Attachment O

Final Status Survey Report #15 Documentation

(UNDER SEPARATE COVER)

FINAL

COLUMBUS CLOSURE PROJECT CHARACTERIZATION AND FINAL STATUS SURVEY REPORT FOR MANHOLE 7 TO MANHOLE 8 SEWER LINE

Revision 2
June 16, 2006

Prepared by

ECC & E2 Closure Services
1425 State Route 142 East
West Jefferson, OH 43162

Contract Number: DE-AC24-04OH20171

Final Characterization and Final Status Report for Manhole 7 to Manhole 8 Sewer Line

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1.0 Introduction

This report contains the final status surveys (FSS) of the manhole (MH)-7 to MH-8 sanitary sewer line located at the Columbus Closure Project (CCP). 1425 State Route 142 East. West Jefferson, OH 43162. Final status surveys were conducted according to the guidance presented in the *Manual for Conducting Surveys in Support of License Termination*. NUREG/CR-5849 (NUREG/CR-5849) (ORAU, 1992) and the *Radiological Characterization and Final Status Plan for Battelle Columbus Laboratories Decommissioning Project, West Jefferson Site*. DD-97-02 (Final Status Plan) (Battelle. 2000). The final status surveys were conducted in September of 2004 and performed under Work Instruction 2806 (Closure Services, 2004).

The intent of this final status survey report is to provide a complete and unambiguous record of the radiological status of the MH-7 to MH-8 sanitary sewer line excavation. Sufficient information and data is provided to enable an independent re-creation and evaluation at some future date of both the survey activities and the reported results for the excavation. Information in this report is also available in referenced technical basis documents, final status survey plans and procedures. and the *Battelle Memorial Institute Columbus Operations, Decommissioning Plan*. DD-93-19 (BMI Decommissioning Plan). and reporting and quality assurance procedures.

To the extent practicable. this final status survey report is presented with minimal information incorporated by reference. This final status survey report has been generated following the comprehensive. annotated outline presented in Chapter 9 of NUREG-5849 (ORAU. 1992).

1.1 Background

On April 16, 1943, BMI. acting through what is now its Battelle Columbus Operations (BCO), entered into Contract No. W-7405-ENG-92 with the Manhattan Engineering District to perform atomic energy research and development (R&D) activities. BCO performed nuclear materials research and development at privately-owned facilities for the Manhattan Engineering District and its successor agencies – the Atomic Energy Commission (AEC), the Energy Research and Development Agency (ERDA), and the Department of Energy (DOE). Research and development continued until 1988 (Battelle, 2003).

The BCO facilities at the King Avenue Site, Columbus. Ohio, and the West Jefferson North (WJN) and South (WJS) Sites. West Jefferson. Ohio. became partially radiologically contaminated as a result of the R&D activities. Decontamination of the King Avenue Sites has been completed and activities continue at the WJN site. The DOE. as the successor to the AEC and the Government's earlier work. is the agreed party with predominant liability and responsibility for decontamination and decommissioning (D&D) of the BCO facilities (Battelle. 2003). The Assistant Secretary for Nuclear Energy of the DOE accepted the decontamination and decommissioning (D&D) of the

WJN into the DOE's Surplus Facilities Management Program as a major project (DOE, 1986). The DOE is the agency funding and managing the cleanup of the WJN (Battelle, 2003). However, the site is not a DOE-owned facility.

BMI holds U.S. Nuclear Regulatory Commission (NRC) license number SNM-7. BMI has continually operated and conducted D&D activities in full compliance with this NRC license. The BMI Decommissioning Plan for the WJN site does not serve as a declaration to terminate SNM-7, but establish the criteria for performing D&D activities. The end goal of the BMI Decommissioning Plan is to reach unrestricted use conditions for the site (Battelle, 2003).

The DOE has contracted ECC&E2 Closure Services, LLC (Closure Services) to safely remove DOE radioactive materials and contamination from WJN site. Removal of radioactive material will be to levels allowing future use of the site without radiological restrictions as described in the BMI Decommissioning Plan. Closure Services has conducted characterization and final status surveys of the MH-7 to MH-8 sanitary sewer line excavation to demonstrate that the area is available for unrestricted release.

2.0 Site Description

Created in 1984, the Battelle Columbus Decommissioning Project (BCLDP) is a remediation project that includes nine buildings at the King Avenue site and five at the WJN site. The CCP is the successor of the BCLDP. The WJN site has one permanent structure (Well House). Three former research facilities, JN-1, JN-2 and JN-3 have been demolished as well as JN-6, the guard house. Several outfalls, filter beds, and wells are also located at the site. The MH-7 to MH-8 sanitary sewer line connected the WJN site to the sanitary filter beds. Figure one presents the CCP.

2.1 Area Description

The MH-7 to MH-8 sanitary sewer pipe runs north to south connecting the WJN sanitary system to the Active North Filter Bed. The MH-7 to MH-8 sanitary sewer line is constructed of eight inch diameter vitrified clay pipe. In-situ surveys performed by Science & Engineering Associates, Incorporated in August of 2000 indicated internal contamination of the pipe. Internal contamination exceeded the surface contamination limits for unrestricted release presented in DD-93-02, *Surface Release Criteria Technical Basis Document for Battelle Columbus Laboratories Decommissioning Project*. For this reason, the pipe was removed and disposed of as low level waste. The location of the MH-7 to MH-8 sanitary sewer line is presented as Figure 2.

Two classifications of areas are used in NUREG-5849 and are termed **affected** or **unaffected.** These classifications are defined as (NRC, 1992):

> **Affected Areas:** Areas that have potential radioactive contamination (based on plant operating history) or known radioactive contamination (based on past or preliminary radiological surveillance). This would normally include areas where radioactive materials were used and stored, where records indicate spills or other unusual occurrences that could have resulted in spread of contamination, and where radioactive materials were buried. Areas immediately surrounding or adjacent to locations where radioactive materials were used, stored, or buried are included in this classification because of the potential for inadvertent spread of contamination.
>
> **Unaffected Areas:** All areas not classified as affected. These areas are not expected to contain residual radioactivity, based on knowledge of site history and previous information.

The excavation of the MH-7 to MH-8 sanitary sewer line was conducted in both affected and unaffected areas. The base, or floor, of the excavation was considered affected, and the sidewalls were considered unaffected.

3.0 Decommissioning Activities

3.1 Decommissioning Objective

The objective of the final status survey preformed on the MH-7 to MH-8 sanitary sewer line was to statistically demonstrate that the remediation of the area was successful and that the excavation is free from residual radioactive contamination that would not make it suitable for unrestricted release. The excavation is determined to be free of residual radioactive contamination when remaining soil contamination levels are below those presented in DD-93-03. Rev. 0. "Volumetric Release Criteria Technical Basis Document for Battelle Columbus Laboratory Decommissioning Project" (Battelle. 1993A). **Table 1** presents the volumetric release criteria as presented in DD-93-03. Rev. 0.

4.0 Final Status Survey Procedures

Planning and implementation of the final status survey of the excavation non-affected and affected areas of the specified section of the MH-7 to MH-8 sewer line adhered to the requirements the Final Status Plan (Battelle, 2000) and Work Instruction 2806 (CS, 2004).

4.1 Sampling Parameters

Final status soil samples were taken in the affected base of trench at a frequency of one sample per linear meter. Final status samples of the unaffected sidewalls were taken by dividing the sidewalls into equal sections and sampling each section per Work Instruction 2806 (CS, 2004). Analyses of samples by gamma and alpha spectroscopy were performed by the RAL.

4.2 Major Contaminants Identified

The characterization of the MH-7 to MH-8 sewer line excavation identified Cesium-137 (Cs-137) as the primary radiological contaminant of concern (RCOC). Other RCOCs included Cobalt-60 (Co-60), Europium-152 (Eu-152) and 154, Americum-241 (Am-241), Strontium-90 (Sr-90), Plutonium-238 (Pu-238), and Pu-239. Cs-137 is used as a surrogate for the other RCOC present in the soils as it typically accounts for 64 percent of the total isotopic activity. Further, the release criteria set for Cs-137 is considered conservative for the decommissioning activities. The surrogate relationship of Cs-137 to other RCOCs was calculated using data presented in **Table 2. Table 2** presents the isotopic quantity and activity concentrations of samples collected from the filter bed area by BMI from March through September 2000. These data are not associated with the this excavation. Average activities for the multiple samples were calculated for each RCOC prior to setting the ratios against Cs-137.[1] For each RCOC, the average activity concentration was set as a ratio against the average Cs-137 activity concentration as obtained from previous actions at the filter beds. Cs-137 activity ratios for each RCOC utilized to calculate the RCOCs for the MH-7 to MH-8 sewer line excavation are presented at the lower portion of **Table 2**.

4.2.1 Guidelines Established

Table 1 presents the guidelines for residual radioactivity concentrations for soil and solid volumes as applied to the AMFB excavation. Criteria for residual radioactivity concentrations in soil are defined in "Volumetric Release Criteria Technical Basis Document for Battelle Columbus Laboratories Decommissioning Project," DD-93-03. (Battelle, 1993). **Table 1** values have been generated primarily from various regulatory

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[1] Battelle, *Radiological Status of Abandoned Filter Bed Presentation*, http://www.ohio.doe.gov/ccp_seb/. Posted 7/15/2003. Presentation provided by DOE to the CCP website. Page titled "Radioactive Inventory of the Abandoned North Filter Beds & Limit Fractions" contains sampling data obtained from March through September 2000 from the filter beds. Average Cs-137 ratios were utilized to calculate the activity concentrations of the isotopes of concern.

requirements, technical documents, and from soil guidelines generated by computer pathway analyses. Requirements such as those found in DOE Order 5400.5 have been incorporated into the volumetric release criteria. DOE Order 5400.5, Section IV.a.2, provides generic guidelines for residual concentrations of Ra-226, Ra-228, Th-230, and Th-232 that have been incorporated into the volumetric release criteria. Additionally, NRC Guidance has been received by the CCP establishing the soil radioactivity concentration guidelines for Co-60, Sr-90, Cs-137, Ra-226, and Ra-228, and for natural, enriched and depleted uranium.

Compliance to the cleanup criteria presented in **Table 1** is demonstrated through a "fraction of limit." The total quantity and activity concentration of each RCOC is calculated using the average isotopic ratio listed in **Table 2**, with the exception of the Cs-137 to Pu-241 ratio of 2.8 (obtained from ORIGEN 2.1 derived values, Battelle, 2003b). Calculated results for Co-60, Cs-137, Sr-90, Eu-152 and 154, Pu-239, 240 and 241, and Am-241 are then compared to the respective release criteria and a "fraction of the limit" is calculated. The "fraction of the limit" is determined by summing the ratios of each isotopic concentration to the respective release limit. Summed ratios must be less than one to meet sample release criteria. A modified screening criteria of 11 pCi/g for Cs-137 has been calculated using the "fraction of the limit" obtained from the filter bed surrogate ratio.

Exposure rates were compared to the 5 microRoentgen per hour (μR/hr) above mean background limit listed in DD-97-02, Rev. 0 (Battelle, 2000). Survey measurements are those 1-meter above the ground surface. The calculated mean background exposure rate and the 95 percent confidence intervals used for the CCP open area grounds is 8 ± 2 μR/hr. Compliance to the limit is met when the exposure rate survey is less then or equal to the limits of NUREG-5849. Initial compliance screening is met if individual exposure rates are less than or equal to 13 μR/hr. Further assessment of compliance allows for exposure rates to be averaged of a 100 m^2 gird area to meet the limit of less than or equal to 5 μR/hr above background at 1-meter above the ground surface. Additionally, exposure rates over any discreet area may not exceed 5 μR/hr above background.

Data collected from trench-like culverts located on Battelle property unassociated with site operations indicate a geometry effect, increasing the background exposure rates inside the trenches by 3 to 5 μR/hr. Trench exposure rate measurements must be less than or equal to 18 μR/hr. The same compliance assessment is applied to these measurements as stated above.

5.0 Equipment and Procedures

5.1 Equipment

Survey instruments sensitive to gamma radiation are used to monitor excavation surfaces for residual radioactive materials. Ludlum Model 44-10 two-inch by two-inch sodium iodide detectors with Eberline ESP-2 meters were used to scan the excavation. Ludlum Model 19 exposure rate meters were used to obtain microRoentgen per hour measurements.

Other instrumentation used in the Onsite Radioanalytical Laboratory (RAL) to support of the final status survey includes:

- A VMS based Canberra Procount data acquisition system in conjunction with high purity germanium detectors for gamma spectroscopy of soil samples.
- A Tennelec Model LB5100 Simultaneous Alpha and Beta Gas Proportional Counter to count smear samples

5.2 Scanning Minimum Detectable Activities

Scanning minimum detectable concentrations (MDC_{scan}) is determined to demonstrate that the MDC_{scan} is less than the modified Cs-137 cleanup criteria. The MDC_{scan} is calculated utilizing the methodology described in NUREG-1507 and the background count rate and a default detector response to Cs-137 (NRC, 1998). The equation used for the walkover surveys of the CCP incorporates a d' of 1.38 and a surveyor efficiency of 0.5. The ambient background in the area was 16,400 counts per minute (cpm). The following is the calculation of the MDC_{scan}:

b_t = (16,400 cpm) x (1 sec) x (1 min/60 sec) = 273 counts

MDCR = (1.38) x ($\sqrt{273}\,counts$) x (60 sec/1min) = 1368 cpm

$MDCR_{surveyor}$ = 1368 cpm/ $\sqrt{0.5}$ = 1934 cpm

MDER = 1934 cpm/(900 cpm/μR/hr) = 2.15 μR/hr

$$MDC_{scan} = (5\,pCi/g) * \frac{2.15\,\mu R/hr}{1.307\,\mu R/hr} = 8.22\,pCi/g$$

5.3 Procedures

The Characterization Team was formally trained and qualified to applicable procedures prior to the initiation of the characterization and final status surveys. Documentation of training is maintained by CCP Project Records.

The following plans and procedures were utilized for the surveys:

DD-93-19, Rev. 5	Decommissioning Plan, Battelle Memorial Institute Columbus Operations
DD-97-02, Rev. 0	Radiological Characterization and Final Status Plan for BCLDP West Jefferson Site
SC-SP-004.2, Rev. 3	Manual and Mechanical Collection of Surface and Subsurface Soil Samples in Support of Site Characterization
WI-2806	Excavation and Trench Sampling and Surveys

6.0 Survey Findings

6.1 Exposure Rate Surveys

The calculated mean background exposure rate and the 95 percent confidence intervals used for the CCP grounds are 8 ± 2 μR/hr. The exposure rate readings for each appropriate area are presented in **Table 3**. The exposure rate readings were individually compared to the mean background value of 8 ± 2 μR/hr in order to show compliance with the 5 μR /hr above background release criterion (grounds exposure rate surveys must be less than or equal to 13 μR/hr to be compliant, trenches, 16 to 18 μR/hr). The average one meter measurement was 16.3 μR/hr, the minimum measurement was 16 μR/hr and the maximum measurement was 17 μR/hr. The exposure rates exceeded the exposure rate criterion, but were attributed to the remaining waste in the filter bed areas.

Subsequent "end-state" exposure rate surveys were performed following waste removal. The results of these surveys are compliant with the exposure rate release criteria and are documented in the *Characterization and Final Status Report for the Remaining Affected Areas within the Filter Beds Including the WIDE System.*

6.2 Excavation Sampling

Samples of the excavation base were taken at a rate of one per linear meter per Section 6.3.3 of DD-97-02, Rev. 0. Twenty samples were taken from the sidewalls of the excavation in accordance with Section 6.4.3 of DD-97-02, Rev. 0. A summary table of the Cs-137 results in relation to the sample location is presented as **Table 4**. Sample results for the base and sidewall sampling are presented as **Tables 5 and 6**, respectively. **Tables 5 and 6** present all radionuclides activities and minimum detectable activities, although the only man-made radionuclide detected was Cs-137. The following is a summary Table of the Cs-137 results.

Compliance to the cleanup criteria presented in **Table 1** is demonstrated through a "fraction of limit." Section 4.2.1 of this report discusses the application of the "fraction of limit."

The "fraction of limit" for the MH-7 to MH-8 samples was not calculated due to the low concentrations of Cs-137 in respect to the modified cleanup criteria. The following is a summary Table of the Cs-137 results.

Location	Number of Samples	Average (pCi/g)	Standard Deviation (pCi/g)	Range (pCi/g)	Comparison Value (pCi/g)	Modified Cleanup Criteria (pCi/g)
Excavation Base	45	0.02	0.01	0.01 – 0.07	N/A	11
Excavation	20	0.08	0.04	0.04 –	0.09	11

Sidewalls				0.16		

Statistical analyses were performed on the sidewall sample data in accordance with Section 6.4.3 of DD-97-02, Rev. 0. The statistical analysis utilizes the guidance in Section 8.5 of NUREG/CR-5849 which utilizes the comparison of the μ_a value (EPA 1989) to relate to a given limit value (CG) at a desired confidence level (i.e., 95 percent) for demonstrating release. The calculation of the Cs-137 comparison value, 0.20 pCi/g, was less than the modified cleanup criteria of 11 pCi/g. The comparison value is presented as **Table 7**.

6.3 Scanning Measurements

Scanning of the MH-7 to MH-8 sanitary line excavation was performed with a two inch by two inch sodium iodide detector. Results of the survey indicate a uniform distribution of residual radioactivity and no exposure rates were above the DLV. Survey results are presented **Table 8**.

6.4 Overburden Sampling

Forty samples were taken from the excavation overburden in accordance with Section 6.4.3 of DD-97-02, Rev. 0 and Work Instruction 2806. The intent of the overburden sampling is to prove statistically that the overburden may be used as backfill at the CCP. The overburden soil from ground surface to three feet above the contaminated pipe is designated as overburden "A". The next two feet of soil (from three feet to one foot above the pipe) is designated as overburden "B". A summary table of the Cs-137 results in relation to the sample location is presented as **Table 9**. Sample results for the overburden sampling are presented in **Tables 10 and 11**. The only man-made radionuclide detected was Cs-137. The following is a summary Table of the Cs-137 results.

Location	Number of Samples	Average (pCi/g)	Standard Deviation (pCi/g)	Range (pCi/g)	Comparison Value (pCi/g)	Modified Cleanup Criteria (pCi/g)
Overburden A	20	0.04	0.02	0.02 – 0.08	0.04	11
Overburden B	20	0.04	0.02	0.02 – 0.11	0.05	11

Statistical analyses were performed on the overburden sample data in accordance with Section 6.4.3 of DD-97-02, Rev. 0, in the same manner as Section 6.2 of this document. The calculation of the Cs-137 comparison values, 0.04 and 0.05 pCi/g, was less than the modified cleanup criteria of 11 pCi/g. The comparison values are presented as **Tables 12 and 13**.

7.0 Conclusions

The characterization and final status survey results demonstrate that the radiological endpoint criteria objectives of the NRC-approved Decommissioning Plan have been met for the excavation addressed by this effort (Battelle, 2003). Reported analytical results for media samples obtained from the excavation and overburden used as backfill are below the residual radioactivity concentrations for soil and solid volumes as presented in **Table 1**.

Remaining soil contamination levels are below those presented in DD-93-03, Rev. 0, "Volumetric Release Criteria Technical Basis Document for Battelle Columbus Laboratory Decommissioning Project" (Battelle, 1993A). The decommissioning objective has been satisfied. The final status survey performed on the Manhole 7 to Manhole 8 Sewer Line statistically demonstrates that the remediation of the area was successful and that the excavation is free from residual radioactive contamination making it suitable for unrestricted release.

8.0 References

American National Standards Institute (ANSI). 1997. ANSI-N323a, "Radiation Protection Instrumentation Test and Calibration."

Battelle, 2003a. "Decommissioning Plan for the Battelle Memorial Institute Columbus Operations," DD-93-19.

Battelle, 2003b. Radiological Status of Abandoned Filter Bed Presentation, http://www.ohio.doe.gov/ccp_seb/. Posted 7/15/2003. Presentation provided by DOE to the CCP website. Page titled "Radioactive Inventory of the Abandoned North Filter Beds & Limit Fractions" contains sampling data obtained from March through September 2000 from the filter beds. Average Cs-137 ratios were utilized to calculate the activity concentrations of the isotopes of concern.

Battelle, 2000c. "Radiological Characterization and Final Status Survey Plan for Battelle Columbus Laboratory Decommissioning Project West Jefferson Site," DD-97-02.

Battelle. 1993. "Volumetric Release Criteria Technical Basis Document for Battelle Columbus Laboratories Decommissioning Project," DD-93-03.

ECC&E2 Closure Services, LLC (Closure Services. 2004). Work Instruction 2806, Rev. 2, Excavation and Trench Sampling and Survey.

U.S. Department of Energy (DOE). 1990. Finding of No Significant Impact, Decontamination and Decommissioning of the Battelle Columbus Laboratories in Columbus and West Jefferson, Ohio.

U.S. Department of Energy (DOE), 1986. May 29, 1986 memorandum, Voight to Vaughan, approved by Vaughan, June 10. 1986.

