8-1. Hierarchy of Radionuclide Analytical Methods and Laboratory Results Used in the Harshaw BRA for all FUSRAP COIs

Matrix	Analysis	1st method	LAB 1st Method	Surrogate	2nd Method	LAB 2nd Method	Rationale
Background Soil	Ac-227			U-238 x 0.046			No analysis for Ac-227, assume equilibrium with U-235
	Am-241	Gamma Spec	GEL		Gamma Spec	Test America	The GEL gamma spec has lower detection limits than the BEGe
	Cs-137	Gamma Spec	GEL		Gamma Spec	Test America	The GEL gamma spec has lower detection limits than the BEGe
	Eu-152	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Eu-154	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Np-237	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Pa-231			U-238 x 0.046			No analysis for Pa-231, assume equilibrium with U-235
(all depths)	Pb-210			Ra-226			No analysis for Pb-210, assume equilibrium with Ra-226
	Pu-238	Alpha Spec	Test America				The only results we have are phase IV from Test America
	Pu-239	Alpha Spec	Test America				The only results we have are phase IV from Test America
	Ra-226	Gamma Spec	Harshaw (BEGe)				Not reported by GEL gamma spec
	Ra-228	Gamma Spec	GEL		Gamma Spec	Test America	The GEL gamma spec has lower detection limits than the BEGe
	Tc-99	Liquid Scintillation Counting	Test America				The only results we have are phase IV from Test America
	Th-228	Isotopic thorium (alpha spec)	Test America	Ra-228			Mix phase I gamma spec Ra-228 + phase IV alpha spec Th-228
	Th-230	Isotopic thorium (alpha spec)	Test America				Only isotopic thorium are P4 new soil samples Test America
	Th-232	Isotopic thorium (alpha spec)	Test America	Ra-228			Mix phase I gamma spec Ra-228 + phase IV alpha spec Th-232
	U-233	ICP-MS	Test America				The only results we have are phase IV from Test America
	U-234			U-238			Naturally occurring uranium assumed
	U-235			U-238 x 0.046			Detection limit too high for U-235 in background soils
	U-236	ICP-MS	Test America				The only results we have are phase IV from Test America
	U-238	Gamma Spec	GEL		Gamma Spec	Test America	The GEL gamma spec has lower detection limits than the BEGe
	Total U			U-238 x 3			U-238 activity converted to total U activity by multiplying by 2.044, and total U converted to mass using conversion factor of 0.67 pCi/g
Background Sediment	Ac-227			U-238 x 0.046			No analysis for Ac-227, assume equilibrium with U-235
	Am-241	Gamma Spec	GEL				
	Cs-137	Gamma Spec	GEL				
	Eu-152						Do not have any background sediment data; soil background will be used
	Eu-154						Do not have any background sediment data; soil background will be used
	Np-237						Do not have any background sediment data; soil background will be used
	Pa-231			U-238 x 0.046			No analysis for Pa-231, assume equilibrium with U-235
	Pb-210			Bi-214	Gamma Spec	GEL	
	Pu-238						Do not have any background sediment data; soil background will be used

Table 8-1. Hierarchy of Radionuclide Analytical Methods and Laboratory Results Used in the Harshaw BRA For all FUSRAP COIs (continued)

Matrix	Analysis	1st method	LAB 1st Method	Surrogate	2nd Method	LAB 2nd Method	Rationale
Background Sediment	Pu-239						Do not have any background sediment data; soil background will be used
	Ra-226			Bi-214	Gamma Spec	GEL	GEL did not report Ra-226 directly, BEGe not used for sediment
	Ra-228	Gamma Spec	GEL				Sediment only analyzed via GEL, gamma spec
	Tc-99	Liquid Scintillation Counting	Test America				Do not have any background sediment data; soil background will be used
	Th-228			Ra-228			
	Th-230			Bi-214			Sediment only analyzed via GEL, gamma spec
	Th-232			Ra-228			
	U-233	ICP-MS	Test America				Do not have any background sediment data; soil background will be used
	U-234			U-238			Naturally occurring uranium assumed
	U-235			U238 x 0.046			Detection limit too high for U-235 in background soils
	U-236	ICP-MS	Test America				Do not have any background sediment data; soil background will be used
	U-238	Gamma Spec	GEL				Sediment only analyzed via GEL, gamma spec
	Total U			U-238 x 3			U-238 activity converted to total U activity by multiplying by 2.044, and total U converted to mass using conversion factor of 0.67 pCi/g
Background Groundwater	Ac-227			U-238 x 0.046			No analysis for Ac-227, assume equilibrium with U-235
	Am-241	Alpha Spec	Test America				The only results we have are phase IV from Test America
	Cs-137	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Eu-152	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Eu-154	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Np-237	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Pa-231			U-238 x 0.046			No analysis for Pa-231, assume equilibrium with U-235
	Pb-210			Ra-226			
	Pu-238	Alpha Spec	Test America				The only results we have are phase IV from Test America
	Pu-239	Alpha Spec	Test America				The only results we have are phase IV from Test America
	Ra-226	Radon Emanation	GEL				Only analyzed via radon emanation
	Ra-228	Gas Flow Proportional Counting	GEL		Gamma Spec	GEL	Lower detection limits for Gas Flow Proportional Counting
	Tc-99	Liquid Scintillation Counting	Test America				The only results we have are phase IV from Test America
	Th-228	Isotopic thorium (alpha spec)	GEL				
	Th-230	Isotopic thorium (alpha spec)	GEL				
	Th-232	Isotopic thorium (alpha spec)	GEL				
	U-233	ICP-MS	Test America				The only results we have are phase IV from Test America
	U-234	Isotopic uranium (alpha spec)	GEL				Alpha spec has lower detection limits than gamma spec, more samples analyzed by isotopic uranium than gamma spec in GW

Table 8-1. Hierarchy of Radionuclide Analytical Methods and Laboratory Results Used in the Harshaw BRA For all FUSRAP COIs (continued)

Matrix	Analysis	1st method	LAB 1st Method	Surrogate	2nd Method	LAB 2nd Method	Rationale
Background Groundwater	U-235	Isotopic uranium (alpha spec)	GEL		Gamma Spec	GEL	
	U-236	ICP-MS	Test America				The only results we have are phase IV from Test America
	U-238	Isotopic uranium (alpha spec)	GEL				
	Total U	KPA	GEL				
Background Surface Water	Total U	KPA	GEL				No other radiological analyses in background surface water
On-site Soil	Ac-227	Gamma Spec	Harshaw (BEGe)				
	Am-241	Gamma Spec	GEL		Gamma Spec	HAR	Based on lowest uncertainties and MDLs: GEL better than BEGe, which is better than TA (in general)
	Cs-137	Gamma Spec	GEL		Gamma Spec	HAR	Based on lowest uncertainties and MDLs: GEL better than BEGe, which is better than TA (in general)
	Eu-152	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Eu-154	Gamma Spec	Test America				The only results we have are phase IV from Test America
	Np-237	Gamma Spec	Test America				The only results we have are phase IV from Test America
(all depths)	Pa-231	Gamma Spec	Harshaw (BEGe)				
	Pb-210			Ra-226			No analysis for Pb-210, assume equilibrium with Ra-226
	Pu-238	Alpha Spec	Test America				The only results we have are phase IV from Test America
	Pu-239	Alpha Spec	Test America				The only results we have are phase IV from Test America
	Ra-226	Gamma Spec	Harshaw (BEGe)				The BEGe dataset includes all samples taken on-site
	Ra-228	Gamma Spec	GEL		Gamma Spec	Harshaw (BEGe)	The GEL gamma spec has lower detection limits than the BEGe
	Tc-99	Liquid Scintillation Counting	Test America				The only results we have are phase IV from Test America
	Th-228	Isotopic thorium (alpha spec)	GEL	Ra-228	Isotopic thorium (alpha spec)	Test America	Secondary method, follow rule for Ra-228 results
	Th-230	Isotopic thorium (alpha spec)	GEL		Isotopic thorium (alpha spec)	Test America	No other available method/surrogate reliable for Th230
	Th-232	Isotopic thorium (alpha spec)	GEL	Ra-228	Isotopic thorium (alpha spec)	Test America	Secondary method, follow rule for Ra-228 results
	U-233	ICP-MS	Test America				The only results we have are phase IV from Test America
	U-234			U-238			Naturally occurring uranium assumed, which is more conservative than using depleted U in RA
	U-235	Gamma Spec	GEL		Gamma Spec	Harshaw (BEGe)	The GEL gamma spec has lower detection limits than the BEGe
	U-236	ICP-MS	Test America				The only results we have are phase IV from Test America
	U-238	Gamma Spec	GEL		Gamma Spec	HAR	Based on lowest uncertainties and MDLs: GEL better than BEGe, which is better than TA (in general)
	Total U			U-238 x 3			Uranium is essentially all U-238 by mass for natural and depleted uranium, so the conversion to mass can be based solely on this isotope.

Table 8-1. Hierarchy of Radionuclide Analytical Methods and Laboratory Results Used in the Harshaw BRA For all FUSRAP COIs (continued)

Matrix	Analysis	1st method	LAB 1st Method	Surrogate	2nd Method	LAB 2nd Method	Rationale
On-site Sediment (EU 06 & EU 08)	Ac-227	Gamma Spec	GEL				
	Am-241	Gamma Spec	GEL		Gamma Spec	HAR	
	Cs-137	Gamma Spec	GEL		Gamma Spec	HAR	
	Eu-152	Gamma Spec	Test America				We do not have any EU 06 sediment data; we have phase IV EU 08 data
	Eu-154	Gamma Spec	Test America				We do not have any EU 06 sediment data; we have phase IV EU 08 data
	Np-237	Gamma Spec	Test America				We do not have any EU 06 sediment data; we have phase IV EU 08 data
	Pa-231	Gamma Spec	GEL				
	Pb-210			Ra-226			
	Pu-238	Alpha Spec	Test America				
	Pu-239	Alpha Spec	Test America				
	Ra-226	Gamma Spec	Harshaw (BEGe)				GEL did not report Ra-226 directly, BEGe not used for sediment
	Ra-228	Gamma Spec	GEL				Sediment only analyzed via GEL, gamma spec
	Tc-99	Liquid Scintillation Counting	Test America				We do not have any EU 06 sediment data; we have phase IV EU 08 data
	Th-228	Isotopic thorium (alpha spec)	GEL	Ra-228	Isotopic thorium (alpha spec)	Test America	
	Th-230	Isotopic thorium (alpha spec)	GEL		Isotopic thorium (alpha spec)	Test America	Sediment only analyzed via GEL, gamma spec
	Th-232	Isotopic thorium (alpha spec)	GEL	Ra-228	Isotopic thorium (alpha spec)	Test America	
	U-233	ICP-MS	Test America				We do not have any EU 06 sediment data; we have phase IV EU 08 data
	U-234			U-238			
	U-235	Gamma Spec	GEL				Sediment only analyzed via GEL, gamma spec
	U-236	ICP-MS	Test America				We do not have any EU 06 sediment data; we have phase IV EU 08 data
	U-238	Gamma Spec	GEL				Sediment only analyzed via GEL, gamma spec
	Total U			U-238 x 3			Uranium is essentially all U-238 by mass for natural and depleted uranium, so the conversion to mass can be based solely on this isotope.
On-Site Surface Water (EU 08)	Ac-227	Gamma Spec	Test America				
	Am-241	Alpha Spec	Test America				No detections in surface water
	Cs-137	Gamma Spec	Test America				No detections in surface water
	Eu-152	Gamma Spec	Test America				No detections in surface water
	Eu-154	Gamma Spec	Test America				No detections in surface water
	Np-237	Alpha Spec	Test America				

Table 8-1. Hierarchy of Radionuclide Analytical Methods and Laboratory Results Used in the Harshaw BRA For all FUSRAP COIs (continued)

Matrix	Analysis	1st method	LAB 1st Method	Surrogate	2nd Method	LAB 2nd Method	Rationale
On-Site Surface Water (EU 08)	Pa-231	Gamma Spec	Test America				
	Pb-210			Ra-226			
	Pu-238	Alpha Spec	Test America				No detections in surface water
	Pu-239	Alpha Spec	Test America				No detections in surface water
	Ra-226	Radon Emanation	GEL				Only analyzed via radon emanation
	Ra-228	Gas Flow Proportional Counting	GEL		Gamma Spec	GEL	Lower detection limits for Gas Flow Proportional Counting
	Tc-99	Liquid Scintillation Counting	Test America				
	Th-228	Isotopic thorium (alpha spec)	Test America				
	Th-230	Isotopic thorium (alpha spec)	Test America				
	Th-232	Isotopic thorium (alpha spec)	Test America				
	U-233	ICP-MS	Test America				
	U-234	Isotopic uranium (alpha spec)	Test America				Alpha spec has lower detection limits than gamma spec, more samples analyzed by isotopic uranium than gamma spec in GW
	U-235	Isotopic uranium (alpha spec)	Test America				
	U-236	ICP-MS	Test America				
	U-238	Isotopic uranium (alpha spec)	Test America				
	Total U	KPA	GEL				
On-Site Groundwater	Ac-227	Gamma Spec	Test America				
	Am-241	Alpha Spec	Test America				No detections in groundwater
	Cs-137	Gamma Spec	Test America				No detections in groundwater
	Eu-152	Gamma Spec	Test America				No detections in groundwater
	Eu-154	Gamma Spec	Test America				No detections in groundwater
	Np-237	Alpha Spec	Test America				
	Pa-231	Gamma Spec	Test America				
	Pb-210			Ra-226			
	Pu-238	Alpha Spec	Test America				No detections in groundwater
	Pu-239	Alpha Spec	Test America				No detections in groundwater
	Ra-226	Radon Emanation	GEL & TA				Only analyzed via radon emanation
	Ra-228	Gas Flow Proportional Counting	GEL & TA		Gamma Spec	GEL	Lower detection limits for Gas Flow Proportional Counting
	Tc-99	Liquid Scintillation Counting	Test America				
	Th-228	Isotopic thorium (alpha spec)	GEL		Isotopic thorium (alpha spec)	Test America	

Table 8-1. Hierarchy of Radionuclide Analytical Methods and Laboratory Results Used in the Harshaw BRA For all FUSRAP COIs (continued)

Matrix	Analysis	1st method	LAB 1st Method	Surrogate	2nd Method	LAB 2nd Method	Rationale
On-Site Groundwater	Th-230	Isotopic thorium (alpha spec)	GEL		Isotopic thorium (alpha spec)	Test America	
	Th-232	Isotopic thorium (alpha spec)	GEL		Isotopic thorium (alpha spec)	Test America	
	U-233	ICP-MS	Test America				
	U-234	Isotopic uranium (alpha spec)	GEL		Isotopic uranium (alpha spec)	Test America	Alpha spec has lower detection limits than gamma spec, more samples analyzed by isotopic uranium than gamma spec in GW
	U-235	Isotopic uranium (alpha spec)	GEL		Isotopic uranium (alpha spec)	Test America	
	U-236	ICP-MS	Test America				
	U-238	Isotopic uranium (alpha spec)	GEL		Isotopic uranium (alpha spec)	Test America	
	Total U	KPA	GEL				

Notes

1. For all radionuclides, a result from every sample taken at the site is used in the BRA, as much as possible
2. Use the results from the 1st method indicated above. If a sample exists for which the 1st method was not used, then use the results from the 2nd method.
3. The GEL and Harshaw Gamma Spectroscopy results have been correlated, and shown to be equivalent (within 1.96 NAD). However, the count times for the GEL gamma spec were longer than the Harshaw count times, therefore, detection limits are generally lower for GEL than for Harshaw gamma spectroscopy
4. If the result is flagged "U", substitute 1/2 the MDL in order to calculate the 95th UCL (EPC) and UTL (background).
5. All units are in terms of pCi (activity) except for total uranium, which is in terms of ppm (mass).

Table 8-2. Summary of Analytical Results from Building Material Samples

Radionuclide	Units	Half-Life [a]	Results > Detection Limit	Minimum Detect	Maximum Detect	Mean
Actinium-228	pCi/g	6.13 h	10/ 36	0.182	1.9	0.771
Americium-241	pCi/g	432.2 y	3/ 36	4.06	11.7	0.753
Bismuth-212 [b]	pCi/g	60.55 m	6/ 36	0.354	1.14	0.526
Bismuth-214 [c]	pCi/g	19.9 m	26/ 36	0.116	18.2	1.14
Cesium-137	pCi/g	30.0 y	13/ 36	0.064	1.82	0.23
Potassium-40	pCi/g	1.28E+08 y	31/ 36	0.906	16.4	3.88
Lead-212 [b]	pCi/g	10.64 h	20/ 36	0.101	1.69	0.288
Lead-214 [c]	pCi/g	26.8 m	27/ 36	0.131	22.8	1.36
Radium-228	pCi/g	5.75 y	11/ 36	0.182	1.9	0.558
Thorium-228	pCi/g	1.913 y	9/ 36	0.602	2.09	1
Thorium-230	pCi/g	7.7E+04 y	33/ 36	0.33	833	30.5
Thorium-232	pCi/g	1.41E+10 y	23/ 36	0.202	3.28	0.814
Thorium-234 [d]	pCi/g	24.1 d	18/ 36	2.98	6490	444
Thallium-208 [b]	pCi/g	3.07 m	17/ 36	0.049	0.564	0.128
Uranium-235	pCi/g	7.04E+08 y	26/ 36	0.323	401	26.3
Uranium-238	pCi/g	4.47E+09 y	18/ 36	2.98	6490	444

[a] Half-lives given in years(y), days (d), and minutes (m) as presented in Shleien 1992; some numbers may have been rounded.
[b] Short-lived decay product of Th-228.
[c] Short-lived decay product of Ra-226.
[d] Short-lived decay product of U-238.

Table 8-3. Development of EPCs for Fixed Beta Contamination on Building Surfaces

Master Unit No.	Master Unit Description	Total # Samples	Min Detect	Max Detect	Arithmetic Mean	Median	Standard Deviation	Dist.	Standard Deviation of Log Data	UCL Calculation Method	95% UCL	Does 95% UCL Exceed Max Detect (Y/N)	EPC (dpm/100 cm^2)
1M1	G-1-Exterior Walls - Exterior	305	0.00E+00	1.05E+05	6.95E+03	2.49E+03	1.44E+04	Z	N/A	95% Student's-t UCL	8.32E+03	N	8.32E+03
1M2	G-1-Roof - Exterior	179	4.08E+02	3.96E+05	3.35E+04	1.39E+04	6.16E+04	X	1.67	97.5% Chebyshev (Mean, Sd) UCL	6.22E+04	N	6.22E+04
1M3	G-1-South Structure Interior Walls - Interior	366	6.20E+01	1.52E+06	4.27E+04	1.19E+04	1.17E+05	L	1.64	95% H-UCL	5.62E+04	N	5.62E+04
1M4	G-1-North Structure Interior Walls - Interior	339	0.00E+00	5.34E+05	2.17E+04	5.06E+03	5.36E+04	Z	N/A	95% Student's-t UCL	2.65E+04	N	2.65E+04
1M5	G-1 Windowsills - Exterior	84	9.05E+02	3.25E+05	4.78E+04	3.20E+04	4.90E+04	X	1.23	97.5% Chebyshev (Mean, Sd) UCL	8.12E+04	N	8.12E+04
1M6	G-1-1st Floor - Interior	169	0.00E+00	4.90E+05	4.33E+04	1.75E+04	7.35E+04	Z	N/A	95% Student's-t UCL	5.26E+04	N	5.26E+04
1M7	G-1-2nd Floor - Interior	47	4.67E+02	2.31E+05	4.81E+04	1.03E+04	6.20E+04	X	1.88	99% Chebyshev (Mean, Sd) UCL	1.38E+05	N	1.38E+05
1M8	G-1-Mezzanine Floor - Interior	3	6.54E+03	3.71E+05	1.35E+05	2.79E+04	2.04E+05	D	2.05	99% Chebyshev (Mean, Sd) UCL	1.31E+06	Y	3.71E+05
1M9	G-1-East Structure 2nd Level Floor - Interior	7	3.99E+03	2.64E+04	9.75E+03	6.49E+03	7.88E+03	D	0.67	99% Chebyshev (Mean, Sd) UCL	3.94E+04	Y	2.64E+04
1M10	G-1 Discretionary Points - Exterior	29	0.00E+00	2.05E+05	3.77E+04	1.65E+04	4.97E+04	Z	N/A	95% Student's-t UCL	5.34E+04	N	5.34E+04
1M11	G-1-East Structure Interior Wall - Interior	32	1.17E+02	2.75E+05	3.19E+04	7.49E+03	5.66E+04	L	2.25	97.5% Chebyshev (MVUE) UCL	2.67E+05	N	2.67E+05
1M12	G-1-2nd Level Interior Walls - Interior	245	6.40E+01	4.42E+05	1.42E+04	3.72E+03	3.73E+04	L	1.57	95% H-UCL	1.74E+04	N	1.74E+04
1M13	G-1-East Structure 2nd and 3rd Level Walls - Interior	70	2.80E+02	2.48E+05	5.85E+04	3.53E+04	6.16E+04	X	1.51	97.5% Chebyshev (Mean, Sd) UCL	1.04E+05	N	1.04E+05
1M14	G-1-East Structure 3rd Level Floor - Interior	7	5.03E+03	2.57E+05	6.05E+04	2.46E+04	8.99E+04	D	1.27	99% Chebyshev (Mean, Sd) UCL	3.98E+05	Y	2.57E+05
2M1	Boiler House Walls - Exterior	169	0.00E+00	5.10E+03	9.64E+02	1.02E+03	8.22E+02	Z	N/A	95% Student's-t UCL	1.07E+03	N	1.07E+03
2M2	Boiler House Window Sills - Exterior	20	2.18E+03	4.24E+04	1.60E+04	1.12E+04	1.27E+04	L	0.80	95% H-UCL	2.52E+04	N	2.52E+04
2M3	Boiler House Roof - Exterior	46	0.00E+00	1.34E+03	2.06E+02	1.05E+02	3.03E+02	Z	N/A	95% Student's-t UCL	2.81E+02	N	2.81E+02
2M4	Boiler House Walls - Interior	266	0.00E+00	1.90E+03	8.27E+02	8.58E+02	4.37E+02	Z	N/A	95% Student's-t UCL	8.72E+02	N	8.72E+02
2M5	Boiler House Accessible Floor and Mezzanine - Interior	64	0.00E+00	3.30E+03	5.25E+02	2.94E+02	6.98E+02	Z	N/A	95% Student's-t UCL	6.71E+02	N	6.71E+02
3M1	Foundry Walls - Exterior	222	0.00E+00	1.86E+04	6.99E+02	1.99E+02	1.85E+03	Z	N/A	95% Student's-t UCL	9.03E+02	N	9.03E+02
3M2	Foundry Window Sills - Exterior	24	0.00E+00	8.01E+05	5.59E+04	8.09E+03	1.64E+05	Z	N/A	95% Student's-t UCL	1.13E+05	N	1.13E+05
3M3	Foundry Roof	97	0.00E+00	1.28E+04	6.70E+02	1.08E+02	2.03E+03	Z	N/A	95% Student's-t UCL	1.01E+03	N	1.01E+03
4M1	Warehouse Walls - Exterior	358	0.00E+00	3.16E+03	1.23E+02	0.00E+00	2.81E+02	Z	N/A	95% Student's-t UCL	1.47E+02	N	1.47E+02
4M2	Warehouse Ramps - Exterior	62	0.00E+00	4.31E+03	3.66E+02	1.05E+02	8.88E+02	Z	N/A	95% Student's-t UCL	5.55E+02	N	5.55E+02
4M3	Warehouse Window Sills - Exterior	61	0.00E+00	6.10E+03	8.51E+02	5.00E+02	1.21E+03	Z	N/A	95% Student's-t UCL	1.11E+03	N	1.11E+03
4M4	Warehouse Walls - Interior	102	0.00E+00	6.93E+02	4.61E+01	0.00E+00	1.21E+02	Z	N/A	95% Student's-t UCL	6.59E+01	N	6.59E+01
4M5	Warehouse Roof - Exterior	247	0.00E+00	4.27E+03	4.35E+02	1.08E+02	6.82E+02	Z	N/A	95% Student's-t UCL	5.07E+02	N	5.07E+02
4M6	Warehouse Roof Structure - Exterior	245	0.00E+00	1.78E+03	2.57E+02	1.17E+02	3.36E+02	Z	N/A	95% Student's-t UCL	2.93E+02	N	2.93E+02
4M8	Warehouse Discretionary Points	20	0.00E+00	2.34E+03	3.28E+02	1.00E+02	5.80E+02	Z	N/A	95% Student's-t UCL	5.52E+02	N	5.52E+02
5M1	Garage Walls - Exterior	130	0.00E+00	1.68E+03	1.54E+02	9.30E+01	2.16E+02	Z	N/A	95% Student's-t UCL	1.85E+02	N	1.85E+02
5M2	Garage Window Sills - Exterior	23	0.00E+00	3.77E+03	1.27E+03	9.26E+02	1.10E+03	Z	N/A	95% Student's-t UCL	1.66E+03	N	1.66E+03
5M3	Garage Roof - Exterior	20	0.00E+00	3.17E+02	5.44E+01	0.00E+00	8.59E+01	Z	N/A	95% Student's-t UCL	8.76E+01	N	8.76E+01
6M1	Scale House Walls and Roof - Exterior	37	0.00E+00	1.02E+03	5.60E+02	5.84E+02	2.23E+02	Z	N/A	95% Student's-t UCL	6.22E+02	N	6.22E+02
6M2	Scale House Walls and Floor - Interior	20	7.00E+00	1.38E+03	5.90E+02	4.86E+02	3.77E+02	N	1.18	95% Student's-t UCL	7.36E+02	N	7.36E+02

Table 8-4. Development of EPCs for Removable Beta Contamination on Building Surfaces

Master Unit No.	Master Unit Description	Total # Samples	Min Detect	Max Detect	Arithmetic Mean	Median	Standard Deviation	Dist.	Standard Deviation of log data	UCL Calculation Method	95% UCL	Does 95% UCL Exceed Max Detect (Y/N)	EPC (dpm/100 cm^2)
1M1	G-1-Exterior Walls - Exterior	167	0.00E+00	8.90E+01	7.15E+00	0.00E+00	1.26E+01	Z	N/A	95% Student's-t UCL	8.77E+00	N	8.77E+00
1M2	G-1-Roof - Exterior	123	0.00E+00	4.55E+02	3.93E+01	1.60E+01	6.81E+01	Z	N/A	95% Student's-t UCL	4.94E+01	N	4.94E+01
1M3	G-1-South Structure Interior Walls - Interior	286	0.00E+00	1.73E+03	5.36E+01	1.60E+01	1.59E+02	Z	N/A	95% Student's-t UCL	6.91E+01	N	6.91E+01
1M4	G-1-North Structure Interior Walls - Interior	225	0.00E+00	2.05E+03	7.49E+01	1.30E+01	2.18E+02	Z	N/A	95% Student's-t UCL	9.89E+01	N	9.89E+01
1M5	G-1 Windowsills - Exterior	83	0.00E+00	6.60E+01	6.73E+00	0.00E+00	1.19E+01	Z	N/A	95% Student's-t UCL	8.92E+00	N	8.92E+00
1M6	G-1-1st Floor - Interior	49	0.00E+00	8.47E+02	1.44E+02	6.40E+01	2.05E+02	Z	N/A	95% Student's-t UCL	1.93E+02	N	1.93E+02
1M7	G-1-2nd Floor - Interior	52	0.00E+00	3.55E+02	7.36E+01	5.45E+01	6.87E+01	Z	N/A	95% Student's-t UCL	8.96E+01	N	8.96E+01
1M8	G-1-Mezzanine Floor - Interior	3	0.00E+00	5.60E+01	1.87E+01	0.00E+00	3.23E+01	D	N/A	99% Chebyshev (Mean, Sd) UCL	2.04E+02	Y	5.60E+01
1M9	G-1-East Structure 2nd Level Floor - Interior	12	0.00E+00	1.03E+02	3.12E+01	2.25E+01	3.21E+01	Z	N/A	95% Student's-t UCL	4.78E+01	N	4.78E+01
1M10	G-1 Discretionary Points - Exterior	22	0.00E+00	3.20E+01	9.41E+00	4.00E+00	1.12E+01	Z	N/A	95% Student's-t UCL	1.35E+01	N	1.35E+01
1M11	G-1-East Structure Interior Wall - Interior	22	0.00E+00	2.46E+02	5.07E+01	2.60E+01	6.04E+01	Z	N/A	95% Student's-t UCL	7.29E+01	N	7.29E+01
1M12	G-1-2nd Level Interior Walls - Interior	147	0.00E+00	2.44E+03	5.85E+01	1.10E+01	2.71E+02	Z	N/A	95% Student's-t UCL	9.55E+01	N	9.55E+01
1M13	G-1-East Structure 2nd and 3rd Level Walls - Interior	59	0.00E+00	8.70E+01	2.01E+01	1.30E+01	2.14E+01	Z	N/A	95% Student's-t UCL	2.47E+01	N	2.47E+01
1M14	G-1-East Structure 3rd Level Floor - Interior	9	0.00E+00	4.10E+03	8.03E+02	8.00E+00	1.55E+03	Z	N/A	95% Student's-t UCL	1.76E+03	N	1.76E+03
2M1	Boiler House Walls - Exterior	81	0.00E+00	8.20E+01	8.88E+00	2.00E+00	1.42E+01	Z	N/A	95% Student's-t UCL	1.15E+01	N	1.15E+01
2M2	Boiler House Window Sills - Exterior	5	0.00E+00	3.20E+01	1.64E+01	1.80E+01	1.60E+01	D	N/A	99% Chebyshev (Mean, Sd) UCL	8.77E+01	Y	3.20E+01
2M3	Boiler House Roof - Exterior	10	0.00E+00	3.20E+01	1.09E+01	8.00E+00	1.26E+01	Z	N/A	95% Student's-t UCL	1.82E+01	N	1.82E+01
2M4	Boiler House Walls - Interior	62	0.00E+00	4.80E+01	5.56E+00	0.00E+00	1.08E+01	Z	N/A	95% Student's-t UCL	7.85E+00	N	7.85E+00
2M5	Boiler House Accessible Floor and Mezzanine - Interior	11	0.00E+00	1.60E+01	1.73E+00	0.00E+00	4.82E+00	Z	N/A	95% Student's-t UCL	4.36E+00	N	4.36E+00
3M1	Foundry Walls - Exterior	78	0.00E+00	6.40E+01	7.05E+00	0.00E+00	1.17E+01	Z	N/A	95% Student's-t UCL	9.25E+00	N	9.25E+00
3M2	Foundry Window Sills - Exterior	22	0.00E+00	1.10E+01	1.55E+00	0.00E+00	3.43E+00	Z	N/A	95% Student's-t UCL	2.80E+00	N	2.80E+00
3M3	Foundry Roof	26	0.00E+00	3.90E+01	8.19E+00	4.00E+00	1.07E+01	Z	N/A	95% Student's-t UCL	1.18E+01	N	1.18E+01
3M4	Foundry Exterior Discretionary Wall Caps, Gutters, etc.	17	0.00E+00	1.80E+01	3.35E+00	0.00E+00	6.62E+00	Z	N/A	95% Student's-t UCL	6.16E+00	N	6.16E+00
4M1	Warehouse Walls - Exterior	87	0.00E+00	4.80E+01	4.68E+00	0.00E+00	9.10E+00	Z	N/A	95% Student's-t UCL	6.30E+00	N	6.30E+00
4M2	Warehouse Ramps - Exterior	13	0.00E+00	4.50E+01	4.92E+00	0.00E+00	1.28E+01	Z	N/A	95% Student's-t UCL	1.13E+01	N	1.13E+01
4M3	Warehouse Window Sills - Exterior	20	0.00E+00	3.90E+01	7.35E+00	0.00E+00	1.32E+01	Z	N/A	95% Student's-t UCL	1.24E+01	N	1.24E+01
4M4	Warehouse Walls - Interior	20	0.00E+00	2.40E+01	4.80E+00	0.00E+00	7.31E+00	Z	N/A	95% Student's-t UCL	7.63E+00	N	7.63E+00
4M5	Warehouse Roof - Exterior	60	0.00E+00	5.20E+01	4.72E+00	0.00E+00	9.49E+00	Z	N/A	95% Student's-t UCL	6.76E+00	N	6.76E+00
4M6	Warehouse Roof Structure - Exterior	65	0.00E+00	5.20E+01	7.98E+00	0.00E+00	1.24E+01	Z	N/A	95% Student's-t UCL	1.06E+01	N	1.06E+01
4M7	Warehouse Roof Vent	31	0.00E+00	5.00E+01	8.94E+00	0.00E+00	1.46E+01	Z	N/A	95% Student's-t UCL	1.34E+01	N	1.34E+01
4M8	Warehouse Discretionary Points	3	0.00E+00	2.90E+01	9.67E+00	0.00E+00	1.67E+01	D	N/A	99% Chebyshev (Mean, Sd) UCL	1.06E+02	Y	2.90E+01
5M1	Garage Walls - Exterior	29	0.00E+00	4.10E+01	6.83E+00	0.00E+00	1.02E+01	Z	N/A	95% Student's-t UCL	1.01E+01	N	1.01E+01
5M2	Garage Window Sills - Exterior	4	0.00E+00	1.80E+01	5.50E+00	2.00E+00	8.54E+00	D	N/A	99% Chebyshev (Mean, Sd) UCL	4.80E+01	Y	1.80E+01
5M3	Garage Roof - Exterior	4	0.00E+00	3.40E+01	1.03E+01	3.50E+00	1.62E+01	D	N/A	99% Chebyshev (Mean, Sd) UCL	9.07E+01	Y	3.40E+01
6M1	Scale House Walls and Roof - Exterior	6	0.00E+00	4.00E+00	1.33E+00	0.00E+00	2.07E+00	D	N/A	99% Chebyshev (Mean, Sd) UCL	9.72E+00	Y	4.00E+00
6M2	Scale House Walls and Floor - Interior	5	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	N/A	N/A	N/A	0.00E+00	N	0.00E+00

Table 8-5. Development of EPCs for Dose Rate Measurements on Building Surfaces

Master Unit No	Master Unit Description	Dose Rates*	Min	Max	Average/1000
1M1	G-1-Exterior Walls - Exterior	6μRem/hr-20μRem/hr	6	20	0.013
1M2	G-1-Roof - Exterior	7μRem/hr-15μRem/hr	7	15	0.011
1M3	G-1-South Structure Interior Walls - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M4	G-1-North Structure Interior Walls - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M5	G-1 Windowsills - Exterior	n/a	0	0	0
1M6	G-1-1st Floor - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M7	G-1-2nd Floor - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M8	G-1-Mezzanine Floor - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M9	G-1-East Structure 2nd Level Floor - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M10	G-1 Discretionary Points - Exterior	n/a	0	0	0
1M11	G-1-East Structure Interior Wall - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M12	G-1-2nd Level Interior Walls - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M13	G-1-East Structure 2nd and 3rd Level Walls - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
1M14	G-1-East Structure 3rd Level Floor - Interior	9μRem/hr-50μRem/hr	9	50	0.0295
2M1	Boiler House Walls - Exterior	8μRem/hr-15μRem/hr	8	15	0.0115
2M2	Boiler House Window Sills - Exterior	n/a	0	0	0
2M3	Boiler House Roof - Exterior	7μRem/hr-11μRem/hr	7	11	0.009
2M4	Boiler House Walls - Interior	7μRem/hr-11μRem/hr	7	11	0.009
2M5	Boiler House Accessible Floor and Mezzanine - Interior	8μRem/hr-15μRem/hr	8	15	0.0115
2M6	Boiler House Mezzanine - Exterior	n/a	0	0	0
3M1	Foundry Walls - Exterior	8μRem/hr-12μRem/hr	8	12	0.01
3M2	Foundry Window Sills - Exterior	n/a	0	0	0
3M3	Foundry Roof	8μRem/hr	8	8	0.008
3M4	Foundry Exterior Discretionary Wall Caps, Gutters, etc.	n/a	0	0	0
4M1	Warehouse Walls - Exterior	8μRem/hr-12μRem/hr	8	12	0.01
4M2	Warehouse Ramps - Exterior	8μRem/hr-12μRem/hr	8	12	0.01
4M3	Warehouse Window Sills - Exterior	n/a	0	0	0
4M4	Warehouse Walls - Interior	5μRem/hr-8μuRem/hr	5	8	0.0065
4M5	Warehouse Roof - Exterior	8μRem/hr-18μRem/hr	8	18	0.013
4M6	Warehouse Roof Structure - Exterior	8μRem/hr	8	8	0.008
4M7	Warehouse Roof Vent	n/a	0	0	0

Table 8-5. Development of EPCs for Dose Rate Measurements on Building Surfaces (continued)

Master Unit No	Master Unit Description	Dose Rates*	Min	Max	Average/1000
4M8	Warehouse Discretionary Points	n/a	0	0	0
5M1	Garage Walls – Exterior	12μRem/hr-15μRem/hr	12	15	0.0135
5M2	Garage Window Sills – Exterior	n/a	0	0	0
5M3	Garage Roof – Exterior	10μRem/hr-14μRem/hr	10	14	0.012
6M1	Scale House Walls and Roof – Exterior	10μRem/hr-12μRem/hr	10	12	0.011
6M2	Scale House Walls and Floor – Interior	10μRem/hr-12μRem/hr	10	12	0.011

n/a – values are fixed point dose rates that have been encompassed in another Master Unit.
* Zero values are not included in average calculations.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 01 Soil (0"-6")																			
Radionuclides																			
AC-227	pCi/g	40	39	7.51E-01-7.51E-01	IA03-SB0007	4.70E-01-1.46E+00	4.03E-01	7.51E-01	0.13	No	4.40E-01	No	4.40E-01	3.53E-01	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	41	40	8.07E-01-8.07E-01	IA03-SB0033	8.53E-02-1.05E+00	1.59E-01	8.07E-01	0.15	No	1.88E-01	No	1.88E-01	1.88E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	41	30	4.12E-02-3.47E-01	IA03-SB0007	1.06E-02-1.88E-01	5.77E-02	1.11E-01	0.06	No	6.89E-02	No	6.89E-02	0.00E+00	5.40E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	8	8	-	-	2.10E-01-6.00E-01	1.73E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	8	8	-	-	6.30E-01-1.40E+00	4.53E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	8	8	-	-	9.00E-01-4.00E+00	8.88E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	41	41	-	-	9.52E-01-5.60E+00	1.22E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**41**	**0**	**4.99E-01-1.04E+01**	**IA03-SB0015**	**4.34E-02-3.95E-01**	**1.38E+00**	**1.38E+00**	**1.54**	**No**	**1.54E+00**	**No**	**1.54E+00**	**1.50E-01**	**1.39E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	8	8	-	-	2.80E-02-7.60E-02	2.86E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	8	5	8.90E-02-7.80E-01	IA03-SB0038	4.30E-02-7.00E-02	1.48E-01	3.53E-01	0.26	No	1.17E+00	Yes	7.80E-01	7.80E-01	0.00E+00	2.30E+00	C	No	BSL
RA-226	**pCi/g**	**41**	**0**	**4.99E-01-1.04E+01**	**IA03-SB0015**	**4.34E-02-3.95E-01**	**1.38E+00**	**1.38E+00**	**1.54**	**No**	**1.54E+00**	**No**	**1.54E+00**	**1.50E-01**	**1.39E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	41	0	3.23E-01-1.43E+00	IA03-SB0033	3.22E-02-4.93E-01	7.26E-01	7.26E-01	0.29	No	8.20E-01	No	8.20E-01	0.00E+00	1.39E+00	2.60E+00	C	No	BSL
TC-99	pCi/g	8	7	1.13E+00-1.13E+00	IA03-SB0038	3.20E-01-6.80E-01	3.83E-01	1.13E+00	0.31	No	6.78E-01	No	6.78E-01	6.78E-01	0.00E+00	1.90E+01	C	No	BSL
TH-228	pCi/g	43	2	2.50E-01-2.02E+00	IA03-SB0032	3.27E-02-3.20E+00	8.07E-01	7.95E-01	0.41	No	9.40E-01	No	9.40E-01	0.00E+00	1.36E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**15**	**0**	**9.40E-01-3.99E+02**	**IA03-SB0007**	**3.00E-02-2.00E+00**	**5.60E+01**	**5.60E+01**	**122.19**	**No**	**5.80E+02**	**Yes**	**3.99E+02**	**3.98E+02**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	**pCi/g**	**43**	**2**	**1.90E-01-4.12E+00**	**IA03-SB0007**	**2.90E-02-2.00E+00**	**7.85E-01**	**7.88E-01**	**0.59**	**No**	**8.97E-01**	**No**	**8.97E-01**	**0.00E+00**	**1.36E+00**	**1.10E+00**	**C**	**Yes**	**ASL**
Total Uranium	**mg/kg**	**41**	**12**	**7.74E+00-1.23E+03**	**IA03-SB0038**	**2.00E+00-3.48E+01**	**1.62E+02**	**2.28E+02**	**277.22**	**No**	**9.47E+02**	**No**	**9.47E+02**	**9.41E+02**	**5.94E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	8	8	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**41**	**12**	**2.58E+00-4.09E+02**	**IA03-SB0038**	**6.68E-01-1.16E+01**	**5.41E+01**	**7.61E+01**	**92.41**	**No**	**3.16E+02**	**No**	**3.16E+02**	**3.14E+02**	**1.98E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	**pCi/g**	**41**	**22**	**4.50E-01-2.16E+01**	**IA03-SB0038**	**1.02E-01-2.02E+00**	**2.91E+00**	**5.76E+00**	**4.81**	**No**	**4.51E+00**	**No**	**4.51E+00**	**4.42E+00**	**8.71E-02**	**8.00E+00**	**C**	**Yes**	**ASL**
U-236	ug/g	8	4	1.10E-02-8.20E-02	IA03-SB0038	2.31E-05-2.31E-05	1.50E-02	3.00E-02	0.03	No	2.56E+08	Yes	8.20E-02	-	0.00E+00	2.20E-01	C	No	BSL
U-238	**pCi/g**	**41**	**12**	**2.58E+00-4.09E+02**	**IA03-SB0038**	**6.68E-01-1.16E+01**	**5.41E+01**	**7.61E+01**	**92.41**	**No**	**3.16E+02**	**No**	**3.16E+02**	**3.14E+02**	**1.98E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	mg/kg	1	0	1.10E+01-1.10E+01	IA03-SB0033	3.05E-02-3.05E-02	1.10E+01	1.10E+01	0.00	-	-	-	1.10E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	1	0	1.14E+01-1.14E+01	IA03-SB0033	2.32E-02-2.32E-02	1.14E+01	1.14E+01	0.00	-	-	-	1.14E+01	-	4.13E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	**mg/kg**	**1**	**0**	**4.37E+02-4.37E+02**	**IA03-SB0033**	**1.25E+01-1.25E+01**	**4.37E+02**	**4.37E+02**	**0.00**	**-**	**-**	**-**	**4.37E+02**	**-**	**1.61E+01**	**1.02E+02**	**N**	**Yes**	**ASL**

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 01 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	202	200	7.51E-01-1.18E+00	IA03-SB0111	3.08E-01-4.03E+00	4.41E-01	9.67E-01	0.17	No	4.56E-01	No	4.56E-01	3.69E-01	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	203	195	1.11E-01-7.01E+00	BEGE-SB0011	3.10E-02-1.05E+00	1.91E-01	1.54E+00	0.51	No	1.75E-01	No	1.75E-01	1.75E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	205	160	1.18E-02-7.85E+00	IA03-SB0003	5.17E-03-1.88E-01	1.04E-01	3.34E-01	0.55	No	8.06E-02	No	8.06E-02	0.00E+00	4.29E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	16	16	-	-	2.10E-01-6.00E-01	1.83E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	16	16	-	-	6.30E-01-1.40E+00	4.57E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	16	16	-	-	9.00E-01-4.00E+00	8.13E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	203	203	-	-	9.52E-01-1.83E+01	1.31E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**205**	**0**	**4.69E-01-1.49E+01**	**IA03-SB0141**	**4.03E-02-1.29E+00**	**1.69E+00**	**1.69E+00**	**1.48**	**No**	**1.76E+00**	**No**	**1.76E+00**	**3.10E-01**	**1.45E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	16	16	-	-	2.80E-02-3.40E-01	4.15E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	16	10	8.90E-02-7.80E-01	IA03-SB0038	4.30E-02-2.20E-01	1.19E-01	2.58E-01	0.19	No	2.39E-01	No	2.39E-01	2.39E-01	0.00E+00	2.30E+00	C	No	BSL
RA-226	**pCi/g**	**205**	**0**	**4.69E-01-1.49E+01**	**IA03-SB0141**	**4.03E-02-1.29E+00**	**1.69E+00**	**1.69E+00**	**1.48**	**No**	**1.76E+00**	**No**	**1.76E+00**	**3.10E-01**	**1.45E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	148	0	3.23E-01-1.66E+00	BEGE-SB0010	1.83E-02-4.93E-01	8.53E-01	8.53E-01	0.28	Yes	8.92E-01	No	8.92E-01	0.00E+00	1.87E+00	2.60E+00	C	No	BKG
TC-99	pCi/g	16	14	1.03E+00-1.13E+00	IA03-SB0038	2.80E-01-6.80E-01	3.74E-01	1.08E+00	0.29	No	5.09E-01	No	5.09E-01	5.09E-01	0.00E+00	1.90E+01	C	No	BSL
TH-228	pCi/g	155	3	2.50E-01-3.55E+00	BEGE-SB0010	1.83E-02-3.20E+00	9.68E-01	9.72E-01	0.47	No	1.04E+00	No	1.04E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**50**	**0**	**6.73E-01-6.32E+02**	**IA03-SB0111**	**3.00E-02-2.00E+00**	**4.40E+01**	**4.40E+01**	**114.73**	**No**	**8.61E+01**	**No**	**8.61E+01**	**8.49E+01**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	**pCi/g**	**155**	**3**	**1.90E-01-4.84E+00**	**IA03-SB0111**	**1.83E-02-2.00E+00**	**9.08E-01**	**9.15E-01**	**0.54**	**No**	**9.62E-01**	**No**	**9.62E-01**	**0.00E+00**	**1.41E+00**	**1.10E+00**	**C**	**Yes**	**ASL**
Total Uranium	**mg/kg**	**204**	**33**	**2.72E+00-8.13E+03**	**BEGE-SB0011**	**7.50E-01-3.48E+01**	**1.90E+02**	**2.26E+02**	**812.13**	**No**	**2.04E+02**	**No**	**2.04E+02**	**1.98E+02**	**5.94E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	16	16	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**204**	**33**	**9.08E-01-2.71E+03**	**BEGE-SB0011**	**2.50E-01-1.16E+01**	**6.33E+01**	**7.54E+01**	**270.71**	**No**	**6.81E+01**	**No**	**6.81E+01**	**6.61E+01**	**1.98E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	**pCi/g**	**204**	**118**	**5.81E-02-1.77E+02**	**BEGE-SB0011**	**3.63E-02-2.26E+00**	**3.64E+00**	**7.92E+00**	**15.63**	**No**	**2.58E+00**	**No**	**2.58E+00**	**2.49E+00**	**8.71E-02**	**8.00E+00**	**C**	**Yes**	**ASL**
U-236	ug/g	16	8	4.90E-03-8.20E-02	IA03-SB0038	2.31E-05-2.31E-05	1.13E-02	2.26E-02	0.02	No	1.43E+03	Yes	8.20E-02	-	0.00E+00	2.20E-01	C	No	BSL
U-238	**pCi/g**	**204**	**33**	**9.08E-01-2.71E+03**	**BEGE-SB0011**	**2.50E-01-1.16E+01**	**6.33E+01**	**7.54E+01**	**270.71**	**No**	**6.81E+01**	**No**	**6.81E+01**	**6.61E+01**	**1.98E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	**mg/kg**	**23**	**0**	**6.34E+00-3.60E+01**	**IA03-SB0007**	**1.12E-02-1.14E-01**	**1.69E+01**	**1.69E+01**	**8.29**	**Yes**	**1.99E+01**	**No**	**1.99E+01**	**-**	**3.17E+01**	**1.60E+01**	**N**	**Yes**	**ASL**
Molybdenum	mg/kg	23	0	2.26E+00-1.52E+01	IA03-SB0020	8.56E-03-2.35E-01	4.50E+00	4.50E+00	3.15	No	5.42E+00	No	5.42E+00	-	4.07E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	**mg/kg**	**23**	**1**	**5.10E+00-5.96E+03**	**IA03-SB0017**	**1.05E+00-1.22E+02**	**5.73E+02**	**5.99E+02**	**1,350.53**	**No**	**5.38E+03**	**No**	**5.38E+03**	**-**	**1.90E+01**	**1.02E+02**	**N**	**Yes**	**ASL**

*Screen Basis		
C	Carcinogenic	N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 01 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	438	436	7.51E-01-1.18E+00	IA03-SB0111	3.08E-01-4.03E+00	4.73E-01	9.67E-01	0.14	No	4.84E-01	No	4.84E-01	3.78E-01	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	439	430	5.63E-02-7.01E+00	BEGE-SB0011	1.84E-02-1.05E+00	1.57E-01	1.38E+00	0.35	No	1.50E-01	No	1.50E-01	1.50E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	442	394	1.18E-02-7.85E+00	IA03-SB0003	5.17E-03-1.88E-01	7.42E-02	3.41E-01	0.38	No	6.26E-02	No	6.26E-02	0.00E+00	5.40E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	17	17	-	-	2.10E-01-6.00E-01	1.86E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	17	17	-	-	6.30E-01-1.40E+00	4.62E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	17	17	-	-	9.00E-01-4.00E+00	8.24E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	440	440	-	-	9.52E-01-1.83E+01	1.32E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**443**	**0**	**4.12E-01-1.49E+01**	**IA03-SB0141**	**4.03E-02-1.29E+00**	**1.56E+00**	**1.56E+00**	**1.09**	**No**	**1.59E+00**	**No**	**1.59E+00**	**1.80E-01**	**1.41E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	17	17	-	-	2.80E-02-3.40E-01	4.18E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	17	11	8.90E-02-7.80E-01	IA03-SB0038	4.30E-02-2.20E-01	1.14E-01	2.58E-01	0.19	No	2.11E-01	No	2.11E-01	2.11E-01	0.00E+00	2.30E+00	C	No	BSL
RA-226	**pCi/g**	**443**	**0**	**4.12E-01-1.49E+01**	**IA03-SB0141**	**4.03E-02-1.29E+00**	**1.56E+00**	**1.56E+00**	**1.09**	**No**	**1.59E+00**	**No**	**1.59E+00**	**1.80E-01**	**1.41E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	311	0	3.23E-01-2.42E+00	IA03-SB0003	1.83E-02-4.93E-01	1.03E+00	1.03E+00	0.30	No	1.07E+00	No	1.07E+00	0.00E+00	1.79E+00	2.60E+00	C	No	BSL
TC-99	pCi/g	17	15	1.03E+00-1.13E+00	IA03-SB0038	2.80E-01-6.80E-01	3.70E-01	1.08E+00	0.28	No	4.91E-01	No	4.91E-01	4.91E-01	0.00E+00	1.90E+01	C	No	BSL
TH-228	pCi/g	322	4	2.50E-01-3.92E+00	IA03-SB0003	1.83E-02-3.20E+00	1.12E+00	1.13E+00	0.47	No	1.18E+00	No	1.18E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**81**	**0**	**5.77E-01-6.32E+02**	**IA03-SB0111**	**3.00E-02-2.00E+00**	**2.99E+01**	**2.99E+01**	**93.18**	**No**	**2.85E+01**	**No**	**2.85E+01**	**2.73E+01**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	**pCi/g**	**322**	**3**	**1.90E-01-4.84E+00**	**IA03-SB0111**	**1.83E-02-2.00E+00**	**1.06E+00**	**1.06E+00**	**0.44**	**No**	**1.10E+00**	**No**	**1.10E+00**	**0.00E+00**	**1.41E+00**	**1.10E+00**	**C**	**Yes**	**ASL**
Total Uranium	**mg/kg**	**442**	**159**	**2.05E+00-8.13E+03**	**BEGE-SB0011**	**5.13E-01-3.48E+01**	**1.00E+02**	**1.54E+02**	**559.77**	**No**	**6.58E+01**	**No**	**6.58E+01**	**5.85E+01**	**7.26E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	17	17	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**442**	**159**	**6.82E-01-2.71E+03**	**BEGE-SB0011**	**1.71E-01-1.16E+01**	**3.34E+01**	**5.15E+01**	**186.59**	**No**	**2.19E+01**	**No**	**2.19E+01**	**1.95E+01**	**2.42E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	**pCi/g**	**441**	**313**	**5.81E-02-1.77E+02**	**BEGE-SB0011**	**3.63E-02-2.26E+00**	**2.10E+00**	**5.87E+00**	**10.75**	**No**	**1.35E+00**	**No**	**1.35E+00**	**1.24E+00**	**1.06E-01**	**8.00E+00**	**C**	**Yes**	**ASL**
U-236	ug/g	17	8	4.90E-03-8.20E-02	IA03-SB0038	2.31E-05-2.31E-05	1.16E-02	2.20E-02	0.02	No	1.09E+03	Yes	8.20E-02	-	0.00E+00	2.20E-01	C	No	BSL
U-238	**pCi/g**	**442**	**159**	**6.82E-01-2.71E+03**	**BEGE-SB0011**	**1.71E-01-1.16E+01**	**3.34E+01**	**5.15E+01**	**186.59**	**No**	**2.19E+01**	**No**	**2.19E+01**	**1.95E+01**	**2.42E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	**mg/kg**	**44**	**0**	**6.34E+00-4.82E+01**	**IA03-SB0002**	**1.08E-02-1.16E-01**	**2.36E+01**	**2.36E+01**	**10.17**	**Yes**	**2.62E+01**	**No**	**2.62E+01**	**-**	**3.17E+01**	**1.60E+01**	**N**	**Yes**	**ASL**
Molybdenum	mg/kg	44	0	1.68E+00-1.52E+01	IA03-SB0020	8.24E-03-2.40E-01	4.94E+00	4.94E+00	3.33	No	5.69E+00	No	5.69E+00	-	4.13E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	**mg/kg**	**44**	**3**	**3.20E+00-5.96E+03**	**IA03-SB0017**	**1.05E+00-1.22E+02**	**3.49E+02**	**3.74E+02**	**1,023.01**	**No**	**1.31E+03**	**No**	**1.31E+03**	**-**	**1.90E+01**	**1.02E+02**	**N**	**Yes**	**ASL**

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 01 Soil (>13')																			
Radionuclides																			
AC-227	pCi/g	9	9	-	-	7.49E-01-1.21E+00	4.94E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	9	9	-	-	1.87E-01-2.87E-01	1.24E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	9	9	-	-	6.74E-02-1.28E-01	4.77E-02	-	-	-	-	-	0.00E+00	0.00E+00	5.40E-01	1.10E+01	C	-	IFD
PA-231	pCi/g	9	9	-	-	2.04E+00-3.33E+00	1.31E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	9	0	8.11E-01-2.07E+00	IA03-SB0090	1.22E-01-2.85E-01	1.50E+00	1.50E+00	0.45	No	1.91E+00	No	1.91E+00	5.00E-01	1.41E+00	9.00E-01	C	No	BSL
RA-226	pCi/g	9	0	8.11E-01-2.07E+00	IA03-SB0090	1.22E-01-2.85E-01	1.50E+00	1.50E+00	0.45	No	1.91E+00	No	1.91E+00	5.00E-01	1.41E+00	7.00E-01	C	No	BSL
RA-228	pCi/g	4	0	9.98E-01-1.27E+00	IA03-SB0023	1.63E-01-2.34E-01	1.12E+00	1.12E+00	0.12	No	1.30E+00	Yes	1.27E+00	0.00E+00	1.79E+00	2.60E+00	C	No	BKG
TH-228	pCi/g	4	0	9.98E-01-1.27E+00	IA03-SB0023	1.63E-01-2.34E-01	1.12E+00	1.12E+00	0.12	No	1.30E+00	Yes	1.27E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BKG
TH-232	pCi/g	4	0	9.98E-01-1.27E+00	IA03-SB0023	1.63E-01-2.34E-01	1.12E+00	1.12E+00	0.12	No	1.30E+00	Yes	1.27E+00	0.00E+00	1.41E+00	1.10E+00	C	No	BKG
Total Uranium	mg/kg	9	3	7.27E+00-1.66E+01	IA03-SB0078	6.93E+00-9.75E+00	9.76E+00	1.25E+01	4.85	No	1.65E+01	No	1.65E+01	9.24E+00	7.26E+00	2.30E+01	N	No	BSL
U-234	pCi/g	9	3	2.42E+00-5.54E+00	IA03-SB0078	2.31E+00-3.25E+00	3.25E+00	4.18E+00	1.62	No	5.51E+00	No	5.51E+00	3.09E+00	2.42E+00	1.30E+01	C	No	BSL
U-235	pCi/g	9	9	-	-	9.06E-01-1.38E+00	5.72E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	8.00E+00	C	-	IFD
U-238	pCi/g	9	3	2.42E+00-5.54E+00	IA03-SB0078	2.31E+00-3.25E+00	3.25E+00	4.18E+00	1.62	No	5.51E+00	No	5.51E+00	3.09E+00	2.42E+00	1.40E+01	C	No	BSL
EU 02 Soil (0"-6")																			
Radionuclides																			
AC-227	pCi/g	14	14	-	-	3.18E-01-1.18E+00	3.46E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	14	14	-	-	9.13E-02-9.40E-01	1.27E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	14	12	1.11E-01-1.15E-01	IA04-SB0011	3.52E-02-1.75E-01	4.65E-02	1.13E-01	0.03	No	6.74E-02	No	6.74E-02	0.00E+00	5.40E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	2	2	-	-	1.30E-01-2.70E-01	1.00E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	2	2	-	-	6.70E-01-8.30E-01	3.75E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	2	2	-	-	9.00E-01-9.00E-01	4.50E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	14	14	-	-	1.12E+00-4.43E+00	1.02E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	pCi/g	14	0	6.26E-01-1.95E+00	IA04-SB0056	6.73E-02-3.75E-01	1.12E+00	1.12E+00	0.42	Yes	1.33E+00	No	1.33E+00	0.00E+00	1.39E+00	9.00E-01	C	No	BSL
PU-238	pCi/g	1	1	-	-	5.70E-02-5.70E-02	2.85E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	1	1	-	-	4.20E-02-4.20E-02	2.10E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	pCi/g	14	0	6.26E-01-1.95E+00	IA04-SB0056	6.73E-02-3.75E-01	1.12E+00	1.12E+00	0.42	Yes	1.33E+00	No	1.33E+00	0.00E+00	1.39E+00	7.00E-01	C	No	BSL
RA-228	pCi/g	13	0	1.46E-01-1.12E+00	IA04-SB0008	8.75E-02-2.33E-01	6.26E-01	6.26E-01	0.31	Yes	7.79E-01	No	7.79E-01	0.00E+00	1.39E+00	2.60E+00	C	No	BKG
TC-99	pCi/g	1	1	-	-	6.30E-01-6.30E-01	3.15E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD
TH-228	pCi/g	14	0	3.69E-01-2.04E+00	IA04-SB0008	6.00E-02-5.05E-01	1.02E+00	1.02E+00	0.49	No	1.34E+00	No	1.34E+00	0.00E+00	1.36E+00	4.70E+00	C	No	BSL

