Accelerated Remediation Company
A Portage-Shaw Joint Venture

POTENTIAL RELEASE SITE 7
REMOVAL ACTION CLOSEOUT REPORT

Prepared by:

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DOE Contract No.
DE-AT30-07CC00009/OH18

Prepared for:

U. S. Department of Energy
Environmental Management CBC
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Rev. 1

January 2009

RECORD OF REVISION
PRS-7 REMOVAL ACTION CLOSEOUT REPORT

REVISION	REVISION DATE	APPROVAL DATE	DESCRIPTION
A	9/30/08		Internal Review
0	11/10/08		Incorporated DOE comments
1	1/5/09		Incorporated Ohio EPA and USEPA comments

Acronym List

ARC – Accelerated Remediation Company
D&D – Decontamination and Demolition
DOE – Department of Energy
HDPE – High Density Polyethylene
LLRW – Low-level Radioactive Waste
MCP – Miamisburg Closure Project
MMCIC – Miamisburg Mound Community Improvement Corporation
Ohio EPA – Ohio Environmental Protection Agency
ORISE – Oak Ridge Institute for Science and Education
ORPS –Occurrence Reporting Processing System
PRS – Potential Release Site
USEPA – United States Environmental Protection Agency

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Executive Summary

This is a final report documenting completion of the removal of Potential Release Site (PRS) 7 east and west sanitary sewer lines along with the removal of manholes A-5 and A-9 associated with the Department of Energy (DOE) Miamisburg Closure Project (MCP). The lines and manholes were removed according to the instructions provided in the PRS 7 Work Package (Revision 3 dated May 19, 2008) which is included in this report (Appendix A). Manholes A-5 and A-9 were removed along with the sanitary sewer line traversing from manhole B-3 upgradient to a point approximately 10 feet east of the property line and from manhole B-1 westward to the outfall line at the Great Miami River.

All the off-property lines were removed and disposed of as low-level radioactive waste (with one exception discussed below) along with any excavated soil that did not meet the cleanup objective criteria. The residential comparison values have been met for the off-site excavation activities. Only an iron pipe section remains beneath old U.S. Highway 25. The slip line inside the iron pipe was removed. However, the iron pipe was left in-place to maintain the roadbed integrity. The iron pipe was surveyed and sampled for radiological contamination. No radiological contaminants were detected above the DOE free-release levels presented in Appendix A, PRS 7 Work Package Table 1, Surface Contamination Guidelines. The iron pipe was pressure grouted with cement for its entire length and left in-place.

The original scope of work for PRS 7 also included the decontamination and demolition (D&D) of the Sanitary Sewer Package Plant. The PRS 7 Work Package did include some of the proposed D&D activities for the plant. However, the D&D activities outlined in the work plan are not anticipated to be performed due to interest from the DOE Portsmouth site owning the plant. The DOE Portsmouth site will perform surveys and clean if necessary, in order to insure free release criteria are met. DOE Portsmouth would then be responsible for dismantling and transporting the plant.

1.0 PURPOSE

This is a final report documenting completion of the removal of the Potential Release Site (PRS) 7 east and west sanitary sewer lines along with the removal of manholes A-5 and A-9 associated with the Department of Energy (DOE) Miamisburg Closure Project (MCP). The locations of manholes and lines are shown in Figures 1, 2 and 3. The lines and manholes were removed using the PRS 7 Work Package (latest version - Revision 3 dated May 19, 2008) which is included as Appendix A. The scope of the work included the removal of manhole A-9 and either the removal or remediation of manhole A-5. Additionally, the scope included the removal of the lines from manhole B-3 upgradient to a point approximately 10 feet east of the property line and the removal of the line from manhole B-1 westward to the outfall at the Great Miami River. The scope of work relating to the removal of the lines and manholes is complete.

Note that the original scope of work for PRS 7 also included the decontamination and demolition (D&D) of the Sanitary Sewer Package Plant. The PRS 7 Work Package did include some proposed D&D activities for the Plant. However, the date for formal turnover of the plant has slipped causing the proposed D&D activities as part of the PRS 7 Work Package to be suspended.

2.0 BACKGROUND

The PRS 7 east line was an abandoned sanitary outfall line which traversed from the Mound Plant property boundary to manhole B-3, located immediately east of the main railroad line crossing (see Figure 2). The pipe was approximately twelve inches in diameter consisting of cast iron.

The PRS 7 west line was an abandoned sanitary outfall line consisting of 12-inch cast iron pipe which traversed from manhole B-1 just west of the main railroad to the outfall at the Great Miami River (see Figure 2). The 12-inch cast iron pipe transitioned to a 12-inch vitrified clay pipe at the first manhole downstream from the pipe's crossing under the old U.S. Highway 25. The pipe was slip-lined at various sections during its length.

Manhole A-5 is located on the DOE MCP site within the Parcel 8 boundary. Abandoned sanitary lines entered and exited the manhole. Manhole A-9 is also located on the DOE MCP site within the Parcel 8 boundary. Abandoned sanitary lines also entered and exited the manhole (See Figure 1).

In 2007, a contractor performed radiological surveys of the abandoned sanitary sewer manholes including A-9 and A-5 at the MCP. Elevated survey readings in both A-9 and A-5 resulted in DOE requesting Accelerated Remediation Company (ARC) to remove manhole A-9 and either remove or remediate A-5.

3.0 ACTIONS TAKEN

This closeout report documents the excavations of the manholes A-5/A-9, the removal of the PRS 7 east sanitary line from the property boundary to manhole B-3, and the removal of the PRS 7 west sanitary line from manhole B-1 to the Great Miami River. The PRS 7 east/west lines and manhole A-5/A-9 excavations activities were successfully completed using the PRS 7 Work Package. The PRS 7 Work Package was used as a Work Plan and Building Data Package document as described in the Work Plan for the Environmental Restoration of the DOE Mound Site, Mound 2000 Approach.

For the PRS 7 east/west lines, a radiological walkover survey was performed prior to any excavation activity. After the walkover survey was completed, the PRS 7 lines were excavated. The lines and debris were placed in haulers at the excavation location and transported to the PRS 441 area for shipment as low-level radioactive waste (LLRW) to the EnergySolutions disposal site in Clive, Utah. Contaminated soil was encountered at the surface and at depth adjacent and below the pipe in some areas. The excavated material and the bottom of the trench were surveyed in accordance with the PRS 7 Work Package. Also, samples from the bottom of the excavation trench were collected and analyzed in accordance with the PRS 7 Work Package (see Appendix A). The Oak Ridge Institute for Science and Education (ORISE) and Ohio Environmental Protection Agency (EPA) representatives independently collected samples from the excavation trench. Upon completion of the excavation activity and at the close of each working day, the excavation trench was backfilled with soil excavated from above the line and graded appropriately. Photographs of the excavation activities were taken. At the completion of the job, all disturbed areas were graded-to-drain and seeded.

Any soils in the PRS 7 excavation trench which exceeded the DOE MCP Site cleanup objectives were removed and hauled to the PRS 441 area for shipment to EnergySolutions as LLRW.

All of the PRS 7 east/west lines within the scope of this project were physically removed from their existing locations with only one exception. The exception was the cast iron pipe section that was slip-lined with high-density polyethylene (HDPE) traversing beneath old U.S. Highway 25. The slip line was removed but the iron pipe section was left in-place to maintain the roadbed integrity. Both ends of the iron pipe were surveyed and sampled to the extent practicable. Results indicated no radiological contaminants detected above the DOE free-release levels presented in Appendix A, PRS Work Package Table 1, Surface Contamination Guidelines. The excavation from manhole B-1 (upgradient) to the west side of old Highway 25 did not encounter any contamination. This information made the portion of the sanitary line under the road a candidate for in-place free release. A coordinated decision was made by DOE, Miamisburg Mound Community Improvement Corporation (MMCIC), Ohio EPA, USEPA and the City of Miamisburg to pressure grout the entire length of the pipe with cement and leave in place. Appendix B contains the PRS 7 Free Release Packet information associated with the line

beneath old U.S. Highway 25. (Note: The line traversing beneath the railroad tracks between manholes B-1 and B-3 was not part of this scope and was also not removed).

Manhole A-9 was removed, transported to the Mound Rail Spur and shipped for disposal at the EnergySolutions facility in Clive, Utah. The surrounding soil was contaminated with thorium (Th)-232 to an approximate depth of 3 feet. This soil was also removed for disposal as LLRW at EnergySolutions.

As part of the manhole A-9 work, Th-232 contamination was also detected in sediment present in a pipe leading to manhole A-9. Additionally, the pipe itself exceeded the DOE free-release levels presented in Appendix A, PRS 7 Work Package, Table 1, Surface Contamination Guidelines. The pipe was removed (along with the sediment) and disposed of as LLRW at EnergySolutions. Removal of the piping continued upgradient to the next manhole (A-13). Th-232 was found in the sediment residing in the length of the pipe between manholes A-9 and A-13. Manhole A-13 was excavated and removed due to the presence of Th-232. The lines leading to manhole A-13 were previously abandoned. Survey results indicated the lines leading to manhole A-13 were less than the DOE free-release levels presented in Appendix A, PRS 7 Work Package, Table 1, Surface Contamination Guidelines. The lines were plugged with concrete and the area was backfilled. A-13 was also hauled to PRS 441 for shipment to EnergySolutions as LLRW.

Manhole A-5 was surveyed by ARC in 2008 to determine if radiological contamination was present. Based on the survey results, showing elevated concentrations of plutonium - 238, ARC recommended to DOE that A-5 should be excavated and removed. DOE concurred with ARC's recommendation. The manhole had previously been abandoned prior to ARC's work and there were no lines remaining that were attached to this manhole. The soils excavated were necessary layback to allow for the removal of the manhole. The area did not require further remediation. The excavated manhole and layback soils were transported to the Mound Rail Spur for disposal as LLRW at Energy Solutions.

During the manhole A-5 excavation, an abandoned, open ended 6" cast iron line of unknown origin was encountered north-northwest of the manhole. A radiological survey of the line showed results less than the DOE free-release levels presented in Appendix A, PRS 7 Work Package, Table 1, Surface Contamination Guidelines. The line was plugged with concrete at the excavation depth.

The excavation volume for the PRS area is provided in Table 1.

Table 1. PRS 7 Excavation Volume

Material Location	Quantity	Disposal Location
PRS 7 includes East/West Line, Manholes A-9, A-13 and A-5	78,831 ft^3	Clive, UT

Appendix F of this report provides the radiological data for the excavated areas, verification sample locations and results for PRS 7.

4.0 PROBLEMS ENCOUNTERED

During the survey and excavation of PRS 7 West, some unexpected radiological contamination (thorium-232, thorium-230) was encountered in the soil at the surface and soil adjacent and below the line in the vicinity of manholes 312 and 314 (see Figure 4). Specifically, a piece of clay pipe that was found about two feet below grade in the area showed removable contamination above Appendix A, Table 1 values. A piece of clay pipe was analyzed for isotopic identification via onsite gamma spectroscopy. Radionuclides identified were americium-241, radium-226, thorium-232, uranium-238 and lead-210. At that point, the excavation work was stopped and the PRS 7 Work Package was amended to address the situation. Notifications to local organizations (Miami Conservatory District and City of Miamisburg), Ohio EPA and USEPA along with an Occurrence Reporting Processing System (ORPS) report submittal to DOE were made.

Radiological contamination (actinium, bismuth, cesium, lead, radium, thorium and uranium) was later found in the vicinity of manhole 318 and the outfall line at the Great Miami River during the project. Signs were posted in the area identifying the presence of radioactive materials in soil. All of the contaminated materials associated with the excavation of PRS 7 West project were removed.

All disturbed areas were backfilled, graded and seeded. Supplemental soil from Moraine Materials (Germantown, Ohio) was used in areas where necessary. The soil purchased from Moraine Materials was tested for hazardous leaching characteristics by Belmont Labs (Dayton, OH) using EPA-approved test methodologies. The test results showed no contaminants detected above Toxicity Characteristics (TC) for hazardous wastes. The test results are provided in Appendix C.

5.0 RESOURCES

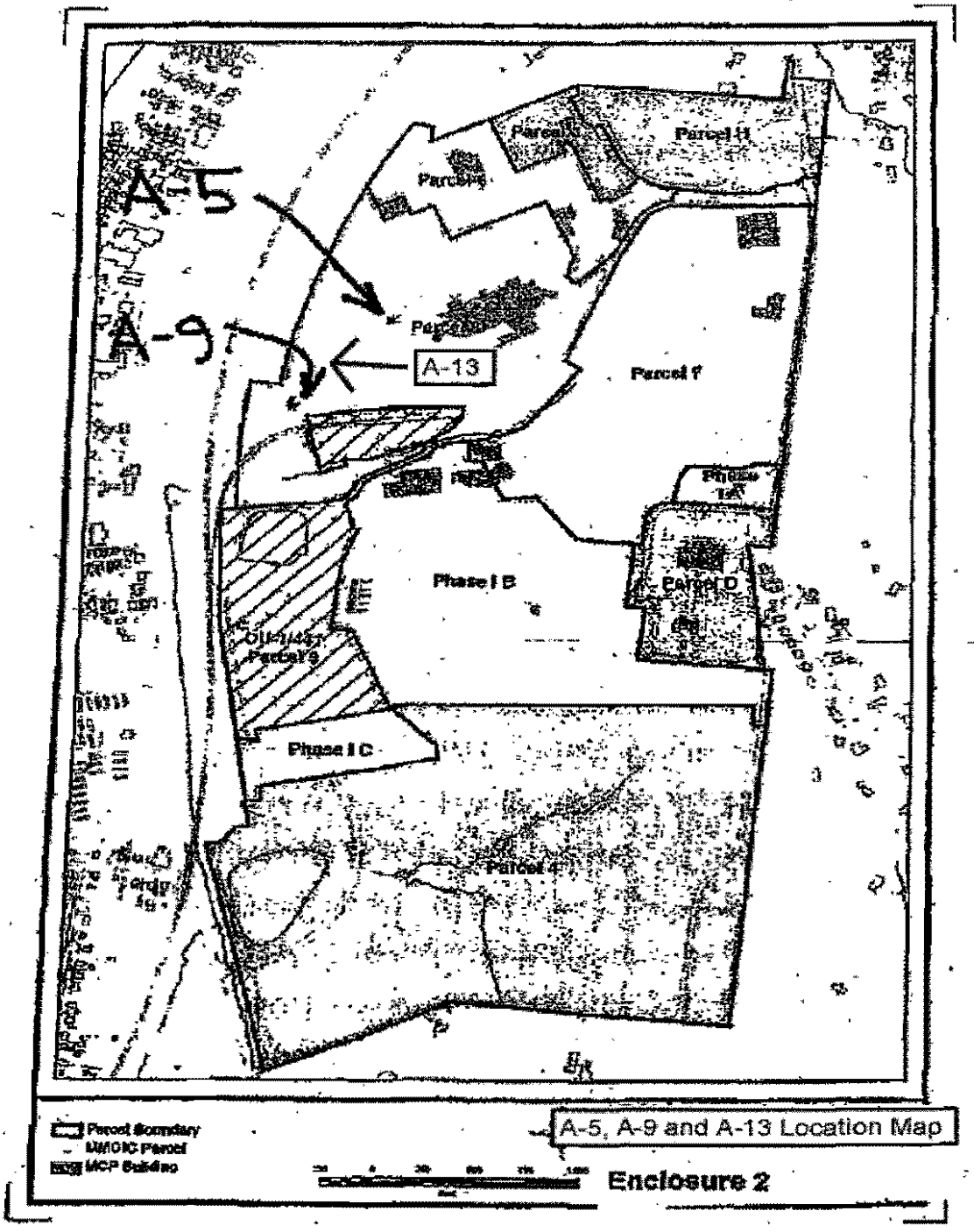
Table 2 lists the regulatory personnel (CORE Team) and Project Manager for the excavation activity. Table 3 provides a time-line summary of the project.

Table 2 – Personnel Involved

Agency or Party Involved	Contact	Description of Participation
USEPA SR-6J 77 W. Jackson Chicago, IL 60604 312-886-5787	Tim Fischer	Federal agency responsible for Miamisburg Closure Project oversight
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for Miamisburg Closure Project oversight
DOE/Miamisburg Closure Project 955 Mound Road Miamisburg, OH 45342 937-847-8350 x301	Paul Lucas	DOE/Miamisburg Closure Project, Acting Project Manager responsible for project oversight
Accelerated Remediation Company (ARC) 965 Capstone Drive Miamisburg, OH 45342 937-865-3734	Dennis Dalga	ARC Project Manager responsible for project execution

Table 3 – PRS 7 Activities

Timeframe	**Activity**
December 2007 – January 2008	Work Planning
January 2008 – July 2008	Excavation
May 2008 – July 2008	Hauling and Disposal
February 2008 – August 2008	Backfill and Restoration
January 2009	Closeout Report