U.S. Nuclear Regulatory Commission (NRC), 1998. "Minimum Detectable Concentrations With Typical Radiation Survey Instruments for Various Contaminants and Field Conditions" NUREG-1507.

Oak Ridge Associated Universities (ORAU), 1992. "Manual for Conducting Radiological Surveys in Support of License Termination, Draft Report for Comment" NUREG/CR-5849, ORAU-92/C57, prepared for the Nuclear Regulatory Commission by the Environmental Survey and Assessment Program, Energy/Environmental Systems Division, ORAU. 1992.

FIGURES

FIGURE 1
SITE MAP

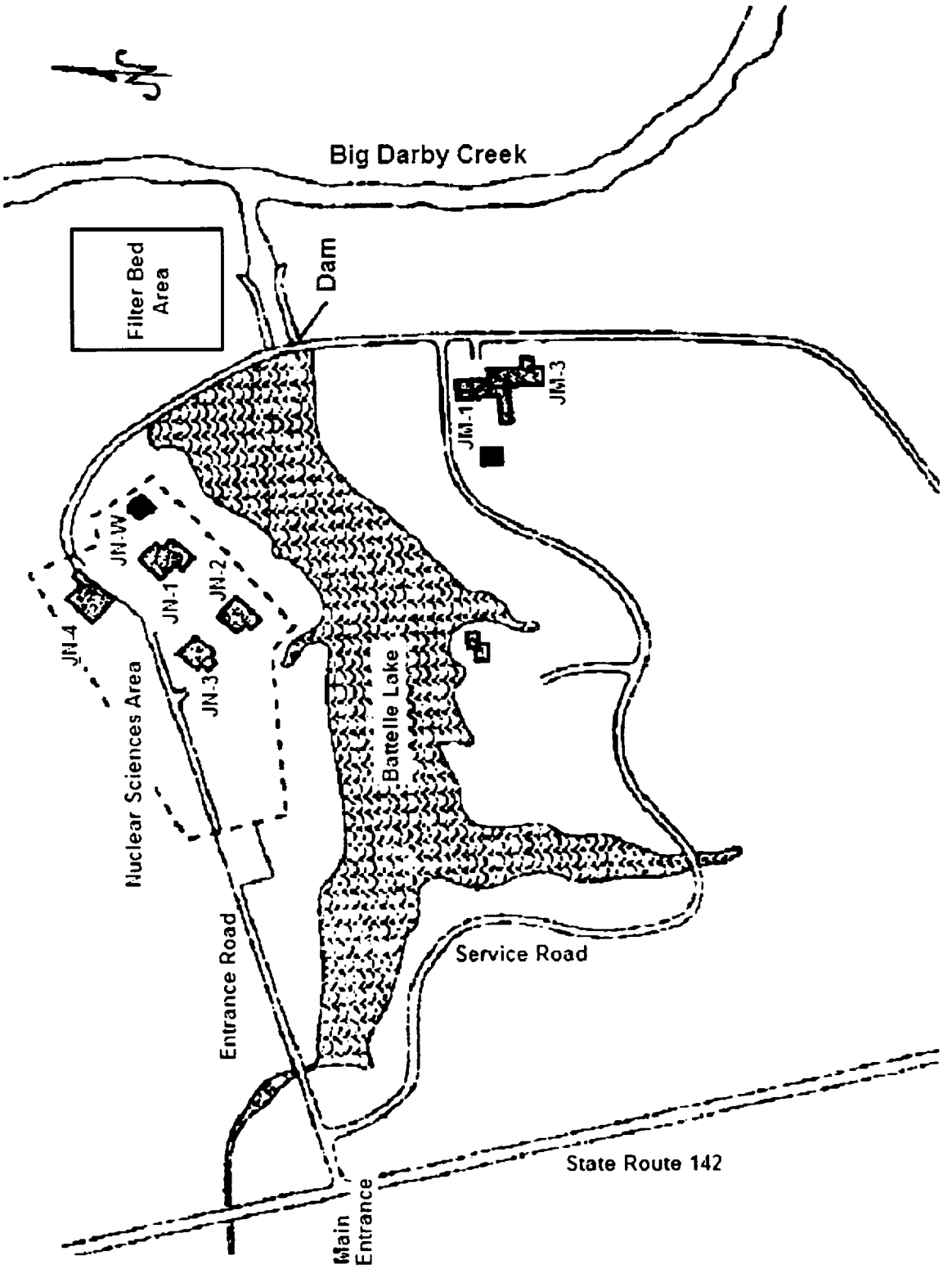

Figure 2

MH-7 to MH-8 SANITARY SEWER LINE

TABLES

TABLE 1
BCLDP GUIDELINES FOR RESIDUAL
RADIOACTIVITY CONCENTRATIONS FOR SOIL AND SOLID VOLUMES

Radionuclide[a]	King Avenue Concentration (pCi/g)[b]	West Jefferson Concentration (pCi/g)[b]
Natural Uranium	10[1]	na[c]
Enriched Uranium	30[1]	30[1]
Depleted Uranium	35[1]	35[1]
Ac-227	19	19
Am-241	na[c]	30
Am-243	na	30
Ce-144	na	2.100
Cm-243	na	0.79
Cm-244	na	1.0
Co-60	8[2]	8[2]
Cs-134	na	33
Cs-137	15[2]	15[2]
C-14	940	940
Eu-152	na	36
Eu-154	na	32
Eu-155	na	1.800
Fe-55	na	2.7E+07
H-3[d]	41,000	38,000
I-129	na	13
Mn-54	na	61
Ni-59	na	1.3E+07
Ni-63	na	4.9E+06
Np-237	na	0.58
Pa-231	18	18
Pb-210	140	na
Pu-238	na	25[4]
Pu-239	na	25[4]
Pu-240	na	25[4]
Pu-241	na	25[4]
Pu-242	na	25[4]

Radionuclide[a]	King Avenue Concentration (pCi/g)[b]	West Jefferson Concentration (pCi/g)[b]
Ra-226 (0-15 cm of soil)	5[2,3]	na
Ra-226 (>15 cm of soil)	15[2,3]	na
Ra-228	5[2,3]	na
Ru-106	na	180
Sb-125	na	118
Sm-151	na	6.700
Sr-90	5[2]	5[2]
Th-228	29	na
Th-230	5[3]	na
Th-232	5[3]	na

Table 1 Notes and References

Notes:

a. Activity concentrations above natural background concentrations. Where more than one radionuclide is present, the sum of the ratios of the individual radionuclide concentrations to their respective concentration limits shall not exceed 1.

b. Concentrations for which no specific reference is cited have been derived from RESRAD calculations and are the more restrictive values calculated for soil deposition at a depth of 5 meters.

c. Indicates that this radionuclide is not expected to be found at the indicated site.

d. Difference in tritium activity concentrations are due to the difference in depths of the water tables at two sites. The water table depth at King Avenue is deeper than that at West Jefferson.

References:

1. Options 1 and 2 of the Branch Technical Position, "Disposal or Onsite Storage of Thorium or Uranium Wastes from Past Operations" (46 FR 52061, October 23, 1981).

2. NRC Memorandum, "Acceptable Cleanup Criteria and Practices for Decontamination and Decommissioning (License No. SNM-7)" dated April 17, 1992, to Harley L. Toy, License Coordinator and Manager, Nuclear Sciences, Battelle Memorial Institute from J.W.N. Hickey, Chief, Fuel Cycle Safety Branch, Division of Industrial and Medical Nuclear Safety, Office of Nuclear Material Safety and Safeguards.

3. DOE Order 5400.5, "Radiation Protection of the Public and the Environment".

4. NRC Policy and Guidance Directive FC83-23, "Termination of Byproduct, Source, and Special Nuclear Material Licenses".

Table 2
Cesium-137 Surrogate Analysis Data & Modified Cs-137 Screening Criteria

Sample ID (a,b)	Cs-137 Activity (pCi/g)	Co-60 Activity (pCi/g)	Eu-152 Activity (pCi/g)	Eu-154 Activity (pCi/g)	Am-241 Activity (b) (pCi/g)	Sr-90 Activity (pCi/g)
16741	40.1	0.05	<0.096	<0.053	1.36 g	<0.172
16746	21.6	0.04	<0.079	<0.051	1.29 a	<0.184
16747	26.1	0.06	<0.077	<0.046	0.89 g	<0.175
16751	8	<0.024	<0.068	<0.047	0.93g	<0.151
16752	39.1	0.06	<0.086	<0.046	10.74 a	<0.167
16607	74.2	0.28	7.26	0.65	1.18 a	0.59
16608	18.7	0.07	4.03	0.26	0.47 a	<0.180
16668	41.6	0.08	<0.098	<0.061	2.59 a	NA
16686	38.1	0.07	<0.050	<0.031	4.71 a	NA
19079	11.7	0.17	8.02	0.64	0.018	4.39
19080	32.4	<0.016	0.562	<0.053	<0.016	0.21
Average	*31.99*	*0.084*	*1.857*	*0.176*	*2.2*	*0.691*

Calculated Cs-137 Surrogate Ratio (c)	
Cs-137/Co-60	381
Cs-137/Eu-152	17
Cs-137/Eu-154	182
Cs-137Am-241	15
Cs-137/Sr-90	46
Cs-137/Pu-238	800
Cs-137/Pu-239	25
Cs-137/Pu-241 (d)	2.8

Modified Cs-137 Screening Criteria		
Cleanup Criteria (pCi/g)		*Surrogate Activity (pCi/g)*
Cs-137	15	11
Co-60	8	0.028884026
Eu-152	36	0.638543295
Eu-154	32	0.060518912
Am-241	30	0.756486402
Sr-90	5	0.237605502
Pu-238	25	0.013754298
Pu-239	25	0.438762113
Pu-241	25	3.928571429
		Unity Rule (e)

Notes:

(a) Battelle reported analytical results of samples obtained from the filter bed area between March and September 2000.

(b) Reported data obtained from gamma spectroscopy analysis

(c) Surrogate ratio calculated by dividing average Cs-137 activity by average activity of isotope of concern

(d) Pu-241 is calculated by applying a ratio to sum of Pu-238 and Pu-239 (obtained from ORIGEN 2.1 derived values, Battelle, 2003c), resulting in a Cs-137 to Pu-241 ratio of 2.8

(e) Unity Rule applied to surrogate calculated activity resulting in modified Cs-137 screening level of 11 pCi/g

Table 3
MH-7 to MH-8 Trench Exposure Rate Survey

	Trench	
100'	1	
	2	
	3	
	4	
	5	
	6	
	7	1.70E+01
	8	
	9	
	10	
	11	
	12	
	13	
	14	1.60E+01
	15	
	16	
	17	
	18	
	19	
	20	
	21	1.70E+01
	22	
	23	
	24	
	25	
	26	
	27	
	28	1.60E+01
	29	
	30	
47'	31	
	32	
	33	
	34	
	35	1.60E+01
	36	
	37	
	38	
	39	
	40	
	41	
	42	1.60E+01
	43	
	44	
	45	

Results are in µR/hr

Table 4
MH-7 to MH-8 Excavation Base and Sidewall Soil Result Summary

Side		Trench		Side	
1	4.62E-02	1	2.38E-02(ND)	1	1.56E-01
		2	2.20E-02(ND)		
		3	1.29E-02(ND)		
		4	1.21E-02(ND)		
		5	1.34E-02(ND)		
		6	1.40E-02(ND)		
2	8.59E-02	7	1.38E-02(ND)	2	1.19E-01
		8	1.50E-02(ND)		
		9	1.28E-02(ND)		
		10	1.35E-02(ND)		
		11	1.49E-02(ND)		
		12	1.51E-02(ND)		
3	5.98E-02	13	1.51E-02(ND)	3	1.06E-01
		14	2.26E-02		
		15	1.57E-02		
		16	2.33E-02(ND)		
		17	1.41E-02(ND)		
		18	1.39E-02(ND)		
4	1.13E-01	19	2.07E-02(ND)	4	8.05E-02
		20	2.08E-02(ND)		
		21	2.12E-02(ND)		
		22	2.29E-02(ND)		
		23	2.26E-02		
		24	2.20E-02(ND)		
5	5.07E-02	25	2.48E-02(ND)	5	5.43E-02
		26	2.27E-02(ND)		
		27	2.22E-02(ND)		
		28	2.02E-02(ND)		
		29	2.28E-02(ND)		
		30	2.14E-02(ND)		
6	4.01E-02(ND)	31	2.04E-02(ND)	6	7.51E-02
		32	2.14E-02(ND)		
		33	2.06E-02(ND)		
7	3.89E-02(ND)	34	2.46E-02(ND)	7	5.11E-02(ND)
		35	2.30E-02(ND)		
		36	2.69E-02(ND)		
8	7.02E-02	37	5.76E-02	8	4.73E-02
		38	7.07E-02		
		39	3.42E-02(ND)		
9	4.36E-02(ND)	40	2.87E-02	9	1.55E-01
		41	4.74E-02(ND)		
		42	7.48E-02		
10	4.37E-02(ND)	43	2.99E-02	10	8.73E-02
		44	2.86E-02(ND)		
		45	4.55E-02(ND)		

ND = Non Detect

Cs-137 Results in pCi/g

Table 5

MH-7 to MH-8 Trench Base Soil
Analytical Results

Analytical Parameter	RL04-1181-001			RL04-1182-002			RL04-1163-003		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-3.85E-02	1.10E-01	1.87E-01	-3.09E-02	8.59E-02	1.47E-01	-1.18E-02	6.11E-02	1.04E-01
K-40	1.35E+01	1.54E+00	2.15E-01	1.12E+01	1.28E+00	1.50E-01	1.09E+01	1.16E+00	1.12E-01
Co-58	1.86E-03	1.24E-02	2.27E-02	-2.38E-03	1.10E-02	1.94E-02	-5.44E-03	7.12E-03	1.19E-02
Co-60	-2.22E-03	1.56E-02	2.73E-02	-2.48E-03	1.19E-02	2.07E-02	3.74E-03	8.20E-03	1.47E-02
Zn-65	-2.68E-03	3.67E-02	5.53E-02	2.50E-02	3.42E-02	5.52E-02	-1.73E-02	2.29E-02	3.11E-02
Sb-125	5.16E-03	3.71E-02	6.55E-02	7.57E-03	3.40E-02	5.99E-02	9.72E-04	2.17E-02	3.74E-02
I-131	-9.68E-04	1.44E-02	2.52E-02	1.76E-03	1.28E-02	2.26E-02	-5.78E-03	8.01E-03	1.34E-02
Cs-134	5.47E-03	1.41E-02	2.20E-02	1.28E-02	1.10E-02	1.86E-02	4.57E-03	8.07E-03	1.23E-02
Cs-137	-1.46E-02	1.51E-02	2.38E-02	2.89E-03	1.45E-02	2.20E-02	-1.01E-02	8.27E-03	1.29E-02
Eu-152	1.99E-02	5.63E-02	7.75E-02	-1.50E-02	4.78E-02	6.67E-02	-6.15E-02	3.31E-02	4.28E-02
Eu-154	1.89E-03	3.93E-02	6.66E-02	-1.39E-02	3.31E-02	5.51E-02	-1.19E-02	2.33E-02	3.85E-02
Tl-208	1.81E-01	3.30E-02	5.05E-02	1.60E-01	2.83E-02	2.02E-02	1.57E-01	2.26E-02	1.32E-02
Bi-212	5.72E-01	3.08E-01	3.39E-01	7.12E-01	2.63E-01	2.81E-01	4.72E-01	1.93E-01	1.83E-01
Pb-212	6.14E-01	7.94E-02	5.16E-02	4.44E-01	6.35E-02	8.67E-02	4.92E-01	4.59E-02	2.94E-02
Bi-214	6.07E-01	7.07E-02	4.67E-02	5.63E-01	6.45E-02	3.85E-02	6.58E-01	5.36E-02	2.52E-02
Pb-214	6.04E-01	6.91E-02	5.48E-02	6.42E-01	6.91E-02	4.77E-02	6.71E-01	5.35E-02	3.15E-02
Ac-228	5.91E-01	9.05E-02	7.73E-02	4.95E-01	7.34E-02	6.71E-02	5.20E-01	5.25E-02	5.10E-02
Th-234	-7.82E-01	2.27E+00	8.81E-01	5.08E-02	1.92E+00	7.94E-01	-5.93E-01	1.33E+00	5.14E-01
U-235	9.44E-02	1.36E-01	5.02E-02	7.11E-02	1.17E-01	4.48E-02	3.04E-02	8.19E-02	2.92E-02
Am-241	2.46E-01	4.03E-01	7.16E-01	-2.09E-01	3.50E-01	5.92E-01	5.34E-02	2.37E-01	4.09E-01

Analytical Parameter	RL04-1164-004			RL04-1165-005			RL04-1166-006		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-4.14E-02	6.07E-02	1.00E-01	-5.80E-02	6.22E-02	1.01E-01	-3.96E-02	6.72E-02	1.12E-01
K-40	9.61E+00	1.04E+00	1.10E-01	1.12E+01	1.20E+00	1.13E-01	1.23E+01	1.31E+00	1.28E-01
Co-58	-4.64E-03	6.99E-03	1.18E-02	-2.35E-03	7.26E-03	1.25E-02	-7.75E-03	7.75E-03	1.27E-02
Co-60	4.40E-03	8.25E-03	1.49E-02	4.97E-03	8.61E-03	1.55E-02	-4.57E-03	8.43E-03	1.40E-02
Zn-65	-2.28E-03	1.95E-02	2.87E-02	-1.40E-02	2.31E-02	3.20E-02	-5.74E-03	2.29E-02	3.31E-02
Sb-125	8.57E-03	2.11E-02	3.70E-02	-3.86E-03	2.11E-02	3.60E-02	1.84E-03	2.29E-02	3.93E-02
I-131	6.97E-03	7.79E-03	1.39E-02	-3.32E-03	7.97E-03	1.35E-02	2.94E-04	8.33E-03	1.44E-02
Cs-134	-4.99E-03	8.78E-03	1.23E-02	4.76E-04	7.32E-03	1.08E-02	1.74E-03	8.31E-03	1.24E-02
Cs-137	-1.56E-02	8.27E-03	1.21E-02	-3.62E-03	8.15E-03	1.34E-02	-8.00E-03	8.77E-03	1.40E-02
Eu-152	-6.36E-03	3.21E-02	4.12E-02	-1.64E-02	3.37E-02	4.24E-02	-1.60E-02	3.48E-02	4.34E-02
Eu-154	-2.05E-04	2.26E-02	3.79E-02	-1.38E-02	2.33E-02	3.85E-02	1.65E-03	2.45E-02	4.11E-02
Tl-208	1.38E-01	2.08E-02	1.30E-02	1.44E-01	2.15E-02	1.36E-02	1.79E-01	2.41E-02	1.44E-02
Bi-212	5.75E-01	1.87E-01	1.67E-01	4.42E-01	1.87E-01	1.84E-01	5.62E-01	1.95E-01	1.83E-01
Pb-212	3.98E-01	3.97E-02	2.91E-02	4.78E-01	4.48E-02	2.94E-02	5.37E-01	4.97E-02	3.11E-02
Bi-214	6.27E-01	4.87E-02	2.53E-02	6.01E-01	5.01E-02	2.48E-02	6.02E-01	5.12E-02	2.61E-02
Pb-214	6.14E-01	5.16E-02	3.12E-02	6.49E-01	5.42E-02	3.16E-02	6.82E-01	5.45E-02	3.12E-02
Ac-228	4.28E-01	4.81E-02	4.92E-02	5.19E-01	5.13E-02	5.10E-02	5.72E-01	5.74E-02	5.43E-02
Th-234	8.51E-01	1.32E+00	4.97E-01	1.97E-01	1.32E+00	5.20E-01	-4.32E-01	1.41E+00	5.39E-01
U-235	-2.59E-02	8.17E-02	2.80E-02	7.68E-03	8.10E-02	2.87E-02	5.84E-02	8.55E-02	2.99E-02
Am-241	-9.22E-03	2.32E-01	3.98E-01	7.10E-02	2.41E-01	4.16E-01	-1.26E-01	2.51E-01	4.24E-01