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Human Health Statistical Report

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EU 02 Soil (0"-6")																			
Radionuclides																			
TH-230	pCi/g	8	0	6.36E-01-2.25E+00	IA04-SB0004	5.00E-02-2.51E-01	1.28E+00	1.28E+00	0.58	No	1.95E+00	No	1.95E+00	7.40E-01	1.21E+00	1.80E+00	C	No	BSL
TH-232	pCi/g	14	0	1.92E-01-1.04E+00	IA04-SB0008	5.00E-02-2.33E-01	6.60E-01	6.60E-01	0.27	No	9.08E-01	No	9.08E-01	0.00E+00	1.36E+00	1.10E+00	C	No	BKG
Total Uranium	**mg/kg**	**14**	**8**	**5.82E+00-1.05E+03**	**IA04-SB0056**	**2.77E+00-2.76E+01**	**1.10E+02**	**2.53E+02**	**281.74**	**No**	**1.60E+03**	**Yes**	**1.05E+03**	**1.04E+03**	**5.94E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	1	1	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**14**	**8**	**1.94E+00-3.51E+02**	**IA04-SB0056**	**9.22E-01-9.21E+00**	**3.66E+01**	**8.42E+01**	**93.91**	**No**	**5.32E+02**	**Yes**	**3.51E+02**	**3.49E+02**	**1.98E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	**pCi/g**	**14**	**11**	**3.84E+00-1.93E+01**	**IA04-SB0056**	**2.41E-01-1.81E+00**	**2.28E+00**	**9.21E+00**	**5.08**	**No**	**5.42E+00**	**No**	**5.42E+00**	**5.33E+00**	**8.71E-02**	**8.00E+00**	**C**	**Yes**	**ASL**
U-236	ug/g	1	1	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	**pCi/g**	**14**	**8**	**1.94E+00-3.51E+02**	**IA04-SB0056**	**9.22E-01-9.21E+00**	**3.66E+01**	**8.42E+01**	**93.91**	**No**	**5.32E+02**	**Yes**	**3.51E+02**	**3.49E+02**	**1.98E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
EU 02 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	67	67	-	-	2.62E-01-2.94E+00	3.71E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	66	66	-	-	2.39E-02-2.30E+00	1.27E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	67	54	1.45E-02-1.88E-01	IA04-SB0061	5.12E-03-4.06E-01	4.69E-02	8.35E-02	0.04	No	6.25E-02	No	6.25E-02	0.00E+00	4.29E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	9	9	-	-	1.30E-01-4.00E-01	1.33E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	9	9	-	-	5.40E-01-1.10E+00	4.35E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	**pCi/g**	**9**	**8**	**9.60E-01-9.60E-01**	**IA04-SB0054**	**3.90E-01-1.60E+00**	**5.24E-01**	**9.60E-01**	**0.23**	**Yes**	**6.68E-01**	**No**	**6.68E-01**	**6.68E-01**	**0.00E+00**	**8.50E-01**	**C**	**Yes**	**ASL**
PA-231	pCi/g	68	68	-	-	7.53E-01-1.27E+01	1.13E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**68**	**0**	**5.74E-01-3.34E+00**	**IA04-SB0032**	**4.46E-02-1.12E+00**	**1.29E+00**	**1.29E+00**	**0.60**	**No**	**1.43E+00**	**No**	**1.43E+00**	**0.00E+00**	**1.45E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	5	5	-	-	5.60E-02-6.60E-02	3.05E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	5	5	-	-	3.60E-02-6.30E-02	2.30E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	**pCi/g**	**68**	**0**	**5.74E-01-3.34E+00**	**IA04-SB0032**	**4.46E-02-1.12E+00**	**1.29E+00**	**1.29E+00**	**0.60**	**No**	**1.43E+00**	**No**	**1.43E+00**	**0.00E+00**	**1.45E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	52	0	1.46E-01-2.04E+00	IA04-SB0063	1.84E-02-3.57E-01	7.69E-01	7.69E-01	0.35	No	8.96E-01	No	8.96E-01	0.00E+00	1.87E+00	2.60E+00	C	No	BSL
TC-99	pCi/g	5	5	-	-	3.00E-01-6.30E-01	1.99E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD
TH-228	pCi/g	62	0	2.13E-01-2.16E+00	IA04-SB0036	1.84E-02-6.39E-01	9.59E-01	9.59E-01	0.47	No	1.09E+00	No	1.09E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**32**	**0**	**6.22E-01-2.60E+01**	**IA04-SB0041**	**4.18E-02-3.79E-01**	**3.09E+00**	**3.09E+00**	**5.25**	**No**	**3.69E+00**	**No**	**3.69E+00**	**2.48E+00**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	pCi/g	62	0	1.92E-01-2.19E+00	IA04-SB0041	1.84E-02-3.57E-01	8.12E-01	8.12E-01	0.35	No	9.19E-01	No	9.19E-01	0.00E+00	1.41E+00	1.10E+00	C	No	BSL
Total Uranium	**mg/kg**	**67**	**22**	**1.98E+00-5.25E+03**	**IA04-SB0040**	**6.78E-01-6.87E+01**	**1.58E+02**	**2.33E+02**	**666.62**	**No**	**1.76E+02**	**No**	**1.76E+02**	**1.70E+02**	**5.94E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	5	5	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**67**	**22**	**6.61E-01-1.75E+03**	**IA04-SB0040**	**2.26E-01-2.29E+01**	**5.25E+01**	**7.78E+01**	**222.21**	**No**	**5.87E+01**	**No**	**5.87E+01**	**5.67E+01**	**1.98E+00**	**1.30E+01**	**C**	**Yes**	**ASL**

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 02 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
U-235	**pCi/g**	**68**	**41**	**3.29E-02-1.17E+02**	**IA04-SB0040**	**4.05E-02-5.00E+00**	**3.36E+00**	**7.88E+00**	**14.54**	**No**	**2.99E+00**	**No**	**2.99E+00**	**2.90E+00**	**8.71E-02**	**8.00E+00**	**C**	**Yes**	**ASL**
U-236	ug/g	5	5	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	**pCi/g**	**67**	**22**	**6.61E-01-1.75E+03**	**IA04-SB0040**	**2.26E-01-2.29E+01**	**5.25E+01**	**7.78E+01**	**222.21**	**No**	**5.87E+01**	**No**	**5.87E+01**	**5.67E+01**	**1.98E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	mg/kg	12	0	5.80E+00-2.53E+01	IA04-SB0011	2.18E-02-6.00E-02	1.38E+01	1.38E+01	5.93	Yes	1.69E+01	No	1.69E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	12	0	2.17E+00-6.61E+00	IA04-SB0013	2.02E-02-1.24E-01	3.45E+00	3.45E+00	1.74	No	4.54E+00	No	4.54E+00	-	4.07E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	**mg/kg**	**12**	**0**	**2.70E+00-7.77E+02**	**IA04-SB0011**	**1.06E+00-1.18E+01**	**1.30E+02**	**1.30E+02**	**221.69**	**No**	**1.14E+03**	**Yes**	**7.77E+02**	**-**	**1.90E+01**	**1.02E+02**	**N**	**Yes**	**ASL**
EU 02 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	153	153	-	-	1.84E-01-2.94E+00	3.80E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	155	153	1.59E+00-3.32E+00	IA04-SB0011	1.64E-02-2.30E+00	1.51E-01	2.46E+00	0.32	No	1.53E-01	No	1.53E-01	1.53E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	155	138	1.15E-02-1.88E-01	IA04-SB0061	3.20E-03-4.06E-01	4.23E-02	7.96E-02	0.03	No	5.16E-02	No	5.16E-02	0.00E+00	5.40E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	11	11	-	-	1.30E-01-4.00E-01	1.43E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	11	11	-	-	5.40E-01-1.30E+00	4.60E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	**pCi/g**	**11**	**10**	**9.60E-01-9.60E-01**	**IA04-SB0054**	**3.90E-01-2.00E+00**	**5.61E-01**	**9.60E-01**	**0.25**	**Yes**	**7.00E-01**	**No**	**7.00E-01**	**7.00E-01**	**0.00E+00**	**8.50E-01**	**C**	**Yes**	**ASL**
PA-231	pCi/g	156	156	-	-	7.53E-01-1.27E+01	1.18E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**156**	**7**	**9.03E-02-9.97E+00**	**IA04-SB0033**	**4.21E-02-1.12E+00**	**1.35E+00**	**1.41E+00**	**1.22**	**No**	**1.71E+00**	**No**	**1.71E+00**	**3.00E-01**	**1.41E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	6	6	-	-	5.60E-02-6.80E-02	3.11E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	6	6	-	-	3.60E-02-6.30E-02	2.40E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	**pCi/g**	**156**	**7**	**9.03E-02-9.97E+00**	**IA04-SB0033**	**4.21E-02-1.12E+00**	**1.35E+00**	**1.41E+00**	**1.22**	**No**	**1.71E+00**	**No**	**1.71E+00**	**3.00E-01**	**1.41E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	118	11	1.28E-01-2.04E+00	IA04-SB0063	1.09E-02-7.00E-01	7.90E-01	8.61E-01	0.42	Yes	8.53E-01	No	8.53E-01	0.00E+00	1.79E+00	2.60E+00	C	No	BSL
TC-99	pCi/g	6	6	-	-	3.00E-01-6.30E-01	2.18E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD
TH-228	pCi/g	133	7	1.17E-01-4.04E+00	IA04-SB0007	1.09E-02-6.39E-01	9.45E-01	9.94E-01	0.63	No	1.19E+00	No	1.19E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**66**	**2**	**1.47E-01-2.30E+02**	**IA04-SB0033**	**4.18E-02-3.79E-01**	**9.53E+00**	**9.83E+00**	**35.47**	**No**	**6.59E+00**	**No**	**6.59E+00**	**5.38E+00**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	**pCi/g**	**133**	**8**	**1.28E-01-3.48E+00**	**IA04-SB0033**	**1.09E-02-3.57E-01**	**8.42E-01**	**8.92E-01**	**0.49**	**No**	**1.08E+00**	**No**	**1.08E+00**	**0.00E+00**	**1.41E+00**	**1.10E+00**	**C**	**Yes**	**ASL**
Total Uranium	**mg/kg**	**154**	**59**	**1.61E+00-5.25E+03**	**IA04-SB0040**	**4.71E-01-6.87E+01**	**1.62E+02**	**2.62E+02**	**619.30**	**No**	**9.67E+01**	**No**	**9.67E+01**	**8.94E+01**	**7.26E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	6	6	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**154**	**59**	**5.36E-01-1.75E+03**	**IA04-SB0040**	**1.57E-01-2.29E+01**	**5.42E+01**	**8.72E+01**	**206.43**	**No**	**3.22E+01**	**No**	**3.22E+01**	**2.98E+01**	**2.42E+00**	**1.30E+01**	**C**	**Yes**	**ASL**

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 02 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
U-235	pCi/g	154	109	3.29E-02-1.17E+02	IA04-SB0040	2.89E-02-5.00E+00	3.43E+00	1.09E+01	12.88	No	2.33E+00	No	2.33E+00	2.22E+00	1.06E-01	8.00E+00	C	Yes	ASL
U-236	ug/g	6	6	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	pCi/g	154	59	5.36E-01-1.75E+03	IA04-SB0040	1.57E-01-2.29E+01	5.42E+01	8.72E+01	206.43	No	3.22E+01	No	3.22E+01	2.98E+01	2.42E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	26	0	1.85E+00-3.66E+01	IA04-SB0009	2.14E-02-6.60E-02	1.67E+01	1.67E+01	9.60	Yes	1.99E+01	No	1.99E+01	-	3.17E+01	1.60E+01	N	Yes	ASL
Molybdenum	mg/kg	26	0	2.17E+00-2.89E+02	IA04-SB0011	2.02E-02-1.36E-01	1.65E+01	1.65E+01	56.17	No	1.43E+01	No	1.43E+01	-	4.13E+00	3.90E+01	N	Yes	ASL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	26	0	2.70E+00-7.77E+02	IA04-SB0011	9.40E-01-5.17E+01	1.28E+02	1.28E+02	194.69	No	4.77E+02	No	4.77E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
EU 02 Soil (>13')																			
Radionuclides																			
AC-227	pCi/g	22	22	-	-	2.44E-01-1.17E+00	3.39E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	22	22	-	-	6.71E-02-7.18E-01	1.08E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	22	19	5.25E-02-7.35E-01	IA04-SB0027	2.37E-02-1.59E-01	7.16E-02	2.89E-01	0.15	No	8.28E-02	No	8.28E-02	0.00E+00	5.40E-01	1.10E+01	C	No	BSL
PA-231	pCi/g	22	22	-	-	7.02E-01-3.64E+00	9.60E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	22	0	1.04E-01-2.46E+00	IA04-SB0049	3.49E-02-3.59E-01	8.23E-01	8.23E-01	0.54	No	1.26E+00	No	1.26E+00	0.00E+00	1.41E+00	9.00E-01	C	Yes	ASL
RA-226	pCi/g	22	0	1.04E-01-2.46E+00	IA04-SB0049	3.49E-02-3.59E-01	8.23E-01	8.23E-01	0.54	No	1.26E+00	No	1.26E+00	0.00E+00	1.41E+00	7.00E-01	C	Yes	ASL
RA-228	pCi/g	16	4	4.23E-01-1.36E+00	IA04-SB0028	5.68E-02-3.14E-01	5.72E-01	7.36E-01	0.38	No	1.43E+00	Yes	1.36E+00	0.00E+00	1.79E+00	2.60E+00	C	No	BKG
TH-228	pCi/g	17	4	2.59E-01-3.31E+00	IA04-SB0028	5.68E-02-4.36E-01	8.53E-01	1.09E+00	0.92	No	2.54E+00	No	2.54E+00	1.13E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	pCi/g	4	0	5.15E-01-1.15E+01	IA04-SB0032	6.46E-02-1.28E-01	3.69E+00	3.69E+00	5.23	No	3.26E+04	Yes	1.15E+01	1.03E+01	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	17	4	2.12E-01-1.16E+00	IA04-SB0028	5.68E-02-2.21E-01	5.54E-01	7.00E-01	0.37	No	1.29E+00	Yes	1.16E+00	0.00E+00	1.41E+00	1.10E+00	C	No	BKG
Total Uranium	mg/kg	22	12	6.44E+00-5.09E+02	IA04-SB0032	2.34E+00-1.94E+01	3.69E+01	7.83E+01	107.18	No	9.67E+01	No	9.67E+01	8.94E+01	7.26E+00	2.30E+01	N	Yes	ASL
U-234	pCi/g	22	12	2.15E+00-1.70E+02	IA04-SB0032	7.79E-01-6.47E+00	1.23E+01	2.61E+01	35.73	No	3.22E+01	No	3.22E+01	2.98E+01	2.42E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	22	19	6.39E-01-8.67E+00	IA04-SB0032	3.22E-01-1.37E+00	8.54E-01	3.58E+00	1.77	No	1.02E+00	No	1.02E+00	9.14E-01	1.06E-01	8.00E+00	C	Yes	ASL
U-238	pCi/g	22	12	2.15E+00-1.70E+02	IA04-SB0032	7.79E-01-6.47E+00	1.23E+01	2.61E+01	35.73	No	3.22E+01	No	3.22E+01	2.98E+01	2.42E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	14	0	1.17E+00-2.32E+01	IA04-SB0028	2.22E-02-3.83E-02	9.79E+00	9.79E+00	7.34	Yes	1.33E+01	No	1.33E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	14	0	5.55E-01-1.26E+01	IA04-SB0024	4.58E-02-7.89E-02	3.96E+00	3.96E+00	3.22	No	7.70E+00	No	7.70E+00	-	4.13E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	14	0	4.28E+00-4.10E+02	IA04-SB0027	1.14E+00-1.98E+01	1.06E+02	1.06E+02	140.03	No	6.27E+02	Yes	4.10E+02	-	1.90E+01	1.02E+02	N	Yes	ASL

*Screen Basis

C Carcinogenic N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:

ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 03 Soil (0"-6")																			
Radionuclides																			
AC-227	pCi/g	16	16	-	-	5.50E-01-9.88E+00	6.96E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	16	16	-	-	5.94E-02-1.53E+00	1.61E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	16	11	2.29E-02-3.26E-01	IA05-SB0041	9.88E-03-5.79E-01	9.08E-02	1.46E-01	0.09	No	1.46E-01	No	1.46E-01	0.00E+00	5.40E-01	1.10E+01	C	No	BKG
PA-231	pCi/g	16	16	-	-	1.64E+00-2.03E+01	1.73E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**16**	**0**	**8.68E-01-1.92E+01**	**IA05-SB0015**	**7.82E-02-1.03E+00**	**2.36E+00**	**2.36E+00**	**4.50**	**No**	**2.85E+00**	**No**	**2.85E+00**	**1.46E+00**	**1.39E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
RA-226	**pCi/g**	**16**	**0**	**8.68E-01-1.92E+01**	**IA05-SB0015**	**7.82E-02-1.03E+00**	**2.36E+00**	**2.36E+00**	**4.50**	**No**	**2.85E+00**	**No**	**2.85E+00**	**1.46E+00**	**1.39E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	**pCi/g**	**16**	**0**	**3.97E-01-1.65E+02**	**IA05-SB0015**	**3.25E-02-1.69E+00**	**1.11E+01**	**1.11E+01**	**41.10**	**No**	**9.26E+00**	**No**	**9.26E+00**	**7.87E+00**	**1.39E+00**	**2.60E+00**	**C**	**Yes**	**ASL**
TH-228	**pCi/g**	**16**	**0**	**8.16E-01-6.02E+02**	**IA05-SB0015**	**1.58E-01-5.97E+00**	**3.90E+01**	**3.90E+01**	**150.15**	**No**	**3.08E+01**	**No**	**3.08E+01**	**2.94E+01**	**1.36E+00**	**4.70E+00**	**C**	**Yes**	**ASL**
TH-230	**pCi/g**	**8**	**0**	**1.12E+00-8.45E+01**	**IA05-SB0007**	**3.38E-02-1.47E+00**	**1.74E+01**	**1.74E+01**	**30.89**	**No**	**5.49E+02**	**Yes**	**8.45E+01**	**8.33E+01**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	**pCi/g**	**16**	**0**	**5.24E-01-3.29E+02**	**IA05-SB0015**	**8.24E-02-1.32E+00**	**2.15E+01**	**2.15E+01**	**82.01**	**No**	**1.58E+01**	**No**	**1.58E+01**	**1.44E+01**	**1.36E+00**	**1.10E+00**	**C**	**Yes**	**ASL**
Total Uranium	**mg/kg**	**16**	**10**	**3.21E+00-1.26E+03**	**IA05-SB0007**	**1.46E+00-4.95E+01**	**8.51E+01**	**2.18E+02**	**314.00**	**No**	**1.00E+02**	**No**	**1.00E+02**	**9.41E+01**	**5.94E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-234	**pCi/g**	**16**	**10**	**1.07E+00-4.21E+02**	**IA05-SB0007**	**4.85E-01-1.65E+01**	**2.84E+01**	**7.27E+01**	**104.67**	**No**	**3.34E+01**	**No**	**3.34E+01**	**3.14E+01**	**1.98E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	**pCi/g**	**16**	**14**	**8.49E-02-2.54E+01**	**IA05-SB0007**	**7.42E-02-8.02E+00**	**2.24E+00**	**1.27E+01**	**6.23**	**No**	**3.48E+00**	**No**	**3.48E+00**	**3.39E+00**	**8.71E-02**	**8.00E+00**	**C**	**Yes**	**ASL**
U-238	**pCi/g**	**16**	**10**	**1.07E+00-4.21E+02**	**IA05-SB0007**	**4.85E-01-1.65E+01**	**2.84E+01**	**7.27E+01**	**104.67**	**No**	**3.34E+01**	**No**	**3.34E+01**	**3.14E+01**	**1.98E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
EU 03 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	61	61	-	-	2.78E-01-9.88E+00	5.41E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	61	60	8.54E-01-8.54E-01	IA05-SB0015	3.59E-02-1.53E+00	1.22E-01	8.54E-01	0.14	No	1.42E-01	No	1.42E-01	1.42E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	61	44	1.12E-02-5.06E-01	IA05-SB0005	7.19E-03-5.79E-01	6.34E-02	1.19E-01	0.08	No	7.90E-02	No	7.90E-02	0.00E+00	4.29E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	1	1	-	-	3.60E-01-3.60E-01	1.80E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	1	1	-	-	9.20E-01-9.20E-01	4.60E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	1	1	-	-	8.70E-01-8.70E-01	4.35E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	61	61	-	-	8.39E-01-2.03E+01	1.44E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**61**	**0**	**2.94E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.03E+00**	**1.89E+00**	**1.89E+00**	**3.13**	**No**	**2.01E+00**	**No**	**2.01E+00**	**5.60E-01**	**1.45E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	1	1	-	-	1.90E-01-1.90E-01	9.50E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	1	1	-	-	1.10E-01-1.10E-01	5.50E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	**pCi/g**	**61**	**0**	**2.94E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.03E+00**	**1.89E+00**	**1.89E+00**	**3.13**	**No**	**2.01E+00**	**No**	**2.01E+00**	**5.60E-01**	**1.45E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	**pCi/g**	**55**	**1**	**1.49E-01-1.65E+02**	**IA05-SB0015**	**2.44E-02-1.69E+00**	**6.22E+00**	**6.33E+00**	**27.68**	**No**	**2.96E+00**	**No**	**2.96E+00**	**1.09E+00**	**1.87E+00**	**2.60E+00**	**C**	**Yes**	**ASL**
TC-99	pCi/g	1	1	-	-	3.00E-01-3.00E-01	1.50E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 03 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
TH-228	pCi/g	56	1	1.49E-01-6.02E+02	IA05-SB0015	2.44E-02-5.97E+00	1.43E+01	1.46E+01	81.71	No	5.02E+00	No	5.02E+00	3.61E+00	1.41E+00	4.70E+00	C	Yes	ASL
TH-230	pCi/g	22	0	7.22E-01-8.45E+01	IA05-SB0007	3.38E-02-1.47E+00	9.63E+00	9.63E+00	20.86	No	1.61E+01	No	1.61E+01	1.49E+01	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	56	1	1.49E-01-3.29E+02	IA05-SB0015	2.44E-02-1.32E+00	9.05E+00	9.21E+00	46.68	No	3.20E+00	No	3.20E+00	1.79E+00	1.41E+00	1.10E+00	C	Yes	ASL
Total Uranium	mg/kg	61	31	2.04E+00-2.09E+03	IA05-SB0007	9.60E-01-4.95E+01	9.29E+01	1.85E+02	352.22	No	6.69E+01	No	6.69E+01	6.10E+01	5.94E+00	2.30E+01	N	Yes	ASL
U-233	ug/g	1	1	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	pCi/g	61	31	6.80E-01-6.97E+02	IA05-SB0007	3.20E-01-1.65E+01	3.10E+01	6.17E+01	117.41	No	2.23E+01	No	2.23E+01	2.03E+01	1.98E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	61	46	8.49E-02-3.76E+01	IA05-SB0007	5.82E-02-8.02E+00	2.03E+00	6.69E+00	6.51	No	1.69E+00	No	1.69E+00	1.60E+00	8.71E-02	8.00E+00	C	Yes	ASL
U-236	ug/g	1	1	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	pCi/g	61	31	6.80E-01-6.97E+02	IA05-SB0007	3.20E-01-1.65E+01	3.10E+01	6.17E+01	117.41	No	2.23E+01	No	2.23E+01	2.03E+01	1.98E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	13	0	1.28E+01-4.27E+01	IA05-SB0022	2.02E-02-1.03E-01	2.30E+01	2.30E+01	9.49	Yes	2.76E+01	No	2.76E+01	-	3.17E+01	1.60E+01	N	Yes	ASL
Molybdenum	mg/kg	13	0	4.61E-01-3.75E+01	IA05-SB0005	1.88E-02-4.85E-02	7.40E+00	7.40E+00	9.52	No	2.09E+01	No	2.09E+01	-	4.07E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	13	0	5.90E+00-1.44E+03	IA05-SB0007	1.00E+00-1.05E+02	1.61E+02	1.61E+02	387.03	No	5.38E+02	No	5.38E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
EU 03 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	145	145	-	-	2.78E-01-9.88E+00	4.78E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	145	144	8.54E-01-8.54E-01	IA05-SB0015	3.59E-02-1.53E+00	1.18E-01	8.54E-01	0.11	No	1.30E-01	No	1.30E-01	1.30E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	145	125	1.12E-02-5.06E-01	IA05-SB0005	7.19E-03-5.79E-01	5.03E-02	1.17E-01	0.06	No	5.70E-02	No	5.70E-02	0.00E+00	5.40E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	3	3	-	-	3.50E-01-4.00E-01	1.85E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	3	3	-	-	8.40E-01-9.20E-01	4.47E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	3	3	-	-	8.70E-01-2.00E+00	7.95E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	145	145	-	-	8.39E-01-2.03E+01	1.31E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	145	1	2.94E-01-1.92E+01	IA05-SB0015	3.32E-02-1.03E+00	1.49E+00	1.50E+00	2.10	No	1.56E+00	No	1.56E+00	1.50E-01	1.41E+00	9.00E-01	C	Yes	ASL
PU-238	pCi/g	2	2	-	-	5.30E-02-1.90E-01	6.08E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	2	2	-	-	4.50E-02-1.10E-01	3.88E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	pCi/g	145	1	2.94E-01-1.92E+01	IA05-SB0015	3.32E-02-1.03E+00	1.49E+00	1.50E+00	2.10	No	1.56E+00	No	1.56E+00	1.50E-01	1.41E+00	7.00E-01	C	Yes	ASL
RA-228	pCi/g	115	5	1.49E-01-1.65E+02	IA05-SB0015	2.44E-02-1.69E+00	3.42E+00	3.57E+00	19.24	No	1.66E+00	No	1.66E+00	0.00E+00	1.79E+00	2.60E+00	C	Yes	ASL
TC-99	pCi/g	2	2	-	-	5.60E-02-3.00E-01	8.90E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD

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Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 03 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
TH-228	pCi/g	116	6	1.49E-01-6.02E+02	IA05-SB0015	2.44E-02-5.97E+00	7.40E+00	7.79E+00	56.91	No	2.29E+00	No	2.29E+00	8.80E-01	1.41E+00	4.70E+00	C	Yes	ASL
TH-230	pCi/g	32	0	7.22E-01-8.45E+01	IA05-SB0007	3.38E-02-1.47E+00	7.21E+00	7.21E+00	17.57	No	7.84E+00	No	7.84E+00	6.63E+00	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	116	5	1.49E-01-3.29E+02	IA05-SB0015	2.44E-02-1.32E+00	4.81E+00	5.02E+00	32.54	No	1.73E+00	No	1.73E+00	3.20E-01	1.41E+00	1.10E+00	C	Yes	ASL
Total Uranium	mg/kg	145	70	2.04E+00-2.09E+03	IA05-SB0007	9.60E-01-4.95E+01	6.63E+01	1.25E+02	246.02	No	5.03E+01	No	5.03E+01	4.30E+01	7.26E+00	2.30E+01	N	Yes	ASL
U-233	ug/g	2	2	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	pCi/g	145	70	6.80E-01-6.97E+02	IA05-SB0007	3.20E-01-1.65E+01	2.21E+01	4.17E+01	82.01	No	1.68E+01	No	1.68E+01	1.44E+01	2.42E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	145	111	8.49E-02-3.76E+01	IA05-SB0007	5.38E-02-8.02E+00	1.51E+00	4.84E+00	4.55	No	1.27E+00	No	1.27E+00	1.16E+00	1.06E-01	8.00E+00	C	Yes	ASL
U-236	ug/g	2	2	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	pCi/g	145	70	6.80E-01-6.97E+02	IA05-SB0007	3.20E-01-1.65E+01	2.21E+01	4.17E+01	82.01	No	1.68E+01	No	1.68E+01	1.44E+01	2.42E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	30	0	1.13E+01-4.27E+01	IA05-SB0022	2.02E-02-1.03E-01	2.28E+01	2.28E+01	7.63	Yes	2.52E+01	No	2.52E+01	-	3.17E+01	1.60E+01	N	Yes	ASL
Molybdenum	mg/kg	30	0	4.61E-01-1.42E+02	IA05-SB0030	1.88E-02-5.30E-02	1.11E+01	1.11E+01	25.86	No	1.41E+01	No	1.41E+01	-	4.13E+00	3.90E+01	N	Yes	ASL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	30	1	3.60E+00-1.44E+03	IA05-SB0007	1.00E+00-1.05E+02	1.22E+02	1.26E+02	275.17	No	3.33E+02	No	3.33E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
EU 03 Soil (>13')																			
Radionuclides																			
AC-227	pCi/g	33	33	-	-	7.13E-01-1.14E+00	4.63E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	33	33	-	-	1.83E-01-3.91E-01	1.26E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	33	33	-	-	6.52E-02-1.14E-01	4.42E-02	-	-	-	-	-	0.00E+00	0.00E+00	5.40E-01	1.10E+01	C	-	IFD
PA-231	pCi/g	33	33	-	-	1.93E+00-3.12E+00	1.25E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	33	0	7.25E-01-2.77E+00	IA05-SB0049	1.02E-01-2.94E-01	1.19E+00	1.19E+00	0.46	No	1.32E+00	No	1.32E+00	0.00E+00	1.41E+00	9.00E-01	C	Yes	ASL
RA-226	pCi/g	33	0	7.25E-01-2.77E+00	IA05-SB0049	1.02E-01-2.94E-01	1.19E+00	1.19E+00	0.46	No	1.32E+00	No	1.32E+00	0.00E+00	1.41E+00	7.00E-01	C	Yes	ASL
RA-228	pCi/g	21	0	7.39E-01-1.24E+00	IA05-SB0007	1.49E-01-2.84E-01	1.00E+00	1.00E+00	0.13	No	1.06E+00	No	1.06E+00	0.00E+00	1.79E+00	2.60E+00	C	No	BKG
TH-228	pCi/g	21	0	7.39E-01-2.09E+00	IA05-SB0015	1.49E-01-4.72E-01	1.04E+00	1.04E+00	0.27	No	1.13E+00	No	1.13E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	pCi/g	1	0	2.07E+00-2.07E+00	IA05-SB0015	1.91E-01-1.91E-01	2.07E+00	2.07E+00	0.00	-	-	-	2.07E+00	8.60E-01	1.21E+00	1.80E+00	C	No	BSL
TH-232	pCi/g	21	0	7.39E-01-1.37E+00	IA05-SB0015	1.49E-01-2.84E-01	1.01E+00	1.01E+00	0.14	Yes	1.06E+00	No	1.06E+00	0.00E+00	1.41E+00	1.10E+00	C	No	BKG
Total Uranium	mg/kg	33	16	7.15E+00-1.23E+02	IA05-SB0030	5.79E+00-1.44E+01	1.79E+01	3.14E+01	27.48	No	2.68E+01	No	2.68E+01	1.95E+01	7.26E+00	2.30E+01	N	Yes	ASL
U-234	pCi/g	33	16	2.38E+00-4.10E+01	IA05-SB0030	1.93E+00-4.81E+00	5.95E+00	1.05E+01	9.16	No	8.93E+00	No	8.93E+00	6.51E+00	2.42E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	33	30	8.90E-01-2.61E+00	IA05-SB0030	6.54E-01-1.36E+00	6.46E-01	1.67E+00	0.40	No	7.05E-01	No	7.05E-01	5.99E-01	1.06E-01	8.00E+00	C	No	BSL

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 03 Soil (>13')																			
Radionuclides																			
U-238	**pCi/g**	**33**	**16**	**2.38E+00-4.10E+01**	**IA05-SB0030**	**1.93E+00-4.81E+00**	**5.95E+00**	**1.05E+01**	**9.16**	**No**	**8.93E+00**	**No**	**8.93E+00**	**6.51E+00**	**2.42E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	mg/kg	3	0	1.23E+01-2.17E+01	IA05-SB0034	2.29E-02-2.56E-02	1.67E+01	1.67E+01	4.74	Yes	2.46E+01	Yes	2.17E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	3	0	3.81E+00-9.60E+00	IA05-SB0034	4.73E-02-5.27E-02	6.28E+00	6.28E+00	2.99	Yes	1.13E+01	Yes	9.60E+00	-	4.13E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	3	0	3.80E+00-4.13E+01	IA05-SB0034	1.23E+00-3.47E+00	1.72E+01	1.72E+01	20.91	Yes	5.25E+01	Yes	4.13E+01	-	1.90E+01	1.02E+02	N	No	BSL
EU 04 Soil (0"-6")																			
Radionuclides																			
AC-227	pCi/g	35	35	-	-	2.39E-01-1.00E+00	2.93E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	36	35	2.75E-01-2.75E-01	IA06-SB0027	3.68E-02-3.63E-01	9.03E-02	2.75E-01	0.05	No	1.11E-01	No	1.11E-01	1.11E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	34	14	5.93E-02-1.09E+00	IA06-SB0036	2.89E-02-1.11E-01	1.82E-01	2.88E-01	0.25	No	3.10E-01	No	3.10E-01	0.00E+00	5.40E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	2	2	-	-	2.40E-01-2.70E-01	1.28E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	2	2	-	-	7.50E-01-9.60E-01	4.28E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	2	2	-	-	5.40E-01-6.00E-01	2.85E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	35	35	-	-	9.13E-01-3.00E+00	1.05E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**36**	**0**	**2.13E-01-2.31E+00**	**IA06-SB0001**	**3.93E-02-2.12E-01**	**8.39E-01**	**8.39E-01**	**0.37**	**No**	**9.67E-01**	**No**	**9.67E-01**	**0.00E+00**	**1.39E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	2	2	-	-	4.40E-02-4.60E-02	2.25E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	2	2	-	-	3.80E-02-5.60E-02	2.35E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	**pCi/g**	**36**	**0**	**2.13E-01-2.31E+00**	**IA06-SB0001**	**3.93E-02-2.12E-01**	**8.39E-01**	**8.39E-01**	**0.37**	**No**	**9.67E-01**	**No**	**9.67E-01**	**0.00E+00**	**1.39E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	36	0	3.22E-01-1.36E+00	IA06-SB0035	7.12E-02-2.99E-01	8.10E-01	8.10E-01	0.26	Yes	8.83E-01	No	8.83E-01	0.00E+00	1.39E+00	2.60E+00	C	No	BKG
TC-99	pCi/g	2	2	-	-	3.00E-01-3.60E-01	1.65E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD
TH-228	pCi/g	38	0	1.63E-01-2.98E+00	IA06-SB0001	6.16E-02-6.85E-01	9.33E-01	9.33E-01	0.51	No	1.10E+00	No	1.10E+00	0.00E+00	1.36E+00	4.70E+00	C	No	BSL
TH-230	pCi/g	34	0	2.33E-01-2.13E+00	IA06-SB0024	4.73E-02-3.91E-01	1.08E+00	1.08E+00	0.42	Yes	1.20E+00	No	1.20E+00	0.00E+00	1.21E+00	1.80E+00	C	No	BSL
TH-232	pCi/g	38	0	2.25E-01-1.49E+00	IA06-SB0001	3.05E-02-2.27E-01	8.13E-01	8.13E-01	0.30	Yes	8.95E-01	No	8.95E-01	0.00E+00	1.36E+00	1.10E+00	C	No	BSL
Total Uranium	**mg/kg**	**32**	**18**	**1.88E+00-3.57E+01**	**IA06-SB0001**	**1.06E+00-9.48E+00**	**5.38E+00**	**9.13E+00**	**6.94**	**No**	**6.92E+00**	**No**	**6.92E+00**	**9.80E-01**	**5.94E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	2	2	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	pCi/g	32	18	6.26E-01-1.19E+01	IA06-SB0001	3.52E-01-3.16E+00	1.79E+00	3.04E+00	2.31	No	2.31E+00	No	2.31E+00	3.30E-01	1.98E+00	1.30E+01	C	No	BSL
U-235	pCi/g	32	31	5.82E-01-5.82E-01	IA06-SB0024	1.26E-01-1.40E+00	2.34E-01	5.82E-01	0.18	No	2.94E-01	No	2.94E-01	2.07E-01	8.71E-02	8.00E+00	C	-	IFD
U-236	ug/g	2	2	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD

*Screen Basis

C	Carcinogenic	N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:

ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 04 Soil (0"-6")																			
Radionuclides																			
U-238	pCi/g	32	18	6.26E-01-1.19E+01	IA06-SB0001	3.52E-01-3.16E+00	1.79E+00	3.04E+00	2.31	No	2.31E+00	No	2.31E+00	3.30E-01	1.98E+00	1.40E+01	C	No	BSL
EU 04 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	49	49	-	-	2.39E-01-1.00E+00	3.27E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	51	50	2.75E-01-2.75E-01	IA06-SB0027	1.94E-02-3.63E-01	8.34E-02	2.75E-01	0.05	No	1.02E-01	No	1.02E-01	1.02E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	49	21	1.88E-02-1.09E+00	IA06-SB0036	8.20E-03-1.11E-01	1.54E-01	2.46E-01	0.23	No	2.28E-01	No	2.28E-01	0.00E+00	4.29E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	4	4	-	-	2.40E-01-3.30E-01	1.38E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	4	4	-	-	6.90E-01-1.00E+00	4.25E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	4	4	-	-	5.40E-01-1.00E+00	3.68E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	50	50	-	-	9.13E-01-3.00E+00	1.08E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**51**	**0**	**2.13E-01-2.36E+00**	**BEGE-SB0005**	**3.93E-02-2.12E-01**	**9.69E-01**	**9.69E-01**	**0.47**	**No**	**1.10E+00**	**No**	**1.10E+00**	**0.00E+00**	**1.45E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	4	4	-	-	4.40E-02-9.20E-02	2.99E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	4	4	-	-	2.30E-02-6.60E-02	2.29E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	**pCi/g**	**51**	**0**	**2.13E-01-2.36E+00**	**BEGE-SB0005**	**3.93E-02-2.12E-01**	**9.69E-01**	**9.69E-01**	**0.47**	**No**	**1.10E+00**	**No**	**1.10E+00**	**0.00E+00**	**1.45E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	51	0	3.22E-01-1.36E+00	IA06-SB0035	2.85E-02-2.99E-01	8.34E-01	8.34E-01	0.25	Yes	8.92E-01	No	8.92E-01	0.00E+00	1.87E+00	2.60E+00	C	No	BKG
TC-99	pCi/g	4	4	-	-	2.90E-01-3.60E-01	1.59E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD
TH-228	pCi/g	55	0	1.63E-01-2.98E+00	IA06-SB0001	2.85E-02-8.49E-01	1.01E+00	1.01E+00	0.49	No	1.15E+00	No	1.15E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**44**	**0**	**2.33E-01-5.75E+00**	**IA06-SB0011**	**4.73E-02-6.18E-01**	**1.39E+00**	**1.39E+00**	**0.94**	**No**	**1.65E+00**	**No**	**1.65E+00**	**4.40E-01**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	pCi/g	55	0	2.25E-01-1.49E+00	IA06-SB0001	2.85E-02-3.10E-01	8.56E-01	8.56E-01	0.29	Yes	9.21E-01	No	9.21E-01	0.00E+00	1.41E+00	1.10E+00	C	No	BSL
Total Uranium	**mg/kg**	**47**	**18**	**1.70E+00-1.09E+02**	**IA06-SB0024**	**5.55E-01-9.48E+00**	**1.07E+01**	**1.57E+01**	**17.89**	**No**	**1.41E+01**	**No**	**1.41E+01**	**8.16E+00**	**5.94E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	4	4	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**47**	**18**	**5.67E-01-3.62E+01**	**IA06-SB0024**	**1.85E-01-3.16E+00**	**3.55E+00**	**5.25E+00**	**5.96**	**No**	**4.71E+00**	**No**	**4.71E+00**	**2.73E+00**	**1.98E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	pCi/g	47	39	7.84E-02-2.39E+00	IA06-SB0024	5.56E-02-1.40E+00	3.14E-01	6.89E-01	0.38	No	4.22E-01	No	4.22E-01	3.35E-01	8.71E-02	8.00E+00	C	No	BSL
U-236	ug/g	4	4	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	**pCi/g**	**47**	**18**	**5.67E-01-3.62E+01**	**IA06-SB0024**	**1.85E-01-3.16E+00**	**3.55E+00**	**5.25E+00**	**5.96**	**No**	**4.71E+00**	**No**	**4.71E+00**	**2.73E+00**	**1.98E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	mg/kg	7	0	1.52E+01-3.01E+01	IA06-SB0006	2.31E-02-1.14E-01	2.29E+01	2.29E+01	5.47	Yes	2.69E+01	No	2.69E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	7	0	3.04E+00-5.63E+00	IA06-SB0002	4.77E-02-2.36E-01	3.80E+00	3.80E+00	0.89	Yes	4.45E+00	No	4.45E+00	-	4.07E+00	3.90E+01	N	No	BSL

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 04 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	7	0	2.73E+01-2.89E+02	IA06-SB0002	1.21E+00-1.31E+01	9.40E+01	9.40E+01	91.66	No	3.01E+02	Yes	2.89E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
EU 04 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	96	96	-	-	2.07E-01-1.00E+00	2.90E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	96	95	2.75E-01-2.75E-01	IA06-SB0027	1.94E-02-3.63E-01	7.65E-02	2.75E-01	0.04	No	8.78E-02	No	8.78E-02	8.78E-02	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	95	45	1.63E-02-1.09E+00	IA06-SB0036	8.20E-03-1.11E-01	1.01E-01	1.66E-01	0.17	No	1.13E-01	No	1.13E-01	0.00E+00	5.40E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	4	4	-	-	2.40E-01-3.30E-01	1.38E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	4	4	-	-	6.90E-01-1.00E+00	4.25E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	4	4	-	-	5.40E-01-1.00E+00	3.68E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	95	95	-	-	7.54E-01-3.00E+00	9.76E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**98**	**0**	**2.13E-01-2.36E+00**	**BEGE-SB0005**	**2.95E-02-2.22E-01**	**8.91E-01**	**8.91E-01**	**0.39**	**No**	**9.60E-01**	**No**	**9.60E-01**	**0.00E+00**	**1.41E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	4	4	-	-	4.40E-02-9.20E-02	2.99E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	4	4	-	-	2.30E-02-6.60E-02	2.29E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	**pCi/g**	**98**	**0**	**2.13E-01-2.36E+00**	**BEGE-SB0005**	**2.95E-02-2.22E-01**	**8.91E-01**	**8.91E-01**	**0.39**	**No**	**9.60E-01**	**No**	**9.60E-01**	**0.00E+00**	**1.41E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	98	0	3.22E-01-1.46E+00	IA06-SB0039	2.85E-02-2.99E-01	8.01E-01	8.01E-01	0.24	Yes	8.42E-01	No	8.42E-01	0.00E+00	1.79E+00	2.60E+00	C	No	BKG
TC-99	pCi/g	4	4	-	-	2.90E-01-3.60E-01	1.59E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD
TH-228	pCi/g	102	0	1.63E-01-2.98E+00	IA06-SB0001	2.85E-02-8.49E-01	9.50E-01	9.50E-01	0.41	No	1.02E+00	No	1.02E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**78**	**0**	**2.33E-01-1.00E+01**	**IA06-SB0027**	**4.73E-02-6.18E-01**	**1.42E+00**	**1.42E+00**	**1.25**	**No**	**1.55E+00**	**No**	**1.55E+00**	**3.40E-01**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	pCi/g	102	0	2.25E-01-1.56E+00	IA06-SB0039	2.85E-02-3.10E-01	8.33E-01	8.33E-01	0.27	Yes	8.78E-01	No	8.78E-01	0.00E+00	1.41E+00	1.10E+00	C	No	BSL
Total Uranium	**mg/kg**	**93**	**37**	**1.70E+00-1.09E+02**	**IA06-SB0024**	**5.55E-01-9.48E+00**	**8.78E+00**	**1.30E+01**	**14.87**	**No**	**9.58E+00**	**No**	**9.58E+00**	**2.32E+00**	**7.26E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	4	4	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**93**	**37**	**5.67E-01-3.62E+01**	**IA06-SB0024**	**1.85E-01-3.16E+00**	**2.93E+00**	**4.34E+00**	**4.96**	**No**	**3.19E+00**	**No**	**3.19E+00**	**7.70E-01**	**2.42E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	pCi/g	94	79	7.84E-02-2.39E+00	IA06-SB0024	5.56E-02-1.40E+00	2.70E-01	6.86E-01	0.33	No	3.23E-01	No	3.23E-01	2.17E-01	1.06E-01	8.00E+00	C	No	BSL
U-236	ug/g	4	4	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	**pCi/g**	**93**	**37**	**5.67E-01-3.62E+01**	**IA06-SB0024**	**1.85E-01-3.16E+00**	**2.93E+00**	**4.34E+00**	**4.96**	**No**	**3.19E+00**	**No**	**3.19E+00**	**7.70E-01**	**2.42E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	mg/kg	14	0	1.08E+01-3.01E+01	IA06-SB0006	2.28E-02-1.14E-01	2.04E+01	2.04E+01	6.06	Yes	2.33E+01	No	2.33E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	14	0	2.25E+00-5.63E+00	IA06-SB0002	4.70E-02-2.36E-01	3.52E+00	3.52E+00	0.93	Yes	3.96E+00	No	3.96E+00	-	4.13E+00	3.90E+01	N	No	BSL

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 04 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	14	0	5.49E+00-3.22E+02	IA06-SB0006	1.19E+00-1.31E+01	1.01E+02	1.01E+02	107.57	No	3.45E+02	Yes	3.22E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
EU 04 Soil (>13')																			
Radionuclides																			
AC-227	pCi/g	1	1	-	-	2.51E-01-2.51E-01	1.26E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	1	1	-	-	1.48E-01-1.48E-01	7.40E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	1	1	-	-	2.11E-02-2.11E-02	1.06E-02	-	-	-	-	-	0.00E+00	0.00E+00	5.40E-01	1.10E+01	C	-	IFD
Pb-210	pCi/g	1	0	7.63E-01-7.63E-01	IA06-SB0027	3.73E-02-3.73E-02	7.63E-01	7.63E-01	0.00	-	-	-	7.63E-01	0.00E+00	1.41E+00	9.00E-01	C	No	BKG
RA-226	pCi/g	1	0	7.63E-01-7.63E-01	IA06-SB0027	3.73E-02-3.73E-02	7.63E-01	7.63E-01	0.00	-	-	-	7.63E-01	0.00E+00	1.41E+00	7.00E-01	C	No	BKG
RA-228	pCi/g	1	0	1.03E+00-1.03E+00	IA06-SB0027	6.72E-02-6.72E-02	1.03E+00	1.03E+00	0.00	-	-	-	1.03E+00	0.00E+00	1.79E+00	2.60E+00	C	No	BKG
TH-228	pCi/g	1	0	1.20E+00-1.20E+00	IA06-SB0027	1.38E-01-1.38E-01	1.20E+00	1.20E+00	0.00	-	-	-	1.20E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BKG
TH-230	pCi/g	1	0	1.18E+00-1.18E+00	IA06-SB0027	1.42E-01-1.42E-01	1.18E+00	1.18E+00	0.00	-	-	-	1.18E+00	0.00E+00	1.21E+00	1.80E+00	C	No	BKG
TH-232	pCi/g	1	0	1.11E+00-1.11E+00	IA06-SB0027	1.37E-01-1.37E-01	1.11E+00	1.11E+00	0.00	-	-	-	1.11E+00	0.00E+00	1.41E+00	1.10E+00	C	No	BKG
Total Uranium	mg/kg	1	0	1.79E+01-1.79E+01	IA06-SB0027	3.51E+00-3.51E+00	1.79E+01	1.79E+01	0.00	-	-	-	1.79E+01	1.06E+01	7.26E+00	2.30E+01	N	No	BSL
U-234	pCi/g	1	0	5.95E+00-5.95E+00	IA06-SB0027	1.17E+00-1.17E+00	5.95E+00	5.95E+00	0.00	-	-	-	5.95E+00	3.53E+00	2.42E+00	1.30E+01	C	No	BSL
U-235	pCi/g	1	0	2.05E-01-2.05E-01	IA06-SB0027	1.39E-01-1.39E-01	2.05E-01	2.05E-01	0.00	-	-	-	2.05E-01	9.90E-02	1.06E-01	8.00E+00	C	No	BSL
U-238	pCi/g	1	0	5.95E+00-5.95E+00	IA06-SB0027	1.17E+00-1.17E+00	5.95E+00	5.95E+00	0.00	-	-	-	5.95E+00	3.53E+00	2.42E+00	1.40E+01	C	No	BSL
EU 05 Soil (0"-6")																			
Radionuclides																			
AC-227	pCi/g	4	4	-	-	8.42E-01-7.56E+00	1.51E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	4	4	-	-	7.08E-02-2.67E+00	4.09E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	4	2	1.66E-01-3.11E-01	BEGE-SB0022	1.32E-02-1.55E-01	1.56E-01	2.39E-01	0.11	Yes	3.44E-01	Yes	3.11E-01	0.00E+00	5.40E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	1	1	-	-	1.20E+00-1.20E+00	6.00E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	1	1	-	-	2.90E+00-2.90E+00	1.45E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	1	1	-	-	7.00E+00-7.00E+00	3.50E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	4	4	-	-	2.39E+00-1.53E+01	4.07E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	pCi/g	4	1	1.07E+00-1.43E+00	BEGE-SB0023	1.95E-01-7.89E-01	1.05E+00	1.27E+00	0.46	Yes	1.83E+00	Yes	1.43E+00	4.00E-02	1.39E+00	9.00E-01	C	No	BSL
RA-226	pCi/g	4	1	1.07E+00-1.43E+00	BEGE-SB0023	1.95E-01-7.89E-01	1.05E+00	1.27E+00	0.46	Yes	1.83E+00	Yes	1.43E+00	4.00E-02	1.39E+00	7.00E-01	C	No	BSL
RA-228	**pCi/g**	**4**	**0**	**8.02E-01-4.44E+01**	**IA07-SB0032**	**4.37E-02-4.14E-01**	**1.20E+01**	**1.20E+01**	**21.61**	**No**	**1.99E+09**	**Yes**	**4.44E+01**	**4.30E+01**	**1.39E+00**	**2.60E+00**	**C**	**Yes**	**ASL**

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 05 Soil (0"-6")																			
Radionuclides																			
TH-228	pCi/g	4	0	1.39E+00-6.73E+01	IA07-SB0032	4.14E-01-3.09E+00	1.81E+01	1.81E+01	32.82	No	1.17E+09	Yes	6.73E+01	6.59E+01	1.36E+00	4.70E+00	C	Yes	ASL
TH-230	pCi/g	3	0	1.55E+00-7.73E+00	IA07-SB0032	4.99E-01-1.81E+00	3.76E+00	3.76E+00	3.44	Yes	9.57E+00	Yes	7.73E+00	6.52E+00	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	4	0	4.93E-01-6.10E+01	IA07-SB0032	1.85E-01-1.39E+00	1.60E+01	1.60E+01	29.98	No	1.38E+12	Yes	6.10E+01	5.96E+01	1.36E+00	1.10E+00	C	Yes	ASL
Total Uranium	mg/kg	4	1	3.06E+00-5.04E+03	IA07-SB0030	1.71E+00-4.38E+01	1.26E+03	1.68E+03	2,518.08	No	1.57E+33	Yes	5.04E+03	5.03E+03	5.94E+00	2.30E+01	N	Yes	ASL
U-234	pCi/g	4	1	1.02E+00-1.68E+03	IA07-SB0030	5.70E-01-1.46E+01	4.21E+02	5.61E+02	839.36	No	5.22E+32	Yes	1.68E+03	1.68E+03	1.98E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	4	2	9.30E-02-1.03E+02	IA07-SB0030	8.48E-02-1.47E+00	2.59E+01	5.15E+01	51.43	No	1.89E+30	Yes	1.03E+02	1.03E+02	8.71E-02	8.00E+00	C	Yes	ASL
U-238	pCi/g	4	1	1.02E+00-1.68E+03	IA07-SB0030	5.70E-01-1.46E+01	4.21E+02	5.61E+02	839.36	No	5.22E+32	Yes	1.68E+03	1.68E+03	1.98E+00	1.40E+01	C	Yes	ASL
EU 05 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	45	45	-	-	3.45E-01-7.56E+00	7.35E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	49	47	8.50E-01-9.50E-01	IA07-SB0029	6.76E-03-4.51E+00	1.73E-01	9.00E-01	0.39	No	2.35E-01	No	2.35E-01	2.35E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	49	17	9.82E-03-3.11E-01	BEGE-SB0022	4.35E-03-2.53E-01	7.22E-02	8.60E-02	0.06	No	9.83E-02	No	9.83E-02	0.00E+00	4.29E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	2	2	-	-	1.20E+00-1.40E+00	6.50E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	2	2	-	-	2.60E+00-2.90E+00	1.38E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	2	2	-	-	6.90E+00-7.00E+00	3.48E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	45	45	-	-	1.07E+00-3.47E+01	2.00E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	pCi/g	45	3	1.41E-01-7.98E+00	IA07-SB0037	4.78E-02-1.77E+00	1.39E+00	1.46E+00	1.39	No	1.79E+00	No	1.79E+00	3.40E-01	1.45E+00	9.00E-01	C	Yes	ASL
RA-226	pCi/g	45	3	1.41E-01-7.98E+00	IA07-SB0037	4.78E-02-1.77E+00	1.39E+00	1.46E+00	1.39	No	1.79E+00	No	1.79E+00	3.40E-01	1.45E+00	7.00E-01	C	Yes	ASL
RA-228	pCi/g	46	0	8.33E-02-5.10E+01	IA07-SB0031	1.60E-02-7.31E-01	4.22E+00	4.22E+00	10.74	No	4.45E+00	No	4.45E+00	2.58E+00	1.87E+00	2.60E+00	C	Yes	ASL
TH-228	pCi/g	49	3	2.61E-01-6.80E+01	IA07-SB0031	2.10E-02-3.09E+00	7.20E+00	7.65E+00	19.61	No	6.27E+00	No	6.27E+00	4.86E+00	1.41E+00	4.70E+00	C	Yes	ASL
TH-230	pCi/g	21	3	7.18E-01-1.01E+01	IA07-SB0031	1.45E-01-1.81E+00	2.64E+00	3.06E+00	2.74	No	7.09E+00	No	7.09E+00	5.88E+00	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	49	1	2.04E-01-7.48E+01	IA07-SB0031	2.10E-02-1.39E+00	5.49E+00	5.60E+00	15.21	No	4.76E+00	No	4.76E+00	3.35E+00	1.41E+00	1.10E+00	C	Yes	ASL
Total Uranium	mg/kg	49	10	5.37E-01-5.04E+03	IA07-SB0030	1.89E-01-4.38E+01	1.77E+02	2.22E+02	855.79	No	3.98E+01	No	3.98E+01	3.39E+01	5.94E+00	2.30E+01	N	Yes	ASL
U-234	pCi/g	49	10	1.79E-01-1.68E+03	IA07-SB0030	6.29E-02-1.46E+01	5.91E+01	7.40E+01	285.26	No	1.33E+01	No	1.33E+01	1.13E+01	1.98E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	49	24	2.91E-02-1.03E+02	IA07-SB0030	2.40E-02-3.17E+00	3.70E+00	7.04E+00	17.44	No	1.18E+00	No	1.18E+00	1.09E+00	8.71E-02	8.00E+00	C	Yes	ASL
U-238	pCi/g	49	10	1.79E-01-1.68E+03	IA07-SB0030	6.29E-02-1.46E+01	5.91E+01	7.40E+01	285.26	No	1.33E+01	No	1.33E+01	1.13E+01	1.98E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	29	0	3.26E+00-3.03E+01	IA07-SB0018	2.16E-02-8.11E-02	1.27E+01	1.27E+01	6.17	Yes	1.47E+01	No	1.47E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	29	0	1.19E+00-3.89E+02	IA07-SB0026	1.94E-02-1.32E+00	1.99E+01	1.99E+01	71.57	No	1.67E+01	No	1.67E+01	-	4.07E+00	3.90E+01	N	Yes	ASL