North Direction ↑

Figure 1 – Manholes A-5, A-9 and A-13 Locations

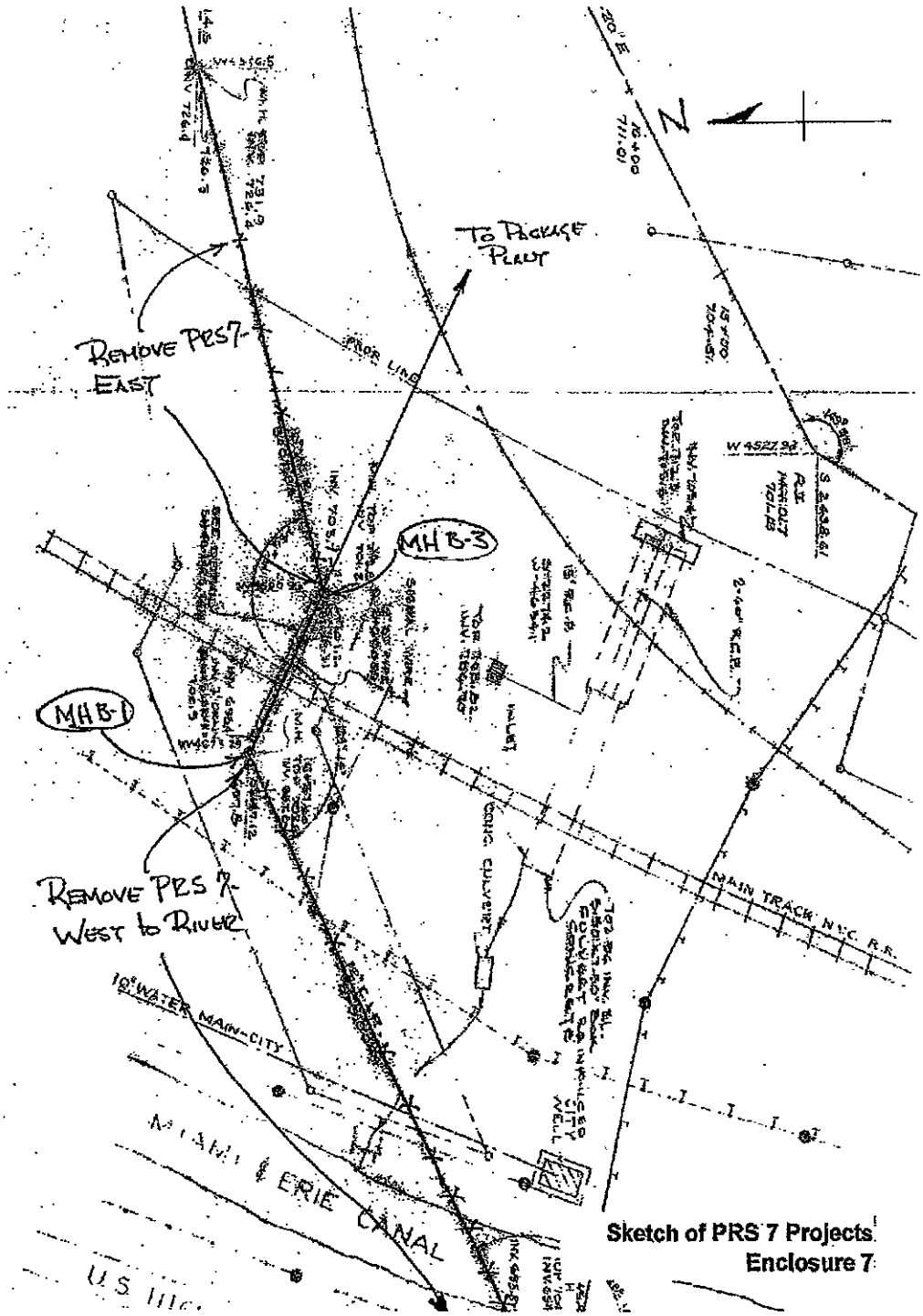


Figure 2 – PRS 7 East and West Lines

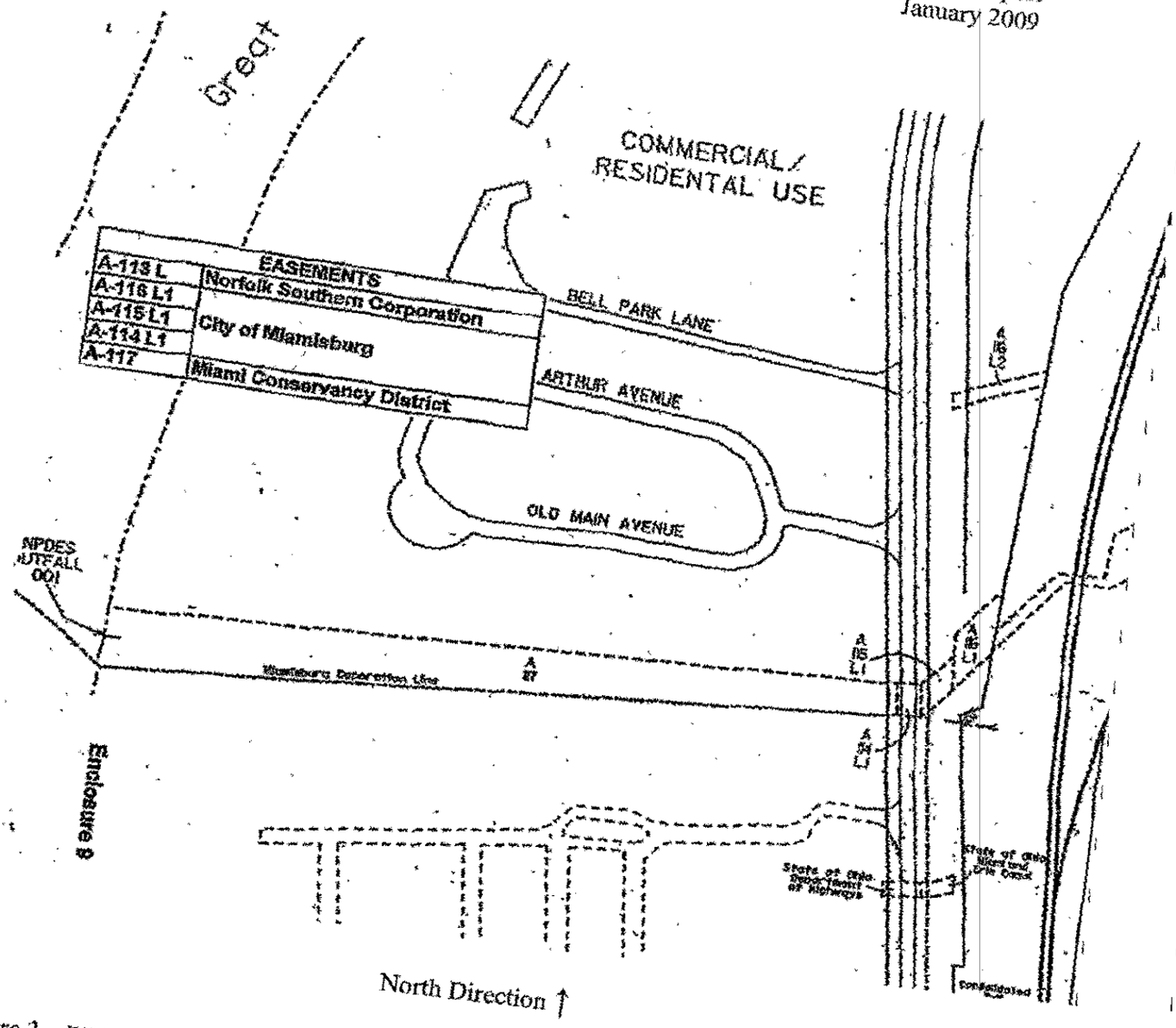


Figure 3 – PRS 7 West Outfall Line to Great Miami River

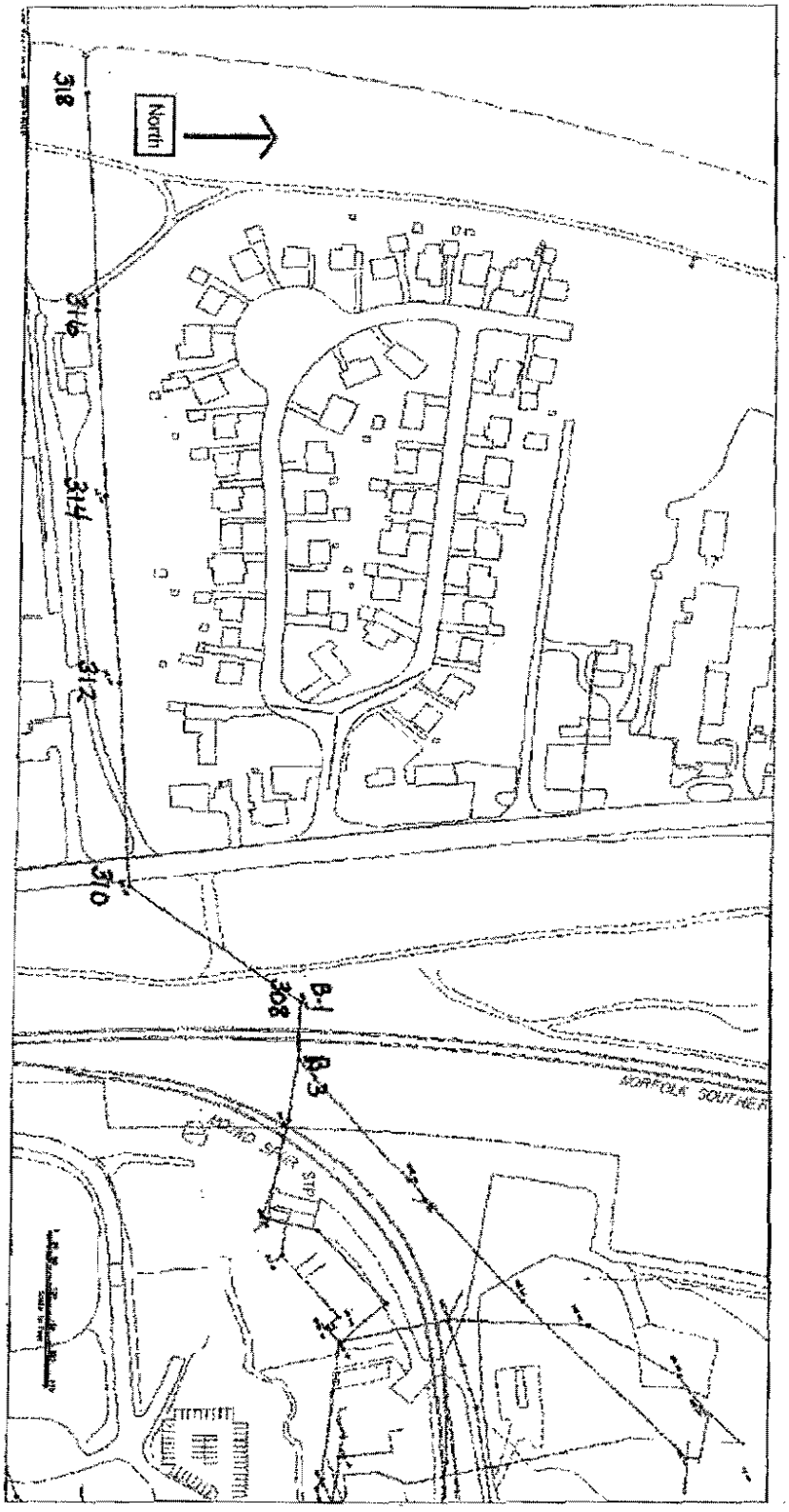


Figure 4 – Drawing of PRS 7 West Line with Manhole Locations

Accelerated Remediation Company
A Portage-Shaw Joint Venture

PRS 7 Work Package

In accordance with
MP-103 (Integrated Work Control Program)

Project Document ID: MP-103.05A

Prepared by:

Accelerated Remediation Company
965 Capstone Drive
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DOE Contract No.
DE-AM09-05SR22399

Prepared for:

U.S. Department of Energy
Environmental Management CBC
250 East Fifth Street, Suite 500
Cincinnati, OH 45202

Revision 3

May 19, 2008

RECORD OF REVISION
PRS 7 WORK PACKAGE

REVISION	REVISION DATE	APPROVAL DATE	DESCRIPTION
A	12/07/07		Incorporated internal review comments and submitted to DOE for review.
0	12/12/07		Incorporated DOE comments.
1	1/31/08		Incorporated Ohio EPA and USEPA comments
2	4/1/08		Incorporated MMCIC comments and aRc review comments
3	5/19/08		Incorporated 4/17/08 Addendum to Radiological Survey Plan and revised Section 3.1 to address pipe remaining under old U.S. Highway 25

APPENDIX A — Work Package/Preliminary Hazard Analysis

☐ **Office Master Copy** (Original Approval Signatures) ☐ **Field Working Copy** (Original Field Sign -Offs) ☐ **Review Copy** [Note: Mark this section in color] ☐ **Other Copy**

Note: The Project Engineer is responsible for completing Sections 1 through 10.

1. WORK PACKAGE TITLE: PRS 7 WORK AT THE MOUND OU-1 PROJECT

2. WORK PACKAGE NUMBER: MP-103.05A

3. WORK PACKAGE SCOPE: This work package contains information on performing activities associated with the following:

- Re-route of Existing Sanitary Package Plant Effluent Line
- Removal of PRS 7 East Abandoned Outfall Line
- Removal of PRS 7 West Abandoned Outfall Line
- Remediation/Removal of Manhole A-5
- Removal of Manhole A-9
- Decontamination/Dismantling of Sanitary Sewer Package Plant

(Note: This work package is divided into 6 project phases allowing work to proceed in segments as necessary versus a sequential phase order. See attached PRS 7 Specific Waste Transportation Plan and PRS 7 Radiological Survey Plan for details involving waste transportation and radiological surveys for the work activities).

4. WORK LOCATION:

The re-route of the Existing Sanitary Package Plant Effluent Line is from the southeast corner of the Package Plant to Outfall #002. The excavation of the PRS 7 East and West Abandoned Outfall Lines will take place from the banks of the Great Miami River, eastward along the flood control levee, across Route 25 to the edge of the rail roadbed. The Sanitary Sewer Package Plant is located on the Mound site south of the PRS 441 rail spur. Manholes A-5 and A-9 are located to the north of PRS 441 (See attached Figures 1,2,3 for locations).

5. WORK PACKAGE PHASES:

1. Re-route Existing Sanitary Package Plant Effluent Line
2. PRS 7 Removal of Abandoned Sanitary Outfall Line East of Main Railroad Tracks
3. PRS 7 Removal of Abandoned Sanitary Outfall Line West of Main Railroad Tracks
4. Remediate and/or Remove Manhole A-5
5. Remove Manhole A-9
6. Decontamination/Dismantle Sanitary Sewer Package Plant

Notes: For any phases of the work package -

See SOP-127 *Hot Work* – Permit required for possible equipment repairs involving burning, welding, hot-work [Fire Watch].

See NFPA 30 *Flammable and Combustible Liquids Code* for handling flammable liquids/or gases. JSA required for refueling equipment.

See SOP-117 *Excavation and Trenching* – Permit required for trenching/shoring.

See SOP-110 *Underground/Overhead Utility Contact Prevention* before performing any soil disturbance.

See SOP-113 *Hearing Conservation Program* – JSA required for noise in excess of 85dBA.

See SOP- 103 *Stop Work Authority* to address intrusion by unwanted visitors/neighbors in the work area if any safety concerns arise.

See SOP-112 *Cold Stress* and SOP-119 *Heat Stress* to address any temperature extremes (heat or cold stress).

See SOP-116 *Pressurized Water Cleaning and Cutting Equipment* for activities using pressure washer.

See SOP-128 *Handling Blood or other Potentially Infectious Materials* for work involving the Sanitary Sewer Package Plant.

See SOP-118 *Control of Hazardous Energy and Hazardous Materials Sources* for working involving Lock Out/Tag Out activities. See Stoller ST-02 *Lock Out/Tag Out* (Section 10.2) for activities to be coordinated with Stoller. (May require a briefing by Stoller).

See SOP-126 *Ladder Safety* for activities using ladders.

See SOP-125 *Confined Spaces* for activities involving confined spaces.

See SOP-108 *Fall Protection* for activities requiring fall protection.

6. SPECIAL MATERIALS AND EQUIPMENT:

1. Backhoe, trackhoe, bulldozer, trench box, PVC pipe, Manhole Cor-N-seal, pipe glue, temporary plug, permanent plug
2. Trackhoe, articulating dump truck, bulldozer, compactor, clean back fill
4. Confined space entry equipment, tripod and ventilation equipment.
5. Pressure washer, water truck, frac tanks, articulating dump truck, shear, and Hitachi 330

7. DETAILED WORK STEPS:

1.0 Re-route Existing Sanitary Package Plant Effluent Line

1.1 Provide sketches of proposed location of new effluent line to DOE for approval prior to beginning any work. **(HOLD POINT)**

Verified by :_____
Dan DiCarlo Date

1.2 Coordinate any Lock Out/Tag Out activities with Stoller before beginning work activities. **(HOLD POINT)**

Verified by:_____
Dan DiCarlo Date

1.3 Install temporary outfall line (8" PVC [SDR 35]) at the southeast corner of the Sanitary Sewer Package Plant to a new discharge point at Outfall #002 on the downstream side of the weir. Ensure temporary line is installed such that the line does not impact (i.e., flow into) the Outfall #002 sampling location.

(Note: See SOP-110 *Underground/Overhead Utility Contact Prevention* before performing this Phase).

(Note: No radiological concerns in this Phase).

(Note: See SOP-117 *Excavation and Trenching* – Permit required for trenching/shoring).

2.0 PRS 7 Removal of Abandoned Sanitary Outfall Line East of Main Railroad Tracks

(Note: See SOP-110 *Underground/Overhead Utility Contact Prevention* before performing this Phase).

(Note: See SOP-117 *Excavation and Trenching* before performing this Phase).

2.1 Before proceeding with the following sections of this work package, verify that DOE approval has been received for the PRS 7 Specific Waste Transportation Plan and PRS 7 Radiological Survey Plan required by the contract. **(HOLD POINT)**

Verified by:_____
Dan DiCarlo Date

2.2 Before proceeding with any work activities on an easement, verify approval (email, letter, etc.) has been received from Norfolk Southern Corporation, City of Miamisburg or Miami Conservatory District as appropriate. **(HOLD POINT – SEE FIGURE 3)**.

Verified by:_____
Dan DiCarlo Date

2.3 Excavate the 10-inch diameter vitrified clay pipe (abandoned sanitary outfall) from Manhole B-3 upgradient to a point approximately 10 feet east of the property line (See Figure 2).

2.4 Soil excavated from above the 10-inch diameter vitrified clay pipe will be removed and placed adjacent to the excavation without sampling for reuse as backfill.

2.5 Plug the end of the remaining pipe with concrete.

2.6 If removal of the line at Manhole B-3 disturbs the integrity of the existing plug, the existing plug shall be removed. Install a new leak-free concrete plug in its place. **(HOLD POINT - CONFINED SPACE)** See SOP -125 *Confined Spaces.*

Verified by:_____
Gary Evans Date

2.7 The 10-inch diameter vitrified clay pipe will be excavated, removed, characterized for radiological contamination and transported to PRS-441 for shipment in accordance with the approved PRS 7 Radiological Survey Plan and PRS 7 Specific Waste Transportation Plan

2.8 Sample the bottom of the excavation trench in accordance with the approved PRS 7 Radiological Survey Plan.

2.9 Backfill and compact the outfall line excavation trench with the soils excavated in Step 2.4 above.

2.10 Any additional soil needed to return the trench area to original grade will be obtained from approved DOE off-site sources.

2.11 All disturbed areas shall be graded-to-drain and seeded.

2.12 Install permanent plug in existing effluent line in B-1 on west side of railroad tracks. **(HOLD POINT - CONFINED SPACE)** - See SOP -125 *Confined Spaces.*

Verified by:_____
Gary Evans Date

3.0 PRS 7 Removal of Abandoned Sanitary Outfall Line West of Main Railroad Tracks

(Note: See SOP-110 *Underground/Overhead Utility Contact Prevention* before performing this Phase).

3.1 The aRc Project Manager will make phone call notification to City of Miamisburg prior to performing any work in the right of way. Contact Bruce Pletsch of the Miami Conservatory District at (937-223-1278 x 3203) to coordinate sampling at PRS 7 near the small building between MHs 316 and 314. Excavate and remove the West 12" diameter pipe from the outfall at the Great Miami River to Manhole B-1 (just west of the main railroad line). All pipe will be removed with the exception of the portion under old U.S. Highway 25 (Miamisburg's South Main Street in front of MCD's property – please see note in this section below). The pipe will be transported to PRS 441 for disposal as LLW. Spotters (may not be the same spotter that observes loading) will follow trucks after load-out. Maintain 100% spotter coverage of the truck's transport from point of loading to point of dumping in Rail Load Out Area.

[CAUTION: Various underground and overhead utilities are present in the area from the east side of old U.S. Highway 25 (MH 310) to Manhole B-1 on the west side of railroad tracks].

[Note: A 12" diameter cast iron pipe transitions to a 12" diameter vitrified clay pipe at the first manhole downstream from the pipe's crossing under old U.S. Highway 25. The pipe is also known to be slip-lined but no data is available to determine exactly where the lined section begins or ends].

[Note: Land Use Permit No. 13-1567-1, Revision No. 1, Renewal No. 1, Exhibit "A" (with the exception of the Section entitled Additional Terms, Conditions and Restrictions) shall be followed in performing all work on the MCD easement- see attached Exhibit A].

(Note: The HDPE slip-lining pipe will be removed from the 12" cast iron pipe and surveyed for radiological contamination. The cast iron pipe will be removed as close as safely possible to the old U.S. Highway 25 right of way. The 12" cast iron pipe underneath old U.S. Highway 25 will be grouted and left in place in lieu of being removed if the following samples and survey results meet the criteria for free release to the public:

- Soil samples taken from the surrounding area east and west of old U.S. Highway 25 at road are acceptable.

- Pipe sediment samples taken from HDPE slipped lined pipe removed from the 12" cast iron pipe underneath the road and sections of the 12" cast iron pipe that were removed from underneath the road are acceptable.

- Total/removable survey data taken from exterior and interior HDPE slipped lined pipe removed from 12" cast iron pipe underneath the road are acceptable.

Proper safety measures will be in place to protect the roadway and adjacent underground utilities, including but not limited to shoring boxes and steel plates. The City of Miamisburg will be notified and in concurrence with this method prior to implementation).

(Note: If the pipeline cannot be removed from the sleeve crossing under old U.S. Highway 25 or cannot be released for public use leaving a clean sleeve -- follow guidance provided by the City of Miamisburg on removal).

3.2 The pipe's associated manholes and headwall at the outfall will also be removed.

3.3 Provide any signage, barriers or flagging required by the City of Miamisburg for work in the vicinity of the highway. Place signage and barricades at both ends of the bike path during this operation. Available materials will be used.

3.4 Soil above the pipeline will be removed and placed adjacent to the excavation without sampling, for reuse as backfill. All material staged for reuse for backfill will have a walkover survey with a sodium iodide detector (NaI). Any material that shows detectable activity will be taken to the rail spur and disposed of as LLW.

3.5 The lines and manholes will be removed and receive radiological characterization in accordance with approved PRS 7 Radiological Survey Plan for disposal as LLW.

3.6 The 12" pipe will be surveyed for radiological contamination. Sediment residing inside the pipe may be sampled for characterization purposes.

3.7 Sampling of the bottom of the excavated trench will be in accordance with the approved PRS 7 Radiological Survey Plan.

3.8 The excavation shall be completely backfilled with soil excavated from above the pipe. All additional soil needed to return the area to its original grade will be obtained from DOE approved off-site sources.

3.9 Restore the flood control levee to original height, breadth and compaction.

3.10 Restore bike path asphalt (Springtime work) to pre-excavation condition.

3.11 All disturbed areas shall be graded-to-drain and seeded.

4.0 Remove Manhole A-5

[Caution: Do not bring any equipment across the newly constructed COS parking area/roads, or the parking area/roads under construction at the OSW building].

4.1 Contact Stoller on any existing radiological postings on Manhole A-5. Perform characterization survey in accordance with approved PRS 7 Radiological Survey Plan. **(HOLD POINT - CONFINED SPACE)** - See SOP -125 *Confined Spaces*.

Verified by:_____
Gary Evans Date

4.2 Upon completion of the survey performed in Step 4.1 above, a determination of manhole removal or decontamination (including inlet and outlet lines) will be made and presented to DOE for their review and concurrence. **(HOLD POINT)**

Verified by:_____
Connie Gerbig Date

4.3 If remediation option is attempted and acceptable results are not obtained, the contractor shall proceed with removal after consultation with DOE. The lines will not be removed beyond the next adjoining manhole.