Table 5

MH-7 to MH-8 Trench Base Soil
Analytical Results

Analytical Parameter	RL04-1167-007			RL04-1168-008			RL04-1169-009		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	2.08E-02	6.58E-02	1.14E-01	-4.28E-02	6.93E-02	1.15E-01	-9.99E-04	6.15E-02	1.05E-01
K-40	1.24E+01	1.32E+00	1.05E-01	1.22E+01	1.30E+00	1.20E-01	1.13E+01	1.20E+00	1.09E-01
Co-58	-7.14E-03	7.41E-03	1.22E-02	-5.92E-03	7.66E-03	1.28E-02	-7.00E-03	7.09E-03	1.16E-02
Co-60	7.02E-03	8.94E-03	1.62E-02	-3.61E-03	8.34E-03	1.40E-02	2.37E-03	8.62E-03	1.52E-02
Zn-65	-1.12E-02	2.26E-02	3.18E-02	-1.08E-02	2.39E-02	3.38E-02	-5.97E-03	2.15E-02	3.10E-02
Sb-125	7.83E-03	2.29E-02	3.98E-02	6.04E-03	2.33E-02	4.04E-02	4.11E-03	2.21E-02	3.82E-02
I-131	-3.31E-03	8.43E-03	1.43E-02	-4.36E-03	8.77E-03	1.48E-02	-1.96E-03	8.15E-03	1.39E-02
Cs-134	-5.33E-04	8.12E-03	1.18E-02	4.28E-03	8.70E-03	1.32E-02	6.01E-03	7.54E-03	1.17E-02
Cs-137	-1.02E-02	8.80E-03	1.38E-02	3.45E-03	9.29E-03	1.60E-02	-1.03E-02	8.22E-03	1.28E-02
Eu-152	1.24E-02	3.46E-02	4.52E-02	-2.92E-03	3.45E-02	4.42E-02	1.88E-02	3.27E-02	4.36E-02
Eu-154	-7.54E-03	2.43E-02	4.05E-02	-3.34E-03	2.42E-02	4.05E-02	2.41E-02	2.31E-02	3.93E-02
Tl-208	1.95E-01	2.48E-02	1.38E-02	1.60E-01	2.43E-02	1.43E-02	1.59E-01	2.26E-02	1.35E-02
Bi-212	5.70E-01	1.73E-01	1.86E-01	5.56E-01	2.24E-01	1.82E-01	5.36E-01	2.52E-01	1.77E-01
Pb-212	5.41E-01	5.03E-02	3.17E-02	5.60E-01	5.17E-02	3.12E-02	4.68E-01	4.49E-02	3.02E-02
Bi-214	6.11E-01	4.99E-02	2.65E-02	6.13E-01	5.25E-02	2.80E-02	5.94E-01	5.00E-02	2.53E-02
Pb-214	6.47E-01	5.52E-02	3.18E-02	6.90E-01	5.91E-02	3.39E-02	6.33E-01	5.38E-02	3.00E-02
Ac-228	5.97E-01	5.83E-02	5.06E-02	5.85E-01	5.86E-02	5.57E-02	4.78E-01	5.19E-02	4.92E-02
Th-234	8.33E-01	1.40E+00	5.49E-01	6.54E-01	1.44E+00	5.47E-01	4.11E-01	1.30E+00	5.29E-01
U-235	3.94E-02	8.44E-02	2.93E-02	5.53E-03	8.66E-02	3.00E-02	5.93E-02	8.21E-02	2.88E-02
Am-241	6.60E-03	2.46E-01	4.22E-01	-9.30E-02	2.55E-01	4.32E-01	-8.43E-02	2.34E-01	3.97E-01

Analytical Parameter	RL04-1170-010			RL04-1171-011			RL04-1172-012		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	1.06E-02	6.31E-02	1.09E-01	-5.70E-02	6.69E-02	1.10E-01	-1.93E-02	6.63E-02	1.12E-01
K-40	1.23E+01	1.32E+00	1.15E-01	1.23E+01	1.32E+00	1.23E-01	1.27E+01	1.35E+00	1.19E-01
Co-58	-1.36E-02	7.81E-03	1.19E-02	-4.18E-04	7.88E-03	1.38E-02	-9.26E-03	7.76E-03	1.25E-02
Co-60	-5.72E-03	8.74E-03	1.43E-02	-2.08E-03	9.17E-03	1.56E-02	8.51E-03	8.65E-03	1.60E-02
Zn-65	2.66E-03	2.06E-02	3.08E-02	-9.48E-03	2.26E-02	3.22E-02	-9.26E-03	2.34E-02	3.33E-02
Sb-125	1.79E-02	2.40E-02	4.20E-02	-6.98E-03	2.37E-02	4.01E-02	1.70E-02	2.35E-02	4.14E-02
I-131	4.88E-04	8.06E-03	1.39E-02	-6.17E-04	9.34E-03	1.60E-02	-4.12E-03	8.50E-03	1.44E-02
Cs-134	-4.05E-03	8.69E-03	1.23E-02	3.52E-03	8.71E-03	1.31E-02	-7.42E-03	9.02E-03	1.24E-02
Cs-137	-7.85E-03	8.45E-03	1.35E-02	-1.51E-02	9.76E-03	1.49E-02	1.67E-04	8.96E-03	1.51E-02
Eu-152	5.20E-03	3.37E-02	4.38E-02	-3.86E-02	3.61E-02	4.74E-02	-3.10E-02	3.60E-02	4.65E-02
Eu-154	9.41E-03	2.38E-02	4.01E-02	-5.57E-03	2.53E-02	4.22E-02	-8.73E-03	2.49E-02	4.13E-02
Tl-208	1.57E-01	2.33E-02	1.41E-02	1.65E-01	2.45E-02	1.52E-02	1.86E-01	2.52E-02	1.35E-02
Bi-212	5.76E-01	2.43E-01	1.91E-01	7.05E-01	1.78E-01	1.92E-01	4.80E-01	2.04E-01	1.88E-01
Pb-212	5.37E-01	5.09E-02	3.02E-02	6.01E-01	5.53E-02	3.16E-02	5.73E-01	5.18E-02	3.22E-02
Bi-214	6.64E-01	5.33E-02	2.52E-02	7.25E-01	5.66E-02	2.95E-02	7.23E-01	5.83E-02	2.70E-02
Pb-214	6.99E-01	5.83E-02	3.10E-02	7.31E-01	6.05E-02	3.43E-02	7.71E-01	6.20E-02	3.41E-02
Ac-228	5.26E-01	5.25E-02	4.97E-02	5.96E-01	6.01E-02	5.18E-02	6.35E-01	6.16E-02	5.10E-02
Th-234	-5.46E-01	1.38E+00	5.27E-01	-5.33E-01	1.46E+00	5.86E-01	-1.17E-01	1.41E+00	5.59E-01
U-235	1.01E-01	8.46E-02	2.93E-02	1.97E-02	8.89E-02	3.19E-02	6.88E-02	8.96E-02	3.06E-02
Am-241	-1.48E-02	2.45E-01	4.20E-01	1.35E-01	2.63E-01	4.55E-01	-8.15E-02	2.53E-01	4.30E-01

Table 5

MH-7 to MH-8 Trench Base Soil
Analytical Results

Analytical Parameter	RL04-1173-013 Result (pCi/g)	RL04-1173-013 2 σ (pCi/g)	RL04-1173-013 MDA (pCi/g)	RL04-1174-014 Result (pCi/g)	RL04-1174-014 2 σ (pCi/g)	RL04-1174-014 MDA (pCi/g)	RL04-1175-015 Result (pCi/g)	RL04-1175-015 2 σ (pCi/g)	RL04-1175-015 MDA (pCi/g)
Be-7	-1.14E-02	6.03E-02	1.02E-01	-8.87E-03	6.60E-02	1.12E-01	-1.07E-03	6.80E-02	1.16E-01
K-40	1.09E+01	1.17E+00	1.08E-01	1.24E+01	1.33E+00	1.35E-01	1.13E+01	1.22E+00	1.19E-01
Co-58	-8.14E-03	7.05E-03	1.14E-02	-5.41E-05	7.86E-03	1.38E-02	-1.11E-03	8.04E-03	1.21E-02
Co-60	-4.66E-03	8.02E-03	1.32E-02	2.28E-03	8.11E-03	1.44E-02	3.58E-04	9.29E-03	1.61E-02
Zn-65	8.97E-03	2.20E-02	3.34E-02	2.26E-03	2.27E-02	3.39E-02	-3.79E-03	2.33E-02	3.39E-02
Sb-125	3.02E-02	2.16E-02	3.89E-02	-1.02E-03	2.39E-02	4.08E-02	-1.08E-02	2.25E-02	3.79E-02
I-131	-3.22E-03	8.20E-03	1.39E-02	-6.67E-03	8.99E-03	1.50E-02	1.25E-03	8.49E-03	1.47E-02
Cs-134	-8.39E-04	8.14E-03	1.18E-02	-6.25E-04	8.18E-03	1.19E-02	3.29E-04	8.71E-03	1.28E-02
Cs-137	2.06E-03	8.88E-03	1.51E-02	2.26E-02	1.16E-02	1.50E-02	1.57E-02	1.06E-02	1.36E-02
Eu-152	1.81E-02	3.35E-02	4.10E-02	-6.49E-02	3.69E-02	4.58E-02	-1.26E-02	3.51E-02	4.52E-02
Eu-154	2.22E-03	2.33E-02	3.92E-02	-1.15E-02	2.51E-02	4.15E-02	7.22E-03	2.42E-02	4.09E-02
Tl-208	1.61E-01	2.47E-02	1.25E-02	1.88E-01	2.53E-02	1.42E-02	1.47E-01	2.32E-02	1.43E-02
Bi-212	4.92E-01	1.94E-01	1.83E-01	6.42E-01	2.14E-01	1.85E-01	8.48E-01	2.23E-01	1.93E-01
Pb-212	4.85E-01	5.48E-02	2.82E-02	5.93E-01	5.39E-02	3.15E-02	5.07E-01	4.83E-02	3.15E-02
Bi-214	6.69E-01	5.22E-02	2.55E-02	7.37E-01	5.71E-02	2.69E-02	7.44E-01	5.72E-02	2.72E-02
Pb-214	6.66E-01	5.56E-02	3.07E-02	7.27E-01	5.78E-02	3.48E-02	7.33E-01	6.09E-02	3.27E-02
Ac-228	5.28E-01	5.33E-02	4.66E-02	6.19E-01	6.16E-02	5.20E-02	5.70E-01	5.62E-02	5.35E-02
Th-234	-9.58E-02	1.30E+00	5.21E-01	-1.03E+00	1.51E+00	5.51E-01	6.35E-01	1.43E+00	5.64E-01
U-235	2.76E-02	8.06E-02	2.87E-02	6.29E-02	8.76E-02	3.09E-02	8.90E-02	8.68E-02	3.13E-02
Am-241	-2.03E-01	2.36E-01	3.93E-01	-4.30E-02	2.59E-01	4.41E-01	-3.38E-01	2.57E-01	4.20E-01

Analytical Parameter	RL04-1183-016 Result (pCi/g)	RL04-1183-016 2 σ (pCi/g)	RL04-1183-016 MDA (pCi/g)	RL04-1177-017 Result (pCi/g)	RL04-1177-017 2 σ (pCi/g)	RL04-1177-017 MDA (pCi/g)	RL04-1178-018 Result (pCi/g)	RL04-1178-018 2 σ (pCi/g)	RL04-1178-018 MDA (pCi/g)
Be-7	-3.89E-02	9.80E-02	1.66E-01	2.57E-02	6.68E-02	1.16E-01	3.28E-02	6.32E-02	1.11E-01
K-40	1.29E+01	1.45E+00	1.63E-01	1.27E+01	1.35E+00	1.20E-01	1.29E+01	1.37E+00	1.20E-01
Co-58	6.03E-04	1.20E-02	2.14E-02	-1.03E-02	7.46E-03	1.18E-02	-8.77E-03	7.42E-03	1.20E-02
Co-60	-9.48E-04	1.35E-02	2.37E-02	-9.25E-03	8.25E-03	1.29E-02	-5.07E-03	8.20E-03	1.35E-02
Zn-65	-1.27E-02	3.61E-02	5.20E-02	6.08E-03	2.18E-02	3.30E-02	8.65E-03	2.24E-02	3.40E-02
Sb-125	2.56E-03	3.50E-02	6.11E-02	3.78E-03	2.34E-02	4.03E-02	-1.91E-02	2.33E-02	3.84E-02
I-131	4.16E-03	1.45E-02	2.57E-02	7.94E-03	8.75E-03	1.55E-02	3.64E-04	8.51E-03	1.47E-02
Cs-134	4.97E-03	1.24E-02	1.93E-02	2.95E-03	8.50E-03	1.27E-02	6.75E-04	8.08E-03	1.19E-02
Cs-137	5.15E-03	1.32E-02	2.33E-02	-6.52E-03	8.70E-03	1.41E-02	-9.38E-03	8.78E-03	1.39E-02
Eu-152	2.62E-02	5.39E-02	7.09E-02	5.84E-03	3.44E-02	4.50E-02	1.53E-02	3.40E-02	4.40E-02
Eu-154	2.82E-02	3.76E-02	6.48E-02	6.26E-03	2.39E-02	4.02E-02	-6.78E-03	2.37E-02	3.94E-02
Tl-208	1.89E-01	3.33E-02	2.04E-02	1.73E-01	2.39E-02	1.39E-02	1.66E-01	2.33E-02	1.38E-02
Bi-212	8.86E-01	3.28E-01	2.98E-01	4.32E-01	1.80E-01	1.91E-01	6.98E-01	2.11E-01	1.85E-01
Pb-212	6.02E-01	7.33E-02	4.82E-02	5.61E-01	5.13E-02	3.19E-02	5.80E-01	5.40E-02	2.98E-02
Bi-214	7.63E-01	7.37E-02	4.13E-02	6.38E-01	4.99E-02	2.69E-02	6.33E-01	4.99E-02	2.50E-02
Pb-214	7.70E-01	8.06E-02	5.10E-02	6.80E-01	5.54E-02	3.20E-02	6.42E-01	5.35E-02	3.19E-02
Ac-228	6.73E-01	7.95E-02	7.11E-02	5.74E-01	5.86E-02	5.30E-02	5.91E-01	5.61E-02	5.07E-02
Th-234	5.04E-01	2.13E+00	8.59E-01	-5.36E-01	1.35E+00	5.31E-01	1.17E+00	1.45E+00	5.41E-01
U-235	3.01E-02	1.32E-01	4.73E-02	-4.33E-02	8.36E-02	2.96E-02	1.56E-02	8.49E-02	2.91E-02
Am-241	-3.20E-01	3.80E-01	6.35E-01	-6.33E-02	2.43E-01	4.13E-01	-4.78E-02	2.44E-01	4.18E-01

Table 5

MH-7 to MH-8 Trench Base Soil Analytical Results

Analytical Parameter	RL04-1185-019 Result (pCi/g)	RL04-1185-019 2 σ (pCi/g)	RL04-1185-019 MDA (pCi/g)	RL04-1186-020 Result (pCi/g)	RL04-1186-020 2 σ (pCi/g)	RL04-1186-020 MDA (pCi/g)	RL04-1187-021 Result (pCi/g)	RL04-1187-021 2 σ (pCi/g)	RL04-1187-021 MDA (pCi/g)
Be-7	-2.49E-02	9.32E-02	1.59E-01	-3.98E-02	9.94E-02	1.68E-01	-2.67E-02	9.78E-02	1.67E-01
K-40	1.19E+01	1.34E+00	1.74E-01	1.28E+01	1.43E+00	1.65E-01	1.21E+01	1.36E+00	1.33E-01
Co-58	-6.46E-03	1.06E-02	1.80E-02	-2.05E-02	1.18E-02	1.75E-02	-1.01E-02	1.04E-02	1.70E-02
Co-60	-4.01E-03	1.13E-02	1.92E-02	1.69E-03	1.21E-02	2.18E-02	9.94E-03	1.23E-02	2.36E-02
Zn-65	-9.82E-03	3.33E-02	4.82E-02	2.31E-02	3.15E-02	5.09E-02	-1.90E-02	3.12E-02	4.31E-02
Sb-125	2.16E-02	3.10E-02	5.59E-02	-4.19E-03	3.87E-02	5.78E-02	8.37E-03	3.19E-02	5.64E-02
I-131	-8.48E-03	1.22E-02	2.05E-02	-4.98E-03	1.34E-02	2.29E-02	1.95E-03	1.26E-02	2.22E-02
Cs-134	5.08E-03	1.11E-02	1.73E-02	-2.65E-03	1.21E-02	1.76E-02	-2.42E-03	1.23E-02	1.79E-02
Cs-137	3.17E-04	1.21E-02	2.07E-02	-1.58E-03	1.22E-02	2.08E-02	-2.39E-03	1.25E-02	2.12E-02
Eu-152	1.32E-02	4.83E-02	6.28E-02	3.11E-03	5.05E-02	6.67E-02	-1.86E-02	4.87E-02	6.76E-02
Eu-154	-1.12E-02	3.37E-02	5.62E-02	-1.75E-02	3.56E-02	5.90E-02	1.77E-02	3.41E-02	5.85E-02
Tl-208	1.92E-01	3.26E-02	4.47E-02	1.78E-01	3.34E-02	2.07E-02	1.58E-01	2.86E-02	2.07E-02
Bi-212	8.16E-01	3.38E-01	2.57E-01	4.87E-01	3.68E-01	2.60E-01	4.96E-01	2.32E-01	2.79E-01
Pb-212	5.42E-01	6.47E-02	4.30E-02	5.58E-01	6.97E-02	4.65E-02	5.42E-01	6.02E-02	4.61E-02
Bi-214	5.95E-01	6.03E-02	3.74E-02	6.14E-01	6.71E-02	3.87E-02	6.64E-01	6.60E-02	4.05E-02
Pb-214	6.51E-01	6.72E-02	4.57E-02	6.88E-01	6.85E-02	4.98E-02	6.93E-01	6.91E-02	4.81E-02
Ac-228	5.89E-01	7.57E-02	7.66E-02	7.13E-01	8.20E-02	7.63E-02	5.23E-01	7.31E-02	6.88E-02
Th-234	8.36E-02	1.94E+00	7.61E-01	3.56E-01	2.05E+00	7.97E-01	1.23E-01	1.96E+00	7.82E-01
U-235	4.04E-02	1.21E-01	4.11E-02	8.47E-02	1.26E-01	4.32E-02	1.18E-01	1.24E-01	4.48E-02
Am-241	-1.42E-01	3.51E-01	5.97E-01	-6.99E-02	3.70E-01	6.34E-01	-3.21E-01	3.58E-01	5.96E-01

Analytical Parameter	RL04-1188-022 Result (pCi/g)	RL04-1188-022 2 σ (pCi/g)	RL04-1188-022 MDA (pCi/g)	RL04-1189-023 Result (pCi/g)	RL04-1189-023 2 σ (pCi/g)	RL04-1189-023 MDA (pCi/g)	RL04-1190-024 Result (pCi/g)	RL04-1190-024 2 σ (pCi/g)	RL04-1190-024 MDA (pCi/g)
Be-7	1.37E-02	1.05E-01	1.84E-01	-3.39E-02	1.12E-01	1.91E-01	-3.92E-03	1.06E-01	1.85E-01
K-40	1.43E+01	1.60E+00	1.91E-01	1.30E+01	1.47E+00	1.87E-01	1.39E+01	1.57E+00	1.77E-01
Co-58	-4.30E-03	1.27E-02	2.22E-02	-1.75E-02	1.28E-02	1.99E-02	-9.08E-03	1.26E-02	2.12E-02
Co-60	-4.21E-03	1.24E-02	2.13E-02	-5.90E-03	1.44E-02	2.44E-02	9.18E-03	1.44E-02	2.74E-02
Zn-65	1.11E-02	3.57E-02	5.59E-02	-2.82E-02	3.99E-02	5.43E-02	7.39E-03	3.55E-02	5.52E-02
Sb-125	-7.36E-03	3.47E-02	5.98E-02	1.37E-02	3.60E-02	6.45E-02	4.45E-03	3.80E-02	6.67E-02
I-131	9.86E-03	1.42E-02	2.57E-02	-8.59E-03	1.56E-02	2.64E-02	-1.82E-02	1.39E-02	2.22E-02
Cs-134	-5.11E-04	1.36E-02	2.02E-02	-1.04E-03	1.35E-02	2.00E-02	1.29E-03	1.38E-02	2.08E-02
Cs-137	-1.10E-02	1.42E-02	2.29E-02	2.26E-02	1.86E-02	2.53E-02	-1.27E-02	1.39E-02	2.20E-02
Eu-152	3.02E-02	5.42E-02	7.23E-02	-2.36E-02	5.48E-02	7.18E-02	3.17E-02	5.36E-02	6.60E-02
Eu-154	3.30E-02	3.84E-02	6.66E-02	-9.76E-03	3.80E-02	6.38E-02	-3.74E-03	3.75E-02	6.33E-02
Tl-208	1.90E-01	2.98E-02	2.27E-02	1.82E-01	3.57E-02	2.32E-02	1.98E-01	3.61E-02	2.29E-02
Bi-212	6.42E-01	2.86E-01	3.28E-02	6.88E-01	3.02E-01	3.15E-01	6.02E-01	3.45E-01	3.24E-01
Pb-212	5.05E-01	7.16E-02	7.34E-02	6.18E-01	7.91E-02	5.32E-02	6.35E-01	6.84E-02	4.89E-02
Bi-214	6.18E-01	6.75E-02	4.46E-02	6.81E-01	6.90E-02	4.54E-02	5.90E-01	6.80E-02	1.70E-02
Pb-214	5.58E-01	6.49E-02	5.34E-02	6.76E-01	7.60E-02	5.84E-02	6.11E-01	7.09E-02	5.46E-02
Ac-228	6.45E-01	7.96E-02	8.29E-02	6.74E-01	8.67E-02	8.09E-02	6.59E-01	7.97E-02	8.89E-02
Th-234	1.37E-01	2.19E+00	8.53E-01	1.99E-01	2.22E+00	8.80E-01	1.46E-01	2.16E+00	8.89E-01
U-235	-6.35E-02	1.35E-01	4.85E-02	-8.93E-02	1.35E-01	4.93E-01	8.29E-02	1.36E-01	4.89E-02
Am-241	7.76E-03	4.01E-01	6.95E-01	-3.99E-02	3.99E-01	6.90E-01	7.51E-02	3.96E-01	6.92E-01