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 05 Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	25	0	1.35E+01-2.50E+02	IA07-SB0018	1.04E+00-1.49E+01	8.60E+01	8.60E+01	53.58	No	1.17E+02	No	1.17E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
EU 05 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	79	79	-	-	3.45E-01-7.56E+00	6.03E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	95	93	8.50E-01-9.50E-01	IA07-SB0029	6.76E-03-4.51E+00	1.32E-01	9.00E-01	0.29	No	1.44E-01	No	1.44E-01	1.44E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	95	55	9.82E-03-3.90E-01	IA07-SB0013	4.35E-03-2.53E-01	6.10E-02	9.93E-02	0.07	No	7.65E-02	No	7.65E-02	0.00E+00	5.40E-01	1.10E+01	C	No	BKG
EU-152	pCi/g	3	3	-	-	3.30E-01-1.40E+00	4.88E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	3	3	-	-	6.60E-01-2.90E+00	1.03E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	3	3	-	-	9.00E-01-7.00E+00	2.47E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	79	79	-	-	1.07E+00-3.47E+01	1.63E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**79**	**3**	**1.41E-01-7.98E+00**	**IA07-SB0037**	**4.78E-02-1.77E+00**	**1.35E+00**	**1.39E+00**	**1.08**	**No**	**1.58E+00**	**No**	**1.58E+00**	**1.70E-01**	**1.41E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	1	1	-	-	5.60E-02-5.60E-02	2.80E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	1	1	-	-	3.00E-02-3.00E-02	1.50E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.30E+00	C	-	IFD
RA-226	**pCi/g**	**79**	**3**	**1.41E-01-7.98E+00**	**IA07-SB0037**	**4.78E-02-1.77E+00**	**1.35E+00**	**1.39E+00**	**1.08**	**No**	**1.58E+00**	**No**	**1.58E+00**	**1.70E-01**	**1.41E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	**pCi/g**	**88**	**3**	**8.33E-02-5.10E+01**	**IA07-SB0031**	**1.60E-02-7.31E-01**	**2.69E+00**	**2.78E+00**	**7.90**	**No**	**2.24E+00**	**No**	**2.24E+00**	**4.50E-01**	**1.79E+00**	**2.60E+00**	**C**	**Yes**	**ASL**
TC-99	pCi/g	1	1	-	-	6.30E-01-6.30E-01	3.15E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.90E+01	C	-	IFD
TH-228	**pCi/g**	**95**	**7**	**1.82E-01-9.80E+01**	**IA07-SB0031**	**2.10E-02-3.09E+00**	**4.19E+00**	**4.50E+00**	**14.36**	**No**	**2.65E+00**	**No**	**2.65E+00**	**1.24E+00**	**1.41E+00**	**4.70E+00**	**C**	**Yes**	**ASL**
TH-230	**pCi/g**	**29**	**4**	**3.32E-01-1.01E+01**	**IA07-SB0031**	**4.00E-02-1.81E+00**	**2.18E+00**	**2.50E+00**	**2.46**	**No**	**4.47E+00**	**No**	**4.47E+00**	**3.26E+00**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	**pCi/g**	**95**	**6**	**1.82E-01-7.48E+01**	**IA07-SB0031**	**2.10E-02-1.39E+00**	**3.29E+00**	**3.51E+00**	**11.11**	**No**	**2.34E+00**	**No**	**2.34E+00**	**9.30E-01**	**1.41E+00**	**1.10E+00**	**C**	**Yes**	**ASL**
Total Uranium	**mg/kg**	**95**	**34**	**5.37E-01-5.04E+03**	**IA07-SB0030**	**1.89E-01-4.38E+01**	**9.43E+01**	**1.45E+02**	**617.60**	**No**	**1.45E+01**	**No**	**1.45E+01**	**7.24E+00**	**7.26E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-233	ug/g	1	1	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	**pCi/g**	**95**	**34**	**1.79E-01-1.68E+03**	**IA07-SB0030**	**6.29E-02-1.46E+01**	**3.14E+01**	**4.83E+01**	**205.87**	**No**	**4.83E+00**	**No**	**4.83E+00**	**2.41E+00**	**2.42E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	**pCi/g**	**95**	**60**	**2.91E-02-1.03E+02**	**IA07-SB0030**	**2.40E-02-3.17E+00**	**2.05E+00**	**5.09E+00**	**12.58**	**No**	**5.89E-01**	**No**	**5.89E-01**	**4.83E-01**	**1.06E-01**	**8.00E+00**	**C**	**Yes**	**ASL**
U-236	ug/g	1	1	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	2.20E-01	C	-	IFD
U-238	**pCi/g**	**95**	**34**	**1.79E-01-1.68E+03**	**IA07-SB0030**	**6.29E-02-1.46E+01**	**3.14E+01**	**4.83E+01**	**205.87**	**No**	**4.83E+00**	**No**	**4.83E+00**	**2.41E+00**	**2.42E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	mg/kg	47	0	1.42E+00-3.08E+01	IA07-SB0005	2.16E-02-8.11E-02	1.44E+01	1.44E+01	7.27	Yes	1.61E+01	No	1.61E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	**mg/kg**	**47**	**0**	**1.19E+00-3.89E+02**	**IA07-SB0026**	**1.94E-02-1.51E+00**	**1.46E+01**	**1.46E+01**	**56.31**	**No**	**1.12E+01**	**No**	**1.12E+01**	**-**	**4.13E+00**	**3.90E+01**	**N**	**Yes**	**ASL**

*Screen Basis		
C	Carcinogenic	N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:		
ASL	Above risk based screening level	ASL-MBKG Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information	

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 05 Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	38	0	3.50E+00-2.50E+02	IA07-SB0018	1.04E+00-1.49E+01	6.94E+01	6.94E+01	60.42	No	1.53E+02	No	1.53E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
EU 05 Soil (>13')																			
Radionuclides																			
AC-227	pCi/g	3	3	-	-	8.33E-01-1.06E+00	4.66E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	3	3	-	-	2.11E-01-2.67E-01	1.20E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	3	3	-	-	8.97E-02-1.01E-01	4.80E-02	-	-	-	-	-	0.00E+00	0.00E+00	5.40E-01	1.10E+01	C	-	IFD
PA-231	pCi/g	3	3	-	-	2.01E+00-2.65E+00	1.17E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	3	0	1.02E+00-1.25E+00	IA07-SB0014	1.28E-01-1.63E-01	1.13E+00	1.13E+00	0.12	Yes	1.33E+00	Yes	1.25E+00	0.00E+00	1.41E+00	9.00E-01	C	No	BKG
RA-226	pCi/g	3	0	1.02E+00-1.25E+00	IA07-SB0014	1.28E-01-1.63E-01	1.13E+00	1.13E+00	0.12	Yes	1.33E+00	Yes	1.25E+00	0.00E+00	1.41E+00	7.00E-01	C	No	BKG
RA-228	pCi/g	3	0	9.02E-01-1.12E+00	IA07-SB0014	1.77E-01-2.40E-01	1.01E+00	1.01E+00	0.11	Yes	1.20E+00	Yes	1.12E+00	0.00E+00	1.79E+00	2.60E+00	C	No	BKG
TH-228	pCi/g	3	0	9.02E-01-1.12E+00	IA07-SB0014	1.77E-01-2.40E-01	1.01E+00	1.01E+00	0.11	Yes	1.20E+00	Yes	1.12E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BKG
TH-232	pCi/g	3	0	9.02E-01-1.12E+00	IA07-SB0014	1.77E-01-2.40E-01	1.01E+00	1.01E+00	0.11	Yes	1.20E+00	Yes	1.12E+00	0.00E+00	1.41E+00	1.10E+00	C	No	BKG
Total Uranium	mg/kg	3	2	2.17E+01-2.17E+01	IA07-SB0012	6.06E+00-7.86E+00	9.42E+00	2.17E+01	10.65	Yes	2.74E+01	Yes	2.17E+01	1.44E+01	7.26E+00	2.30E+01	N	No	BSL
U-234	pCi/g	3	2	7.24E+00-7.24E+00	IA07-SB0012	2.02E+00-2.62E+00	3.14E+00	7.24E+00	3.55	Yes	9.12E+00	Yes	7.24E+00	4.82E+00	2.42E+00	1.30E+01	C	No	BSL
U-235	pCi/g	3	3	-	-	1.01E+00-1.18E+00	5.48E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	8.00E+00	C	-	IFD
U-238	pCi/g	3	2	7.24E+00-7.24E+00	IA07-SB0012	2.02E+00-2.62E+00	3.14E+00	7.24E+00	3.55	Yes	9.12E+00	Yes	7.24E+00	4.82E+00	2.42E+00	1.40E+01	C	No	BSL
EU 06 - Surface Water																			
Radionuclides																			
Total Uranium	mg/L	12	6	4.39E-04-1.59E-03	IA08-SW0009	1.98E-04-1.98E-04	6.42E-04	1.19E-03	0.00	No	2.89E-03	Yes	1.59E-03	9.00E-05	1.50E-03	3.00E-02	C	No	BSL
Metals																			
Lithium	mg/L	12	0	1.01E-02-2.26E-02	IA08-SW0010	4.60E-05-4.60E-05	1.54E-02	1.54E-02	0.01	No	1.87E-02	No	1.87E-02	-	2.45E-02	7.30E-03	N	No	BKG
Lithium, Dissolved	mg/L	12	0	1.01E-02-2.27E-02	IA08-SW0010	4.60E-05-4.60E-05	1.54E-02	1.54E-02	0.00	No	1.85E-02	No	1.85E-02	-	2.49E-02	7.30E-03	N	No	BKG
Molybdenum	mg/L	14	0	8.35E-03-1.78E-02	IA08-SW0009	3.50E-05-1.43E-03	1.23E-02	1.23E-02	0.00	Yes	1.35E-02	No	1.35E-02	-	3.32E-02	1.80E-02	N	No	BKG
Molybdenum, Dissolved	mg/L	12	0	8.90E-03-1.74E-02	IA08-SW0009	3.50E-05-3.50E-05	1.25E-02	1.25E-02	0.00	Yes	1.38E-02	No	1.38E-02	-	1.37E-02	1.80E-02	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/L	12	0	1.80E-01-2.90E-01	IA08-SW0002	2.79E-02-2.90E-02	2.25E-01	2.25E-01	0.03	Yes	2.41E-01	No	2.41E-01	-	2.00E-01	3.96E-02	N	Yes	ASL

*Screen Basis		
C	Carcinogenic	N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:		
ASL	Above risk based screening level	ASL-MBKG Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information	

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 06 - Sediment																			
Radionuclides																			
AC-227	pCi/g	4	4	-	-	2.82E-01-5.00E-01	1.74E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.13E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	16	16	-	-	4.30E-02-3.76E-01	6.61E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	16	13	6.30E-02-7.53E-02	IA08-SD0016	2.05E-02-6.20E-02	2.77E-02	6.84E-02	0.02	No	3.78E-02	No	3.78E-02	0.00E+00	7.91E-02	1.10E+01	C	No	BKG
PA-231	pCi/g	4	4	-	-	1.16E+00-2.02E+00	7.00E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.13E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	16	0	3.18E-01-1.39E+00	IA08-SD0010	4.04E-02-1.81E-01	7.70E-01	7.70E-01	0.34	Yes	9.19E-01	No	9.19E-01	0.00E+00	1.55E+00	9.00E-01	C	No	BKG
Ra-226	pCi/g	16	0	3.18E-01-1.39E+00	IA08-SD0010	4.04E-02-1.81E-01	7.70E-01	7.70E-01	0.34	Yes	9.19E-01	No	9.19E-01	0.00E+00	1.55E+00	7.00E-01	C	No	BKG
RA-228	pCi/g	16	0	3.15E-01-1.08E+00	IA08-SD0008	7.17E-02-2.16E-01	7.50E-01	7.50E-01	0.27	Yes	8.68E-01	No	8.68E-01	0.00E+00	1.06E+00	2.60E+00	C	No	BSL
TH-228	pCi/g	16	0	3.15E-01-1.27E+00	IA08-SD0013	7.17E-02-2.16E-01	8.07E-01	8.07E-01	0.29	Yes	9.33E-01	No	9.33E-01	0.00E+00	1.06E+00	4.70E+00	C	No	BSL
TH-230	pCi/g	4	0	4.93E-01-1.65E+00	IA08-SD0013	6.78E-02-1.47E-01	9.65E-01	9.65E-01	0.49	Yes	1.79E+00	Yes	1.65E+00	1.00E-01	1.55E+00	1.80E+00	C	No	BSL
TH-232	pCi/g	16	0	3.15E-01-1.08E+00	IA08-SD0008	3.29E-02-2.16E-01	7.59E-01	7.59E-01	0.28	No	9.74E-01	No	9.74E-01	0.00E+00	1.06E+00	1.10E+00	C	No	BSL
Total Uranium	mg/kg	16	6	2.65E+00-2.17E+01	IA08-SD0007	1.22E+00-8.55E+00	5.03E+00	6.89E+00	4.94	No	8.99E+00	No	8.99E+00	1.28E+00	7.71E+00	2.30E+01	N	No	BSL
U-234	pCi/g	16	6	8.83E-01-7.23E+00	IA08-SD0007	4.07E-01-2.85E+00	1.68E+00	2.30E+00	1.65	No	3.00E+00	No	3.00E+00	4.30E-01	2.57E+00	1.30E+01	C	No	BSL
U-235	pCi/g	15	11	2.25E-01-3.17E-01	IA08-SD0007	1.46E-01-3.48E-01	1.52E-01	2.63E-01	0.08	No	1.95E-01	No	1.95E-01	8.20E-02	1.13E-01	8.00E+00	C	No	BSL
U-238	pCi/g	16	6	8.83E-01-7.23E+00	IA08-SD0007	4.07E-01-2.85E+00	1.68E+00	2.30E+00	1.65	No	3.00E+00	No	3.00E+00	4.30E-01	2.57E+00	1.40E+01	C	No	BSL
Metals																			
Lithium	mg/kg	12	0	5.71E+00-1.81E+01	IA08-SD0010	1.17E-02-1.73E-02	1.33E+01	1.33E+01	4.71	No	1.80E+01	No	1.80E+01	-	2.87E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	12	0	1.15E+00-9.82E+00	IA08-SD0010	2.14E-02-3.14E-02	4.28E+00	4.28E+00	2.53	Yes	5.59E+00	No	5.59E+00	-	9.45E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	12	0	1.05E+01-1.48E+02	IA08-SD0007	1.01E+00-1.11E+01	4.69E+01	4.69E+01	44.45	No	9.63E+01	No	9.63E+01	-	5.17E+02	1.02E+02	N	No	BKG
EU 07 - Groundwater																			
Radionuclides																			
AC-227	pCi/L	12	12	-	-	4.60E+01-9.50E+01	3.68E+01	-	-	-	-	-	0.00E+00	0.00E+00	1.16E-01	3.11E-01	C	-	IFD
AC-227, Dissolved	pCi/L	13	13	-	-	4.30E+01-1.00E+02	3.70E+01	-	-	-	-	-	0.00E+00	0.00E+00	1.23E-01	3.11E-01	C	-	IFD
AM-241	pCi/L	13	13	-	-	2.60E-02-2.00E-01	3.43E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.26E+00	C	-	IFD
AM-241, Dissolved	pCi/L	13	13	-	-	1.70E-02-1.80E-01	3.63E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.26E+00	C	-	IFD
CS-137	pCi/L	29	29	-	-	2.73E+00-9.47E+00	2.15E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	9.21E+01	C	-	IFD
CS-137, Dissolved	pCi/L	13	13	-	-	1.20E+01-1.80E+01	7.50E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	9.21E+01	C	-	IFD
EU-152	pCi/L	13	13	-	-	2.60E+01-4.50E+01	1.72E+01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	7.00E+00	C	-	IFD
EU-152, Dissolved	pCi/L	13	13	-	-	2.30E+01-4.60E+01	1.78E+01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	7.00E+00	C	-	IFD

***Screen Basis**

C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

****Rationale:**

ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 07 - Groundwater																			
Radionuclides																			
EU-154	pCi/L	13	13	-	-	5.00E+01-1.50E+02	5.66E+01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	4.82E+02	C	-	IFD
EU-154, Dissolved	pCi/L	13	13	-	-	9.60E+01-1.60E+02	6.68E+01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	4.82E+02	C	-	IFD
NP-237	pCi/L	13	9	8.00E-02-1.89E-01	DM28R	2.60E-02-1.00E-01	6.80E-02	1.29E-01	0.05	No	1.10E-01	No	1.10E-01	1.10E-01	0.00E+00	1.04E+00	C	No	BSL
NP-237, Dissolved	pCi/L	13	10	1.10E-01-1.27E-01	IA04-TW0004	5.40E-02-1.00E-01	5.58E-02	1.16E-01	0.03	No	7.63E-02	No	7.63E-02	0.00E+00	9.40E-02	1.04E+00	C	No	BSL
PA-231	pCi/L	13	13	-	-	0.00E+00-4.40E+02	1.67E+02	-	-	-	-	-	0.00E+00	0.00E+00	1.16E-01	4.34E-01	C	-	IFD
PA-231, Dissolved	pCi/L	12	12	-	-	2.60E+02-4.50E+02	1.77E+02	-	-	-	-	-	0.00E+00	0.00E+00	1.23E-01	4.34E-01	C	-	IFD
Pb-210	**pCi/L**	**28**	**4**	**3.40E-01-3.17E+00**	**CDT-MW0001**	**2.22E-01-4.68E-01**	**9.22E-01**	**1.05E+00**	**0.60**	**No**	**1.31E+00**	**No**	**1.31E+00**	**0.00E+00**	**1.50E+00**	**8.60E-01**	**C**	**Yes**	**ASL**
Pb-210, Dissolved	**pCi/L**	**9**	**1**	**4.83E-01-1.82E+00**	**RMW38**	**2.14E-01-4.46E-01**	**7.85E-01**	**8.60E-01**	**0.45**	**Yes**	**1.06E+00**	**No**	**1.06E+00**	**2.84E-01**	**7.76E-01**	**8.60E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/L	13	13	-	-	6.00E-02-1.00E-01	4.04E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.44E+00	C	-	IFD
PU-238, Dissolved	pCi/L	13	12	1.13E-01-1.13E-01	IA10-MW0001	5.80E-02-1.00E-01	4.47E-02	1.13E-01	0.02	No	5.38E-02	No	5.38E-02	5.38E-02	0.00E+00	1.44E+00	C	No	BSL
PU-239	pCi/L	13	13	-	-	4.20E-02-1.00E-01	3.13E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.30E+00	C	-	IFD
PU-239, dissolved	pCi/L	13	13	-	-	3.50E-02-7.00E-02	2.37E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	1.30E+00	C	-	IFD
RA-226	pCi/L	28	4	3.40E-01-3.17E+00	CDT-MW0001	2.22E-01-4.68E-01	9.22E-01	1.05E+00	0.60	No	1.31E+00	No	1.31E+00	0.00E+00	1.50E+00	3.50E+00	C	No	BSL
RA-226, Dissolved	pCi/L	9	1	4.83E-01-1.82E+00	RMW38	2.14E-01-4.46E-01	7.85E-01	8.60E-01	0.45	Yes	1.06E+00	No	1.06E+00	2.84E-01	7.76E-01	3.50E+00	C	No	BSL
RA-228	pCi/L	69	47	4.70E-01-3.17E+00	CDT-MW0001	4.30E-01-2.11E+01	4.04E+00	1.81E+00	3.44	No	6.68E+00	Yes	3.17E+00	3.90E-01	2.78E+00	3.20E+00	C	No	BSL
RA-228, Dissolved	pCi/L	22	11	1.09E+00-3.27E+00	DM28R	4.40E-01-2.05E+00	1.24E+00	2.01E+00	0.94	No	2.18E+00	No	2.18E+00	6.00E-01	1.58E+00	3.20E+00	C	No	BSL
TC-99	pCi/L	15	14	9.00E+00-9.00E+00	IA03-TW0006	2.80E+00-3.20E+00	2.00E+00	9.00E+00	1.94	No	2.42E+00	No	2.42E+00	2.42E+00	0.00E+00	3.15E+03	C	No	BSL
TC-99, Dissolved	pCi/L	13	13	-	-	2.80E+00-3.20E+00	1.49E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	3.15E+03	C	-	IFD
TH-228	pCi/L	62	49	2.34E-01-7.64E-01	DM30R	6.20E-02-1.63E+02	1.69E+00	4.01E-01	10.30	No	7.53E-01	No	7.53E-01	0.00E+00	3.57E+00	5.70E+00	C	No	BKG
TH-228, Dissolved	pCi/L	59	50	2.02E-01-9.07E-01	IA04-TP0004	6.00E-02-1.49E+00	3.76E-01	3.85E-01	0.19	No	5.12E-01	No	5.12E-01	1.22E-01	3.90E-01	5.70E+00	C	No	BSL
TH-230	**pCi/L**	**62**	**46**	**9.70E-02-1.74E+04**	**IA03-TW0006**	**1.20E-02-1.61E+02**	**2.81E+02**	**1.09E+03**	**2,209.76**	**No**	**2.56E+00**	**No**	**2.56E+00**	**2.14E+00**	**4.20E-01**	**8.40E+00**	**C**	**Yes**	**ASL**
TH-230, Dissolved	pCi/L	59	42	1.45E-01-1.82E+00	DM23R	1.10E-02-1.20E+00	4.18E-01	8.33E-01	0.42	No	7.82E-01	No	7.82E-01	6.10E-02	7.21E-01	8.40E+00	C	No	BSL
TH-232	pCi/L	62	58	4.90E-02-7.44E-01	DM14	2.30E-02-9.40E+01	9.39E-01	2.58E-01	5.95	No	4.21E-01	No	4.21E-01	3.64E-01	5.70E-02	1.70E+00	C	No	BSL
TH-232, Dissolved	pCi/L	59	56	1.74E-01-4.83E-01	DM9	3.40E-02-1.01E+00	1.80E-01	2.95E-01	0.12	Yes	2.07E-01	No	2.07E-01	2.07E-01	0.00E+00	1.70E+00	C	No	BSL
Total Uranium	**mg/L**	**91**	**33**	**1.99E-04-1.84E+02**	**IA03-TW0006**	**1.98E-04-2.50E-01**	**2.11E+00**	**3.31E+00**	**19.28**	**No**	**5.44E-01**	**No**	**5.44E-01**	**5.37E-01**	**6.84E-03**	**3.00E-02**	**C**	**Yes**	**ASL**
Total Uranium, Dissolved	**mg/L**	**59**	**26**	**2.30E-04-4.07E+00**	**IA03-TW0005**	**1.98E-04-2.00E-03**	**1.13E-01**	**2.02E-01**	**0.56**	**No**	**4.49E-01**	**No**	**4.49E-01**	**4.42E-01**	**6.70E-03**	**3.00E-02**	**C**	**Yes**	**ASL**
U-233	mg/L	15	15	-	-	7.00E-07-7.00E-07	3.50E-07	-	-	-	-	-	0.00E+00	-	0.00E+00	1.70E-06	C	-	IFD
U-233, Dissolved	mg/L	13	13	-	-	7.00E-07-7.00E-07	3.50E-07	-	-	-	-	-	0.00E+00	-	0.00E+00	1.70E-06	C	-	IFD
U-234	**pCi/L**	**62**	**23**	**5.30E-02-7.41E+04**	**IA03-TW0006**	**4.30E-02-3.41E+02**	**1.21E+03**	**1.92E+03**	**9,409.08**	**No**	**1.01E+02**	**No**	**1.01E+02**	**9.83E+01**	**2.70E+00**	**1.60E+01**	**C**	**Yes**	**ASL**

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 07 - Groundwater																			
Radionuclides																			
U-234, Dissolved	**pCi/L**	**59**	**26**	**7.40E-02-1.49E+02**	**BKA48**	**4.00E-02-1.09E+00**	**8.55E+00**	**1.51E+01**	**27.09**	**No**	**1.76E+01**	**No**	**1.76E+01**	**1.47E+01**	**2.93E+00**	**1.60E+01**	**C**	**Yes**	**ASL**
U-235	**pCi/L**	**62**	**43**	**1.90E-01-4.00E+03**	**IA03-TW0006**	**1.80E-02-3.25E+02**	**6.57E+01**	**2.14E+02**	**507.86**	**No**	**4.62E+00**	**No**	**4.62E+00**	**4.24E+00**	**3.81E-01**	**1.70E+01**	**C**	**Yes**	**ASL**
U-235, Dissolved	pCi/L	59	43	3.50E-01-1.62E+01	BKA48	1.70E-02-1.15E+00	8.60E-01	2.63E+00	2.34	No	1.39E+00	No	1.39E+00	1.17E+00	2.24E-01	1.70E+01	C	No	BSL
U-236	mg/L	15	13	2.30E-04-2.40E-04	IA03-TW0005	1.22E-07-1.22E-07	3.14E-05	2.35E-04	0.00	No	1.76E-03	Yes	2.40E-04	-	0.00E+00	2.60E-04	C	No	BSL
U-236, Dissolved	mg/L	13	13	-	-	1.22E-07-1.22E-07	6.12E-08	-	-	-	-	-	0.00E+00	-	0.00E+00	2.60E-04	C	-	IFD
U-238	**pCi/L**	**62**	**32**	**5.20E-02-7.81E+04**	**IA03-TW0006**	**2.00E-02-2.22E+02**	**1.27E+03**	**2.63E+03**	**9,917.10**	**No**	**1.69E+02**	**No**	**1.69E+02**	**1.66E+02**	**2.63E+00**	**1.70E+01**	**C**	**Yes**	**ASL**
U-238, Dissolved	**pCi/L**	**59**	**27**	**8.00E-02-1.55E+02**	**BKA48**	**3.50E-02-9.11E-01**	**8.40E+00**	**1.53E+01**	**27.71**	**No**	**1.95E+01**	**No**	**1.95E+01**	**1.67E+01**	**2.79E+00**	**1.70E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	mg/L	22	0	1.04E-02-4.51E-01	DM14	2.20E-05-2.10E-04	9.53E-02	9.53E-02	0.10	No	1.78E-01	No	1.78E-01	-	-	-	-	-	NTX
Lithium, Dissolved	**mg/L**	**22**	**0**	**1.01E-02-4.63E-01**	**DM14**	**2.20E-05-2.10E-04**	**9.37E-02**	**9.37E-02**	**0.10**	**No**	**1.73E-01**	**No**	**1.73E-01**	**-**	**3.26E-02**	**7.30E-03**	**N**	**Yes**	**ASL**
Molybdenum	**mg/L**	**32**	**1**	**5.40E-04-7.58E-02**	**IA10-MW0003**	**3.50E-05-1.43E-03**	**1.12E-02**	**1.16E-02**	**0.02**	**No**	**1.83E-02**	**No**	**1.83E-02**	**-**	**1.78E-02**	**1.80E-02**	**N**	**Yes**	**ASL**
Molybdenum, Dissolved	**mg/L**	**32**	**0**	**4.77E-04-2.25E-01**	**IA03-TW0005**	**3.50E-05-1.43E-03**	**1.76E-02**	**1.76E-02**	**0.04**	**No**	**2.42E-02**	**No**	**2.42E-02**	**-**	**1.79E-02**	**1.80E-02**	**N**	**Yes**	**ASL**
Semivolatile Organic Compunds																			
TPH-DRO	**mg/L**	**19**	**0**	**5.20E-02-1.20E+00**	**DM22R**	**2.82E-02-3.08E-02**	**2.28E-01**	**2.28E-01**	**0.28**	**No**	**3.46E-01**	**No**	**3.46E-01**	**-**	**2.20E-01**	**3.96E-02**	**N**	**Yes**	**ASL**
EU 08 - Soil																			
Radionuclides																			
AC-227	pCi/g	11	11	-	-	2.73E-01-3.59E+00	4.18E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	10	10	-	-	4.41E-02-1.11E+00	1.03E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.10E+00	C	-	IFD
CS-137	**pCi/g**	**11**	**10**	**3.73E+02-3.73E+02**	**STM-TR1**	**6.64E-03-2.54E-01**	**3.39E+01**	**3.73E+02**	**112.46**	**No**	**1.93E+04**	**Yes**	**3.73E+02**	**3.72E+02**	**5.40E-01**	**1.10E+01**	**C**	**Yes**	**ASL**
EU-152	pCi/g	1	1	-	-	2.30E+00-2.30E+00	1.15E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	1	1	-	-	1.90E+00-1.90E+00	9.50E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	1	1	-	-	2.00E+00-2.00E+00	1.00E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	10	10	-	-	1.05E+00-1.45E+01	1.53E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	11	0	3.39E-01-1.52E+00	SAN-TR1	4.47E-02-4.85E-01	9.38E-01	9.38E-01	0.38	Yes	1.15E+00	No	1.15E+00	0.00E+00	1.41E+00	9.00E-01	C	No	BSL
RA-226	pCi/g	11	0	3.39E-01-1.52E+00	SAN-TR1	4.47E-02-4.85E-01	9.38E-01	9.38E-01	0.38	Yes	1.15E+00	No	1.15E+00	0.00E+00	1.41E+00	7.00E-01	C	No	BSL
RA-228	pCi/g	11	0	2.76E-01-1.31E+00	SAN-TR1	2.36E-02-2.41E-01	9.01E-01	9.01E-01	0.34	Yes	1.09E+00	No	1.09E+00	0.00E+00	1.79E+00	2.60E+00	C	No	BKG
TH-228	pCi/g	11	0	3.07E-01-1.51E+00	SAN-TR1	2.36E-02-2.63E-01	8.97E-01	8.97E-01	0.38	Yes	1.11E+00	No	1.11E+00	0.00E+00	1.41E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**6**	**0**	**1.97E-01-1.58E+01**	**STM-TR1**	**5.94E-02-2.10E-01**	**3.52E+00**	**3.52E+00**	**6.05**	**No**	**1.84E+02**	**Yes**	**1.58E+01**	**1.46E+01**	**1.21E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	pCi/g	11	0	2.35E-01-2.26E+00	SAN-TR1	2.36E-02-1.40E-01	9.28E-01	9.28E-01	0.56	Yes	1.23E+00	No	1.23E+00	0.00E+00	1.41E+00	1.10E+00	C	No	BSL

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 08 - Soil																			
Radionuclides																			
Total Uranium	**mg/kg**	**9**	**3**	**5.10E+00-8.25E+01**	**STM-TR1**	**1.07E+00-2.61E+01**	**1.45E+01**	**2.10E+01**	**26.08**	**No**	**9.16E+01**	**Yes**	**8.25E+01**	**7.52E+01**	**7.26E+00**	**2.30E+01**	**N**	**Yes**	**ASL**
U-234	**pCi/g**	**9**	**3**	**1.70E+00-2.75E+01**	**STM-TR1**	**3.56E-01-8.69E+00**	**4.84E+00**	**6.99E+00**	**8.69**	**No**	**3.05E+01**	**Yes**	**2.75E+01**	**2.51E+01**	**2.42E+00**	**1.30E+01**	**C**	**Yes**	**ASL**
U-235	pCi/g	11	4	1.09E-01-1.58E+00	STM-TR1	5.34E-02-1.53E+00	3.15E-01	4.46E-01	0.44	No	7.19E-01	No	7.19E-01	6.13E-01	1.06E-01	8.00E+00	C	No	BSL
U-238	**pCi/g**	**9**	**3**	**1.70E+00-2.75E+01**	**STM-TR1**	**3.56E-01-8.69E+00**	**4.84E+00**	**6.99E+00**	**8.69**	**No**	**3.05E+01**	**Yes**	**2.75E+01**	**2.51E+01**	**2.42E+00**	**1.40E+01**	**C**	**Yes**	**ASL**
Metals																			
Lithium	**mg/kg**	**5**	**0**	**1.58E+01-3.46E+01**	**IA09-SB0002**	**3.01E-02-2.64E+00**	**2.65E+01**	**2.65E+01**	**7.61**	**Yes**	**3.37E+01**	**No**	**3.37E+01**	**-**	**3.17E+01**	**1.60E+01**	**N**	**Yes**	**ASL**
Molybdenum	mg/kg	5	0	2.67E+00-1.13E+01	IA09-SB0003	2.03E-02-1.31E-01	5.15E+00	5.15E+00	3.49	No	1.21E+01	Yes	1.13E+01	-	4.13E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	5	0	3.30E+00-1.38E+01	IA09-SB0006	1.07E+00-1.24E+00	9.00E+00	9.00E+00	3.84	Yes	1.27E+01	No	1.27E+01	-	1.90E+01	1.02E+02	N	No	BKG
EU 08 - Surface Water																			
Radionuclides																			
AC-227	pCi/L	4	4	-	-	5.70E+01-8.20E+01	3.41E+01	-	-	-	-	-	0.00E+00	-	-	3.11E-01	C	-	IFD
AM-241	pCi/L	4	4	-	-	4.00E-02-6.80E-02	2.40E-02	-	-	-	-	-	0.00E+00	-	-	1.26E+00	C	-	IFD
CS-137	pCi/L	4	4	-	-	1.10E+01-1.50E+01	6.63E+00	-	-	-	-	-	0.00E+00	-	-	9.21E+01	C	-	IFD
EU-152	pCi/L	4	4	-	-	2.50E+01-3.50E+01	1.49E+01	-	-	-	-	-	0.00E+00	-	-	7.00E+00	C	-	IFD
EU-154	pCi/L	4	4	-	-	7.60E+01-1.30E+02	5.45E+01	-	-	-	-	-	0.00E+00	-	-	4.82E+02	C	-	IFD
NP-237	pCi/L	4	3	1.35E-01-1.35E-01	IA09-SW0102	7.80E-02-1.00E-01	6.58E-02	1.35E-01	0.05	No	4.08E-01	Yes	1.35E-01	-	-	1.04E+00	C	No?	BSL-MBKG
PA-231	pCi/L	4	4	-	-	2.70E+02-4.00E+02	1.74E+02	-	-	-	-	-	0.00E+00	-	-	4.34E-01	C	-	IFD
Pb-210	pCi/L	4	2	5.90E-01-7.40E-01	IA09-SW0010	1.80E-01-4.00E-01	4.11E-01	6.65E-01	0.30	Yes	9.16E-01	Yes	7.40E-01	-	-	8.60E-01	C	No?	BSL-MBKG
PU-238	pCi/L	4	4	-	-	5.70E-02-8.50E-02	3.73E-02	-	-	-	-	-	0.00E+00	-	-	1.44E+00	C	-	IFD
PU-239	pCi/L	4	4	-	-	4.40E-02-6.00E-02	2.58E-02	-	-	-	-	-	0.00E+00	-	-	1.30E+00	C	-	IFD
RA-226	pCi/L	4	2	5.90E-01-7.40E-01	IA09-SW0010	1.80E-01-4.00E-01	4.11E-01	6.65E-01	0.30	Yes	9.16E-01	Yes	7.40E-01	-	-	3.50E+00	C	No?	BSL-MBKG
RA-228	pCi/L	4	3	1.00E+00-1.00E+00	IA09-SW0010	6.90E-01-1.50E+00	6.40E-01	1.00E+00	0.29	Yes	1.13E+00	Yes	1.00E+00	-	-	3.20E+00	C	No?	BSL-MBKG
TC-99	pCi/L	4	4	-	-	3.10E+00-3.30E+00	1.59E+00	-	-	-	-	-	0.00E+00	-	-	3.15E+03	C	-	IFD
TH-228	pCi/L	4	2	3.00E-01-3.70E-01	IA09-SW0010	8.00E-02-1.10E-01	1.91E-01	3.35E-01	0.17	Yes	4.74E-01	Yes	3.70E-01	-	-	5.70E+00	C	No?	BSL-MBKG
TH-230	pCi/L	4	0	1.73E-01-1.94E+00	IA09-SW0010	2.00E-02-6.00E-02	6.66E-01	6.66E-01	0.85	No	2.87E+02	Yes	1.94E+00	-	-	8.40E+00	C	No?	BSL-MBKG
TH-232	pCi/L	4	1	6.30E-02-1.29E-01	IA09-SW0010	4.20E-02-5.20E-02	7.31E-02	9.00E-02	0.04	Yes	1.47E-01	Yes	1.29E-01	-	-	1.70E+00	C	No?	BSL-MBKG
Total Uranium	**mg/L**	**10**	**0**	**1.09E-03-2.82E+00**	**IA09-SW0010**	**1.98E-04-2.55E-03**	**3.01E-01**	**3.01E-01**	**0.89**	**No**	**4.70E+01**	**Yes**	**2.82E+00**	**2.82E+00**	**1.50E-03**	**3.00E-02**	**C**	**Yes**	**ASL**
U-233	mg/L	4	4	-	-	7.00E-07-7.00E-07	3.50E-07	-	-	-	-	-	0.00E+00	-	-	1.70E-06	C	-	IFD

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
EU 08 - Surface Water																			
Radionuclides																			
U-234	**pCi/L**	**4**	**0**	**2.80E-01-1.42E+02**	**IA09-SW0010**	**7.00E-02-4.00E-01**	**4.97E+01**	**4.97E+01**	**66.51**	**No**	**2.88E+21**	**Yes**	**1.42E+02**	**-**	**-**	**1.60E+01**	**C**	**Yes?**	**ASL-MBKG**
U-235	pCi/L	4	2	2.76E+00-8.20E+00	IA09-SW0010	6.50E-02-5.00E-01	2.77E+00	5.48E+00	3.84	Yes	9.21E+00	Yes	8.20E+00	-	-	1.70E+01	C	No?	BSL-MBKG
U-236	mg/L	4	4	-	-	1.22E-07-1.22E-07	6.12E-08	-	-	-	-	-	0.00E+00	-	-	2.60E-04	C	-	IFD
U-238	**pCi/L**	**4**	**0**	**3.10E-01-1.42E+02**	**IA09-SW0010**	**3.00E-02-7.00E-01**	**4.96E+01**	**4.96E+01**	**66.51**	**No**	**9.39E+20**	**Yes**	**1.42E+02**	**-**	**-**	**1.70E+01**	**C**	**Yes?**	**ASL-MBKG**
Metals																			
Lithium	**mg/L**	**10**	**0**	**8.12E-03-5.20E-02**	**IA09-SW0015**	**2.20E-05-1.10E-04**	**2.62E-02**	**2.62E-02**	**0.02**	**Yes**	**3.52E-02**	**No**	**3.52E-02**	**-**	**2.45E-02**	**7.30E-03**	**N**	**Yes**	**ASL**
Lithium, Dissolved	**mg/L**	**6**	**0**	**6.68E-03-4.68E-02**	**IA09-SW0010**	**2.20E-05-2.20E-05**	**2.71E-02**	**2.71E-02**	**0.02**	**Yes**	**4.03E-02**	**No**	**4.03E-02**	**-**	**2.49E-02**	**7.30E-03**	**N**	**Yes**	**ASL**
Molybdenum	mg/L	10	0	5.07E-03-3.19E-02	IA09-SW0103	4.00E-05-2.00E-04	1.85E-02	1.85E-02	0.01	Yes	2.40E-02	No	2.40E-02	-	3.32E-02	1.80E-02	N	No	BKG
Molybdenum, Dissolved	**mg/L**	**6**	**0**	**5.15E-03-2.14E-02**	**IA09-SW0012**	**4.00E-05-4.00E-05**	**1.26E-02**	**1.26E-02**	**0.01**	**Yes**	**1.81E-02**	**No**	**1.81E-02**	**-**	**1.37E-02**	**1.80E-02**	**N**	**Yes**	**ASL**
Semivolatile Organic Compunds																			
TPH-DRO	**mg/L**	**10**	**0**	**1.00E-01-6.17E+01**	**IA09-SW0102**	**2.84E-02-1.48E+00**	**1.08E+01**	**1.08E+01**	**19.89**	**No**	**1.38E+03**	**Yes**	**6.17E+01**	**-**	**2.00E-01**	**3.96E-02**	**N**	**Yes**	**ASL**
EU 08 - Sediment																			
Radionuclides																			
AC-227	pCi/g	9	9	-	-	1.62E-01-6.22E-01	1.97E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.13E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	29	28	1.07E+00-1.07E+00	IA09-SD0010	2.19E-02-7.01E-01	1.03E-01	1.07E+00	0.20	No	1.21E-01	No	1.21E-01	1.21E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	29	13	3.07E-02-1.44E+00	IA09-SD0001	9.49E-03-1.23E-01	1.23E-01	2.07E-01	0.27	No	2.07E-01	No	2.07E-01	1.28E-01	7.91E-02	1.10E+01	C	No	BSL
EU-152	pCi/g	2	2	-	-	1.90E-01-3.10E-01	1.25E-01	-	-	-	-	-	0.00E+00	-	-	8.70E+00	C	-	IFD
EU-154	pCi/g	2	2	-	-	7.60E-01-9.80E-01	4.35E-01	-	-	-	-	-	0.00E+00	-	-	8.00E+00	C	-	IFD
NP-237	pCi/g	2	2	-	-	5.00E-01-2.00E+00	6.25E-01	-	-	-	-	-	0.00E+00	-	-	8.50E-01	C	-	IFD
PA-231	pCi/g	11	11	-	-	6.61E-01-2.91E+00	7.84E-01	-	-	-	-	-	0.00E+00	0.00E+00	1.13E-01	3.00E-01	C	-	IFD
Pb-210	**pCi/g**	**29**	**0**	**2.49E-01-1.67E+00**	**IA09-SD0010**	**1.70E-02-1.25E-01**	**8.88E-01**	**8.88E-01**	**0.36**	**Yes**	**1.00E+00**	**No**	**1.00E+00**	**0.00E+00**	**1.55E+00**	**9.00E-01**	**C**	**Yes**	**ASL**
PU-238	pCi/g	2	2	-	-	6.90E-02-7.30E-02	3.55E-02	-	-	-	-	-	0.00E+00	-	-	2.50E+00	C	-	IFD
PU-239	pCi/g	2	1	7.10E-02-7.10E-02	IA09-SD0010	4.60E-02-6.70E-02	4.70E-02	7.10E-02	0.03	-	-	-	7.10E-02	-	-	2.30E+00	C	No?	BSL-MBKG
Ra-226	**pCi/g**	**29**	**0**	**2.49E-01-1.67E+00**	**IA09-SD0010**	**1.70E-02-1.25E-01**	**8.88E-01**	**8.88E-01**	**0.36**	**Yes**	**1.00E+00**	**No**	**1.00E+00**	**0.00E+00**	**1.55E+00**	**7.00E-01**	**C**	**Yes**	**ASL**
RA-228	pCi/g	27	1	3.03E-01-2.24E+00	IA09-SD0011	3.66E-02-2.42E-01	7.53E-01	7.77E-01	0.40	No	9.51E-01	No	9.51E-01	0.00E+00	1.06E+00	2.60E+00	C	No	BSL
TC-99	pCi/g	2	2	-	-	2.70E-01-7.00E-01	2.43E-01	-	-	-	-	-	0.00E+00	-	-	1.90E+01	C	-	IFD
TH-228	pCi/g	31	0	1.78E-01-1.23E+00	IA09-SD0011	3.66E-02-2.49E-01	6.76E-01	6.76E-01	0.28	Yes	7.61E-01	No	7.61E-01	0.00E+00	1.06E+00	4.70E+00	C	No	BSL
TH-230	**pCi/g**	**13**	**0**	**2.84E-01-1.70E+01**	**IA09-SD0010**	**3.98E-02-2.21E-01**	**2.61E+00**	**2.61E+00**	**4.51**	**No**	**5.16E+00**	**No**	**5.16E+00**	**3.61E+00**	**1.55E+00**	**1.80E+00**	**C**	**Yes**	**ASL**
TH-232	**pCi/g**	**31**	**0**	**1.12E-01-1.17E+00**	**IA09-SD0008**	**3.35E-02-2.42E-01**	**6.04E-01**	**6.04E-01**	**0.27**	**Yes**	**6.87E-01**	**No**	**6.87E-01**	**0.00E+00**	**1.06E+00**	**1.10E+00**	**C**	**Yes**	**ASL**

*Screen Basis		
C	Carcinogenic	N Non-carcinogenic

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Human Health Statistical Report

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EU 08 - Sediment																			
Radionuclides																			
Total Uranium	mg/kg	29	2	1.93E+00-7.26E+02	IA09-SD0010	6.51E-01-1.52E+01	5.61E+01	6.01E+01	166.48	No	6.92E+01	No	6.92E+01	6.15E+01	7.71E+00	2.30E+01	N	Yes	ASL
U-233	ug/g	2	2	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	-	1.35E-03	C	-	IFD
U-234	pCi/g	29	2	6.44E-01-2.42E+02	IA09-SD0010	2.17E-01-5.08E+00	1.87E+01	2.00E+01	55.49	No	2.31E+01	No	2.31E+01	2.05E+01	2.57E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	29	13	1.19E-01-1.52E+01	IA09-SD0010	8.60E-02-1.21E+00	1.19E+00	2.08E+00	3.47	No	1.46E+00	No	1.46E+00	1.35E+00	1.13E-01	8.00E+00	C	Yes	ASL
U-236	ug/g	2	1	5.10E-03-5.10E-03	IA09-SD0010	2.31E-05-2.31E-05	2.56E-03	5.10E-03	0.00	-	-	-	5.10E-03	-	-	2.20E-01	C	No?	BSL-MBKG
U-238	pCi/g	29	2	6.44E-01-2.42E+02	IA09-SD0010	2.17E-01-5.08E+00	1.87E+01	2.00E+01	55.49	No	2.31E+01	No	2.31E+01	2.05E+01	2.57E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	18	0	5.65E+00-2.85E+01	IA09-SD0004	1.09E-02-6.57E-02	1.40E+01	1.40E+01	6.23	Yes	1.65E+01	No	1.65E+01	-	2.87E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	18	0	1.73E+00-3.32E+01	IA09-SD0011	8.27E-03-1.35E-01	1.08E+01	1.08E+01	8.98	No	1.88E+01	No	1.88E+01	-	9.45E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	18	0	2.66E+01-2.88E+04	IA09-SD0010	1.55E+00-5.72E+02	4.54E+03	4.54E+03	8,361.33	No	3.72E+04	Yes	2.88E+04	-	5.17E+02	1.02E+02	N	Yes	ASL
Site-wide Soil (0"-6")																			
Radionuclides																			
AC-227	pCi/g	109	108	7.51E-01-7.51E-01	IA03-SB0007	2.39E-01-9.88E+00	4.44E-01	7.51E-01	0.57	No	4.48E-01	No	4.48E-01	3.61E-01	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	111	109	2.75E-01-8.07E-01	IA03-SB0033	3.68E-02-2.67E+00	1.42E-01	5.41E-01	0.17	No	1.52E-01	No	1.52E-01	1.52E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	109	69	2.29E-02-1.09E+00	IA06-SB0036	9.88E-03-5.79E-01	1.04E-01	2.10E-01	0.16	No	1.12E-01	No	1.12E-01	0.00E+00	5.40E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	13	13	-	-	1.30E-01-1.20E+00	1.87E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	13	13	-	-	6.30E-01-2.90E+00	5.14E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	13	13	-	-	5.40E-01-7.00E+00	9.28E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	110	110	-	-	9.13E-01-2.03E+01	1.32E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	pCi/g	111	1	2.13E-01-1.92E+01	IA05-SB0015	3.93E-02-1.03E+00	1.30E+00	1.31E+00	1.98	No	1.31E+00	No	1.31E+00	0.00E+00	1.39E+00	9.00E-01	C	Yes	ASL
PU-238	pCi/g	11	11	-	-	2.80E-02-7.60E-02	2.75E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	11	8	8.90E-02-7.80E-01	IA03-SB0038	3.80E-02-7.00E-02	1.14E-01	3.53E-01	0.23	No	3.22E-01	No	3.22E-01	3.22E-01	0.00E+00	2.30E+00	C	No	BSL
RA-226	pCi/g	111	1	2.13E-01-1.92E+01	IA05-SB0015	3.93E-02-1.03E+00	1.30E+00	1.31E+00	1.98	No	1.31E+00	No	1.31E+00	0.00E+00	1.39E+00	7.00E-01	C	Yes	ASL
RA-228	pCi/g	110	0	1.46E-01-1.65E+02	IA05-SB0015	3.22E-02-1.69E+00	2.67E+00	2.67E+00	16.19	No	1.22E+00	No	1.22E+00	0.00E+00	1.39E+00	2.60E+00	C	Yes	ASL
TC-99	pCi/g	11	10	1.13E+00-1.13E+00	IA03-SB0038	3.00E-01-6.80E-01	3.37E-01	1.13E+00	0.27	No	4.97E-01	No	4.97E-01	4.97E-01	0.00E+00	1.90E+01	C	No	BSL
TH-228	pCi/g	115	2	1.63E-01-6.02E+02	IA05-SB0015	3.27E-02-5.97E+00	6.78E+00	6.89E+00	56.33	No	1.68E+00	No	1.68E+00	3.20E-01	1.36E+00	4.70E+00	C	Yes	ASL
TH-230	pCi/g	68	0	2.33E-01-3.99E+02	IA03-SB0007	3.00E-02-2.00E+00	1.53E+01	1.53E+01	61.02	No	9.06E+00	No	9.06E+00	7.85E+00	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	115	2	1.90E-01-3.29E+02	IA05-SB0015	2.90E-02-2.00E+00	4.19E+00	4.25E+00	31.07	No	1.34E+00	No	1.34E+00	0.00E+00	1.36E+00	1.10E+00	C	Yes	ASL

*Screen Basis

C Carcinogenic N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:

ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
Site-wide Soil (0"-6")																			
Radionuclides																			
Total Uranium	mg/kg	107	49	1.88E+00-5.04E+03	IA07-SB0030	1.06E+00-4.95E+01	1.38E+02	2.52E+02	534.76	No	1.50E+02	No	1.50E+02	1.44E+02	5.94E+00	2.30E+01	N	Yes	ASL
U-233	ug/g	11	11	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	pCi/g	107	49	6.26E-01-1.68E+03	IA07-SB0030	3.52E-01-1.65E+01	4.60E+01	8.40E+01	178.25	No	5.01E+01	No	5.01E+01	4.81E+01	1.98E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	107	80	8.49E-02-1.03E+02	IA07-SB0030	7.42E-02-8.02E+00	2.78E+00	9.86E+00	10.70	No	2.31E+00	No	2.31E+00	2.22E+00	8.71E-02	8.00E+00	C	Yes	ASL
U-236	ug/g	11	7	1.10E-02-8.20E-02	IA03-SB0038	2.31E-05-2.31E-05	1.09E-02	3.00E-02	0.02	No	2.03E+04	Yes	8.20E-02	-	0.00E+00	2.20E-01	C	No	BSL
U-238	pCi/g	107	49	6.26E-01-1.68E+03	IA07-SB0030	3.52E-01-1.65E+01	4.60E+01	8.40E+01	178.25	No	5.01E+01	No	5.01E+01	4.81E+01	1.98E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	1	0	1.10E+01-1.10E+01	IA03-SB0033	3.05E-02-3.05E-02	1.10E+01	1.10E+01	0.00	-	-	-	1.10E+01	-	3.17E+01	1.60E+01	N	No	BKG
Molybdenum	mg/kg	1	0	1.14E+01-1.14E+01	IA03-SB0033	2.32E-02-2.32E-02	1.14E+01	1.14E+01	0.00	-	-	-	1.14E+01	-	4.13E+00	3.90E+01	N	No	BSL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	1	0	4.37E+02-4.37E+02	IA03-SB0033	1.25E+01-1.25E+01	4.37E+02	4.37E+02	0.00	-	-	-	4.37E+02	-	1.61E+01	1.02E+02	N	Yes	ASL
Site-wide Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	424	422	7.51E-01-1.18E+00	IA03-SB0111	2.39E-01-9.88E+00	4.62E-01	9.67E-01	0.45	No	4.59E-01	No	4.59E-01	3.72E-01	8.71E-02	5.00E-01	C	-	IFD
AM-241	pCi/g	430	418	1.11E-01-7.01E+00	BEGE-SB0011	6.76E-03-4.51E+00	1.57E-01	1.27E+00	0.38	No	1.51E-01	No	1.51E-01	1.51E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	431	296	9.82E-03-7.85E+00	IA03-SB0003	4.35E-03-5.79E-01	9.14E-02	2.06E-01	0.39	No	8.04E-02	No	8.04E-02	0.00E+00	4.29E-01	1.10E+01	C	No	BSL
EU-152	pCi/g	32	32	-	-	1.30E-01-1.40E+00	1.92E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	32	32	-	-	5.40E-01-2.90E+00	5.04E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	32	31	9.60E-01-9.60E-01	IA04-SB0054	3.90E-01-7.00E+00	8.30E-01	9.60E-01	0.78	No	1.01E+00	Yes	9.60E-01	9.60E-01	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	427	427	-	-	7.53E-01-3.47E+01	1.35E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	3.00E-01	C	-	IFD
Pb-210	pCi/g	430	3	1.41E-01-1.92E+01	IA05-SB0015	3.32E-02-1.77E+00	1.54E+00	1.55E+00	1.67	No	1.56E+00	No	1.56E+00	1.10E-01	1.45E+00	9.00E-01	C	Yes	ASL
PU-238	pCi/g	26	26	-	-	2.80E-02-3.40E-01	3.97E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	26	20	8.90E-02-7.80E-01	IA03-SB0038	2.30E-02-2.20E-01	8.31E-02	2.58E-01	0.16	No	1.11E-01	No	1.11E-01	1.11E-01	0.00E+00	2.30E+00	C	No	BSL
RA-226	pCi/g	430	3	1.41E-01-1.92E+01	IA05-SB0015	3.32E-02-1.77E+00	1.54E+00	1.55E+00	1.67	No	1.56E+00	No	1.56E+00	1.10E-01	1.45E+00	7.00E-01	C	Yes	ASL
RA-228	pCi/g	352	1	8.33E-02-1.65E+02	IA05-SB0015	1.60E-02-1.69E+00	2.12E+00	2.12E+00	11.71	No	1.21E+00	No	1.21E+00	0.00E+00	1.87E+00	2.60E+00	C	Yes	ASL
TC-99	pCi/g	26	24	1.03E+00-1.13E+00	IA03-SB0038	2.80E-01-6.80E-01	2.98E-01	1.08E+00	0.24	No	3.61E-01	No	3.61E-01	3.61E-01	0.00E+00	1.90E+01	C	No	BSL
TH-228	pCi/g	377	7	1.49E-01-6.02E+02	IA05-SB0015	1.83E-02-5.97E+00	3.76E+00	3.83E+00	32.40	No	1.50E+00	No	1.50E+00	9.00E-02	1.41E+00	4.70E+00	C	Yes	ASL
TH-230	pCi/g	169	3	2.33E-01-6.32E+02	IA03-SB0111	3.00E-02-2.00E+00	1.56E+01	1.58E+01	65.18	No	8.98E+00	No	8.98E+00	7.77E+00	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	377	5	1.49E-01-3.29E+02	IA05-SB0015	1.83E-02-2.00E+00	2.69E+00	2.72E+00	18.92	No	1.26E+00	No	1.26E+00	0.00E+00	1.41E+00	1.10E+00	C	Yes	ASL