4.4 Evaluate necessity for plugging end pipe based upon Step 4.3 above. **(HOLD POINT - CONFINED SPACE)** –See SOP-125 *Confined Spaces.*

Verified by:_____
Gary Evans Date

4.5 Backfill the resulting hole, compact and seed all disturbed areas (if applicable).

5.0 Remove Manhole A-9

5.1 Remove Manhole A-9 and dispose as LLW.

5.2 Plug the end of the lines running into and out of the manhole with concrete.

5.3 Backfill the resulting hole, compact and seed all disturbed areas (if applicable).

6.0 Decontamination/Demolition of Sanitary Sewer Package Plant

(Note: Fall protection evaluation required prior to entry into sanitary tanks. See SOP-108 *Fall Protection* and SOP-126 *Ladder Safety* before beginning this Phase).

(Note: JSA required before handling large or awkward objects with forklifts, aerial lifts or material handling equipment).

(Note: See SOP-118 *Control of Hazardous Energy and Hazardous Material Sources Lock Out/Tag Out* before performing any electrical disconnects at the Sanitary Sewer Package Plant. Coordinate any Lock Out/Tag Out activities with Stoller [ST-02]).

(Note: JSA required before handling Package Plant sludges – see SOP-128 *Handling Blood or other Potentially Infectious Materials*).

(Note: JSA required for removal of fuel from standby generator – see NFPA 30 *Flammable and Combustible Liquids Code*).

(Note: JSA required before using pressure washing – see SOP-116 *Pressurized Water Cleaning and Cutting Equipment*).

(Note: See SOP-125 *Confined Spaces* for activities involving confined spaces).

6.1 Receive formal turnover of Package Plant from DOE.

6.2 Sludge shall be removed from the Plant and hauled to PRS 441 for shipment and disposal. **(HOLD POINT – LOCK OUT/TAG OUT and CONFINED SPACE EVALUATION)**

Verified by:_____
Gary Evans Date

6.3 Perform necessary electric disconnect and remove diesel fuel from standby generator.

6.4 Radiologically survey generator for free release. After generator removal, survey concrete slab. If slab is free-releasable, leave in place. If not free-releasable, excavate slab and dispose of as directed by WM.

6.5 The parts of the Plant that are available for free release will be surveyed and disposed of as directed by Waste Management. The parts that are not available for free release (any metal that has been exposed to contamination) will be size reduced and shipped offsite as low-level waste (LLW).

6.6 Survey soil, re-grade and re-seed the Plant area as necessary after demolition.

Work Package /Preliminary Hazard Analysis (Continued)

8. COMMENTS: High visibility clothing, hand, foot, eye and head protection. Reflective clothing required for low light conditions. Wear leather palm gloves when handling rough materials. Wear all required PPE. Be alert to cold stress symptoms. EXCAVATION and TRANSPORTATION: Heavy equipment movement, open excavations, and vehicular traffic, use spotters and observe 15 mph speed limit. Use trench box or sloping to prevent entrapment. Communications with heavy equipment operators. Three point contact when climbing on heavy equipment and ladders. CONFINED SPACE: Obtain confined space entry permit, continuous air monitoring, all safety equipment must be in place prior to entry, and local emergency response organizations notified. DECONTAMINATION: Wear required PPE when using high pressure washer, three point contact when climbing ladders, confined space evaluation before entry into sanitary plant. Lock out or disconnect all utilities prior to entry. DEMOLITION: Maintain 75 foot of clearance when shearing materials, wear hearing protection, maintain contact with equipment operators.

Note: Comments, to identify activities/hazards that are common to multiple phases of the project (example: Wear leather gloves when handling cut pipe). Identification of these items will facilitate the addressing the items once in the pre-job briefing.

9. REVIEW SIGNATURES:

Written by: Tom Walsh _____ Date: ___/___/___ Phone:

Project Manager: _____ Date: ___/___/___ Phone:

Foreman: _____ Date: ___/___/___ Phone:

Project Eng. Mgr: _____ Date: ___/___/___ Phone:

Environmental Safety & Health: _____ Date: ___/___/___ Phone:

Radiological Controls: _____ Date: ___/___/___ Phone:

Waste Mgmt: _____ Date: ___/___/___ Phone:

QA: _____ Date: ___/___/___ Phone:

Note: Project Manager has the authority to N/A signatures if review is not applicable.

10. AUTHORIZATION SIGNATURE:

Project Manager: _____ Date: ___/___/___ Phone:

11. WORK PACKAGE CLOSURE:

Foreman: _____ Date: ___/___/___ Phone:

Project Manager: _____ Date: ___/___/___ Phone:

RETURN PHA TO ES&H AT JOB COMPLETION.

APPENDIX A
Preliminary Hazard Analysis (PHA) for Work Package Activities

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE ENVIRONMENTAL SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Hazard Analyses. Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards, that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Access/Blockage:			
Blockage of exits or means of egress	Yes	3.2	Maintain clearance from main rail lines
Blockages/obstructions (Identify)	NA	NA	
Confined space entry	Yes	2.6,4.1, 4.4, 6.0	Permit Required SOP-125 *Confined Spaces* **HOLD POINT** All confined space equipment must be inspected, permit generated if necessary, ventilation equipment in place as needed. Notification made to the Miamisburg Fire Department prior to commencing confined space entry.
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	NA	NA	
Traffic control/flagman	Yes	2.0-3.0	Traffic control at Route 25 excavation, barricades, fencing as needed for the entire project.
Flammable/Explosive:			
Burning, welding, hot-work (Fire Watch)	Yes	All	SOP- 127 *Hot Work* Permit required for possible equipment repairs
Chemical compatibility of corrosives/flammables	NA	NA	
Explosive/flammable atmosphere	NA	NA	
Fire protection system/equipment outage	NA	NA	
Fire Hazards Analysis/Fire Engineer Approval	NA	NA	
Flammable liquids/or gases	Yes	All	JSA Required for refueling equipment and removal of fuel from Sanitary Plant back-up generator. Follow NFPA 30 *Flammable and Combustible Liquids Code*
Powder-actuated tools	NA	NA	
Special Fire Protection Equipment Required	NA	NA	
Chemicals:			
Chemical process safety	NA	NA	
Compressed gas cylinders	NA	NA	
Elevated/Aerial Work:			
Crane operations, overhead or mobile	NA	NA	
Critical lifts (heavy or high value loads)	NA	NA	
Elevated work/fall protection	Yes	6.0	Fall protection evaluation required prior to entry into sanitary tanks. SOP-108 *Fall Protection*. SOP-126 *Ladder Safety*
Forklifts, aerial lifts or material handling equipment	Yes	6.5	JSA required for large or awkward to handle objects
Hoisting and rigging	NA	NA	
Overhead utilities (Identify)	Yes	1.0, 2.0,3.0	SOP-110 *Underground/Overhead Utility Contact Prevention*

APPENDIX A

Preliminary Hazard Analysis (PHA) for Work Package Activities (Continued)

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety Analysis(JSA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Lockout/tagout, outages, disconnects			
• Electrical	Yes	6.2	Disconnect electric to all Sanitary Plant. SOP-118 *Control of Hazardous Energy and Hazardous Material Sources LOCK OUT/TAG OUT*
• Mechanical (steam, hydraulic, pneumatic, gravity)	NA	NA	
• Interlocks	NA	NA	
• Chemical	NA	NA	
• Radiological	Yes	See PRS 7 Radiological Survey Plan	Radiological Work Permit required onsite only - See Section C
Outages of the plant public announcement (PA) system, alarms or the emergency notification system	NA	NA	
Structure Related:			
Modification to Fire Wall/Door	NA	NA	
Penetrations into walls, floors, etc.	NA	NA	
Structural Modification	NA	NA	
Work impacting adjacent normally occupied areas	NA	NA	
Temporary Requirements:			
Lighting/illumination/adequacy	Yes	All	Provide additional portable light plants.
Miscellaneous:			
Unguarded rotating equipment, machine tools etc.	NA	NA	
Off-shift work	NA	NA	
Repetitive work	NA	NA	
Low Light Conditions	All	NA	Provide light plants for additional lighting
Work in attics, ceilings, chases, or crawlspaces	NA	NA	
Work Requiring Scaffolding	NA	NA	

APPENDIX A
Preliminary Hazard Analysis (PHA) for Work Package Activities (Continued)

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety Analysis(JSA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Electrical:			
Electrical hazards	Yes	1.0,2.0,3.0,6.0	Underground and overhead utilities at Route 25 contact OPS for identification. SOP 110 *Underground/Overhead Utility Contact Prevention*
Soils/Excavation:			
Underground utilities (Identify)	Yes	1.0,2.0,3.0	Underground and overhead utilities at Route 25 contact OPS for identification SOP 110 *Underground/Overhead Utility Contact Prevention*
Trenching/Shoring	Yes	1.0-6.0	Permit Required Per SOP 117 *Excavation and Trenching*
Hazards due to condition of facility or terrain	Yes	3.0	Working near Great Miami River. Floatation devices worn or in work area.
Any soil disturbance	Yes	1.0-6.0	Underground and overhead utilities at Route 25 contact OPS for identification. SOP 110 *Underground/Overhead Utility Contact Prevention*

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety Analysis (JSA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Asbestos/Fibers:	No	NA	
Asbestos	NA	NA	
Hazardous Materials:	No	NA	
Beryllium	NA	NA	
Cadmium	NA	NA	
Chlorofluorocarbon (CFC)	NA	NA	
Coal, tar or asphalt products	NA	NA	
Lead	NA	NA	
Mercury	NA	NA	
Polychlorinated biphenyls (PCBs)	NA	NA	
Carcinogens (☐ MSDS available)*	NA	NA	
Chemical/Corrosives:	No	NA	
Chemicals/solvents	NA	NA	
Corrosives/acids	NA	NA	

**NOTE:* Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

APPENDIX A
Preliminary Hazard Analysis (PHA) for Work Package Activities (Continued)

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety Analysis (JHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section F if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Ventilation/Air:	Yes	2.6,4.1 4.4, 6.0	Air monitoring required for confined space work. See SOP-125 *Confined Space.* Ventilation if needed will use a forced air fan with flexible duct attached.
Coating/painting	No	NA	
Spraying/generation of dust and mists*	NO	NA	
Ventilation or Air Monitoring requirements	Yes	2.6,4.1 4.4,6.0	Air monitoring required for confined space work. See SOP-125 *Confined Spaces.* A four gas monitor is used for flammable gases, oxygen levels, carbon monoxide and hydrogen sulfide.
Miscellaneous:	Yes	See below	
High Pressure systems	NA	NA	
Noise in excess of 85 dBA	Yes	All	JSA Recommended SOP-113 *Hearing Conservation Program*
Blood-borne pathogens*	Yes	6.2	JSA Recommended SOP-128*Handling Blood or other Potentially Infectious Material*
Temperature extremes (heat or cold stress)	Yes	All	JSA Recommended SOP-112 *Cold Stress* SOP 119 *Heat Stress*
Welding, brazing, or thermal cutting operations	Yes	All	SOP -127 *Hot Work* Permit required for possible equipment repairs
Other (specify) High pressure washer	Yes	6.4	JSA Required SOP-116 *Pressurized Water Cleaning and Cutting Equipment*
Other (specify) Site Security	Yes	All	Possible intrusion by unwanted visitors/neighbors. In work area. Maintain worksite boundaries. Control equipment access during off shift hours. Stop work if intrusion causes safety concerns. SOP-103 *Stop Work Authority*

*NOTE: Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

APPENDIX A
Preliminary Hazard Analysis (PHA) for Work Package Activities (Continued)

SECTION C, RADIOLOGICAL PROTECTION - TO BE COMPLETED BY RADIOLOGICAL CONTROLS REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. RWP, ALARA Plan, etc.). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Location	Controlled Area	x	4.0,5.0	Onsite only
	Contamination Area	x	4.0,5.0	Onsite only
	High Contamination Area	No	NA	
	Radioactive Materials Storage Area	x	See PRS 7 Specific Waste Transportation Plan	Onsite only
	Airborne Radioactivity	No	NA	
	Radiation Area	No	NA	
	High Radiation Area	No	NA	
	Very High Radiation Area	No	NA	
	Other (Specify)			
Activities:	Digging/Soil Removal	x	1.0-5.0	Excavation Permit
	Surface destruction of radioactively contaminated materials or equipment?	No	NA	
	Welding, burning, or grinding?	NA	NA	
	Hammering, chipping or scraping?	NA	NA	
	Abrasive blasting?	NA	NA	
	Rad Waste Storage and Disposal Required	x	See PRS 7 Specific Waste Transporta-tion Plan	Storage at Rail Spur
	Other (Specify)			

APPENDIX A
Preliminary Hazard Analysis (PHA) for Work Package Activities (Continued)

SECTION D, ENVIRONMENTAL COMPLIANCE- TO BE COMPLETED BY ENVIRONMENTAL COMPLIANCE REPRESENTATIVE
Identify engineering/administrative controls as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard. Additionally, identify any activities which are DOE or EPA prescribed protective requirements. (Use Section F if additional space is needed.)

		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Conditions:	Fugitive Dust	x	1.0-6.0	Water spray , dust suppressant or equivalent – no visible dust
	Storm Water Runoff	x	1.0-6.0	Silt fences, berms, tarps, TopCoat or equivalent to control runoff from excavation
	Erosion Control	x	1.0-6.0	Silt fences, berms, tarps, TopCoat or equivalent
	NESHAPS Calculation	x	1.0,4.0,5.0,6.0	Only applies to rad areas, use PRS 11 calculations
	Cultural Resources	Not Likely	2.0-3.0	Assume on-site areas surveyed – only off-site areas – check with Miami Conservatory District
	• If any artifacts found			Notify DOE
	Safe Drinking Water Act	NA	NA	
	• Potable water			
	• Backflow prevention for misting			
	Emergency Spill Response Materials (Confirm process lines are drained)	x	1.0-6.0	Spill kits, notification to National Response Center (NRC) in event of sheen on river caused by spillage
	Locate Monitoring Wells	x	1.0-6.0	Any wells in areas to be excavated need to be abandoned in accordance with ODNR guidance
Notifications:	RAPCA Notification for Asbestos	NA	NA	
	RAPCA Notification for Demolition	NA	NA	

APPENDIX A
Preliminary Hazard Analysis (PHA) for Work Package Activities (Continued)

SECTION E, WASTE MANAGEMENT- TO BE COMPLETED BY WASTE MANAGEMENT REPRESENTATIVE *Include any required and/or other special actions to be taken because of the particular hazard. Additionally, identify any activities which are required by DOE, Nevada Test Site, Envirocare or other waste site.* (Use Section F if additional space is needed.)

	Quantity Expected	Work Package Phase	Radiological Characterization	Packaging Requirements	Mode of Disposal
Types:					
Sanitary Landfill Waste: • Concrete • Steel & Copper Piping • Metal Roofing • PVC • Electrical Wiring • Fiberglass Insulation • Wood	NA	NA			
Hazardous Waste: • RCRA Hazardous Waste • Asbestos • Other	NA	NA			
Mixed Waste	NA	NA			
Low Level Radiological Waste: • Building Debris • Below grade	200 yd^3 500 yd^3	All All	LLW LLW	RAIL RAIL	LAND LAND
Transuranic (TRU) Waste	NA	NA			
NOTE: 1. Sealed pressure vessels will need to be at <1.5 atmosphere if present. 2. Any items not previously evaluated are to be set aside for evaluation by Waste Management prior to disposal.					
Other:					
Material sent off-site	NA	NA			
Material sent to concrete crusher	NA	NA			

SECTION F - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C INCLUDING APPLICABLE LESSONS LEARNED:

aRc Accelerated Remediation Company
A Portage-Shaw Joint Venture

APPENDIX B — Work Package Revision Form (Example)

WORK PACKAGE REVISION FORM			
Work Package No. MP-103.05 A		Revision No. 3	
Revision Description: (attach page revisions to form) REVISE SECTION 3.1 TO ADDRESS PIPE REMAINING UNDER OLD U.S. HIGHWAY 25 (SEE ATTACHED REVISION)			
	Name	Signature	Date
PREPARED BY:			
Revision Preparer:	TOM WALSH	T.J. Walsh	5/19/08
REVIEWED BY:			
Job Foreman:	GARY FRIZZEL	[illegible]	5/19/08
Project Superintendent/ Foreman:	[illegible]	[illegible]	5/19/08
Environmental Safety & Health:	GARY EVANS	[illegible]	5/19/08
Radiological Point of Contact:	Connie Gerbig	Connie Gerbig	5/19/08
Waste Management PoC:	RANDY BARR	Randy Barr	5/19/08
Other:			
Other:			
APPROVED BY:			
Project Manager:	MIKE KOPP	Mike Kopp	5/20/08

APPENDIX C — Work Package Revision History Form (Example)

WORK PACKAGE REVISION HISTORY FORM			
REV. NO.	REASON	SIGNATURE	DATE

APPENDIX D — Post Job Review Form (Example)

POST JOB REVIEW FORM	
WORK PACKAGE NO.:	
WORK PACKAGE TITLE:	
COMMENTS/LESSON LEARNED (Originator)	DISPOSITION/FOLLOW-UP (Person Responsible for follow-up)

Reviewed by: _____

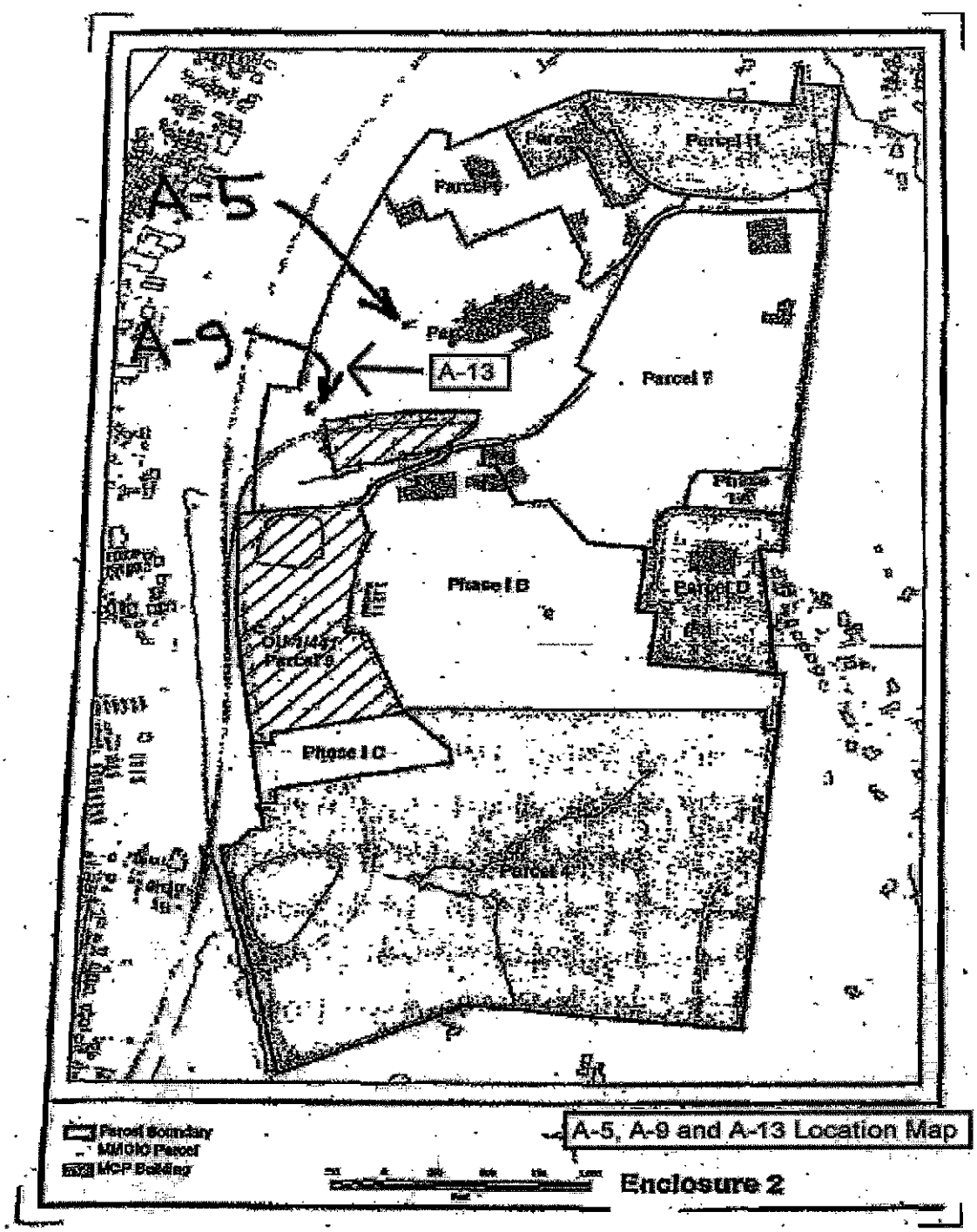
Project Manager: _____
Name Signature Date