Table 5

MH-7 to MH-8 Trench Base Soil
Analytical Results

Analytical Parameter	RL04-1191-025 Result (pCi/g)	RL04-1191-025 2 σ (pCi/g)	RL04-1191-025 MDA (pCi/g)	RL04-1192-026 Result (pCi/g)	RL04-1192-026 2 σ (pCi/g)	RL04-1192-026 MDA (pCi/g)	RL04-1193-027 Result (pCi/g)	RL04-1193-027 2 σ (pCi/g)	RL04-1193-027 MDA (pCi/g)
Be-7	6.09E-02	1.19E-01	2.13E-01	2.87E-02	9.59E-02	1.70E-01	-2.61E-02	9.52E-02	1.65E-01
K-40	1.37E+01	1.57E+00	2.27E-01	1.27E+01	1.42E+00	1.41E-01	8.63E+00	1.06E+00	1.95E-01
Co-58	-1.00E-02	1.35E-02	2.26E-02	-7.18E-03	1.19E-02	2.02E-02	-3.27E-03	1.15E-02	2.03E-02
Co-60	-2.75E-03	1.41E-02	2.46E-02	5.75E-03	1.31E-02	2.42E-02	9.08E-03	1.31E-02	2.59E-02
Zn-65	-1.58E-02	3.99E-02	5.72E-02	1.22E-03	3.02E-02	4.62E-02	-7.86E-03	3.13E-02	4.65E-02
Sb-125	-3.09E-02	4.31E-02	7.17E-02	1.13E-02	3.44E-02	6.09E-02	4.41E-02	3.78E-02	7.11E-02
I-131	1.39E-02	1.55E-02	2.85E-02	4.08E-05	1.36E-02	2.37E-02	-4.54E-03	1.41E-02	2.44E-02
Cs-134	-1.17E-03	1.40E-02	2.08E-02	2.73E-05	1.17E-02	1.74E-02	-5.33E-03	1.27E-02	1.82E-02
Cs-137	-8.61E-03	1.51E-02	2.48E-02	-2.69E-03	1.34E-02	2.27E-02	-1.05E-02	1.38E-02	2.22E-02
Eu-152	5.99E-02	6.07E-02	8.05E-02	-2.68E-02	5.05E-02	6.74E-02	2.61E-03	5.01E-02	6.90E-02
Eu-154	2.82E-02	4.53E-02	7.26E-02	-7.16E-03	3.59E-02	6.02E-02	2.18E-02	3.49E-02	6.10E-02
Tl-208	2.18E-01	3.75E-02	2.34E-02	1.79E-01	2.85E-02	1.88E-02	1.26E-01	3.12E-02	2.31E-02
Bi-212	8.85E-01	3.61E-01	3.45E-01	6.79E-01	2.74E-01	2.84E-01	6.51E-01	2.79E-01	2.56E-01
Pb-212	8.17E-01	8.50E-02	5.16E-02	5.31E-01	6.71E-02	4.60E-02	3.88E-01	5.99E-02	9.25E-02
Bi-214	8.08E-01	7.86E-02	4.47E-02	6.76E-01	6.57E-02	3.75E-02	6.17E-01	7.03E-02	4.17E-02
Pb-214	8.10E-01	8.45E-02	5.83E-02	6.07E-01	6.45E-02	4.59E-02	6.74E-01	7.22E-02	4.61E-02
Ac-228	8.21E-01	9.92E-02	9.74E-02	6.22E-01	7.89E-02	7.96E-02	3.93E-01	7.96E-02	9.33E-02
Th-234	-6.49E-01	2.45E+00	9.79E-01	-6.35E-01	2.01E+00	7.94E-01	2.16E+00	2.26E+00	8.23E-01
U-235	-4.21E-02	1.47E-01	5.81E-02	9.42E-03	1.24E-01	4.34E-02	4.13E-02	1.27E-01	4.74E-02
Am-241	-1.56E-01	4.48E-01	7.66E-01	-1.99E-01	3.55E-01	6.02E-01	-2.22E-01	3.63E-01	6.15E-01

Analytical Parameter	RL04-1194-028 Result (pCi/g)	RL04-1194-028 2 σ (pCi/g)	RL04-1194-028 MDA (pCi/g)	RL04-1195-029 Result (pCi/g)	RL04-1195-029 2 σ (pCi/g)	RL04-1195-029 MDA (pCi/g)	RL04-1196-030 Result (pCi/g)	RL04-1196-030 2 σ (pCi/g)	RL04-1196-030 MDA (pCi/g)
Be-7	1.10E-02	8.92E-02	1.57E-01	-4.31E-02	1.04E-01	1.75E-01	-7.33E-03	9.27E-02	1.61E-01
K-40	1.20E+01	1.35E+00	1.79E-01	1.35E+01	1.52E+00	2.01E-01	1.31E+01	1.46E+00	1.91E-01
Co-58	-1.19E-02	1.07E-02	1.73E-02	-1.40E-03	1.23E-02	2.19E-02	-1.56E-02	1.20E-02	1.88E-02
Co-60	-9.22E-03	1.22E-02	1.97E-02	4.68E-03	1.40E-02	2.59E-02	5.67E-03	1.27E-02	2.36E-02
Zn-65	-1.23E-02	3.04E-02	4.35E-02	-1.97E-02	3.54E-02	4.95E-02	-7.41E-03	3.31E-02	4.85E-02
Sb-125	1.31E-02	3.53E-02	6.26E-02	3.45E-03	3.79E-02	6.64E-02	2.21E-02	3.23E-02	5.85E-02
I-131	-6.96E-03	1.39E-02	2.36E-02	-4.54E-03	1.42E-02	2.45E-02	8.46E-03	1.38E-02	2.48E-02
Cs-134	3.22E-03	1.27E-02	1.93E-02	-6.70E-04	1.38E-02	2.05E-02	-8.80E-03	1.36E-02	1.89E-02
Cs-137	-1.65E-02	1.31E-02	2.02E-02	-1.57E-02	1.46E-02	2.28E-02	-4.73E-03	1.28E-02	2.14E-02
Eu-152	-2.25E-02	5.02E-02	6.68E-02	-1.74E-04	5.22E-02	7.04E-02	5.28E-03	4.95E-02	6.30E-02
Eu-154	3.76E-02	3.48E-02	6.05E-02	-1.64E-02	3.69E-02	6.14E-02	1.10E-02	3.48E-02	5.94E-02
Tl-208	1.97E-01	3.38E-02	1.96E-02	1.92E-01	3.39E-02	2.43E-02	1.79E-01	3.07E-02	4.69E-02
Bi-212	5.22E-01	2.70E-01	2.89E-01	5.66E-01	3.28E-01	3.50E-01	6.77E-01	2.98E-01	2.87E-01
Pb-212	5.32E-01	6.85E-02	4.41E-02	6.66E-01	7.27E-02	4.93E-02	4.71E-01	6.92E-02	6.99E-02
Bi-214	6.03E-01	6.68E-02	4.18E-02	6.39E-01	6.94E-02	4.58E-02	6.26E-01	6.56E-02	3.77E-02
Pb-214	6.49E-01	7.10E-02	4.68E-02	7.11E-01	7.24E-02	5.20E-02	6.69E-01	7.02E-02	4.81E-02
Ac-228	6.39E-01	7.20E-02	7.89E-02	6.39E-01	8.37E-02	8.18E-02	5.90E-01	7.30E-02	7.94E-02
Th-234	-5.77E-01	2.04E+00	7.89E-01	-4.20E-01	2.16E+00	8.69E-01	1.33E+00	2.13E+00	8.26E-01
U-235	3.52E-02	1.19E-01	4.35E-02	1.60E-01	1.33E-01	4.82E-02	2.04E-02	1.21E-01	4.33E-02
Am-241	-2.33E-01	3.61E-01	6.08E-01	-2.20E-01	3.88E-01	6.57E-01	-1.83E-01	3.78E-01	6.41E-01

Table 5

MH-7 to MH-8 Trench Base Soil
Analytical Results

Analytical Parameter	RL04-1197-031 Result (pCi/g)	RL04-1197-031 2 σ (pCi/g)	RL04-1197-031 MDA (pCi/g)	RL04-1198-032 Result (pCi/g)	RL04-1198-032 2 σ (pCi/g)	RL04-1198-032 MDA (pCi/g)	RL04-1199-033 Result (pCi/g)	RL04-1199-033 2 σ (pCi/g)	RL04-1199-033 MDA (pCi/g)
Be-7	6.28E-03	9.97E-02	1.74E-01	-9.00E-02	9.35E-02	1.59E-01	-7.77E-04	9.04E-02	1.57E-01
K-40	1.29E+01	1.44E+00	1.65E-01	1.17E+01	1.33E+00	1.88E-01	1.21E+01	1.36E+00	1.82E-01
Co-58	-7.80E-04	1.11E-02	1.88E-01	-4.06E-03	1.05E-02	1.78E-02	-3.28E-03	1.02E-02	1.79E-02
Co-60	-3.52E-04	1.28E-02	2.28E-01	4.06E-03	1.27E-02	2.34E-02	1.21E-02	1.27E-02	2.46E-02
Zn-65	-1.87E-02	3.73E-02	5.25E-02	-5.57E-03	2.99E-02	4.44E-02	-1.56E-02	3.27E-02	4.62E-02
Sb-125	5.98E-03	3.33E-02	5.89E-02	-1.14E-02	3.14E-02	5.36E-02	1.09E-02	3.25E-02	5.76E-02
I-131	2.25E-04	1.45E-02	2.53E-02	-8.43E-03	1.32E-02	2.22E-02	1.66E-02	1.32E-02	2.44E-02
Cs-134	-1.02E-01	1.18E-02	1.75E-02	-1.97E-03	1.20E-02	1.77E-02	7.94E-03	1.16E-02	1.85E-02
Cs-137	-1.43E-02	1.31E-02	2.04E-02	-1.61E-02	1.38E-02	2.14E-02	-1.72E-02	1.34E-02	2.06E-02
Eu-152	-2.56E-02	4.89E-02	6.93E-01	-6.55E-03	5.08E-02	6.31E-02	-2.75E-02	4.78E-02	6.31E-02
Eu-154	1.11E-02	3.37E-02	5.78E-02	3.33E-03	3.50E-02	5.95E-02	1.56E-02	3.38E-02	5.79E-02
Tl-208	1.89E-01	3.45E-01	4.70E-02	1.61E-01	3.11E-02	1.93E-02	1.55E-01	2.77E-02	2.07E-02
Bi-212	5.12E-01	2.26E-01	2.68E-01	5.38E-01	2.97E-01	2.90E-01	5.27E-01	2.82E-01	3.00E-01
Pb-212	5.15E-01	6.73E-02	4.74E-02	4.97E-01	6.06E-02	4.27E-02	5.42E-01	6.00E-02	4.40E-02
Bi-214	5.77E-01	6.23E-02	3.92E-02	5.67E-01	5.87E-02	3.70E-02	5.75E-01	6.35E-02	3.58E-02
Pb-214	6.10E-01	6.91E-02	4.79E-02	6.40E-01	7.15E-02	4.47E-02	5.89E-01	6.54E-02	4.70E-02
Ac-228	5.96E-01	7.45E-02	8.13E-02	5.55E-01	7.91E-02	7.38E-02	6.03E-01	7.13E-02	7.63E-02
Th-234	1.45E+00	2.07E+00	8.42E-01	-5.04E-01	1.93E+00	8.15E-01	-8.86E-01	1.97E+00	7.78E-01
U-235	-4.81E-02	1.23E-01	4.59E-02	-2.41E-02	1.19E-01	4.60E-02	2.30E-02	1.19E-01	4.31E-02
Am-241	-3.65E-02	3.60E-01	6.23E-01	-3.15E-02	3.53E-01	6.10E-01			

Analytical Parameter	RL04-1200-034 Result (pCi/g)	RL04-1200-034 2 σ (pCi/g)	RL04-1200-034 MDA (pCi/g)	RL04-1201-035 Result (pCi/g)	RL04-1201-035 2 σ (pCi/g)	RL04-1201-035 MDA (pCi/g)	RL04-1202-036 Result (pCi/g)	RL04-1202-036 2 σ (pCi/g)	RL04-1202-036 MDA (pCi/g)
Be-7	-6.30E-02	1.11E-01	1.85E-01	8.73E-02	1.01E-01	1.85E-01	-1.18E-01	1.25E-01	2.02E-01
K-40	1.31E+01	1.49E+00	2.04E-01	1.27E+01	1.43E+00	1.71E-01	1.30E+01	1.50E+00	2.17E-01
Co-58	-4.96E-03	1.23E-02	2.13E-02	-7.92E-03	1.17E-02	1.97E-02	-5.68E-03	1.40E-02	2.42E-02
Co-60	3.25E-03	1.36E-02	2.48E-02	8.11E-03	1.31E-02	2.50E-02	1.15E-02	1.53E-02	2.93E-02
Zn-65	-8.58E-03	3.38E-02	4.96E-02	1.45E-02	3.05E-02	4.94E-02	-8.68E-03	4.23E-02	6.21E-02
Sb-125	-1.29E-02	3.62E-02	6.17E-02	2.22E-03	3.65E-02	6.39E-02	2.25E-02	4.23E-02	7.57E-02
I-131	-5.04E-03	1.47E-02	2.52E-02	1.38E-02	1.34E-02	2.48E-02	-1.58E-02	1.55E-02	2.55E-02
Cs-134	-1.28E-02	1.47E-02	1.98E-02	-5.09E-03	1.40E-02	2.01E-02	-2.68E-03	1.56E-02	2.28E-02
Cs-137	-3.65E-03	1.46E-02	2.46E-02	-9.37E-03	1.42E-02	2.30E-02	-2.23E-03	1.58E-02	2.69E-02
Eu-152	1.41E-02	5.49E-02	6.97E-02	3.02E-02	5.29E-02	6.89E-02	1.58E-02	5.98E-02	7.11E-02
Eu-154	-1.18E-02	3.83E-02	6.42E-02	1.12E-02	3.70E-02	6.31E-02	1.15E-02	4.15E-02	7.08E-02
Tl-208	1.82E-01	3.08E-02	2.43E-02	1.96E-01	3.35E-02	1.96E-02	2.16E-01	3.92E-02	2.51E-02
Bi-212	8.28E-01	3.15E-01	3.02E-01	6.63E-01	2.98E-01	2.81E-01	9.02E-01	2.89E-01	3.50E-01
Pb-212	6.78E-01	8.57E-02	4.97E-01	5.31E-01	6.92E-02	4.58E-02	6.96E-01	7.38E-02	5.37E-02
Bi-214	7.08E-01	7.00E-02	4.15E-02	6.40E-01	6.94E-02	4.33E-02	7.76E-01	7.80E-02	4.87E-02
Pb-214	7.01E-01	7.24E-02	5.46E-02	6.62E-01	7.22E-02	4.95E-02	7.84E-01	8.12E-02	5.56E-02
Ac-228	8.13E-01	8.65E-02	8.96E-02	5.90E-01	8.26E-02	7.17E-02	6.99E-01	9.50E-02	1.01E-01
Th-234	1.37E+00	2.23E+00	8.28E-01	1.46E-01	2.14E+00	8.42E-01	1.64E+00	2.53E+00	9.82E-01
U-235	7.65E-02	1.35E-01	5.09E-02	1.38E-02	1.23E-01	4.72E-02	9.09E-02	1.46E-01	5.31E-02
Am-241	-2.08E-01	3.97E-01	6.73E-01	-6.56E-02	3.77E-01	6.50E-01	-3.47E-01	4.38E-01	7.33E-01

Table 5

MH-7 to MH-8 Trench Base Soil Analytical Results

Analytical Parameter	RL04-1207-037			RL04-1208-038			RL04-1209-039		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-6.82E-02	1.86E-01	3.20E-01	-3.30E-02	1.66E-01	2.91E-01	-3.47E-02	1.64E-01	2.89E-01
K-40	1.43E+01	1.79E+00	3.13E-01	1.37E+01	1.72E+00	2.84E-01	1.40E+01	1.77E+00	3.53E-01
Co-58	-1.91E-02	1.83E-02	2.90E-02	-5.71E-03	1.92E-02	3.45E-02	-1.97E-02	1.92E-02	3.06E-02
Co-60	-2.38E-03	2.28E-02	4.16E-02	3.58E-03	2.55E-02	4.73E-02	7.90E-03	2.05E-02	4.10E-02
Zn-65	-5.14E-02	6.60E-02	8.69E-02	2.38E-02	5.13E-02	8.75E-02	-2.85E-02	6.38E-02	9.11E-02
Sb-125	8.08E-03	5.89E-02	1.07E-01	3.22E-02	5.68E-02	1.07E-01	9.75E-03	5.65E-02	1.03E-01
I-131	-2.30E-04	2.60E-02	4.64E-02	-1.10E-02	2.65E-02	4.57E-02	-2.20E-02	2.39E-02	3.93E-02
Cs-134	-1.92E-02	2.53E-02	3.42E-02	-1.54E-02	2.26E-02	3.09E-02	-8.18E-03	2.09E-02	3.01E-02
Cs-137	5.76E-02	3.61E-02	4.46E-02	7.07E-02	3.31E-02	3.74E-02	-6.56E-03	1.99E-02	3.42E-02
Eu-152	-2.75E-02	8.80E-02	1.34E-01	4.87E-02	8.44E-02	1.21E-01	3.37E-02	8.05E-02	1.32E-01
Eu-154	7.29E-03	6.12E-02	1.06E-01	2.47E-02	5.69E-02	9.98E-02	1.80E-02	5.71E-02	1.00E-01
Tl-208	2.26E-01	5.27E-02	4.20E-02	2.22E-01	4.72E-02	3.67E-02	2.31E-01	5.44E-02	3.60E-02
Bi-212	9.66E-01	4.17E-01	5.72E-01	9.48E-01	3.33E-01	5.27E-01	9.18E-01	5.76E-01	5.30E-01
Pb-212	6.66E-01	1.09E-01	1.69E-01	6.62E-01	1.06E-01	1.69E-01	6.48E-01	1.05E-01	1.68E-01
Bi-214	8.52E-01	1.38E-01	2.21E-01	8.24E-01	1.05E-01	6.61E-02	6.99E-01	1.05E-01	7.13E-02
Pb-214	8.35E-01	1.06E-01	8.81E-02	9.39E-01	1.17E-01	8.58E-02	6.75E-01	1.10E-01	8.59E-02
Ac-228	6.27E-01	1.97E-01	3.20E-01	7.83E-01	1.88E-01	3.27E-01	6.99E-01	1.94E-01	3.15E-01
Th-234	2.66E+00	3.76E+00	1.48E+00	6.22E-01	3.44E+00	1.38E+00	-1.96E+00	3.60E+00	1.34E+00
U-235	2.32E-01	2.18E-01	8.44E-02	-3.20E-02	2.27E-01	8.65E-02	-3.17E-03	2.00E-01	7.64E-02
Am-241	-4.67E-01	6.62E-01	1.12E+00	5.53E-02	6.23E-01	1.10E+00	4.80E-01	6.19E-01	1.14E+00