*Screen Basis		
C	Carcinogenic	N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
Site-wide Soil (0'-2') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
Total Uranium	mg/kg	428	114	5.37E-01-8.13E+03	BEGE-SB0011	1.89E-01-6.87E+01	1.50E+02	2.03E+02	696.78	No	1.08E+02	No	1.08E+02	1.02E+02	5.94E+00	2.30E+01	N	Yes	ASL
U-233	ug/g	26	26	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	pCi/g	428	114	1.79E-01-2.71E+03	BEGE-SB0011	6.29E-02-2.29E+01	5.00E+01	6.78E+01	232.26	No	3.59E+01	No	3.59E+01	3.39E+01	1.98E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	429	268	2.91E-02-1.77E+02	BEGE-SB0011	2.40E-02-8.02E+00	3.01E+00	7.30E+00	13.79	No	1.94E+00	No	1.94E+00	1.85E+00	8.71E-02	8.00E+00	C	Yes	ASL
U-236	ug/g	26	18	4.90E-03-8.20E-02	IA03-SB0038	2.31E-05-2.31E-05	6.97E-03	2.26E-02	0.02	No	3.23E+00	Yes	8.20E-02	-	0.00E+00	2.20E-01	C	No	BSL
U-238	pCi/g	428	114	1.79E-01-2.71E+03	BEGE-SB0011	6.29E-02-2.29E+01	5.00E+01	6.78E+01	232.26	No	3.59E+01	No	3.59E+01	3.39E+01	1.98E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	84	0	3.26E+00-4.27E+01	IA05-SB0022	1.12E-02-1.14E-01	1.65E+01	1.65E+01	8.18	Yes	1.79E+01	No	1.79E+01	-	3.17E+01	1.60E+01	N	Yes	ASL
Molybdenum	mg/kg	84	0	4.61E-01-3.89E+02	IA07-SB0026	8.56E-03-1.32E+00	1.01E+01	1.01E+01	42.40	No	7.45E+00	No	7.45E+00	-	4.07E+00	3.90E+01	N	Yes	ASL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	80	1	2.70E+00-5.96E+03	IA03-SB0017	1.00E+00-1.22E+02	2.46E+02	2.49E+02	763.90	No	3.00E+02	No	3.00E+02	-	1.90E+01	1.02E+02	N	Yes	ASL
Site-wide Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
AC-227	pCi/g	921	919	7.51E-01-1.18E+00	IA03-SB0111	1.84E-01-9.88E+00	4.50E-01	9.67E-01	0.33	No	4.55E-01	No	4.55E-01	3.49E-01	1.06E-01	5.00E-01	C	-	IFD
AM-241	pCi/g	939	924	5.63E-02-7.01E+00	BEGE-SB0011	6.76E-03-4.51E+00	1.39E-01	1.35E+00	0.29	No	1.35E-01	No	1.35E-01	1.35E-01	0.00E+00	2.10E+00	C	-	IFD
CS-137	pCi/g	942	766	9.82E-03-3.73E+02	STM-TR1	3.20E-03-5.79E-01	4.62E-01	2.30E+00	12.15	No	6.42E-02	No	6.42E-02	0.00E+00	5.40E-01	1.10E+01	C	Yes	ASL
EU-152	pCi/g	39	39	-	-	1.30E-01-2.30E+00	2.17E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.70E+00	C	-	IFD
EU-154	pCi/g	39	39	-	-	5.40E-01-2.90E+00	5.13E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	8.00E+00	C	-	IFD
NP-237	pCi/g	39	38	9.60E-01-9.60E-01	IA04-SB0054	3.90E-01-7.00E+00	8.31E-01	9.60E-01	0.71	No	9.82E-01	Yes	9.60E-01	9.60E-01	0.00E+00	8.50E-01	C	-	IFD
PA-231	pCi/g	924	924	-	-	7.53E-01-3.47E+01	1.29E+00	-	-	-	-	-	0.00E+00	0.00E+00	1.06E-01	3.00E-01	C	-	IFD
Pb-210	pCi/g	931	11	9.03E-02-1.92E+01	IA05-SB0015	2.95E-02-1.77E+00	1.42E+00	1.44E+00	1.29	No	1.48E+00	No	1.48E+00	7.00E-02	1.41E+00	9.00E-01	C	Yes	ASL
PU-238	pCi/g	30	30	-	-	2.80E-02-3.40E-01	3.89E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	2.50E+00	C	-	IFD
PU-239	pCi/g	30	24	8.90E-02-7.80E-01	IA03-SB0038	2.30E-02-2.20E-01	7.55E-02	2.58E-01	0.15	No	9.24E-02	No	9.24E-02	9.24E-02	0.00E+00	2.30E+00	C	No	BSL
RA-226	pCi/g	931	11	9.03E-02-1.92E+01	IA05-SB0015	2.95E-02-1.77E+00	1.42E+00	1.44E+00	1.29	No	1.48E+00	No	1.48E+00	7.00E-02	1.41E+00	7.00E-01	C	Yes	ASL
RA-228	pCi/g	740	19	8.33E-02-1.65E+02	IA05-SB0015	1.09E-02-1.69E+00	1.53E+00	1.56E+00	8.09	No	1.15E+00	No	1.15E+00	0.00E+00	1.79E+00	2.60E+00	C	Yes	ASL
TC-99	pCi/g	30	28	1.03E+00-1.13E+00	IA03-SB0038	5.60E-02-6.80E-01	2.91E-01	1.08E+00	0.23	No	3.77E-01	No	3.77E-01	3.77E-01	0.00E+00	1.90E+01	C	No	BSL
TH-228	pCi/g	778	24	1.17E-01-6.02E+02	IA05-SB0015	1.09E-02-5.97E+00	2.38E+00	2.44E+00	22.58	No	1.32E+00	No	1.32E+00	0.00E+00	1.41E+00	4.70E+00	C	Yes	ASL
TH-230	pCi/g	292	6	1.47E-01-6.32E+02	IA03-SB0111	3.00E-02-2.00E+00	1.19E+01	1.22E+01	53.26	No	5.84E+00	No	5.84E+00	4.63E+00	1.21E+00	1.80E+00	C	Yes	ASL
TH-232	pCi/g	778	22	1.28E-01-3.29E+02	IA05-SB0015	1.09E-02-2.00E+00	1.82E+00	1.87E+00	13.19	No	1.18E+00	No	1.18E+00	0.00E+00	1.41E+00	1.10E+00	C	Yes	ASL

*Screen Basis			
C	Carcinogenic	N	Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

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Table 8-6.
Human Health Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	Risk Screening Value	Screen Basis*	COPC Flag	Rationale**
Site-wide Soil (0'-13') *Interval evaluated in the human health risk assessment																			
Radionuclides																			
Total Uranium	mg/kg	937	362	5.37E-01-8.13E+03	BEGE-SB0011	1.89E-01-6.87E+01	9.48E+01	1.52E+02	509.56	No	4.47E+01	No	4.47E+01	3.74E+01	7.26E+00	2.30E+01	N	Yes	ASL
U-233	ug/g	30	30	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	1.35E-03	C	-	IFD
U-234	pCi/g	937	362	1.79E-01-2.71E+03	BEGE-SB0011	6.29E-02-2.29E+01	3.16E+01	5.08E+01	169.85	No	1.49E+01	No	1.49E+01	1.25E+01	2.42E+00	1.30E+01	C	Yes	ASL
U-235	pCi/g	939	676	2.91E-02-1.77E+02	BEGE-SB0011	2.40E-02-8.02E+00	2.02E+00	6.07E+00	10.05	No	1.21E+00	No	1.21E+00	1.10E+00	1.06E-01	8.00E+00	C	Yes	ASL
U-236	ug/g	30	21	4.90E-03-8.20E-02	IA03-SB0038	2.31E-05-2.31E-05	6.60E-03	2.20E-02	0.02	No	1.58E+00	Yes	8.20E-02	-	0.00E+00	2.20E-01	C	No	BSL
U-238	pCi/g	937	362	1.79E-01-2.71E+03	BEGE-SB0011	6.29E-02-2.29E+01	3.16E+01	5.08E+01	169.85	No	1.49E+01	No	1.49E+01	1.25E+01	2.42E+00	1.40E+01	C	Yes	ASL
Metals																			
Lithium	mg/kg	165	0	1.42E+00-4.82E+01	IA03-SB0002	1.08E-02-1.16E-01	1.96E+01	1.96E+01	9.35	Yes	2.08E+01	No	2.08E+01	-	3.17E+01	1.60E+01	N	Yes	ASL
Molybdenum	mg/kg	165	0	4.61E-01-3.89E+02	IA07-SB0026	8.24E-03-1.51E+00	1.05E+01	1.05E+01	38.93	No	7.55E+00	No	7.55E+00	-	4.13E+00	3.90E+01	N	Yes	ASL
Semivolatile Organic Compunds																			
TPH-DRO	mg/kg	156	4	2.70E+00-5.96E+03	IA03-SB0017	9.40E-01-1.22E+02	1.69E+02	1.74E+02	570.82	No	2.23E+02	No	2.23E+02	-	1.90E+01	1.02E+02	N	Yes	ASL

*Screen Basis		
C	Carcinogenic	N Non-carcinogenic

Note: Non-carcinogenic screening values have been divided by 10 to account for the potential presence of multiple non-carcinogens in the screen

**Rationale:			
ASL	Above risk based screening level	ASL-MBKG	Above risk based screening level - Background value missing
BSL	Below risk based screening level	BSL-MBKG	Below risk based screening level - Background value missing
IFD	Infrequent detection (less than 5%)	ABL-MSCR	Above background value - Risk based screening level missing
BKG	Comparable to background value	BKG-MSCR	Comparable to background value - Risk based screening level missing
NTX	No Toxicity (risk) Information		

COPC Flag - Maximum detections for Radionuclides in soil and groundwater are compared to the the background + screening value. Other results are compared to background and screening levels separately.

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Natural Surface Soil (0-6")														
Radionuclides														
Ac-227	pCi/g	13	2	4.30E-02-8.71E-02	BKG-SB0017	1.55E-02-6.78E-02	6.18E-02	6.92E-02	0.02	No	2.00E-01	Y	8.71E-02	M
AM-241	pCi/g	17	17	-	-	3.64E-02-2.90E-01	7.61E-02	-	-	-	1.67E-01	-	0.00E+00	AND
CS-137	pCi/g	17	3	9.32E-02-5.40E-01	BKG-SB0030	1.85E-02-1.30E-01	1.83E-01	2.09E-01	0.11	No	6.55E-01	Y	5.40E-01	M
EU-152	pCi/g	5	5	-	-	2.90E-01-4.90E-01	1.85E-01	-	-	-	3.54E-01	-	0.00E+00	AND
EU-154	pCi/g	5	5	-	-	7.70E-01-1.40E+00	5.18E-01	-	-	-	1.01E+00	-	0.00E+00	AND
NP-237	pCi/g	5	5	-	-	8.00E-01-1.10E+00	4.30E-01	-	-	-	7.76E-01	-	0.00E+00	AND
Pa-231	pCi/g	13	2	4.30E-02-8.71E-02	BKG-SB0017	1.55E-02-6.78E-02	6.18E-02	6.92E-02	0.02	No	2.00E-01	Y	8.71E-02	M
Pb-210	pCi/g	17	0	6.27E-01-1.39E+00	BKG-SB0028	9.84E-02-2.70E-01	9.58E-01	9.58E-01	0.18	Yes	1.39E+00	Y	1.39E+00	M
PU-238	pCi/g	5	5	-	-	6.80E-02-9.50E-02	3.95E-02	-	-	-	6.10E-02	-	0.00E+00	AND
PU-239	pCi/g	5	5	-	-	5.00E-02-8.00E-02	2.98E-02	-	-	-	5.46E-02	-	0.00E+00	AND
RA-226	pCi/g	17	0	6.27E-01-1.39E+00	BKG-SB0028	9.84E-02-2.70E-01	9.58E-01	9.58E-01	0.18	Yes	1.39E+00	Y	1.39E+00	M
RA-228	pCi/g	17	0	6.63E-01-1.39E+00	BKG-SB0028	6.22E-02-4.80E-01	1.07E+00	1.07E+00	0.18	Yes	1.51E+00	Y	1.39E+00	M
TC-99	pCi/g	5	5	-	-	5.80E-01-6.30E-01	3.04E-01	-	-	-	3.52E-01	-	0.00E+00	AND
TH-228	pCi/g	17	0	3.20E-01-1.36E+00	BKG-SB0020	3.00E-02-4.10E-01	9.19E-01	9.19E-01	0.30	Yes	1.67E+00	Y	1.36E+00	M
TH-230	pCi/g	17	0	4.60E-01-1.21E+00	BKG-SB0020	5.00E-02-2.60E-01	8.75E-01	8.75E-01	0.19	Yes	1.34E+00	Y	1.21E+00	M
TH-232	pCi/g	17	0	4.20E-01-1.36E+00	BKG-SB0020	4.00E-02-2.60E-01	9.41E-01	9.41E-01	0.28	No	2.15E+00	Y	1.36E+00	M
Total Uranium	mg/kg	13	2	2.93E+00-5.94E+00	BKG-SB0017	1.06E+00-4.62E+00	4.22E+00	4.71E+00	1.47	No	1.37E+01	Y	5.94E+00	M
U-233	ug/g	5	5	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	2.62E-05	-	0.00E+00	AND
U-234	pCi/g	13	2	9.78E-01-1.98E+00	BKG-SB0017	3.53E-01-1.54E+00	1.41E+00	1.57E+00	0.49	No	4.55E+00	Y	1.98E+00	M
U-235	pCi/g	13	2	4.30E-02-8.71E-02	BKG-SB0017	1.55E-02-6.78E-02	6.18E-02	6.92E-02	0.02	No	2.00E-01	Y	8.71E-02	M
U-236	ug/g	5	5	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	1.16E-05	-	0.00E+00	AND
U-238	pCi/g	13	2	9.78E-01-1.98E+00	BKG-SB0017	3.53E-01-1.54E+00	1.41E+00	1.57E+00	0.49	No	4.55E+00	Y	1.98E+00	M
Metals														
Lithium	mg/kg	12	0	1.18E+01-3.17E+01	BKG-SB0020	4.87E-02-6.18E-02	2.27E+01	2.27E+01	4.88	Yes	3.60E+01	Y	3.17E+01	M
Molybdenum	mg/kg	12	0	1.85E+00-4.13E+00	BKG-SB0020	2.13E-02-2.71E-02	3.00E+00	3.00E+00	0.58	Yes	4.59E+00	Y	4.13E+00	M
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	12	0	3.40E+00-1.61E+01	BKG-SB0023	1.15E+00-1.45E+00	1.02E+01	1.02E+01	3.78	Yes	2.06E+01	Y	1.61E+01	M

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Industrial Surface Soil (0-6")														
Radionuclides														
Ac-227	pCi/g	15	0	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-5.81E-02	7.75E-02	7.75E-02	0.03	No	2.71E-01	Y	1.55E-01	M
AM-241	pCi/g	15	15	-	-	1.44E-02-1.81E-01	3.96E-02	-	-	-	9.51E-02	-	0.00E+00	AND
CS-137	pCi/g	15	1	1.29E-02-3.24E-01	BKG-SB0015	6.33E-03-1.97E-02	7.61E-02	8.08E-02	0.08	No	5.64E-01	Y	3.24E-01	M
Pa-231	pCi/g	15	0	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-5.81E-02	7.75E-02	7.75E-02	0.03	No	2.71E-01	Y	1.55E-01	M
Pb-210	pCi/g	15	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.58E-01	1.21E+00	1.21E+00	0.44	Yes	2.34E+00	Y	1.94E+00	M
RA-226	pCi/g	15	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.58E-01	1.21E+00	1.21E+00	0.44	Yes	2.34E+00	Y	1.94E+00	M
RA-228	pCi/g	15	0	2.11E-01-1.12E+00	BKG-SB0014	2.29E-02-7.44E-02	7.64E-01	7.64E-01	0.30	Yes	1.54E+00	Y	1.12E+00	M
TH-228	pCi/g	15	0	2.11E-01-1.12E+00	BKG-SB0014	2.29E-02-7.44E-02	7.64E-01	7.64E-01	0.30	Yes	1.54E+00	Y	1.12E+00	M
TH-230	pCi/g	15	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.58E-01	1.21E+00	1.21E+00	0.44	Yes	2.34E+00	Y	1.94E+00	M
TH-232	pCi/g	15	0	2.11E-01-1.12E+00	BKG-SB0014	2.29E-02-7.44E-02	7.64E-01	7.64E-01	0.30	Yes	1.54E+00	Y	1.12E+00	M
Total Uranium	mg/kg	15	0	1.56E+00-1.06E+01	BKG-SB0014	3.99E-01-3.96E+00	5.28E+00	5.28E+00	2.32	No	1.85E+01	Y	1.06E+01	M
U-234	pCi/g	15	0	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.32E+00	1.76E+00	1.76E+00	0.77	Yes	3.74E+00	Y	3.53E+00	M
U-235	pCi/g	15	0	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-5.81E-02	7.75E-02	7.75E-02	0.03	No	2.71E-01	Y	1.55E-01	M
U-238	pCi/g	15	0	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.32E+00	1.76E+00	1.76E+00	0.77	Yes	3.74E+00	Y	3.53E+00	M
Metals														
Lithium	mg/kg	15	0	6.59E+00-2.88E+01	BKG-SB0002	4.51E-02-5.02E-02	1.41E+01	1.41E+01	6.96	Yes	3.19E+01	Y	2.88E+01	M
Molybdenum	mg/kg	15	0	2.27E+00-1.77E+01	BKG-SB0010	1.98E-02-2.20E-02	5.60E+00	5.60E+00	4.51	No	2.27E+01	Y	1.77E+01	M
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	15	0	2.12E+01-1.39E+03	BKG-SB0013	1.06E+00-2.15E+01	2.35E+02	2.35E+02	335.35	No	1.68E+03	Y	1.39E+03	M
Background Natural and Industrial Surface Soil														
Radionuclides														
Ac-227	pCi/g	28	2	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-6.78E-02	7.02E-02	7.40E-02	0.03	No	1.97E-01	Y	1.55E-01	M
AM-241	pCi/g	32	32	-	-	1.44E-02-2.90E-01	5.90E-02	-	-	-	2.21E-01	-	0.00E+00	AND
CS-137	pCi/g	32	4	1.29E-02-5.40E-01	BKG-SB0030	6.33E-03-1.30E-01	1.33E-01	1.45E-01	0.11	No	7.33E-01	Y	5.40E-01	M
EU-152	pCi/g	5	5	-	-	2.90E-01-4.90E-01	1.85E-01	-	-	-	3.54E-01	-	0.00E+00	AND
EU-154	pCi/g	5	5	-	-	7.70E-01-1.40E+00	5.18E-01	-	-	-	1.01E+00	-	0.00E+00	AND
NP-237	pCi/g	5	5	-	-	8.00E-01-1.10E+00	4.30E-01	-	-	-	7.76E-01	-	0.00E+00	AND

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Natural and Industrial Surface Soil														
Radionuclides														
Pa-231	pCi/g	28	2	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-6.78E-02	7.02E-02	7.40E-02	0.03	No	1.97E-01	Y	1.55E-01	M
Pb-210	pCi/g	32	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-2.70E-01	1.08E+00	1.08E+00	0.35	Yes	1.84E+00	N	1.84E+00	UTL
PU-238	pCi/g	5	5	-	-	6.80E-02-9.50E-02	3.95E-02	-	-	-	6.10E-02	-	0.00E+00	AND
PU-239	pCi/g	5	5	-	-	5.00E-02-8.00E-02	2.98E-02	-	-	-	5.46E-02	-	0.00E+00	AND
RA-226	pCi/g	32	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-2.70E-01	1.08E+00	1.08E+00	0.35	Yes	1.84E+00	N	1.84E+00	UTL
RA-228	pCi/g	32	0	2.11E-01-1.39E+00	BKG-SB0028	2.29E-02-4.80E-01	9.27E-01	9.27E-01	0.29	No	2.23E+00	Y	1.39E+00	M
TC-99	pCi/g	5	5	-	-	5.80E-01-6.30E-01	3.04E-01	-	-	-	3.52E-01	-	0.00E+00	AND
TH-228	pCi/g	32	0	2.11E-01-1.36E+00	BKG-SB0020	2.29E-02-4.10E-01	8.46E-01	8.46E-01	0.31	No	2.20E+00	Y	1.36E+00	M
TH-230	pCi/g	32	0	4.60E-01-1.94E+00	BKG-SB0014	3.96E-02-2.60E-01	1.03E+00	1.03E+00	0.37	Yes	1.84E+00	N	1.84E+00	UTL
TH-232	pCi/g	32	0	2.11E-01-1.36E+00	BKG-SB0020	2.29E-02-2.60E-01	8.58E-01	8.58E-01	0.30	No	2.14E+00	Y	1.36E+00	M
Total Uranium	mg/kg	28	2	1.56E+00-1.06E+01	BKG-SB0014	3.99E-01-4.62E+00	4.79E+00	5.04E+00	2.01	No	1.34E+01	Y	1.06E+01	M
U-233	ug/g	5	5	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	2.62E-05	-	0.00E+00	AND
U-234	pCi/g	28	2	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.54E+00	1.60E+00	1.68E+00	0.67	No	4.48E+00	Y	3.53E+00	M
U-235	pCi/g	28	2	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-6.78E-02	7.02E-02	7.40E-02	0.03	No	1.97E-01	Y	1.55E-01	M
U-236	ug/g	5	5	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	1.16E-05	-	0.00E+00	AND
U-238	pCi/g	28	2	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.54E+00	1.60E+00	1.68E+00	0.67	No	4.48E+00	Y	3.53E+00	M
Metals														
Lithium	mg/kg	27	0	6.59E+00-3.17E+01	BKG-SB0020	4.51E-02-6.18E-02	1.79E+01	1.79E+01	7.42	Yes	3.47E+01	Y	3.17E+01	M
Molybdenum	mg/kg	27	0	1.85E+00-1.77E+01	BKG-SB0010	1.98E-02-2.71E-02	4.45E+00	4.45E+00	3.58	No	1.23E+01	N	1.23E+01	UTL
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	27	0	3.40E+00-1.39E+03	BKG-SB0013	1.06E+00-2.15E+01	1.35E+02	1.35E+02	271.09	No	1.49E+03	Y	1.39E+03	M
Background Natural Soil (0'-2') *Data used in risk assessment														
Radionuclides														
Ac-227	pCi/g	25	8	4.30E-02-8.71E-02	BKG-SB0017	1.55E-02-7.35E-02	5.48E-02	6.92E-02	0.02	No	1.68E-01	Y	8.71E-02	M
AM-241	pCi/g	34	34	-	-	3.64E-02-4.00E-01	8.52E-02	-	-	-	2.32E-01	-	0.00E+00	AND
CS-137	pCi/g	34	6	7.70E-02-5.40E-01	BKG-SB0030	1.74E-02-1.70E-01	1.54E-01	1.74E-01	0.10	No	4.29E-01	N	4.29E-01	UTL
EU-152	pCi/g	10	10	-	-	2.80E-01-4.90E-01	1.70E-01	-	-	-	2.75E-01	-	0.00E+00	AND

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Natural Soil (0'-2') *Data used in risk assessment														
Radionuclides														
EU-154	pCi/g	10	10	-	-	7.70E-01-1.40E+00	4.97E-01	-	-	-	7.74E-01	-	0.00E+00	AND
NP-237	pCi/g	10	10	-	-	7.00E-01-1.10E+00	4.23E-01	-	-	-	5.96E-01	-	0.00E+00	AND
Pa-231	pCi/g	25	8	4.30E-02-8.71E-02	BKG-SB0017	1.55E-02-7.35E-02	5.48E-02	6.92E-02	0.02	No	1.68E-01	Y	8.71E-02	M
Pb-210	pCi/g	34	0	6.27E-01-1.49E+00	BKG-SB0030	9.84E-02-3.10E-01	9.76E-01	9.76E-01	0.19	No	1.45E+00	N	1.45E+00	UTL
PU-238	pCi/g	10	10	-	-	5.40E-02-9.50E-02	3.65E-02	-	-	-	5.67E-02	-	0.00E+00	AND
PU-239	pCi/g	10	10	-	-	3.00E-02-8.00E-02	2.72E-02	-	-	-	4.65E-02	-	0.00E+00	AND
RA-226	pCi/g	34	0	6.27E-01-1.49E+00	BKG-SB0030	9.84E-02-3.10E-01	9.76E-01	9.76E-01	0.19	No	1.45E+00	N	1.45E+00	UTL
RA-228	pCi/g	34	0	6.63E-01-2.28E+00	BKG-SB0032	5.40E-02-4.80E-01	1.15E+00	1.15E+00	0.30	No	1.87E+00	N	1.87E+00	UTL
TC-99	pCi/g	10	10	-	-	5.80E-01-7.20E-01	3.18E-01	-	-	-	3.85E-01	-	0.00E+00	AND
TH-228	pCi/g	34	0	3.20E-01-1.41E+00	BKG-SB0018	3.00E-02-4.10E-01	9.42E-01	9.42E-01	0.30	No	2.09E+00	Y	1.41E+00	M
TH-230	pCi/g	34	0	4.60E-01-1.21E+00	BKG-SB0029	3.00E-02-2.60E-01	8.91E-01	8.91E-01	0.19	No	1.45E+00	Y	1.21E+00	M
TH-232	pCi/g	34	0	3.80E-01-1.41E+00	BKG-SB0018	3.00E-02-2.60E-01	9.56E-01	9.56E-01	0.30	No	2.03E+00	Y	1.41E+00	M
Total Uranium	mg/kg	25	8	2.93E+00-5.94E+00	BKG-SB0017	1.06E+00-5.01E+00	3.73E+00	4.72E+00	1.63	No	1.15E+01	Y	5.94E+00	M
U-233	ug/g	10	10	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	2.62E-05	-	0.00E+00	AND
U-234	pCi/g	25	8	9.78E-01-1.98E+00	BKG-SB0017	3.53E-01-1.67E+00	1.24E+00	1.57E+00	0.54	No	3.83E+00	Y	1.98E+00	M
U-235	pCi/g	25	8	4.30E-02-8.71E-02	BKG-SB0017	1.55E-02-7.35E-02	5.48E-02	6.92E-02	0.02	No	1.68E-01	Y	8.71E-02	M
U-236	ug/g	10	10	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	1.16E-05	-	0.00E+00	AND
U-238	pCi/g	25	8	9.78E-01-1.98E+00	BKG-SB0017	3.53E-01-1.67E+00	1.24E+00	1.57E+00	0.54	No	3.83E+00	Y	1.98E+00	M
Metals														
Lithium	mg/kg	24	0	1.18E+01-3.17E+01	BKG-SB0020	4.87E-02-7.85E-02	2.27E+01	2.27E+01	4.30	No	3.58E+01	Y	3.17E+01	M
Molybdenum	mg/kg	24	0	1.85E+00-4.13E+00	BKG-SB0020	2.13E-02-3.44E-02	2.95E+00	2.95E+00	0.48	Yes	4.07E+00	N	4.07E+00	UTL
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	24	0	2.30E+00-1.90E+01	BKG-SB0016	1.15E+00-1.83E+00	9.03E+00	9.03E+00	4.41	No	2.81E+01	Y	1.90E+01	M
Background Industrial Soil (0'-2')														
Radionuclides														
Ac-227	pCi/g	30	1	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-5.81E-02	7.76E-02	7.98E-02	0.03	No	2.19E-01	Y	1.55E-01	M
AM-241	pCi/g	30	30	-	-	1.44E-02-1.81E-01	4.05E-02	-	-	-	8.14E-02	-	0.00E+00	AND

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Industrial Soil (0'-2')														
Radionuclides														
CS-137	pCi/g	30	4	1.26E-02-3.24E-01	BKG-SB0015	5.70E-03-2.33E-02	5.73E-02	6.49E-02	0.06	No	3.29E-01	Y	3.24E-01	M
Pa-231	pCi/g	30	1	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-5.81E-02	7.76E-02	7.98E-02	0.03	No	2.19E-01	Y	1.55E-01	M
Pb-210	pCi/g	30	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.58E-01	1.19E+00	1.19E+00	0.36	Yes	2.00E+00	Y	1.94E+00	M
RA-226	pCi/g	30	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.58E-01	1.19E+00	1.19E+00	0.36	Yes	2.00E+00	Y	1.94E+00	M
RA-228	pCi/g	30	0	2.11E-01-1.13E+00	BKG-SB0015	2.02E-02-7.82E-02	8.06E-01	8.06E-01	0.27	No	1.97E+00	Y	1.13E+00	M
TH-228	pCi/g	30	0	2.11E-01-1.13E+00	BKG-SB0015	2.02E-02-7.82E-02	8.06E-01	8.06E-01	0.27	No	1.97E+00	Y	1.13E+00	M
TH-230	pCi/g	30	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.58E-01	1.19E+00	1.19E+00	0.36	Yes	2.00E+00	Y	1.94E+00	M
TH-232	pCi/g	30	0	2.11E-01-1.13E+00	BKG-SB0015	2.02E-02-7.82E-02	8.06E-01	8.06E-01	0.27	No	1.97E+00	Y	1.13E+00	M
Total Uranium	mg/kg	30	1	1.56E+00-1.06E+01	BKG-SB0014	3.99E-01-3.96E+00	5.29E+00	5.44E+00	2.05	No	1.50E+01	Y	1.06E+01	M
U-234	pCi/g	30	1	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.32E+00	1.76E+00	1.81E+00	0.68	No	4.98E+00	Y	3.53E+00	M
U-235	pCi/g	30	1	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-5.81E-02	7.76E-02	7.98E-02	0.03	No	2.19E-01	Y	1.55E-01	M
U-238	pCi/g	30	1	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.32E+00	1.76E+00	1.81E+00	0.68	No	4.98E+00	Y	3.53E+00	M
Metals														
Lithium	mg/kg	30	0	6.59E+00-2.88E+01	BKG-SB0002	4.51E-02-5.52E-02	1.40E+01	1.40E+01	6.15	No	3.39E+01	Y	2.88E+01	M
Molybdenum	mg/kg	30	0	1.72E+00-1.77E+01	BKG-SB0010	1.98E-02-2.42E-02	4.82E+00	4.82E+00	3.58	No	1.40E+01	N	1.40E+01	UTL
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	30	0	1.19E+01-2.14E+03	BKG-SB0002	1.06E+00-5.42E+01	3.25E+02	3.25E+02	521.41	No	2.07E+03	N	2.07E+03	UTL
Background Natural and Industrial Soil (0'-2')														
Radionuclides														
Ac-227	pCi/g	55	9	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-7.35E-02	6.72E-02	7.59E-02	0.03	No	1.84E-01	Y	1.55E-01	M
AM-241	pCi/g	64	64	-	-	1.44E-02-4.00E-01	6.43E-02	-	-	-	1.93E-01	-	0.00E+00	AND
CS-137	pCi/g	64	10	1.26E-02-5.40E-01	BKG-SB0030	5.70E-03-1.70E-01	1.09E-01	1.21E-01	0.10	No	5.41E-01	Y	5.40E-01	M
EU-152	pCi/g	10	10	-	-	2.80E-01-4.90E-01	1.70E-01	-	-	-	2.75E-01	-	0.00E+00	AND
EU-154	pCi/g	10	10	-	-	7.70E-01-1.40E+00	4.97E-01	-	-	-	7.74E-01	-	0.00E+00	AND
NP-237	pCi/g	10	10	-	-	7.00E-01-1.10E+00	4.23E-01	-	-	-	5.96E-01	-	0.00E+00	AND
Pa-231	pCi/g	55	9	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-7.35E-02	6.72E-02	7.59E-02	0.03	No	1.84E-01	Y	1.55E-01	M
Pb-210	pCi/g	64	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-3.10E-01	1.07E+00	1.07E+00	0.30	Yes	1.68E+00	N	1.68E+00	UTL

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

US Army Corps of Engineers ®

Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Natural and Industrial Soil (0'-2')														
Radionuclides														
PU-238	pCi/g	10	10	-	-	5.40E-02-9.50E-02	3.65E-02	-	-	-	5.67E-02	-	0.00E+00	AND
PU-239	pCi/g	10	10	-	-	3.00E-02-8.00E-02	2.72E-02	-	-	-	4.65E-02	-	0.00E+00	AND
RA-226	pCi/g	64	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-3.10E-01	1.07E+00	1.07E+00	0.30	Yes	1.68E+00	N	1.68E+00	UTL
RA-228	pCi/g	64	0	2.11E-01-2.28E+00	BKG-SB0032	2.02E-02-4.80E-01	9.89E-01	9.89E-01	0.33	No	2.06E+00	N	2.06E+00	UTL
TC-99	pCi/g	10	10	-	-	5.80E-01-7.20E-01	3.18E-01	-	-	-	3.85E-01	-	0.00E+00	AND
TH-228	pCi/g	64	0	2.11E-01-1.41E+00	BKG-SB0018	2.02E-02-4.10E-01	8.78E-01	8.78E-01	0.29	Yes	1.47E+00	Y	1.41E+00	M
TH-230	pCi/g	64	0	4.60E-01-1.94E+00	BKG-SB0014	3.00E-02-2.60E-01	1.03E+00	1.03E+00	0.32	Yes	1.67E+00	N	1.67E+00	UTL
TH-232	pCi/g	64	0	2.11E-01-1.41E+00	BKG-SB0018	2.02E-02-2.60E-01	8.86E-01	8.86E-01	0.29	Yes	1.47E+00	Y	1.41E+00	M
Total Uranium	mg/kg	55	9	1.56E+00-1.06E+01	BKG-SB0014	3.99E-01-5.01E+00	4.58E+00	5.17E+00	2.01	No	1.26E+01	Y	1.06E+01	M
U-233	ug/g	10	10	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	2.62E-05	-	0.00E+00	AND
U-234	pCi/g	55	9	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.67E+00	1.53E+00	1.72E+00	0.67	Yes	2.90E+00	N	2.90E+00	UTL
U-235	pCi/g	55	9	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-7.35E-02	6.72E-02	7.59E-02	0.03	No	1.84E-01	Y	1.55E-01	M
U-236	ug/g	10	10	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	1.16E-05	-	0.00E+00	AND
U-238	pCi/g	55	9	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.67E+00	1.53E+00	1.72E+00	0.67	Yes	2.90E+00	N	2.90E+00	UTL
Metals														
Lithium	mg/kg	54	0	6.59E+00-3.17E+01	BKG-SB0020	4.51E-02-7.85E-02	1.78E+01	1.78E+01	6.92	Yes	3.20E+01	Y	3.17E+01	M
Molybdenum	mg/kg	54	0	1.72E+00-1.77E+01	BKG-SB0010	1.98E-02-3.44E-02	3.99E+00	3.99E+00	2.83	No	8.94E+00	N	8.94E+00	UTL
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	54	0	2.30E+00-2.14E+03	BKG-SB0002	1.06E+00-5.42E+01	1.85E+02	1.85E+02	417.02	No	1.51E+03	N	1.51E+03	UTL
Background Industrial Soil (0'-13')														
Radionuclides														
Ac-227	pCi/g	45	2	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-8.14E-02	8.06E-02	8.31E-02	0.03	No	1.94E-01	Y	1.55E-01	M
AM-241	pCi/g	45	45	-	-	1.44E-02-2.35E-01	4.69E-02	-	-	-	9.52E-02	-	0.00E+00	AND
CS-137	pCi/g	45	19	1.26E-02-3.24E-01	BKG-SB0015	5.70E-03-3.71E-02	4.12E-02	6.49E-02	0.05	No	2.26E-01	N	2.26E-01	UTL
Pa-231	pCi/g	45	2	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-8.14E-02	8.06E-02	8.31E-02	0.03	No	1.94E-01	Y	1.55E-01	M
Pb-210	pCi/g	45	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.92E-01	1.26E+00	1.26E+00	0.32	No	2.30E+00	Y	1.94E+00	M
RA-226	pCi/g	45	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.92E-01	1.26E+00	1.26E+00	0.32	No	2.30E+00	Y	1.94E+00	M

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

US Army Corps of Engineers ®

Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Industrial Soil (0'-13')														
Radionuclides														
RA-228	pCi/g	45	0	2.11E-01-1.44E+00	BKG-SB0014	2.02E-02-1.14E-01	9.81E-01	9.81E-01	0.34	No	2.32E+00	Y	1.44E+00	M
TH-228	pCi/g	45	0	2.11E-01-1.44E+00	BKG-SB0014	2.02E-02-1.14E-01	9.81E-01	9.81E-01	0.34	No	2.32E+00	Y	1.44E+00	M
TH-230	pCi/g	45	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-1.92E-01	1.26E+00	1.26E+00	0.32	No	2.30E+00	Y	1.94E+00	M
TH-232	pCi/g	45	0	2.11E-01-1.44E+00	BKG-SB0014	2.02E-02-1.14E-01	9.81E-01	9.81E-01	0.34	No	2.32E+00	Y	1.44E+00	M
Total Uranium	mg/kg	45	2	1.56E+00-1.06E+01	BKG-SB0014	3.99E-01-5.55E+00	5.50E+00	5.67E+00	1.99	No	1.32E+01	Y	1.06E+01	M
U-234	pCi/g	45	2	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.85E+00	1.83E+00	1.89E+00	0.66	No	4.40E+00	Y	3.53E+00	M
U-235	pCi/g	45	2	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-8.14E-02	8.06E-02	8.31E-02	0.03	No	1.94E-01	Y	1.55E-01	M
U-238	pCi/g	45	2	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.85E+00	1.83E+00	1.89E+00	0.66	No	4.40E+00	Y	3.53E+00	M
Metals														
Lithium	mg/kg	45	0	6.59E+00-3.56E+01	BKG-SB0015	2.25E-02-5.59E-02	1.76E+01	1.76E+01	7.52	No	4.37E+01	Y	3.56E+01	M
Molybdenum	mg/kg	45	0	1.72E+00-1.99E+01	BKG-SB0014	1.98E-02-2.45E-02	5.43E+00	5.43E+00	3.75	No	1.44E+01	N	1.44E+01	UTL
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	45	3	1.50E+00-2.14E+03	BKG-SB0002	1.06E+00-5.42E+01	2.23E+02	2.39E+02	448.42	No	4.14E+03	Y	2.14E+03	M
Background Natural Soil (0'-13') *Data used in risk assessment														
Radionuclides														
Ac-227	pCi/g	37	11	3.80E-02-1.06E-01	BKG-SB0026	1.34E-02-7.35E-02	5.57E-02	6.98E-02	0.03	No	1.83E-01	Y	1.06E-01	M
AM-241	pCi/g	46	46	-	-	3.20E-02-4.00E-01	7.88E-02	-	-	-	2.18E-01	-	0.00E+00	AND
CS-137	pCi/g	46	17	3.44E-02-5.40E-01	BKG-SB0030	1.40E-02-1.70E-01	1.17E-01	1.69E-01	0.11	No	8.94E-01	Y	5.40E-01	M
EU-152	pCi/g	10	10	-	-	2.80E-01-4.90E-01	1.70E-01	-	-	-	2.75E-01	-	0.00E+00	AND
EU-154	pCi/g	10	10	-	-	7.70E-01-1.40E+00	4.97E-01	-	-	-	7.74E-01	-	0.00E+00	AND
NP-237	pCi/g	10	10	-	-	7.00E-01-1.10E+00	4.23E-01	-	-	-	5.96E-01	-	0.00E+00	AND
Pa-231	pCi/g	37	11	3.80E-02-1.06E-01	BKG-SB0026	1.34E-02-7.35E-02	5.57E-02	6.98E-02	0.03	No	1.83E-01	Y	1.06E-01	M
Pb-210	pCi/g	46	0	5.81E-01-1.49E+00	BKG-SB0030	8.27E-02-3.10E-01	9.41E-01	9.41E-01	0.19	No	1.41E+00	N	1.41E+00	UTL
PU-238	pCi/g	10	10	-	-	5.40E-02-9.50E-02	3.65E-02	-	-	-	5.67E-02	-	0.00E+00	AND
PU-239	pCi/g	10	10	-	-	3.00E-02-8.00E-02	2.72E-02	-	-	-	4.65E-02	-	0.00E+00	AND
RA-226	pCi/g	46	0	5.81E-01-1.49E+00	BKG-SB0030	8.27E-02-3.10E-01	9.41E-01	9.41E-01	0.19	No	1.41E+00	N	1.41E+00	UTL
RA-228	pCi/g	46	0	6.35E-01-2.28E+00	BKG-SB0032	5.40E-02-4.80E-01	1.13E+00	1.13E+00	0.29	No	1.79E+00	N	1.79E+00	UTL

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AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Natural Soil (0'-13') *Data used in risk assessment														
Radionuclides														
TC-99	pCi/g	10	10	-	-	5.80E-01-7.20E-01	3.18E-01	-	-	-	3.85E-01	-	0.00E+00	AND
TH-228	pCi/g	46	0	3.20E-01-1.41E+00	BKG-SB0018	3.00E-02-4.10E-01	9.71E-01	9.71E-01	0.29	No	1.97E+00	Y	1.41E+00	M
TH-230	pCi/g	46	0	4.60E-01-1.21E+00	BKG-SB0029	3.00E-02-2.60E-01	8.78E-01	8.78E-01	0.18	No	1.38E+00	Y	1.21E+00	M
TH-232	pCi/g	46	0	3.80E-01-1.41E+00	BKG-SB0018	3.00E-02-2.60E-01	9.81E-01	9.81E-01	0.28	No	1.92E+00	Y	1.41E+00	M
Total Uranium	mg/kg	37	11	2.59E+00-7.26E+00	BKG-SB0026	9.15E-01-5.01E+00	3.80E+00	4.76E+00	1.78	No	1.25E+01	Y	7.26E+00	M
U-233	ug/g	10	10	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	2.62E-05	-	0.00E+00	AND
U-234	pCi/g	37	11	8.63E-01-2.42E+00	BKG-SB0026	3.05E-01-1.67E+00	1.27E+00	1.59E+00	0.59	No	4.15E+00	Y	2.42E+00	M
U-235	pCi/g	37	11	3.80E-02-1.06E-01	BKG-SB0026	1.34E-02-7.35E-02	5.57E-02	6.98E-02	0.03	No	1.83E-01	Y	1.06E-01	M
U-236	ug/g	10	10	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	1.16E-05	-	0.00E+00	AND
U-238	pCi/g	37	11	8.63E-01-2.42E+00	BKG-SB0026	3.05E-01-1.67E+00	1.27E+00	1.59E+00	0.59	No	4.15E+00	Y	2.42E+00	M
Metals														
Lithium	mg/kg	36	0	8.52E+00-3.17E+01	BKG-SB0020	4.78E-02-7.85E-02	2.17E+01	2.17E+01	5.34	Yes	3.32E+01	Y	3.17E+01	M
Molybdenum	mg/kg	36	0	1.12E+00-4.13E+00	BKG-SB0020	2.09E-02-3.44E-02	2.83E+00	2.83E+00	0.63	Yes	4.18E+00	Y	4.13E+00	M
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	36	3	1.50E+00-1.90E+01	BKG-SB0016	1.12E+00-1.83E+00	6.73E+00	7.28E+00	4.99	No	3.81E+01	Y	1.90E+01	M
Background Natural and Industrial Soil (0'-13')														
Radionuclides														
Ac-227	pCi/g	82	13	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-8.14E-02	6.94E-02	7.81E-02	0.03	No	1.89E-01	Y	1.55E-01	M
AM-241	pCi/g	91	91	-	-	1.44E-02-4.00E-01	6.30E-02	-	-	-	1.75E-01	-	0.00E+00	AND
CS-137	pCi/g	91	36	1.26E-02-5.40E-01	BKG-SB0030	5.70E-03-1.70E-01	7.96E-02	1.20E-01	0.09	No	4.81E-01	N	4.81E-01	UTL
EU-152	pCi/g	10	10	-	-	2.80E-01-4.90E-01	1.70E-01	-	-	-	2.75E-01	-	0.00E+00	AND
EU-154	pCi/g	10	10	-	-	7.70E-01-1.40E+00	4.97E-01	-	-	-	7.74E-01	-	0.00E+00	AND
NP-237	pCi/g	10	10	-	-	7.00E-01-1.10E+00	4.23E-01	-	-	-	5.96E-01	-	0.00E+00	AND
Pa-231	pCi/g	82	13	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-8.14E-02	6.94E-02	7.81E-02	0.03	No	1.89E-01	Y	1.55E-01	M
Pb-210	pCi/g	91	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-3.10E-01	1.10E+00	1.10E+00	0.31	Yes	1.69E+00	N	1.69E+00	UTL
PU-238	pCi/g	10	10	-	-	5.40E-02-9.50E-02	3.65E-02	-	-	-	5.67E-02	-	0.00E+00	AND
PU-239	pCi/g	10	10	-	-	3.00E-02-8.00E-02	2.72E-02	-	-	-	4.65E-02	-	0.00E+00	AND

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TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Natural and Industrial Soil (0'-13')														
Radionuclides														
RA-226	pCi/g	91	0	4.61E-01-1.94E+00	BKG-SB0014	3.96E-02-3.10E-01	1.10E+00	1.10E+00	0.31	No	1.86E+00	N	1.86E+00	UTL
RA-228	pCi/g	91	0	2.11E-01-2.28E+00	BKG-SB0032	2.02E-02-4.80E-01	1.05E+00	1.05E+00	0.32	No	2.04E+00	N	2.04E+00	UTL
TC-99	pCi/g	10	10	-	-	5.80E-01-7.20E-01	3.18E-01	-	-	-	3.85E-01	-	0.00E+00	AND
TH-228	pCi/g	91	0	2.11E-01-1.44E+00	BKG-SB0014	2.02E-02-4.10E-01	9.76E-01	9.76E-01	0.31	Yes	1.58E+00	Y	1.44E+00	M
TH-230	pCi/g	91	0	4.60E-01-1.94E+00	BKG-SB0014	3.00E-02-2.60E-01	1.07E+00	1.07E+00	0.32	Yes	1.69E+00	N	1.69E+00	UTL
TH-232	pCi/g	91	0	2.11E-01-1.44E+00	BKG-SB0014	2.02E-02-2.60E-01	9.81E-01	9.81E-01	0.31	Yes	1.58E+00	Y	1.44E+00	M
Total Uranium	mg/kg	82	13	1.56E+00-1.06E+01	BKG-SB0014	3.99E-01-5.55E+00	4.73E+00	5.33E+00	2.07	No	1.29E+01	Y	1.06E+01	M
U-233	ug/g	10	10	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	2.62E-05	-	0.00E+00	AND
U-234	pCi/g	82	13	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.85E+00	1.58E+00	1.78E+00	0.69	No	4.30E+00	Y	3.53E+00	M
U-235	pCi/g	82	13	2.28E-02-1.55E-01	BKG-SB0014	5.85E-03-8.14E-02	6.94E-02	7.81E-02	0.03	No	1.89E-01	Y	1.55E-01	M
U-236	ug/g	10	10	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	1.16E-05	-	0.00E+00	AND
U-238	pCi/g	82	13	5.19E-01-3.53E+00	BKG-SB0014	1.33E-01-1.85E+00	1.58E+00	1.78E+00	0.69	No	4.30E+00	Y	3.53E+00	M
Metals														
Lithium	mg/kg	81	0	6.59E+00-3.56E+01	BKG-SB0015	2.25E-02-7.85E-02	1.94E+01	1.94E+01	6.91	Yes	3.30E+01	N	3.30E+01	UTL
Molybdenum	mg/kg	81	0	1.12E+00-1.99E+01	BKG-SB0014	1.98E-02-3.44E-02	4.27E+00	4.27E+00	3.10	No	9.98E+00	N	9.98E+00	UTL
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	81	6	1.50E+00-2.14E+03	BKG-SB0002	1.06E+00-5.42E+01	1.27E+02	1.37E+02	349.68	No	9.84E+02	N	9.84E+02	UTL
Background Sediment														
Radionuclides														
Ac-227	pCi/g	12	2	3.73E-02-1.13E-01	BKG-SD0002	1.94E-02-1.11E-01	5.42E-02	6.02E-02	0.03	No	1.82E-01	Y	1.13E-01	M
AM-241	pCi/g	12	12	-	-	4.89E-02-3.51E-01	6.27E-02	-	-	-	2.88E-01	-	0.00E+00	AND
CS-137	pCi/g	12	8	1.52E-02-7.91E-02	BKG-SD0005	1.23E-02-4.77E-02	2.62E-02	4.64E-02	0.02	No	1.41E-01	Y	7.91E-02	MND
Pa-231	pCi/g	12	2	3.73E-02-1.13E-01	BKG-SD0002	1.94E-02-1.11E-01	5.42E-02	6.02E-02	0.03	No	1.82E-01	Y	1.13E-01	M
Pb-210	pCi/g	12	0	3.80E-01-1.55E+00	BKG-SD0003	2.43E-02-1.18E-01	7.66E-01	7.66E-01	0.40	No	2.45E+00	Y	1.55E+00	M
Ra-226	pCi/g	12	0	3.80E-01-1.55E+00	BKG-SD0003	2.43E-02-1.18E-01	7.66E-01	7.66E-01	0.40	No	2.45E+00	Y	1.55E+00	M
RA-228	pCi/g	12	0	3.76E-01-1.06E+00	BKG-SD0002	4.48E-02-1.79E-01	6.89E-01	6.89E-01	0.25	No	1.76E+00	Y	1.06E+00	M
Th-228	pCi/g	12	0	3.76E-01-1.06E+00	BKG-SD0002	4.48E-02-1.79E-01	6.89E-01	6.89E-01	0.25	No	1.76E+00	Y	1.06E+00	M

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AND No detections, default to zero
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UTL UTL did not exceed maximum detection, UTL used

US Army Corps of Engineers ®

Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Sediment														
Radionuclides														
TH-230	pCi/g	12	0	3.80E-01-1.55E+00	BKG-SD0003	2.43E-02-7.77E-02	7.66E-01	7.66E-01	0.40	No	2.45E+00	Y	1.55E+00	M
Th-232	pCi/g	12	0	3.76E-01-1.06E+00	BKG-SD0002	4.48E-02-1.79E-01	6.89E-01	6.89E-01	0.25	No	1.76E+00	Y	1.06E+00	M
Total Uranium	mg/kg	12	2	2.54E+00-7.71E+00	BKG-SD0002	1.32E+00-7.59E+00	3.70E+00	4.10E+00	1.87	Yes	8.80E+00	Y	7.71E+00	M
U-234	pCi/g	12	2	8.47E-01-2.57E+00	BKG-SD0002	4.40E-01-2.53E+00	1.23E+00	1.37E+00	0.62	Yes	2.93E+00	Y	2.57E+00	M
U-235	pCi/g	12	2	3.73E-02-1.13E-01	BKG-SD0002	1.94E-02-1.11E-01	5.42E-02	6.02E-02	0.03	No	1.82E-01	Y	1.13E-01	M
U-238	pCi/g	12	2	8.47E-01-2.57E+00	BKG-SD0002	4.40E-01-2.53E+00	1.23E+00	1.37E+00	0.62	Yes	2.93E+00	Y	2.57E+00	M
Metals														
Lithium	mg/kg	12	0	7.13E+00-2.87E+01	BKG-SD0003	2.46E-02-6.32E-02	1.34E+01	1.34E+01	6.00	No	3.62E+01	Y	2.87E+01	M
Molybdenum	mg/kg	12	0	1.26E+00-9.45E+00	BKG-SD0001	1.87E-02-1.20E-01	3.49E+00	3.49E+00	3.24	No	2.14E+01	Y	9.45E+00	M
Semivolatile Organic Compunds														
TPH-DRO	mg/kg	12	0	4.30E+00-5.17E+02	BKG-SD0003	1.20E+00-1.28E+01	1.02E+02	1.02E+02	146.66	No	1.94E+03	Y	5.17E+02	M
Background Groundwater														
Radionuclides														
Ac-227	pCi/L	14	9	1.43E-02-1.16E-01	BKG-MW0003	7.92E-04-2.42E-02	2.70E-02	6.54E-02	0.04	No	6.20E-01	Y	1.16E-01	MND
Ac-227, Dissolved	pCi/L	14	6	3.78E-03-1.23E-01	BKG-MW0003	2.20E-03-2.43E-02	3.07E-02	4.83E-02	0.04	No	3.56E-01	Y	1.23E-01	M
AM-241	pCi/L	4	4	-	-	1.80E-02-1.80E-01	4.20E-02	-	-	-	2.18E-01	-	0.00E+00	AND
AM-241, Dissolved	pCi/L	4	4	-	-	8.20E-02-2.00E-01	6.68E-02	-	-	-	2.23E-01	-	0.00E+00	AND
CS-137	pCi/L	4	4	-	-	1.10E+01-1.50E+01	6.50E+00	-	-	-	1.12E+01	-	0.00E+00	AND
CS-137, Dissolved	pCi/L	4	4	-	-	1.10E+01-1.70E+01	7.25E+00	-	-	-	1.41E+01	-	0.00E+00	AND
EU-152	pCi/L	4	4	-	-	2.60E+01-3.50E+01	1.53E+01	-	-	-	2.61E+01	-	0.00E+00	AND
EU-152, Dissolved	pCi/L	4	4	-	-	2.70E+01-4.20E+01	1.70E+01	-	-	-	3.37E+01	-	0.00E+00	AND
EU-154	pCi/L	4	4	-	-	9.50E+01-1.40E+02	5.69E+01	-	-	-	1.05E+02	-	0.00E+00	AND
EU-154, Dissolved	pCi/L	4	4	-	-	9.90E+01-1.70E+02	6.36E+01	-	-	-	1.44E+02	-	0.00E+00	AND
NP-237	pCi/L	4	4	-	-	5.40E-02-9.60E-02	4.01E-02	-	-	-	8.89E-02	-	0.00E+00	AND
NP-237, Dissolved	pCi/L	4	3	9.40E-02-9.40E-02	BKG-MW0005	7.50E-02-9.60E-02	5.63E-02	9.40E-02	0.03	Yes	1.88E-01	Y	9.40E-02	MND
Pa-231	pCi/L	14	9	1.43E-02-1.16E-01	BKG-MW0003	7.92E-04-2.42E-02	2.70E-02	6.54E-02	0.04	No	6.20E-01	Y	1.16E-01	MND
Pa-231, Dissolved	pCi/L	14	6	3.78E-03-1.23E-01	BKG-MW0003	2.20E-03-2.43E-02	3.07E-02	4.83E-02	0.04	No	3.56E-01	Y	1.23E-01	M

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Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Groundwater														
Radionuclides														
Pb-210	pCi/L	5	2	7.75E-01-1.50E+00	BKG-MW0005	2.15E-01-4.34E-01	6.94E-01	1.04E+00	0.55	Yes	3.00E+00	Y	1.50E+00	M
Pb-210, Dissolved	pCi/L	2	1	7.76E-01-7.76E-01	BKG-MW0001	1.95E-01-4.06E-01	4.90E-01	7.76E-01	0.41	-	3.00E+00	-	7.76E-01	TF
PU-238	pCi/L	4	4	-	-	4.30E-02-1.10E-01	4.16E-02	-	-	-	1.16E-01	-	0.00E+00	AND
PU-238, Dissolved	pCi/L	4	4	-	-	5.80E-02-1.10E-01	3.83E-02	-	-	-	9.72E-02	-	0.00E+00	AND
PU-239	pCi/L	4	4	-	-	3.40E-02-7.80E-02	2.73E-02	-	-	-	7.44E-02	-	0.00E+00	AND
PU-239, dissolved	pCi/L	4	4	-	-	3.90E-02-1.00E-01	2.85E-02	-	-	-	2.49E-01	-	0.00E+00	AND
RA-226	pCi/L	5	2	7.75E-01-1.50E+00	BKG-MW0005	2.15E-01-4.34E-01	6.94E-01	1.04E+00	0.55	Yes	3.00E+00	Y	1.50E+00	M
RA-226, Dissolved	pCi/L	2	1	7.76E-01-7.76E-01	BKG-MW0001	1.95E-01-4.06E-01	4.90E-01	7.76E-01	0.41	-	3.00E+00	-	7.76E-01	TF
RA-228	pCi/L	9	4	6.50E-01-2.78E+00	BKG-MW0005	3.80E-01-1.89E+00	1.26E+00	1.71E+00	0.82	Yes	3.75E+00	Y	2.78E+00	M
RA-228, Dissolved	pCi/L	6	3	1.10E+00-1.58E+00	BKG-MW0005	4.60E-01-1.87E+00	9.61E-01	1.42E+00	0.58	Yes	3.11E+00	Y	1.58E+00	M
TC-99	pCi/L	4	4	-	-	2.80E+00-3.10E+00	1.48E+00	-	-	-	1.81E+00	-	0.00E+00	AND
TC-99, Dissolved	pCi/L	4	4	-	-	2.90E+00-3.10E+00	1.51E+00	-	-	-	1.76E+00	-	0.00E+00	AND
TH-228	pCi/L	14	8	1.81E-01-3.57E+00	BKG-MW0005	6.00E-02-1.10E+00	7.40E-01	1.19E+00	1.02	No	4.58E+00	Y	3.57E+00	MND
TH-228, Dissolved	pCi/L	14	11	2.08E-01-3.90E-01	BKG-MW0001	5.90E-02-1.02E+00	3.34E-01	2.78E-01	0.14	No	1.54E+00	Y	3.90E-01	MND
TH-230	pCi/L	14	11	9.60E-02-4.20E-01	BKG-MW0002	4.40E-02-6.20E-01	1.95E-01	2.13E-01	0.10	Yes	4.66E-01	Y	4.20E-01	MND
TH-230, Dissolved	pCi/L	14	9	9.90E-02-7.21E-01	BKG-MW0005	5.00E-02-1.02E+00	2.76E-01	2.86E-01	0.18	No	1.12E+00	Y	7.21E-01	MND
TH-232	pCi/L	14	13	5.70E-02-5.70E-02	BKG-MW0005	2.30E-02-7.01E-01	1.42E-01	5.70E-02	0.11	No	1.44E+00	Y	5.70E-02	MND
TH-232, Dissolved	pCi/L	14	14	-	-	2.30E-02-1.22E+00	1.54E-01	-	-	-	1.71E+00	-	0.00E+00	AND
Total Uranium	mg/L	10	2	2.45E-04-6.84E-03	BKG-MW0003	1.98E-04-2.00E-04	1.55E-03	1.91E-03	0.00	No	3.97E-02	Y	6.84E-03	M
Total Uranium, Dissolved	mg/L	10	3	2.82E-04-6.70E-03	BKG-MW0003	1.98E-04-2.00E-04	1.59E-03	2.23E-03	0.00	No	5.00E-02	Y	6.70E-03	M
U-233	mg/L	4	4	-	-	7.00E-07-7.00E-07	3.50E-07	-	-	-	3.50E-07	-	0.00E+00	AND
U-233, Dissolved	mg/L	4	4	-	-	7.00E-07-7.00E-07	3.50E-07	-	-	-	3.50E-07	-	0.00E+00	AND
U-234	pCi/L	14	7	2.70E-02-2.70E+00	BKG-MW0003	1.80E-02-7.03E-01	6.96E-01	1.16E+00	0.91	No	9.70E+00	Y	2.70E+00	M
U-234, Dissolved	pCi/L	14	5	1.00E-01-2.93E+00	BKG-MW0003	5.00E-02-7.39E-01	8.97E-01	1.27E+00	1.04	No	1.29E+01	Y	2.93E+00	M
U-235	pCi/L	14	13	3.81E-01-3.81E-01	BKG-MW0003	9.00E-03-4.99E-01	1.41E-01	3.81E-01	0.10	Yes	4.13E-01	Y	3.81E-01	MND
U-235, Dissolved	pCi/L	14	11	4.10E-02-2.24E-01	BKG-MW0004	2.10E-02-4.63E-01	1.35E-01	1.50E-01	0.08	Yes	3.38E-01	Y	2.24E-01	MND
U-236	mg/L	4	4	-	-	1.22E-07-1.22E-07	6.12E-08	-	-	-	6.12E-08	-	0.00E+00	AND