APPENDIX E — Status Log

Work Package Number _____

Work Description _____

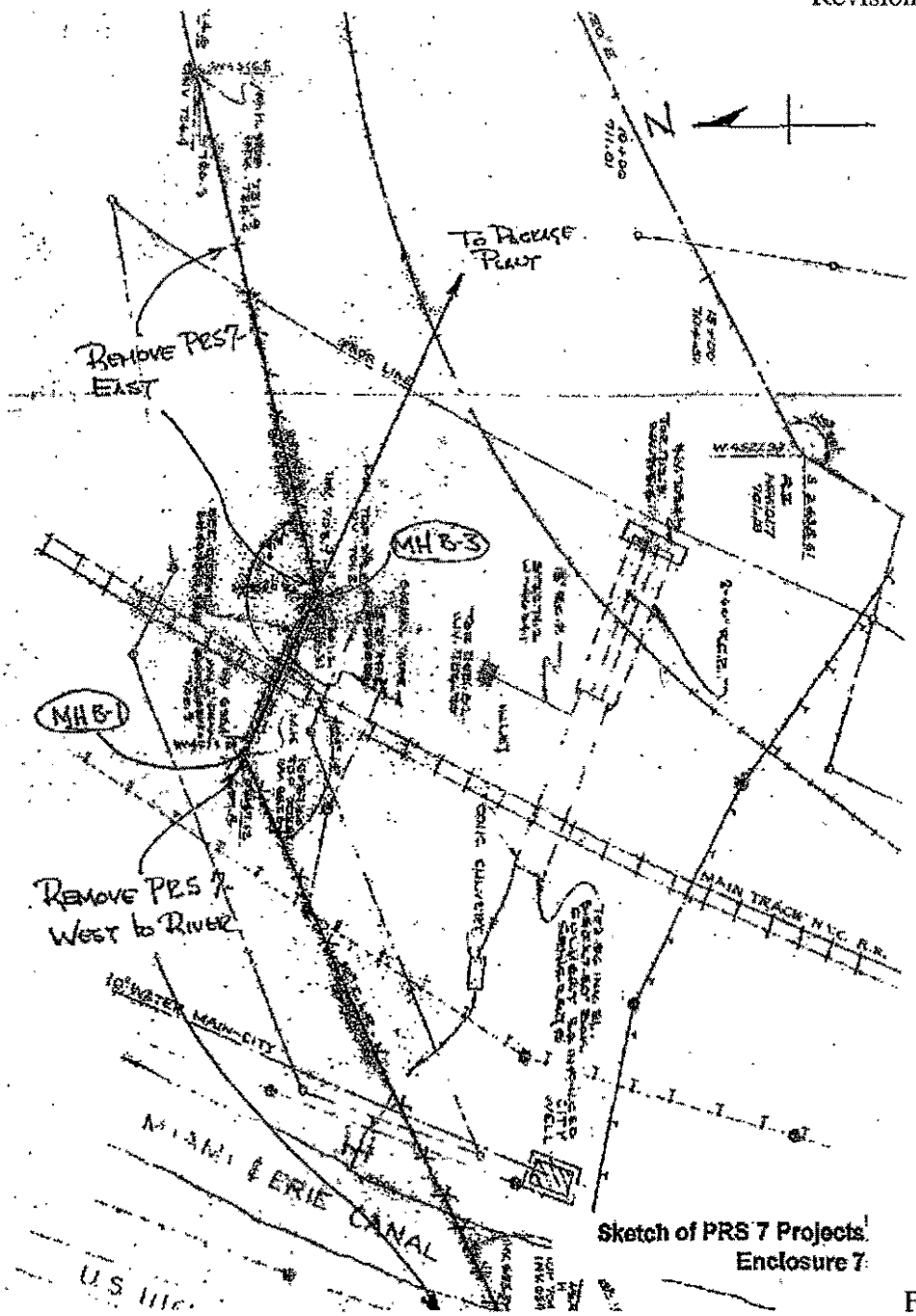
DATE	INITIALS	COMMENTS/ACTIONS



North Direction ↑

Figure 1 – Manholes A-5, A-9 and A-13 Locations

aRc Accelerated Remediation Company
A Portage-Shaw Joint Venture



Sketch of PRS 7 Projects
Enclosure 7

Figure 2

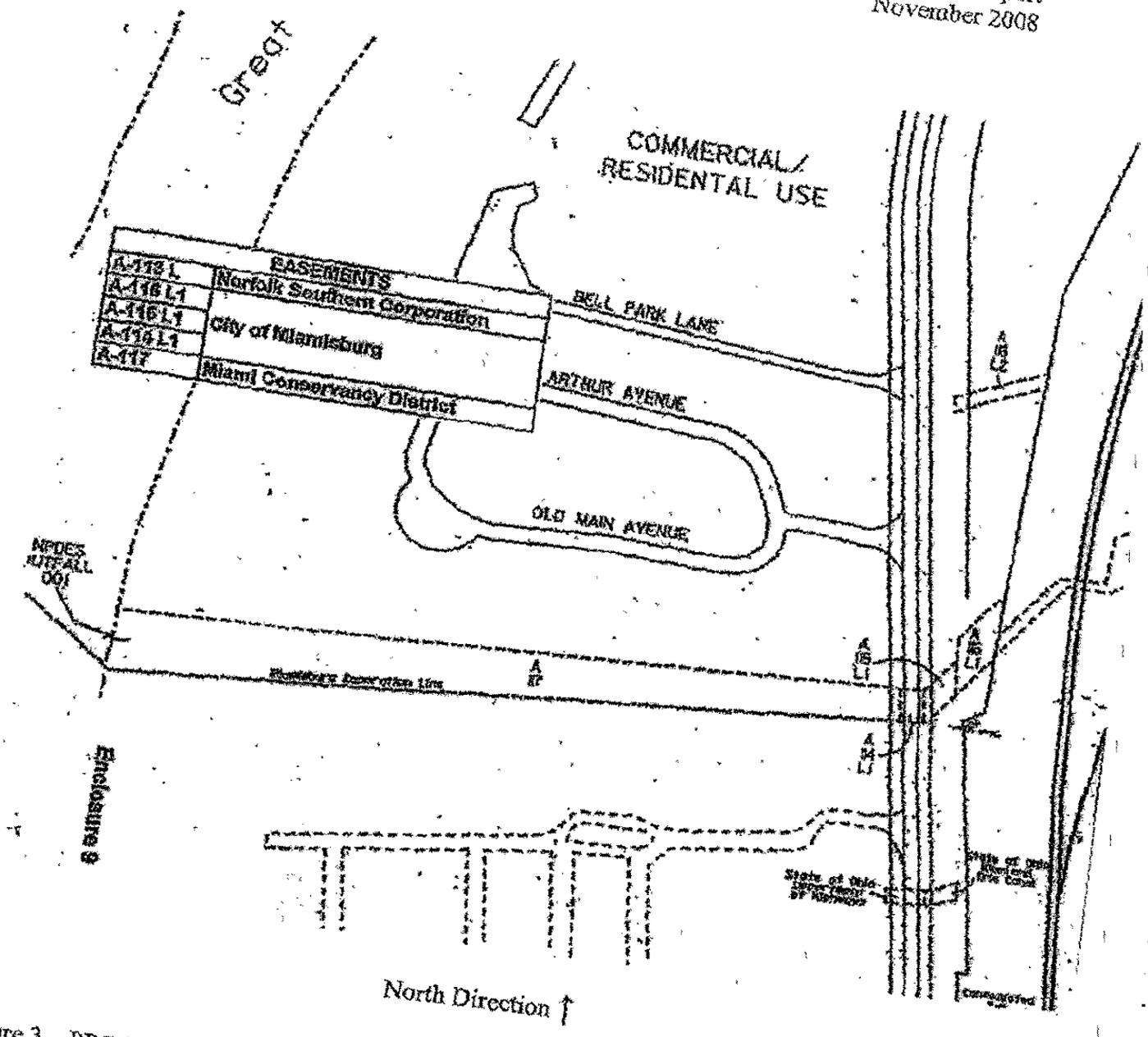


Figure 3 – PRS 7 West Outfall Line to Great Miami River

LAND USE PERMIT NO. 13-1567-1, Revision No. 1 Renewal No. 1

EXHIBIT "A"

PROJECT LOCATION

The property, **Part MCD Parcel Number 1093, 1154, 1176 & 1498,** is located in the City of Miamisburg, Montgomery County, Ohio, and more specifically as shown on the attached drawing.

ADDITIONAL TERMS, CONDITIONS AND RESTRICTIONS

The Grantee AGREES to maintain all property within three (3) feet of any structure and along both sides of all fencing.

The Grantee AGREES, **within sixty (60) days of initial construction of any well,** to provide the District an initial sampling and analysis report. The Grantee further AGREES, **within thirty (30) days of completion,** to furnish the District copies of all future well logs and test boring reports.

[redacted] The Grantee further authorizes the District to access any of the monitoring wells listed within this agreement for the purpose of monitoring groundwater levels and quality should it be necessary to assure public safety and/or maintain the required level of flood protection.

As this is a public entity NO Permit fee will be required.

Upon issuance of this Permit all terms, conditions and restrictions of MCD Land Use Permit No. 11-786-1 as issued to Monsanto (USA) on October 1, 1947, MCD Land Use Permit No. 13-1567-1 as issued to EG & G Mound on June 29, 1976, MCD Land Use Permit No. 13-1567-1, Addendum No. 1 as issued to EG & G Mound on October 14, 1987, MCD Land Use Permit No. 13-1567-1, Addendum No. 2 as issued to EG & G Mound on August 9, 1989, MCD Land Use Permit No. 13-1567-1, Addendum No. 3 as issued to EG & G Mound on February 15, 1993 and MCD Land Use Permit No. 13-2398-1 as issued to EG & G Mound on October 1, 1995 will terminate.

The term of this Permit shall be for a period of twenty (20) years, **effective July 1, 2001 and terminating on June 30, 2021.**

EXCAVATION & RESTORATION REQUIREMENTS WITHIN NATURAL AREAS

1. Construction access will be limited to a maximum width of twenty (20) feet unless pre-approved in writing by the District.

2. The District must pre-approve the removal of any trees being greater than four (4) inches in diameter.

3. The top ten (10) inches of topsoil is to be removed and stockpiled prior to starting any excavation.

4. When construction has been completed, the trench is to be backfilled and compacted.

5. Stockpiled topsoil is to be spread evenly over the construction area to approximately the original terrain and lightly compacted. No heavy equipment should be used for compaction of the topsoil.

6. All areas disturbed will be protected with a CF7 (Bon Terra America 1-800-882-9489) or equivalent erosion control blanket.

7. Organic material (logs, branches, etc.) from the adjacent area is to be placed over the erosion control blanket to inoculate the soil, speed recovery and hide the construction area.

RESTORATION REQUIREMENTS

All District owned or controlled property disturbed by land use and/or construction will be restored to the reasonable satisfaction of the District **within thirty (30) days** of project completion as follows.

Restoration of Dam and Levee Slopes:

1. Compaction of material will be 95% proctor as determined by a certified testing company. Testing will be performed every four (4) feet of fill height.

2. **Within seven (7) days of construction,** all dam and levee slopes disturbed by construction will be seeded as pre-approved and/or directed by the District's Caretaker. Should other methods of restoration prove inadequate, the Grantee AGREES to sod any or all dam and levee slopes disturbed by construction as directed by the District. The Grantee AGREES to properly monitor and maintain the restoration process of all dams and levee slopes disturbed by construction until sufficient turf has been established.

3. District inspection and approval must be acquired prior to obtaining all other necessary approvals.

General Restoration:

1. All property disturbed by construction is to be seeded **within ten (10) days** of project completion. The method of seeding and seed mixture must be pre-approved by the District's Caretaker. The Grantee AGREES to properly monitor and maintain the restoration process of all areas disturbed by construction until sufficient turf has been established.

UPON TERMINATION of this Permit the Grantee AGREES, **within six (6) months,** to remove all structures and/or improvements, including all appurtenances, constructed on District property as indicated below and/or directed by the District. Furthermore, all property used will be restored in accordance with the restoration requirements of this Permit. All plans for abandonment must be pre-approved by the District.

Roads, Driveways and Sidewalks:

1. All asphalt, concrete or brick pavement must be removed unless directed otherwise by the District. The area is to be backfilled with clean fill material, graded and restored as directed by the District.

2. Gravel paths or roadways will be disked and graded unless otherwise directed by the District.

Poles, Towers, Fences, Signs, Buildings, Bridges and other Above-Ground Structures:

1. All Structures or installations are to be removed, including bases, foundations and anchors.

2. Should they be permitted to remain, all pilings and footers should be cut off a minimum depth of three (3) feet below finished grade or bottom of channel

Transmission and Communications Lines:

1. All aerial lines and/or buried cables will be removed.

2. Ducts and conduits will be treated as pipelines, see "Water, Sewer and Fuel Lines" section.

Storm Sewers:

1. All exposed pipes, headwalls and channel protection will be removed.

2. All pipelines located along any slope will be removed to a depth of at least six (6) feet horizontally from finished grade. They are to be capped and plugged with concrete (12" minimum thickness).

3. All pipelines buried less than three (3) feet from finished grade will be completely removed and the area will be backfilled with clean fill material and compacted as required by the District.

4. All pipelines located within concrete revetment will be removed to a depth of at least six (6) feet horizontally from finished grade. The pipes will be capped and plugged with concrete (12" minimum thickness) and all revetment panels will be replaced.

Water, Sewer and Fuel Lines:

1. Unless otherwise specified by the District, all pipelines will be removed and the area backfilled with clean fill material and compacted as required by the District.

2. Should the District authorize the pipeline to remain, all manholes, valve pits, meter pits, etc. will be removed or properly abandoned as described under the Chambers and Manholes section. Pipes will be capped or plugged with concrete at all manholes or access points, and all terminus points where they have been disconnected from wells, tanks, meters or other pipelines. Vents should be removed to a depth of at least three (3) feet and capped or plugged with concrete.

Chambers and Manholes:

1. Unless otherwise specified by the District, all chambers and manholes will be removed and the area backfilled with clean fill material and compacted as required by the District.

2. Should the District authorize a chamber or manhole to remain, all gates, valves, meters and other equipment will be removed from the chamber or manhole and all pipes will be plugged with concrete.

3. The top cone or pre-cast section will be removed, or if the chamber is cast in place or brick, the top of the chamber will be demolished to a depth of at least three (3) feet below finished grade. The chamber or manhole should be filled with gravel and the top three (3) feet backfilled with clean fill material and compacted as required by the District.

Fuel Tanks:

1. All fuel tanks, above ground or buried, must be removed in accordance with the State of Ohio Bureau of Storage Tank Regulations.

2. Soil samples will be taken to determine if soil has been contaminated. All contaminated soil will be removed.

3. The area is to be backfilled with clean fill material and compacted as required by the District.

Wells:

When the Grantee has determined the operation of any well and/or facility to be no longer necessary, or upon termination of this Permit, the Grantee will, **within six (6) months,** satisfactorily complete one (1) of the following options as determined by the District.

Option No. 1: Remove or properly abandon any or all wells and/or facilities and restore all District property used to the reasonable satisfaction of the District. Removal of any well must be in accordance with the regulations of the Ohio Department of Natural Resources, Ohio Environmental Protection Agency and Local Health District.

Option No. 2: Transfer, to the District, ownership of any well and/or facilities considered essential to the function of the District, including all structures, casing, screen, and appurtenances. A board of three (3) appraisers will determine the value of the portion of the wells and/or facilities, which the District elects to use. The District and the Grantee shall each select one (1) appraiser. Those two shall in turn select a third appraiser. Any well and/or facility not acquired by the District must be removed and properly abandoned as indicated in Option No. 1.

Should the Grantee fail, within SIX (6) MONTHS of the termination date of this Permit, to properly abandon all wells not acquired by the District, the District will take all necessary action to assure the proper abandonment of the wells and the Grantee AGREES to reimburse the District for any expenses incurred thereby.

PRS 7
Radiological Survey Plan

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1.0 Purpose

This procedure provides instructions for radiological controls, surveys and sampling for PRS 7 work activities on-site and off-site. The following are the aRc Procedures that support this survey plan:

- SOP # 702 Radiological Operations Procedures – Associated SOP # 704, 705, 706, 707, 708, 710, 711, 712, 713, 715, 716, 718, 719
- SOP # 721 Air Monitoring Manual – Associated SOP # 723, 724, 725, 726, 727, 728
- SOP # 729 Radiological Work Requirements - Associated SOP # 731 Radioactive Material Transfer Unrestricted Release of Property / Waste

2.0 Scope

This sample plan applies specifically to PRS 7 remediation work activities. On-site and off-site requirements will be addressed individually pertaining to radiological controls, surveys and sampling. The entire excavation activity will have continuous radiological controls coverage to provide for the protection of the worker, public and the environment.

- On-site remediation will consist of the decontamination and/or demolition of the Sanitary Sewer Package Plant, removal of Manhole A-9 and the characterization survey of Manhole A-5 for the determination of removal or decontamination and associated lines, where applicable.

- Off-site remediation will consist of the removal of 5 manholes and the abandoned sanitary line to be disposed of as LLW via railcars to Utah. The interior of the sanitary line may have been radiologically impacted but the soil above and beneath the line is believed by DOE to be non-impacted based on past experience with PRS-7, historical outfall data and general history of the sanitary line.

3.0 Procedure

3.1 On-site radiological controls, surveys and sampling:

(Activities may be performed in any order)

<u>The following is applicable to all onsite remediation of PRS 7:</u>

Remediation conducted on-site will be conducted under a Radiological Work Permit (RWP) pertaining to the work at hand. Soil intrusion (pipe line removal) and Manhole A-9 work will be conducted under an RWP with "Soil Contamination Area" work requirements. Manhole A-5 will be removed or decontaminated, if applicable, under a RWP with "Contamination Area" work requirements. This is based on current information and will be continuously reviewed.

In-process wipes, directs and soil samples will be collected during excavation for personnel protection and/or waste management (WM) use.

The haulers will be positioned in clean areas at the excavation site during loading. The trucks will be loaded to less that full capacity to preclude waste material from dropping off onto the Haul Road (*see attached Figure)* during transport to Rail Spur (PRS 441) staging area. The truck beds will be inspected and any loose material will be removed prior to transport. In addition, the hauler tires will be wiped and the wipes will be field counted prior to the release of trucks for transport to the Rail Spur. After dumping the load at the Rail Spur the truck will be visually inspected and any loose material will be removed prior to the release of trucks from the dumping dock, then the tailgate and tires will be surveyed for release onto the Haul Road.

All the lines, manholes and associated pipes that will be removed, will be disposed of as LLW. They will be surveyed to ensure compliance with EnergySolutions WAC. Any other lines breached will be surveyed for free release (swipes and direct readings). If values are below Table 1 criteria (Surface Contamination Guidelines, Mound 2000), the line will be capped or plugged. If above Table 1 criteria, the removal of the line will continue as appropriate. The lines will not be removed beyond the next adjoining manhole, unless contaminated by the removal activities. In process surveys and soil sampling will be conducted during excavation. Soil (overburden) around the manholes and above the sanitary line will be staged adjacent to the excavation for FIDLER scanning and soil sampling to determine disposition as backfill or LLW. Staged soil (overburden) will be sampled at a frequency of 1 per 20 cubic yards and analyzed via on site gamma spec analysis for reuse as backfill. The area under the line will be scanned and sampled to confirm soil results are <CO for all isotopes via gamma spec.

Upon completion of excavation activities the frequency of sampling efforts will be consistent with the Standard VSAP, i.e. Trench areas every 15 linear feet, areas < 100 m^2 but not a trench - a minimum of 6 samples will be taken, and areas > 100 m^2 - a 15 foot triangular grid will apply.

The onsite soil screening lab will report results for Ac-227, Am-241, Cs-137, Co-60, Pu-238, Ra-226, Th-230, Th-232 and U-238. Bi-207 will be reported if greater than its MDA. Th-230 MDA will be < 10 pCi/g. All final "as left samples" will be sent offsite for iso-Th analysis.

Free release criteria found in SOP 731, Radioactive Material Transfer Unrestricted release of Property / Waste will be used to determine disposition.

3.1.1 **Manhole A-5** requires a re-characterization survey, past survey data shows levels of removable contamination up to 109 DPM / 100 cm^2 alpha, direct readings up to 1k DPM /

100 cm² alpha and sediment sample from bottom containing 639 pCi/g of Pu-238. This manhole is a posted contamination area and will require an RWP for entrance.

A confined space, characterization survey of Manhole A-5 needs to be conducted. In addition to RWP requirements, Health and Safety confined space entry requirement apply. The survey will consist of 100 cm² smears and direct readings along the sides and bottom of the manhole, to include the inlet and outlet lines. The extent of the survey will be determined at the time of entry to ensure the survey is conducted safely. Sediment samples of any residual material may be collected and analyzed via onsite gamma spec for verification of previous survey results. Where necessary, residual material may be gathered for disposal or moved aside to allow for survey of the hard (concrete) surface. The surface should be free of debris and dry prior to the direct readings. Survey points should be numerous enough so that a determination can be made as to the path forward. Upon completion of the survey, a determination of manhole removal or decontamination will be made. Survey data may be presented to DOE along with a recommendation for concurrence.