Analytical Parameter	RL04-1210-040			RL04-1211-041			RL04-1212-042		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-6.91E-02	1.70E-01	2.92E-01	-1.21E-01	1.48E-01	2.43E-01	1.35E-03	1.21E-01	2.17E-01
K-40	1.36E+01	1.71E+00	1.81E-01	1.13E+01	1.42E+00	2.92E-01	8.10E+00	1.06E+00	2.21E-01
Co-58	-7.04E-03	2.05E-02	3.64E-02	-5.36E-03	1.56E-02	2.77E-02	-1.53E-02	1.38E-02	2.19E-02
Co-60	-6.34E-04	2.42E-02	4.44E-02	-3.20E-03	1.88E-02	3.37E-02	1.85E-03	1.41E-02	2.72E-02
Zn-65	-3.13E-03	5.81E-02	9.00E-02	-1.20E-02	5.28E-02	7.85E-02	1.82E-02	3.61E-02	6.24E-02
Sb-125	3.71E-02	5.76E-02	1.09E-01	4.65E-03	5.36E-02	9.55E-02	-6.26E-03	4.34E-02	7.63E-02
I-131	-4.92E-03	2.79E-02	4.90E-02	5.37E-04	2.18E-02	3.89E-02	1.22E-02	1.85E-02	3.46E-02
Cs-134	-8.68E-03	2.19E-02	3.15E-02	7.32E-03	1.83E-02	2.96E-02	2.50E-03	1.57E-02	2.47E-02
Cs-137	2.87E-02	3.47E-02	4.01E-02	4.30E-02	2.43E-02	4.74E-02	7.48E-02	3.19E-02	2.38E-02
Eu-152	-1.45E-02	8.42E-02	1.21E-01	4.90E-02	7.66E-02	9.96E-02	-2.33E-02	6.41E-02	9.00E-02
Eu-154	-3.70E-02	6.00E-02	9.94E-02	4.10E-02	5.38E-02	9.48E-02	1.39E-02	4.43E-02	7.71E-02
Tl-208	2.06E-01	4.42E-02	3.42E-02	1.91E-01	4.21E-01	6.99E-02	1.27E-01	3.25E-02	5.38E-02
Bi-212	8.20E-01	3.99E-01	4.86E-01	8.95E-01	4.49E-01	4.63E-01	4.20E-01	2.78E-01	3.51E-01
Pb-212	6.45E-01	1.06E-01	1.66E-01	5.85E-01	9.23E-02	1.46E-01	4.07E-01	6.99E-02	1.13E-01
Bi-214	9.05E-01	1.06E-01	7.34E-02	9.77E-01	1.00E-01	6.75E-02	7.52E-01	8.96E-02	5.28E-02
Pb-214	8.85E-01	1.15E-01	8.79E-02	1.03E+00	1.09E-01	8.59E-02	8.25E-01	9.35E-02	6.81E-02
Ac-228	7.05E-01	1.38E-01	1.40E-01	5.60E-01	1.11E-01	1.24E-01	4.29E-01	1.22E-01	2.02E-01
Th-234	-1.87E+00	3.58E+00	1.49E+00	1.53E+00	3.30E+00	1.25E+00	1.68E+00	2.73E+00	1.08E+00
U-235	-1.08E-01	2.16E-01	8.38E-02	5.71E-03	1.93E-01	7.50E-02	-5.98E-02	1.71E-01	6.19E-02
Am-241	-4.88E-02	6.53E-01	1.15E+00	1.86E-01	5.79E-01	1.03E+00	-7.54E-02	4.59E-01	8.00E-01

Table 5

MH-7 to MH-8 Trench Base Soil
Analytical Results

Analytical Parameter	RL04-1213-043			RL04-1214-044			RL04-1215-045		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.36E-01	1.48E-01	2.39E-01	-1.43E-01	1.40E-01	2.23E-01	-1.16E-01	1.87E-01	3.14E-01
K-40	1.06E+01	1.35E+00	3.19E-01	1.01E+01	1.28E+00	2.82E-01	1.17E+01	1.55E+00	3.89E-01
Co-58	9.82E-03	1.80E-02	2.44E-02	-1.02E-02	1.63E-02	2.79E-02	-1.44E-02	2.15E-02	3.65E-02
Co-60	-2.53E-03	1.55E-02	2.83E-02	1.30E-02	1.77E-02	3.58E-02	5.70E-03	2.07E-02	4.09E-02
Zn-65	-2.51E-02	5.21E-02	7.37E-02	-6.27E-03	4.51E-02	6.85E-02	7.17E-03	5.69E-02	9.17E-02
Sb-125	2.21E-02	5.22E-02	9.51E-02	-5.64E-03	5.09E-02	8.92E-02	-1.88E-02	6.24E-02	1.09E-01
I-131	-7.48E-03	2.29E-02	3.96E-02	2.49E-02	2.18E-02	4.13E-02	2.57E-02	2.61E-02	5.02E-02
Cs-134	-3.53E-03	1.78E-02	2.63E-02	1.24E-02	1.63E-02	2.77E-02	-7.83E-04	2.18E-02	3.35E-02
Cs-137	2.99E-02	2.40E-02	3.78E-02	-2.01E-02	1.86E-02	2.86E-02	2.68E-03	2.55E-02	4.55E-02
Eu-152	9.58E-03	7.92E-02	1.07E-01	-1.14E-02	7.74E-02	1.03E-01	1.44E-02	8.07E-02	1.31E-01
Eu-154	-3.15E-02	5.56E-02	9.22E-02	-2.49E-02	5.46E-02	9.10E-02	1.20E-02	5.60E-02	9.78E-02
Tl-208	1.77E-01	4.39E-02	3.31E-02	1.55E-01	4.00E-02	3.05E-02	1.49E-01	4.77E-02	4.04E-02
Bi-212	8.74E-01	3.59E-01	4.34E-01	8.47E-01	4.06E-01	3.63E-01	1.10E+00	4.89E-01	5.04E-01
Pb-212	4.60E-01	8.16E-02	8.77E-02	5.60E-01	8.84E-02	1.32E-01	5.24E-01	9.73E-01	1.54E-01
Bi-214	9.59E-01	1.03E-01	6.56E-02	1.08E+00	1.06E-01	6.58E-02	9.85E-01	1.20E-01	7.04E-02
Pb-214	1.07E+00	1.10E-01	8.08E-02	1.11E+00	1.17E-01	7.16E-02	1.16E+00	1.29E-01	8.30E-02
Ac-228	5.35E-01	1.62E-01	2.54E-01	6.46E-01	1.40E-01	2.49E-01	4.07E-01	1.74E-01	2.87E-01
Th-234	1.97E+00	3.34E+00	1.24E+00	-8.55E-01	3.13E+00	1.20E+00	-2.32E-01	3.53E+00	1.49E+00
U-235	-5.95E-03	1.94E-01	7.10E-02	4.82E-02	1.88E-01	7.46E-02	7.47E-02	2.04E-01	8.55E-02
Am-241	-2.83E-01	5.76E-01	9.82E-01	-4.23E-01	5.69E-01	9.55E-01	2.62E-02	6.18E-01	1.10E+00

Table 6

MH-7 to MH-8 Trench Sidewall A Soil Analytical Results

Analytical Parameter	RL04-1327-001			RL04-1328-002			RL04-1329-003		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.48E-01	1.42E-01	2.28E-01	8.50E-02	1.30E-01	2.37E-01	-5.50E-02	1.36E-01	2.31E-01
K-40	1.18E+01	1.38E+00	2.26E-01	1.11E+01	1.31E+00	2.10E-01	1.23E+01	1.43E+00	2.10E-01
Co-58	-7.36E-03	1.38E-02	2.38E-02	9.32E-04	1.41E-02	2.56E-02	-1.50E-03	1.45E-02	2.60E-02
Co-60	-6.03E-03	1.38E-02	2.35E-02	-1.42E-03	1.38E-02	2.47E-02	-6.35E+02	1.44E-02	2.73E-02
Zn-65	2.03E-02	3.42E-02	5.71E-02	-1.77E-02	3.91E-02	5.56E-02	-5.44E-03	3.75E-02	5.62E-02
Sb-125	-2.06E-02	4.11E-02	6.95E-02	1.50E-02	4.11E-02	7.34E-02	-7.09E-03	3.91E-02	6.77E-02
I-131	2.19E-02	3.79E-02	6.87E-02	-3.32E-02	3.56E-02	5.88E-02	5.33E-02	3.95E-02	7.38E-02
Cs-134	2.19E-02	3.79E-02	6.87E-02	1.99E-03	1.45E-02	2.21E-02	3.46E-03	1.56E-02	2.40E-02
Cs-137	2.79E-03	1.43E-02	2.20E-02	1.19E-01	3.28E-02	2.89E-02	1.06E-01	3.07E-02	2.65E-02
Eu-152	-9.36E-03	5.73E-02	8.48E-02	2.04E-04	5.67E-02	7.26E-02	-1.40E-02	4.06E-02	6.79E-02
Eu-154	-9.50E-03	3.99E-02	6.71E-02	-2.97E-02	3.99E-02	6.56E-02	1.97E-01	1.16E-01	1.61E-01
Tl-208	1.52E-01	3.34E-02	5.37E-02	1.28E-01	2.91E-02	2.67E-02	1.56E-01	3.47E-02	5.18E-02
Bi-212	7.94E-01	3.17E-01	3.32E-01	6.00E-01	3.50E-01	3.45E-01	6.22E-01	2.73E-01	3.38E-01
Pb-212	4.72E-01	7.13E-02	5.78E-02	5.07E-01	6.40E-02	5.50E-02	4.94E-01	6.98E-02	5.49E-02
Bi-214	9.14E-01	8.23E-02	4.88E-02	8.74E-01	8.86E-02	4.25E-02	9.37E-01	8.71E-02	4.88E-02
Pb-214	9.34E-01	9.25E-02	6.16E-02	8.76E-01	9.01E-02	5.29E-02	9.85E-01	9.23E-02	5.92E-02
Ac-228	5.56E-01	1.31E-01	2.00E-01	4.90E-01	1.11E-01	1.85E-01	5.84E-01	8.96E-02	9.04E-02
Th-234	3.25E+00	2.74E+00	9.62E-01	5.85E-01	2.33E+00	9.38E-01	6.53E-01	2.41E+00	9.64E-01
U-235	-3.95E-02	1.44E-01	5.36E-02	5.57E-02	1.39E-01	5.54E-02	1.21E-02	1.44E-01	5.53E-02
Am-241	-3.50E-01	4.27E-01	7.14E-01	-3.07E-01	4.20E-01	7.05E-01	-2.81E-01	4.34E-01	7.32E-01

Analytical Parameter	RL04-1330-004			RL04-1331-005			RL04-1268-006		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	7.68E-02	1.22E-01	2.24E-01	-3.66E-02	1.26E-01	2.16E-01	3.03E-02	2.31E-01	4.15E-01
K-40	1.16E+01	1.35E+00	2.24E-01	1.23E+01	1.43E+00	2.51E-01	1.44E+01	1.89E+00	4.71E-01
Co-58	-1.34E-02	1.44E-02	2.36E-02	-1.99E-02	1.59E-02	2.50E-02	-3.06E-02	2.72E-02	4.32E-02
Co-60	-3.85E-03	1.66E-02	2.57E-02	-1.02E-02	1.41E-02	2.30E-02	2.95E-02	2.63E-02	5.62E-02
Zn-65	-3.23E-02	4.36E-02	5.88E-02	-9.61E-03	4.21E-02	6.20E-02	1.86E-02	6.27E-02	1.04E-01
Sb-125	-1.26E-02	3.67E-02	6.29E-02	1.35E-02	4.20E-02	7.49E-02	-1.99E-02	7.54E-02	1.31E-01
I-131	-1.48E-03	3.61E-02	6.33E-02	-6.77E-03	3.92E-02	6.81E-02	-3.98E-03	4.41E-02	7.84E-02
Cs-134	-5.65E-03	1.42E-02	2.02E-02	8.21E-03	1.48E-02	2.37E-02	-2.35E-02	2.60E-02	3.38E-02
Cs-137	8.05E-02	2.85E-02	2.78E-02	5.43E-02	2.67E-02	2.84E-02	7.51E-02	4.78E-02	4.45E-02
Eu-152	9.61E-03	5.77E-02	7.98E-02	4.89E-02	5.95E-02	7.54E-02	-7.39E-02	1.07E-01	1.52E-01
Eu-154	-8.56E-03	4.05E-02	6.80E-02	1.31E-02	4.16E-02	7.14E-02	-1.54E-02	7.43E-02	1.26E-01
Tl-208	1.46E-01	3.30E-02	2.49E-02	1.64E-01	3.17E-02	5.35E-02	2.57E-01	7.21E-02	1.02E-01
Bi-212	5.71E-01	2.28E-01	2.99E-01	4.91E-01	3.23E-01	3.41E-01	7.56E-01	4.43E-01	8.70E-01
Pb-212	5.62E-01	7.73E-02	5.14E-02	6.26E-01	8.18E-02	5.32E-02	8.56E-01	1.25E-01	1.02E-01
Bi-214	9.38E-01	8.72E-02	4.52E-02	9.01E-01	8.51E-02	4.94E-02	1.41E+00	1.57E-01	8.41E-02
Pb-214	9.86E-01	9.08E-02	5.71E-02	9.17E-01	8.94E-02	6.25E-02	1.55E+00	1.67E-01	1.06E-01
Ac-228	5.26E-01	1.28E-01	1.87E-01	6.08E-01	9.27E-02	8.87E-02	8.83E-01	1.54E-01	1.58E-01
Th-234	1.16E+00	2.38E+00	9.20E-01	2.18E+00	2.58E+00	9.68E-01	1.44E+00	4.53E+00	1.77E+00
U-235	5.46E-02	1.42E-01	5.41E-02	8.34E-02	1.46E-01	5.41E-02	3.49E-02	2.64E-01	1.05E-01
Am-241	-1.25E-01	4.14E-01	7.10E-01	-2.47E-01	4.26E-01	7.22E-01	-5.56E-01	7.86E-01	1.32E+00

Table 6

MH-7 to MH-8 Trench Sidewall A Soil Analytical Results

Analytical Parameter	RL04-1269-007			RL04-1270-008		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.04E-01	2.33E-01	3.96E-01	-1.53E-01	2.34E-01	3.90E-01
K-40	1.60E+01	2.04E+00	3.40E-01	1.48E+01	1.88E+00	2.52E-01
Co-58	9.24E-03	2.78E-02	5.24E-02	-2.20E-02	2.55E-02	4.21E-02
Co-60	2.06E-02	3.00E-02	5.54E-02	-4.76E-03	2.47E-02	4.45E-02
Zn-65	1.08E-02	7.38E-02	1.17E-01	-5.15E-02	6.67E-02	8.72E-02
Sb-125	-1.80E-02	8.39E-02	1.46E-01	3.87E-02	7.03E-02	1.31E-01
I-131	4.79E-03	4.68E-02	8.42E-02	1.27E-02	5.04E-02	9.09E-02
Cs-134	-9.57E-03	2.98E-02	4.32E-02	4.60E-03	2.75E-02	4.29E-02
Cs-137	-1.45E-02	3.06E-02	5.11E-02	4.73E-02	4.67E-02	4.16E-02
Eu-152	7.61E-02	1.13E-01	1.59E-01	5.92E-02	9.92E-02	1.45E-01
Eu-154	9.45E-03	7.82E-02	1.34E-01	2.07E-02	6.82E-02	1.19E-01
Tl-208	3.61E-01	7.38E-02	1.10E-01	2.38E-01	5.73E-02	4.59E-02
Bi-212	1.31E+00	5.58E-01	7.35E-01	9.66E-01	6.53E-01	5.59E-01
Pb-212	9.36E-01	1.45E-01	1.08E-01	8.34E-01	1.12E-01	9.59E-02
Bi-214	1.92E+00	1.78E-01	9.31E-02	1.29E+00	1.44E-01	9.75E-02
Pb-214	2.06E+00	1.95E-01	1.26E-01	1.36E+00	1.49E-01	1.02E-01
Ac-228	9.05E-01	1.65E-01	1.76E-01	9.06E-01	2.56E-01	3.78E-01
Th-234	1.83E+00	4.78E+00	1.92E+00	2.30E+00	4.56E+00	1.66E+00
U-235	9.93E-02	2.87E-01	1.13E-01	5.67E-02	2.52E-01	9.95E-02
Am-241	-4.32E-01	8.77E-01	1.50E+00	-2.95E-02	7.94E-01	1.39E+00

Analytical Parameter	RL04-1271-009			RL04-1272-010		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.16E-02	2.15E-01	3.79E-01	1.06E-02	1.84E-01	3.31E-01
K-40	1.33E+01	1.72E+00	3.84E-01	1.34E+01	1.71E+00	3.88E-01
Co-58	-3.34E-03	2.23E-02	4.06E-02	-2.49E-02	2.19E-02	3.45E-02
Co-60	-9.56E-04	2.08E-02	3.89E-02	-1.91E-02	2.24E-02	3.54E-02
Zn-65	-2.46E-02	6.29E-02	9.08E-02	6.59E-02	5.51E-02	1.02E-01
Sb-125	2.52E-04	6.36E-02	1.13E-01	-1.24E-02	5.70E-02	1.00E-01
I-131	-2.34E-02	3.95E-02	6.72E-02	-1.44E-02	4.41E-02	7.65E-02
Cs-134	1.04E-02	2.43E-02	3.93E-02	-1.91E-02	2.62E-02	3.55E-02
Cs-137	1.55E-01	5.08E-02	5.15E-02	8.73E-02	4.36E-02	3.87E-02
Eu-152	1.65E-02	8.95E-02	1.31E-01	-3.29E-02	8.01E-02	1.25E-01
Eu-154	7.86E-03	6.24E-02	1.08E-01	-1.46E-02	5.67E-02	9.62E-02
Tl-208	2.28E-01	4.69E-02	8.59E-02	2.04E-01	4.94E-02	8.04E-02
Bi-212	7.50E-01	5.47E-01	4.79E-01	4.92E-01	5.88E-01	5.94E-01
Pb-212	6.48E-01	9.99E-02	9.18E-02	7.44E-01	1.06E-01	7.82E-02
Bi-214	1.09E+00	1.31E-01	8.28E-02	9.92E-01	1.15E-01	6.99E-02
Pb-214	1.21E+00	1.34E-01	9.92E-02	1.02E+00	1.18E-01	8.77E-02
Ac-228	7.38E-01	1.35E-01	1.75E-01	5.75E-01	1.28E-01	1.59E-01
Th-234	6.49E-01	3.65E+00	1.47E+00	1.73E+00	3.56E+00	1.40E+00
U-235	3.10E-02	2.17E-01	9.23E-02	1.64E-01	2.22E-01	8.02E-02
Am-241	-3.21E-01	6.77E-01	1.16E+00	6.53E-02	6.15E-01	1.09E+00

Table 6

MH-7 to MH-8 Trench Sidewall B Soil Analytical Results

Analytical Parameter	RL04-1332-001			RL04-1333-002			RL04-1334-003		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.53E-02	1.36E-01	2.36E-01	2.70E-02	1.44E-01	2.53E-01	-9.68E-03	1.31E-01	2.28E-01
K-40	1.23E+01	1.42E+00	2.45E-01	1.22E+01	1.42E+00	2.03E-01	1.12E+01	1.31E+00	2.21E-01
Co-58	-1.62E-03	1.45E-02	2.60E-02	-1.19E-02	1.55E-02	2.59E-02	-3.29E-03	1.46E-02	2.59E-02
Co-60	-9.60E-03	1.43E-02	2.35E-02	1.64E-02	1.61E-02	3.19E-02	6.01E-03	1.43E-02	2.72E-02
Zn-65	2.68E-02	3.53E-02	5.91E-02	6.90E-03	3.97E-02	6.21E-02	-3.33E-02	4.31E-02	5.76E-02
Sb-125	1.35E-02	4.12E-02	7.33E-02	9.48E-03	4.20E-02	7.46E-02	-2.74E-02	4.03E-02	6.72E-02
I-131	-5.96E-03	3.65E-02	6.36E-02	3.53E-02	4.01E-02	7.36E-02	-3.22E-02	4.00E-02	6.66E-02
Cs-134	-8.24E-04	1.54E-02	2.29E-02	-1.48E-03	1.61E-02	2.39E-02	-2.84E-03	1.54E-02	2.26E-02
Cs-137	4.62E-02	3.68E-02	2.40E-02	8.59E-02	2.91E-02	2.68E-02	5.98E-02	2.41E-02	2.96E-02
Eu-152	1.84E-02	5.63E-02	8.46E-02	-2.06E-02	5.92E-02	8.61E-02	7.81E-03	5.65E-02	8.46E-02
Eu-154	-1.82E-02	3.93E-02	6.54E-02	-2.42E-02	4.13E-02	6.84E-02	-3.64E-02	4.08E-02	6.65E-02
Tl-208	1.54E-01	3.42E-02	2.40E-02	1.53E-01	3.34E-02	5.30E-02	1.52E-01	3.56E-02	5.39E-02
Bi-212	5.86E-01	2.38E-01	4.59E-01	3.75E-01	3.99E-01	3.58E-01	5.51E-01	2.50E-01	3.38E-01
Pb-212	5.29E-01	7.37E-02	5.12E-02	5.83E-01	8.05E-02	5.31E-02	5.00E-01	6.83E-02	5.57E-02
Bi-214	8.96E-01	8.20E-02	4.62E-02	8.99E-01	8.62E-02	4.99E-02	8.60E-01	9.02E-02	4.78E-02
Pb-214	9.09E-01	8.84E-02	5.63E-02	9.59E-01	9.30E-02	5.73E-02	9.66E-01	9.71E-02	6.24E-02
Ac-228	6.37E-01	8.74E-02	9.23E-02	6.21E-01	7.86E-02	1.07E-01	4.97E-01	8.42E-02	8.48E-02
Th-234	1.38E+00	2.49E+00	9.47E-01	5.98E-01	2.37E+00	1.02E+00	2.78E-01	2.37E+00	9.79E-01
U-235	2.16E-02	1.38E-01	5.31E-02	2.75E-02	1.49E-01	5.59E-02	-4.56E-02	1.37E-01	5.58E-02
Am-241	-5.73E-01	4.38E-01	7.11E-01	-3.35E-01	4.21E-01	7.05E-01	1.44E-01	4.44E-01	7.80E-01