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

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Table 8-7.
Background Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UTL	UTL>Max?	Final Background Value	Basis*
Background Groundwater														
Radionuclides														
U-236, Dissolved	mg/L	4	4	-	-	1.22E-07-1.22E-07	6.12E-08	-	-	-	6.12E-08	-	0.00E+00	AND
U-238	pCi/L	14	9	3.26E-01-2.63E+00	BKG-MW0003	1.80E-02-5.51E-01	6.14E-01	1.49E+00	0.90	No	1.41E+01	Y	2.63E+00	MND
U-238, Dissolved	pCi/L	14	6	8.60E-02-2.79E+00	BKG-MW0003	5.00E-02-5.52E-01	6.97E-01	1.10E+00	0.91	No	8.09E+00	Y	2.79E+00	M
Metals														
Lithium	mg/L	5	0	7.98E-03-3.42E-02	BKG-MW0004	1.05E-04-1.05E-04	1.81E-02	1.81E-02	0.01	Yes	7.14E-02	Y	3.42E-02	M
Lithium, Dissolved	mg/L	5	0	7.37E-03-3.26E-02	BKG-MW0004	1.05E-04-1.05E-04	1.68E-02	1.68E-02	0.01	Yes	6.61E-02	Y	3.26E-02	M
Molybdenum	mg/L	6	0	1.45E-03-1.78E-02	BKG-MW0001	0.00E+00-1.43E-03	5.64E-03	5.64E-03	0.01	No	1.09E-01	Y	1.78E-02	M
Molybdenum, Dissolved	mg/L	7	0	1.51E-03-1.79E-02	BKG-MW0001	4.60E-05-1.43E-03	5.14E-03	5.14E-03	0.01	No	5.85E-02	Y	1.79E-02	M
Semivolatile Organic Compunds														
TPH-DRO	mg/L	5	0	3.80E-02-2.20E-01	BKG-MW0004	2.84E-02-2.87E-02	1.36E-01	1.36E-01	0.07	Yes	4.27E-01	Y	2.20E-01	M
Background Surface Water														
Radionuclides														
Total Uranium	mg/L	12	5	8.07E-04-1.50E-03	BKG-SW0001	1.98E-04-1.98E-04	7.79E-04	1.26E-03	0.00	No	1.57E-02	Y	1.50E-03	M
Metals														
Lithium	mg/L	12	0	1.34E-02-2.45E-02	BKG-SW0003	1.10E-04-2.10E-04	1.66E-02	1.66E-02	0.00	No	3.02E-02	Y	2.45E-02	M
Lithium, Dissolved	mg/L	3	0	2.00E-02-2.49E-02	BKG-SW0003	2.20E-05-1.10E-04	2.22E-02	2.22E-02	0.00	Yes	4.12E-02	Y	2.49E-02	M
Molybdenum	mg/L	12	0	1.31E-02-3.32E-02	BKG-SW0008	9.20E-05-2.00E-04	2.37E-02	2.37E-02	0.01	No	6.05E-02	Y	3.32E-02	M
Molybdenum, Dissolved	mg/L	3	0	1.31E-02-1.37E-02	BKG-SW0003	4.00E-05-2.00E-04	1.34E-02	1.34E-02	0.00	Yes	1.57E-02	Y	1.37E-02	M
Semivolatile Organic Compunds														
TPH-DRO	mg/L	12	0	1.60E-01-2.00E-01	BKG-SW0001	2.80E-02-2.90E-02	1.74E-01	1.74E-01	0.01	Yes	2.10E-01	Y	2.00E-01	M

***BASIS:**

TF Too few observations (1 or 2), default to maximum detection or zero (if no detections)
AND No detections, default to zero
MND More than 50% non-detects, default to maximum detection
M UTL exceeded maximum detection, defaut to maximum detection
UTL UTL did not exceed maximum detection, UTL used

Table 8-8. Summary of Radiological EPCs (pCi/g), For Use in Dose Assessment

Nuclide	SB Background	SS Background	EU1 SB	EU1 SS	EU2 SB	EU2 SS	EU3 SB	EU3 SS	EU4 SB	EU4 SS
Am-241	0	0	0	0	0	0	0	0	0	0
Cs-137	5.40E-01	4.29E-01	0	0	0	0	0	0	0	0
Np-237	0	0	0	0	7.00E-01	0.668	0	0	0	0
Pb-210	1.41E+00	1.45E+00	1.59E+00	1.76E+00	1.71E+00	1.43E+00	1.56E+00	2.01E+00	9.60E-01	1.10E+00
Ra-226	1.41E+00	1.45E+00	1.59E+00	1.76E+00	1.71E+00	1.43E+00	1.56E+00	2.01E+00	9.60E-01	1.10E+00
Ra-228	1.79E+00	1.87E+00	0	0	0	0	1.66E+00	2.96E+00	0	0
Th-228	1.41E+00	1.41E+00	0	0	0	0	2.29E+00	5.02E+00	0	0
Th-230	1.21E+00	1.21E+00	2.85E+01	8.61E+01	6.59E+00	3.69E+00	7.84E+00	1.61E+01	1.55E+00	1.65E+00
Th-232	1.41E+00	1.41E+00	1.10E+00	9.62E-01	1.08	0.00E+00	1.73E+00	3.20E+00	0	0
U-234	2.42E+00	1.98E+00	2.19E+01	6.81E+01	3.22E+01	5.87E+01	1.68E+01	2.23E+01	3.19E+00	4.71E+00
U-235	1.06E-01	8.71E-02	1.35E+00	2.58E+00	2.33E+00	2.99E+00	1.27E+00	1.69E+00	0	0
U-238	2.42E+00	1.98E+00	2.19E+01	6.81E+01	3.22E+01	5.87E+01	1.68E+01	2.23E+01	3.19E+00	4.71E+00
Nuclide	**EU5 SB**	**EU5 SS**	**EU6 SD**	**EU 6 SW**	**SD Background**	**EU 7 GW**	**GW Background**	**EU 8 SB**	**EU 8 SW**	**EU 8 SD**
Am-241	0	0	0	0	0	0	0	0	0	0
Cs-137	0	0	0	0.0791	7.91E-02	0	0	3.73E+02	0	0
Np-237	0	0	0	NA	NA	0	0	0	0	0
Pb-210	1.58E+00	1.79E+00	0	1.55	1.55E+00	1.30E+00	1.50E+00	0	0	1.00E+00
Ra-226	1.58E+00	1.79E+00	0	1.55	1.55E+00	0	1.50E+00	0	0	1.00E+00
Ra-228	2.24E+00	4.45E+00	0	1.06	1.06E+00	0	2.78E+00	0	0	0
Th-228	2.65E+00	6.27E+00	0	1.55	1.55E+00	0	3.57E+00	0	0	0
Th-230	4.47E+00	7.09E+00	0	1.06	1.06E+00	2.60E+00	4.20E-01	1.58E+01	0	5.16E+00
Th-232	2.34E+00	4.76E+00	0	2.57	2.57E+00	0	5.70E-02	0.00E+00	0	6.87E-01
U-234	4.83E+00	1.33E+01	0	1.13E-01	1.13E-01	1.01E+02	2.70E+00	2.75E+01	1.42E+02	2.31E+01
U-235	5.89E-01	1.18E+00	0	2.57E+00	2.57E+00	4.62E+00	3.81E-01	0	0	1.46E+00
U-238	4.83E+00	1.33E+01	0	1.06E+00	1.06E+00	1.69E+02	2.63E+00	2.75E+01	1.42E+02	2.31E+01

Gross EPC, no background subtracted
note: SB = 0-13 feet
SS = 0-2 feet
A zero in background indicates the constituent was not detected.
A zero in on-site EU indicates that the constituent is not a COPC in that medium/EU (see Table 8-1)

Table 8-9. Chemical-Specific Parameters for Chemical COPCs at Former Harshaw Chemical Site

COPCs	CASRN	Non-Food Factors			Food Pathway Factors						Fish Uptake Factors		
		Gastrointestinal Absorption Factor (GI)	Dermal Absorption Factor (ABS)	Volatilization Factor VF (m^3/kg)	logKow	Uptake Factor Plants (BCFr) wet wt.	Uptake Factor Beef (Babeef) wet wt.	Uptake Factor Milk (Bamilk) wet wt.	Uptake Factor Chicken (Bachicken) wet wt.	Uptake Factor Deer (Badeer) wet wt.	Fish Bioconcentration Factor (BCFfsh)	Surface Water Partition Coefficient L/kg Kdsw	Kdsw Source
SVOCs													
Kerosene [1]	68334-30-5	NA	NA	17605.00	4.3E+00	1.6E-02	NA	NA	NA	NA	3.0E+02	1.0E+01	
Metals/Inorganics													
Lithium	7439-93-2	1.000	NA	NA	NA	3.8E-03	1.0E-02	2.0E-02	4.7E-03	2.0E-03	3.2E+00	3.0E+02	RAIS
Molybdenum	7439-98-7	1.000	NA	NA	NA	3.8E-02	1.0E-03				3.2E+00	2.0E+01	RAIS
Uranium	7440-61-1	1.000	NA	NA	NA	4.0E-03	2.0E-04	6.0E-04	9.4E-05	4.0E-05	1.0E+01	1.4E+01	Site-specific

NA = not available
Food pathway factors are taken from DOE's Risk Assessment Information System (RAIS) website, unless noted. Located at: http://risk.lsd.ornl.gov/index.shtml
[1] Average based upon a range of octanol water partition coefficients rep the C10-C16 alkanes (3.3-5.25) BCF ranges 190-5800 (avg. = 2995) from HSDB: Kerosene.
But, inclusion of high log Kow components in the calculated average BCF of 2995 L/kg results in overestimating BCF by order of magnitude
(regression equation is most applicable to chemicals that are not metabolized by fish)

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures

Exposure Parameter	Units	Value	Receptor	Comment/Reference
General Parameters				
Body weight	kg	70	Adult	Value used to derive cancer slope factors in IRIS
		42	Adolescent	EFH, Chapter 7: 50th percentile for ages 7-16
		15	Child	EFH, Chapter 7: 50th percentile for ages 0-6
Exposure duration	years	30	Subsistence Adult	RME duration for resident (EFH, RAGS)
		6	Subsistence Child	Assuming 6 years of childhood spent at the site.
		30	Resident Adult	RME duration for resident (EFH, RAGS)
		6	Resident Child	Assuming 6 years of childhood spent at site
		25	Industrial Worker	RME duration for occupational receptor (EFH, RAGS)
		25	Maintenance Worker	RME duration for occupational receptor (EFH, RAGS)
		1	Construction Worker	Assumes construction activities occur during one calendar year
		30	Trespasser Adult	RME duration for (off-site) resident (EFH, RAGS)
		10	Trespasser Adol.	Assumed adolescent receptor exposed through ages 7-16
Carcinogen averaging time	days	25550	All	70 yrs x 365 days/yr
Non carcinogen averaging time	days	10950	Subsistence Adult	Exposure duration (yrs) x 365 days/yr
		2190	Subsistence Child	
		10950	Resident Adult	
		2190	Resident Child	
		9125	Industrial Worker	
		9125	Maintenance Worker	
		365	Construction Worker	
		10950	Trespasser Adult	
		3650	Trespasser Adol.	

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Soil and Sediment Exposure Pathway Parameters				
Soil ingestion rate	mg/day	100	Subsistence Adult	100 mg/day for RME residential adult (RAGS)
		200	Subsistence Child	200 mg/day for RME residential child (RAGS)
		100	Resident Adult	100 mg/day for RME residential adult (RAGS)
		200	Resident Child	200 mg/day for RME residential child (RAGS)
		50	Industrial Worker	50 mg/day for RME industrial worker rate (RAGS)
		100	Maintenance Worker	100 mg/day for RME adult (RAGS)
		480	Construction Worker	480 mg/day for RME assuming outdoor summer activities (EFH, Table 4-16)
		100	Trespasser Adult	100 mg/day RME adult rate (RAGS)
		100	Trespasser Adol.	100 mg/day for RME adult rate (RAGS)
Sediment ingestion rate	mg/day	10	Subsistence Adult	Incidental sediment ingestion. Assumes 10% of RME soil ingestion rate
		20	Subsistence Child	
		10	Resident Adult	
		20	Resident Child	
		NU	Industrial Worker	
		NU	Maintenance Worker	
		48	Construction Worker	
		10	Trespasser Adult	
		10	Trespasser Adol.	
Exposure frequency for soil	days/yr	350	Subsistence Adult and Child	RME frequency for resident (EFH, RAGS)
		350	Resident Adult and Child	RME frequency for resident (EFH, RAGS)
		250	Industrial Worker	RME frequency for occupational receptor (EFH, RAGS)
		100	Maintenance Worker	Assumes 2 days per week 50 weeks per year
		187	Construction Worker	Assumes 9 month construction season (March 1 through November 30)
		52	Trespasser Adult and Adolescent	Assumes 2 day/week during warm seasons (6 months)

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Exposure frequency for sediment/surface water	days/yr	26	Subsistence Adult	Assumes 1 day/week during warm seasons (6 months)
		52	Subsistence Child	Assumes 2 day/week during warm seasons (6 months)
		26	Resident Adult	Assumes 1 day/week during warm seasons (6 months)
		52	Resident Child	Assumes 2 day/week during warm seasons (6 months)
		NU	Industrial Worker	
		NU	Maintenance Worker	
		52	Construction Worker	Assumes 1 day/week for a full year.
		52	Trespasser Adult	Assumes 2 day/week during warm seasons (6 months)
		52	Trespasser Adol.	Assumes 2 day/week during warm seasons (6 months)
Skin surface area exposed to soil and sediment	cm^2	5700	Subsistence Adult	RAGS-Part E recommended skin surface areas for adult and child resident receptors. RAGS – Part E recommended skin surface area for commercial/industrial receptor applied to industrial, maintenance, and construction worker. Recreational adult and adolescent value from EFH, Vol I. Recommended value for outdoor activities based on 25 percent of 95th percentile of total body surface for specified age ranges.
		2800	Subsistence Child	
		5700	Resident Adult	
		2800	Resident Child	
		3300	Industrial Worker	
		3300	Maintenance Worker	
		3300	Construction Worker	
		5463	Trespasser Adult	
		4041	Trespasser Adol.	
Soil/sediment to skin adherence factor	mg/cm^2	0.07/0.4	Subsistence Adult	RAGS Part E recommended dermal exposure factors for RME resident adult. 95th percentile farmer value used for sediment.
		0.2/3.3	Subsistence Child	RAGS Part E recommended dermal exposure factors for RME resident child. Children playing in wet soil value used for sediment.
		0.07/0.2	Resident Adult	RAGS Part E recommended dermal exposure factors for RME resident adult. 95th percentile landscaper value used for sediment.

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Soil/sediment to skin adherence factor	mg/cm^2	0.2/3.3	Resident Child	RAGS Part E recommended dermal exposure factors for RME resident child. Children playing in wet soil value used for sediment.
		0.2	Industrial Worker	RAGS Part E recommended dermal exposure factor for RME industrial scenario.
		0.2	Maintenance Worker	RAGS Part E recommended dermal exposure factor for RME industrial scenario.
		0.2	Construction Worker	RAGS-Part E Exhibit C-2, 95th percentile value for construction workers
		0.3	Trespasser Adult	RAGS Part E 95th percentile value for Soccer Player #3 used for soil, 95th percentile Landscaper/Rockery value used for sediment
		0.08/0.2	Trespasser Adol.	RAGS Part E 95th percentile value for Children Playing (dry soil), 95th percentile value for Children Playing in wet soil used for sediment.
Constituent-specific absorption factor	unitless	chemical-specific	All	See Table 2.2
Inhalation rate	m^3/hr	1.0	Subsistence Adult	Assuming adult male rate of 23.2 m^3/day [EFH, Table 5-23 (1.3 m^3/hr for 16 hrs working outdoors and 0.4 m^3/hr for 8 hrs rest)]
		0.31	Subsistence Child	Assuming 1-5 year old rate of 7.55 m^3/day (EFH, Table 5-23)
		0.63	Resident Adult	Assuming adult male rate of 15.2 m^3/day (EFH, Table 1-2)
		0.31	Resident Child	Assuming 1-5 year old rate of 7.55 m^3/day (EFH, Table 5-23)
		0.83	Industrial Worker	Assuming RAGS default rate of 20 m^3/day for workers
		0.83	Maintenance Worker	Assuming RAGS default rate of 20 m^3/day for workers
		1.3	Construction Worker	Assuming hourly average of 1.3m^3/hr for outdoor workers
		0.63	Trespasser Adult	Assuming adult male rate of 15.2 m^3/day (EFH, Table 1-2)
		0.58	Trespasser Adol.	Avg. for 7-16 year old male of 14m^3/day (EFH, Table 5-23)

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Exposure time (yearly time spent outdoors on-site)	hours/day	8	Subsistence Adult	Assumption 8hr/day for 350 days/yr for farmer
		5.6	Subsistence Child	5 hrs/day on weekdays and 7 hrs/day on weekends for 350 days/yr for children ages 3-11 (EFH, Table 1-2)
		2	Resident Adult	2 hrs/day for 350 days/yr for resident (EFH, Table 5-23)
		5.6	Resident Child	5 hrs/day on weekdays and 7 hrs/day on weekends for 350 days/yr for children ages 3-11 (EFH Table 1-2)
		1	Industrial Worker	1 of 8 hrs/day for 250 days/ yr (assumed)
		5.5	Maintenance Worker	Assumes part of day spent indoors
		8	Construction Worker	Assumes part of day spent indoors
		4	Trespasser Adult	4 hr/day for 26 wks/yr (assumed)
		4	Trespasser Adol	4 hr/day for 26 wks/yr (assumed)
Volatilization factor	m^3/kg	chemical-specific	All	See Table 8-9
Particulate emission factor	m^3/kg	4.35E+07	Non-construction	Consistent with RESRAD (radiological exposure assessment)
Groundwater and Surface Water Exposure Pathway Parameters				
Exposure frequency for groundwater	days/yr	350	Subsistence Adult and Child	RME frequency for resident (EFH, RAGS)
		NU	Resident Adult and Child	Not used
		NU	Industrial Worker	Not used
		100	Maintenance Worker	Assumes 2 days a week for 50 weeks/year
		250	Construction Worker	RME frequency for occupational receptor (EFH, RAGS)
		NU	Trespasser Adult and Adolescent	Not used
Drinking water intake	L/day	2.38	Subsistence Adult	34 ml/kg-day RME rate for adult (EFH, Table 1-2)
		0.5	Subsistence Child	34 ml/kg-day RME rate for child (EFH, Table 1-2)

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Incidental ingestion of surface water during recreational (non-swimming) activities and maintenance and construction worker exposure to groundwater	L/day	0.0024 0.0005 0.0024 0.0005 NU 0.0024 0.0024 0.0024 0.0014	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult Trespasser Adol.	No data available. Value assumes 0.1% of adult and child drinking water rates.
Drinking water fraction from groundwater	unitless	1	All	Default
Household water fraction from groundwater	unitless	1	All	Default
Skin surface area exposed to water while bathing	cm^2	NU	All	Not Used
Skin surface area exposed to surface water during recreational activities (and maintenance and construction worker exposure to groundwater)	cm^2	4500 1650 4500 1650 NU 4500 4500 4500 4041	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult Trespasser Adol.	EFH, Vol I. Recommended value for outdoor activities based on 25 percent of 95th percentile of total body surface.

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Exposure time while bathing	hours/ event	NU	All	Not used
Exposure time for incidental exposure (surface water and construction worker exposure to groundwater)	hours/day	1	All	No data available. Assumes 1 hour per day.
Food Exposure Pathway Parameters				
Produce Consumption	kg/meal	0.52 0.11	Subsistence/Resident Adult Subsistence/Resident Child	Equal to total consumption of fruit (12.4 g/kg-day - EFH Table 1-2) plus vegetables (10 g/kg-day EFH Table 1-2) for either a 70 kg adult or 15 kg child, spread evenly over 3 meal/day.
Contaminated Fraction of Produce	unitless	0.3	Subsistence Adult/child	Total vegetable from farming household (EFH, Table 13-71)
		0.05	Resident Adult/child	Suburban rate for fruits and vegetables (EFH, Table 13-71, approximately 5%)
Milk consumption	L/meal	0.12	Subsistence Adult	Rate for 12-19 year old male conservatively assumed (EFH,Table 11-15)
		0.15	Subsistence Child	Rate averaged over 0-5 year old male and female children (EFH, table 11-15)
Contamination Fraction of Milk	unitless	0.3	Subsistence Adult	Dairy from farming household (EFH, Table 13-71, rounded)
		0.3	Subsistence Child	Dairy from farming household (EFH, Table 13-71, rounded)
Beef Consumption	kg/meal	0.053	Subsistence Adult	95th percentile for ages 6-69 (EFH, Table 11-3)
		0.017	Subsistence Child	95th percentile for ages 0-5 (EFH, Table 11-3)
Contamination Fraction of Meat	unitless	0.3	Subsistence Adult	Meats from farming household (EFH, Table 13-71, rounded)
		0.3	Subsistence Child	Meats from farming household (EFH, Table 13-71, rounded)

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Contamination fraction of fish	unitless	0.133 0.133 1	Subsistence Adult and Child Resident Adult and Child Trespasser Adult and Adolescent	Fraction of fish that is home produced from northeast households (EFH, Table 13-71), Assumes all home produced fish are caught in Cuyahoga River adjacent to the site. Fraction of fish that is home produced from suburban households (EFH, Table 13-71 rounded) Assumed for angler
Preparation loss factor	unitless	0.33	Subsistence, Resident, and Trespasser	Average value for 12 organic chemicals from Guidance for Assessing Chemical Contamination data for Use in Fish Advisories (EPA 2000) table C-3 (Great Lakes Fish)
Poultry Consumption	kg/meal	0.046 0.019	Subsistence Adult Subsistence Child	95th percentile for ages 6-69 (EFH, Table 11-3) 95th percentile for ages 0-5 (EFH, Table 11-3)
Game fish consumption	g/day	15.9 6.2 12 6.2 NU	Subsistence and Resident Adult Subsistence and Resident Child Trespasser Adult Trespasser Adolescent All others	EFH Section 10.10.1 (Recommendations – General Population), Table 10-81. 95th percentile value = 53 g/day for all sources (e.g., fresh, frozen, canned, domestic, international origin) from a study by Javitz et al., (1980). The original value reported by Javitz (41.7 g/day) was adjusted upward (by EPA) by 25% to account for increased fish consumption in recent years. Table 10-81 also provides mean values for all fish (20 g/day), marine fish (14 g/day), and freshwater/estuarine fish (6 g/day); therefore, the all fish 95th percentile value of 53 g/day was adjusted (by SAIC) by the ratio of the mean values for fresh and total fish (6/20) to give an upperbound value for freshwater fish only [53g/day x (6/20) = 15.9 g/day].EFH Section 10.2 (Key General Population Studies), Table 10-1 (Total Fish Consumption by Demographic Variables), 95th percentile value = 16.5 g/day for children age 0-9 years. 16.5 g/day is for all sources from a study by Javitz et al., (1980).

Table 8-10. Reasonable Maximum Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Game fish consumption	g/day			The value reported by Javitz was adjusted upward (by SAIC) by 25% to account for increased fish consumption in recent years to match what was done by EPA for the adult ingestion rate. The resulting all fish value of 20.6 g/day was adjusted (by SAIC) by the ratio of mean fresh to mean total fish (6/20) for adults from Table 10-81 to give an upper-bound value for freshwater fish only [20.6g/day x (6/20) = 6.2 g/day]. EFH Section 10.6 (Key Freshwater Recreational Studies), Table 10-64, 95th percentile value for rivers and streams. Table 10-64 provides the results from 1 of the 4 studies used to develop the 25 g/day recommended default value. Study by Ebert et al., (1993) in Maine reports 95th percentile values for consuming anglers from "all waters" (26 g/day) and "rivers and streams" (12 g/day). This rivers and streams only value is considered more representative of the Cuyahoga River given the close proximity of Lake Erie as an alternative fishing resource. EFH Section 10.6 (Key Freshwater Recreational Studies), Tables 10-61 and 10-64. Table 10-61 reports recreational mean fish ingestion rates of 14 g/day for all respondents and 7.27 g/day for children age 1-20 from a Michigan study that included all types of surface water. The ratio of the mean child ingestion rate over the mean adult ingestion rate (7.27/14) was applied to the adult RME value for rivers and streams from Table 10-64 to calculate a child RME [12 g/day x (7.27/14) = 6.2 g/day]. Not used

Adol. = adolescent
EFH = Exposure Factors Handbook (EPA 1997a)
RAGS = Risk Assessment Guidance for Superfund, specifically Volume 1 Part B (EPA 1991)
RME = reasonable maximum exposure
NU = not used

Table 8-11. Central Tendency Exposure Parameters for Chemical Exposures

Exposure Parameter	Units	Value	Receptor	Comment/Reference
General Parameters				
Body weight	kg	70 42 15	Adult Adolescent Child	Value used to derive cancer slope factors in IRIS EFH, Chapter 7: 50th percentile for ages 7-16 EFH, Chapter 7: 50th percentile for ages 0-6
Exposure duration	yr	9 6 9 6 6.6 6.6 1 9	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult and Adolescent	Average duration for resident (EFH, RAGS) Assuming 6 years of childhood spent at site Average duration for resident (EFH, RAGS) Assuming 6 years of childhood spent at site Average duration for occupational receptor (EFH, Table 1-2) Average duration for occupational receptor (EFH, Table 1-2) Assuming construction activities during one calendar year Average duration for (off-site) resident (EFH, Table 1-2)
Carcinogen averaging time	days	25550	All	70 years x 365 days/year
Non carcinogen averaging time	days	3285 2190 3285 2190 2409 2409 365 3285 3285	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult Trespasser Adol.	Exposure duration (yrs) x 365 days/yr
Soil and Sediment Exposure Pathway Parameters				
Soil ingestion rate	mg/day	50 100 50 100 50 50 100 50 50	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult Trespasser Adol.	50 mg/day for avg. residential adult (EFH, Table 1-2) 100 mg/day for avg. residential child (EFH, Table 1-2) 50 mg/day for avg. residential adult (EFH, Table 1-2) 100 mg/day for avg. residential child (EFH, Table 1-2) 50 mg/day for avg. industrial worker rate (EFH, Table 1-2) 50 mg/day for avg. industrial worker rate (EFH, Table 1-2) 100 mg/day for CTE construction worker assuming twice the avg. adult Rate from EFH, Table 1-2 (assumed) 50 mg/day for avg. adult rate (EFH, Table 1-2) 50 mg/day assuming average of CTE adult rate (EFH, Table 1-2)
Sediment ingestion rate	mg/day	5 10 5 10 NU NU NU 5 5	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult Trespasser Adol.	Incidental ingestion. Assumes 10% of CTE soil ingestion rate
Soil and Sediment Exposure Pathway Parameters				
Exposure frequency for soil	days/yr	210 210 60 60 60 13	Subsistence Adult and Chil Resident Adult and Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult and Adolescent	Assumes 7 day/week exposure from April thru October Assumes 7 day/week exposure from April thru October RAGS-Part E, Exhibit 3-5RAGS-Part E, Exhibit 3-5 RAGS-Part E, Exhibit 3-5RAGS-Part E, Exhibit 3-5 Assumes 5 day/week for three months Assumes 1 day every other week during warm seasons (6 months)
Exposure frequency for sediment/surface water	days/yr	13 26 13 26 NU NU NU 13	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult and Adolescent	Assumes 1 day every other week during warm seasons Assumes 1 day every week during warm seasons Assumes 1 day every other week during warm seasons Assumes 1 day/week during warm seasons Not used Not used Not used Assumes 1 day every other week during warm seasons
Skin surface area exposed to soil and sediment	cm^2	5700 2800 5700 2800 3300 3300 3300 4538 3293	Subsistence Adult Subsistence Child Resident Adult Resident Child Industrial Worker Maintenance Worker Construction Worker Trespasser Adult Trespasser Adol.	RAGS-Part E recommended skin surface areas for adult and child resident. RAGS – Part E recommended skin surface area for commercial/industrial receptor applied to industrial, maintenance, and construction worker. Recreational adult and adolescent value from EFH Vol I. Recommended value for outdoor activities based on 25 percent o 50th percentile of total body surface for specified age ranges

Table 8-11. Central Tendency Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Soil/sediment to skin adherence factor	mg/cm^2	0.01/0.1	Subsistence Adult	RAGS Part E recommended dermal exposure factors for CT resident. Geometric mean farmer value used for sediment.
		0.04/3.3	Subsistence Child	RAGS Part E recommended dermal exposure factors for CT resident child. Children playing in wet soil value of 3.3 mg/cm^2 used for sediment.
		0.01/0.1	Resident Adult	RAGS Part E recommended dermal exposure factors for CT resident. Geometric mean farmer value used for sediment.
		0.04/3.3	Resident Child	RAGS Part E recommended dermal exposure factors for CT resident child. Children playing in wet soil value of 3.3 mg/cm^2 used for sediment.
		0.02	Industrial Worker	RAGS Part E recommended dermal exposure factor for CT industrial worker.
		0.02	Maintenance Worker	RAGS Part E recommended dermal exposure factor for CT industrial worker.
		0.14	Construction Worker	RAGS Part E, Exhibit C-2, Geometric mean adherence factor fo construction workers
		0.01/0.1	Trespasser Adult	RAGS Part E geometric mean value for Soccer Players, Landscaper/Rockery value used for sediment
		0.04/0.2	Trespasser Adol.	RAGS Part E geometric mean value for children playing (dry soil). Children playing in wet soil used for sediment.
Constituent-specific absorption factor	unitless	Chemical-specific	All	See Table 2.2
Inhalation rate	m^3/hr	0.55	Subsistence Adult	Assumes avg. adult rate of 13.25 m^3/day(EFH, Table 1-2)
		0.31	Subsistence Child	Assumes 1-5 yr old rate of 7.55 m^3/day (EFH, Table 5-23)
		0.55	Resident Adult	Assumes avg. adult rate of 13.25 m^3/day (EFH, Table 1-2)
		0.31	Resident Child	Assumes 1-5 yr old rate of 7.55 m^3/day (EFH, Table 5-23)
		0.83	Industrial Worker	RAGS default rate of 20 m^3/day for workers
		0.83	Maintenance Worker	RAGS default rate of 20 m^3/day for workers
		0.83	Construction Worker	RAGS default rate of 20 m^3/day for workers
		0.55	Trespasser Adult	Assuming avg. adult rate of 13.25 m^3/day (EFH, Table 1-2)
		0.55	Trespasser Adol	Avg. for 7-16 year old of 13.3 m^3/day (EFH, Table 5-23)
Exposure time (yearly average time spent outdoors)	hours/day	8	Subsistence Adult	8 hrs/day for 350 days/yr for resident (EFH, Table 1-2)
		5.6	Subsistence Child	5 hrs/day on weekdays and 7 hrs/day on weekends for 350 days per year for children ages 3-11 (EFH Table 1-2)
		2	Resident Adult	2 hrs/day for 350 days/yr for resident (EFH, Table 1-2)
		5.6	Resident Child	5 hrs/day on weekdays and 7 hrs/day on weekends for 350 days per year for children ages 3-11 (EFH Table 1-2)
		1	Industrial Worker	1 of 8 hrs/day for 250 days/yr (assumed)
		5.5	Maintenance Worker	Assumes part of day spent indoors
		8	Construction Worker	Assumes 8-hour work-day
		2	Trespasser Adult	2 hr/day for 26 wks/yr (assumed)
		2	Trespasser Adol.	2 hr/day for 26 wks/yr (assumed)
Volatilization factor	m^3/kg	Chemical-specific	All	Not used
Particulate emission factor	m^3/kg	1.32E+09	All	EPA default value (1996)
Groundwater and Surface Water Exposure Pathway Parameters				
Exposure frequency for groundwater	days/yr	350	Subsistence Adult and Child Resident Adult and Child	Frequency for resident (EFH, RAGS)
		NU	Industrial Worker Maintenance Worker Construction Worker	Not used.
		NU	Trespasser Adult/Adol.	Not used.
		60		RAGS-Part E, Exhibit 3-5RAGS-Part E, Exhibit 3-5
		60		Frequency for 5 days/week for 3 months
		NU		Not Used
Drinking water intake	L/day	537	Subsistence Adult	21 ml/kg-day rate for 70 kg adult (EFH, Table 1-2)
		452	Adult/Child	Time-weighted average (6 years as a child and 24 as an adult)
Incidental ingestion of surface water during recreational (non-swimming) activities, and maintenance worker and construction worker exposure to groundwater	L/day	0.0015	Subsistence Adult	No data available. Value assumes 0.1% of adult and child drinking water rates (21 ml/kg-day average. EFH, Table 1-2). Not used
		0.0003	Subsistence Child	
		0.0015	Resident Adult	
		0.0003	Resident Child	
		NU	Industrial Worker	
		0.0015	Maintenance Worker	
		0.0015	Construction Worker	
		0.0015	Trespasser Adult	
		0.009	Trespasser Adol	
Drinking water/Household fraction from groundwater	unitless	0	All	Not used
Skin surface area exposed to water while bathing	cm^2	0	All	Not used
Skin surface area exposed to water during incidental exposure (surface water, and maintenance and construction worker exposure to groundwater)	cm^2	4500	Subsistence Adult	EFH, Vol I. Recommended value for outdoor activities based on 25 percent of total body surface for specified age ranges. Skin surface area for recreational adolescent based on 25 percent of 50th percentile of total body surface for specified age range.
		1650	Subsistence Child Resident Adult	
		4500	Resident Child	
		1650	Industrial Worker	
		NU	Maintenance	
		4500	Construction	
		4500	Trespasser Adult	
		4500	Trespasser Adol.	
		3293		
Exposure time while bathing	hours/day	NU	All	Not used

Table 8-11. Central Tendency Exposure Parameters for Chemical Exposures (continued)

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Exposure time for incidental exposure (surface water and construction worker exposure to groundwater)	hours/day	1	All	No data available. Assumes 1 hour per day.
Food Exposure Pathway Parameters				
Game fish consumption	g/day	8 8 8 8 8 8 NU	Subsistence Adult Subsistence Child Resident Adult Resident Child Trespasser Adult Trespasser Adol. All others	Sparse data. Uses mean intake rates recommended for freshwater anglers (EFH, Section 10.10.3) Not used
Contamination fraction of fish	unitless	0.008 0.008 0.008 0.008 0.008 0.008 NU	Subsistence Adult Subsistence Child Resident Adult Resident Child Trespasser Adult Trespasser Adol All others	Fraction of fish that is home produced from suburban households (EFH, Table 13-71 rounded) Not used

Adol. = adolescent
EFH = Exposure Factors Handbook (EPA 1997)
RAGS = Risk Assessment Guidance for Superfund, specifically Volume 1 Part B (EPA 1991)
RME = reasonable maximum exposure
NU = not used

Table 8-12. Reasonable Maximum Exposure RESRAD Parameters

RESRAD Parameter	Units	Value	Receptor	Comment/Reference
Area of contaminated zone	m^2	10,000	All	RESRAD default
Thickness of contaminated zone	m	1.5	All	Site-specific
Length parallel to aquifer flow	m	105	All	Site-specific: Consistent with groundwater model (See Chapter 7)
Time since placement of material	yr	0	All	RESRAD default
Cover depth	m	0	All	Assumes no cover
Density of cover material	g/m^3	NU	All	Not used
Cover depth erosion rate	m/yr	NU	All	Not used
Density of contaminated zone	g/m^3	1.33	All	Site-specific: Consistent with groundwater model: Loose, silty sand material as fill
Contaminated zone erosion rate	m/yr	0.0006 0.0006 0.00006	Subsistence Farmer Resident All others	2% slope with farming/gardening (DCH) 2% slope with farming/gardening (DCH) 2% slope with no farming/gardening (DCH)
Contaminated zone total porosity	unitless	0.50	All	Site-specific: Consistent with groundwater model: Poorly compact fill
Contaminated zone field capacity	unitless	0.20	All	Site-specific: Consistent with groundwater model: Loose, silty sand material as fill
Contaminated zone hydraulic conductivity	m/yr	880	All	Site-specific: Consistent with groundwater model: Loose, silty sand material as fill
Contaminated zone b parameter	unitless	4.9	All	RESRAD Data Collection Handbook: Consistent with sandy loam
Average annual wind speed	m/sec	2	All	RESRAD default
Humidity in air	g/m^3	NU	All	Not used
Evapotranspiration coefficient	unitless	0.495	All	Site-specific: Consistent with groundwater model, to give infiltration rate of 0.485 m/y
Precipitation	m/yr	0.951	All	Site-specific: Consistent with groundwater model
Irrigation	m/yr	0.2	All	RESRAD default
Irrigation mode	unitless	Overhead	All	RESRAD default
Runoff coefficient	unitless	0.20	All	Site-specific: Consistent with groundwater model.
Watershed area for nearby stream or pond	m^2	481,844	All	Site-specific: Groundwater model domain size
Accuracy for water/soil computations	unitless	0.001	All	RESRAD default
Saturated zone density	g/m^3	1.72	All	Site-specific: Consistent with groundwater model, loamy sand
Saturated zone total porosity	unitless	0.35	All	Site-specific: Consistent with groundwater model, loamy sand
Saturated zone effective porosity	unitless	0.18	All	Site-specific: Consistent with groundwater model, loamy sand
Saturated zone field capacity	unitless	0.10	All	Site-specific: Consistent with groundwater model, loamy sand
Saturated zone hydraulic conductivity	m/yr	337	All	Site-specific: Consistent with groundwater model
Saturated zone hydraulic gradient	unitless	0.02	All	Site-specific: Consistent with groundwater model, loamy sand
Saturated zone b parameter	unitless	4.4	All	Site-specific: Consistent with groundwater model, loamy sand
Water table drop rate	m/yr	0.001	All	RESRAD default
Well pump intake depth	m	5	All	Average depth to bedrock groundwater zone (EU1)
Model: Nondispersion (ND) or Mass-Balance (MB)	unitless	ND	All	As per RESRAD recommendation for sites over 1,000 m^2
Well pumping rate	m^3/yr	250	All	Long-term pump rate for domestic well (RESRAD default)
Number of unsaturated zone strata	Unitless	1	All	Site-specific: Consistent with groundwater model
Unsaturated zone thickness	m	2	All	Site-specific: Consistent with groundwater model
Unsaturated zone soil density	g/m^3	1.72	All	Site-specific: Consistent with groundwater model, similar to saturated zone
Unsaturated zone total porosity	unitless	0.35	All	Site-specific: Consistent with groundwater model
Unsaturated zone effective porosity	unitless	0.18	All	Site-specific: Consistent with groundwater model
Unsaturated zone field capacity	unitless	0.10	All	Site-specific: Consistent with groundwater model
Unsaturated zone b parameter	unitless	4.4	All	Consistent with groundwater model
Unsaturated zone hydraulic conductivity	m/yr	32	All	Site-specific: Consistent with groundwater model
Distribution coefficient – actinium	cm^3/g	20	All	RESRAD default and consistent with groundwater model
Distribution coefficient - americium	cm^3/g	9600	All	RESRAD Data Collection Handbook for Loam
Distribution coefficient – cesium	cm^3/g	4600	All	RESRAD Data Collection Handbook for Loam
Distribution coefficient - europium	cm^3/g	0	All	RESRAD Default (No value given in DCH)
Distribution coefficient – lead	cm^3/g	100	All	RESRAD default and consistent with groundwater model
Distribution coefficient – neptunium	cm^3/g	25	All	RESRAD Data Collection Handbook for Loam
Distribution coefficient - protactinium	cm^3/g	50	All	RESRAD default and consistent with groundwater model
Distribution coefficient – plutonium	cm^3/g	1200	All	RESRAD Data Collection Handbook for Loam
Distribution coefficient – radium	cm^3/g	253	All	Site-specific. (Median literature value from EPA 1999c, use supported by coarser grain material at the site, consistent with groundwater model.)
Distribution coefficient – technetium	cm^3/g	0.1	All	RESRAD Data Collection Handbook for Loam
Distribution coefficient – thorium	cm^3/g	3,300	All	RESRAD Data Collection Handbook for Loam and consistent with groundwater model
Distribution coefficient – uranium	cm^3/g	14	All	Site specific determination, also agrees well with RESRAD Data Collection Handbook value for loam (15)
Inhalation rate	m^3/yr	8,760 5,548 7,559 4,990 7,300 7,300 11,388 5,548 5,110	Subsistence Adult Resident Adult Subsistence Child/Adult Resident Child/Adult Industrial Worker Maintenance Worker Construction Worker Trespasser Adult Trespasser Adol	Assuming adult male rate of 23.2 m^3/day [EFH, Table 5-23 (1.3 m^3/hr for 16 hrs working outdoors and 0.4m^3/hr for 8 hrs rest)]. Assuming adult male rate of 15.2 m^3/day for long-term exposures (EFH, Table 1-2) Time-weighted average (6 years as a child and 24 as an adult). (Used for risk characterization only) Time-weighted average (6 years as a child and 24 as an adult). (Used for risk characterization only) Assuming RAGS default rate of 20 m^3/day for workers Assuming RAGS default rate of 20 m^3/day for workers Assuming hourly average of 1.3 m^3/hour for outdoor worker Assuming adult male rate of 15.2 m^3/day (EFH, Table 1-2) Avg. for 7-16 year old male of 14 m^3/day (EFH, Table 5-23)
Mass loading for inhalation	g/m^3	2.3E-05 6.0E-04	Non-construction Construction	NUREG 6697 median value Assumed for construction activities (DCH)

Table 8-12. Reasonable Maximum Exposure RESRAD Parameters (continued)

RESRAD Parameter	Units	Value	Receptor	Comment/Reference
Exposure duration	yr	30	Subsistence Adult	RME duration for resident (EFH, RAGS)
		30	Resident Adult	RME duration for resident (EFH, RAGS)
		25	Industrial Worker	RME duration for occupational receptor (EFH, RAGS)
		25	Maintenance Worker	RME duration for occupational receptor (EFH, RAGS)
			Construction Worker	
		1	Trespasser Adult	Assuming construction activities during one calendar year
			Trespasser Adol.	
		30		RME duration for (off-site) resident (EFH, RAGS)
		10		Assumed for off-site adolescent receptor through ages 7-16
Shielding factor, inhalation	unitless	0.4	All	RESRAD default
Shielding factor, external gamma	unitless	0.4	All	60% shielding per SSG-2000 for all indoor receptors
Fraction of time spent indoors	unitless	0.639	Subsistence Adult	16 hours/day for 350 days/yr adult (EFH, Table 15-112, 99%)
		0.642	Subsistence Adult/Child	16.4 hr/day for 350 days/yr for resident (EFH, Table 1-2) Time-weighted average (6 years as a child and 24 as an adult)
		0.655	Resident Adult	16.4 hr/day for 350 days/yr for resident (EFH, Table 1-2)
		0.655	Resident Adult/Child	16.4 hr/day for 350 days/yr for resident (EFH, Table 1-2)
		0.20	Industrial Worker	7 of 8 hours per day for 250 days per year (assumed)
		0.0	All others	No indoor exposure
Fraction of time spent outdoors (on-site)	unitless	0.32	Subsistence Adult	8 hr/day for 350 days/yr for adult (balance of 24-hour exposure when also considering indoor fraction).
		0.0799	Resident Adult	2 hrs/day for 350 days/yr for resident (EFH, Table 1-2)
		0.301	Subsistence Adult/child	Time-weighted average (6 years as a child and 24 as an adult).
		0.109	Resident Child/Adult	Time-weighted average (6 years as a child and 24 as an adult).
		0.0285	Industrial Worker	1 of 8 hrs/day for 250 days/yr (assumed)
		0.228	Maintenance	8 hr/day for 250 days/yr
		0.228	Construction	Assumes one full year for a supervisor-type worker
		0.0119	Trespasser Adult	4 hr/wk for averaged over 26 wks/yr; warm season only (assumed)
		0.0119	Trespasser Adol.	4 hr/wk for averaged over 26 wks/yr; warm season only (assumed)
Shielding factor, inhalation	unitless	0.4	All	RESRAD default
Shielding factor, external gamma	unitless	0.4	All	60% shielding per SSG-2000 for all indoor receptors
Shape factor flag, external gamma	unitless	1	All	RESRAD default
Soil ingestion rate	g/yr	36.5	Subsistence Adult	100 mg/day for RME residential adult (RAGS)
		36.5	Resident Adult	
		43.8	Subsistence/Resident Adult/Child	Time-weighted average (6 years as a child and 24 as an adult).
		18.25	Industrial Worker	50 mg/day for RME industrial worker rate (RAGS)
		36.5	Maintenance Worker	100 mg/day for RME adult rate (RAGS)
			Construction Worker	
		175.2		480 mg/day for RME assuming outdoor summer activities (EFH, Table 4-16)
			Trespasser Adult	
			Trespasser Adol.	100 mg/day for RME adult rate (RAGS)
		36.5		150 mg/day assuming average of RME adult and child rates (RAGS)
		54.75		
Sediment ingestion rate	g/yr	3.65	Subsistence Adult	Incidental sediment ingestion. Assumes 10% of RME soil ingestion rate
		3.65	Resident Adult	
		4.38	Subsistence/Resident Adult/Child	
		1.825	Industrial Worker	
		3.65	Maintenance Worker	
			Construction Worker	
		17.52	Trespasser Adult	
			Trespasser Adol.	
		3.65		
		5.475		
Fraction of time spent outdoors (on-site - sediment)	unitless	0.0475	Subsistence Adult	16 hr/day for 26 days/yr for adult (every other week).
		0.0446	Subsistence Adult/Child	Time-weighted average (6 years as a child and 24 as an adult).
		0.00594	Resident Adult	2 hr/day for 26 days/yr for adult.
		0.0114	Resident Adult/Child	Time-weighted average (6 years as a child and 24 as an adult).
		NU	Industrial Worker	Not Used
		NU	Maintenance	Not Used
		0.0475	Construction	Assumes 8-hr week for 52 weeks/yr.
		0.0119	Trespasser Adult	Assumes 2 hr/wk for averaged over 52 wks/yr.
		0.0119	Trespasser Adol.	Assumes 2 hr/wk for averaged over 52 wks/yr.
Fruits, vegetables and grain consumption	kg/yr	469	Subsistence Adult	RME rate of 22.4 g/kg-day (12.4 for fruit and 10 for vegetables) minus RME leafy vegetable rate for 60 kg age-adjusted population (EFH, Table 1-2).
			Resident Adult	
		469	Subsistence Adult/Child	RME rate of 22.4 g/kg-day (12.4 for fruit and 10 for vegetables) minus RME leafy vegetable rate for 60 kg age-adjusted population (EFH, Table 1-2).
			Resident Adult/Child	
Leafy vegetable consumption	kg/yr	21.4	Subsistence Adult	NUREG/CR-5512 Volume 4 default for resident farmer.
			Resident Adult	
		18.0	Subsistence Child/Adult	Time-weighted average (6 years as a child and 24 as an adult
Milk consumption	L/yr	135	Subsistence Adult	Rate averaged over 12-19 year old males, total fluid milk conservatively assumed (EFH, Table 11-15); assumes 1 kg milk ~ 1 L.
		140	Subsistence Child/Adult	Time-weighted average (6 years as a child and 24 as an adult

Table 8-12. Reasonable Maximum Exposure RESRAD Parameters (continued)

RESRAD Parameter	Units	Value	Receptor	Comment/Reference
Meat and poultry consumption	kg/yr	112 112	Subsistence Adult Subsistence Child/Adult	RME rate of 5.1 g/kg-day for a 60 kg age-adjusted population (EFH, Table 1-2) RME rate of 5.1 g/kg-day for a 60 kg age-adjusted population (EFH, Table 1-2)
Fish consumption	kg/yr	NU	All	Not used
Other seafood consumption	kg/yr	NU	All	Not used
Drinking water intake	L/yr	869 732	Subsistence Adult Subsistence Adult/Child	34 ml/kg-day RME rate for adult (EFH, Table 1-2). Time-weighted average (6 years as a child and 24 as an adult).
Contamination fraction of drinking water	unitless	1	All *	RESRAD default, where applicable
Contamination fraction of household water	unitless	1	All *	RESRAD default, where applicable
Contamination fraction of livestock water	unitless	1	All *	RESRAD default, where applicable**
Contamination fraction of irrigation water	unitless	1 1	Subsistence Farmer Resident	RESRAD default RESRAD default
Contamination fraction of aquatic food	unitless	NU	All	Not used
Contamination fraction of plant food	unitless	0.3 0.05	Subsistence Farmer Resident	Total vegetable from farming household (EFH, Table 13-71, rounded) Suburban rate for fruits and vegetable (EFH, Table 13-71, approx. 5%)
Contamination fraction of meat	unitless	0.3	Subsistence Farmer	Meats from farming household (EFH, Table 13-71, rounded)
Contamination fraction of milk	unitless	0.3	Subsistence Farmer	Dairy from farming household (EFH, Table 13-71, rounded)
Livestock fodder intake for meat	kg/day	68	Subsistence Farmer	RESRAD default
Livestock fodder intake for milk	kg/day	55	Subsistence Farmer	RESRAD default
Livestock water intake for meat	L/day	50	Subsistence Farmer	RESRAD default
Livestock water intake for milk	L/day	160	Subsistence Farmer	RESRAD default
Livestock soil intake	kg/day	0.5	Subsistence Farmer	RESRAD default
Mass loading for foliar deposition	g/m^3	0.0001	Subsistence Farmer	RESRAD default
Depth of soil mixing layer	m	0.15 0.15 0.05	Subsistence Farmer Resident All others	RESRAD default for gardening/tilling scenarios RESRAD default for gardening/tilling scenarios Assumed for non-gardening/non-tilling scenarios
Depth of roots	m	0.9	Subsistence Farmer	RESRAD default
Drinking water fraction from ground water	unitless	1	Subsistence Farmer	RESRAD default
Household water fraction from ground water	unitless	1	Subsistence Farmer	RESRAD default
Livestock water fraction from ground water	unitless	1	Subsistence Farmer	RESRAD default
Irrigation fraction from ground water	unitless	1	Subsistence Farmer	RESRAD default
Wet weight crop yield for non-leafy	kg/m^2	0.7	Subsistence Farmer	RESRAD default
Wet weight crop yield for leafy	kg/m^2	1.5	Subsistence Farmer	RESRAD default
Wet weight crop yield for fodder	kg/m^2	1.1	Subsistence Farmer	RESRAD default
Growing season for non-leafy	years	0.17	Subsistence Farmer	RESRAD default
Growing season for leafy	years	0.25	Subsistence Farmer	RESRAD default
Growing season for fodder	years	0.08	Subsistence Farmer	RESRAD default
Growing season for fodder	years	0.08	Subsistence Farmer	RESRAD default
Translocation factor for non-leafy	unitless	0.1	Subsistence Farmer	RESRAD default
Translocation factor for leafy	unitless	1.0	Subsistence Farmer	RESRAD default
Translocation factor for fodder	unitless	1.0	Subsistence Farmer	RESRAD default
Dry foliar interception fraction for non-leafy	unitless	0.25	Subsistence Farmer	RESRAD default
Dry foliar interception fraction for leafy	unitless	0.25	Subsistence Farmer	RESRAD default
Dry foliar interception fraction for fodder	unitless	0.25	Subsistence Farmer	RESRAD default
Wet foliar interception fraction for non-leafy	unitless	0.25	Subsistence Farmer	RESRAD default
Wet foliar interception fraction for leafy	unitless	0.25	Subsistence Farmer	RESRAD default
Wet foliar interception fraction for fodder	unitless	0.25	Subsistence Farmer	RESRAD default
Weathering removal constant for vegetation	unitless	20	Subsistence Farmer	RESRAD default
Storage time: fruits, non-leafy vegetables, and grain	days	14	Subsistence Farmer	RESRAD default
Storage time: leafy vegetables	days	1	Subsistence Farmer	RESRAD default
Storage time: milk	days	1	Subsistence Farmer	RESRAD default
Storage time: meat and poultry	days	20	Subsistence Farmer	RESRAD default
Storage time: fish	days	NU	All	Not used
Storage time: crustaceans and mollusks	days	NU	All	Not used
Storage time: well water	days	1	Subsistence Farmer	RESRAD default
Storage time: surface water	days	NU	All	Not used
Storage time: livestock fodder	days	45	Subsistence Farmer	RESRAD default
Thickness of building foundation	m	NU	All	Not used
Bulk density of building foundation	g/cm^3	NU	All	Not used
Total porosity of the cover material	unitless	NU	All	Not used
Total porosity of the building foundation	unitless	NU	All	Not used
Volumetric water constant of the cover material	unitless	NU	All	Not used
Volumetric water constant of the foundation	unitless	NU	All	Not used
Diffusion coef. for radon gas in cover material	m/sec	NU	All	Not used
Diffusion coef. for radon gas in foundation material	m/sec	NU	All	Not used

Table 8-12. Reasonable Maximum Exposure RESRAD Parameters (continued)

RESRAD Parameter	Units	Value	Receptor	Comment/Reference
Diffusion coef. for radon gas in contaminated zone soil	m/sec	NU	All	Not used
Radon vertical dimension of mixing	m	NU	All	Not used
Average building air exchange rate	1/hour	NU	All	Not used
Height of the building (room)	m	NU	All	Not used
Building interior area factor	unitless	NU	All	Not used
Building depth below ground surface	m	NU	All	Not used
Emanating power of Rn-222 gas	unitless	NU	All	Not used
Emanating power of Rn-220 gas	unitless	NU	All	Not used
Pathway – external gamma	unitless	Active	All	Assumed complete for all receptors
Pathway – inhalation (w/o radon)	unitless	Active	All	Assumed complete for all receptors
Pathway – plant ingestion	unitless	Active Active Inactive	Subsistence Farmer Resident All others	Assumed complete for farming/gardening receptors Assumed complete for farming/gardening receptors Assumed incomplete for all other receptors
Pathway – meat ingestion	unitless	Active Inactive	Subsistence Farmer All other	Assumed complete for subsistence/hunting receptors Assumed incomplete for all other receptors
Pathway – milk ingestion	unitless	Active Inactive	Subsistence Farmer All other	Assumed complete for farming receptors Assumed incomplete for all other receptors
Pathway – aquatic foods	unitless	Inactive	All	Assumed incomplete for all receptors
Pathway – drinking water	unitless	Active Inactive	Subsistence Farmer All other	Assumed complete for subsistence receptors Assumed incomplete for all other receptors
Pathway – soil ingestion	unitless	Active	All	Assumed complete for all receptors
Pathway – radon	unitless	Inactive	All	Inactive for all receptors

* Not used for some receptors when pathway is incomplete. Value can still be entered in RESRAD for all receptor whether eventually used or not.