3.1.2 **Manhole A-9** will be excavated and surveyed per WM and transported to the rail spur by hauler for disposal as LLW. In process wipes and direct surveys will be conducted during excavation for personnel protection. Past survey data shows elevated direct reading alpha 650 DPM / 100cm², all swipe data was <20 dpm/ 100cm².

3.1.3 **The Sanitary Sewer Plant** will be surveyed for characterization prior to demolition. This will allow accessible areas of the floor and walls to be surveyed and determine disposition per WM. Sludge shall be removed from the plant and hauled to the rail spur for disposition as LLW. After sludge removal, based on the characterization survey the system lines, tank and pumps may be surveyed for free release if they have not been in contact with any contaminated material. Sludge holding areas shall be disposed of as LLW. Any material not able to meet surface release criteria stated in SOP # 729 Radiological Work Requirements - Associated SOP # 731 Radioactive Material Transfer Unrestricted Release of Property / Waste will be disposed of as LLW. Any additional waste characterization surveys will be conducted per WM direction. During dismantlement, the items designated for free release will undergo additional surveys of the inaccessible areas. Items staged outside will be evaluated for free release based on the potential of cross contamination and survey data.

3.2 Off-site radiological controls, surveys and sampling:
(Activities may be performed in any order)

Off-site remediation will consist of the removal of 5 manholes and the abandoned sanitary line to be sent to the rail spur and disposed of as LLW. Continuous radiological coverage of the excavation activities will be provided. If any soil staining or elevated survey readings indicate potential contamination, that material will be segregated for further evaluation. Any soil excavated that contains pipe debris will automatically be placed in the hauler for transport as LLW.

The following is applicable to all off-site remediation of PRS 7:

- Soil around manholes and above the sanitary lines will be removed and placed adjacent to the excavation without sampling for reuse as backfill since surrounding soil is believed to be non-impacted.
- All pipes are surveyed to meet free release criteria prior to capping or sealing in accordance with standard radiological controls practices. The line removed from the sleeve under old U.S. Highway 25 will be surveyed for contamination on the inside and outside, along with accessible areas of the sleeve. If the sleeve survey results are less than free release criteria, the sleeve may be left in place. If the sleeve survey results are greater than the free release criteria, notify DOE.
- The sanitary line and manholes will be periodically surveyed. When sediment is available inside of the lines, a sample will be taken. Sediment residing inside the lines along with the lines will be loaded into haulers and taken to the rail spur for shipment as LLW.
- The haulers will be positioned in clean areas at the excavation site during loading. The trucks will be loaded to less than full capacity to preclude waste material from dropping onto the Haul Road during transport to Rail Spur (PRS 441) staging area. The truck beds will be inspected and any loose material will be removed prior to transport. In addition, the hauler tires will be wiped and the wipes field counted prior to the release of trucks for transport to the Rail Spur. After dumping the load at the Rail Spur, the truck will be visually inspected and any loose material will be removed prior to the release of trucks from the dumping dock. The tailgate and tires will be surveyed for release onto the Haul Road.
- If material falls out of the hauler bed during the crossing of S. Main St, maintain stopped public traffic flow, clean up material and RCT will scan area using FIDLER and wipes where material had fallen. [Note: aRc will notify DOE if any contaminated material falls out of the hauler during the crossing of S. Main St. DOE will notify Ohio EPA to contact the Ohio Department of Health.] If no contamination is detected public traffic flow can be resumed. If contamination is detected, decontaminate and re-survey until no contamination detected.
- The contaminates of primary concern are Pu-238 and Th-230. The lower release limit for transuranics of 20 DPM/100cm^2 removable and 100 DPM/100cm^2 total will be applied as the default limit. Results obtained higher than these release limits may result in work activities being put on hold until isotopic analysis is conducted. The appropriate limit will be applied after an isotopic determination has been made.
- The area under the line will be scanned and sampled to confirm that it was non-impacted. This will be done with the FIDLER excavation area scans and biased and un-biased soil samples.
- In addition to the biased locations; un-bias, systematic sampling will occur. It is anticipated that 35-45 systematic MARSSIM samples will be required, with 30-40 bias samples. This brings the total samples to approximately 75 soil samples collected.
- At biased or un-biased sample locations where a person can not safely enter the excavation area, an excavator will bring a bucket of soil from the location to an area where a sample can be retrieved and contents of bucket scanned. If the excavation area can be safely entered, the RCT will collect the sample directly from the sample location. The RCT will collect a ½ liter

EPA container of soil and submit for onsite analysis via gamma spectroscopy. Once samples have been retrieved, the sample location will marked via GPS and the area backfilled. The onsite soil screening lab will report results for Ac-227, Am-241, Cs-137, Co-60, Pa-231, Pb-210, Pu-238, Ra-226, Th-230, Th-232 and U-238. Bi-207 will be reported if greater than its MDA. After all samples are analyzed onsite they will be sent offsite (100 %) for iso-Th and iso-Pu analysis to obtain lower MDAs. Iso-Pu will include a Pu-239/240 result.

The following Table provides information on the MDAs:

COC	Analysis	Expected MDA (pCi/g)
Pb-210	*Onsite gamma*	*<0.8*
Th-230	*Offsite iso. Th*	*0.1*
Th-232	*Offsite iso. Th*	*0.1*
Pu-238	*Onsite gamma*	*<20*
Pu-238	*Offsite iso. Pu*	*0.1*

- Ohio EPA may collect as many samples and analyze for whatever parameters deemed necessary to ensure the protectiveness of the public and the environment.
- Prior to start of work, aRc will conduct a baseline survey of the route.
- In addition, aRc will provide 100% spotter coverage for each truck from the point of loading to the point of dumping to observe any un-expected spills. If any material is observed falling from a truck, the immediate area will be scanned (if area is soil) or wiped (if area is concrete or asphalt). If the scans/surveys show any indication of radionuclide contamination, the area will be cleaned. The cleaned area will be wiped (if area is concrete or asphalt) or sampled (if area is soil) to confirm consistency with the baseline survey.
- Prior to start of work, aRc will conduct a baseline survey of the route. Upon completion of the PRS 7 hauling, 100% of the route will be scanned. This will be accomplished by a 25% walkover scan of 100% of the route, performed using the NaI detector to identify residual activity. In addition, the instruments are equipped with GPS capabilities to log survey locations and associated instrument response. Locations identified by scans will be investigated to determine the mature and extent of possible contamination. Investigation may include sampling and analyses. If scans/investigation show any indication of radionuclide contamination, the area will be cleaned. The cleaned area will be wiped (if area is concrete or asphalt) or sampled (if area is soil) to confirm consistency with the baseline survey.
- The following procedures will be used for the survey process:

SOP-701 Operation of Ludlum Model 2221 Ratemeter/Scaler
SOP-706 Radiological Operations Procedures: Radiological Surveys
SOP-710 Radiological Operations Procedures: Performance Testing and Operation of the Bicron Analyst with the FIDLER Detector
SOP-711 Radiological Operations Procedures: Operation and Use of Ludlum Model 3030

SOP-712 Radiological Operations Procedures: Operation of the Ludlum 2360 Scaler/Ratemeter with Ludlum 43-89 Alpha/Beta Scintillators
SOP-731 Radiological Work Requirements: Radioactive Material Transfer and Unrestricted Release of Property/Waste
SOP-737 OU-1 Gamma Scintillation Walkover Scans
SOP-738 OU-1 Project Radiological Soil Sampling

3.3 Reporting Data

Upon completion of the excavation and review of offsite data, a data report similar to a building data package will be prepared and presented to the Core Team for approval or further actions.

4.0 Radiological Work Permits (RWP)

- On-site work activities will be conducted utilizing one of two RWP's. A Soil Contamination Area RWP for soil intrusion work, utilized for removal of sanitary lines and surrounding soil, if necessary. The other RWP for Contamination Areas, may be utilized for radiological surveys and the removal or decon of manholes 5 and 9.

- Off-site work activities, based on current data will not require an RWP. If radiological conditions change, the use of an RWP will be reanalyzed.

5.0 Air Monitoring

Work area monitoring will be conducted with a minimum of at least 1 downwind air monitor. Due to the fact that area excavations (pipe removal) may be conducted in a confined area, and backfilled as the work day progresses, no more than 1 job coverage air sampler may be needed. Periodic smoke tests may be conducted to ensure proper air sampler location. Personnel monitors will be assessed based on the work activities being conducted and as required by the RWP (ex. Manhole decontamination, removal).

Fugitive dust will be controlled at the excavation site using a water spray, with a goal of no visible dust.

6.0 Equipment Monitoring and Release

Material used in a posted Soil Contamination Area or Contamination Area will be surveyed for release in accordance with SOP # 731 Radioactive Material Transfer Unrestricted Release of Property/Waste prior to leaving the immediate job area or site. Inprocess equipment monitoring (i.e. excavator attachments) will be conducted at end of day operations if equipment is not expected to leave the immediate work area but will continue for the next work day operations.

Haul trucks will be monitored and surveyed after loading at the excavation site and after dumping at the rail spur to assure no loose contamination exists on the exterior of the hauler before leaving the load/unload area. This applies to both onsite and offsite remediation work.

7.0 Postings

- On-site work activities will be posted as a Controlled Area and Soil Contamination Area or Contamination Area as determined by past, current or inprocess surveys. Posted areas (SCA, CA) will remain until the area is remediated, excavation abandoned or survey data validates the change in posting. For on-site remediation, haul trucks will have magnetic "Controlled Area Radioactive Material" postings on the beds while transporting material to the rail spur.

- Offsite work activities will have constant job coverage with a Radiological Control Tech who will serve as the posting for all off-site work activities. Instrument scanning (FIDLER) of excavated area will be conducted (in addition to job coverage scans) prior to all breaks or end of day to ensure potential of radioactivity does not exist on exposed surfaces. Haulers used for off-site activities will not require any postings based on current data.

Table 1

SURFACE CONTAMINATION GUIDELINES

Allowable Total Residual Surface Contamination (dpm/100 cm^2)[1]			
Radionuclides[2]	**Average[3,4]**	**Maximum[5,6]**	**Removable[6]**
Group 1 - Transuranics, I-125, I-129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	100	300	20
Group 2 - Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1000	3,000	200
Group 3 - U-Natural, U-235, U-238, and associated decay products, alpha emitters	5,000	15,000	1,000
Group 4 - Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous[7] fission) except for Sr-90 and other noted above.	5,000	15,000	1,000
Tritium	N/A	N/A	10,000

1. As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

2. Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exits, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

3. Measurements of average contamination should not be averaged over an area of more than 1 m^2. For objects of smaller surface area, the average should be derived for each object.

4. Dose Rate: The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr and 1.0 mrad/hr, respectively, at 1 cm. Since building materials have naturally occurring radioactive material, background should be accounted for.

5. The maximum concentration level applies to an area of not more than 100 cm^2.

6. The amount of removable material per 100 cm^2 of surface area should be determined by wiping the area of that size with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wiping with an appropriate instrument of known efficiency.

When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped.

7. This category of radionuclides includes mixed fission products, including Sr-90 which is present in them. It does not apply to Sr-90 which has been separated from the other fission products or mixtures where the Sr-90 has been enriched.

Reference:

Work Plan for Environmental Restoration of the DOE Mound Site

Mound 2000 Approach
Final, Rev. 0

PRS 7 West Line Overburden and Backfill Determination Guide

Purpose: This addendum to the PRS 7 Radiological Survey Plan provides the steps to perform radiological characterization of the soils material associated with the PRS 7 West Line.

PRS 7 West Line is divided into 5 sections between manholes (see attached drawing).

1. To begin the radiological characterization process of the section:

   a) Remove topsoil to approximately 1 foot depth
   b) RCT performs a walkover of the cleared area with a NaI survey instrument
   c) If NaI survey notes detections, collect a high bias sample and analyze via onsite gamma spectroscopy
   d) If no detections are noted, collect 3 unbias samples and analyze all three collected samples via onsite gamma spectroscopy
   e) Compare the gamma spectroscopy results with the Comparison Value concentration column listed in the Table below
   f) If all sample results from a section are below the Comparison Value concentration column listed in the Table, follow Section 3.4 of the PRS Work Package.
   g) If any sample from a section exceeds the comparison value concentration column listed in the Table, go to Step 2.

   (Note: The achievable MDAs for Th-230 and Pa-231 are higher than the Comparison Value concentrations in the Table. In these cases, the actual result will be compared to the MDA. If the result is < MDA for Th-230 and Pa-231 AND the other isotopes are < than the Comparison Value concentrations, the soil may be reused in the PRS 7 West Line excavation as backfill provided Step 5 passes).

2. The overburden within the section can be excavated.

3. The overburden soil will be field surveyed with a NaI instrument.

4. If detections are noted during the NaI survey of the excavated overburden in Step 3 above, the soil will be removed as LLW and hauled to the PRS 441 rail spur for transport/disposal.

5. If no detections are noted in Step 3 above, the soil will be sampled at a rate of 1 sample/20 cy. The sample will be analyzed onsite via gamma spectroscopy. The results will be compared with the appropriate Comparison Value concentration column or to the MDA for Th-230 and Pa-231.

6. If either comparison in Step 5 fails, the soil is deemed to be LLW and hauled to the PRS 441 rail spur for transport/disposal.

	Achievable MDAs	SOIL	Overburden:Backfill
RADIONUCLIDE	pCi/g	BACKGROUND	COMPARISON VALUE
onsite gamma spec			1X10-5 risk level plus background
		pCi/g	pCi/g
ACTINIUM 227+D	0.29	0.11	0.81
AMERICIUM 241	0.09	0	19
BISMUTH 210M	0.06	0	1.1
CESIUM 137+D	0.06	0.42	0.86
COBALT 60	0.06	0	0.09
LEAD 210+D	**0.8**	1.2	**4.2**
PLUTONIUM 238	**17**	0.13	**29.13**
PROTACTINIUM 231+D	1.9*	0.11	0.71
RADIUM 226+D	0.9	2	2.13
THORIUM 230+D	**8***	1.9	**2**
THORIUM 232+D	**0.2**	1.4	**1.48**
URANIUM 238 +D	0.5	1.2	1.3

BOLD – Contaminants of Concern

Residential – 1 x 10-5 risk calculation based on USEPA Risk Assessment Guidance (RAGS), default input parameters.

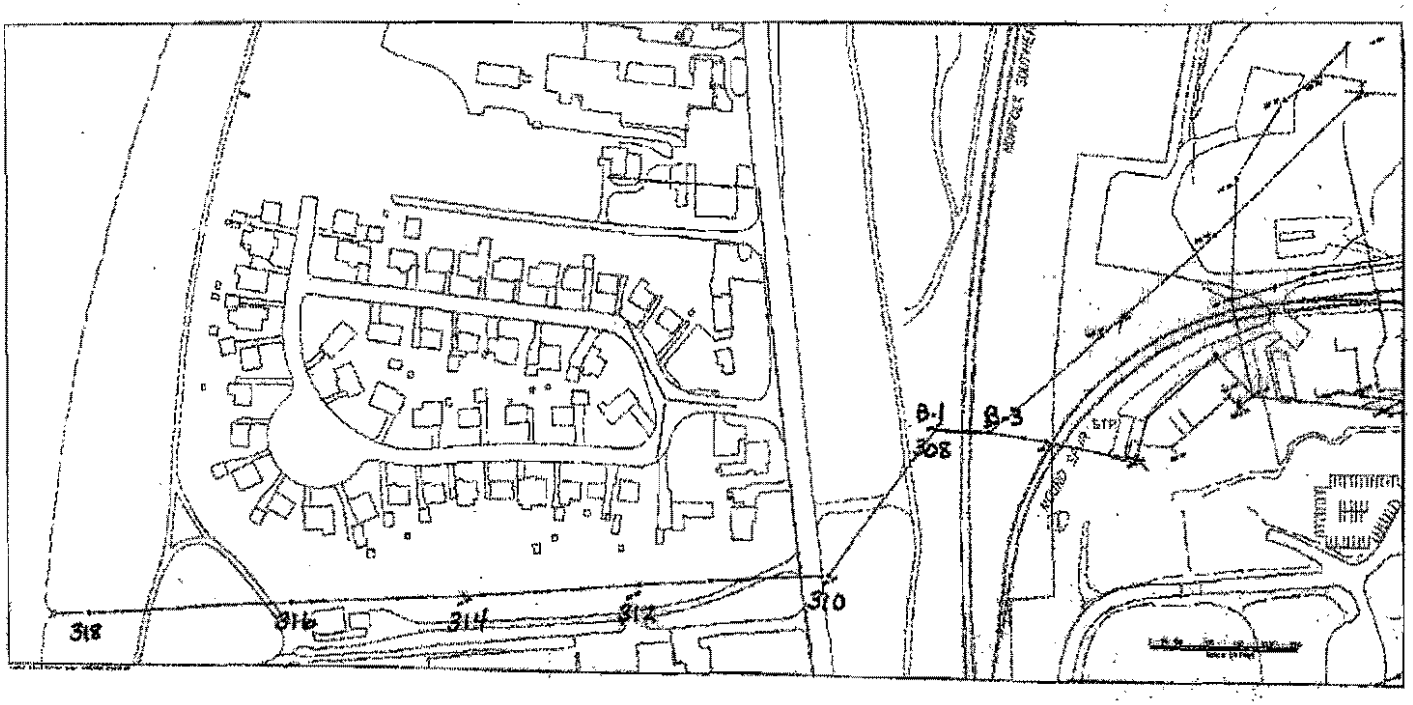
+D – includes daughter products; consistent with the approach utilized for the Mound Plant

Soil Background – Except for Th-230, background values (95% UTL) are based on the Operable Unit 9 Soils Investigation Chemistry Report (DOE, 1994) or in the case of nuclides with short half lives (Ac-227, Pb-210, and Pa-231) are based on the parent nuclide background and assumption of equilibrium with the parent nuclide.

Th-230 background value is based on Regional Soils Investigation, DOE 1995

* For Pa-231 and Th-230, the actual MDA will be compared to the result.

Addendum to PRS 7 Radiological Survey Plan
MP-103-05A
PRS 7 Work Package
Revision Date: 6/19/08



North

Drawing of PRS 7 West Line

PRS 7 Specific Waste Transportation Plan

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Note: Shipment procedures of waste to an off-site treatment/disposal facility are not included in the scope of this document.

1.0 Purpose / Source Documents

This procedure provides instructions for loading PRS 7 waste into trucks and hauling that material to the waste staging area located adjacent to the rail spur on the Mound Site.

This procedure provides the processes to satisfy the requirements related to waste shipment in the following:

- 49 CFR, *Transportation*
- DOE O 435.1, Chg 1, *Radioactive Waste Management*
- DOE O 460.1B, *Packaging and Transportation Safety*
- DOE O 460.2A, *Departmental Materials Transportation and Packaging Management*
- Applicable state regulations

2.0 Scope

The requirements of this procedure are specific to the PRS 7 remediation described in MP-103.05A. The waste to be generated is expected to be radioactive low-level waste. This procedure is specific to this waste type. If different waste types are identified through characterization, this procedure will be modified to document compliant processes to be used in the packaging and transportation of those types of waste.

3.0 Procedure

3.1 On site transportation and loading of PRS 7 excavations

Low-Level Waste – The LLW generated at the on site locations of PRS 7 will be transported to the PRS 441 staging area by articulated haulers. The haulers will be positioned in clean areas at the excavation site during loading. The trucks will be loaded to less than full capacity to preclude waste material from dropping off onto the haul road during transport to PRS 441 staging area. The truck beds will be inspected and any loose material will be removed prior to transport. The trucks will be dumped at the dumping wall at the PRS 441 staging area. After dumping at PRS 441 staging area, loose soil will be removed from the outside of the truck and swipes will be taken and counted to assure no radiological contamination on the outside of the truck. The truck will then return to the excavation. The waste will then be loaded into railcars and shipped to the Energy Solutions disposal facility in Clive Utah.

Overburden – Material removed from around the manholes and above inlet and outlet pipes will be scanned with a FIDLER probe and soil samples will be taken at a frequency of 1 per 20 cubic yards for on site gamma spectroscopy analysis. The material will be set aside for backfill if no contamination is detected. If FIDLER indicates contamination, soil samples will be taken of that material and analyzed by gamma spectroscopy onsite for characterization. Material disposition will be determined based on testing results.

3.2 Off-Site transportation and loading at the PRS 7 excavations

West of Rail Tracks Low-Level Waste and East of S. Main St / West of Rail Tracks Low-Level Waste - The Project Manager will make phone call notification to City of Miamisburg prior to performing any work within the Right of Way (ROW). The LLW generated at the off-site locations of PRS 7 will be transported to the PRS 441 staging area by articulated haulers. The haulers will be positioned in clean areas at the excavation site during loading. The trucks will be loaded to less that full capacity to preclude waste material from dropping off onto the haul road during transport to PRS 441 staging area. The waste in the haulers will be misted prior to transport if necessary to minimize fugitive dust. The truck beds will be inspected and any loose material will be removed prior to transport. In addition, the hauler tires will be wiped and the wipes field counted prior to the release of trucks for transport to Mound. The trucks can then travel per the specified haul road onto the Mound site and directly to the PRS 441 staging area. The truck loads will be dumped at the dumping wall at the PRS 441 staging area. After dumping at PRS 441 staging area, loose soil will be removed from the outside of the truck and swipes will be taken and counted to assure no radiological contamination on the outside of the truck. The truck will then return to the excavation along the same path it took from the excavation.