Analytical Parameter	RL04-1335-004			RL04-1336-005			RL04-1273-006		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-5.73E-02	1.50E-01	2.54E-01	1.31E-02	1.42E-01	2.50E-01	1.31E-02	1.65E-01	3.00E-01
K-40	1.19E+01	1.40E+00	2.02E-01	1.23E+01	1.43E+00	2.08E-01	1.41E+01	1.75E+00	2.70E-01
Co-58	-1.64E-02	1.62E-02	2.63E-02	-9.30E-03	1.72E-02	2.94E-02	-1.06E-02	2.10E-02	3.66E-02
Co-60	-1.70E-02	1.69E-02	2.63E-02	-5.89E-04	1.53E-02	2.74E-02	1.59E-02	2.33E-02	4.69E-02
Zn-65	1.27E-02	4.40E-02	6.92E-02	3.46E-02	4.22E-02	7.01E-02	-6.71E-03	5.74E-02	8.79E-02
Sb-125	8.54E-03	4.75E-02	8.36E-02	-3.49E-02	4.44E-02	7.35E-02	4.33E-02	6.14E-02	1.15E-01
I-131	4.55E-03	4.25E-02	7.50E-02	-1.07E-03	4.02E-02	7.06E-02	-1.03E-02	3.50E-02	6.14E-02
Cs-134	3.07E-03	1.68E-02	2.57E-02	1.09E-02	1.55E-02	2.51E-02	1.72E-03	2.16E-02	3.36E-02
Cs-137	1.13E-01	3.49E-02	3.04E-02	5.07E-02	2.06E-02	2.68E-02	6.29E-04	2.26E-02	4.01E-02
Eu-152	7.81E-03	6.60E-02	8.54E-02	1.67E-02	6.29E-02	8.86E-02	-1.06E-02	8.06E-02	1.26E-01
Eu-154	1.23E-02	4.56E-02	7.79E-01	-1.26E-02	4.53E-02	7.59E-02	2.95E-02	5.66E-02	9.98E-02
Tl-208	2.14E-01	4.00E-02	2.75E-02	1.70E-01	3.92E-02	5.71E-02	1.95E-01	5.36E-02	3.78E-02
Bi-212	8.16E-01	3.40E-01	3.77E-01	6.79E-01	3.72E-01	3.29E-01	7.30E-01	3.97E-01	4.59E-01
Pb-212	6.20E-01	7.40E-02	6.07E-02	6.12E-01	8.46E-02	6.16E-02	6.81E-01	1.07E-01	1.64E-01
Bi-214	1.29E+00	1.10E-01	6.17E-02	1.21E+00	1.01E-01	5.61E-02	8.04E-01	1.07E-01	7.46E-02
Pb-214	1.32E+00	1.16E-01	6.63E-02	1.20E+00	1.07E-01	6.56E-02	8.51E-01	1.15E-01	8.06E-02
Ac-228	7.32E-01	1.15E-01	1.03E-01	7.38E-01	1.67E-01	2.30E-01	5.34E-01	1.22E-01	7.62E-02
Th-234	1.52E+00	2.70E+00	1.11E+00	-2.94E-01	2.72E+00	1.07E+00	1.69E+00	3.39E+00	1.43E+00
U-235	-4.65E-02	1.60E-01	6.21E-02	1.45E-01	1.69E-01	6.12E-02	7.06E-02	2.03E-01	8.05E-02
Am-241	9.26E-02	4.87E-01	8.51E-01	3.40E-01	4.84E-01	8.59E-01	-2.17E-01	6.00E-01	1.04E+00

Table 6

MH-7 to MH-8 Trench Sidewall B Soil Analytical Results

Analytical Parameter	RL04-1274-007 Result (pCi/g)	RL04-1274-007 2 σ (pCi/g)	RL04-1274-007 MDA (pCi/g)	RL04-1275-008 Result (pCi/g)	RL04-1275-008 2 σ (pCi/g)	RL04-1275-008 MDA (pCi/g)
Be-7	1.53E-02	1.66E-01	3.00E-01	-5.92E-02	1.91E-01	3.31E-01
K-40	1.43E+01	1.78E+00	3.98E-01	1.18E+01	1.54E+00	3.73E-01
Co-58	2.84E-03	2.00E-02	3.75E-02	-8.27E-03	2.17E-02	3.83E-02
Co-60	2.41E-03	2.41E-02	4.45E-02	5.42E-03	2.35E-02	4.49E-02
Zn-65	-2.98E-03	5.30E-02	8.22E-02	-2.35E-02	5.75E-02	8.29E-02
Sb-125	-5.17E-02	6.13E-02	1.01E-01	3.46E-02	6.14E-02	1.14E-01
I-131	4.81E-03	3.37E-02	6.13E-02	-2.37E-02	3.72E-02	6.31E-02
Cs-134	7.82E-03	1.82E-02	3.02E-02	-9.57E-03	2.32E-02	3.32E-02
Cs-137	3.31E-03	2.17E-02	3.89E-02	7.02E-02	4.04E-02	5.00E-02
Eu-152	2.84E-02	8.18E-02	1.11E-01	-1.13E-02	9.03E-02	1.25E-01
Eu-154	-3.83E-02	5.69E-02	9.40E-02	5.74E-02	6.33E-02	1.13E-01
Tl-208	2.22E-01	4.93E-02	8.09E-02	1.84E-01	5.27E-02	8.04E-02
Bi-212	1.09E+00	5.10E-01	4.34E-01	4.37E-01	1.01E-01	1.62E-01
Pb-212	7.46E-01	1.10E-01	7.52E-02	6.57E-01	4.46E-01	5.69E-01
Bi-214	7.57E-01	1.05E-01	7.05E-02	1.26E+00	1.36E-01	7.60E-02
Pb-214	8.52E-01	1.02E-01	8.45E-02	1.22E+00	1.31E-01	8.55E-02
Ac-228	7.83E-01	1.22E-01	1.37E-01	6.11E-01	2.09E-01	3.24E-01
Th-234	-8.32E-01	3.47E+00	1.29E+00	2.18E+00	3.80E+00	1.46E+00
U-235	1.43E-01	2.01E-01	7.43E-02	7.01E-02	2.19E-01	8.34E-02
Am-241	-3.49E-01	6.16E-01	1.05E+00	-3.29E-01	6.94E-01	1.19E+00

Analytical Parameter	RL04-1276-009 Result (pCi/g)	RL04-1276-009 2 σ (pCi/g)	RL04-1276-009 MDA (pCi/g)	RL04-1277-010 Result (pCi/g)	RL04-1277-010 2 σ (pCi/g)	RL04-1277-010 MDA (pCi/g)
Be-7	-8.68E-02	2.01E-01	3.42E-01	4.59E-02	1.81E-01	3.32E-01
K-40	1.31E+01	1.64E+00	2.42E-01	1.40E+01	1.79E+00	3.52E-01
Co-58	-1.51E-02	2.12E-02	3.57E-02	-1.96E-02	2.31E-02	3.82E-02
Co-60	9.26E-03	1.78E-02	3.68E-02	-2.35E-03	2.25E-02	4.10E-02
Zn-65	-8.07E-03	5.83E-02	8.86E-02	-1.67E-02	6.22E-02	9.21E-02
Sb-125	-1.36E-03	6.39E-02	1.13E-01	-7.04E-03	5.94E-02	1.05E-01
I-131	-4.38E-02	3.87E-02	6.25E-02	-5.40E-03	3.88E-02	6.87E-02
Cs-134	3.81E-03	2.23E-02	3.49E-02	-1.39E-02	2.50E-02	3.50E-02
Cs-137	7.20E-03	2.42E-02	4.36E-02	5.10E-03	2.43E-02	4.37E-02
Eu-152	-9.17E-03	8.14E-02	1.26E-01	2.30E-02	9.11E-02	1.21E-01
Eu-154	-4.70E-02	5.86E-02	9.60E-02	9.53E-03	6.46E-02	1.13E-01
Tl-208	2.12E-01	5.33E-02	8.10E-02	2.30E-01	4.84E-02	8.72E-02
Bi-212	8.94E-01	4.00E-01	4.66E-01	7.54E-01	4.64E-01	4.82E-01
Pb-212	5.40E-01	9.56E-02	1.06E-01	7.05E-01	1.06E-01	8.54E-02
Bi-214	1.08E+00	1.15E-01	7.34E-02	1.12E+00	1.21E-01	7.26E-02
Pb-214	1.08E+00	1.27E-01	9.62E-02	1.21E+00	1.33E-01	9.50E-02
Ac-228	6.36E-01	1.84E-01	3.03E-01	6.53E-01	1.27E-01	1.47E-01
Th-234	-4.13E-01	3.55E+00	1.37E+00	2.61E+00	3.92E+00	1.50E+00
U-235	6.17E-02	2.05E-01	8.08E-02	-1.21E-01	2.23E-01	8.73E-02
Am-241	-1.88E-01	6.38E-01	1.10E+00	-8.06E-01	6.94E-01	1.13E+00

Table 7

EXCAVATION SIDEWALL COMPARISON VALUE CALCULATION

Area/Volume ID		Number of Data Points	t95% (n-1) Value from Table B-1 of NUREG/CR-5849
MH-7 TO MH-8 Trench	Sidewalls	20	1.729

	Sample Number	Cs-137 Result (pCi/g)
1	237-1	0.16
2	237-2	0.12
3	237-3	0.11
4	237-4	0.08
5	237-5	0.05
6	294	0.08
7	295	0.05
8	296	0.05
9	297	0.16
10	298	0.09
11	237-6	0.05
12	237-7	0.09
13	237-8	0.06
14	237-9	0.11
15	237-10	0.05
16	299	0.04
17	300	0.04
18	301	0.07
19	302	0.04
20	303	0.04

Average	Comparison Value
0.08	0.09

Standard Deviation	Modified Cleanup Criteria
0.04	11

Comparison < Criteria
Yes

Table 8
MH-7 to MH-8 Trench Walkover Scan Results

	Side		Trench		Side	
	1	15.8K	1	16.2K	1	16.4K
			2	15.9K		
			3	15.5K		
			4	16.1K		
			5	15.8K		
			6	16.4K		
	2	15.7K	7	16.1K	2	17.7K
			8	16.0K		
			9	17.1K		
			10	16.9K		
			11	16.5K		
			12	17.3K		
100'	3	15.0K	13	16.9K	3	15.7K
			14	17.0K		
			15	18.7K		
			16	16.8K		
			17	15.9K		
			18	14.9K		
	4	14.8K	19	14.7K	4	16.0K
			20	15.5K		
			21	16.2K		
			22	16.0K		
			23	15.2K		
			24	15.6K		
	5	15.5K	25	15.1K	5	14.9K
			26	14.6K		
			27	14.9K		
			28	15.0K		
			29	15.1K		
			30	14.9K		
	6	16.1K	31	15.2K	6	14.2K
			32	16.0K		
			33	14.8K		
	7	15.5K	34	15.3K	7	16.5K
			35	14.3K		
			36	16.1K		
47'	8	16.9K	37	14.7K	8	18.1K
			38	15.5K		
			39	17.0K		
	9	16.3K	40	16.3K	9	17.3K
			41	16.8K		
			42	15.9K		
	10	17.3K	43	16.9K	10	18.1K
			44	16.2K		
			45	14.9K		

Background = 16.4K

TABLE 9
MH-7 to MH-8 Overburden Soil Result Summary

Overburden B		Side		Trench		Side		Overburden A	
1	7.21E-02(ND)	1	4.62E-02	1	2.38E-02(ND)	1	1.56E-01	1	6.24E-02
				2	2.20E-02(ND)				
				3	1.29E-02(ND)				
				4	1.21E-02(ND)				
2	7.61E-02(ND)			5	1.34E-02(ND)			2	1.82E-02
				6	1.40E-02(ND)				
				7	1.38E-02(ND)				
3	7.20E-02(ND)			8	1.60E-02(ND)			3	2.04E-02(N)
		2	8.59E-02	9	1.28E-02(ND)	2	1.19E-01		
				10	1.35E-02(ND)				
4	2.84e-02(ND)			11	1.49E-02(ND)			4	2.26E-02(ND)
				12	1.51E-02(ND)				
				13	1.51E-02(ND)				
5	2.77E-02(ND)			14	2.26E-02			5	1.62E-02(ND)
100'		3	5.98E-02	15	1.57E-02	3	1.06E-01		
				16	2.33E-02(ND)				
6	2.71E-02(ND)			17	1.41E-02(ND)			6	5.14E-02(ND)
				18	1.39E-02(ND)				
				19	2.07E-02(ND)				
7	2.03E-02(ND)			20	2.08E-02(ND)			7	4.69E-02(ND)
		4	1.13E-01	21	2.12E-02(ND)	4	8.05E-02		
				22	2.29E-02(ND)				
8	2.48E-02(ND)			23	2.26E-02			8	3.35E-02(ND)
				24	2.20E-02(ND)				
				25	2.48E-02(ND)				
9	2.15E-02(ND)			26	2.27E-02(ND)			9	3.56E-02(ND)
		5	5.07E-02	27	2.22E-02(ND)	5	5.43E-02		
				28	2.02E-02(ND)				
10	2.39E-02(ND)			29	2.28E-02(ND)			10	3.76E-02(ND)
				30	2.14E-02(ND)				
11	2.49E-02(ND)			31	2.04E-02(ND)			11	7.55E-02
		6	4.01E-02(ND)	32	2.14E-02(ND)	6	7.51E-02		
12	2.53E-02(ND)			33	2.06E-02(ND)			12	3.81E-02
13	3.0E-02(ND)			34	2.46E-02(ND)			13	3.24E-02
		7	3.89E-02(ND)	35	2.30E-02(ND)	7	5.11E-02(ND)		
14	2.76E-02(ND)			36	2.69E-02(ND)			14	1.86E-02(ND)
15	2.53E-02(ND)			37	5.76E-02			15	2.20E-02(ND)
47'		8	7.02E-02	38	7.07E-02	8	4.73E-02		
16	2.67E-02(ND)			39	3.42E-02(ND)			16	3.45E-02(ND)
17	2.94E-02(ND)			40	2.87E-02			17	3.84E-02(ND)
		9	4.36E-02(ND)	41	4.74E-02(ND)	9	1.55E-01		
18	2.80E-02			42	7.48E-02			18	2.87E-02(ND)
19	1.11E-01			43	2.99E-02			19	3.95E-02(ND)
		10	4.37E-02(ND)	44	2.86E-02(ND)	10	8.73E-02		
20	5.06E-02(ND)			45	4.55E-02(ND)			20	3.47E-02(ND)

Results in pCi/g

ND = Non Detectable
(Non Identified Nuclides)

Table 10

MH-7 to MH-8 Overburden A Soil Analytical Results

Analytical Parameter	RL04-11126-001			RL04-1127-002			RL04-1128-003		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.07E-01	1.05E-01	1.70E-01	-9.16E-03	7.1-E-02	1.22E-01	-2.36E-02	8.93E-02	1.52E-01
K-40	1.37E+01	1.49E+00	1.85E-01	5.73E+00	6.67E-01	1.16E-01	1.08E+01	1.20E+00	1.55E-01
Co-58	-1.62E-02	1.20E-02	1.91E-02	-4.90E-04	7.36E-03	1.31E-02	-1.20E-02	1.03E-02	1.65E-02
Co-60	-4.85E-03	1.24E-02	2.08E-02	-3.75E-03	8.38E-03	1.41E-02	-2.26E-03	1.13E-02	1.93E-02
Zn-65	-2.85E-03	3.20E-02	4.71E-02	-6.57E-04	2.25E-02	3.37E-02	5.76E-03	2.78E-02	4.25E-02
Sb-125	3.78E-02	3.43E-02	6.12E-02	8.83E-03	2.31E-02	4.08E-02	2.48E-02	3.01E-02	5.39E-02
I-131	2.14E-02	1.55E-02	2.80E-02	-5.81E-04	1.07E-02	1.86E-02	4.77E-03	1.43E-02	2.52E-02
Cs-134	-6.13E-03	1.26E-02	1.77E-02	1.73E-03	8.27E-03	1.25E-02	-3.51E-03	1.21E-02	1.73E-02
Cs-137	6.24E-02	2.10E-02	2.06E-02	1.82E-02	1.62E-02	1.28E-02	-4.89E-03	1.24E-02	2.04E-02
Eu-152	-2.27E-02	4.89E-02	6.88E-02	2.39E-03	3.32E-02	4.49E-02	5.09E-03	4.20E-02	5.84E-02
Eu-154	-1.91E-02	3.47E-02	5.73E-02	8.83E-03	2.33E-02	3.97E-02	-1.45E-03	2.93E-02	4.92E-02
Tl-208	2.20E-01	3.31E-02	2.13E-02	9.58E-02	1.78E-02	1.26E-02	1.66E-01	2.99E-02	1.71E-02
Bi-212	9.48E-01	2.88E-01	2.84E-01	2.63E-01	1.73E-01	1.88E-01	5.95E-01	2.51E-01	2.37E-01
Pb-212	7.87E-01	7.17E-02	4.54E-02	3.07E-01	3.65E-02	3.15E-02	5.70E-01	5.73E-02	4.04E-02
Bi-214	1.35E+00	9.65E-02	3.66E-02	6.80E-01	5.68E-02	2.62E-02	9.57E-01	7.71E-02	3.71E-02
Pb-214	1.37E+00	1.00E-01	4.59E-02	7.23E-01	6.11E-02	3.26E-02	9.98E-01	8.09E-02	4.25E-02
Ac-228	7.23E-01	7.58E-02	7.38E-02	3.32E-01	4.65E-02	4.86E-02	6.05E-01	6.55E-02	6.17E-02
Th-234	5.26E-01	2.02E+00	8.21E-01	1.17E+00	1.44E+00	5.54E-01	2.47E-01	1.78E+00	7.00E-01
U-235	1.77E-02	1.19E-01	4.80E-02	7.15E-02	8.32E-02	3.21E-02	9.95E-02	1.04E-01	4.11E-02
Am-241	-1.19E-01	3.64E-01	6.19E-01	-9.57E-02	2.46E-01	4.19E-01	-1.17E-01	3.22E-01	5.48E-01

Analytical Parameter	RL04-1101-004			RL04-1102-005			RL04-1090-006		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-9.19E-02	1.04E-01	1.71E-01	-3.41E-02	8.08E-02	1.36E-01	3.20E-02	1.98E-01	3.59E-01
K-40	1.45E+01	1.57E+00	1.38E-01	1.25E+01	1.36E+00	1.38E-01	1.33E+01	1.76E+00	3.63E-01
Co-58	-5.38E-03	1.18E-02	2.01E-02	-1.39E-03	8.86E-03	1.55E-02	6.48E-03	2.09E-02	4.06E-02
Co-60	1.08E-03	1.25E-02	2.19E-02	5.42E-05	1.07E-02	1.85E-02	-1.92E-02	2.62E-02	4.25E-02
Zn-65	-3.06E-03	3.22E--02	4.75E-02	7.69E-04	2.86E-02	4.25E-02	-1.91E-02	6.41E-02	9.49E-02
Sb-125	-9.36E-03	3.60E-02	6.11E-02	-2.80E-03	2.60E-02	4.46E-02	-1.07E-02	6.83E-02	1.20E-01
I-131	8.08E-03	1.64E-02	2.89E-02	-4.53E-03	1.23E-02	2.10E-02	-1.14E-02	2.70E-02	4.67E-02
Cs-134	-7.65E-03	1.34E-02	1.88E-02	-1.27E-03	9,81E-03	1.43E-02	1.57E-03	2.44E-02	3.81E-02
Cs-137	-2.76E-03	1.35E-02	2.26E-02	-9.15E-03	1.02E-02	1.62E-02	-7.28E-03	3.00E-02	5.14E-02
Eu-152	-2.64E-02	4.99E-02	6.79E-02	1.39E-02	3.86E-02	5..46E-02	1.36E-02	9.31E-02	1.33E-01
Eu-154	-1.67E-03	3.47E-02	5.82E-02	9.97E-03	2.72E-02	4.61E-02	1.84E-02	6.57E-02	1.15E-01
Tl-208	2.95E-01	3.95E-02	2.29E-02	1.76E-01	2.56E-02	1.63E-02	2.59E-01	5.73E-02	1.01E-01
Bi-212	8.43E-01	3.30E-01	2.92E-01	7.56E-01	2.30E-01	2.24E-01	6.44E-01	5.56E-01	5.91E-01
Pb-212	1.04E+00	8.94E-02	4.44E-02	5.64E-01	5.45E-02	3.52E-02	8.88E-01	1.25E-01	8.84E-02
Bi-214	1.05E+00	8.43E-02	4.36E-02	6.47E-01	5.99E-02	3.25E-02	9.76E-01	1.28E-01	8.80E-02
Pb-214	1.14E+00	8.96E-02	4.80E-02	7.29E-01	6.38E-02	3.82E-02	1.01E+00	1.30E-01	1.04E-01
Ac-228	1.01E+00	9.22E-02	7.86E-02	5.94E-01	6.24E-02	6.06E-02	1.10E+00	1.50E-01	1.70E-01
Th-234	8.23E-01	2.07E+00	8.50E-01	5.95E-01	1.65E+00	6.11E-01	-1.36E+00	4.04E+00	1.61E+00
U-235	8.31E-02	1.26E-01	4.90E-02	-9.86E-03	9.72E-02	3.56E-02	1.01E-01	2.59E-01	9.54E-02
Am-241	-1.64E-01	3.71E-01	6.28E-01	-1.22E-02	2.89E-01	4.96E-01	2.29E-01	7.10E-01	1.28E+00