Body weight	kg	70	Adult	Consistent with EPA toxicity criteria determination
		42	Adolescent	EFH, Chapter 7: 50th percentile for ages 7-16
		15	Child	EFH, Chapter 7: 50th percentile for ages 0-6
Body weight used to calculate food ingestion rates		60	All	EFH, Chapter 9 recommendation

Adol. = adolescent
DCH = Data Collection Handbook (ANL 1993)
EFH = Exposure Factors Handbook (EPA 1997)
RAGS = Risk Assessment Guidance for Superfund, specifically Volume 1 Part B (EPA 1991)
RME = reasonable maximum exposure
SSG-1996 = Soil Screening Guidance: User's Guide (EPA 1996)
SSG-2000 = Soil Screening Guidance for Radionuclides: Technical Background Document (EPA 2000)
NU = not used
TBD = to be determined

Table 8-13. Central Tendency Exposure RESRAD Parameters for Subsistence Farmer Scenario

RESRAD Parameter	Units	Value	Receptor	Comment/Reference
Inhalation rate	m^3/yr	4,836 4,419	Subsistence/Resident Adult Subsistence/Resident Adult/Child	Assuming average adult rate 13.25 m^3/day (EFH, Table 1-2) Time-weighted average (6 years as a child and 24 as an adult)
Exposure duration	yr	9 9	Subsistence/Resident Adult Subsistence/Resident Adult/Child	Average duration for resident (EFH, Table 1-2) Average duration for resident (EFH, Table 1-2)
Fraction of time spent outdoors (on-site)	unitless	0.0799 0.223 0.109	Subsistence Adult Subsistence Child Subsistence Adult/Child	2 hrs/day for 350 days/yr for resident (EFH, Table 1-2) 5 hrs/day on weekdays or 7 hrs/day on weekends for 350 days per year for children ages 3-11 (EFH Table 1-2) Time-weighted average (6 years as a child and 24 as an adult)
Soil ingestion rate	g/yr	18.25 21.9	Subsistence Adult Subsistence Adult/Child	50 mg/day for average residential adult (EFH, Table 1-2) Time-weighted average (6 years as child and 24 as an adult)
Sediment ingestion rate	g/yr	1.8 2.2	Subsistence Adult Subsistence Adult/Child	Incidental ingestion. Assumes 10% of CTE soil ingestion rate Incidental ingestion. Assumes 10% of CTE soil ingestion rate
Fruits, vegetables and grain consumption	kg/yr	155 155	Subsistence Adult, Subsistence adult/child	CTE rate of 7.7 g/kg-day (3.4 for fruit and 4.3 for vegetables) minus leafy vegetable rate for 60 kg age-adjusted population (EFH, Table 1-2)
Leafy vegetable consumption	kg/yr	14 11.8	Subsistence Adult Adult/Child	RESRAD default Time-weighted average (6 years as a child and 24 as an adult).
Milk consumption	l/yr	65 64	Subsistence Adult Adult/Child	Average rate for male and female adults over 20, total fluid intake (EHF, Table 11-15) Time-weighted average (6 years as a child and 24 as an adult).
Meat and poultry consumption	kg/yr	46 46	Subsistence Adult Adult/Child	Average rate of 2.1 g/kg-day for an age-adjusted population (EFH, Table 1-2) Time-weighted average (6 years as a child and 24 as an adult).
Drinking water intake	L/yr	537 452	Subsistence Adult Adult/Child	21 ml/kg-day rate for 70 kg adult (EFH, Table 1-2) Time-weighted average (6 years as a child and 24 as an adult)

EFH = Exposure Factors Handbook (EPA 1997)

Table 8-14. RME Individual Child and Adult Food Ingestion Rates, Used for Adult-Child Averaging

RESRAD Parameter	Units	Value	Receptor	Comment/Reference
Fruits, vegetables and grain consumption	kg/yr	469	Subsistence/Resident Adult	RME rate of 22.4 g/kg-day (12.4 for fruit and 10 for vegetables) minus RME leafy vegetable rate for 60 kg age-averaged population (EFH, Table 1-2).
		469	Subsistence/ Resident Adult/Child	RME rate of 22.4 g/kg-day (12.4 for fruit and 10 for vegetables) minus RME leafy vegetable rate for 60 kg age-averaged population (EFH, Table 1-2).
Leafy vegetable consumption	kg/yr	21.4	Subsistence Adult	NUREG/CR-5512 Volume 4 default for resident farmer.
		4.59	Subsistence Child	Adult value scaled by child-to-adult body weight factor.
		18.0	Subsistence Adult/Child	Time-weighted average (6 years as a child and 24 as an adult).
		21.4	Resident Adult	NUREG/CR-5512 Volume 4 default for resident farmer.
		4.59	Resident Child	Adult value scaled by child-to-adult body weight factor.
		18.0	Resident Adult/Child	Time-weighted average (6 years as a child and 24 as an adult).
		NU	All others	Not used
Milk consumption	kg/yr	135	Subsistence Adult	Rate averaged over 12-19 year old males total fluid milk conservatively assumed (EFH, Table 11-15); assumes 1 kg milk ~ 1 L.
		158	Subsistence Child	Rate averaged over 0-5 year old male and female children total fluid milk (EFH, Table 11-15); assumes 1 kg milk ~ 1 L.
		140	Subsistence Adult/Child	Time-weighted average (6 years as a child and 24 as an adult).
		NU	All others	Not used
Meat and Poultry consumption	L/yr	112	Subsistence Adult	RME rate of 5.1 g/kg-day for a 60 kg age-averaged population (EFH, Table 1-2)
		112	Subsistence Adult/Child	T
Fraction of time spent outdoors (on-site)	unitless	0.32	Subsistence Adult	8 hr/day for 350 days/yr for adult (balance of 24-hour exposure when also considering indoor fraction).
		0.223	Subsistence Child	5 hrs/day on weekdays or 7 hrs/day on weekends for 350 days per year for children ages 3-11 (EFH Table 1-2)
		0.301	Subsistence Adult/Child	Time-weighted average (6 years as a child and 24 as an adult)
		0.0799	Resident Adult	2 hrs/day for 350 days/yr for resident (EFH, Table 1-2)
		0.223	Resident Child	5 hrs/day on weekdays or 7 hrs/day on weekends for 350 days per year for children ages 3-11 (EFH Table 1-2)
		0.109	Resident Adult/Child	Time-weighted average (6 years as a child and 24 as an adult)

Table 8-14. RME Individual Child and Adult Food Ingestion Rates, Used for Adult-Child Averaging (continued)

RESRAD Parameter	Units	Value	Receptor	Comment/Reference
Fraction of time spent indoors	unitless	0.639	Subsistence Adult	16 hours/day for 350 days/yr adult (EFH, Table 15-112, 99%)
		0.655	Subsistence Child	16.4 hr/day for 350 days/yr for resident (EFH, Table 1-2)
		0.642	Subsistence Adult/Child Resident	Time-weighted average (6 years as a child and 24 as an adult)
		0.655	Adult	16.4 hr/day for 350 days/yr for resident (EFH, Table 1-2)
		0.655	Resident Child	16.4 hr/day for 350 days/yr for resident (EFH, Table 1-2)
		0.655	Resident Adult/Child	16.4 hr/day for 350 days/yr for resident (EFH, Table 1-2)
Soil ingestion rate	g/yr	36.5	Subsistence/Resident Adult	100 mg/day for RME residential adult (RAGS)
		73.0	Subsistence/Resident Child	200 mg/day for RME residential adult (RAGS)
		43.8	Subsistence/Resident Adult/Child	Time-weighted average (6 years as a child and 24 as an adult)
Sediment ingestion rate	g/yr	3.7	Subsistence/Resident Adult	Incidental ingestion. Assumes 10% of RME soil ingestion rate
		7.3	Subsistence/Resident Child	
		4.4	Subsistence/Resident Adult/Child	
Inhalation rate	m3/yr	8,760	Subsistence Adult	Assuming adult male rate of 23.2 m^3/day [EFH, Table 5-23 (1.3 m^3/hr for 16 hrs working outdoors and 0.4m^3/hr for 8 hrs rest)].
		5,548		
		2,756	Resident Adult	Assuming adult male rate of 15.2 m^3/day (EFH, Table 1-2)
		7,559	Subsistence/Resident Child	Assuming 1-5 year old rate of 7.55 m^3/day (EFH, Table 5-23)
		4,990	Subsistence Adult/child Resident Child/Adult	Time-weighted average (6 years as a child and 24 as an adult). (Used for risk characterization only)
				Time-weighted average (6 years as a child and 24 as an adult). (Used for risk characterization only)

Table 8-15. Toxicity Criteria for FUSRAP COPCs

COPC	CASRN	Toxicity Values*					
		Chemical COPCs Non-cancer Reference Doses RfDs - (mg/kg/day)					
		Oral RfDo	*Source*	Dermal RfDa	*Source*	Inhalation RfDi	*Source*
SVOCs							
Kerosene	68334-30-5	3.0E-02	EPA RegX	3.0E-02	EPA Reg X	8.5E-02	EPA RegX
Metals/Inorganics							
Lithium	7439-93-2	2.0E-03	PPTRV	NA	-	NA	-
Molybdenum	7439-98-7	5.0E-03	IRIS	5.0E-03	IRIS	NA	-
Uranium	7440-61-1	3.0E-03	IRIS	3.0E-03	IRIS	NA	-

* RfDs are used because none of the chemical COPCs are carcinogens
NA = not available
RfDo = oral reference dose
RFDa = adjusted reference dose (dermal)
RfDi = inhalation reference dose
PPRTV = Provisional Peer Reviewed Toxicity Value, National Center for Environmental Assessments, Cincinnati, OH.
EPA Reg X = References for Petroleum Mixtures. USEPA Region X, November 17, 2004. Online at https://ortress.wa.gov/ecy/clarc/FocusSheets/petroToxParameters.pdf.
IRIS = EPA's online Integrated Risk Information System
GI = Gastrointestinal Adsorption factor
SVOC = Semi Volatile Organic Compound
If the chemical-specific GI factor is less than 50 percent, the oral toxicity criteria are adjusted by the GI to generate dermal toxicity criteria. When GI factor is greater than 50 percent, the unadjusted oral toxicity criteria are used as the dermal toxicity criteria.
Adjustments occur as follows:
RfDa = RfDo x GI

Table 8-16. Carcinogenic Slope Factors for Radionuclides

Series	Nuclide	CASRN [a]	Radioactive Half-Life [b]		ICRP Lung Type [c]	GI Abs. Frac. (f_1) [d]	Lifetime Excess Total Cancer Risk/Unit Intake or Exposure				
							Water Ingestion (Risk/pCi)	Food Ingestion (Risk/pCi)	Soil Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g)
Uranium	U-238+D	007440-61-1(+D)	4.47E+09	yr	M	2.00E-02	8.71E-11	1.21E-10	2.10E-10	9.35E-09	1.14E-07
Uranium	U-234	013966-29-5	2.45E+05	yr	M	2.00E-02	7.07E-11	9.55E-11	1.58E-10	1.14E-08	2.52E-10
Uranium	Th-230	014269-63-7	7.70E+04	yr	S	5.00E-04	9.10E-11	1.19E-10	2.02E-10	2.85E-08	8.19E-10
Uranium	Ra-226+D	013982-63-3(+D)	1.60E+03	yr	M	2.00E-01	3.86E-10	5.15E-10	7.30E-10	1.16E-08	8.49E-06
Uranium	Pb-210+D	014255-04-0(+D)	2.23E+01	yr	M	2.00E-01	1.27E-09	3.44E-09	2.66E-09	1.39E-08	4.21E-09
Thorium	Th-232	007440-29-1	1.41E+10	yr	S	5.00E-04	1.01E-10	1.33E-10	2.31E-10	4.33E-08	3.42E-10
Thorium	Ra-228+D	015262-20-1(+D)	5.75E+00	yr	M	2.00E-01	1.04E-09	1.43E-09	2.29E-09	5.23E-09	4.53E-06
Thorium	Th-228+D	0147274-82-9(+D)	1.91E+00	yr	S	5.00E-04	3.00E-10	4.22E-10	8.09E-10	1.43E-07	7.76E-06
Plutonium	Np-237	013994-20-2	2.10E+06	yr	M	5.00E-04	6.18E-11	8.29E-11	1.46E-10	1.77E-08	5.63E-08
Plutonium	Am-241	014596-10-2	4.30E+02	yr	M	5.00E-04	1.04E-10	1.34E-10	2.17E-10	2.81E-08	2.76E-08
Actinium	U-235+D	015117-96-1(+D)	7.04E+08	yr	M	2.00E-02	7.18E-11	9.76E-11	1.63E-10	1.01E-08	5.43E-07
Actinium	Pa-231	014331-85-2	3.28E+04	yr	S	5.00E-04	1.73E-10	2.26E-10	3.74E-10	4.55E-08	1.39E-07
Actinium	Ac-227+D	014952-40-0(+D)	2.18E+01	yr	S	5.00E-04	4.86E-10	6.53E-10	1.16E-09	2.09E-07	1.47E-06
	Cs-137	007440-46-2	3.00E+01	yr	F	1.00E+00	3.14E-11	3.74E-11	4.33E-11	1.19E-11	5.32E-10

[a] Chemical Abstract Service Reference Number (CASRN).
[b] Radioactive half-life: s = second, m = minute, d = day, yr = year. For those radionuclides with decay products (+D), half-lives are listed for the parent radionuclide.
[c] Lung absorption type recommended by the Int'l Commission on Radiological Protection (ICRP): F = fast (particulate), M = medium (particulate), S = slow (particulate), V = vapor, G = gas.
[d] Gastrointestinal (GI) absorption fractions (f_1) are the fractional amounts of each radionuclide absorbed across the GI tract into the bloodstream. Lung absorption types and GI absorption fractions are provided for reference only.
Do not use these factors to adjust inhalation or ingestion slope factors.
See the User's Guide for instructions.
All values from Federal Guidance Report Number 13 and HEAST (EPA 1999b; EPA 1995a).

Table 8-17. Radiological Dose Conversion Factors for Radionuclides

Series	Radionuclide	CASRN [a]	Radioactive Half-Life [b]		Radiological Dose per Unit Intake or Exposure		
					Ingestion (mrem/pCi)	Inhalation (mrem/pCi)	External Exposure (mrem/yr per pCi/g)
Uranium	U-238+D	007440-61-1(+D)	4.47E+09	yr	2.69E-04	1.18E-01	1.52E-01
Uranium	U-234	013966-29-5	2.45E+05	yr	2.83E-04	1.32E-01	4.02E-04
Uranium	Th-230	014269-63-7	7.70E+04	yr	5.48E-04	3.26E-01	1.21E-03
Uranium	Ra-226+D	013982-63-3(+D)	1.60E+03	yr	1.33E-03	8.60E-03	1.12E+01
Uranium	Pb-210+D	014255-04-0(+D)	2.23E+01	yr	7.27E-03	2.32E-02	6.12E-03
Thorium	Th-232	007440-29-1	1.41E+10	yr	2.73E-03	1.64E+00	5.21E-04
Thorium	Ra-228+D	015262-20-1(+D)	5.75E+00	yr	1.44E-03	5.08E-03	5.98E+00
Thorium	Th-228+D	0147274-82-9(+D)	1.91E+00	yr	8.08E-04	3.45E-01	1.02E+01
Plutonium	Np-237	013994-20-2	2.10E+06	yr	4.44E-03	5.40E-01	3.35E-02
Plutonium	Am-241	014596-10-2	4.30E+02	yr	3.64E-03	4.44E-01	3.21E-02
Actinium	U-235+D	015117-96-1(+D)	7.04E+08	yr	2.67E-04	1.23E-01	7.57E-01
Actinium	Pa-231	014331-85-2	3.28E+04	yr	1.06E-02	1.28E+00	1.91E-01
Actinium	Ac-227+D	014952-40-0(+D)	2.18E+01	yr	1.48E-02	6.72E+00	2.01E+00
	Cs-137	007440-46-2	3.00E+01	yr	5.00E-05	3.19E-05	3.33E-04

[a] Chemical Abstract Service Reference Number (CASRN).
[b] Radioactive half-life: s = second, m = minute, d = day, y = year. For those radionuclides with decay products (+D), half-lives are listed for the parent radionuclide.

Table 8-18. Summary of Non-Cancer Risks by Exposure Unit - Hazard Quotient

Receptor	EU1	EU2	EU3	EU4	EU5	EU6[1]	EU7[2]	EU8[3]
Surface Soil (0-2 feet below ground surface)								
Residential Adult	NA	NA	NA	NA	NA	NA	NA	NA
Residential Child	NA	NA	NA	NA	NA	NA	NA	NA
Industrial worker	1.E-01	5.E-02	3.E-02	6.E-03	1.E-02	NA	NA	NA
Maintenance worker	2.E-01	4.E-02	3.E-02	7.E-03	9.E-03	NA	3.E-03	NA
Construction worker	NA	NA	NA	NA	NA	NA	NA	NA
Trespasser Adult	7.E-02	2.E-02	1.E-02	3.E-03	5.E-03	3.E-01	NA	NA
Trespasser Adolescent	1.E-01	3.E-02	2.E-02	5.E-03	8.E-03	2.E-01	NA	NA
Subsistence Farmer Adult	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Child	NA	NA	NA	NA	NA	NA	NA	NA
Total Soil (0-13 feet below ground surface)								
Residential Adult	2.E-01	1.E-01	1.E-01	4.E-02	4.E-02	5.E-02	NA	NA
Residential Child	**1.E+00**	9.E-01	6.E-01	2.E-01	2.E-01	9.E-02	NA	NA
Industrial worker	NA	NA	NA	NA	NA	NA	NA	NA
Maintenance worker	NA	NA	NA	NA	NA	NA	NA	NA
Construction worker	3.E-01	2.E-01	2.E-01	5.E-02	5.E-02	2.E-04	7.E-03	5.E-02
Trespasser Adult	NA	NA	NA	NA	NA	NA	NA	NA
Trespasser Adolescent	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	**1.E+00**	6.E-01	6.E-01	2.E-01	2.E-01	5.E-02	**9.E+00**	NA
Subsistence Farmer Child	**3.E+00**	**2.E+00**	**2.E+00**	3.E-01	3.E-01	9.E-02	**9.E+00**	NA

NA: Medium is not evaluated for that receptor

[1]EU6 - Sediment and surface water (IA08) in the Cuyahoga River and Big Creek

[2]EU7 - Area groundwater within unconsolidated aquifer, north of Big Creek/west of the Cuyahoga River (IA10).

[3]EU8 - (IA09) soil, sediment and surface water in sewers and drains.

Table 8-19. Radiological Risk Assessment Summary for Baseline, RME, by Exposure Unit (ILCR)

Receptor	Year	EU1	EU2	EU3	EU4	EU5	EU6[1]	EU7[2]	EU8[3]
		Surface Soil (0-2 ft below ground surface)					*SW, Sed*	*Groundwater*	*SW, Sed, Soil*
Residential Adult/Child	0	NA	NA	NA	NA	NA	NA	NA	NA
Residential Adult/Child	185	NA	NA	NA	NA	NA	NA	NA	NA
Residential Adult/Child	1000	NA	NA	NA	NA	NA	NA	NA	NA
Industrial worker	0	9.E-05	5.E-05	2.E-04	3.E-05	2.E-04	NA	NA	NA
Industrial worker	1000	5.E-04	3.E-05	2.E-04	1.E-05	2.E-04	NA	NA	NA
Maintenance worker	0	2.E-04	1.E-04	3.E-04	5.E-05	4.E-04	NA	NA	NA
Maintenance worker	1000	1.E-03	5.E-05	4.E-04	3.E-05	4.E-04	NA	NA	NA
Construction worker	0	NA	NA	NA	NA	NA	NA	NA	NA
Construction worker	1000	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Adult	0	1.E-05	7.E-06	2.E-05	3.E-06	3.E-05	8.E-08	NA	NA
Recreational Adult	1000	6.E-05	3.E-06	2.E-05	2.E-06	2.E-05	8.E-08	NA	NA
Recreational Adolescent	0	4.E-06	2.E-06	7.E-06	1.E-06	9.E-06	1.E-08	NA	NA
Recreational Adolescent	1000	2.E-05	1.E-06	8.E-06	6.E-07	8.E-06	1.E-08	NA	NA
Subsistence Farmer Adult	0	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	185	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	335	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	1000	NA	NA	NA	NA	NA	NA	NA	NA
		Total Soil (0-13 ft below ground surface)					*SW, Sed*	*Groundwater*	*SW, Sed, Soil*
Residential Adult/Child	0	4.E-04	4.E-04	5.E-04	1.E-04	6.E-04	1.E-08	NA	NA
Residential Adult/Child	185	7.E-04	5.E-04	6.E-04	1.E-04	6.E-04	NA	NA	NA
Residential Adult/Child	1000	1.E-03	4.E-04	6.E-04	8.E-05	6.E-04	1.E-08	NA	NA
Industrial worker	0	NA	NA	NA	NA	NA	NA	NA	NA
Industrial worker	1000	NA	NA	NA	NA	NA	NA	NA	NA

Table 8-19. Radiological Risk Assessment Summary for Baseline, RME, by Exposure Unit (ILCR) (continued)

Receptor	Year	EU1	EU2	EU3	EU4	EU5	EU6[1]	EU7[2]	EU8[3]
		Surface Soil (0-2 ft below ground surface)					*SW, Sed*	*Groundwater*	*SW, Sed, Soil*
Maintenance worker	0	NA	NA	NA	NA	NA	NA	NA	NA
Maintenance worker	1000	NA	NA	NA	NA	NA	NA	NA	NA
Construction worker	0	9.E-06	8.E-06	8.E-06	2.E-06	7.E-06	0.E+00	1.E-08	4.E-05
Construction worker	1000	2.E-05	7.E-06	9.E-06	1.E-06	9.E-06	0.E+00	NA	2.E-06
Recreational Adult	0	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Adult	1000	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Adolescent	0	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Adolescent	1000	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	0	1.E-03	1.E-03	1.E-03	4.E-04	2.E-03	1.E-08	5.E-04	NA
Subsistence Farmer Adult	185	4.E-03	4.E-03	3.E-03	6.E-04	2.E-03	NA	NA	NA
Subsistence Farmer Adult	335	2.E-03	1.E-03	2.E-03	3.E-04	2.E-03	NA	NA	NA
Subsistence Farmer Adult	1000	3.E-03	1.E-03	2.E-03	2.E-04	2.E-03	1.E-08	NA	NA

1. EU6 - Sediment and surface water (IA08) in the Cuyahoga River and Big Creek (non-RESRAD calculation)
2. EU7 - Area groundwater within unconsolidated aquifer, north of Big Creek/west of the Cuyahoga River (IA10) (non-RESRAD calculation).
3. EU 8 - Underground utilities, site-wide

Risks greater than 1E-04 are indicated in bold.

NA: Medium is not evaluated for that receptor

Table 8-20. EU6 - Radiological Risks and Doses due to Ingestion of Fish and Incidental Ingestion of Surface Water (Cuyahoga River and Big Creek)

Receptor	RME Intake (total per lifetime)			Isotopic intake (total per lifetime)			Cancer risk: Incremental Lifetime Risk				Annual Dose (mrem/year)			
	SW	*Fish*	*Total*	*U-234*	*U-235*	*U-238*								
	mg total U	*mg total U*	*mg total U*	*pCi*	*pCi*	*pCi*	*U-234*	*U-235*	*U-238*	*TOTAL*	*U-234*	*U-235*	*U-238*	*TOTAL*
Resident Adult	3.0E-03	2.5E-01	2.5E-01	8.5E+01	1.8E-01	8.4E+01	6.E-09	1.E-11	7.E-09	1.E-08	8.0E-04	1.6E-06	7.6E-04	1.6E-03
Resident Child	2.6E-04	1.9E-02	1.9E-02	6.6E+00	1.4E-02	6.6E+00	5.E-10	1.E-12	6.E-10	1.E-09	3.1E-04	6.3E-07	2.9E-04	6.1E-04
Recreational Adult	6.0E-03	1.4E+00	1.4E+00	4.8E+02	1.0E+00	4.7E+02	3.E-08	7.E-11	4.E-08	8.E-08	4.5E-03	9.1E-06	4.3E-03	8.8E-03
Recreational Adol.	1.2E-03	2.4E-01	2.4E-01	8.3E+01	1.8E-01	8.2E+01	6.E-09	1.E-11	7.E-09	1.E-08	2.3E-03	4.7E-06	2.2E-03	4.5E-03
Subsistence Farmer Adult	3.0E-03	2.5E-01	2.5E-01	8.5E+01	1.8E-01	8.4E+01	6.E-09	1.E-11	7.E-09	1.E-08	8.0E-04	1.6E-06	7.6E-04	1.6E-03
Subsistence Farmer Child	2.5E-04	1.9E-02	1.9E-02	6.6E+00	1.4E-02	6.6E+00	5.E-10	1.E-12	6.E-10	1.E-09	3.1E-04	6.3E-07	2.9E-04	6.1E-04

Convert mass to isotopic activity for total uranium
* From 10 CFR 71 Appendix A

Table 8-21. Radiological Risk Assessment Summary for Farmer, CTE, by Exposure Unit (ILCR)

Receptor	Time	EU1	EU2	EU3	EU4	EU5	EU6	EU7
Subsistence Farmer Adult	0	**1.E-04**	**1.E-04**	**2.E-04**	5.E-05	**2.E-04**	1.E-08	**8.E-04**
Subsistence Farmer Adult	185	**6.E-04**	**8.E-04**	**5.E-04**	**1.E-04**	**3.E-04**	NA	NA
Subsistence Farmer Adult	335	**3.E-04**	**3.E-04**	**3.E-04**	5.E-05	**2.E-04**	NA	NA
Subsistence Farmer Adult	1000	**4.E-04**	**2.E-04**	**2.E-04**	3.E-05	**2.E-04**	1.E-08	NA

NA: Medium is not evaluated for that receptor
1. EU6 - Sediment and surface water (IA08) in the Cuyahoga River and Big Creek (non-RESRAD calculation)
2. EU7 - Area groundwater within unconsolidated aquifer, north of Big Creek/west of the Cuyahoga River (IA10) (non-RESRAD calculation).
Risks greater than 1E-04 are indicated in bold.

Table 8-22. Harshaw RME Groundwater Ingestion Risk Assessment Results, Using Groundwater Concentrations Measured at the Site

EU	Radionuclide	CASRN	Gross EPC (pCi/L)	Average BKG (pCi/L)	EPC (pCi/L)	Subsistence Farmer Adult/Child	Construction Worker
EU7	Ac-227+D	014952-40-0(+D)	0.0	0.116	0.00E+00	0.0E+00	0.0E+00
EU7	Pa-231	014331-85-2	0.0	0.116	0.00E+00	0.0E+00	0.0E+00
EU7	Pb-210+D	014255-04-0(+D)	1.3	1.5	1.31E+00	3.5E-05	1.0E-09
EU7	Ra-226+D	013982-63-3(+D)	0.0	1.5	0.00E+00	0.0E+00	0.0E+00
EU7	Ra-228+D	015262-20-1(+D)	0.0	2.78	0.00E+00	0.0E+00	0.0E+00
EU7	Th-228+D	0147274-82-9(+D)	0.0	3.57	0.00E+00	0.0E+00	0.0E+00
EU7	Th-230	014269-63-7	2.6	0.42	2.56E+00	4.9E-06	1.4E-10
EU7	Th-232	007440-29-1	0.0	0.057	0.00E+00	0.0E+00	0.0E+00
EU7	U-234	013966-29-5	101.0	2.7	1.01E+02	1.5E-04	4.3E-09
EU7	U-235+D	015117-96-1(+D)	4.6	0.381	4.62E+00	7.0E-06	2.0E-10
EU7	U-238+D	007440-61-1(+D)	169.0	2.63	1.69E+02	3.1E-04	8.8E-09
					Total	5.E-04	1.E-08

(+D) indicates consideration of short lived decay products.

EPC = Exposure Point Concentration

BKG = Background

EU = Exposure Unit

Table 8-23. Radiological Dose Summary for Baseline, RME, by Exposure Unit (mrem/year)

Receptor	Year	EU1	EU2	EU3	EU4	EU5	EU6[1]	EU7[2]	EU8[3]
		Surface Soil (0-2 feet below ground surface)					***SW, Sed***	***Groundwater***	***SW, Sed, Soil***
Residential Adult	0	NA	NA	NA	NA	NA	NA	NA	NA
Residential Adult	185	NA	NA	NA	NA	NA	NA	NA	NA
Residential Adult	1000	NA	NA	NA	NA	NA	NA	NA	NA
Industrial worker	0	2.1E+00	1.4E+00	5.3E+00	5.2E-02	7.1E+00	NA	NA	NA
Industrial worker	1000	2.3E+01	6.6E-01	6.9E+00	1.2E-01	6.8E+00	NA	NA	NA
Maintenance worker	0	4.4E+00	2.9E+00	1.1E+01	1.1E-01	1.5E+01	NA	NA	NA
Maintenance worker	1000	**4.7E+01**	1.4E+00	1.4E+01	2.4E-01	1.4E+01	NA	NA	NA
Construction worker	0	NA	NA	NA	NA	NA	NA	NA	NA
Construction worker	1000	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Adult	0	2.2E-01	1.5E-01	5.8E-01	5.6E-03	7.8E-01	8.8E-03	NA	NA
Recreational Adult	1000	2.5E+00	7.3E-02	7.5E-01	1.3E-02	7.5E-01	8.8E-03	NA	NA
Recreational Adolescent	0	2.4E-01	1.6E-01	5.9E-01	6.0E-03	7.8E-01	4.5E-03	NA	NA
Recreational Adolescent	1000	2.5E+00	7.4E-02	7.6E-01	1.3E-02	7.6E-01	4.5E-03	NA	NA
Subsistence Farmer Adult	0	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	185	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	335	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	1000	NA	NA	NA	NA	NA	NA	NA	NA
		Total Soil (0-13 feet below ground surface)					***SW, Sed***	***Groundwater***	***SW, Sed, Soil***
Residential Adult	0	4.4E+00	7.6E+00	5.6E+00	8.7E-02	7.1E+00	1.6E-03	NA	NA
Residential Adult	185	1.7E+01	9.7E+00	8.5E+00	2.9E-01	9.2E+00	NA	NA	NA
Residential Adult	1000	**4.2E+01**	8.8E+00	1.2E+01	5.2E-01	1.1E+01	1.6E-03	NA	NA
Industrial worker	0	NA	NA	NA	NA	NA	NA	NA	NA
Industrial worker	1000	NA	NA	NA	NA	NA	NA	NA	NA
Maintenance worker	0	NA	NA	NA	NA	NA	NA	NA	NA
Maintenance worker	1000	NA	NA	NA	NA	NA	NA	NA	NA
Construction worker	0	5.3E+00	5.3E+00	4.7E+00	3.6E-01	4.9E+00	0.0E+00	4.5E-02	**5.7E+01**
Construction worker	1000	1.9E+01	4.0E+00	6.0E+00	2.4E-01	6.0E+00	0.0E+00	NA	2.4E+00
Recreational Adult	0	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Adult	1000	NA	NA	NA	NA	NA	NA	NA	NA
Recreational Adolescent	0	NA	NA	NA	NA	NA	NA	NA	NA

Table 8-23. Radiological Dose Summary for Baseline, RME, by Exposure Unit (mrem/year) (continued)

Receptor	Year	EU1	EU2	EU3	EU4	EU5	EU6[1]	EU7[2]	EU8[3]
		Total Soil (0-13 feet below ground surface)					*SW, Sed*	*Groundwater*	*SW, Sed, Soil*
Recreational Adolescent	1000	NA	NA	NA	NA	NA	NA	NA	NA
Subsistence Farmer Adult	0	1.5E+01	**2.9E+01**	1.4E+01	2.8E-01	1.8E+01	1.6E-03	**6.2E+01**	NA
Subsistence Farmer Adult	185	**3.4E+02**	**4.9E+02**	**2.4E+02**	1.2E+01	**6.4E+01**	NA	NA	NA
Subsistence Farmer Adult	335	**1.0E+02**	**1.0E+02**	**4.5E+01**	1.8E+00	**3.2E+01**	NA	NA	NA
Subsistence Farmer Adult	1000	**2.6E+02**	**3.2E+01**	**4.3E+01**	1.9E+00	**3.5E+01**	1.6E-03	NA	NA

[1]EU6 - Sediment and surface water (IA08) in the Cuyahoga River and Big Creek (non-RESRAD calculation)
[2]EU7 - Area groundwater within unconsolidated aquifer, north of Big Creek/west of the Cuyahoga River (IA10) (non-RESRAD calculation).
[3]EU 8 - Underground utilities, site-wide
Doses greater than 25mrem/year are indicated in bold.
NA: Medium is not evaluated for that receptor

Table 8-24. Radiological Dose Summary for Farmer, CTE, by Exposure Unit (mrem/year)

Receptor	Time	EU1	EU2	EU3	EU4	EU5	EU6[1]	EU7[2]
Subsistence Farmer Adult	0	5.8E+00	1.1E+01	6.6E+00	1.1E-01	8.5E+00	1.6E-03	**1.4E+02**
Subsistence Farmer Adult	185	**1.9E+02**	**2.9E+02**	**1.4E+02**	6.9E+00	**3.4E+01**	NA	NA
Subsistence Farmer Adult	335	**4.7E+01**	**5.8E+01**	2.2E+01	9.1E-01	1.5E+01	NA	NA
Subsistence Farmer Adult	1000	**6.2E+01**	1.3E+01	1.8E+01	7.7E-01	1.5E+01	1.6E-03	NA

[1]EU6 - Sediment and surface water (IA08) in the Cuyahoga River and Big Creek (non-RESRAD calculation)
[2]EU7 - Area groundwater within unconsolidated aquifer, north of Big Creek/west of the Cuyahoga River (IA10) (non-RESRAD calculation).
Doses greater than 25mrem/year are indicated in bold.
NA: Medium is not evaluated for that receptor

Table 8-25. Harshaw RME Groundwater Ingestion Dose Assessment Results, Using Groundwater Concentrations Measured at the Site

EU	Radionuclide	CASRN	Gross EPC (pCi/L)	Average BKG (pCi/L)	Net EPC (pCi/L)	Subsistence Farmer Adult	Construction Worker
EU7	Ac-227+D	014952-40-0(+D)	0.0	0.116	0.00E+00	0.0E+00	0.0E+00
EU7	Pa-231	014331-85-2	0.0	0.116	0.00E+00	0.0E+00	0.0E+00
EU7	Pb-210+D	014255-04-0(+D)	1.3	1.5	0.00E+00	0.0E+00	0.0E+00
EU7	Ra-226+D	013982-63-3(+D)	0.0	1.5	0.00E+00	0.0E+00	0.0E+00
EU7	Ra-228+D	015262-20-1(+D)	0.0	2.78	0.00E+00	0.0E+00	0.0E+00
EU7	Th-228+D	0147274-82-9(+D)	0.0	3.57	0.00E+00	0.0E+00	0.0E+00
EU7	Th-230	014269-63-7	2.6	0.42	2.14E+00	9.8E-01	7.0E-04
EU7	Th-232	007440-29-1	0.0	0.057	0.00E+00	0.0E+00	0.0E+00
EU7	U-234	013966-29-5	101.0	2.7	9.83E+01	2.3E+01	1.7E-02
EU7	U-235+D	015117-96-1(+D)	4.6	0.381	4.24E+00	9.4E-01	6.8E-04
EU7	U-238+D	007440-61-1(+D)	169.0	2.63	1.66E+02	3.7E+01	2.7E-02
					Total	6.2E+01	4.5E-02

(+D) indicates consideration of short lived decay products.
EPC = Exposure Point Concentration
BKG = Background
EU = Exposure Unit

Table 8-26. List of Significant Radiological and Chemical COPCs, by Medium and EU
(*subject to FS for final COC designation)*

Receptor	EU	Media	COPC	Receptor	EU	Media	COPC	Receptor	EU	Media	COPC
Subsistence Farmer	***1***	***SB*** *SB = 0-13 feet*	Pb-210 Ra-226 Ra-228 Th-232 Th-230 U-234 U-235 U-238 Lithium* Kerosene*	***Construction Worker***	***1***	***SB*** *SB = 0-13 feet*	Ra-226 Th-230 U-234**	***Maintenance Worker***	***1***	***SS*** *SS = 0-2 feet*	Ra-226 Th-230 U-234 U-235 U-238
	2	***SB***	Pb-210 Ra-226 Th-230 Th-232 U-234 U-235 U-238		***2***	***SB***	Ra-226 Th-230 Th-232 U-234**		***2***	***SS***	Ra-226 Th-230 U-234 U-235 U-238
	3	***SB***	Pb-210 Ra-226 Ra-228 Th-228 Th-232 Th-230 U-234 U-235 U-238 Lithium*		***3***	***SB***	Ra-226 Ra-228 Th-230 Th-232 U-234**		***3***	***SS***	Ra-226 Ra-228 Th-228 Th-232 Th-230 U-234 U-235 U-238

Table 8-26. List of Significant Radiological and Chemical COPCs, by Medium and EU (continued)
(*subject to FS for final COC designation*)

Receptor	EU	Media	COPC	Receptor	EU	Media	COPC	Receptor	EU	Media	COPC
Subsistence Farmer	***4***	***SB***	Pb-210 Ra-226 Th-230 U-234 U-238	***Construction Worker***	***4***	***SB***	Ra-226	***Maintenance Worker***	***4***	***SS***	Ra-226 Th-230 U-238**
	5	***SB***	Pb-210 Ra-226 Ra-228 Th-228 Th-232 Th-230 U-234 U-235 U-238		***5***	***SB***	Ra-226 Ra-228 Th-230 Th-232		***5***	***SS***	Ra-226 Ra-228 Th-228 Th-232 Th-230 U-235 U-238
	6	***SW*** ***SED***	*none* *none*		***6***	not evaluated for this receptor			***6***	***SED*** ***SW***	*none* *none*
	7	***GW***	Th-230 U-234 U-235 U-238 Lithium		***7***	***GW***	*none*		***7***	not evaluated for this receptor	
	8	not evaluated for this receptor			***8***	***SB*** ***SED*** ***SW***	*none*		***8***	not evaluated for this receptor	

For carcinogens, (i.e., radionuclides at the Former Harshaw Chemical Site), Significant COPCs (or preliminary COCs) have been identified as those COPCs that exceed an acceptable cancer risk criterion of 1 x 10-6 in an EU that exceed a total incremental cancer risk of 1 x 10-4.
* Chemicals are only Significant COPCs for the Child farmer scenario.
** Indicates that only 1 uranium isotope identified as above risk threshold. From practical standpoint, total uranium (all naturally occurring uranium isotopes) will be carried forward when one (or two) of the uranium isotopes is (are) identified.

Table 8-27. Risk Based Preliminary Remediation Goals for FUSRAP Chemical Significant COPCs

COPC	CASRN	Current Use			Potential Future Uses					
		Recreational		*Worker*	*Worker*		*Resident*		*Farmer*	
		Adult	Adolescent	Maintenance	Construction	Industrial	Adult	Child	Adult	Child
Soil (mg/kg)										
Kerosene		9.8E+04	6.0E+04	4.0E+04	6.0E+03	6.1E+04	7.9E+03	1.8E+03	1.9E+03	1.1E+03
Total U	7440-61-1	1.5E+04	8.8E+03	7.7E+03	8.5E+02	6.1E+03	1.9E+03	2.3E+02	1.1E+03	1.9E+02
Lithium	7439-93-2	9.8E+03	5.9E+03	5.1E+03	5.7E+02	4.1E+03	1.1E+03	1.5E+02	9.8E+01	2.1E+01
Soil (pCi/g)*										
Total U		1.0E+04	6.0E+03	5.2E+03	5.8E+02	4.2E+03	1.3E+03	1.6E+02	7.1E+02	1.3E+02
Groundwater (mg/L)										
Total U	7440-61-1	NA	NA	3.2E+02	1.3E+02	NA	NA	NA	9.2E-02	9.4E-02
Lithium	7439-93-2	NA	NA	2.1E+02	8.5E+01	NA	NA	NA	6.1E-02	6.3E-02
Groundwater (pCi/L)										
Total U	7439-93-2	NA	NA	2.3E+05	9.3E+04	NA	NA	NA	6.7E+01	6.8E+01

Based on an acceptable non-cancer hazard index of 1 for each individual constituent.
*Total uranium PRG for protection of chemical toxic effects (i.e., kidney toxicity) converted from mass units to activity for comparison to PRGs based on radiological endpoints in Tables 8-28 and 8-29. In soil, the ratio of U-234:U-235:U-238 is assumed to be 1:0.046:1, and in groundwater the ratio of U-234:U-235:U-238 is assumed to be 1.1:0.046:1

Table 8-28. Preliminary Remediation Goals[1] for Radionuclides in Soils, Based on 10 CFR 20 (Total of 25 mrem/year all pathways)

COC	CASRN	Current Use			Potential Future Uses			
		Recreational (pCi/g)		*Worker (pCi/g)*	*Worker (pCi/g)*		*Resident (pCi/g)*	*Subsistence[2] (pCi/g)*
		Adult	Adolescent	Maintenance	Construction	Industrial	Adult	Adult
Pb-210+D	014255-04-0	7.9E+03	5.3E+03	4.1E+02	8.5E+01	8.2E+02	1.3E+01	1.8E+00
Ra-226+D	013982-63-3	2.0E+02	2.0E+02	1.0E+01	1.0E+01	2.2E+01	4.7E+00	1.0E+00
Ra-228+D	015262-20-1	3.1E+02	3.1E+02	1.6E+01	1.5E+01	3.4E+01	6.8E+00	1.6E+00
Th-228	0147274-82-9(+D)	2.6E+02	2.6E+02	1.4E+01	1.3E+01	2.8E+01	9.0E+00	4.2E+00
Th-230	014269-63-7	8.6E+02	8.5E+02	4.5E+01	3.5E+01	9.5E+01	1.6E+01	3.6E+00
Th-232	013968-55-3	1.5E+02	1.5E+02	7.7E+00	6.5E+00	1.6E+01	3.7E+00	1.1E+00
U-234	013966-29-5	1.6E+05	1.1E+05	7.6E+03	5.5E+02	1.5E+04	3.2E+02	3.7E+01
U-235+D	015117-96-1	2.9E+03	2.9E+03	1.5E+02	1.2E+02	3.2E+02	9.3E+01	3.4E+01
U-238+D	007440-61-1	1.4E+04	1.3E+04	7.1E+02	3.4E+02	1.5E+03	3.3E+02	3.9E+01
Total U		2.1E+04	2.0E+04	1.1E+03	4.0E+02	2.3E+03	3.0E+02	3.8E+01
Total U	mg/kg [3]	3.1E+04	3.0E+04	1.6E+03	5.8E+02	3.4E+03	4.5E+02	5.6E+01

[1]The PRGs are given in units of pCi/g (except for last row of total U in mg/kg) and represent the soil concentration of each individual radionuclide that would result in an incremental cancer risk of 1E-04 at the time of peak dose (risk) over a 1,000-year time period.
[2]Subsistence farmer PRG for uranium assumes that drinking water wold be limited to 30 µg/L total uranium, or ~ 5mrem/year.
Remaining 20 mrem/year allowable dose comes from soil exposures for all radionuclides.
[3]Total uranium PRG converted from activity to mass units for comparison to PRGs based on chemical toxicity in Table 8-27.
In soil, ratio of U-234:U-235:U-238 assumed to be 1:0.046:1 for purposes of the activity to mass conversion.
(+D) are short-lived decay products

Table 8-29. Preliminary Remediation Goals[1] for Radionuclides in Soils, Based on ILCR of 1E-05

COC	CASRN	CURRENT USE			POTENTIAL FUTURE USES			
		Recreational		*Worker*	*Worker*		*Resident*	*Subsistence*[2]
		Adult	**Adolescent**	**Maintenance**	**Construction**	**Industrial**	**Adult/child**	**Adult/child**
Pb-210+D	014255-04-0	4.4E+02	6.6E+02	2.6E+01	9.2E+01	5.1E+01	5.7E-01	1.0E-01
Ra-226+D	013982-63-3	3.6E+00	1.1E+01	2.2E-01	5.4E+00	4.7E-01	8.9E-02	3.5E-02
Ra-228+D	015262-20-1	9.0E+00	1.4E+01	4.9E-01	7.9E+00	1.0E+00	2.2E-01	8.1E-02
Th-228	0147274-82-9(+D)	4.1E+01	4.2E+01	2.2E+00	6.9E+00	4.5E+00	1.3E+00	8.7E-01
Th-230	014269-63-7	1.5E+01	4.6E+01	9.7E-01	2.2E+01	2.0E+00	3.4E-01	1.2E-01
Th-232	013968-55-3	2.6E+00	7.7E+00	1.6E-01	3.8E+00	3.4E-01	5.9E-02	2.2E-02
U-234	013966-29-5	5.7E+03	1.0E+04	3.4E+02	1.1E+03	6.8E+02	1.6E+01	2.4E+00
U-235+D	015117-96-1	6.8E+01	1.7E+02	4.1E+00	7.9E+01	8.7E+00	2.1E+00	1.3E+00
U-238+D	007440-61-1	3.1E+02	7.7E+02	1.9E+01	2.9E+02	3.9E+01	8.0E+00	1.9E+00
Total U		5.0E+02	1.2E+03	3.0E+01	4.1E+02	6.3E+01	9.7E+00	2.0E+00
Total U	mg/kg [3]	7.4E+02	1.8E+03	4.5E+01	6.0E+02	9.3E+01	1.4E+01	3.0E+00

[1]Values represent minimum of RESRAD calculated PRG at years 0, 185, or 1000 (year of peak risk per nuclide group).
[2] Subsistence Farmer PRG for uranium assumes that drinking water would be limited to 30 µg/L total uranium, or ~ 4E-05 ILCR. These soil PRGs would result in an additional 1E-05 ILCR for the farmer.
[3]Total uranium PRG converted from activity to mass units for comparison to PRGs based on chemical toxicity in Table 8-27.
In soil, ratio of U-234:U-235:U-238 assumed to be 1:0.046:1 for purposes of the activity to mass conversion.
(+D) are short-lived decay products

Table 8-30. Preliminary Remediation Goals for Groundwater, Based on Radiological Risk and Dose

COC	PRGs (pCi/L)	
	1E-04 ILCR	4 mrem/year
Th-230	5.2E+01	8.8E+00
U-234	6.7E+01	1.7E+01
U-235	6.6E+01	1.8E+01
U-238	5.5E+01	1.8E+01
Total U*	6.1E+01	1.7E+01

*Assumes that the groundwater concentrations of U-234:U-235:U-238 are in the ratios of 1.1:0.046:1.

Table 8-31. Beta Activity Ratios

Decay Series	Potential SRC[a]	Mean [b] (pCi/g)	Beta (pCi/g)	Mean / Beta (unitless)
Uranium	Uranium-238+D	444	888	4.80E-01
	Uranium-234	444	0	4.80E-01
	Thorium-230	1.47	0	1.60E-03
	Radium-226+D	1.36	2.72	1.50E-03
	Lead-210+D	1.36	2.72	1.50E-03
Thorium	Thorium-232+D	0.814	0	8.80E-04
	Radium-228+D	0.771	1.54	8.30E-04
	Thorium-228+D	1	2.03	1.10E-03
Actinium	Uranium-235+D	26.3	26.3	2.80E-02
	Protactinium-231	0	0	0.00E+00
	Actinium-227+D	0	0	0.00E+00
Miscellaneous	Americium-241	0.753	0	8.10E-04
	Potassium-40	3.88	3.88	4.20E-03
	Cesium-137+D	0.23	0.448	2.50E-04
		Totals:	928	1

[a]Site-related contaminants; "+D" indicates the inclusion of short-lived decay products
[b]Uranium-234 assumed to be in equilibrium with uranium-238; radium-226 estimated as the larger of the bismuth-214 and lead-214 results; lead-210 assumed to be in equilibrium with radium-226; radium-228 estimated as the larger of the actinium-228 and radium-228 results. Protactinium-231 and actinium-227 are not expected in building material because they were not found in site soils.

Table 8-32. Harshaw Building Data Exposure Units

Building	In/Ex	MU	Master Unit Description	EU	UCLs Fixed dpm/100cm^2	UCLs Removable dpm/100cm^2	UCLs Dose Rate* mrem/hour
G-1	Ex	1M1	G-1-Exterior Walls - Exterior	B1	8315.8	8.8	0.013
		1M10	G-1-Discretionary points - Exterior	B1	53443.4	13.5	0.000
		1M2	G-1-Roof - Exterior	B1	62222.8	49.4	0.011
		1M5	G-1-Windowsills - Exterior	B1	81180.5	8.9	0.000
G-1/B1				**B1 Ave**	**51290.6**	**20.2**	**0.012**
	In	1M11	G-1-East Structure Interior wall - Interior	B2	267291.6	72.9	0.030
		1M13	G-1-East Structure Interior wall - Interior	B2	104424.5	24.7	0.030
		1M9	G-1-East Structure 2nd level floor - Interior	B2	26366.0	47.8	0.030
		1M14	G-1-East Structure 3rd level floor - Interior	B2	257220.0	1761.6	0.030
		1M6	G-1-1st Floor - Interior	B2/B3/B4	52646.0	193.0	0.030
G-1/B2				**B2 Ave**	**141589.6**	**420.0**	**0.030**
	In	1M12	G-1-2nd Level Interior walls - Interior	B3	17369.1	95.5	0.030
		1M7	G-1-2nd Level Floor - Interior	B3	138106.9	89.6	0.030
		1M3	G-1-South Structure Interior Walls - Interior	B3	56195.2	69.1	0.030
		1M6	G-1-1st Floor - Interior	B2/B3/B4	52646.0	193.0	0.030
G-1/B3				**B3 Ave**	**66079.3**	**111.8**	**0.030**
	In	1M4	G-1-North Structure Interior Walls - Interior	B4	26522.8	98.9	0.030
		1M8	G-1-Mezzanine floor - Interior	B4	370540.0	56.0	0.030
		1M6	G-1-1st Floor - Interior	B2/B3/B4	52646.0	193.0	0.030
G-1/B4				**B4 Ave**	**149902.9**	**116.0**	**0.030**
Boiler House	Ex	2M1	Boiler House Walls - Exterior	B5	1068.8	11.5	0.012
		2M2	Boiler House Window Sills - Exterior	B5	25155.7	32.0	0.000
		2M3	Boiler House Roof - Exterior	B5	280.7	18.2	0.009

Table 8-32. Harshaw Building Data Exposure Units (continued)

Building	In/Ex	MU	Master Unit Description	EU	UCLs Fixed dpm/100cm^2	UCLs Removable dpm/100cm^2	UCLs Dose Rate* mrem/hour
Boiler House/B5				**B5 Ave**	**8835.1**	**20.6**	**0.010**
	In	2M4	Boiler House Walls - Interior	B6	871.6	7.8	0.009
		2M5	Boiler House Accessible Floor and Mezzanine - Interior	B6	671.0	4.4	0.012
Boiler House/B6				**B6 Ave**	**771.3**	**6.1**	**0.010**
Foundry	Ex	3M1	Foundry Corrugated Metal Walls - Exterior	B7	903.3	9.3	0.010
		3M1	Foundry Walls - Exterior	B7	903.3	9.3	0.010
		3M2	Foundry Window Sills - Exterior	B7	113266.2	2.8	0.000
		3M3	Foundry Roof	B7	1013.2	11.8	0.008
		3M4	Foundry Exterior Discretionary Wall Caps, Gutters, etc.	B7	0.0	6.2	0.000
Foundry/B7				**B7 Ave**	**23217.2**	**7.8**	**0.009**
Warehouse	In	n/a	No internal surveys performed	n/a	n/a	n/a	n/a
	Ex	4M1	Warehouse Walls - Exterior	B8	147.0	6.3	0.010
		4M2	Warehouse Ramps - Exterior	B8	554.7	11.3	0.010
		4M3	Warehouse Window Sills - Exterior	B8	1109.2	12.4	0.000
		4M5	Warehouse Roof - Exterior	B8	506.7	6.8	0.013
		4M6	Warehouse Roof Structures - Exterior	B8	292.5	10.6	0.008
		4M7	Warehouse Roof Vent	B8	0.0	13.4	0.000
		4M8	Warehouse Discretionary Points	B8	552.4	29.0	0.000
Warehouse/B8				**B8 Ave**	**451.8**	**12.8**	**0.010**
	In	4M4	Warehouse Walls - Interior	B9	65.9	7.6	0.007
Warehouse/B9				**B9 Ave**	**65.9**	**7.6**	**0.007**
Garage	Ex	5M1	Garage Walls - Exterior	B10	185.3	10.1	0.014
		5M2	Garage Window Sills - Exterior	B10	1659.8	18.0	0.000
		5M3	Garage Roof - Exterior	B10	87.6	34.0	0.012

Table 8-32. Harshaw Building Data Exposure Units (continued)

Building	In/Ex	MU	Master Unit Description	EU	UCLs Fixed dpm/100cm^2	UCLs Removable dpm/100cm^2	UCLs Dose Rate* mrem/hour
Garage/B10				**B10 Ave**	**644.2**	**20.7**	**0.013**
	In	n/a	No internal surveys performed	n/a	n/a	n/a	n/a
Scale House	Ex	6M1	Scale House Walls and Roof - Exterior	B11	621.6	4.0	0.011
Scale House/B11				**B11 Ave**	**621.6**	**4.0**	**0.011**
	In	6M2	Scale House Walls and Floor - Interior	B12	736.0	0.0	0.011
Scale House/B12				**B12 Ave**	**736.0**	**0.0**	**0.011**

Master Unit (MU) 1M6 crosses three Exposure Units (EUs) and was subdivided accordingly
In/Ex = interior/exterior
n/a = not applicable
Dose Rate* - Zero values not included in average calculation

Table 8-33. Reasonable Maximum Exposure Parameters for Radiological Exposures in Buildings

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Site-Specific Parameters				
Fraction available for re-suspension (FA)	unitless	1	All	Assumes 100% of removable contamination is a available for re-suspension.
		0.1	All	Conservatively assumes 10% of fixed contamination will at some point become removable.
Re-suspension factor (RF)	m^{-1}	9.40E-06	Industrial Worker	For light work activities (Fish et al. 1964)
		2.70E-05	Construction	Assumes 10% vigorous work activities (1.9E-4 m^{-1}) and 90% light industrial (9.4E-6 m^{-1}) [Fish et al. 1964]
				For light work activities (Fish et al. 1964)
		9.40E-06	Maintenance	
Surface area density	g/cm^2	0.15	All	Assumes the density of soil with a thickness of 0.1 cm.
Receptor-Specific Parameters				
Exposure time (ET)	hours/day	8	Industrial Worker	Assumes 8-hour work-day
		8	Construction	Assumes 8-hour work-day
		2.5	Maintenance	Assumed for indoor exposure units
		0.55	Maintenance	Assumed 10% of total outdoor time (see Table 1) at any one location
Exposure frequency (EF)	days/yr	250	All	RME frequency for occupational receptor (EFH, RAGS)
Exposure duration (ED)	yr	25	Industrial Worker	RME duration for occupational receptor (EFH, RAGS)
		1	Construction	Assuming construction activities during one calendar year
		25	Maintenance	RME duration for occupational receptor (EFH, RAGS)
Inhalation rate (IR_a)	m^3/hr	1.4	All exc. Con Worker	NUREG CR-5512-V1, Sec 6.7.2 &Table 6.23 & "User's Manual for RESRAD-BUILD," Ver3 (Section J.3.5)
Inhalation rate (IR_a)	m^3/hr	1.6	Construction Worker	NUREG CR-5512-V1, Sec 6.7.2 &Table 6.23 & "User's Manual for RESRAD-BUILD," Ver3 (Section J.3.5)
Dust ingestion rate (IR_d)	mg/day	50	Industrial Worker	50 mg/day for RME industrial worker rate (RAGS)
		480	Construction	480 mg/day for RME conservatively assuming outdoor summer activities (EFH, Table 4-16)
		110	Maintenance	110 mg/day for RME conservatively assuming attic conditions (EFH, Table 4-16)

Table 8-34. Central Tendency Exposure Parameters for Radiological Exposures in Buildings

Exposure Parameter	Units	Value	Receptor	Comment/Reference
Site-Specific Parameters				
Fraction available for re-suspension (FA)	unitless	1	All	Assumes 100% of removable contamination is a available for re-suspension.
		0.05	All	Conservatively assumes 5% of fixed contamination will at some point become removable.
Re-suspension factor (RF)	m^{-1}	4.70E-06	Industrial Worker	Assumes 50% ambient conditions (3.3E-8 m^{-1}) [Jones and Pond 1964] and 50% light work activities (9.4E-6 m^{-1}) [Fish et al. 1964]
				Assumes 10% vigorous work activities (1.9E-4 m^{-1}) and 40% light industrial (9.4E-6 m^{-1}) [Fish et al. 1964] and 50% ambient conditions (3.3E-8 m^{-1}) [Jones and Pond 1964]
				Assumes 50% ambient conditions (3.3E-8 m^{-1}) [Jones and Pond 1964] and 50% light work activities (9.4E-6 m^{-1}) [Fish et al. 1964]
		2.30E-05	Construction	
		4.70E-06	Maintenance	
Surface area density	g/cm^2	0.15	All	Assumes the density of soil with a thickness of 0.1 cm.
Receptor -Specific Parameters				
Exposure time (ET)	hours/day	8	Industrial Worker	Assumes 8-hour work-day
		8	Construction	Assumes 8-hour work-day
		2.5	Maintenance	Assumed for indoor exposure units
		0.55	Maintenance	Assumed 10% of total outdoor time at any one location
Exposure frequency (EF)	days/yr	219	Industrial Worker	Exhibit 3-5 from EPA 2001b
		60	Construction	Assumes 5 day/week for three months
		219	Maintenance	Exhibit 3-5 from EPA 2001b
Exposure duration (ED)	yr	6.6	Industrial Worker	Average duration for occupational receptor (EFH, Table 1-2)
		1	Construction	Assuming construction activities during one calendar year
		6.6	Maintenance	Average duration for occupational receptor (EFH, Table 1-2)
Inhalation rate (IR_a)	m^3/hr	1.4	All	NUREG CR-5512-V1, Sec 6.7.2 &Table 6.23 & "User's Manual for RESRAD-BUILD," Ver3 (Section J.3.5)
Dust ingestion rate (IR_d)	mg/day	50	Industrial Worker	50 mg/day for average industrial worker rate (EFH, Table 1-2)
		100	Construction	100 mg/day for CTE construction worker assuming twice the average adult rate from EFH, Table 1-2 (assumed)
		50	Maintenance	Assumed same as for average industrial worker rate