West of S. Main St Low-Level Waste – The LLW generated at the off-site locations of PRS 7 will be transported to the PRS 441 staging area by articulated haulers. The haulers will be positioned in clean areas at the excavation site during loading. The trucks will be loaded to less than full capacity to preclude waste material from dropping off onto the haul road during transport to PRS 441 staging area. The waste in the haulers will be misted prior to transport if necessary to minimize fugitive dust. The truck beds will be inspected and any loose material will be removed prior to transport. In addition, the hauler tires will be wiped and the wipes field counted prior to the release of trucks for transport to Mound. The trucks will proceed to the S. Main St crossing point and wait for flagger instructions to proceed across the road (see Figure 2). Spotters will be designated at the crossing to assure no material from the hauler bed falls off the truck during crossing and that load is acceptable to continue to PRS 441 staging area. If material falls out of the hauler bed during the crossing, maintain stopped public traffic flow, clean up material and have RCT's scan area using FIDLER and wipes where material had fallen. [Note: aRc will notify DOE if any contaminated material falls out of the hauler during the crossing of S. Main St. DOE will notify Ohio EPA to contact the Ohio Department of Health.] If no contamination is detected, public traffic flow can be resumed. If contamination is detected, de-contaminate and re-survey until no contamination detected. The truck can then travel per the specified haul road onto the Mound site and directly to the PRS 441 staging area. The truck loads will be dumped at the dumping wall at the PRS 441 staging area. After dumping at PRS 441 staging area,

loose soil will be removed from the outside of the truck and swipes will be taken and counted to assure no radiological contamination on the outside of the truck. The truck will then return to the excavation along the same path it took from the excavation. The truck will stop at the S. Main St crossing and wait for flagger instructions before proceeding back to the excavation site.

Overburden – Material removed from above the pipe will be set aside for backfill of the trench.

Daily transportation Activity Shut Down – The following activities will be completed at the end of each shift:

Hauler Management –Empty haulers will be returned to a designated staging area on the Mound site.
S. Main St Crossing - Flaggers ensure road clear of debris /signage etc. to allow unobstructed traffic flow.
Equipment – Secure flagging equipment and signs at designated location.

4.0 Contingency Plan

In the unlikely event waste is observed falling from the hauler bed onto the haul road or adjacent area, the following actions will immediately be taken:

S. Main St. (old St RT 25)

- Notify flaggers via radio to maintain stopped traffic if material had fallen on S. Main St.
- Contact RCT and Radiation Control Manager to immediately isolate area where material had fallen. Stop truck and direct it in a safe area.
- Notify Excavation Manager. Excavation Manager will suspend further truck transports until issue resolved and management review is conducted.
- Excavation Manager notify aRc Project Manager Mike Kopp
- aRc Project Manager notify DOE
- Excavation Manager will determine whether traffic flow can be safely resumed using one lane. Direct flaggers to resume traffic flow. If traffic flow is not possible, Excavation Manager will contact City of Miamisburg to coordinate the setting up of a detour at Benner Road to the south and Mound road to the north. This potential detour will be discussed and coordinated with the City of Miamisburg prior to the initiation of hauling waste from off-site to Mound.
- Mound workers following direction of Radiological Controls Manager will clean up waste using appropriate equipment. The waste will be placed in an appropriately labeled container and transported to the rail spur on the Mound site for disposal as LLW.
- The affected area will be radiologically surveyed per aRc procedures, decontaminated if necessary and re-surveyed to free release criteria.
- Inspect truck for the potential of any other waste to fall out and take appropriate actions if necessary to secure waste.

- Conduct Management review of incident prior to resumption of truck hauling to Mound from off-site excavation.

Areas adjacent to S. Main St or haul road outside Mound property boundary

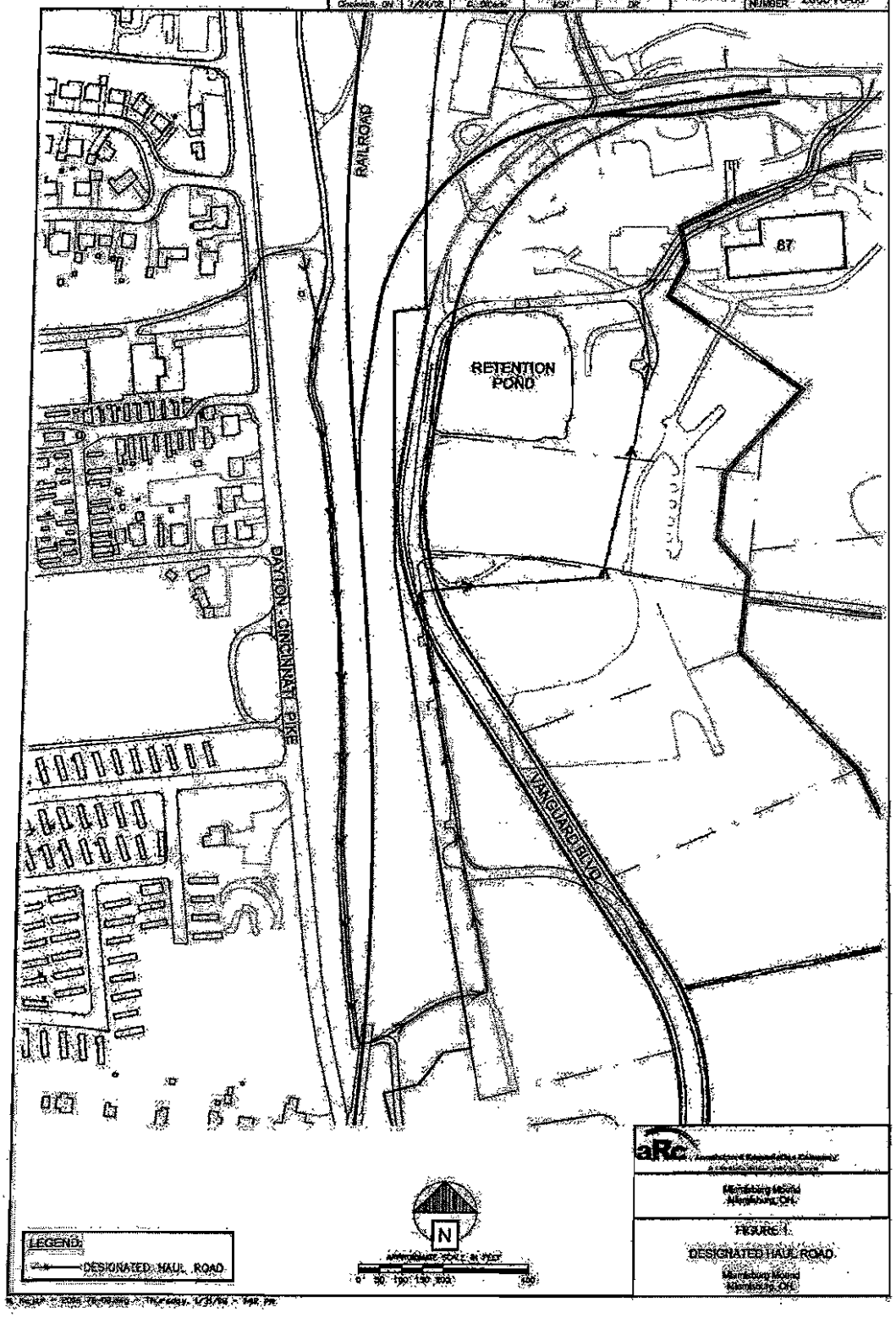
- Contact RCT and Radiological Controls Manager to immediately isolate area where material had fallen. Stop truck and direct it in a safe area.
- Notify Excavation Manager. Excavation Manager will suspend further truck transports until issue resolved and management review is conducted.
- Excavation Manager notify aRc Project Manager Mike Kopp
- aRc Project Manager notify DOE
- Mound workers following direction of Radiological Controls Manager will clean up waste using appropriate equipment. The waste will be placed in an appropriately labeled container and transported to the rail spur on the Mound site for disposal as LLW.
- The affected area will be radiologically surveyed per aRc procedures, decontaminated if necessary and re-surveyed to free release criteria.
- Inspect truck for the potential of any other waste to fall out and take appropriate actions if necessary to secure waste.
- Conduct Management review of incident prior to resumption of truck hauling to Mound from off-site excavation.

5.0 Records

- Daily record of number of S. Main St crossings by full haulers
- Characterization data of soil loaded into haulers
- Survey sheets of loaded/unloaded haulers making the S Main St. crossing
- Any unusual occurrences and/or corrective actions taken

MP-103.05A
Revision 3
5/19/08

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
Cincinnati, OH	1/24/08	C. Meade	MSV	DK		2006 76-09

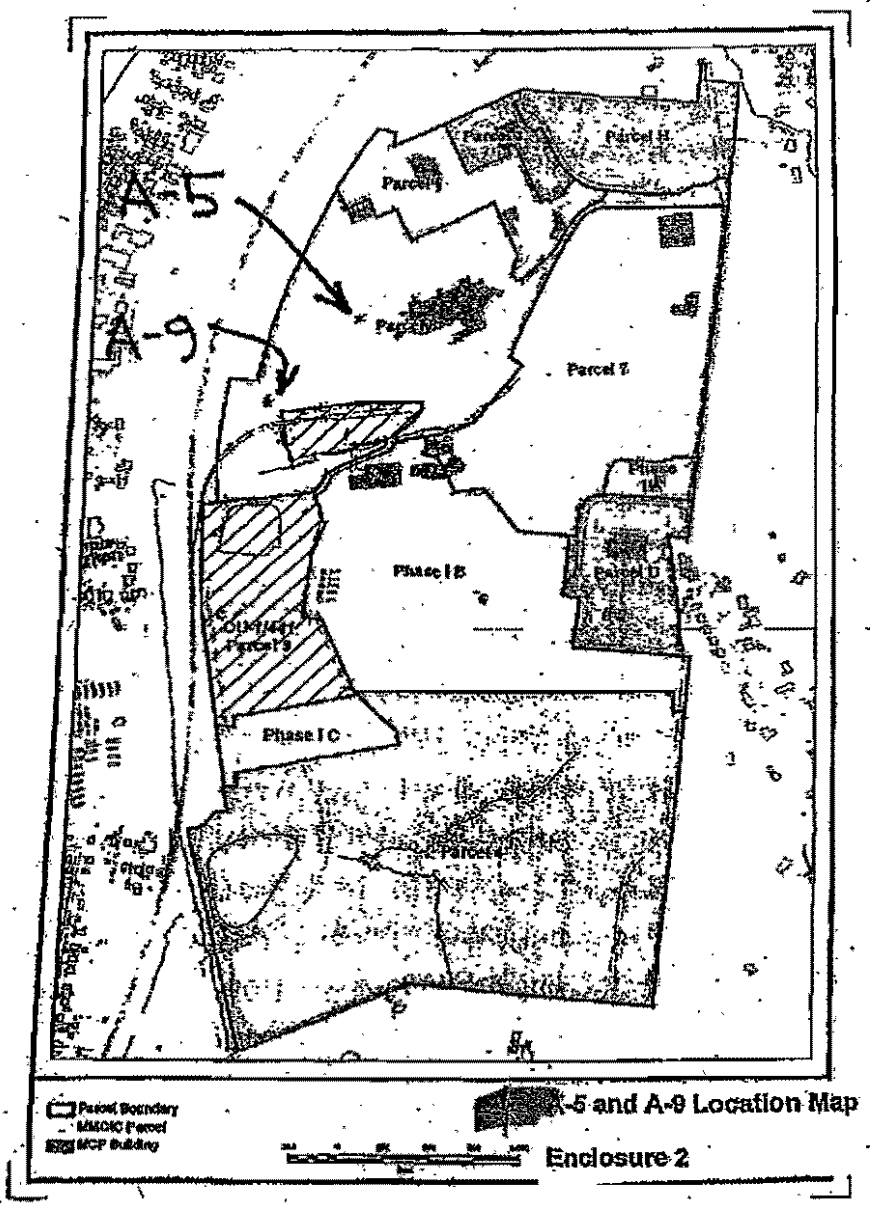


aRc

Miamisburg Mound
Miamisburg, OH

FIGURE 1.
DESIGNATED HAUL ROAD

Miamisburg Mound
Miamisburg, OH

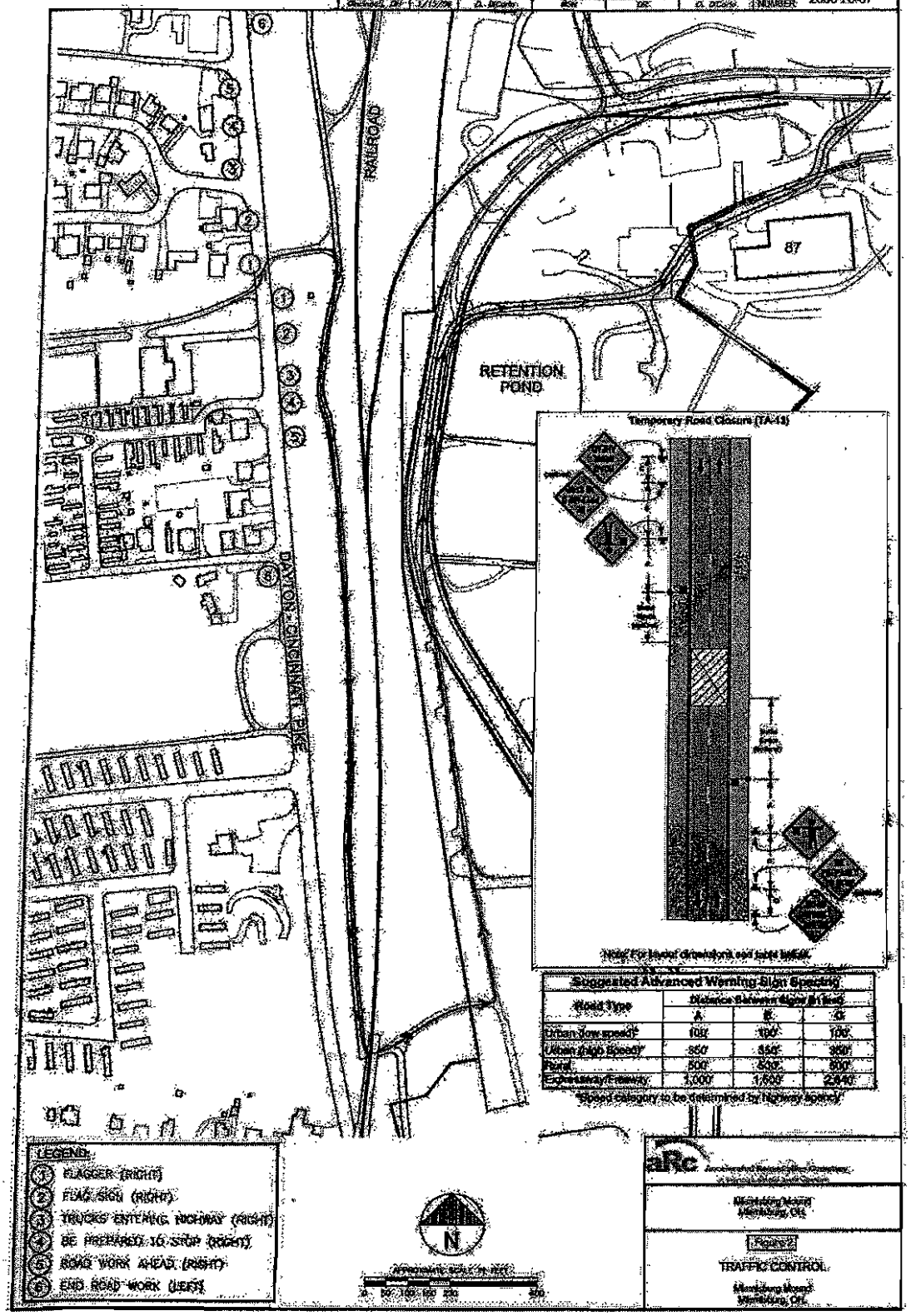

A-5
A-9
Parcel 7
Phase I B
Phase I C
Parcel Boundary
MMOC Parcel
MCP Building
A-5 and A-9 Location Map
Enclosure 2

N↑

Figure 1a'

MP-103.05A
Revision 3
5/19/08

OFFICE	DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
[illegible]	7/15/08	[illegible]	[illegible]	[illegible]	[illegible]	2006 78-07



aRc Accelerated Remediation Company
A Portage-Shaw-John Venture

MP-103.05A
PRS 7 Work Package
Revision Date: 5/19/2008

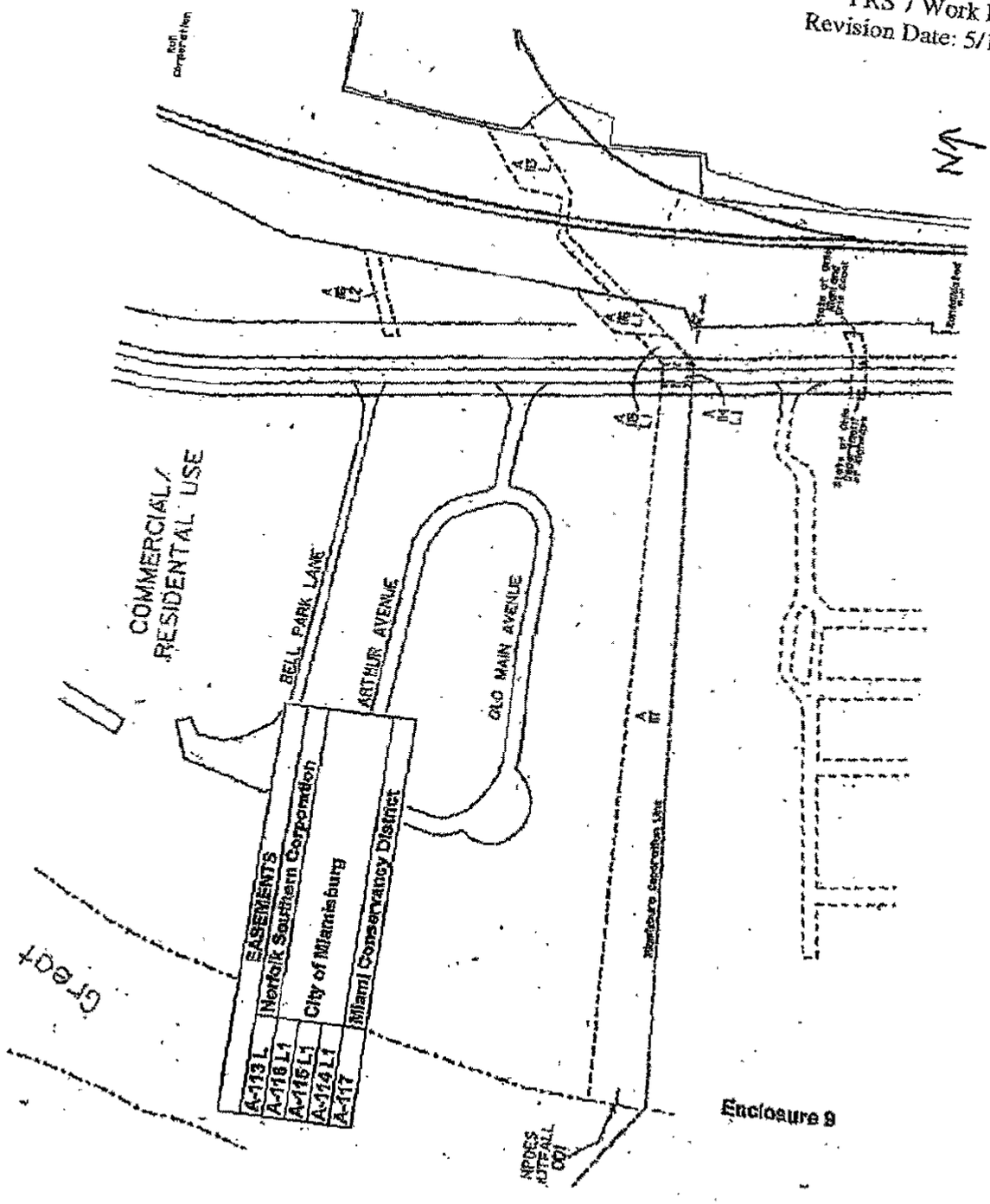


Figure 3

Appendix B

PRS 7 Free Release Packet

Connie Gerbig, Mound Radiological Control Manager
September 2008

PRS 7 Free Release Packet

Connie Gerbig
Mound Radiological Control Manager
May 22, 2008

Purpose and Scope:

This packet documents the radiological data to free release a portion of the outfall sewer line of PRS7. The section of line scheduled to be free released for public use is located under Old Hwy 25 and in its right of way. This location is identified on Figure 1 by a circle.