Table 10

MH-7 to MH-8 Overburden A Soil Analytical Results

Analytical Parameter	RL04-1091-007			RL04-1092-008			RL04-1077-009		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	3.64E-02	1.91E-01	3.51E-01	1.42E-03	1.30E-01	2.37E-01	-1.94E-02	1.61E-01	2.84E-01
K-40	1.43E+01	1.90E+00	4.57E-01	1.06E+01	1.43E+00	3.16E-01	1.26E+01	1.59E+00	3.37E-01
Co-58	-1.57E-02	2.16E-02	3.63E-02	-2.82E-03	1.42E-02	2.64E-02	2.13E-03	1.58E-02	3.03E-02
Co-60	1.02E-02	2.69E-02	5.29E-02	-1.80E-03	2.13E-02	3.91E-02	-9.30E-03	1.88E-02	3.22E-02
Zn-65	-1.87E-02	6.61E-02	9.89E-02	-1.69E-02	4.73E-02	6.93E-02	3.57E-02	5.51E-02	9.46E-02
Sb-125	-2.83E-02	7.47E-02	1.29E-01	3.39E-02	5.05E-02	9.67E-02	-1.23E-02	5.55E-02	9.73E-02
I-131	-1.35E-02	2.74E-02	4.72E-02	-4.24E-03	2.17E-02	3.82E-02	4.39E-03	2.21E-02	4.02E-02
Cs-134	-3.06E-02	3.27E-02	4.28E-02	-6.87E-03	2.18E-02	3.18E-02	1.09E-02	1.93E-02	3.25E-02
Cs-137	-5.78E-03	2.70E-02	4.69E-02	-1.42E-02	2.06E-02	3.35E-02	-5.11E-03	2.06E-02	3.56E-02
Eu-152	3.49E--02	1.02E-01	1.42E-01	-1.85E-02	7.66E-02	1.07E-01	-4.13E-02	7.57E-02	1.15E-01
Eu-154	1.91E-02	7.20E-02	1.26E-01	-7.46E-03	5.53E-02	9.44E-02	1.91E-03	5.30E-02	9.15E-02
Tl-208	2.39E-01	5.74E-02	4.46E-02	2.53E-01	4.58E-02	3.65E-02	1.89E-01	4.08E-02	3.41E-02
Bi-212	1.08E+00	4.82E-01	5.92E-01	1.02E+00	4.47E-01	5.26E-01	9.96E-01	4.55E-01	5.07E-01
Pb-212	8.45E-01	1.26E-01	9.78E-02	7.83E-01	1.08E-01	7.04E-02	5.52E-01	9.16E-02	1.52E-01
Bi-214	9.67E-01	1.29E-01	9.11E-02	6.08E-01	1.11E-01	1.90E-01	6.47E-01	9.72E-02	7.31E-02
Pb-214	9.89E-01	1.24E-01	1.05E-01	7.24E-01	1.02E-01	7.49E-02	7.86E-01	1.08E-01	8.76E-02
Ac-228	9.67E-01	2.24E-01	4.00E-01	8.30E-01	1.11E-01	1.27E-01	6.43E-01	1.19E-01	1.27E-01
Th-234	-2.15E+00	4.23E+00	1.81E+00	5.83E-01	3.26E+00	1.37E+00	-1.38E+00	3.32E+00	1.29E+00
U-235	-1.73E-02	2.51E-01	9.34E-02	1.54E-01	1.89E-01	7.55E-02	-1.11E-01	1.96E-01	7.21E-02
Am-241	5.04E-01	7.37E-01	1.35E+00	-1.37E-01	6.93E-01	1.03E+00	1.04E-01	5.79E-01	1.03E+00

Analytical Parameter	RL04-1078-010			RL04-1129-011			RL04-1130-012		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-4.50E-02	1.72E-01	3.00E-01	-2.04E-02	1.13E-01	1.93E-01	-9.53E-02	9.11E-02	1.47E-01
K-40	1.26E+01	1.62E+00	3.89E-01	1.41E+01	1.54E+00	1.74E-01	1.16E+01	1.28E+00	1.58E-01
Co-58	-7.22E-03	2.04E-02	3.63E-02	-1.37E-02	1.27E-02	2.07E-02	-9.11E-03	1.07E-02	1.78E-02
Co-60	4.54E-03	2.04E-02	4.01E-02	-9.39E-03	1.26E-02	2.04E-02	-5.31E-03	1.11E-02	1.86E-02
Zn-65	3.85E-03	5.62E-02	8.98E-02	-1.03E-02	3.54E-02	5.12E-02	3.86E-03	3.07E-02	4.63E-02
Sb-125	8.36E-03	5.80E-02	1.06E-01	2.96E-03	3.65E-02	6.32E-02	4.29E-03	3.02E-02	5.24E-02
I-131	-2.16E-03	2.02E-02	3.63E-02	-4.24E-03	1.80E-02	3.07E-02	1.67E-04	1.46E-02	2.54E-02
Cs-134	-1.68E-02	2.34E-02	3.16E-02	3.25E-03	1.29E-02	1.95E-02	-6.43E-03	1.16E-02	1.62E-02
Cs-137	-2.81E-03	2.14E-02	3.76E-02	7.55E-02	3.10E-02	2.21E-02	3.81E-02	1.68E-02	1.97E-02
Eu-152	2.64E-02	7.87E-02	1.22E-01	-5.88E-02	5.25E-02	7.04E-02	3.32E-03	4.50E-02	6.27E-02
Eu-154	-5.20E-02	5.57E-02	9.04E-02	-2.28E-02	3.60E-02	5.94E-02	2.78E-03	3.17E-02	5.34E-02
Tl-208	1.84E-01	5.24E-02	8.13E-02	2.20E-01	3.50E-02	2.15E-02	2.02E-01	3.07E-02	1.82E-02
Bi-212	1.04E+00	4.68E-01	3.51E-01	6.31E-01	3.36E-01	2.78E-01	7.10E-01	2.55E-01	2.43E-01
Pb-212	5.23E-01	9.05E-02	1.55E-01	7.56E-01	7.43E-02	4.70E-02	6.00E-01	6.97E-02	4.12E-02
Bi-214	7.84E-01	1.11E-01	7.64E-02	1.30E+00	9.78E-02	4.15E-02	1.05E+00	8.31E-02	3.72E-02
Pb-214	7.80E-01	1.11E-01	8.02E-02	1.28E+00	9.87E-02	5.37E-02	1.05E+00	8.24E-02	4.60E-02
Ac-228	6.34E-01	1.85E-01	3.04E-01	8.50E-01	9.03E-02	7.78E-02	6.95E-01	7.19E-02	6.98E-02
Th-234	4.19E-01	3.21E+00	1.37E+00	2.29E+00	2.38E+00	8.97E-01	-2.64E-01	1.84E+00	7.53E-01
U-235	-6.97E-02	2.12E-01	7.68E-02	1.38E-01	1.31E-01	5.12E-02	1.48E-01	1.17E-01	4.28E-02
Am-241	-1.11E-02	5.74E-01	1.02E+00	-1.73E-01	3.98E-01	6.75E-01	4.27E-02	3.35E-01	5.78E-01

Table 10

MH-7 to MH-8 Overburden A Soil Analytical Results

Analytical Parameter	RL04-1131-013			RL04-1103-014			RL04-1104-015		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	2.46E-02	9.37E-02	1.64E-01	8.60E-03	8.02E-02	1.39E-01	9.66E-02	8.13E-02	1.48E-01
K-40	1.19E+01	1.32E+00	1.61E-01	1.31E+01	1.42E+00	1.44E-01	8.57E+00	9.63E-01	1.28E-01
Co-58	-5.60E-03	1.04E-02	1.78E-02	-4.94E-03	8.98E-03	1.53E-02	-1.53E-02	9.41E-03	1.43E-02
Co-60	-9.11E-04	1.23E-02	2.13E-02	-9.95E-03	1.03E-02	1.63E-02	4.00E-03	9.91E-03	1.81E-02
Zn-65	-1.37E-02	3.11E-02	4.41E-02	-3.75E-03	2.79E-02	4.10E-02	-6.47E-03	2.38E-02	3.47E-02
Sb-125	1.75E-02	3.24E-02	5.73E-02	-1.23E-02	2.87E-02	4.84E-02	6.56E-03	2.86E-02	4.99E-02
I-131	2.72E-03	1.52E-02	2.66E-02	-2.11E-03	1.34E-02	2.30E-02	4.23E-03	1.27E-02	2.24E-02
Cs-134	-8.92E-03	1.20E-02	1.64E-02	7.54E-03	1.04E-02	1.62E-02	-1.28E-03	9.89E-03	1.45E-02
Cs-137	3.24E-02	1.34E-02	2.18E-02	2.83E-04	1.10E-02	1.86E-02	2.49E-02	1.33E-02	2.20E-02
Eu-152	-2.88E-02	4.43E-02	6.11E-02	-9.71E-03	4.09E-02	5.68E-02	2.92E-02	3.94E-02	5.56E-02
Eu-154	1.87E-02	3.06E-02	5.24E-02	1.74E-02	2.88E-02	4.91E-02	1.01E-02	2.76E-02	4.70E-02
Tl-208	1.99E-01	3.05E-02	2.03E-02	2.01E-01	3.09E-02	1.69E-02	1.34E-01	2.50E-02	1.69E-02
Bi-212	6.57E-01	2.14E-01	2.63E-01	5.71E-01	2.33E-01	2.32E-01	5.94E-01	2.14E-01	2.18E-01
Pb-212	6.71E-01	6.47E-02	4.34E-02	6.07E-01	5.82E-02	3.71E-02	4.78E-01	4.90E-02	3.62E-02
Bi-214	9.62E-01	7.68E-02	3.94E-02	7.80E-01	6.51E-02	3.19E-02	8.49E-01	6.66E-02	3.18E-02
Pb-214	1.02E+00	8.43E-02	4.46E-02	7.86E-01	6.95E-02	4.07E-02	8.88E-01	7.33E-02	4.02E-02
Ac-228	5.76E-01	7.09E-02	7.27E-02	6.33E-01	6.82E-02	6.56E-02	4.41E-01	5.53E-02	6.16E-02
Th-234	-8.77E-01	1.93E+00	7.86E-01	-4.50E-01	1.73E+00	6.68E-01	6.76E-01	1.63E+00	6.50E-01
U-235	5.35E-02	1.15E-01	4.49E-02	1.50E-02	1.00E-01	3.73E-02	2.72E-02	1.00E-01	3.72E-02
Am-241	-2.84E-01	3.41E-01	5.70E-01	1.24E-01	3.12E-01	5.41E-01	-9.61E-02	2.95E-01	5.03E-01

Analytical Parameter	RL04-1079-016			RL04-1080-017			RL04-1081-018		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-8.61E-02	1.57E-01	2.68E-01	-9.20E-02	1.76E-01	2.97E-01	-1.15E-01	1.27E-01	2.05E-01
K-40	1.38E+01	1.73E+00	2.48E-01	1.41E+01	1.76E+00	2.29E-01	1.23E+01	1.53E+00	3.22E-01
Co-58	-9.92E-03	1.93E-02	3.35E-02	-1.04E-02	1.97E-02	3.42E-02	1.10E-02	1.47E-02	2.46E-02
Co-60	-1.65E-02	2.19E-02	3.54E-02	4.74E-03	2.33E-02	4.41E-02	-3.27E-03	1.65E-02	2.99E-02
Zn-65	4.23E-03	4.74E-02	7.67E-02	5.03E-02	5.70E-02	1.00E-01	-2.24E-02	5.22E-02	7.48E-02
Sb-125	2.78E-02	5.63E-02	1.05E-01	-2.71E-03	6.01E-02	1.07E-01	-4.54E-02	5.07E-02	8.28E-02
I-131	-5.04E-03	2.15E-02	3.78E-02	-1.62E-02	2.17E-02	3.64E-02	-1.53E-03	1.88E-02	3.35E-02
Cs-134	-4.47E-04	1.93E-02	2.97E-02	-1.41E-02	2.04E-02	2.76E-02	4.80E-03	1.74E-02	2.80E-02
Cs-137	-1.75E-02	2.16E-02	3.45E-02	8.62E-03	2.05E-02	3.84E-02	-3.14E-02	2.02E-02	2.87E-02
Eu-152	1.41E-02	8.09E-02	1.16E-01	-2.67E-02	8.24E-02	1.13E-01	4.48E-02	6.94E-02	9.73E-02
Eu-154	1.10E-03	5.56E-02	9.56E-02	-2.41E-03	5.78E-02	9.90E-02	4.49E-02	4.82E-02	8.63E-02
Tl-208	2.37E-01	4.95E-02	8.01E-02	2.11E-01	4.65E-02	3.81E-02	1.56E-01	4.51E-02	6.82E-02
Bi-212	4.19E-01	3.43E-01	6.61E-01	5.46E-01	4.15E-01	4.91E-01	9.25E-01	3.75E-01	3.97E-01
Pb-212	5.91E-01	9.71E-02	1.55E-01	5.70E-01	9.37E-02	1.55E-01	6.32E-01	9.18E-02	6.58E-02
Bi-214	6.22E-01	9.04E-02	3.74E-02	6.75E-01	9.86E-02	3.82E-02	5.96E-01	8.02E-02	6.23E-02
Pb-214	7.16E-01	9.58E-02	8.77E-02	7.80E-01	1.06E-01	8.48E-02	5.92E-01	8.35E-02	6.92E-02
Ac-228	5.53E-01	2.06E-01	2.90E-01	6.50E-01	1.68E-01	3.04E-01	6.18E-01	1.58E-01	2.68E-01
Th-234	-1.40E+00	3.32E+00	1.37E+00	8.36E-02	3.41E+00	1.26E+00	1.34E+00	2.90E+00	1.17E+00
U-235	-9.09E-02	1.94E-01	7.33E-02	2.20E-02	2.01E-01	7.21E-02	1.60E-01	1.79E-01	6.44E-02
Am-241	1.61E-01	5.76E-01	1.03E+00	6.88E-02	6.00E-01	1.07E+00	-1.46E-01	5.23E-01	9.06E-01

Table 10

MH-7 to MH-8 Overburden A Soil Analytical Results

Analytical Parameter	RL04-1082-019			RL04-1083-020		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-6.64E-02	1.85E-01	3.17E-01	4.44E-02	1.71E-01	3.13E-01
K-40	1.31E+01	1.65E+00	3.26E-01	1.22E+01	1.58E+00	2.22E-01
Co-58	-1.65E-02	1.91E-02	3.15E-02	3.56E-03	1.90E-02	3.60E-02
Co-60	-1.49E-04	2.44E-02	4.14E-02	2.90E-03	2.07E-02	3.97E-02
Zn-65	-1.48E-02	5.06E-02	7.51E-02	-1.90E-02	5.28E-02	7.71E-02
Sb-125	8.34E-03	5.27E-02	9.59E-02	-3.51E-02	5.65E-02	9.52E-02
I-131	2.73E-02	2.20E-02	4.28E-02	-5.32E-03	2.25E-02	3.95E-02
Cs-134	2.77E-03	2.10E-02	3.29E-02	-6.45E-03	2.22E-02	3.24E-02
Cs-137	-1.66E-02	2.43E-02	3.95E-02	-3.74E-03	1.98E-02	3.47E-02
Eu-152	3.67E-02	8.33E-02	1.16E-01	-1.08E-01	7.72E-02	1.09E-01
Eu-154	2.58E-02	5.69E-02	9.98E-02	-3.52E-03	5.15E-02	8.86E-02
Tl-208	2.10E-01	5.05E-02	8.10E-02	1.64E-01	5.11E-02	7.58E-02
Bi-212	7.89E-01	3.98E-01	4.30E-01	5.02E-01	3.25E-01	6.54E-01
Pb-212	6.17E-01	1.02E-01	1.56E-01	4.84E-01	9.06E-02	9.34E-02
Bi-214	6.92E-01	9.92E-02	7.54E-02	6.94E-01	9.44E-02	7.02E-02
Pb-214	8.82E-01	1.03E-01	8.40E-02	6.96E-01	9.92E-02	7.19E-02
Ac-228	7.21E-01	1.20E-01	1.41E-01	4.95E-01	1.57E-01	2.77E-01
Th-234	-7.62E-01	3.34E+00	1.34E+00	7.74E-01	3.27E+00	1.34E+00
U-235	3.57E-02	2.03E-01	7.59E-02	-5.83E-02	1.79E-01	7.69E-02
Am-241	1.42E-02	5.96E-01	1.05E+00	-6.18E-02	5.68E-01	1.00E+00

Table 11

MH-7 to MH-8 Overburden B Soil Analytical Results

Analytical Parameter	RL04-1216-001			RL04-1217-002			RL04-1218-003		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	1.20E-02	3.53E-02	5.96E-02	-2.29E-02	3.72E-02	6.15E-02	-2.52E-02	3.62E-02	5.97E-02
K-40	1.39E+01	1.42E+00	6.01E-02	1.48E+01	1.51E+00	6.20E-02	1.47E+01	1.50E+00	5.80E-02
Co-58	-6.80E-03	4.25E-03	6.74E-03	-8.28E-03	4.45E-03	6.91E-03	-2.22E-03	4.66E-03	6.77E-03
Co-60	1.75E-03	4.55E-03	7.74E-03	4.98E-03	4.97E-03	8.60E-03	2.25E-03	4.92E-03	8.37E-03
Zn-65	2.59E-03	1.21E-02	1.78E-02	-1.30E-02	1.31E-02	1.78E-02	-3.33E-03	1.18E-02	1.68E-02
Sb-125	2.48E-03	1.21E-02	2.04E-02	-5.92E-03	1.28E-02	2.14E-02	2.12E-02	1.25E-02	2.15E-02
I-131	1.45E-03	5.16E-03	8.79E-03	5.78E-04	5.48E-03	9.31E-03	-1.25E-03	5.45E-03	9.19E-03
Cs-134	3.22E-03	4.56E-03	6.69E-03	4.87E-03	4.70E-03	6.97E-03	9.71E-04	4.52E-03	6.53E-03
Cs-137	-2.39E-03	5.16E-03	7.21E-03	-7.59E-04	5.36E-03	7.61E-03	1.06E-03	4.99E-03	7.20E-03
Eu-152	1.96E-02	1.77E-02	2.25E-02	-1.25E-04	1.81E-02	2.42E-02	5.36E-03	1.76E-02	2.32E-02
Eu-154	-4.24E-03	1.27E-02	2.03E-02	-4.62E-04	1.27E-02	2.11E-02	-3.89E-03	1.24E-02	2.04E-02
Tl-208	1.89E-01	1.95E-02	7.22E-03	2.05E-01	2.11E-02	7.54E-03	1.95E-01	1.95E-02	7.59E-03
Bi-212	6.60E-01	1.21E-01	1.00E-01	6.71E-01	1.46E-01	1.04E-01	5.66E-01	1.35E-01	1.02E-01
Pb-212	6.69E-01	4.64E-02	1.59E-02	6.74E-01	4.81E-02	1.67E-02	6.43E-01	4.63E-02	1.59E-02
Bi-214	6.11E-01	3.66E-02	1.47E-02	6.91E-01	4.27E-02	1.45E-02	6.61E-01	3.99E-02	1.45E-02
Pb-214	6.20E-01	4.10E-02	1.65E-02	7.03E-01	4.70E-02	1.78E-02	6.76E-01	4.53E-02	1.70E-02
Ac-228	6.42E-01	4.25E-02	2.73E-02	6.30E-01	4.22E-02	2.85E-02	6.18E-01	4.05E-02	2.71E-02
Th-234	4.47E-01	7.46E-01	2.77E-01	1.32E+00	9.42E-01	2.94E-01	4.85E-01	7.56E-01	2.84E-01
U-235	7.45E-02	1.32E-02	1.27E-02	2.16E-02	4.52E-02	1.84E-02	2.32E-02	4.40E-02	1.58E-02
Am-241	-8.40E-02	1.29E-01	2.17E-01	-2.23E-01	1.38E-01	2.26E-01	-1.60E-01	1.32E-01	2.17E-01