EFH = Exposure Factors Handbook (EPA 1997)
RAGS = Risk Assessment Guidance for Superfund, specifically Volume 1 Part B (EPA 1991)
CTE = central tendency exposure

Table 8-35. Dose-to-Risk Conversion Factors

Exposed Population	Detriment (per mrem) [a]			
	Fatal Cancer	Non-Fatal Cancer	Severe Hereditary Effects	Total
Adult Workers	4.00E-07	8.00E-08	8.00E-08	5.60E-07
Whole Population	5.00E-07	1.00E-07	1.30E-07	7.30E-07

[a] ICRP1990

Table 8-36. Summary of Dose and Risk Results for the Industrial Worker

Building/EU	EU	RME Dose mrem/yr	Exceed 25 mrem/yr?	CTE Dose mrem/yr	Exceed 25 mrem/yr?	RME ILCR	Exceed risk 1 E-04?	CTE ILCR	Exceed Risk 1 E-04?
G-1/B1	B1	0	No	0	No	0.0E+00	No	0.0E+00	No
G-1/B2	B2	2234	Yes	542	Yes	5.3E-03	Yes	4.4E-04	Yes
G-1/B3	B3	1062	Yes	275	Yes	2.8E-03	Yes	2.9E-04	Yes
G-1/B4	B4	2313	Yes	550	Yes	5.4E-03	Yes	4.4E-04	Yes
Boiler House/B5	B5	0	No	0	No	0.0E+00	No	0.0E+00	No
Boiler House/B6	B6	33	Yes	21	No	2.7E-04	Yes	5.9E-05	No
Foundry/B7	B7	0	No	0	No	0.0E+00	No	0.0E+00	No
Warehouse/B8	B8	0	No	0	No	0.0E+00	No	0.0E+00	No
Warehouse/B9	B9	15	No	12	No	1.6E-04	Yes	3.6E-05	No
Garage/B10	B10	0	No	0	No	0.0E+00	No	0.0E+00	No
Scale House/B11	B11	0	No	0	No	0.0E+00	No	0.0E+00	No
Scale House/B12	B12	33	Yes	22	No	2.9E-04	Yes	6.2E-05	No

Bold font indicates the value is the maximum value for all workers.
RME = Reasonable Maximum Exposure
CTE = Central Tendency Exposure
ILCR = Incremental Lifetime Cancer Risk

Table 8-37. Summary of Dose and Risk Results for the Construction Worker

Building/EU	EU	RME Dose mrem/yr	Exceed 25 mrem/yr?	CTE Dose mrem/yr	Exceed 25 mrem/yr?	RME ILCR	Exceed risk 1 E-04?	CTE ILCR	Exceed Risk 1 E-04?
G-1/B1	B1	2551	Yes	232	Yes	2.3E-04	Yes	2.2E-05	No
G-1/B2	B2	7214	Yes	672	Yes	6.4E-04	Yes	6.2E-05	No
G-1/B3	B3	3357	Yes	314	Yes	3.1E-04	Yes	3.2E-05	No
G-1/B4	B4	7473	Yes	681	Yes	6.6E-04	Yes	6.3E-05	No
Boiler House/B5	B5	464	Yes	45	Yes	4.7E-05	No	5.8E-06	No
Boiler House/B6	B6	61	Yes	9	No	1.3E-05	No	2.7E-06	No
Foundry/B7	B7	1162	Yes	107	Yes	1.1E-04	Yes	1.1E-05	No
Warehouse/B8	B8	49	Yes	8	No	1.2E-05	No	2.6E-06	No
Warehouse/B9	B9	20	No	4	No	6.8E-06	No	1.6E-06	No
Garage/B10	B10	67	Yes	11	No	1.6E-05	No	3.3E-06	No
Scale House/B11	B11	54	Yes	8	No	1.3E-05	No	2.8E-06	No
Scale House/B12	B12	58	Yes	9	No	1.4E-05	No	2.8E-06	No

Bold font indicates the value is the maximum value for all workers.
RME = Reasonable Maximum Exposure
CTE = Central Tendency Exposure
ILCR = Incremental Lifetime Cancer Risk

Table 8-38a. Summary of Dose and Risk Results for the Interior Maintenance Worker

Building/EU	EU	RME Dose mrem/yr	Exceed 25 mrem/yr?	CTE Dose mrem/yr	Exceed 25 mrem/yr?	RME ILCR	Exceed risk 1 E-04?	CTE ILCR	Exceed Risk 1 E-04?
G-1/B1	B1	0	No	0	No	0.0E+00	No	0.0E+00	No
G-1/B2	B2	698	Yes	170	Yes	1.7E-03	Yes	1.4E-04	Yes
G-1/B3	B3	332	Yes	86	Yes	9.0E-04	Yes	9.1E-05	No
G-1/B4	B4	723	Yes	172	Yes	1.8E-03	Yes	1.4E-04	Yes
Boiler House/B5	B5	0	No	0	No	0.0E+00	No	0.0E+00	No
Boiler House/B6	B6	10	No	7	No	8.5E-05	No	1.8E-05	No
Foundry/B7	B7	0	No	0	No	0.0E+00	No	0.0E+00	No
Warehouse/B8	B8	0	No	0	No	0.0E+00	No	0.0E+00	No
Warehouse/B9	B9	5	No	4	No	5.0E-05	No	1.1E-05	No
Garage/B10	B10	0	No	0	No	0.0E+00	No	0.0E+00	No
Scale House/B11	B11	0	No	0	No	0.0E+00	No	0.0E+00	No
Scale House/B12	B12	10	No	7	No	9.0E-05	No	2.0E-05	No

Bold font indicates the value is the maximum value for all workers.
RME = Reasonable Maximum Exposure
CTE = Central Tendency Exposure
ILCR = Incremental Lifetime Cancer Risk

Table 8-38b. Summary of Dose and Risk Results for the Exterior Maintenance Worker

Building/EU	EU	RME Dose mrem/yr	Exceed 25 mrem/yr?	CTE Dose mrem/yr	Exceed 25 mrem/yr?	RME ILCR	Exceed risk 1 E-04?	CTE ILCR	Exceed Risk 1 E-04?
G-1/B1	B1	55	Yes	13	No	1.5E-04	Yes	1.2E-05	No
G-1/B2	B2	0	No	0	No	0.0E+00	No	0.0E+00	No
G-1/B3	B3	0	No	0	No	0.0E+00	No	0.0E+00	No
G-1/B4	B4	0	No	0	No	0.0E+00	No	0.0E+00	No
Boiler House/B5	B5	11	No	3	No	4.0E-05	No	5.2E-06	No
Boiler House/B6	B6	0	No	0	No	0.0E+00	No	0.0E+00	No
Foundry/B7	B7	25	Yes	6	No	7.4E-05	No	6.9E-06	No
Warehouse/B8	B8	2	No	1	No	1.8E-05	No	4.0E-06	No
Warehouse/B9	B9	0	No	0	No	0.0E+00	No	0.0E+00	No
Garage/B10	B10	3	No	2	No	2.3E-05	No	5.0E-06	No
Scale House/B11	B11	2	No	1	No	2.0E-05	No	4.3E-06	No
Scale House/B12	B12	0	No	0	No	0.0E+00	No	0.0E+00	No

Bold font indicates the value is the maximum value for all workers.
RME = Reasonable Maximum Exposure
CTE = Central Tendency Exposure
ILCR = Incremental Lifetime Cancer Risk

Table 8-38c. Summary of Dose and Risk Results for the Maintenance Worker (Interior and Exterior)

Building/EU	EU	RME Dose mrem/yr	Exceed 25 mrem/yr?	CTE Dose mrem/yr	Exceed 25 mrem/yr?	RME ILCR	Exceed risk 1 E-04?	CTE ILCR	Exceed Risk 1 E-04?
G-1/B1	B1	55	Yes	13	No	1.5E-04	Yes	1.2E-05	No
G-1/B2	B2	698	Yes	170	Yes	1.7E-03	Yes	1.4E-04	Yes
G-1/B3	B3	332	Yes	86	Yes	9.0E-04	Yes	9.1E-05	No
G-1/B4	B4	723	Yes	172	Yes	1.8E-03	Yes	1.4E-04	Yes
Boiler House/B5	B5	11	No	3	No	4.0E-05	No	5.2E-06	No
Boiler House/B6	B6	10	No	7	No	8.5E-05	No	1.8E-05	No
Foundry/B7	B7	25	Yes	6	No	7.4E-05	No	6.9E-06	No
Warehouse/B8	B8	2	No	1	No	1.8E-05	No	4.0E-06	No
Warehouse/B9	B9	5	No	4	No	5.0E-05	No	1.1E-05	No
Garage/B10	B10	3	No	2	No	2.3E-05	No	5.0E-06	No
Scale House/B11	B11	2	No	1	No	2.0E-05	No	4.3E-06	No
Scale House/B12	B12	10	No	7	No	9.0E-05	No	2.0E-05	No

Bold font indicates the value is the maximum value for all workers.
RME = Reasonable Maximum Exposure
CTE = Central Tendency Exposure
ILCR = Incremental Lifetime Cancer Risk

Table 8-39. Summary of Maximum Dose and Risk Results for All Workers

Building/EU	EU	Max. RME Dose mrem/yr	Exceed 25 mrem/yr?	Max. CTE Dose mrem/yr	Exceed 25 mrem/yr?	Max. RME ILCR	Exceed risk 1 E-04?	Max. CTE ILCR	Exceed Risk 1 E-04?
G-1/B1	B1	2551	Yes	232	Yes	2.3E-04	Yes	2.2E-05	No
G-1/B2	B2	7214	Yes	672	Yes	5.3E-03	Yes	4.4E-04	Yes
G-1/B3	B3	3357	Yes	314	Yes	2.8E-03	Yes	2.9E-04	Yes
G-1/B4	B4	7473	Yes	681	Yes	5.4E-03	Yes	4.4E-04	Yes
Boiler House/B5	B5	464	Yes	45	Yes	4.7E-05	No	5.8E-06	No
Boiler House/B6	B6	61	Yes	21	No	2.7E-04	Yes	5.9E-05	No
Foundry/B7	B7	1162	Yes	107	Yes	1.1E-04	Yes	1.1E-05	No
Warehouse/B8	B8	49	Yes	8	No	1.8E-05	No	4.0E-06	No
Warehouse/B9	B9	20	No	12	No	1.6E-04	Yes	3.6E-05	No
Garage/B10	B10	67	Yes	11	No	2.3E-05	No	5.0E-06	No
Scale House/B11	B11	54	Yes	8	No	2.0E-05	No	4.3E-06	No
Scale House/B12	B12	58	Yes	22	No	2.9E-04	Yes	6.2E-05	No

Bold font indicates the value for all workers exceeds a dose or risk limit.
RME = Reasonable Maximum Exposure
CTE = Central Tendency Exposure
ILCR = Incremental Lifetime Cancer Risk

Table 8-40. Predominant Pathway Annual Dose by Building/EU and Receptor

Building/EU	Industrial Worker		Construction Worker		Maintenance Worker	
	RME	CTE	RME	CTE	RME	CTE
G-1/B1			Inh	Inh	Inh	Inh
G-1/B2	Inh	Inh	Inh	Inh	Inh	Inh
G-1/B3	Inh	Inh	Inh	Inh	Inh	Inh
G-1/B4	Inh	Inh	Inh	Inh	Inh	Inh
Boiler House/B5			Inh	Inh	Inh	Inh
Boiler House/B6	EG	EG	Inh	EG	EG	EG
Foundry/B7			Inh	Inh	Inh	Inh
Warehouse/B8			Inh	EG	EG	EG
Warehouse/B9	EG	EG	EG	EG	EG	EG
Garage/B10			Inh	EG	EG	EG
Scale House/B11			Inh	EG	EG	EG
Scale House/B12	EG	EG	Inh	EG	EG	EG

Bold font indicates that the total of all pathways (ingestion + inhalation + external gamma) annual dose exceeds 25 mrem/yr.
Inh = inhalation; EG = external gamma; blank = not applicable

Table 8-41. Predominant Pathway Lifetime Excess Cancer Risk by Building/EU and Receptor

Building/EU	Industrial Worker		Construction Worker		Maintenance Worker	
	RME	CTE	RME	CTE	RME	CTE
G-1/B1			Inh	Inh	Inh	Inh
G-1/B2	Inh	Inh	Inh	Inh	Inh	Inh
G-1/B3	Inh	Inh	Inh	Inh	Inh	Inh
G-1/B4	Inh	Inh	Inh	Inh	Inh	Inh
Boiler House/B5			Inh	Inh	Inh	Inh
Boiler House/B6	EG	EG	Inh	EG	EG	EG
Foundry/B7			Inh	Inh	Inh	Inh
Warehouse/B8			Inh	EG	EG	EG
Warehouse/B9	EG	EG	EG	EG	EG	EG
Garage/B10			Inh	EG	EG	EG
Scale House/B11			Inh	EG	EG	EG
Scale House/B12	EG	EG	Inh	EG	EG	EG

Bold font indicates that the total of all pathways (ingestion + inhalation + external gamma) lifetime cancer risk exceeds 1 E-04.
Inh = inhalation; EG = external gamma; blank = not applicable

Table 8-42. Preliminary Remediation Goals – Buildings

	PRG - 25 mrem/year											
	Industrial Worker			Construction Worker			Maintenance Worker Interior			Maintenance Worker Exterior		
	PRG Fixed ($dpm/100cm^2$)	PRG Removable ($dpm/100cm^2$)	PRG Direct (mrem/hour)	PRG Fixed ($dpm/100cm^2$)	PRG Removable ($dpm/100cm^2$)	PRG Direct (mrem/hour)	PRG Fixed ($dpm/100cm^2$)	PRG Removable ($dpm/100cm^2$)	PRG Direct (mrem/hour)	PRG Fixed ($dpm/100cm^2$)	PRG Removable ($dpm/100cm^2$)	PRG Direct (mrem/hour)
Reasonable Maximum	1671	167	0.013	508	51	0.013	5346	535	0.040	24281	2428	0.182
Central Tendency	7618	381	0.014	5687	284	0.052	24300	1215	0.046	108648	5432	0.208

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Table 8-43.
Ecological-Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	COPC Flag	Rationale**
EU 01 Soil (0'-2')																	
Radionuclides																	
AC-227	pCi/g	202	200	7.51E-01-1.18E+00	IA03-SB0111	3.08E-01-4.03E+00	4.41E-01	9.67E-01	0.17	No	4.56E-01	No	4.56E-01	3.69E-01	8.71E-02	-	IFD
AM-241	pCi/g	203	195	1.11E-01-7.01E+00	BEGE-SB0011	3.10E-02-1.05E+00	1.91E-01	1.54E+00	0.51	No	1.75E-01	No	1.75E-01	1.75E-01	0.00E+00	-	IFD
CS-137	**pCi/g**	**205**	**160**	**1.18E-02-7.85E+00**	**IA03-SB0003**	**5.17E-03-1.88E-01**	**1.04E-01**	**3.34E-01**	**0.55**	**No**	**8.06E-02**	**No**	**8.06E-02**	**0.00E+00**	**4.29E-01**	**Yes**	**ABL**
EU-152	pCi/g	16	16	-	-	2.10E-01-6.00E-01	1.83E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
EU-154	pCi/g	16	16	-	-	6.30E-01-1.40E+00	4.57E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	pCi/g	16	16	-	-	9.00E-01-4.00E+00	8.13E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PA-231	pCi/g	203	203	-	-	9.52E-01-1.83E+01	1.31E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
Pb-210	**pCi/g**	**205**	**0**	**4.69E-01-1.49E+01**	**IA03-SB0141**	**4.03E-02-1.29E+00**	**1.69E+00**	**1.69E+00**	**1.48**	**No**	**1.76E+00**	**No**	**1.76E+00**	**3.10E-01**	**1.45E+00**	**Yes**	**ABL**
PU-238	pCi/g	16	16	-	-	2.80E-02-3.40E-01	4.15E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PU-239	**pCi/g**	**16**	**10**	**8.90E-02-7.80E-01**	**IA03-SB0038**	**4.30E-02-2.20E-01**	**1.19E-01**	**2.58E-01**	**0.19**	**No**	**2.39E-01**	**No**	**2.39E-01**	**2.39E-01**	**0.00E+00**	**Yes**	**ABL**
RA-226	**pCi/g**	**205**	**0**	**4.69E-01-1.49E+01**	**IA03-SB0141**	**4.03E-02-1.29E+00**	**1.69E+00**	**1.69E+00**	**1.48**	**No**	**1.76E+00**	**No**	**1.76E+00**	**3.10E-01**	**1.45E+00**	**Yes**	**ABL**
RA-228	pCi/g	148	0	3.23E-01-1.66E+00	BEGE-SB0010	1.83E-02-4.93E-01	8.53E-01	8.53E-01	0.28	Yes	8.92E-01	No	8.92E-01	0.00E+00	1.87E+00	No	BKG
TC-99	**pCi/g**	**16**	**14**	**1.03E+00-1.13E+00**	**IA03-SB0038**	**2.80E-01-6.80E-01**	**3.74E-01**	**1.08E+00**	**0.29**	**No**	**5.09E-01**	**No**	**5.09E-01**	**5.09E-01**	**0.00E+00**	**Yes**	**ABL**
TH-228	**pCi/g**	**155**	**3**	**2.50E-01-3.55E+00**	**BEGE-SB0010**	**1.83E-02-3.20E+00**	**9.68E-01**	**9.72E-01**	**0.47**	**No**	**1.04E+00**	**No**	**1.04E+00**	**0.00E+00**	**1.41E+00**	**Yes**	**ABL**
TH-230	**pCi/g**	**50**	**0**	**6.73E-01-6.32E+02**	**IA03-SB0111**	**3.00E-02-2.00E+00**	**4.40E+01**	**4.40E+01**	**114.73**	**No**	**8.61E+01**	**No**	**8.61E+01**	**8.49E+01**	**1.21E+00**	**Yes**	**ABL**
TH-232	**pCi/g**	**155**	**3**	**1.90E-01-4.84E+00**	**IA03-SB0111**	**1.83E-02-2.00E+00**	**9.08E-01**	**9.15E-01**	**0.54**	**No**	**9.62E-01**	**No**	**9.62E-01**	**0.00E+00**	**1.41E+00**	**Yes**	**ABL**
Total Uranium	**mg/kg**	**204**	**33**	**2.72E+00-8.13E+03**	**BEGE-SB0011**	**7.50E-01-3.48E+01**	**1.90E+02**	**2.26E+02**	**812.13**	**No**	**2.04E+02**	**No**	**2.04E+02**	**1.98E+02**	**5.94E+00**	**Yes**	**ABL**
U-233	ug/g	16	16	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-234	**pCi/g**	**204**	**33**	**9.08E-01-2.71E+03**	**BEGE-SB0011**	**2.50E-01-1.16E+01**	**6.33E+01**	**7.54E+01**	**270.71**	**No**	**6.81E+01**	**No**	**6.81E+01**	**6.61E+01**	**1.98E+00**	**Yes**	**ABL**
U-235	**pCi/g**	**204**	**118**	**5.81E-02-1.77E+02**	**BEGE-SB0011**	**3.63E-02-2.26E+00**	**3.64E+00**	**7.92E+00**	**15.63**	**No**	**2.58E+00**	**No**	**2.58E+00**	**2.49E+00**	**8.71E-02**	**Yes**	**ABL**
U-236	**ug/g**	**16**	**8**	**4.90E-03-8.20E-02**	**IA03-SB0038**	**2.31E-05-2.31E-05**	**1.13E-02**	**2.26E-02**	**0.02**	**No**	**1.43E+03**	**Yes**	**8.20E-02**	**-**	**0.00E+00**	**Yes**	**ABL**
U-238	**pCi/g**	**204**	**33**	**9.08E-01-2.71E+03**	**BEGE-SB0011**	**2.50E-01-1.16E+01**	**6.33E+01**	**7.54E+01**	**270.71**	**No**	**6.81E+01**	**No**	**6.81E+01**	**6.61E+01**	**1.98E+00**	**Yes**	**ABL**
Metals																	
Lithium	**mg/kg**	**23**	**0**	**6.34E+00-3.60E+01**	**IA03-SB0007**	**1.12E-02-1.14E-01**	**1.69E+01**	**1.69E+01**	**8.29**	**Yes**	**1.99E+01**	**No**	**1.99E+01**	**-**	**3.17E+01**	**Yes**	**ABL**
Molybdenum	**mg/kg**	**23**	**0**	**2.26E+00-1.52E+01**	**IA03-SB0020**	**8.56E-03-2.35E-01**	**4.50E+00**	**4.50E+00**	**3.15**	**No**	**5.42E+00**	**No**	**5.42E+00**	**-**	**4.07E+00**	**Yes**	**ABL**
Semivolatile Organic Compunds																	
TPH-DRO	**mg/kg**	**23**	**1**	**5.10E+00-5.96E+03**	**IA03-SB0017**	**1.05E+00-1.22E+02**	**5.73E+02**	**5.99E+02**	**1,350.53**	**No**	**5.38E+03**	**No**	**5.38E+03**	**-**	**1.90E+01**	**Yes**	**ABL**
EU 02 Soil (0'-2')																	
Radionuclides																	
AC-227	pCi/g	67	67	-	-	2.62E-01-2.94E+00	3.71E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
AM-241	pCi/g	66	66	-	-	2.39E-02-2.30E+00	1.27E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD

**Rationale:	
IFD	Infrequent detection (less than 5%)
BKG	Comparable to background value
MBKG	Background value missing
ABL	Above background value

COPC Flag - Maximum detections were compared to the background values.

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Table 8-43.
Ecological-Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	COPC Flag	Rationale**
EU 02 Soil (0'-2')																	
Radionuclides																	
CS-137	pCi/g	67	54	1.45E-02-1.88E-01	IA04-SB0061	5.12E-03-4.06E-01	4.69E-02	8.35E-02	0.04	No	6.25E-02	No	6.25E-02	0.00E+00	4.29E-01	No	BKG
EU-152	pCi/g	9	9	-	-	1.30E-01-4.00E-01	1.33E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
EU-154	pCi/g	9	9	-	-	5.40E-01-1.10E+00	4.35E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	**pCi/g**	**9**	**8**	**9.60E-01-9.60E-01**	**IA04-SB0054**	**3.90E-01-1.60E+00**	**5.24E-01**	**9.60E-01**	**0.23**	**Yes**	**6.68E-01**	**No**	**6.68E-01**	**6.68E-01**	**0.00E+00**	**Yes**	**ABL**
PA-231	pCi/g	68	68	-	-	7.53E-01-1.27E+01	1.13E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
Pb-210	**pCi/g**	**68**	**0**	**5.74E-01-3.34E+00**	**IA04-SB0032**	**4.46E-02-1.12E+00**	**1.29E+00**	**1.29E+00**	**0.60**	**No**	**1.43E+00**	**No**	**1.43E+00**	**0.00E+00**	**1.45E+00**	**Yes**	**ABL**
PU-238	pCi/g	5	5	-	-	5.60E-02-6.60E-02	3.05E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PU-239	pCi/g	5	5	-	-	3.60E-02-6.30E-02	2.30E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
RA-226	**pCi/g**	**68**	**0**	**5.74E-01-3.34E+00**	**IA04-SB0032**	**4.46E-02-1.12E+00**	**1.29E+00**	**1.29E+00**	**0.60**	**No**	**1.43E+00**	**No**	**1.43E+00**	**0.00E+00**	**1.45E+00**	**Yes**	**ABL**
RA-228	**pCi/g**	**52**	**0**	**1.46E-01-2.04E+00**	**IA04-SB0063**	**1.84E-02-3.57E-01**	**7.69E-01**	**7.69E-01**	**0.35**	**No**	**8.96E-01**	**No**	**8.96E-01**	**0.00E+00**	**1.87E+00**	**Yes**	**ABL**
TC-99	pCi/g	5	5	-	-	3.00E-01-6.30E-01	1.99E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
TH-228	**pCi/g**	**62**	**0**	**2.13E-01-2.16E+00**	**IA04-SB0036**	**1.84E-02-6.39E-01**	**9.59E-01**	**9.59E-01**	**0.47**	**No**	**1.09E+00**	**No**	**1.09E+00**	**0.00E+00**	**1.41E+00**	**Yes**	**ABL**
TH-230	**pCi/g**	**32**	**0**	**6.22E-01-2.60E+01**	**IA04-SB0041**	**4.18E-02-3.79E-01**	**3.09E+00**	**3.09E+00**	**5.25**	**No**	**3.69E+00**	**No**	**3.69E+00**	**2.48E+00**	**1.21E+00**	**Yes**	**ABL**
TH-232	**pCi/g**	**62**	**0**	**1.92E-01-2.19E+00**	**IA04-SB0041**	**1.84E-02-3.57E-01**	**8.12E-01**	**8.12E-01**	**0.35**	**No**	**9.19E-01**	**No**	**9.19E-01**	**0.00E+00**	**1.41E+00**	**Yes**	**ABL**
Total Uranium	**mg/kg**	**67**	**22**	**1.98E+00-5.25E+03**	**IA04-SB0040**	**6.78E-01-6.87E+01**	**1.58E+02**	**2.33E+02**	**666.62**	**No**	**1.76E+02**	**No**	**1.76E+02**	**1.70E+02**	**5.94E+00**	**Yes**	**ABL**
U-233	ug/g	5	5	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-234	**pCi/g**	**67**	**22**	**6.61E-01-1.75E+03**	**IA04-SB0040**	**2.26E-01-2.29E+01**	**5.25E+01**	**7.78E+01**	**222.21**	**No**	**5.87E+01**	**No**	**5.87E+01**	**5.67E+01**	**1.98E+00**	**Yes**	**ABL**
U-235	**pCi/g**	**68**	**41**	**3.29E-02-1.17E+02**	**IA04-SB0040**	**4.05E-02-5.00E+00**	**3.36E+00**	**7.88E+00**	**14.54**	**No**	**2.99E+00**	**No**	**2.99E+00**	**2.90E+00**	**8.71E-02**	**Yes**	**ABL**
U-236	ug/g	5	5	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-238	**pCi/g**	**67**	**22**	**6.61E-01-1.75E+03**	**IA04-SB0040**	**2.26E-01-2.29E+01**	**5.25E+01**	**7.78E+01**	**222.21**	**No**	**5.87E+01**	**No**	**5.87E+01**	**5.67E+01**	**1.98E+00**	**Yes**	**ABL**
Metals																	
Lithium	mg/kg	12	0	5.80E+00-2.53E+01	IA04-SB0011	2.18E-02-6.00E-02	1.38E+01	1.38E+01	5.93	Yes	1.69E+01	No	1.69E+01	-	3.17E+01	No	BKG
Molybdenum	**mg/kg**	**12**	**0**	**2.17E+00-6.61E+00**	**IA04-SB0013**	**2.02E-02-1.24E-01**	**3.45E+00**	**3.45E+00**	**1.74**	**No**	**4.54E+00**	**No**	**4.54E+00**	**-**	**4.07E+00**	**Yes**	**ABL**
Semivolatile Organic Compunds																	
TPH-DRO	**mg/kg**	**12**	**0**	**2.70E+00-7.77E+02**	**IA04-SB0011**	**1.06E+00-1.18E+01**	**1.30E+02**	**1.30E+02**	**221.69**	**No**	**1.14E+03**	**Yes**	**7.77E+02**	**-**	**1.90E+01**	**Yes**	**ABL**
EU 03 Soil (0'-2')																	
Radionuclides																	
AC-227	pCi/g	61	61	-	-	2.78E-01-9.88E+00	5.41E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
AM-241	pCi/g	61	60	8.54E-01-8.54E-01	IA05-SB0015	3.59E-02-1.53E+00	1.22E-01	8.54E-01	0.14	No	1.42E-01	No	1.42E-01	1.42E-01	0.00E+00	-	IFD
CS-137	**pCi/g**	**61**	**44**	**1.12E-02-5.06E-01**	**IA05-SB0005**	**7.19E-03-5.79E-01**	**6.34E-02**	**1.19E-01**	**0.08**	**No**	**7.90E-02**	**No**	**7.90E-02**	**0.00E+00**	**4.29E-01**	**Yes**	**ABL**
EU-152	pCi/g	1	1	-	-	3.60E-01-3.60E-01	1.80E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD

**Rationale:	
IFD	Infrequent detection (less than 5%)
BKG	Comparable to background value
MBKG	Background value missing
ABL	Above background value

COPC Flag - Maximum detections were compared to the background values.

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Table 8-43.
Ecological-Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	COPC Flag	Rationale**
EU 03 Soil (0'-2')																	
Radionuclides																	
EU-154	pCi/g	1	1	-	-	9.20E-01-9.20E-01	4.60E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	pCi/g	1	1	-	-	8.70E-01-8.70E-01	4.35E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PA-231	pCi/g	61	61	-	-	8.39E-01-2.03E+01	1.44E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
Pb-210	**pCi/g**	**61**	**0**	**2.94E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.03E+00**	**1.89E+00**	**1.89E+00**	**3.13**	**No**	**2.01E+00**	**No**	**2.01E+00**	**5.60E-01**	**1.45E+00**	**Yes**	**ABL**
PU-238	pCi/g	1	1	-	-	1.90E-01-1.90E-01	9.50E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PU-239	pCi/g	1	1	-	-	1.10E-01-1.10E-01	5.50E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
RA-226	**pCi/g**	**61**	**0**	**2.94E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.03E+00**	**1.89E+00**	**1.89E+00**	**3.13**	**No**	**2.01E+00**	**No**	**2.01E+00**	**5.60E-01**	**1.45E+00**	**Yes**	**ABL**
RA-228	**pCi/g**	**55**	**1**	**1.49E-01-1.65E+02**	**IA05-SB0015**	**2.44E-02-1.69E+00**	**6.22E+00**	**6.33E+00**	**27.68**	**No**	**2.96E+00**	**No**	**2.96E+00**	**1.09E+00**	**1.87E+00**	**Yes**	**ABL**
TC-99	pCi/g	1	1	-	-	3.00E-01-3.00E-01	1.50E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
TH-228	**pCi/g**	**56**	**1**	**1.49E-01-6.02E+02**	**IA05-SB0015**	**2.44E-02-5.97E+00**	**1.43E+01**	**1.46E+01**	**81.71**	**No**	**5.02E+00**	**No**	**5.02E+00**	**3.61E+00**	**1.41E+00**	**Yes**	**ABL**
TH-230	**pCi/g**	**22**	**0**	**7.22E-01-8.45E+01**	**IA05-SB0007**	**3.38E-02-1.47E+00**	**9.63E+00**	**9.63E+00**	**20.86**	**No**	**1.61E+01**	**No**	**1.61E+01**	**1.49E+01**	**1.21E+00**	**Yes**	**ABL**
TH-232	**pCi/g**	**56**	**1**	**1.49E-01-3.29E+02**	**IA05-SB0015**	**2.44E-02-1.32E+00**	**9.05E+00**	**9.21E+00**	**46.68**	**No**	**3.20E+00**	**No**	**3.20E+00**	**1.79E+00**	**1.41E+00**	**Yes**	**ABL**
Total Uranium	**mg/kg**	**61**	**31**	**2.04E+00-2.09E+03**	**IA05-SB0007**	**9.60E-01-4.95E+01**	**9.29E+01**	**1.85E+02**	**352.22**	**No**	**6.69E+01**	**No**	**6.69E+01**	**6.10E+01**	**5.94E+00**	**Yes**	**ABL**
U-233	ug/g	1	1	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-234	**pCi/g**	**61**	**31**	**6.80E-01-6.97E+02**	**IA05-SB0007**	**3.20E-01-1.65E+01**	**3.10E+01**	**6.17E+01**	**117.41**	**No**	**2.23E+01**	**No**	**2.23E+01**	**2.03E+01**	**1.98E+00**	**Yes**	**ABL**
U-235	**pCi/g**	**61**	**46**	**8.49E-02-3.76E+01**	**IA05-SB0007**	**5.82E-02-8.02E+00**	**2.03E+00**	**6.69E+00**	**6.51**	**No**	**1.69E+00**	**No**	**1.69E+00**	**1.60E+00**	**8.71E-02**	**Yes**	**ABL**
U-236	ug/g	1	1	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-238	**pCi/g**	**61**	**31**	**6.80E-01-6.97E+02**	**IA05-SB0007**	**3.20E-01-1.65E+01**	**3.10E+01**	**6.17E+01**	**117.41**	**No**	**2.23E+01**	**No**	**2.23E+01**	**2.03E+01**	**1.98E+00**	**Yes**	**ABL**
Metals																	
Lithium	**mg/kg**	**13**	**0**	**1.28E+01-4.27E+01**	**IA05-SB0022**	**2.02E-02-1.03E-01**	**2.30E+01**	**2.30E+01**	**9.49**	**Yes**	**2.76E+01**	**No**	**2.76E+01**	**-**	**3.17E+01**	**Yes**	**ABL**
Molybdenum	**mg/kg**	**13**	**0**	**4.61E-01-3.75E+01**	**IA05-SB0005**	**1.88E-02-4.85E-02**	**7.40E+00**	**7.40E+00**	**9.52**	**No**	**2.09E+01**	**No**	**2.09E+01**	**-**	**4.07E+00**	**Yes**	**ABL**
Semivolatile Organic Compunds																	
TPH-DRO	**mg/kg**	**13**	**0**	**5.90E+00-1.44E+03**	**IA05-SB0007**	**1.00E+00-1.05E+02**	**1.61E+02**	**1.61E+02**	**387.03**	**No**	**5.38E+02**	**No**	**5.38E+02**	**-**	**1.90E+01**	**Yes**	**ABL**
EU 04 Soil (0'-2')																	
Radionuclides																	
AC-227	pCi/g	49	49	-	-	2.39E-01-1.00E+00	3.27E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
AM-241	pCi/g	51	50	2.75E-01-2.75E-01	IA06-SB0027	1.94E-02-3.63E-01	8.34E-02	2.75E-01	0.05	No	1.02E-01	No	1.02E-01	1.02E-01	0.00E+00	-	IFD
CS-137	**pCi/g**	**49**	**21**	**1.88E-02-1.09E+00**	**IA06-SB0036**	**8.20E-03-1.11E-01**	**1.54E-01**	**2.46E-01**	**0.23**	**No**	**2.28E-01**	**No**	**2.28E-01**	**0.00E+00**	**4.29E-01**	**Yes**	**ABL**
EU-152	pCi/g	4	4	-	-	2.40E-01-3.30E-01	1.38E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
EU-154	pCi/g	4	4	-	-	6.90E-01-1.00E+00	4.25E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	pCi/g	4	4	-	-	5.40E-01-1.00E+00	3.68E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD

**Rationale:	
IFD	Infrequent detection (less than 5%)
BKG	Comparable to background value
MBKG	Background value missing
ABL	Above background value

COPC Flag - Maximum detections were compared to the background values.

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Table 8-43.
Ecological-Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	COPC Flag	Rationale**
EU 04 Soil (0'-2')																	
Radionuclides																	
PA-231	pCi/g	50	50	-	-	9.13E-01-3.00E+00	1.08E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
Pb-210	**pCi/g**	**51**	**0**	**2.13E-01-2.36E+00**	**BEGE-SB0005**	**3.93E-02-2.12E-01**	**9.69E-01**	**9.69E-01**	**0.47**	**No**	**1.10E+00**	**No**	**1.10E+00**	**0.00E+00**	**1.45E+00**	**Yes**	**ABL**
PU-238	pCi/g	4	4	-	-	4.40E-02-9.20E-02	2.99E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PU-239	pCi/g	4	4	-	-	2.30E-02-6.60E-02	2.29E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
RA-226	**pCi/g**	**51**	**0**	**2.13E-01-2.36E+00**	**BEGE-SB0005**	**3.93E-02-2.12E-01**	**9.69E-01**	**9.69E-01**	**0.47**	**No**	**1.10E+00**	**No**	**1.10E+00**	**0.00E+00**	**1.45E+00**	**Yes**	**ABL**
RA-228	pCi/g	51	0	3.22E-01-1.36E+00	IA06-SB0035	2.85E-02-2.99E-01	8.34E-01	8.34E-01	0.25	Yes	8.92E-01	No	8.92E-01	0.00E+00	1.87E+00	No	BKG
TC-99	pCi/g	4	4	-	-	2.90E-01-3.60E-01	1.59E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
TH-228	**pCi/g**	**55**	**0**	**1.63E-01-2.98E+00**	**IA06-SB0001**	**2.85E-02-8.49E-01**	**1.01E+00**	**1.01E+00**	**0.49**	**No**	**1.15E+00**	**No**	**1.15E+00**	**0.00E+00**	**1.41E+00**	**Yes**	**ABL**
TH-230	**pCi/g**	**44**	**0**	**2.33E-01-5.75E+00**	**IA06-SB0011**	**4.73E-02-6.18E-01**	**1.39E+00**	**1.39E+00**	**0.94**	**No**	**1.65E+00**	**No**	**1.65E+00**	**4.40E-01**	**1.21E+00**	**Yes**	**ABL**
TH-232	**pCi/g**	**55**	**0**	**2.25E-01-1.49E+00**	**IA06-SB0001**	**2.85E-02-3.10E-01**	**8.56E-01**	**8.56E-01**	**0.29**	**Yes**	**9.21E-01**	**No**	**9.21E-01**	**0.00E+00**	**1.41E+00**	**Yes**	**ABL**
Total Uranium	**mg/kg**	**47**	**18**	**1.70E+00-1.09E+02**	**IA06-SB0024**	**5.55E-01-9.48E+00**	**1.07E+01**	**1.57E+01**	**17.89**	**No**	**1.41E+01**	**No**	**1.41E+01**	**8.16E+00**	**5.94E+00**	**Yes**	**ABL**
U-233	ug/g	4	4	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-234	**pCi/g**	**47**	**18**	**5.67E-01-3.62E+01**	**IA06-SB0024**	**1.85E-01-3.16E+00**	**3.55E+00**	**5.25E+00**	**5.96**	**No**	**4.71E+00**	**No**	**4.71E+00**	**2.73E+00**	**1.98E+00**	**Yes**	**ABL**
U-235	**pCi/g**	**47**	**39**	**7.84E-02-2.39E+00**	**IA06-SB0024**	**5.56E-02-1.40E+00**	**3.14E-01**	**6.89E-01**	**0.38**	**No**	**4.22E-01**	**No**	**4.22E-01**	**3.35E-01**	**8.71E-02**	**Yes**	**ABL**
U-236	ug/g	4	4	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-238	**pCi/g**	**47**	**18**	**5.67E-01-3.62E+01**	**IA06-SB0024**	**1.85E-01-3.16E+00**	**3.55E+00**	**5.25E+00**	**5.96**	**No**	**4.71E+00**	**No**	**4.71E+00**	**2.73E+00**	**1.98E+00**	**Yes**	**ABL**
Metals																	
Lithium	mg/kg	7	0	1.52E+01-3.01E+01	IA06-SB0006	2.31E-02-1.14E-01	2.29E+01	2.29E+01	5.47	Yes	2.69E+01	No	2.69E+01	-	3.17E+01	No	BKG
Molybdenum	**mg/kg**	**7**	**0**	**3.04E+00-5.63E+00**	**IA06-SB0002**	**4.77E-02-2.36E-01**	**3.80E+00**	**3.80E+00**	**0.89**	**Yes**	**4.45E+00**	**No**	**4.45E+00**	**-**	**4.07E+00**	**Yes**	**ABL**
Semivolatile Organic Compunds																	
TPH-DRO	**mg/kg**	**7**	**0**	**2.73E+01-2.89E+02**	**IA06-SB0002**	**1.21E+00-1.31E+01**	**9.40E+01**	**9.40E+01**	**91.66**	**No**	**3.01E+02**	**Yes**	**2.89E+02**	**-**	**1.90E+01**	**Yes**	**ABL**
EU 05 Soil (0'-2')																	
Radionuclides																	
AC-227	pCi/g	45	45	-	-	3.45E-01-7.56E+00	7.35E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
AM-241	pCi/g	49	47	8.50E-01-9.50E-01	IA07-SB0029	6.76E-03-4.51E+00	1.73E-01	9.00E-01	0.39	No	2.35E-01	No	2.35E-01	2.35E-01	0.00E+00	-	IFD
CS-137	pCi/g	49	17	9.82E-03-3.11E-01	BEGE-SB0022	4.35E-03-2.53E-01	7.22E-02	8.60E-02	0.06	No	9.83E-02	No	9.83E-02	0.00E+00	4.29E-01	No	BKG
EU-152	pCi/g	2	2	-	-	1.20E+00-1.40E+00	6.50E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
EU-154	pCi/g	2	2	-	-	2.60E+00-2.90E+00	1.38E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	pCi/g	2	2	-	-	6.90E+00-7.00E+00	3.48E+00	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PA-231	pCi/g	45	45	-	-	1.07E+00-3.47E+01	2.00E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
Pb-210	**pCi/g**	**45**	**3**	**1.41E-01-7.98E+00**	**IA07-SB0037**	**4.78E-02-1.77E+00**	**1.39E+00**	**1.46E+00**	**1.39**	**No**	**1.79E+00**	**No**	**1.79E+00**	**3.40E-01**	**1.45E+00**	**Yes**	**ABL**

**Rationale:	
IFD	Infrequent detection (less than 5%)
BKG	Comparable to background value
MBKG	Background value missing
ABL	Above background value

COPC Flag - Maximum detections were compared to the background values.

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Table 8-43.
Ecological-Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	COPC Flag	Rationale**
EU 06 - Surface Water and Sediment																	
Metals																	
Lithium	mg/kg	12	0	5.71E+00-1.81E+01	IA08-SD0010	1.17E-02-1.73E-02	1.33E+01	1.33E+01	4.71	No	1.80E+01	No	1.80E+01	-	2.87E+01	No	BKG
Molybdenum	**mg/kg**	**12**	**0**	**1.15E+00-9.82E+00**	**IA08-SD0010**	**2.14E-02-3.14E-02**	**4.28E+00**	**4.28E+00**	**2.53**	**Yes**	**5.59E+00**	**No**	**5.59E+00**	**-**	**9.45E+00**	**Yes**	**ABL**
Semivolatile Organic Compunds																	
TPH-DRO	mg/kg	12	0	1.05E+01-1.48E+02	IA08-SD0007	1.01E+00-1.11E+01	4.69E+01	4.69E+01	44.45	No	9.63E+01	No	9.63E+01	-	5.17E+02	No	BKG
Surface Water																	
Radionuclides																	
Total Uranium	**mg/L**	**12**	**6**	**4.39E-04-1.59E-03**	**IA08-SW0009**	**1.98E-04-1.98E-04**	**6.42E-04**	**1.19E-03**	**0.00**	**No**	**2.89E-03**	**Yes**	**1.59E-03**	**9.00E-05**	**1.50E-03**	**Yes**	**ABL**
Metals																	
Lithium	mg/L	12	0	1.01E-02-2.26E-02	IA08-SW0010	4.60E-05-4.60E-05	1.54E-02	1.54E-02	0.01	No	1.87E-02	No	1.87E-02	-	2.45E-02	No	BKG
Lithium, Dissolved	mg/L	12	0	1.01E-02-2.27E-02	IA08-SW0010	4.60E-05-4.60E-05	1.54E-02	1.54E-02	0.00	No	1.85E-02	No	1.85E-02	-	2.49E-02	No	BKG
Molybdenum	mg/L	14	0	8.35E-03-1.78E-02	IA08-SW0009	3.50E-05-1.43E-03	1.23E-02	1.23E-02	0.00	Yes	1.35E-02	No	1.35E-02	-	3.32E-02	No	BKG
Molybdenum, Dissolved	**mg/L**	**12**	**0**	**8.90E-03-1.74E-02**	**IA08-SW0009**	**3.50E-05-3.50E-05**	**1.25E-02**	**1.25E-02**	**0.00**	**Yes**	**1.38E-02**	**No**	**1.38E-02**	**-**	**1.37E-02**	**Yes**	**ABL**
Semivolatile Organic Compunds																	
TPH-DRO	**mg/L**	**12**	**0**	**1.80E-01-2.90E-01**	**IA08-SW0002**	**2.79E-02-2.90E-02**	**2.25E-01**	**2.25E-01**	**0.03**	**Yes**	**2.41E-01**	**No**	**2.41E-01**	**-**	**2.00E-01**	**Yes**	**ABL**
Site-wide Soil (0'-2')																	
Radionuclides																	
AC-227	pCi/g	424	422	7.51E-01-1.18E+00	IA03-SB0111	2.39E-01-9.88E+00	4.62E-01	9.67E-01	0.45	No	4.59E-01	No	4.59E-01	3.72E-01	8.71E-02	-	IFD
AM-241	pCi/g	430	418	1.11E-01-7.01E+00	BEGE-SB0011	6.76E-03-4.51E+00	1.57E-01	1.27E+00	0.38	No	1.51E-01	No	1.51E-01	1.51E-01	0.00E+00	-	IFD
CS-137	**pCi/g**	**431**	**296**	**9.82E-03-7.85E+00**	**IA03-SB0003**	**4.35E-03-5.79E-01**	**9.14E-02**	**2.06E-01**	**0.39**	**No**	**8.04E-02**	**No**	**8.04E-02**	**0.00E+00**	**4.29E-01**	**Yes**	**ABL**
EU-152	pCi/g	32	32	-	-	1.30E-01-1.40E+00	1.92E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
EU-154	pCi/g	32	32	-	-	5.40E-01-2.90E+00	5.04E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	pCi/g	32	31	9.60E-01-9.60E-01	IA04-SB0054	3.90E-01-7.00E+00	8.30E-01	9.60E-01	0.78	No	1.01E+00	Yes	9.60E-01	9.60E-01	0.00E+00	-	IFD
PA-231	pCi/g	427	427	-	-	7.53E-01-3.47E+01	1.35E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
Pb-210	**pCi/g**	**430**	**3**	**1.41E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.77E+00**	**1.54E+00**	**1.55E+00**	**1.67**	**No**	**1.56E+00**	**No**	**1.56E+00**	**1.10E-01**	**1.45E+00**	**Yes**	**ABL**
PU-238	pCi/g	26	26	-	-	2.80E-02-3.40E-01	3.97E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PU-239	**pCi/g**	**26**	**20**	**8.90E-02-7.80E-01**	**IA03-SB0038**	**2.30E-02-2.20E-01**	**8.31E-02**	**2.58E-01**	**0.16**	**No**	**1.11E-01**	**No**	**1.11E-01**	**1.11E-01**	**0.00E+00**	**Yes**	**ABL**
RA-226	**pCi/g**	**430**	**3**	**1.41E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.77E+00**	**1.54E+00**	**1.55E+00**	**1.67**	**No**	**1.56E+00**	**No**	**1.56E+00**	**1.10E-01**	**1.45E+00**	**Yes**	**ABL**
RA-228	**pCi/g**	**352**	**1**	**8.33E-02-1.65E+02**	**IA05-SB0015**	**1.60E-02-1.69E+00**	**2.12E+00**	**2.12E+00**	**11.71**	**No**	**1.21E+00**	**No**	**1.21E+00**	**0.00E+00**	**1.87E+00**	**Yes**	**ABL**
TC-99	**pCi/g**	**26**	**24**	**1.03E+00-1.13E+00**	**IA03-SB0038**	**2.80E-01-6.80E-01**	**2.98E-01**	**1.08E+00**	**0.24**	**No**	**3.61E-01**	**No**	**3.61E-01**	**3.61E-01**	**0.00E+00**	**Yes**	**ABL**
TH-228	**pCi/g**	**377**	**7**	**1.49E-01-6.02E+02**	**IA05-SB0015**	**1.83E-02-5.97E+00**	**3.76E+00**	**3.83E+00**	**32.40**	**No**	**1.50E+00**	**No**	**1.50E+00**	**9.00E-02**	**1.41E+00**	**Yes**	**ABL**
TH-230	**pCi/g**	**169**	**3**	**2.33E-01-6.32E+02**	**IA03-SB0111**	**3.00E-02-2.00E+00**	**1.56E+01**	**1.58E+01**	**65.18**	**No**	**8.98E+00**	**No**	**8.98E+00**	**7.77E+00**	**1.21E+00**	**Yes**	**ABL**

**Rationale:	
IFD	Infrequent detection (less than 5%)
BKG	Comparable to background value
MBKG	Background value missing
ABL	Above background value

COPC Flag - Maximum detections were compared to the background values.

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Table 8-43.
Ecological-Statistical Report

Parameter	Units	# observ	# ND	Range of Det	LOCID of Max Det	Range of MDL	Mean	Mean (Det)	StDev	Normal?	UCL95	UCL>Max?	EPC	Net EPC (Rad)	Background Value	COPC Flag	Rationale**
EU 03 Soil (0'-2')																	
Radionuclides																	
EU-154	pCi/g	1	1	-	-	9.20E-01-9.20E-01	4.60E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	pCi/g	1	1	-	-	8.70E-01-8.70E-01	4.35E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PA-231	pCi/g	61	61	-	-	8.39E-01-2.03E+01	1.44E+00	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
Pb-210	**pCi/g**	**61**	**0**	**2.94E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.03E+00**	**1.89E+00**	**1.89E+00**	**3.13**	**No**	**2.01E+00**	**No**	**2.01E+00**	**5.60E-01**	**1.45E+00**	**Yes**	**ABL**
PU-238	pCi/g	1	1	-	-	1.90E-01-1.90E-01	9.50E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
PU-239	pCi/g	1	1	-	-	1.10E-01-1.10E-01	5.50E-02	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
RA-226	**pCi/g**	**61**	**0**	**2.94E-01-1.92E+01**	**IA05-SB0015**	**3.32E-02-1.03E+00**	**1.89E+00**	**1.89E+00**	**3.13**	**No**	**2.01E+00**	**No**	**2.01E+00**	**5.60E-01**	**1.45E+00**	**Yes**	**ABL**
RA-228	**pCi/g**	**55**	**1**	**1.49E-01-1.65E+02**	**IA05-SB0015**	**2.44E-02-1.69E+00**	**6.22E+00**	**6.33E+00**	**27.68**	**No**	**2.96E+00**	**No**	**2.96E+00**	**1.09E+00**	**1.87E+00**	**Yes**	**ABL**
TC-99	pCi/g	1	1	-	-	3.00E-01-3.00E-01	1.50E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
TH-228	**pCi/g**	**56**	**1**	**1.49E-01-6.02E+02**	**IA05-SB0015**	**2.44E-02-5.97E+00**	**1.43E+01**	**1.46E+01**	**81.71**	**No**	**5.02E+00**	**No**	**5.02E+00**	**3.61E+00**	**1.41E+00**	**Yes**	**ABL**
TH-230	**pCi/g**	**22**	**0**	**7.22E-01-8.45E+01**	**IA05-SB0007**	**3.38E-02-1.47E+00**	**9.63E+00**	**9.63E+00**	**20.86**	**No**	**1.61E+01**	**No**	**1.61E+01**	**1.49E+01**	**1.21E+00**	**Yes**	**ABL**
TH-232	**pCi/g**	**56**	**1**	**1.49E-01-3.29E+02**	**IA05-SB0015**	**2.44E-02-1.32E+00**	**9.05E+00**	**9.21E+00**	**46.68**	**No**	**3.20E+00**	**No**	**3.20E+00**	**1.79E+00**	**1.41E+00**	**Yes**	**ABL**
Total Uranium	**mg/kg**	**61**	**31**	**2.04E+00-2.09E+03**	**IA05-SB0007**	**9.60E-01-4.95E+01**	**9.29E+01**	**1.85E+02**	**352.22**	**No**	**6.69E+01**	**No**	**6.69E+01**	**6.10E+01**	**5.94E+00**	**Yes**	**ABL**
U-233	ug/g	1	1	-	-	5.23E-05-5.23E-05	2.62E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-234	**pCi/g**	**61**	**31**	**6.80E-01-6.97E+02**	**IA05-SB0007**	**3.20E-01-1.65E+01**	**3.10E+01**	**6.17E+01**	**117.41**	**No**	**2.23E+01**	**No**	**2.23E+01**	**2.03E+01**	**1.98E+00**	**Yes**	**ABL**
U-235	**pCi/g**	**61**	**46**	**8.49E-02-3.76E+01**	**IA05-SB0007**	**5.82E-02-8.02E+00**	**2.03E+00**	**6.69E+00**	**6.51**	**No**	**1.69E+00**	**No**	**1.69E+00**	**1.60E+00**	**8.71E-02**	**Yes**	**ABL**
U-236	ug/g	1	1	-	-	2.31E-05-2.31E-05	1.16E-05	-	-	-	-	-	0.00E+00	-	0.00E+00	-	IFD
U-238	**pCi/g**	**61**	**31**	**6.80E-01-6.97E+02**	**IA05-SB0007**	**3.20E-01-1.65E+01**	**3.10E+01**	**6.17E+01**	**117.41**	**No**	**2.23E+01**	**No**	**2.23E+01**	**2.03E+01**	**1.98E+00**	**Yes**	**ABL**
Metals																	
Lithium	**mg/kg**	**13**	**0**	**1.28E+01-4.27E+01**	**IA05-SB0022**	**2.02E-02-1.03E-01**	**2.30E+01**	**2.30E+01**	**9.49**	**Yes**	**2.76E+01**	**No**	**2.76E+01**	**-**	**3.17E+01**	**Yes**	**ABL**
Molybdenum	**mg/kg**	**13**	**0**	**4.61E-01-3.75E+01**	**IA05-SB0005**	**1.88E-02-4.85E-02**	**7.40E+00**	**7.40E+00**	**9.52**	**No**	**2.09E+01**	**No**	**2.09E+01**	**-**	**4.07E+00**	**Yes**	**ABL**
Semivolatile Organic Compunds																	
TPH-DRO	**mg/kg**	**13**	**0**	**5.90E+00-1.44E+03**	**IA05-SB0007**	**1.00E+00-1.05E+02**	**1.61E+02**	**1.61E+02**	**387.03**	**No**	**5.38E+02**	**No**	**5.38E+02**	**-**	**1.90E+01**	**Yes**	**ABL**
EU 04 Soil (0'-2')																	
Radionuclides																	
AC-227	pCi/g	49	49	-	-	2.39E-01-1.00E+00	3.27E-01	-	-	-	-	-	0.00E+00	0.00E+00	8.71E-02	-	IFD
AM-241	pCi/g	51	50	2.75E-01-2.75E-01	IA06-SB0027	1.94E-02-3.63E-01	8.34E-02	2.75E-01	0.05	No	1.02E-01	No	1.02E-01	1.02E-01	0.00E+00	-	IFD
CS-137	**pCi/g**	**49**	**21**	**1.88E-02-1.09E+00**	**IA06-SB0036**	**8.20E-03-1.11E-01**	**1.54E-01**	**2.46E-01**	**0.23**	**No**	**2.28E-01**	**No**	**2.28E-01**	**0.00E+00**	**4.29E-01**	**Yes**	**ABL**
EU-152	pCi/g	4	4	-	-	2.40E-01-3.30E-01	1.38E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
EU-154	pCi/g	4	4	-	-	6.90E-01-1.00E+00	4.25E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD
NP-237	pCi/g	4	4	-	-	5.40E-01-1.00E+00	3.68E-01	-	-	-	-	-	0.00E+00	0.00E+00	0.00E+00	-	IFD

**Rationale:	
IFD	Infrequent detection (less than 5%)
BKG	Comparable to background value
MBKG	Background value missing
ABL	Above background value

COPC Flag - Maximum detections were compared to the background values.

Table 8-44. Availability of Ecological Screening Values and/or Toxicity Reference Values for COPCs and ROPCs at the Former Harshaw Chemical Site

COPCs/ROPCs	ESVs for Media			TRVs for Ecological Receptors					
	Soil	Surface water	Sediment	Terrestrial Plants	Terrestrial Invertebrates	Mammals	Birds	Aquatic biota	Sediment-Dwelling Biota
Organic Chemicals									
Kerosene	--	--	--	--	--	--	--	--	--
Inorganic Chemicals									
Lithium	X	--	--	X	--	X	--	--	--
Molybdenum	X	X	--	X	--	X	X	X	--
Total Uranium	X	X	--	X	--	X	X	X	--
Radionuclides									
	ESVs (BCGs) for Media			TRVs (Acceptable Radiological Dose Limits)					
Uranium Isotopes	X	X	X	X	X	X	X	X	X
Thorium Isotopes	X	X	X	X	X	X	X	X	X
Recycled Uranium Isotopes	X	X	X	X	X	X	X	X	X

-- = No value available.
X = Ecological screening value and/or toxicity reference value available.