Background:

The offsite portion of PRS 7 east and west line was removed between April and May 2008. During this removal, as the east side of Old Hwy 25 was approached gravel was encountered. It was thought further excavation would endanger the road structure, so removal was halted and the area backfilled to prevent further erosion. Excavation began on the west side of Old Hwy 25. Multiple underground utilities are present in this location of the right of way. The cast iron pipe was removed as close to the nearest utility as feasibly possible. The HDPE slip line was entirely removed. The excavation from manhole B-1 to the west side of Old Hwy 25 had not encountered any contamination, in either the soil or the line. This data made the portion of sewer line under the road a candidate for in place free release.

The HDPE piping is referred to as PVC piping in the surveys.

Discussion:

Presented in Attachment A are Radiological Survey Data Sheets (Survey), maps, analytical data and photos document the process used to free release the portion of PRS 7 outfall sewer line under Old Hwy 25 and in its right of way. These are described individually below:

Survey # 08-PRS7-0043, dated 4/24/08 reports survey results of the cast iron pipe leading into and out of Manhole 310 (See Figure 1) and the concrete and brick of the manhole. All direct readings and swipe data for the material removed was <Table 1 values for Pu-238, the most restrictive. The sample results for locations PRS7-CH-025 and 26 represent sediment from inside the line and locations 0701-0135A-FO and 0136A-FO represent soil at the bottom of the excavation. No elevated field scan readings were noted. These results are acceptable.

Survey # 08-PRS7-0044, dated 4/25/08 reports survey results of the cast iron pipe and HDPE/PVC Slip line. All swipe data for the material removed were <Table 1 values for Pu-238 (alpha) and thorium (beta/gamma), the most restrictive of the COCs. The entire HDPE slip line was removed and flattened, direct readings were taken on the inside and outside of the HDPE/PVC slip line. All direct readings were <Table 1 values for Pu-238 (alpha) and thorium (beta/gamma), the most restrictive of the COCs except 4 of 11 direct readings on the inside of the HDPE/PVC line were >Table 1 value for Pu-238. A suspicion that the positive alpha measurements were due to naturally occurring radon were not confirmed prior to disposal of the piping. Ten feet of cast pipe was removed and a one foot piece of pipe was analyzed via onsite gamma spec. While these results cannot be quantified they can be used to indentify radionuclides. Of the six locations analyzed none showed a peak at any energy. The sample results for location PRS7-CH-027 represent sediment from inside the pipe under the road. No elevated field scan readings were noted. These results are acceptable because the inside of the HDPE/PVC line was not in contact with any portion of the cast iron pipe to be released. The HDPE line was a solid piece (i.e. no joints).

Survey # 08-PRS7-0060, dated 5/16/08 reports survey results of the HDPE/PVC Slip line. Initial readings of the HDPE/PVC slip line were elevated; they were allowed to decay off the Radon and recounted. After decay, all direct readings and swipe data for the material removed was <Table 1 values for Pu-238, (alpha) and thorium (beta/gamma), the most restrictive of the COCs. No elevated field scan readings were noted. These results are acceptable.

Survey # 08-PRS7-0062, dated 5/19/08 reports survey results of cast iron pipe. All direct readings and swipe data for the material removed was <Table 1 values for Pu-238(alpha) and thorium (beta/gamma), the most restrictive of the COCs. Soil samples were collected from below the lines at systematic sample locations 0701-0131A-FO and 0132A-FO, these represent the as left condition. Judgmental sample location PRS7-AL-104 soil was collected at the end of the pipe to remain in place. Elevation is approximately 15' below grade. No elevated field readings scans were noted. These results are acceptable.

Conclusion:

Based on the above information and process knowledge, the project is moving forward with placing trench boxes for entry into the trench. Once entry into the west trench is permitted, swipes and direct readings of the opening of the remaining cast iron pipe will be collected and field scans performed. Then the pipe will be grouted and the area backfilled. This will be repeated on the east side of Old Hwy 25. Provided that those results are acceptable, the sewer line under the road and in the right of way will be free released for public use and allowed to remain in place.

If the results are not acceptable, the CORE team will be notified of the findings. The CORE team will make a determination as to final disposition of the line under the road and in the right of way.

B3

Follow-up to Conclusion

Once entry into the trench was permitted, swipes and direct readings of the opening of the remaining cast iron pipe was collected and field scans performed. A soil sample was collected at each end. Then the pipe was grouted and the area backfilled.

Survey # 08-PRS7-0073, dated 6/11/08 reports survey results of the exposed ends and soil surrounding the ends prior to plugging the pipe that is to remain in place. After decay, all direct readings and swipe data for the material removed was <Table 1 values for Pu-238, (alpha) and thorium (beta/gamma), the most restrictive of the COCs on the inside and outside, east and west end of pipe. No elevated field scan readings were noted. Soil samples were collected from the soil at the east and west end of pipe. These results are acceptable.

The cast iron pipe that is part of PRS 7 and is located under Old Hwy 25, Miamisburg Ohio is released for public use and will be allowed to remain in place.

Connie Gerbig, Mound Radiological Control Manager

Table 1

SURFACE CONTAMINATION GUIDELINES

Allowable Total Residual Surface Contamination (dpm/100 cm^2)[1]			
Radionuclides[2]	**Average**[3,4]	**Maximum**[5,6]	**Removable**[6]
Group 1 - Transuranics, I-125, I-129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	100	300	20
Group 2 - Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1000	3,000	200
Group 3 - U-Natural, U-235, U-238, and associated decay products, alpha emitters	5,000	15,000	1,000
Group 4 - Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous[7] fission) except for Sr-90 and other noted above.	5,000	15,000	1,000
Tritium	N/A	N/A	10,000

1. As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

2. Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exits, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

3. Measurements of average contamination should not be averaged over an area of more than 1 m^2. For objects of smaller surface area, the average should be derived for each object.

4. Dose Rate: The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr and 1.0 mrad/hr, respectively, at 1 cm. Since building materials have naturally occurring radioactive material, background should be accounted for.

5. The maximum concentration level applies to an area of not more than 100 cm^2.

6. The amount of removable material per 100 cm^2 of surface area should be determined by wiping the area of that size with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wiping with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped.

7. This category of radionuclides includes mixed fission products, including Sr-90 which is present in them. It does not apply to Sr-90 which has been separated from the other fission products or mixtures where the Sr-90 has been enriched.

Reference:

Work Plan for Environmental Restoration of the DOE Mound Site

Mound 2000 Approach

Final, Rev. 0

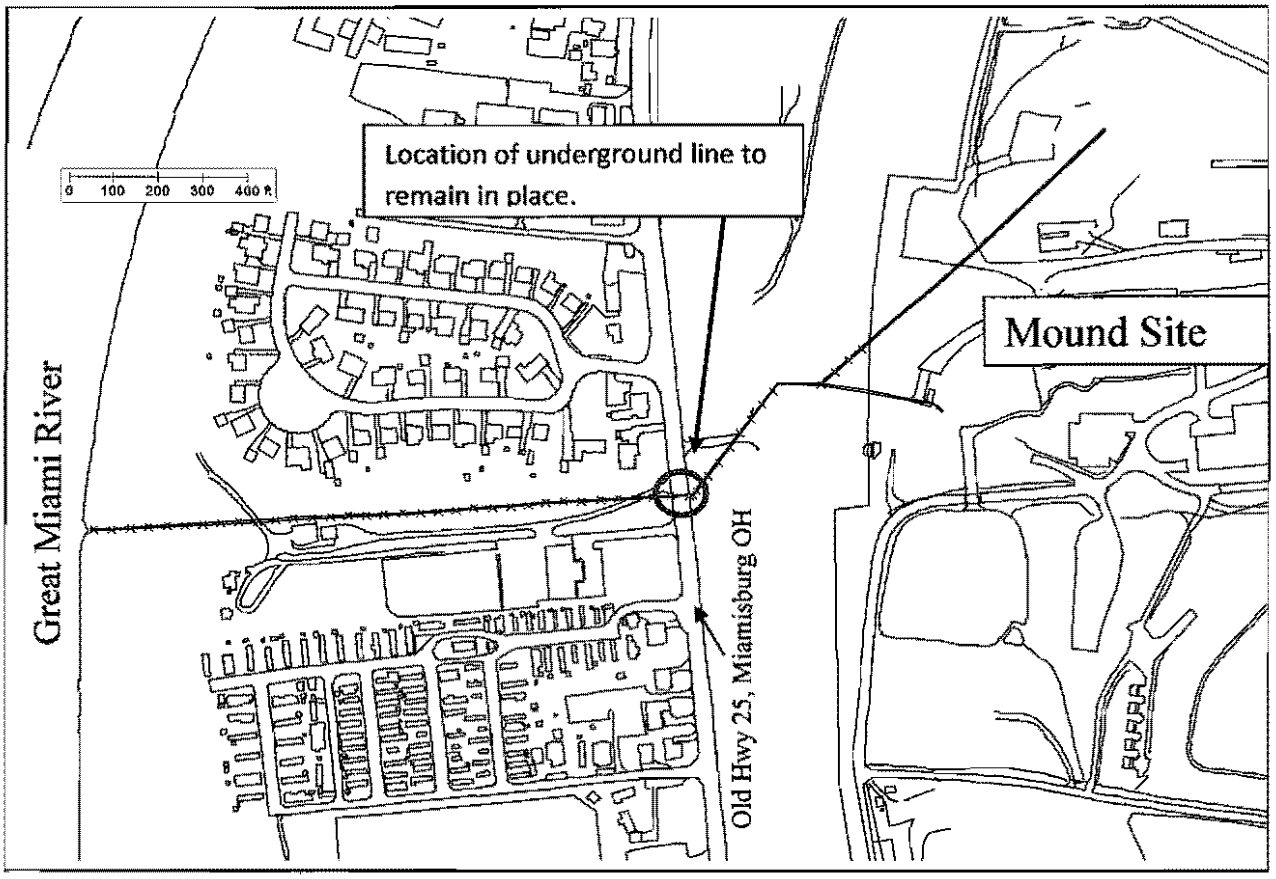


Figure 1: Offsite Portion of PRS 7 from Mound site to the Great Miami River

B7

Attachment 1

Radiological Survey Data Sheets
Soil Sample Analysis Sheets
Photos of Pipe Sections

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (OU-1/RAIL SPUR/ OTHER) PRS 7 West	SURVEY #: 08-PRS 7-0043
PURPOSE: IN Process Survey Pipeline Removal	RWP #: 008
	DATE: 4/24/08
	TIME: 0730

MAP/DRAWING

See Attached

Notes: Manhole 310 had concrete base & brick walls.
All removed as waste.

LEGEND: K = factor of 1000 △ = Soil Sample Location ---------- = Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5690/5794	8/6/08
Frisk	4113/3996	5/28/08
2221	190196/240383	1-11-09
3030	5867	10-18-08
	NFG	

Completed by: (Signature) Robert Collins	Date: 4/24/08
Completed by: (Print Name) Robert Collins	
Counted by: (Signature) Robert Collins / Tammie M Collins	Date: 4/24/08
Counted by: (Print Name) Robert Collins / Tammie M Collins	
Approved by: (Signature) Paul Beck	Date:
Approved by: (Print Name) Paul Beck	

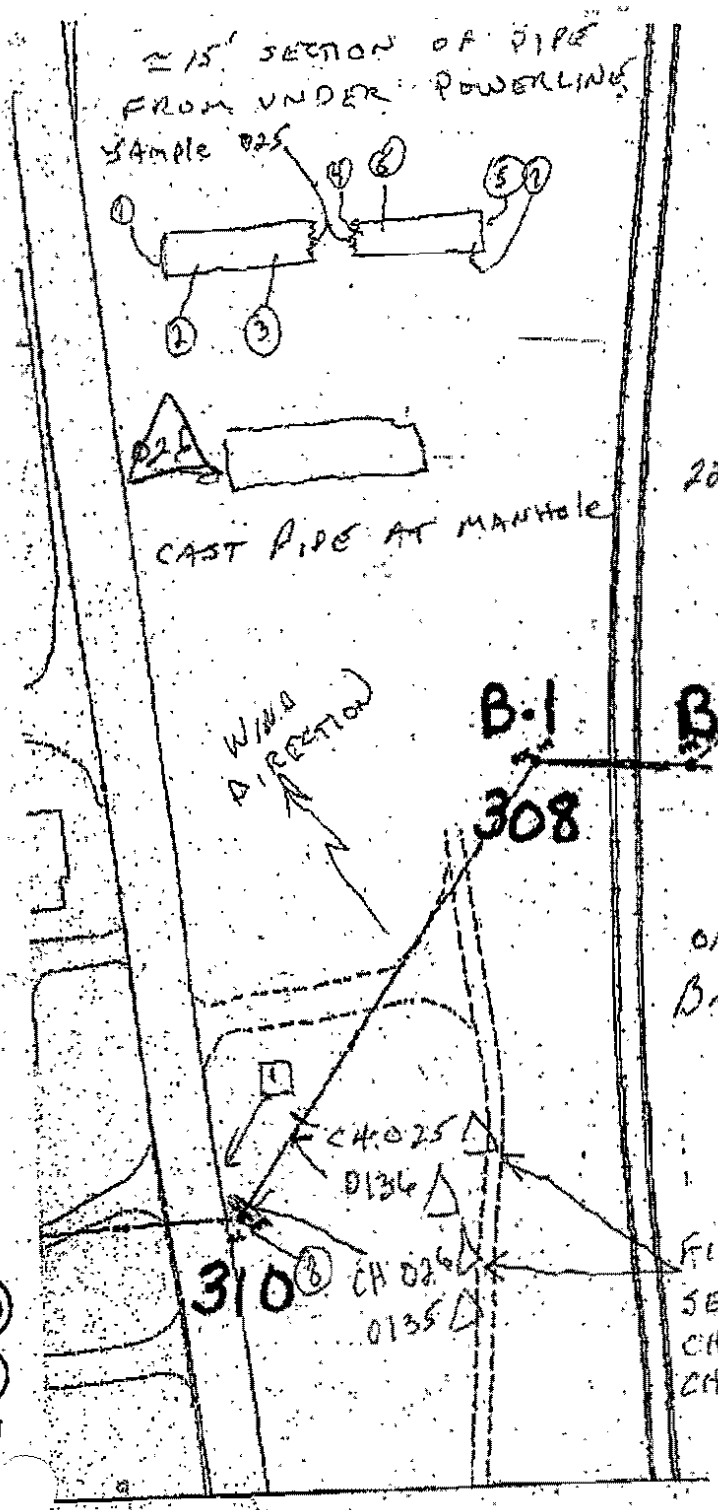
ML-9620A

COPY

08-PRS 7-0043

2 of 3

N



2221 / FIELER WALKOVER OF OVERBURDEN WITH PERIODIC CHECKS OF PIPE IN BUCKET ALL READINGS BKG TO 2K NCPM SEE ATTACHED FOR WIPE RESULTS

DIRECT READING SURVEY AND WIPES TAKEN ON SECTIONS OF MANHOLE (INSIDE) AND ON MANHOLE BASE SEE ATTACHED (K100/α) (K5K/β)

2221 / FIELER BACKGROUND
CH-1 - 300 cpm
CH OUT - 8K cpm
2221 6K cpm

COPY

Survey No. 08-PRS7-0043

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				Removable Contamination Swipes (dpm/100cm²)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	Ø	24	I/s cast				
2	Ø	42	O/s				
3	2	Ø	↓				
4	10	Ø	I/s				
5	Ø	Ø	↓				
6	Ø	Ø	O/s				
7	Ø	Ø	↓				
8	5	Ø	I/s				
9	Ø	42	brick				
10	5	68	↓				
11	5	17	concrete base				
12	Ø	8					
13	Ø	Ø					
14	4	8					
15	4	22	(a.m.) bowler tires				
16	0	22	↓				
17	2	26	(p.m.)				
18	0	18	↓				
19	2	10	I/s bucket				
20	0	12	↓				
21	0	26	O/s				
22	2	18	↓				

NFE

COMMENTS: I/s ⇒ inside; O/s ⇒ outside; NFE ⇒ No Further Entries

ML-9620B

COPY

GL13764 PRS7-CH-025 r 04/24/08
Apr/24/2008 12:55:06PM

sediment inside line

HEADER INFORMATION in 1OU02393.S0 Collected 04/24/08 by J.Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : Apr/24/2008 11:39:36AM
Stopped : Apr/24/2008 12:39:37PM
True Time : 3601.033 sec
Live Time : 3600.000 sec
Dead Time : 0.03 %
Gross Count : 41350 counts
Gross Rate : 11.4861 cps

Sample
Sampled from Apr/24/2008 11:39:36AM to Apr/24/2008 12:39:37PM
Sample Quantity 791 ± 316.4 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02393.S0 Collected 04/24/08 by J.Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.0000		0.06517	± 0.026
Cs-137	661.66	*	0.5207	± 0.2185	0.04693	± 0.018
Pb-210	46.52		2.746	± 1.221	0.7183	± [illegible]
Bi210m	266.15	*?	0.0000		0.05528	± 0.022
Ra-226	609.31	*	0.7100	± 0.3078	0.1088	± 0.043
Ac-227	50.14	*?	0.0000		0.3188	± 0.128
Th-230	67.68	*?	1.061	± 4.036	6.730	± 2.703
Pa-231	283.67	*?	1.080	± 0.9888	1.410	± 0.574
Th-232	911.07	*	0.5973	± 0.2857	0.1826	± 0.073
Pu-238	17.13	*?	0.0000		6.927	± 2.784
U-238D	92.80	*	0.7927	± 0.4182	0.4111	± 0.165
Am-241	59.54	*?	0.07275	± 0.05525	0.07513	± 0.030
K-40	1460.75	*	10.77	± 4.476	0.8032	± 0.323
Co-60	1173.24	*?	0.01927	± 0.03941	0.06568	± 0.026
Co-60	1332.50	*?	0.0000		0.06517	± 0.026
Weighted Average			0.009632	± 0.009845		
Cs-137	661.66	*	0.5207	± 0.2185	0.04693	± [illegible]
Tl-208	583.14	*	0.5815	± 0.2573	0.1010	± 0.040

GL13767 PRS7-CH-026 r 04/24/08
Apr/24/2008 4:05:14PM

black gunk inside line

HEADER INFORMATION in 1OU02396.S0 Collected 04/24/08 by J.Collins

Identification		Acquisition	
User	: GB	Started	: Apr/24/2008 2:49:30PM
MCArd	: 1	Stopped	: Apr/24/2008 3:49:31PM
Detector	: 1	True Time	: 3601.143 sec
Geometry	: EPA	Live Time	: 3600.000 sec
Sample	:	Dead Time	: 0.03 %
Channels	: 16384	Gross Count	: 46110 counts
		Gross Rate	: 12.8083 cps

GB

Sample
Sampled from Apr/24/2008 2:49:30PM to Apr/24/2008 3:49:31PM
Sample Quantity 747 ± 298.8 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02396.S0 Collected 04/24/08 by J.Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.0000		0.06837	± 0.027
Cs-137	661.66	*	0.3461	± 0.15	0.05477	± 0.022
Pb-210	46.52	*	1.139	± 0.6828	0.7873	± 0.316
Bi210m	266.15	*?	0.0000		0.05782	± 0.023
Ra-226	609.31	*	1.016	± 0.4315	0.1197	± 0.048
Ac-227	50.14	*?	0.1602	± 0.226	0.3574	± 0.143
Th-230	67.68	*?	0.0000		8.044	± 3.23
Pa-231	283.67	*?	1.454	± 1.137	1.514	± 0.616
Th-232	911.07	*	0.9352	± 0.4112	0.1336	± 0.053
Pu-238	17.13	*?	3.498	± 5.385	8.602	± 3.457
U-238D	92.80	*?	0.3424	± 0.3362	0.4996	± 0.200
Am-241	59.54		0.1998	± 0.09989	0.09042	± 0.036
K-40	1460.75	*	7.344	± 3.106	0.7344	± 0.295
Co-60	1173.24	*?	0.0000		0.07807	± 0.031
Co-60	1332.50	*?	0.0000		0.06837	± 0.027
Weighted Average			0.0000			
s-137	661.66	*	0.3461	± 0.15	0.05477	± 0.022
Tl-208	583.14	*	0.8741	± 0.3767	0.1209	± 0.048

GL13766 0701-0135A-FO (CH026) r 04/24/08
Apr/24/2008 2:48:10PM

HEADER INFORMATION in 1OU02395.S0 Collected 04/24/08 by R.Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : Apr/24/2008 1:48:03PM
Stopped : Apr/24/2008 2:48:04PM
True Time : 3601.103 sec
Live Time : 3600.000 sec
Dead Time : 0.03 %
Gross Count : 44274 counts
Gross Rate : 12.2983 cps