Analytical Parameter	RL04-1251-004			RL04-1252-005			RL04-1253-006		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	2.64E-02	1.56E-01	2.74E-01	-3.81E-02	1.40E-01	2.41E-01	-3.98E-02	1.37E-01	2.34E-01
K-40	1.60E+01	1.84E+00	3.00E-01	1.59E+01	1.81E+00	1.86E-01	1.61E+01	1.82E+00	2.55E-01
Co-58	-1.42E-02	1.60E-02	2.63E-02	-1.81E-02	1.54E-02	3.44E-02	-4.26E-03	1.53E-02	2.69E-02
Co-60	1.33E-02	1.68E-02	3.29E-02	-4.35E-03	1.86E-02	3.23E-02	4.64E-03	1.68E-02	3.08E-02
Zn-65	7.32E-03	5.15E-02	7.90E-02	2.17E-03	4.11E-02	6.35E-02	-2.36E-02	4.58E-02	6.43E-02
Sb-125	-6.74E-03	4.53E-02	7.86E-02	-1.82E-03	4.55E-02	7.96E-02	5.77E-02	4.21E-02	7.95E-02
I-131	-1.23E-03	2.89E-02	5.06E-02	-2.10E-02	2.70E-02	4.50E-02	7.16E-03	2.83E-02	5.02E-02
Cs-134	-6.26E-03	1.92E-02	2.77E-02	1.31E-03	1.62E-02	2.47E-02	-5.85E-04	1.58E-02	2.37E-02
Cs-137	-1.24E-02	1.75E-02	2.84E-02	-1.16E-02	1.70E-02	2.77E-02	7.15E-03	1.72E-02	2.71E-02
Eu-152	2.89E-02	6.38E-02	8.85E-02	1.13E-03	6.37E-02	8.80E-02	-2.55E-02	6.31E-02	8.58E-02
Eu-154	1.68E-02	4.45E-02	7.67E-02	-1.61E-02	4.45E-02	7.44E-02	-1.50E-02	4.40E-02	7.36E-02
Tl-208	2.19E-01	4.64E-02	6.46E-02	2.18E-01	3.86E-02	2.65E-02	2.16E-01	3.93E-02	2.74E-02
Bi-212	7.30E-01	4.99E-01	3.72E-01	9.02E-01	3.45E-01	3.76E-01	7.65E-01	2.95E-01	3.44E-01
Pb-212	8.63E-01	9.87E-02	5.60E-02	7.84E-01	8.76E-02	6.39E-02	8.15E-01	8.51E-02	5.93E-02
Bi-214	8.00E-01	9.10E-02	6.36E-02	7.98E-01	8.53E-02	5.62E-02	7.94E-01	8.66E-02	5.34E-02
Pb-214	8.98E-01	9.47E-02	7.21E-02	7.62E-01	8.80E-02	6.92E-02	9.36E-01	9.37E-02	6.23E-02
Ac-228	7.96E-01	1.05E-01	1.09E-01	8.33E-01	1.05E-01	1.10E-01	7.65E-01	1.17E-01	9.64E-02
Th-234	-9.35E-01	2.76E+00	1.12E+00	-1.73E+00	2.89E+00	1.07E+00	-6.74E-01	2.66E+00	1.04E+00
U-235	8.95E-02	1.62E-01	6.17E-02	-3.11E-02	1.63E-01	6.09E-02	1.38E-01	1.53E-01	5.87E-02
Am-241	5.86E-01	5.13E-01	9.23E-01	1.85E-01	5.06E-01	8.91E-01	-1.02E-02	4.76E-01	8.25E-01

Table 11

MH-7 to MH-8 Overburden B Soil Analytical Results

Analytical Parameter	RL04-1254-007			RL04-1255-008			RL04-1256-009		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	1.68E-02	9.64E-02	1.72E-01	5.95E-02	1.17E-01	2.11E-01	-5.59E-02	1.07E-01	1.79E-01
K-40	9.57E+00	1.14E+00	1.87E-01	1.51E+01	1.70E+00	2.02E-01	1.16E+01	1.33E+00	1.70E-01
Co-58	-4.36E-03	1.11E-02	1.94E-02	-4.05E-03	1.57E-02	2.74E-02	-4.94E-03	1.19E-02	2.06E-02
Co-60	7.98E-03	1.25E-02	2.42E-02	-1.29E-02	1.61E-02	2.60E-02	5.70E-03	1.39E-02	2.59E-02
Zn-65	-2.85E-02	3.60E-02	4.80E-02	-3.96E-03	3.64E-02	5.47E-02	-1.36E-03	2.95E-02	4.52E-02
Sb-125	3.12E-03	3.33E-02	5.88E-02	4.02E-02	4.15E-02	7.59E-02	-1.05E-02	3.41E-02	5.86E-02
I-131	1.74E-02	1.99E-02	3.68E-02	5.03E-03	2.43E-02	4.30E-02	1.29E-02	2.09E-02	3.81E-02
Cs-134	2.47E-03	1.24E-02	1.91E-02	7.10E-03	1.63E-02	2.53E-02	2.42E-03	1.27E-02	1.95E-02
Cs-137	-5.36E-03	1.22E-02	2.03E-02	-1.57E-02	1.57E-02	2.48E-02	-5.31E-03	1.29E-02	2.15E-02
Eu-152	7.29E-03	4.84E-02	5.88E-02	-3.09E-02	5.88E-02	8.08E-02	-2.04E-02	4.94E-02	7.11E-02
Eu-154	-4.33E-03	3.43E-02	5.80E-02	8.95E-03	4.04E-02	6.89E-02	-1.00E-02	3.48E-02	5.84E-02
Tl-208	1.35E-01	3.00E-02	4.44E-02	2.31E-01	3.67E-02	2.48E-02	1.66E-01	3.21E-02	2.08E-02
Bi-212	4.19E-01	4.50E-01	2.65E-01	8.72E-01	3.36E-01	3.45E-01	4.21E-01	2.65E-01	3.04E-01
Pb-212	3.63E-01	5.56E-02	8.49E-02	7.30E-01	9.45E-02	1.18E-01	5.14E-01	6.79E-02	4.68E-02
Bi-214	6.72E-01	6.52E-02	4.29E-02	7.74E-01	8.13E-02	4.83E-02	5.79E-01	6.50E-02	4.31E-02
Pb-214	7.79E-01	7.48E-02	4.69E-02	7.83E-01	8.19E-02	5.78E-02	6.16E-01	6.87E-02	5.00E-02
Ac-228	4.51E-01	6.71E-02	7.54E-02	7.34E-01	8.71E-02	8.75E-02	4.74E-01	8.27E-02	7.30E-02
Th-234	3.35E-01	1.93E+00	7.98E-01	2.31E-01	2.44E+00	9.35E-01	-7.11E-01	2.07E+00	8.85E-01
U-235	2.26E-02	1.22E-01	4.41E-02	7.33E-02	1.43E-01	5.19E-02	7.33E-03	1.26E-01	4.55E-02
Am-241	-3.40E-02	3.61E-01	6.26E-01	-9.80E-02	4.46E-01	7.67E-01	8.52E-02	3.60E-01	6.32E-01

Analytical Parameter	RL04-1257-010			RL04-1258-011			RL04-1259-012		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.95E-03	1.29E-01	2.25E-01	-3.40E-02	1.29E-01	2.20E-01	-7.70E-02	1.17E-01	1.95E-01
K-40	1.46E+01	1.66E+00	2.36E-01	1.48E+01	1.68E+00	2.05E-01	1.39E+01	1.58E+00	1.65E-01
Co-58	-1.86E-02	1.40E-02	2.18E-02	-6.90E-03	1.45E-02	2.50E-02	-6.54E-03	1.23E-02	2.12E-02
Co-60	-6.88E-04	1.81E-02	3.19E-02	1.43E-02	1.64E-02	3.16E-02	-1.04E-02	1.51E-02	2.47E-02
Zn-65	-4.52E-02	4.67E-02	6.03E-02	-5.87E-03	4.01E-02	5.97E-02	-8.20E-03	3.85E-02	5.67E-02
Sb-125	1.33E-02	4.10E-02	7.32E-02	1.49E-02	4.11E-02	7.34E-02	-3.61E-03	3.95E-02	6.85E-02
I-131	3.00E-03	2.67E-02	4.71E-02	-1.28E-03	2.62E-02	4.57E-02	7.90E-03	2.35E-02	4.19E-02
Cs-134	-4.04E-03	1.62E-02	2.36E-02	-1.01E-02	1.63E-02	2.27E-02	1.21E-02	1.41E-02	2.29E-02
Cs-137	-1.27E-02	1.49E-02	2.39E-02	-8.21E-03	1.51E-02	2.49E-02	-2.41E-03	1.49E-02	2.53E-02
Eu-152	-3.94E-02	5.98E-02	7.96E-02	3.11E-02	5.78E-02	8.07E-02	2.11E-02	5.64E-02	7.11E-02
Eu-154	-9.26E-03	4.20E-02	7.06E-02	-2.51E-02	4.07E-02	6.72E-02	1.29E-02	3.85E-02	6.59E-02
Tl-208	2.01E-01	3.82E-02	5.81E-02	2.25E-01	3.66E-02	2.36E-02	1.70E-01	3.53E-02	5.17E-02
Bi-212	5.46E-01	3.99E-01	3.53E-01	6.20E-01	2.57E-01	3.04E-01	8.11E-01	3.89E-01	3.09E-01
Pb-212	6.16E-01	8.13E-02	5.32E-02	5.98E-01	7.85E-02	5.76E-02	5.51E-01	8.46E-02	8.22E-02
Bi-214	8.01E-01	8.57E-02	1.96E-02	7.22E-01	7.54E-02	5.01E-02	7.41E-01	7.53E-02	4.56E-02
Pb-214	7.94E-01	8.19E-02	6.21E-02	7.97E-01	8.22E-02	5.56E-02	7.09E-01	7.59E-02	5.53E-02
Ac-228	6.72E-01	9.46E-02	9.62E-02	6.86E-01	9.06E-02	9.61E-02	7.18E-01	8.95E-02	8.66E-02
Th-234	3.93E-01	2.56E+00	9.74E-01	1.05E+00	2.50E+00	9.18E-01	-1.99E+00	2.38E+00	9.25E-01
U-235	1.76E-01	1.45E-01	5.32E-02	4.09E-02	1.42E-01	5.23E-02	3.50E-02	1.38E-01	5.02E-02
Am-241	-2.38E-01	4.47E-01	7.57E-01	-6.78E-02	4.43E-01	7.63E-01	4.02E-01	4.02E-01	7.22E-01

Table 11

MH-7 to MH-8 Overburden B Soil Analytical Results

Analytical Parameter	RL04-1260-013			RL04-1261-014			RL04-1262-015		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.59E-01	1.26E-01	1.98E-01	8.38E-02	1.32E-01	2.40E-01	5.48E-02	1.21E-01	2.19E-01
K-40	1.54E+01	1.74E+00	2.02E-01	9.97E+00	1.19E+00	1.71E-01	8.35E+00	1.03E+00	1.88E-01
Co-58	-2.11E-02	1.55E-02	2.42E-02	-2.39E-02	1.46E-02	2.14E-02	-1.76E-02	1.52E-02	2.42E-02
Co-60	-2.61E-03	1.51E-02	2.66E-02	-3.00E-03	1.40E-02	2.47E-02	4.72E-03	1.54E-02	2.71E-02
Zn-65	1.21E-02	4.14E-02	6.50E-02	-5.95E-03	3.79E-02	5.69E-02	1.73E-02	3.62E-02	5.91E-02
Sb-125	-1.44E-02	4.11E-02	7.03E-02	-9.23E-04	4.25E-02	7.43E-02	-2.82E-02	3.93E-02	6.53E-02
I-131	1.51E-04	2.55E-02	4.48E-02	-8.55E-03	2.58E-02	4.45E-02	6.38E-03	2.46E-02	4.40E-02
Cs-134	1.69E-03	1.47E-02	2.24E-02	4.22E-03	1.54E-02	2.39E-02	-4.38E-03	1.43E-02	2.07E-02
Cs-137	1.10E-02	1.66E-02	3.00E-02	-3.11E-03	1.62E-02	2.76E-02	-1.21E-02	1.57E-02	2.53E-02
Eu-152	-9.04E-03	5.97E-02	8.13E-02	-4.08E-02	5.77E-02	8.22E-02	1.68E-02	5.87E-02	8.30E-02
Eu-154	-1.55E-02	4.20E-02	7.01E-02	-1.81E-02	3.99E-02	6.65E-02	1.02E-02	4.11E-02	7.05E-02
Tl-208	2.21E-01	4.28E-02	2.71E-02	1.38E-01	3.16E-02	4.93E-02	1.20E-01	2.94E-02	4.57E-02
Bi-212	8.09E-01	3.25E-01	3.25E-01	4.59E-01	3.15E-01	3.34E-01	4.19E-01	2.12E-01	4.15E-01
Pb-212	6.74E-01	7.61E-02	5.33E-02	4.71E-01	6.85E-02	5.52E-02	3.09E-01	5.42E-02	5.59E-02
Bi-214	7.51E-01	7.78E-02	4.77E-02	1.08E+00	9.39E-02	5.30E-02	1.20E+00	9.91E-02	4.37E-02
Pb-214	7.59E-02	8.32E-02	5.68E-02	1.13E+00	1.01E-01	5.65E-02	1.14E+00	9.71E-02	5.70E-02
Ac-228	7.49E-01	9.91E-02	1.03E-01	5.18E-01	8.50E-02	9.47E-02	3.88E-01	7.74E-02	8.63E-02
Th-234	1.99E+00	2.57E+00	9.77E-01	4.01E-01	2.49E+00	9.87E-01	1.83E+00	2.45E+00	1.01E+00
U-235	8.81E-02	1.46E-01	5.41E-02	1.33E-01	1.49E-01	5.76E-02	-6.38E-02	1.48E-01	5.95E-02
Am-241	-8.60E-02	4.47E-01	7.69E-01	9.84E-02	4.40E-01	7.73E-01	-1.91E-01	4.26E-01	7.27E-01

Analytical Parameter	RL04-1263-016			RL04-1264-017			RL04-1265-018		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	-1.17E-01	1.23E-01	1.99E-01	-8.80E-02	1.34E-01	2.22E-01	-1.45E-02	1.30E-01	2.26E-01
K-40	8.40E+00	1.05E+00	2.33E-01	1.05E+01	1.27E+00	2.57E-01	1.27E+01	1.49E+00	2.21E-01
Co-58	-1.21E-02	1.54E-02	2.11E-02	-1.12E-02	1.42E-02	2.37E-02	-1.99E-02	1.61E-02	2.55E-02
Co-60	-3.80E-03	1.47E-02	2.58E-02	3.73E-03	1.52E-02	2.81E-02	2.10E-04	1.66E-02	2.96E-02
Zn-65	1.60E-02	3.58E-02	5.92E-02	-8.25E-03	3.56E-02	5.27E-02	-1.29E-02	4.08E-02	5.94E-02
Sb-125	-1.71E-02	4.12E-02	7.02E-02	-8.77E-03	4.50E-02	7.75E-02	-1.08E-02	4.59E-02	7.88E-02
I-131	-2.79E-02	2.63E-02	4.30E-02	1.33E-02	2.69E-02	4.83E-02	1.24E-02	2.78E-02	4.98E-02
Cs-134	1.58E-03	1.41E-02	2.18E-02	6.59E-03	1.57E-02	2.46E-02	1.62E-03	1.60E-02	2.42E-02
Cs-137	-2.13E-02	1.74E-02	2.67E-02	2.92E-03	1.94E-02	2.94E-02	2.80E-02	2.11E-02	3.05E-02
Eu-152	-3.99E-02	5.95E-02	8.67E-02	9.10E-03	6.17E-02	8.10E-02	3.82E-02	6.24E-02	8.72E-02
Eu-154	7.62E-03	4.16E-02	7.03E-02	-6.72E-04	4.34E-02	7.36E-02	1.94E-02	4.32E-02	7.43E-02
Tl-208	8.63E-02	3.16E-02	4.75E-02	1.95E-01	3.54E-02	2.59E-02	2.02E-01	3.86E-02	2.65E-02
Bi-212	7.61E-01	3.15E-01	3.06E-01	4.40E-01	3.76E-01	2.99E-01	6.07E-01	2.72E-01	3.81E-01
Pb-212	3.25E-01	5.79E-02	5.84E-02	5.31E-01	7.44E-02	6.01E-02	5.91E-01	8.49E-02	1.16E-01
Bi-214	1.21E+00	1.05E-01	4.70E-02	1.22E+00	1.04E-01	5.05E-02	1.09E+00	9.81E-02	4.97E-02
Pb-214	1.19E+00	1.07E-01	6.21E-02	1.33E+00	1.13E-01	6.09E-02	1.13E+00	1.09E-01	6.43E-02
Ac-228	4.14E-01	1.07E-01	1.83E-01	6.34E-01	9.89E-02	9.86E-02	6.36E-01	8.86E-02	1.01E-01
Th-234	1.40E+00	2.49E+00	9.96E-01	2.05E+00	1.13E+00	1.02E+00	-3.09E-01	2.61E+00	1.02E+00
U-235	5.46E-02	1.54E-01	6.24E-02	9.59E-02	1.57E-01	6.42E-02	-2.11E-03	1.60E-01	6.34E-02
Am-241	-4.44E-01	4.53E-01	7.51E-01	2.67E-01	5.14E-01	8.08E-01	1.88E-01	4.91E-01	8.62E-01

Table 11

MH-7 to MH-8 Overburden B Soil Analytical Results

Analytical Parameter	RL04-1266-019			RL04-1267-020		
	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)	Result (pCi/g)	2 σ (pCi/g)	MDA (pCi/g)
Be-7	1.27E-02	2.15E-01	3.85E-01	-5.07E-02	1.88E-01	3.30E-01
K-40	1.37E+01	1.81E+00	2.54E-01	1.02E+01	1.43E+00	3.61E-01
Co-58	-8.60E-04	2.60E-02	4.77E-02	-2.38E-02	2.36E-02	3.79E-02
Co-60	4.08E-03	2.56E-02	4.70E-02	-5.13E-03	2.34E-02	4.22E-02
Zn-65	2.44E-02	6.07E-02	1.03E-01	-8.22E-03	5.92E-02	9.13E-02
Sb-125	-1.15E-02	6.60E-02	1.16E-01	2.16E-02	6.35E-02	1.18E-01
I-131	-5.59E-03	4.31E-02	7.65E-02	-2.65E-02	4.51E-02	7.68E-02
Cs-134	2.58E-02	2.44E-02	4.32E-02	-2.60E-04	2.54E-02	3.89E-02
Cs-137	1.11E-01	4.67E-02	4.44E-02	1.24E-02	2.74E-02	5.06E-02
Eu-152	-2.78E-03	9.43E-02	1.34E-01	3.37E-02	9.43E-02	1.31E-01
Eu-154	-1.44E-02	6.71E-02	1.14E-01	-2.85E-03	6.72E-02	1.15E-01
Tl-208	2.08E-01	5.45E-02	8.75E-02	1.57E-01	4.57E-02	8.49E-02
Bi-212	7.34E-01	4.40E-01	5.78E-01	4.56E-01	3.69E-01	7.27E-01
Pb-212	4.80E-01	1.21E-01	1.84E-01	4.72E-01	1.12E-01	1.67E-01
Bi-214	1.08E+00	1.28E-01	8.45E-02	1.37E+00	1.47E-01	8.09E-02
Pb-214	1.13E+00	1.38E-01	1.02E-01	A.35E+00	1.49E-01	8.84E-02
Ac-228	7.99E-01	2.31E-01	3.53E-01	5.97E-01	1.12E-01	1.58E-01
Th-234	-7.17E-02	3.89E+00	1.59E+00	2.92E+00	4.03E+00	1.56E+00
U-235	1.81E-01	2.34E-01	9.09E-02	1.46E-01	2.48E-01	9.85E-02
Am-241	1.02E-02	7.23E-01	1.28E+00	2.14E-01	6.95E-01	1.25E+00

Table 12

EXCAVATION OVERBURDEN "A" COMPARISON VALUE CALCULATION

Area/Volume ID		Number of Data Points	t95% (n-1) Value from Table B-1 of NUREG/CR-5849
MH-7 to MH-8 Trench	Overburden A	20	1.729

	Sample Number	Cs-137 Result (pCi/g)
1	1126	0.06
2	1127	0.02
3	1128	0.02
4	1101	0.02
5	1102	0.02
6	1090	0.05
7	1091	0.05
8	1092	0.03
9	1077	0.04
10	1078	0.04
11	1129	0.08
12	1130	0.04
13	1131	0.03
14	1103	0.02
15	1104	0.02
16	1079	0.03
17	1080	0.04
18	1081	0.03
19	1082	0.04
20	1083	0.03

Average	Comparison Value
0.04	0.04

Standard Deviation	Modified Cleanup Criteria
0.02	11

Comparison < Criteria
Yes

Table 13

EXCAVATION OVERBURDEN "B" COMPARISON VALUE CALCULATION

Area/Volume ID		Number of Data Points	t95% (n-1) Value from Table B-1 of NUREG/CR-5849
MH7 to MH8 Trench	Overburden B	20	1.729

	Sample Number	Cs-137 Result (pCi/g)
1	272	0.07
2	273	0.08
3	274	0.07
4	275	0.03
5	276	0.03
6	277	0.03
7	278	0.02
8	279	0.02
9	280	0.02
10	281	0.02
11	282	0.02
12	283	0.03
13	284	0.03
14	285	0.03
15	286	0.03
16	287	0.03
17	288	0.03
18	289	0.03
19	290	0.11
20	291	0.05

Average	Comparison Value
0.04	0.05
Standard Deviation	**Modified Cleanup Criteria**
0.02	11
	Comparison < Criteria
	Yes