Table 8-45. Screening Values and Surface Water Criteria for General Screen

Constituent of Interest	Soil			Surface Water			Sediment		
	Value	Units	Source	Value	Units	Source	Value	Units	Source
Organic COIs									
Kerosene	None	NA	NA	None	NA	NA	None	NA	NA
Inorganic COIs (mg/L)									
Lithium	2.0E+00	mg/kg	A	1.4E+01	ug/L	B	None	NA	NA
Molybdenum	2.0E+00	mg/kg	A	1.1E+02	ug/L	B	None	NA	NA
Total Uranium	5.0E+00	mg/kg	A	2.6E+00	ug/L	C	None	NA	NA
ROIs (pCi/g)									
Ac-227	None	pCi/g	D	None	pCi/L	D	None	pCi/g	None
Am-241	2.89E+03	pCi/g	D	4.38E+02	pCi/L	D	5.15E+03	pCi/g	D
Cs-137	2.08E+03	pCi/g	D	4.26E+01	pCi/L	D	3.12E+03	pCi/g	D
Eu-152	1.52E+03	pCi/g	D	2.55E+04	pCi/L	D	3.04E+03	pCi/g	D
Eu-154	1.29E+03	pCi/g	D	2.16E+04	pCi/L	D	2.57E+03	pCi/g	D
Np-237	3.86E+03	pCi/g	D	6.85E+01	pCi/L	D	7.63E+03	pCi/g	D
Pa-231	1.17E+03	pCi/g	D	2.60E+03	pCi/L	D	2.29E+03	pCi/g	D
Pb-210	1.39E+03	pCi/g	D	6.01E+02	pCi/L	D	1.73E+03	pCi/g	D
Pu-238	5.27E+03	pCi/g	D	1.76E+02	pCi/L	D	5.73E+03	pCi/g	D
Pu-239	6.11E+03	pCi/g	D	1.87E+02	pCi/L	D	5.86E+03	pCi/g	D
Ra-226	5.06E+01	pCi/g	D	4.08E+00	pCi/L	D	1.01E+02	pCi/g	D
Ra-228	4.39E+01	pCi/g	D	3.40E+00	pCi/L	D	8.78E+01	pCi/g	D
Tc-99	4.49E+03	pCi/g	D	6.67E+05	pCi/L	D	4.22E+04	pCi/g	D
Th-228	5.30E+02	pCi/g	D	3.74E+02	pCi/L	D	8.05E+02	pCi/g	D
Th-230	9.98E+03	pCi/g	D	2.57E+03	pCi/L	D	1.04E+04	pCi/g	D
Th-232	1.51E+03	pCi/g	D	3.04E+02	pCi/L	D	1.30E+03	pCi/g	D
U-233	4.83E+03	pCi/g	D	2.00E+02	pCi/L	D	5.28E+03	pCi/g	D
U-234	5.13E+03	pCi/g	D	2.02E+02	pCi/L	D	5.27E+03	pCi/g	D
U-235	2.77E+03	pCi/g	D	2.17E+02	pCi/L	D	3.73E+03	pCi/g	D
U-236	None	pCi/g	D	None	pCi/L	D	None	pCi/g	None
U-238	1.58E+03	pCi/g	D	2.23E+02	pCi/L	D	2.49E+03	pCi/g	D

COI = Chemical of interest ROI = Radionuclide of interest NA = Not applicable

A: Efroymson, R.A., G.W. Suter II, B.E.Sample, and D.S. Jones, 1997a. *Preliminary Remediation Goals for Ecological Endpoints*. ES/ER/TM-162/R2. Oak Ridge National Laboratory.B: Teir II secondary chronic values, SuterII, G.W., an Tsao, C.L. 1996. *Toxicological Benchmarks for Creening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision*, ES/ER/TM 96/R2, Lockheed Martin Energy Systems, Inc., Oak Ridge National Laboratory, Oak Ridge, Tennessee.C: Outside Mixing Zone Average surface water criteria from Ohio Administrative Code Chapter 3475-1-33, Tbale 33-2

D: Calculated by RESRAD-BIOTA program

Table 8-46. General Ecological Screening of COIs in Soil (Exposure Units 1-7)

Constituent of Interest	ESV Value	ESV Reference	Max. Soil Conc.	Max. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
EU 1, Soil in the Vicinity of Building G-1						
Organic COIs(mg/kg)						
Kerosene	None	NA	5.96E+03	No	NA	Yes
Inorganic COIs (mg/kg)						
Lithium	2.0E+00	A	3.60E+01	Yes	NA	Yes
Molybdenum	2.0E+00	A	1.52E+01	Yes	NA	Yes
Total Uranium	5.0E+00	A	8.13E+03	Yes	NA	Yes
Radiological COIs (pCi/g)						
Ac-227	None	B	1.18E+00	No	None	No
Am-241	2.89E+03	B	7.01E+00	Yes	2.4E-03	Yes
Cs-137	2.08E+03	B	7.85E+00	Yes	3.8E-03	Yes
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	0	No	0.0E+00	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	1.49E+01	Yes	1.1E-02	Yes
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	7.80E-01	Yes	1.3E-04	Yes
Ra-226	5.06E+01	B	1.49E+01	Yes	2.9E-01	Yes
Ra-228	4.39E+01	B	1.66E+00	Yes	3.8E-02	Yes
Tc-99	4.49E+03	B	1.13E+00	Yes	2.5E-04	Yes
Th-228	5.30E+02	B	3.55E+00	Yes	6.7E-03	Yes
Th-230	9.98E+03	B	6.32E+02	Yes	6.3E-02	Yes
Th-232	1.51E+03	B	4.84E+00	Yes	3.2E-03	Yes
U-233	4.83E+03	B	0	No	0.0E+00	No
U-234	5.13E+03	B	2.71E+03	Yes	5.3E-01	Yes
U-235	2.77E+03	B	1.77E+02	Yes	6.4E-02	Yes

Table 8-46.General Ecological Screening of COIs in Soil (Exposure Units 1-7) (continued)

Constituent of Interest	ESV Value	ESV Reference	Max. Soil Conc.	Max. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
U-236	None	B	8.20E-02	Yes	None	Yes
U-238	1.58E+03	B	2.71E+03	Yes	1.7E+00	Yes
Sum of Partial Fractions		NA	NA	NA	2.7E+00	NA
EU 2, Other North side Complex Soil						
Organic COIs(mg/kg)						
Kerosene	None	NA	7.77E+02	No	NA	Yes
Inorganic COIs (mg/kg)						
Lithium	2.0E+00	A	2.53E+01	Yes	NA	Yes
Molybdenum	2.0E+00	A	6.61E+00	Yes	NA	Yes
Total Uranium	5.0E+00	A	5.25E+03	Yes	NA	Yes
Radiological COIs (pCi/g)						
Ac-227	None	B	0	No	None	No
Am-241	2.89E+03	B	0	No	0.0E+00	No
Cs-137	2.08E+03	B	1.88E-01	Yes	9.0E-05	Yes
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	9.60E-01	Yes	2.5E-04	Yes
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	3.34E+00	Yes	2.4E-03	Yes
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	0	No	0.0E+00	No
Ra-226	5.06E+01	B	3.34E+00	Yes	6.6E-02	Yes
Ra-228	4.39E+01	B	2.04E+00	Yes	4.6E-02	Yes
Tc-99	4.49E+03	B	0	No	0.0E+00	No
Th-228	5.30E+02	B	2.16E+00	Yes	4.1E-03	Yes
Th-230	9.98E+03	B	2.60E+01	Yes	2.6E-03	Yes
Th-232	1.51E+03	B	2.19E+00	Yes	1.5E-03	Yes
U-233	4.83E+03	B	0	No	0.0E+00	No
U-234	5.13E+03	B	1.75E+03	Yes	3.4E-01	Yes
U-235	2.77E+03	B	1.17E+02	Yes	4.2E-02	Yes
U-236	None	B	0	No	None	No

Table 8-46.General Ecological Screening of COIs in Soil (Exposure Units 1-7) (continued)

Constituent of Interest	ESV Value	ESV Reference	Max. Soil Conc.	Max. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
U-238	1.58E+03	B	1.75E+03	Yes	1.1E+00	Yes
Sum of Partial Fractions	NA	NA	NA	1.6E+00	NA	
EU 3, Southside Complex Soil						
Organic COIs (mg/kg)						
Kerosene	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene
Inorganic COIs (mg/kg)						
Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium
Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum
Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium
Radiological COIs (pCi/g)						
Ac-227	None	B	0	No	None	No
Am-241	2.89E+03	B	8.54E-01	Yes	3.0E-04	Yes
Cs-137	2.08E+03	B	5.06E-01	Yes	2.4E-04	Yes
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	0	No	0.0E+00	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	1.92E+01	Yes	1.4E-02	Yes
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	0	No	0.0E+00	No
Ra-226	5.06E+01	B	1.92E+01	Yes	3.8E-01	Yes
Ra-228	4.39E+01	B	1.65E+02	Yes	3.8E+00	Yes
Tc-99	4.49E+03	B	0	No	0.0E+00	No
Th-228	5.30E+02	B	6.02E+02	Yes	1.1E+00	Yes
Th-230	9.98E+03	B	8.45E+01	Yes	8.5E-03	Yes
Th-232	1.51E+03	B	3.29E+02	Yes	2.2E-01	Yes
U-233	4.83E+03	B	0	No	0.0E+00	No
U-234	5.13E+03	B	6.97E+02	Yes	1.4E-01	Yes
U-235	2.77E+03	B	3.76E+01	Yes	1.4E-02	Yes
U-236	None	B	0	No	None	No
U-238	1.58E+03	B	6.97E+02	Yes	4.4E-01	Yes

Table 8-46.General Ecological Screening of COIs in Soil (Exposure Units 1-7) (continued)

Constituent of Interest	ESV Value	ESV Reference	Max. Soil Conc.	Max. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
EU 4, Eastside Soil						
Organic COIs(mg/kg)						
Kerosene	None	NA	2.89E+02	No	NA	Yes
Inorganic COIs (mg/kg)						
Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium
Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum
Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium
Radiological COIs (pCi/g)						
Ac-227	None	B	0.00E+00	No	NA	No
Am-241	2.89E+03	B	2.75E-01	No	9.5E-05	No
Cs-137	2.08E+03	B	1.09E+00	No	5.2E-04	No
Eu-152	1.52E+03	B	0.00E+00	No	0.0E+00	No
Eu-154	1.29E+03	B	0.00E+00	No	0.0E+00	No
Np-237	3.86E+03	B	0.00E+00	No	0.0E+00	No
Pa-231	1.17E+03	B	0.00E+00	No	0.0E+00	No
Pb-210	1.39E+03	B	2.36E+00	No	1.7E-03	No
Pu-238	5.27E+03	B	0.00E+00	No	0.0E+00	No
Pu-239	6.11E+03	B	0.00E+00	No	0.0E+00	No
Ra-226	5.06E+01	B	2.36E+00	No	4.7E-02	No
Ra-228	4.39E+01	B	1.36E+00	No	3.1E-02	No
Tc-99	4.49E+03	B	0.00E+00	No	0.0E+00	No
Th-228	5.30E+02	B	2.98E+00	No	5.6E-03	No
Th-230	9.98E+03	B	5.75E+00	No	5.8E-04	No
Th-232	1.51E+03	B	1.49E+00	No	9.9E-04	No
U-233	4.83E+03	B	0.00E+00	No	0.0E+00	No
U-234	5.13E+03	B	3.62E+01	No	7.1E-03	No
U-235	2.77E+03	B	2.39E+00	No	8.6E-04	No
U-236	None	B	0.00E+00	No	NA	No
U-238	1.58E+03	B	3.62E+01	No	2.3E-02	No
Sum of Partial Fractions	NA	NA	NA	1.2E-01	NA	

Table 8-46.General Ecological Screening of COIs in Soil (Exposure Units 1-7) (continued)

Constituent of Interest	ESV Value	ESV Reference	Max. Soil Conc.	Max. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
EU 5, Westside Soil						
Organic COIs(mg/kg)						
Kerosene	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene
Inorganic COIs (mg/kg)						
Lithium	Lithium	Lithium	Lithium	Lithium	Lithium	Lithium
Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum	Molybdenum
Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium	Total Uranium
Radiological COIs (pCi/g)						
Ac-227	None	B	0	No	NA	No
Am-241	2.89E+03	B	9.50E-01	Yes	3.3E-04	Yes
Cs-137	2.08E+03	B	3.11E-01	Yes	1.5E-04	Yes
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	0	No	0.0E+00	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	7.98E+00	Yes	5.7E-03	Yes
Pu-238	5.27E+03	B	NA	Yes	NA	Yes
Pu-239	6.11E+03	B	NA	Yes	NA	Yes
Ra-226	5.06E+01	B	7.98E+00	Yes	1.6E-01	Yes
Ra-228	4.39E+01	B	5.10E+01	Yes	1.2E+00	Yes
Tc-99	4.49E+03	B	NA	Yes	NA	Yes
Th-228	5.30E+02	B	8.80E+01	Yes	1.7E-01	Yes
Th-230	9.98E+03	B	1.01E+01	Yes	1.0E-03	Yes
Th-232	1.51E+03	B	7.48E+01	Yes	5.0E-02	Yes
U-233	4.83E+03	B	NA	No	NA	No
U-234	5.13E+03	B	1.68E+03	Yes	3.3E-01	Yes
U-235	2.77E+03	B	1.03E+02	Yes	3.7E-02	Yes
U-236	None	B	NA	No	None	No
U-238	1.58E+03	B	1.68E+03	Yes	1.1E+00	Yes
Sum of Partial Fractions	NA	NA	NA	3.0E+00	NA	

Table 8-46.General Ecological Screening of COIs in Soil (Exposure Units 1-7) (continued)

Constituent of Interest	ESV Value	ESV Reference	Max. Soil Conc.	Max. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
EU 7, Site wide Soil						
Organic COIs(mg/kg)						
Kerosene	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene
Inorganic COIs (mg/kg)						
Lithium	2.0E+00	A	4.27E+01	Yes	NA	Yes
Molybdenum	2.0E+00	A	3.89E+02	Yes	NA	Yes
Total Uranium	5.0E+00	A	8.13E+03	Yes	NA	Yes
Radiological COIs (pCi/g)						
Ac-227	None	B	1.18E+00	Yes	None	Yes
Am-241	2.89E+03	B	7.01	Yes	2.4E-03	Yes
Cs-137	2.08E+03	B	7.85	Yes	3.8E-03	Yes
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	9.60E-01	Yes	2.5E-04	Yes
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	1.92E+01	Yes	1.4E-02	Yes
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	7.80E-01	Yes	1.3E-04	Yes
Ra-226	5.06E+01	B	1.92E+01	Yes	3.8E-01	Yes
Ra-228	4.39E+01	B	1.65E+02	Yes	3.8E+00	Yes
Tc-99	4.49E+03	B	1.13E+00	Yes	2.5E-04	Yes
Th-228	5.30E+02	B	6.02E+02	Yes	1.1E+00	Yes
Th-230	9.98E+03	B	6.32E+02	Yes	6.3E-02	Yes
Th-232	1.51E+03	B	3.29E+02	Yes	2.2E-01	Yes
U-233	4.83E+03	B	0	No	0.0E+00	No
U-234	5.13E+03	B	2.71E+03	Yes	5.3E-01	Yes
U-235	2.77E+03	B	1.77E+02	Yes	6.4E-02	Yes
U-236	None	B	8.20E-02	Yes	None	Yes
U-238	1.58E+03	B	2.71E+03	Yes	1.7E+00	Yes
Sum of Partial Fractions	NA	NA	NA	7.9E+00	NA	

ESV = Environmental screening value (Table 15) PBT = Persistent, bioaccumulative, and toxic compound COI = Constituent of interest NA = Not applicable ND = Not detected at the EU
A: Efroymson, R.A., G.W. Suter II, B.E.Sample, and D.S. Jones, 1997a. *Preliminary Remediation Goals for Ecological Endpoints*. ES/ER/TM-162/R2.
Oak Ridge National Laboratory. B: Calculated by RESRAD-BIOTA program

Table 8-47.General Ecological Screening of COIs in Surface Water and Sediment (EU6)

Constituent of Interest	Criterion		Max. Conc.	Max. Conc.> Constituent?	Partial Fraction ESV	Is constituent Retained?
	Value	Source				
EU 6, Cuyahoga River and Big Creek Surface Water						
Organic COIs (mg/L)						
Kerosene	None	NA	2.90E-01	No	NA	Yes
Inorganic COIs (mg/L)						
Lithium	1.4E-02	A	2.26E-02	Yes	NA	No
Molybdenum	1.1E-01	A	1.78E-02	No	NA	No
Total Uranium	2.6E-03	A	1.59E-03	No	NA	No
Radionuclide COIs (pCi/L)[a]						
Ac-227	None	B	NA	No	NA	No
Am-241	4.38E+02	B	NA	No	NA	No
Cs-137	4.26E+01	B	NA	No	NA	No
Eu-152	2.55E+04	B	NA	No	NA	No
Eu-154	2.16E+04	B	NA	No	NA	No
Np-237	6.85E+01	B	NA	No	NA	No
Pa-231	2.60E+03	B	NA	No	NA	No
Pb-210	6.01E+02	B	NA	No	NA	No
Radionuclide COIs (pCi/L)[a]						
Pu-238	1.76E+02	B	NA	No	NA	No
Pu-239	1.87E+02	B	NA	No	NA	No
Ra-226	4.08E+00	B	NA	No	NA	No
Ra-228	3.40E+00	B	NA	No	NA	No
Tc-99	6.67E+05	B	NA	No	NA	No
Th-228	3.74E+02	B	NA	No	NA	No
Th-230	2.57E+03	B	NA	No	NA	No
Th-232	3.04E+02	B	NA	No	NA	No
U-233	2.00E+02	B	NA	No	NA	No
U-234	2.02E+02	B	5.4E-01	No	2.7E-03	No
U-235	2.17E+02	B	1.2E-03	No	5.3E-06	No
U-236	None	B	NA	No	NA	No
U-238	2.23E+02	B	5.4E-01	No	2.4E-03	No
Sum of Partial Fractions		NA	NA	NA	5.1E-03	NA
EU 6, Cuyahoga River and Big Creek Sediment						
Organic COIs(mg/kg)						
Kerosene	None	NA	1.48E+02	NA	NA	Yes
Inorganic COIs (mg/kg)						
Lithium	None	NA	1.81E+01	No	NA	No
Molybdenum	None	NA	9.82E+00	NA	NA	Yes
Total Uranium	None	NA	2.17E+01	NA	NA	Yes
ROIs (pCi/g)						
Ac-227	None	B	0	No	NA	No
Am-241	5.15E+03	B	0	No	0.0E+00	No
Cs-137	3.12E+03	B	7.53E-02	No	2.4E-05	No
Eu-152	3.04E+03	B	NA	No	NA	No
Eu-154	2.57E+03	B	NA	No	NA	No
Np-237	7.63E+03	B	NA	No	NA	No
Pa-231	2.29E+03	B	0	No	0.0E+00	No
Pb-210	1.73E+03	B	1.39E+00	No	8.0E-04	No
Pu-238	5.73E+03	B	NA	No	NA	No
Pu-239	5.86E+03	B	NA	No	NA	No
Ra-226	1.01E+02	B	1.39E+00	No	1.4E-02	No
Ra-228	8.78E+01	B	1.08E+00	No	1.2E-02	No
Tc-99	4.22E+04	B	NA	No	NA	No
Th-228	8.05E+02	B	1.27E+00	No	1.6E-03	No
Th-230	1.04E+04	B	1.65E+00	No	1.6E-04	No
Th-232	1.30E+03	B	1.08E+00	No	8.3E-04	No
U-233	5.28E+03	B	NA	No	NA	No
U-234	5.27E+03	B	7.23E+00	No	NA	No
U-235	3.73E+03	B	3.17E-01	No	NA	No
U-236	None	B	NA	No	NA	No
U-238	2.49E+03	B	7.23E+00	No	NA	No
Sum of Partial Fractions		NA	NA	NA	2.9E-02	NA

ESV = Environmental screening value
COI = Constituent of interest
ND = Not detected at the EU
PBT = Persistent, bioaccumulative, and toxic compound
NA = Not applicable
A: Tier II chronic values, Suter II, G.W., and Tsao, C.L. 1996. *Toxicological Benchmark for Screening Potential Contaminants of Concern for Effects on Aquatic Biota*: 1996 Revision, ES/ER/TM 96/R2, Lockheed Martin Energy Systems, Inc., Oak Ridge National L
B: Calculated by RESRAD-BIOTA program

Table 8-48. Management Goals, Ecological Assessment Endpoints, Measures, and Decision Rules for the Harshaw Site-Specific Analysis Screens

Management Goals	Assessment Endpoint	Measures of Effect	Decision Rule
Protect terrestrial plant and animal populations from adverse effects due to release or potential release of chemical substances and radionuclides associated with past Harshaw site activities.	Assessment Endpoint 1: Growth, survival, and reproduction of plant and soil invertebrate communities and tissue concentrations of contaminants low enough that higher trophic levels that consume them are not at risk. Receptors: plants and earthworms	Measures of Effect 1: Plant and earthworm soil benchmarks and measured concentrations of COPECs in soil.	Decision Rule for Assessment Endpoint 1: If the HI based on chemical COPEC RME concentrations to TRVs for plants and soil invertebrates and the sum of fractions of radionuclide COPEC RME concentrations in surface soil to benchmarks for adverse effects on plants (BCGs) are less than or equal to 1, then Assessment Endpoint 1 has been met, plants and soil-dwelling invertebrates are not at risk, and no further action is warranted. If HI or the sum of fractions is >1, an SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3)conduct a more detailed ecological risk assessment.
	Assessment Endpoint 2: Growth, survival, and reproduction of herbivorous mammal communities and tissue concentrations of contaminants in their tissues low enough that higher trophic level animals that consume them are not at risk. Receptors: cottontail rabbits and meadow voles	Measures of Effect 2: Estimates of receptor home range area, body weights, feeding rates, and dietary composition based on published measurements of endpoint species or similar species; modeled COPEC concentrations in food chain based on measured concentrations in physical media; chronic dietary NOAELs based on measured responses of similar species in laboratory studies, and the radiation dose limit applicable to wildlife receptors.	Decision Rule for Assessment Endpoint 2: If the sum of HQs predicted from chemical COPEC RME concentrations and the sum of fractions of estimated exposure concentrations predicted from radionuclide COPEC RME concentrations in surface soil to dietary limits corresponding to NOAEL benchmarks for adverse effects on herbivorous mammals (TRVs and BCGs, respectively) is less than or equal to 1, Assessment Endpoint 2 is met, herbivorous mammals are not at risk, and no further action is warranted. If the sum of HQs or the sum of fractions is >1, a SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3) conduct a more detailed ecological risk assessment.
	Assessment Endpoint 3: Growth, survival, and reproduction of worm-eating and insectivorous mammal and bird communities and tissue concentrations of contaminants low enough that predators that consume them are not at risk. Receptors: short-tailed shrews and American robins	Measures of Effect 3: Estimates of receptor home range area, body weights, feeding rates, and dietary composition based on published measurements of endpoint species or similar species; modeled COPEC concentrations in food chain based on measured concentrations in physical media; chronic dietary NOAELs based on measured responses of similar species in laboratory studies, and the radiation dose limit applicable to wildlife receptors	Decision Rule for Assessment Endpoint 3: If the sum of HQs predicted from COPC RME concentrations and the sum of fractions of estimated exposure concentrations predicted from ROPC RME concentrations in surface soil to dietary limits corresponding to NOAEL benchmarks for adverse effects on worm-eating and insectivorous mammals and birds (TRVs and BCGs, respectively), then Assessment Endpoint 3 is met, these receptors are not at risk, and no further action is warranted. If the sum of HQs or the sum of fractions is >1, a SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3) conduct a more detailed ecological risk assessment.
	Assessment Endpoint 4: Growth, survival, and reproduction of carnivorous top predator mammal and bird communities. Receptors: red fox and red-tailed hawk	Measures of Effect 4: Estimates of receptor home range area, body weights, feeding rates, and dietary composition based on published measurements of endpoint species or similar species; modeled COPEC concentrations in food chain based on measured concentrations in physical media; chronic dietary NOAELs based on measured responses of similar species in laboratory studies, and the radiation dose limit applicable to wildlife receptors.	Decision Rule for Assessment Endpoint 4: If the sum of HQs predicted from COPC RME concentrations and the sum of fractions of estimated exposure concentrations predicted from ROPC RME concentrations in surface soil to dietary limits corresponding to NOAEL benchmarks for adverse effects on carnivorous mammals and birds (TRVs and BCGs, respectively) is less than or equal to 1, then Assessment Endpoint 4 is met, carnivorous mammals and birds are not at risk, and no further action is warranted. If the sum of HQs or the sum of fractions is >1, a SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3) conduct a more detailed ecological risk assessment.

Table 8-48. Management Goals, Ecological Assessment Endpoints, Measures, and Decision Rules for the Harshaw Site-Specific Analysis Screens (continued)

Management Goals	Assessment Endpoint	Measures of Effect	Decision Rule
Protect aquatic plant and animal populations and communities from adverse affects due to releases or potential releases of chemical substances and radionuclides associated with past Harshaw site activities.	Assessment Endpoint 5: Survival, reproduction, and diversity of benthic invertebrate communities, as well as low enough concentrations of contaminants in their tissues so that higher trophic level animals that consume them are not at risk. Receptor: benthic invertebrates	Measures of Effect 5: Measured concentration of contaminants in sediment and sediment toxicity thresholds, e.g., threshold effects concentration (TEC) and the radiation dose limit.	Decision Rule for Assessment Endpoint 5: If the sum of HQs based on COPC RME concentrations to TRVs for sediment-dwelling biota and the sum of fractions of ROPC RME concentrations in sediment to benchmarks for adverse effects on sediment-dwelling biota (BCGs) are less than or equal to 1, then Assessment Endpoint 5 is met, sediment-dwelling organisms are not at risk, and no further action is warranted. If the sum of HQs or the sum of fractions is > 1, a SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3) conduct a more detailed ecological risk assessment.
	Assessment Endpoint 6: Growth, survival, and reproduction of aquatic biota (including fish, plants, invertebrates). Receptor: aquatic biota	Measures of Effect 6: Measured concentration in surface water and aquatic toxicity thresholds, e.g., State of Ohio ambient water quality criteria, Tier-II chronic, and the radiation dose limit.	Decision Rule 6: If the sum of HQs based on COPC RME concentrations to TRVs for aquatic biota and the sum of fractions of ROPC RME concentrations in surface water to aquatic benchmarks for adverse effects (BCGs) are less than or equal to 1, then Assessment Endpoint 6 is met, aquatic organisms are not at risk, and no further action is warranted. If the sum of HQs or the sum of fractions is > 1, a SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3) conduct a more detailed ecological risk assessment.
	Assessment Endpoint 7: Growth, survival, and reproduction of surface-feeding waterfowl populations. Receptors: muskrats and mallard ducks	Measures of Effect: 7 Estimates of receptor home range area, body weights, feeding rates, and dietary composition based on published measurements of endpoint species or similar species; modeled COPEC concentrations in food chain based on measured concentrations in physical media; chronic dietary NOAELs based on measured responses of similar species in laboratory studies, and the radiation dose limit applicable to wildlife receptors.	Decision Rule 7: If the sum of HQs based on estimated exposure concentrations predicted from COPC RME concentrations and the sum of fractions of estimated exposure concentrations predicted from ROPC RME concentrations in surface water to dietary limits corresponding to NOAEL benchmarks for adverse effects on surface-feeding waterfowl (TRVs and BCGs, respectively) is less than or equal to 1, then Assessment Endpoint 7 is met, surface-feeding waterfowl are not at risk, and no further action is warranted. If the sum of HQs or the sum of fractions is > 1, a SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3) conduct a more detailed ecological risk assessment.
	Assessment Endpoint 8: Growth, survival, and reproduction of mammal and bird communities that feed on aquatic organisms. Receptors: mink and herons	Measures of Effect 8: Estimates of receptor home range area, body weights, feeding rates, and dietary composition based on published measurements of endpoint species or similar species; modeled COPEC concentrations in food chain based on measured concentrations in physical media; chronic dietary NOAELs receptors based on measured responses of similar species in laboratory studies, and the radiation dose limit applicable to wildlife.	Decision Rule 8: If the sum of HQs based on estimated exposure concentrations predicted from COPC RME concentrations and the sum of fractions of estimated exposure concentrations predicted from ROPC RME concentrations in surface water to dietary limits corresponding to NOAEL benchmarks for adverse effects on riparian top predators of aquatic receptors (TRVs and BCGs, respectively) is less than or equal to 1, then Assessment Endpoint 8 has been met, riparian mammal and bird communities that feed on aquatic organisms are not at risk, and no further action is warranted. If the sum of HQs or the sum of fractions is > 1, a SMDP will be reached, at which it will be necessary to decide whether to conduct: 1) no further action, 2) conduct a removal or other remedial action, 3) conduct a more detailed ecological risk assessment.

COPC Constituent of potential concern
BCG Biota concentration guidelines
NOAEL No observed adverse effects level
SMDP Scientific management decision point
ROPC Radionuclide of potential concern
TRV Toxicity reference value
RME Reasonable maximum exposure
HQ Hazard quotient

Table 8-49. Exposure Parameters for Ecological Receptors at the Former Harshaw Chemical Site

Exposure parameter	Unit	Value	Comments/reference
Cottontail rabbit (*Sylvilagus floridanus*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	1.23	Average of 4 seasonal means, adult, both sexes, Georgia, all areas (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.205	Estimated by dividing free-living metabolic rate (203 kcal/kgBW/d) by the product of the energy composition of young grasses (1.3 kcal/g wet wt.) and assimilation efficiency (0.76) (EPA 1993d, Table 4-7)
Plant ingestion rate	kg wet wt/kgBW-d	0.205	EPA (1993d); assumed to be vegetative parts
Animal ingestion rate	kg wet wt/kgBW-d	0.0	Not reported in EPA (1993d); assumed to be negligible
Soil ingestion rate	kg wet wt/kgBW-d	0.0	Value for jackrabbit, estimated percent soil in diet (EPA 1993d)
Life span	years	2.5	Twice average (EPA 1993d)
Meadow vole (*Microtus pennsylvanicus*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	0.037	Average of adult males and females, southern Indiana (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.35	Russia (EPA 1993d)
Plant ingestion rate	kg wet wt/kgBW-d	0.346	Illinois bluegrass, % volume of stomach contents (EPA 1993d)
Animal ingestion rate	kg wet wt/kgBW-d	0.004	Illinois bluegrass, % volume of stomach contents (EPA 1993d)
Soil ingestion rate	kg wet wt/kgBW-d	0.0	2.4% of dry weight of diet (Beyer et al. 1994), adjusted to wet weight assuming 80% moisture in diet
Life span	years	0.25	Upper limit of range of means (EPA 1993d)
Short-tailed shrew (*Blarina brevicauda*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	0.017	Average of adult males and females, falls and summer, western Pennsylvania (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.56	Mean, both sexes, free living, Kansas (EPA 1993d)
Plant ingestion rate	kg wet wt/kgBW-d	0.07	June through October, New York (EPA 1993d); assuming vegetative parts and fungi
Animal ingestion rate	kg wet wt/kgBW-d	0.49	June through October, New York (EPA 1993d); assuming 100% earthworms
Soil ingestion rate	kg wet wt/kgBW-d	0.1	Talmage and Walton (1993d)
Life span	years	0.75	Twice average of males and females (EPA 1993d)
American robin (*Turdus migratorius*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	0.08	Adult breeding female, New York (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	1.52	Mean, both sexes, free living, Kansas (EPA 1993d)
Plant ingestion rate	kg wet wt/kgBW-d	0.76	Arithmetic mean, 4 seasons, central U.S., % of stomach contents that is plant material (EPA 1993d) assumed to be plant reproductive tissue
Animal ingestion rate	kg wet wt/kgBW-d	0.76	Arithmetic mean, 4 seasons, central U.S., % of stomach contents that is animal material (EPA 1993d) assumed to be earthworm
Soil ingestion rate	kg wet wt/kgBW-d	0.1	Value for American woodcock (*Scolopax minor*), estimated percent soil in diet, dry weight (Beyer et al. 1994)
Life span	years	2.7	Twice average mean after Jan. 1st of year (EPA 1993d)
Red fox (*Vulpes vulpes*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	4.5	Average of adult males and females, Illinois and Iowa (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.1	Average, adults, North Dakota, captive (EPA 1993d) Assume 100% rabbits
Plant ingestion rate	kg wet wt/kgBW-d	0.083	Average of four seasons, Illinois farm and woods, % volume of stomach contents (EPA 1993d)
Animal ingestion rate	kg wet wt/kgBW-d	0.017	Average of four seasons, Illinois farm and woods, % volume of stomach contents (EPA 1993d)
Soil ingestion rate	kg wet wt/kgBW-d	0.0	2.8% of dry weight of diet (Beyer et al. 1994), adjusted to wet weight assuming 80% moisture in diet
Life span	years	6	Maximum (EPA 1993d)
Red-tailed hawk (*Buteo jamaicensis*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	1.06	Average of adult male and female, southwest Idaho (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.11	Average of adult male and female, winter, Michigan, captive, outdoor (EPA 1993d)100% rabbits
Plant ingestion rate	kg wet wt/kgBW-d	0.0	Not stated in EPA 1993d; assumed to be negligible
Animal ingestion rate	kg wet wt/kgBW-d	0.11	Prey bought to nests in Alberta, Canada; Oregon; and California (EPA 1993d)
Soil ingestion rate	kg wet wt/kgBW-d	0.0	Not stated in EPA 1993d or Beyer et al. 1994; assumed to be negligible

Table 8-49. Exposure Parameters for Ecological Receptors at the Former Harshaw Chemical Site (continued)

Exposure parameter	Unit	Value	Comments/reference
Red-tailed hawk (*Buteo jamaicensis*)			
Life span	years	18	Maximum (EPA 1993d)
Muskrat (*Ondatra zibethicus*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	1.42	Average of adult males and females, winter, New York (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.3	Louisiana, captive (EPA 1993d)
Plant ingestion rate	kg wet wt/kgBW-d	0.3	% of stomach contents (EPA 1993d)
Animal ingestion rate	kg wet wt/kgBW-d	0.0	% of stomach contents (EPA 1993d)
Sediment ingestion rate	kg dry wt/kgBW-d	0.001	Dry-weight value for groundhog (Beyer et al. 1994), adjusted to wet weight by assuming 80% moisture content in food
Water ingestion rate	L/kgBW-d	1.0	Estimated (EPA 1993d) by using allometric equation, 0.99 x BW(kg)0.90/BW(kg) (EPA 1993d, Eq. 3-17)
Life span	years	5	Upper limit reported by EPA (1993d)
Mallard duck (*Anas platyrhynchos*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	1.13	Average of adult males and females, throughout North America (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.28	Estimated (EPA 1993d) by using allometric equation, 0.0582 x BW(kg)0.651/BW(kg) (EPA 1993d, Eq. 3-3) adjusted to wet weight assuming 80% moisture in diet
Plant ingestion rate	kg wet wt/kgBW-d	0.28	Louisiana coastal marsh and prairie, % volume of gullet contents (EPA 1993d)
Animal ingestion rate	kg wet wt/kgBW-d	0.003	Louisiana coastal marsh and prairie, % volume of gullet contents (EPA 1993d)
Sediment ingestion rate	kg dry wt/kgBW-d	0.002	3.3% of dry weight of diet (Beyer et al. 1994), adjusted to wet weight assuming 80% moisture in diet
Water ingestion rate	L/kgBW-d	0.1	Estimated (EPA 1993d) by using allometric equation, 0.059 x BW(kg)0.67/BW(kg) (EPA 1993d, Eq. 3-15)
Life span	years	29	Maximum reported (Terres 1980)
Mink (*Mustella vison*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	0.85	Average of adult males and females, summer and fall (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.14	Michigan, farm raised (EPA 1993d)
Plant ingestion rate	kg wet wt/kgBW-d	0.013	Michigan stream/river (% wet weight; stomach contents normalized to 97.5% of contents identified (EPA 1993d)
Animal ingestion rate	kg wet wt/kgBW-d	0.13	Michigan stream/river (% wet weight; stomach contents normalized to 97.5% of contents identified (EPA 1993d)
Sediment ingestion rate	kg dry wt/kgBW-d	0.0	Sample et al. (1997)
Water ingestion rate	L/kgBW-d	0.1	Estimated (EPA 1993d) by using allometric equation, 0.99 x BW(kg)0.90/BW(kg) (EPA 1993d, Eq. 3-17)
Life span	years	14	Twice reported mean (EPA 1993d)
Great blue heron (*Ardea herodias*)			
Area use factor	unitless	1.0	Conservative value for screening
Temporal use factor	unitless	1.0	Conservative value for screening
Body weight	kg	2.39	Arithmetic mean, adult, both sexes, location not stated (EPA 1993d)
Food ingestion rate	kg wet wt/kgBW-d	0.18	EPA (1993d)
Plant ingestion rate	kg wet wt/kgBW-d	0.0	None listed as dietary intake by EPA (1993d)
Animal ingestion rate	kg wet wt/kgBW-d	0.18	river in lower Michigan (EPA 1993d), assume 100% fish
Sediment ingestion rate	kg dry wt/kgBW-d	0.0	Not reported in EPA (1993d); assumed to be negligible
Water ingestion rate	L/kgBW-d	0.0	Estimated (EPA 1993d) by using allometric equation, 0.059 x BW(kg)0.67/BW(kg) (EPA 1993d, Eq. 3-15)
Life span	years	21	Banded wild bird recovered Terres (1980)

Table 8-50. Bioconcentration and Bioaccumulation Factors for Plants, Terrestrial Invertebrates, Aquatic Biota, and Benthic Invertebrates

Constituent of Potential Ecological Concern	CAS registry Number	K_{OW}	Receptor							
			Plants (SPv)		Terrestrial Invertebrates (BAF-S)		Aquatic biota (BAF)		Benthic invertebrates (BASF)	
			(kg soil/kg wet wt)	*Source*	*(kg soil/kg wet wt)*	*Source*	*(L/kg wet wt)*	*Source*	*(kg sediment/ kg wet wt)*	*Source*
Organic COPECs										
Kerosene	No CAS #	No data	No data	NA	No data	NA	3.0E+03	G	No data	NA
Inorganic COPECs										
Lithium	7439-93-2	NA	3.8E-03	A	5.0E-01	B	3.2E+00	F	5.0E-01	B
Molybdenum	7439-98-7	NA	3.8E-02	A	2.1E+00	C	3.2E+00	F	2.1E+00	C
Total Uranium	744-61-1	NA	1.3E-03	A	9.2E-02	B	1.0E+03	E	9.2E-02	B

NA = Not applicable
CAS = Chemical Abstracts Service
COPEC = Constituent of potential ecological concern
A: Bases et al. (1984)
B: DOE (1997), 95th percentile UCL
C: Beyer and Stafford (1993)
D: Default value (Section 6.3.4.2)
E: DOE (2002)
F: EPI Suite V 3.12 Modeling Software USEPA
G: Calculated BCF based upon avg. Log Kow value for Kerosene

Table 8-51. Uptake Factors and Bioaccumulation Factors for Mammals and Birds

Constituent of Potential Ecological Concern	CAS registry Number	Receptor										
		Bb	Cottontail rabbit	Meadow vole	Sort-tailed shrew	American robin	Red fox	Red-tailed hawk	Muskrat	Mallard duck	Mink	Great blue heron
		(d/kg)	*(BW = 1.23 kg)*	*(BW = 0.037 kg)*	*(BW = 0.017 kg)*	*(BW = 0.8 kg)*	*(BW = 4.5 kg)*	*(BW = 1.06 kg)*	*(BW = 1.42 kg)*	*(BW = 1.13 kg)*	*(BW = 0.85 kg)*	*(BW = 2.39 kg)*
Organic COPCs												
Kerosene	No CAS #	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data	No data
Inorganic COPCs[a]												
Lithium	7439-93-2	1.0E-02	1.2E-02	3.7E-04	1.7E-04	8.0E-04	4.5E-02	1.1E-02	1.4E-02	1.1E-02	8.5E-03	2.4E-02
Molybdenum	7439-98-7	6.0E-03	7.4E-03	2.2E-04	1.0E-04	4.8E-04	2.7E-02	6.4E-03	8.5E-03	6.8E-03	5.1E-03	1.4E-02
Total Uranium	744-61-1	2.0E-04	2.5E-04	7.4E-06	3.4E-06	1.6E-05	9.0E-04	2.1E-04	2.8E-04	2.3E-04	1.7E-04	4.8E-04

NA = Not applicable
CAS = Chemical Abstracts Service
COPC = Chemical of potential concern

Table 8-52. Summary of Toxicity Reference Values (TRVs) for Exposure of Plants, Invertebrates, and Aquatic Biota to COPECs

Constituent of Potential Concern	CAS registry Number	Receptor			
		Plants	Terrestrial Invertebrates	Aquatic biota	Benthic invertebrates
Organic COPECs (mg/kg or mg/L)					
Kerosene	No CAS #	No TRV	No TRV	No TRV	No TRV
Inorganic COPCs (mg/kg or mg/L)					
Lithium	7439-93-2	2.0E+00	No TRV	1.4E-02	No TRV
Molybdenum	7439-98-7	2.0E+00	No TRV	1.1E-01	No TRV
Total Uranium	744-61-1	5.0E+00	No TRV	2.6E-03	No TRV
Radiological COPECs (rad/d)					
All radionuclides combined[a]	No CAS #	1.0E+00	1.0E+00	1.0E+00	1.0E+00

CAS = Chemical Abstracts Service
TRV = Toxicity reference value
COPEC = Constituent of potential ecological concern
NA = Not applicable
No TRV = No TRV available
[a]TRV is not applicable to single radionuclides. Combined external an internal radiation exposure for plants, invertebrates, and aquatic biota from all radionuclides combined cannot exceed 0.1 rad/d

Table 8-53. Derivation of Final Toxicity Reference Values (TRVs) for Exposure of Mammals to COPECs

Constituent of Potential Ecological Concern	CAS registry Number	Test Species		Receptor					
		Initial TRV[a]	Body Weight[a]	Cottontail rabbit[b]	Meadow vole[b]	Sort-tailed shrew[b]	Red fox[b]	Muskrat[b]	Mink[b]
		(mg/kg-d)	*(kg)*	*(BW = 1.23 kg)*	*(BW = 0.037 kg)*	*(BW = 0.017 kg)*	*(BW = 4.5 kg)*	*(BW = 1.42 kg)*	*(BW = 0.85 kg)*
Organic COPCs (mg/kg-d)									
Kerosene	No CAS #	No TRV	No data	No TRV	No TRV	No TRV	No TRV	No TRV	No TRV
Inorganic COPCs (mg/kg-d)									
Lithium	7439-93-2	9.4 E+00	3.5E-01	6.9E+00	1.6E+01	2.0E+01	5.0E+00	6.6E+00	7.5E+00
Molybdenum	7439-98-7	8.5E-01	3.0E-02	3.4E-01	8.1E-01	9.8E-01	2.4E-01	3.2E-01	3.7E-01
Total Uranium	744-61-1	3.1E+00	3.0E-02	1.2E+00	2.9E+00	3.5E+00	8.8E-01	1.2E+00	1.3E+00
Radiological COCEPs (rad/d)									
All radionuclides combined[c]	No CAS #	NA	NA	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01

CAS = Chemical Abstracts Service

TRV = Toxicity reference value

COPEC = Constituent of potential ecological concern

No TRV = No TRV available

NA = Not applicable

[a]From Appendix D, Table D-4

[b]Adjusted to body weight by multiplying the Initial TRV by $(BW_{test\ species}/BW_{receptors})^{0.25}$

[c]TRV is not applicable to single radionuclides. Combined external an internal radiation exposure for mammals from all radionuclides combined cannot exceed 0.1 rad/d

Table 8-54. Derivation of Final Toxicity Reference Values (TRVs) for Exposure of Birds to COPECs

Constituent of Potential Ecological Concern	CAS registry Number	Test Species	Initial TRV[a]	Receptor							
				American robin		Red -tailed hawk		Mallard duck		Great blue heron	
				Conversion factor[b]	TRV	Conversion factor[b]	TRV	Conversion factor[b]	TRV	Conversion factor[b]	TRV
Organic COPECs (mg/kg-d)											
Kerosene	No CAS #	NA	No TRV	NA	No TRV	NA	No TRV	NA	No TRV	NA	No TRV
Inorganic COPECs (mg/kg-d)											
Lithium	7439-93-2	No TRV	No TRV	NA	No TRV	NA	No TRV	NA	No TRV	NA	No TRV
Molybdenum	7439-98-7	Gallus domesticus	1.2E+01	1.1E-02	1.3E-01	1.1E-02	1.3E-01	1.1E-02	1.3E-01	1.1E-02	1.3E-01
Total Uranium	744-61-1	Anas rubripes	1.6E+01	1.1E-02	1.8E-01	1.1E-02	1.8E-01	1.0E+00	1.6E+01	1.1E-02	1.8E-01
Radiological COPECs (rad/d)											
All radionuclides combined[c]	No CAS #	NA	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E+00

No TRV = No TRV available
NA = Not applicable
COPEC = Chemical of potential concern
CAS = Chemical Abstracts Service
TRV = Toxicity reference value
[a]From Appendix D, Table D-5
[b]Taxonomic adjustment factor for relatedness of test species and receptor (Ohio EPA 2003): 1 if same genus, 0.33 if same family, 0.109 if same order, 0.011 if same class
[c]TRV is not applicable to single radionuclides. Combined external an internal radiation exposure for mammals from all radionuclides combined cannot exceed 0.1 rad/d

Table 8-55. Site Specific Analysis of COIs in Soil, Step 2 (Exposure Units 1-7)

Constituent of Interest	ESV Value	ESV Reference	UCL95. Soil Conc.	Ave. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
EU 1, Soil in the Vicinity of Building G-1						
Ac-227	None	B	0	No	None	No
Am-241	2.89E+03	B	0	No	0.0E+00	No
Cs-137	2.08E+03	B	8.06E-02	No	3.9E-05	No
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	0	No	0.0E+00	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	1.76E+00	No	1.3E-03	No
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	2.39E-01	No	3.9E-05	No
Ra-226	5.06E+01	B	1.76E+00	No	3.5E-02	No
Ra-228	4.39E+01	B	8.92E-01	No	2.0E-02	No
Tc-99	4.49E+03	B	5.09E-01	No	1.1E-04	No
Th-228	5.30E+02	B	1.04E+00	No	2.0E-03	No
Th-230	9.98E+03	B	8.61E+01	No	8.6E-03	No
Th-232	1.51E+03	B	9.62E-01	No	6.4E-04	No
U-234	4.83E+03	B	0	No	0.0E+00	No
U-233	5.13E+03	B	6.81E+01	No	1.3E-02	No
U-235	2.77E+03	B	2.58E+00	No	9.3E-04	No
U-236	None	B	8.20E-02	No	None	No
U-238	1.58E+03	B	6.81E+01	No	4.3E-02	No
Sum of Partial Fractions		NA	NA	NA	1.3E-01	NA
EU 2, Other North side Complex Soil						
Ac-227	None	B	0	No	None	No
Am-241	2.89E+03	B	0	No	0.0E+00	No
Cs-137	2.08E+03	B	6.25E-02	No	3.0E-05	No
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	6.68E-01	No	1.7E-04	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	1.43E+00	No	1.0E-03	No
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	0	No	0.0E+00	No
Ra-226	5.06E+01	B	1.43E+00	No	2.8E-02	No
Ra-228	4.39E+01	B	8.96E-01	No	2.0E-02	No
Tc-99	4.49E+03	B	0	No	0.0E+00	No
Th-228	5.30E+02	B	1.09E+00	No	2.1E-03	No
Th-230	9.98E+03	B	3.69E+00	No	3.7E-04	No
Th-232	1.51E+03	B	9.19E-01	No	6.1E-04	No

Table 8-55. Site Specific Analysis of COIs in Soil, Step 2 (Exposure Units 1-7) (continued)

Constituent of Interest	ESV Value	ESV Reference	UCL95. Soil Conc.	Ave. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
U-234	4.83E+03	B	0	No	0.0E+00	No
U-233	5.13E+03	B	5.87E+01	No	1.1E-02	No
U-235	2.77E+03	B	2.99E+00	No	1.1E-03	No
U-236	None	B	0	No	None	No
U-238	1.58E+03	B	5.87E+01	No	3.7E-02	No
Sum of Partial Fractions		NA	NA	NA	1.0E-01	NA
EU 3, Southside Complex Soil						
Ac-227	None	B	0	No	None	No
Am-241	2.89E+03	B	0	No	0.0E+00	No
Cs-137	2.08E+03	B	7.90E-02	No	3.8E-05	No
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	0	No	0.0E+00	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	2.01E+00	No	1.4E-03	No
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	0	No	0.0E+00	No
Ra-226	5.06E+01	B	2.01E+00	No	4.0E-02	No
Ra-228	4.39E+01	B	2.96E+00	No	6.7E-02	No
Tc-99	4.49E+03	B	0	No	0.0E+00	No
Th-228	5.30E+02	B	5.02E+00	No	9.5E-03	No
Th-230	9.98E+03	B	1.61E+01	No	1.6E-03	No
Th-232	1.51E+03	B	3.20E+00	No	2.1E-03	No
U-234	4.83E+03	B	0	No	0.0E+00	No
U-233	5.13E+03	B	2.23E+01	No	4.3E-03	No
U-235	2.77E+03	B	1.69E+00	No	6.1E-04	No
U-236	None	B	0	No	None	No
U-238	1.58E+03	B	2.23E+01	No	1.4E-02	No
Sum of Partial Fractions		NA	NA	No	1.4E-01	No
EU 5, Westside Soil						
Ac-227	None	B	0	No	None	No
Am-241	2.89E+03	B	0	No	0.0E+00	No
Cs-137	2.08E+03	B	9.83E-02	No	4.7E-05	No
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	0	No	0.0E+00	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	1.79E+00	No	1.3E-03	No
Pu-238	5.27E+03	B	NA	NA	NA	NA
Pu-239	6.11E+03	B	NA	NA	NA	NA
Ra-226	5.06E+01	B	1.79E+00	No	3.5E-02	No

Table 8-55. Site Specific Analysis of COIs in Soil, Step 2 (Exposure Units 1-7) (continued)

Constituent of Interest	ESV Value	ESV Reference	UCL95. Soil Conc.	Ave. Conc.> ESV?	Partial Fraction ESV	Is constituent Retained?
Ra-228	4.39E+01	B	4.45E+00	No	1.0E-01	No
Tc-99	4.49E+03	B	NA	NA	NA	NA
Th-228	5.30E+02	B	6.27E+00	No	1.2E-02	No
Th-230	9.98E+03	B	7.09E+00	No	7.1E-04	No
Th-232	1.51E+03	B	4.76E+00	No	3.2E-03	No
U-234	4.83E+03	B	NA	NA	NA	NA
U-233	5.13E+03	B	1.33E+01	No	2.6E-03	No
U-235	2.77E+03	B	1.18E+00	No	4.3E-04	No
U-236	None	B	NA	No	None	No
U-238	1.58E+03	B	1.33E+01	No	8.4E-03	No
Sum of Partial Fractions		NA	NA	NA	1.7E-01	NA
EU 7, Site wide Soil						
Ac-227	None	B	0	No	None	No
Am-241	2.89E+03	B	0	No	0.0E+00	No
Cs-137	2.08E+03	B	8.04E-02	No	3.9E-05	No
Eu-152	1.52E+03	B	0	No	0.0E+00	No
Eu-154	1.29E+03	B	0	No	0.0E+00	No
Np-237	3.86E+03	B	0	No	0.0E+00	No
Pa-231	1.17E+03	B	0	No	0.0E+00	No
Pb-210	1.39E+03	B	1.56E+00	No	1.1E-03	No
Pu-238	5.27E+03	B	0	No	0.0E+00	No
Pu-239	6.11E+03	B	1.11E-01	No	1.8E-05	No
Ra-226	5.06E+01	B	1.56E+00	No	3.1E-02	No
Ra-228	4.39E+01	B	1.21E+00	No	2.8E-02	No
Tc-99	4.49E+03	B	3.61E-01	No	8.0E-05	No
Th-228	5.30E+02	B	1.50E+00	No	2.8E-03	No
Th-230	9.98E+03	B	8.98E+00	No	9.0E-04	No
Th-232	1.51E+03	B	1.26E+00	No	8.3E-04	No
U-234	4.83E+03	B	0	No	0.0E+00	No
U-233	5.13E+03	B	3.59E+01	No	7.0E-03	No
U-235	2.77E+03	B	1.94E+00	No	7.0E-04	No
U-236	None	B	8.20E-02	No	None	No
U-238	1.58E+03	B	3.59E+01	No	2.3E-02	No
Sum of Partial Fractions		NA	NA	No	9.5E-02	No

ESV = Environmental screening value (Table 15)

PBT = Persistent, bioaccumulative, and toxic compound

COI = Constituent of interest

NA = Not applicable

ND = Not detected at the EU

A: Efroymson, R.A., G.W. Suter II, B.E.Sample, and D.S. Jones, 1997a. *Preliminary Remediation Goals for Ecological Endpoints*. ES/ER/TM-162/R2. Oak Ridge National Laboratory.

B: Calculated by RESRAD-BIOTA program

Table 8-56. Summary of Chemical SLERA Hazard Indices

Receptor	Terrestrial Exposure Units					
	EU 1	EU 2	EU 3	EU 4	EU 5	EU 1-5
Plants	5.E+01	5.E+01	4.E+01	2.E+01	2.E+01	3.E+01
Soil Invertebrates	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00	0.E+00
Rabbit	2.E-01	1.E-01	5.E-01	1.E-01	4.E-01	2.E-01
Vole	2.E-01	2.E-01	6.E-01	1.E-01	5.E-01	2.E-01
Shrew	2.E+01	1.E+01	3.E+01	6.E+00	2.E+01	1.E+01
Robin	3.E+02	2.E+02	3.E+02	7.E+01	3.E+02	2.E+02
Fox	1.E-01	8.E-02	3.E-01	6.E-02	2.E-01	1.E-01
Hawk	3.E-04	2.E-04	1.E-03	2.E-04	8.E-04	4.E-04
Total	3.E+02	3.E+02	4.E+02	1.E+02	3.E+02	2.E+02
Aquatic Exposure Unit EU6						
Aquatic Biota	7.E-01					
Benthic Invertebrates	0.E+00					
Mallard Duck	8.E-01					
Muskrat	3.E-01					
Mink	6.E-01					
Heron	2.E+00					
Total	4.E+00					

Table 8-57. Summary of Incremental Lifetime Cancer Risks and Annual Dose Rates Within Each EU

Receptor	Type	Year	EU1		EU2		EU3		EU4		EU5		EU6		EU7		EU8	
			ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE
Current Use																		
Trespasser Adolescent	RME	0 1,000																
Trespasser Adult	RME	0 1,000																
Maintenance Worker	RME	0 1,000	x x	 o	x 		x x				x x							
Potential Future Use																		
Industrial Worker	RME	0 1,000	 x				x x				x x							
Construction Worker	RME	0 1,000																o
Resident	RME	0 185 1,000	x x x	 o	x x x		x x x		x x		x x x							
Subsistence Farmer	RME	0 185 1,000	x x x	 o o	x x x	o o o	x x x	 o o	x x x		x x x	 o o			x x[1] x[1]	o o[1] o[1]		
	CTE	0 185 1,000	x x x	 o o	x x x	 o 	x x x	 o 	 x 		x x x	 o 			x x[1] x[1]	o o[1] o[1]		

RME: Reasonable Maximum Exposure
CTE: Central Tendency Exposure
x Indicates Incremental Lifetime Cancer Risk (ILCR) $>1x10^{-4}$
o Indicates annual dose rate >25 mRem/Year
[1] Based on groundwater monitoring results

Table 8-58. Summary of Incremental Lifetime Cancer Risks and Annual Dose Rate Within Each Building EU

Receptor	Type	EU-B1: Bldg G-1 Exterior		EU-B2: Bldg G-1 Interior		EU-B3: Bldg G-1 Interior		EU-B4: Bldg G-1 Interior		EU-B5: BH Exterior		EU-B6: BH Interior		EU-B7: Foundry Exterior		EU-B8: WH Exterior		EU-B9: WH Interior		EU-B10: Garage Exterior		EU-B11: SH Exterior		EU-B12: SH Interior	
		ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE	ILCR	DOSE
Industrial Worker	RME			x	o	x	o	x	o			x	o					x						x	o
	CTE			x	o	x	o	x	o																
Construction Worker	RME	x	o	x	o	x	o	x	o		o		o	x	o		o				o		o		o
	CTE		o		o		o		o		o				o										
Interior Maintenance Worker	RME			x	o	x	o	x	o																
	CTE			x	o		o	x	o																
Exterior Maintenance Worker	RME	x	o												o										
	CTE																								

BH: Boiler House
WH: Warehouse
SH: Scale House RME: Reasonable Maximum Exposure
CTE: Central Tendency Exposure
x Indicates Incremental Lifetime Cancer Risk (ILCR) $>1x10^{-4}$
o Indicates annual dose rate >25 mRem/Year