GB

Sample
Sampled from Apr/24/2008 1:48:03PM to Apr/24/2008 2:48:04PM
Sample Quantity 699 ± 279.6 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02395.S0 Collected 04/24/08 by R.Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.008183	± 0.03292	0.05879	± 0.023
Cs-137	661.66	*?	0.03207	± 0.03085	0.04397	± 0.017
Pb-210	46.52	*	0.9070	± 0.6176	0.7856	± 0.[illegible]
Bi210m	266.15	*?	0.0000		0.06655	± 0.027
Ra-226	609.31	*	0.9571	± 0.4094	0.1227	± 0.049
Ac-227	50.14	*?	0.1803	± 0.2212	0.3430	± 0.137
Th-230	67.68	*?	0.8278	± 4.766	7.991	± 3.209
Pa-231	283.67	*?	0.02083	± 0.4166	1.890	± 0.770
Th-232	911.07	*	0.8719	± 0.396	0.1931	± 0.077
Pu-238	17.13	*?	0.0000		8.219	± 3.303
U-238D	92.80	*	1.061	± 0.5385	0.4968	± 0.199
Am-241	59.54	*?	0.03672	± 0.05366	0.08517	± 0.034
K-40	1460.75	*	15.37	± 6.33	0.6247	± 0.251
Co-60	1173.24	*?	0.02321	± 0.04744	0.07891	± 0.031
Co-60	1332.50	*?	0.008183	± 0.03292	0.05879	± 0.023
Weighted Average			0.01569	± 0.04762		
Cs-137	661.66	*?	0.03207	± 0.03085	0.04397	± 0.[illegible]
Tl-208	583.14	*	0.7792	± 0.3423	0.1385	± 0.055

GL13765 0701-0136A-FO (CH025) r 04/24/08
Apr/24/2008 1:41:00PM

HEADER INFORMATION in 1OU02394.S0 Collected 04/24/08 by R.Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : Apr/24/2008 12:40:57PM
Stopped : Apr/24/2008 1:40:58PM
True Time : 3601.317 sec
Live Time : 3600.000 sec
Dead Time : 0.04 %
Gross Count : 53932 counts
Gross Rate : 14.9811 cps

Sample
Sampled from Apr/24/2008 12:40:57PM to Apr/24/2008 1:40:58PM
Sample Quantity 925 ± 370 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02394.S0 Collected 04/24/08 by R.Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.0000		0.06010	± 0.024
Cs-137	661.66	*?	0.0000		0.04580	± 0.018
Pb-210	46.52	*	0.7974	± 0.5305	0.6680	± 0.268
Bi210m	266.15	*?	0.01801	± 0.029	0.04660	± 0.018
Ra-226	609.31	*	0.9132	± 0.3874	0.1157	± 0.046
Ac-227	50.14	*?	0.1045	± 0.1882	0.3044	± 0.122
Th-230	67.68	*?	0.0000		7.077	± 2.842
Pa-231	283.67	*?	0.6761	± 0.9102	1.429	± 0.582
Th-232	911.07	*	0.6992	± 0.3124	0.1287	± 0.051
Pu-238	17.13	*?	0.0000		6.940	± 2.789
U-238D	92.80	*	0.9926	± 0.4851	0.4148	± 0.166
Am-241	59.54	*?	0.0000		0.07389	± 0.029
K-40	1460.75	*	12.86	± 5.287	0.5307	± 0.213
Co-60	1173.24	*?	0.0000		0.07235	± 0.029
Co-60	1332.50	*?	0.0000		0.06010	± 0.024
Weighted Average			0.0000			
[illegible]-137	661.66	*?	0.0000		0.04580	± 0.018
Tl-208	583.14	*	0.6019	± 0.2664	0.1221	± 0.049

RADIOLOGICAL SURVEY DATA SHEET

3006XXXXXX-1004260002

Page 1 of 3

LOCATION: (OU-1/RAIL SPUR/ OTHER) PRS 7 WEST	SURVEY #: 08-PRS 7-004
PURPOSE: IN PROCESS SURVEY FOR PIPELINE REMOVAL	RWP #: 008
	DATE: 4/25/08
	TIME: 0730

MAP/DRAWING

SEE ATTACHED

2360 BACKGROUND
PVC PIPES
1 cpm ALPHA, 234 cpm BETA

FIDLER BACKGROUND
300 cpm ALPHA
8K cpm CHOPS

LEGEND: K = factor of 1000 △ = Soil Sample Location - - - - - - = Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5696/5794	8/6/08
2360	5704/5714	1-14-09
FIDLER	4113/3996	5-28-08
3030	5814	11-26-08
3030	5867	10-18-08

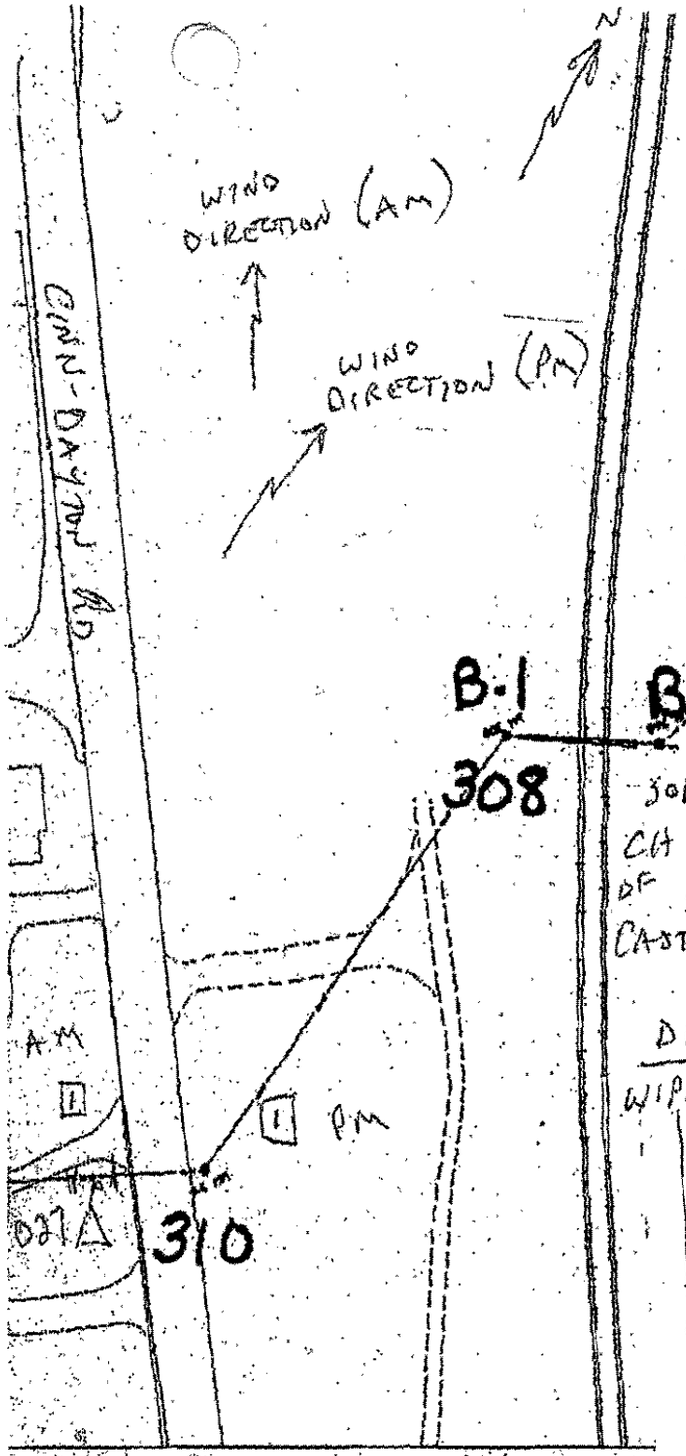
Completed by: (Signature) [signature]	Date: 4/25/08
Completed by: (Print Name) ROBERT COLLINS	
Counted by: (Signature) [signature]	Date: 4/25/08
Counted by: (Print Name) JAMIE M. COLLINS	
Approved by: (Signature) [signature]	Date: 4-28-08
Approved by (Print Name) PATRICK BEALS	

ML-9620A

COPY

08-PA-0044

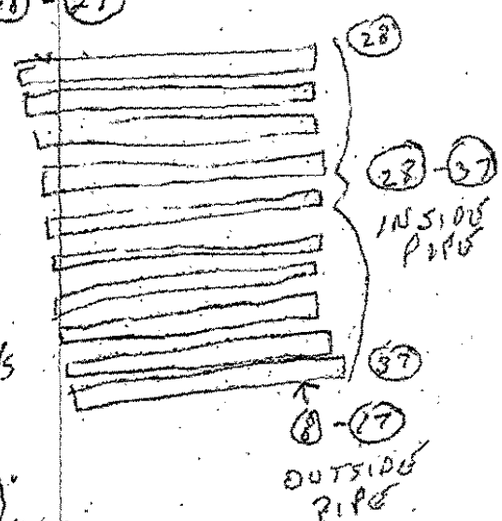
2 of 3



DUG DOWN TO PIPELINE WEST OF ROAD IN MORNING. REMOVED ≈ 10' OF CAST PIPE. SURVEY CONDUCTED. REMOVED ≈ 90' OF PVC PIPE FROM INSIDE CAST. PVC PIPE WAS PULLED OUT OF CAST PIPE, OUT OF HOLE AND CUT INTO 8'-9' SECTIONS. PIPE LAID OUT TO DRY AND SURVEY. DUG OUT REMAINING PIECES OF MANHOLE 310 IN AFTERNOON.

10' SECTION CAST PIPE
(1)(2)(4) 1/5 CAST (5)(6) 0/5 PVC
(3) 0/5 CAST (7) 1/5 PVC

SOIL/SEDIMENT SAMPLE CH 027 TAKEN FROM BOTTOM OF HOLE. PIECE OF BOTTOM OF CAST ALSO RETRIEVED FOR ANALYSIS



DIRECT READINGS (100cm² DPM)

WIPE LOCATION			
37	660/α	<5K/β⁻	1/5
33	310/α	<5K/β⁻	
32	250/α	<5K/β⁻	
28	350/α	<5K/β⁻	
8	80/α	<5K/β⁻	0/5
10	10/α	<5K/β⁻	
13	40/α	<5K/β⁻	
15	2/α	<5K/β⁻	
17	30/α	<5K/β⁻	

SEE ATTACHED FOR WIPE RESULTS

AREAS DIRECTLY WHERE [illegible]

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				Removable Contamination Swipes (dpm/100cm²)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	Ø	18	I/s cast	36	5	40	I/s p.v.c
2	2	14	↓	37	Ø	44	↓ ↓
3	Ø	29	O/s	38	4	18	(a.m) hauler tires
4	8	44	I/s ↓	39	Ø	14	↓
5	4	12	O/s p.v.c	40	Ø	44	(p.m.)
6	8	16	↓	41	Ø	38	↓ ↓
7	Ø	6	I/s	42	2	47	I/s bucket
8	5	107	O/s	43	4	55	↓
9	Ø	25		44	Ø	48	O/s
10	Ø	Ø		45	4	38	↓ ↓
11	2	160					
12	6	125					
13	Ø	Ø					
14	Ø	116					
15	2	47					
16	Ø	Ø					
17	2	112					
18	3	125					
19	Ø	Ø					
20	Ø	65					
21	Ø	55					
22	Ø	Ø					
23	2	99					
24	10	165					
25	Ø	Ø					
26	2	84					
27	2	8	↓ ↓				
28	Ø	44	I/s pvc				
29	9	104					
30	2	7					
31	Ø	151					
32	Ø	175					
33	Ø	4					
34	5	135					
35	Ø	Ø	↓ ↓				

NFE

COMMENTS: I/s ⇒ inside; O/s ⇒ outside; NFE ⇒ No Further Entries

ML-9620B

COPY

GL13770 PRS7-CH-027 r 04/25/08
Apr/25/2008 4:54:24PM

sediment in cast pipe under road

HEADER INFORMATION in 1OU02405.S0 Collected 04/25/08 by R.Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : Apr/25/2008 3:54:19PM
Stopped : Apr/25/2008 4:54:21PM
True Time : 3601.242 sec
Live Time : 3600.000 sec
Dead Time : 0.03 %
Gross Count : 50647 counts
Gross Rate : 14.0686 cps

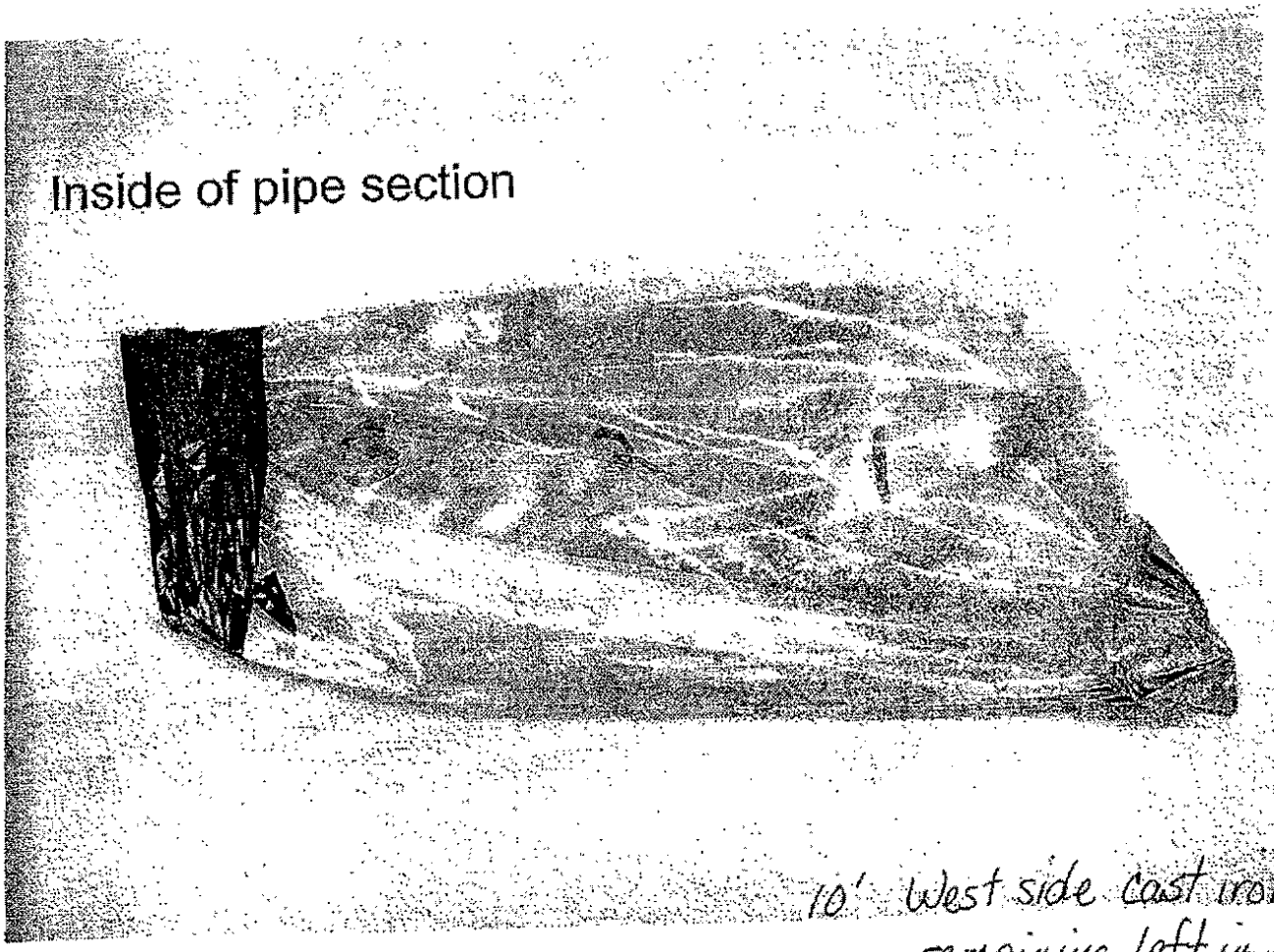
GB

Sample
Sampled from Apr/25/2008 3:54:19PM to Apr/25/2008 4:54:21PM
Sample Quantity 859 ± 343.6 g

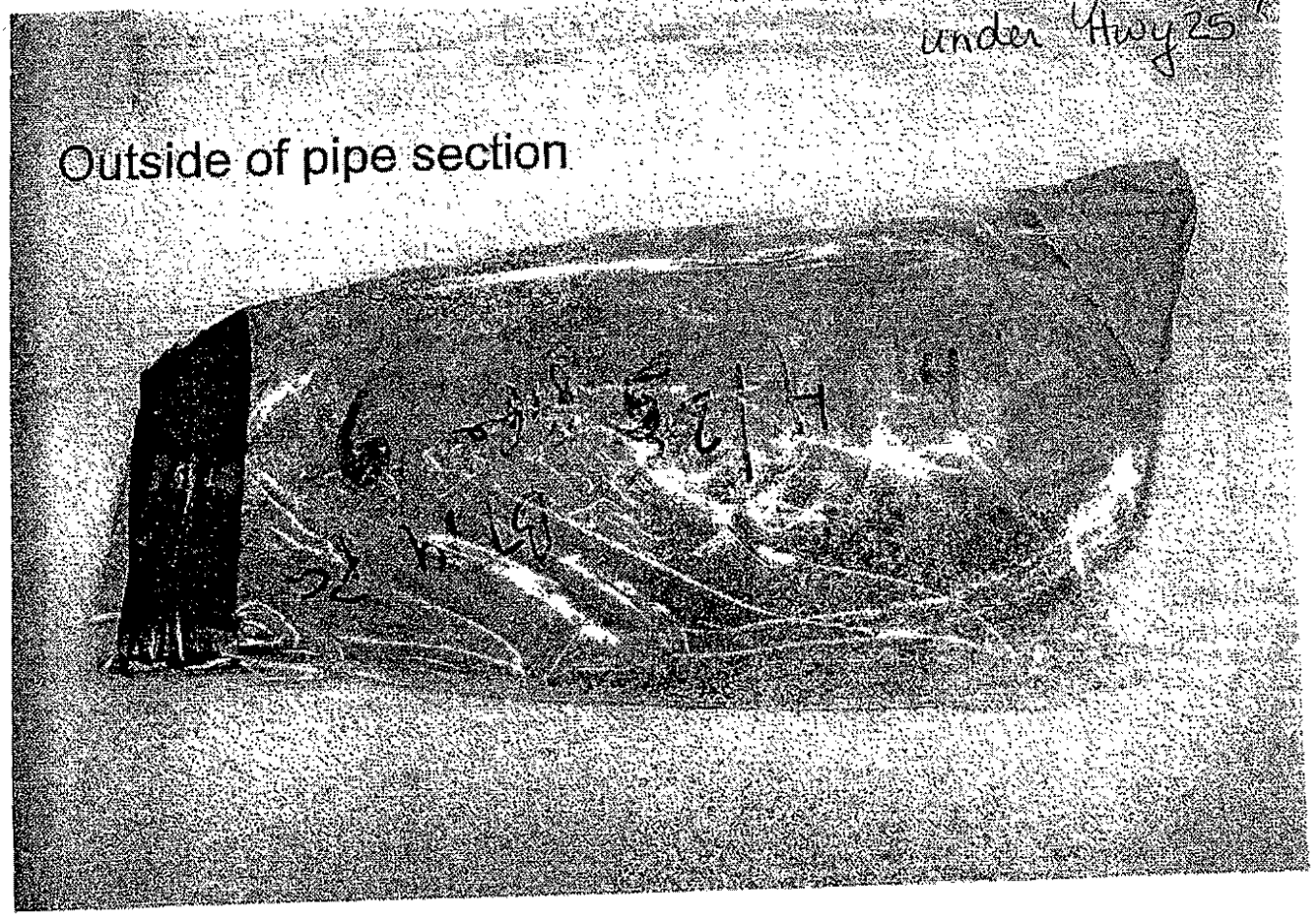
Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02405.S0 Collected 04/25/08 by R.Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.0000		0.06920	± 0.027
Cs-137	661.66	*?	0.02956	± 0.02877	0.04147	± 0.016
Pb-210	46.52	*	1.008	± 0.5998	0.6865	± 0.275
Bi210m	266.15	*?	0.0000		0.05616	± 0.022
Ra-226	609.31	*	0.8135	± 0.3525	0.1455	± 0.058
Ac-227	50.14	*?	0.1375	± 0.1943	0.3074	± 0.123
Th-230	67.68	*?	4.872	± 4.7	6.958	± 2.794
Pa-231	283.67	*?	0.2108	± 0.9063	1.539	± 0.627
Th-232	911.07	*	0.6557	± 0.3085	0.1938	± 0.077
Pu-238	17.13	*?	1.668	± 4.045	6.683	± 2.686
U-238D	92.80	*	0.5639	± 0.3593	0.4408	± 0.177
Am-241	59.54	*?	0.06128	± 0.05406	0.07803	± 0.031
K-40	1460.75	*	11.38	± 4.711	0.7400	± 0.298
Co-60	1173.24	*?	0.0000		0.07969	± 0.032
Co-60	1332.50	*?	0.0000		0.06920	± 0.027
Weighted Average			0.0000			
Cs-137	661.66	*?	0.02956	± 0.02877	0.04147	± 0.016
Tl-208	583.14	*	0.6060	± 0.2694	0.1252	± 0.050

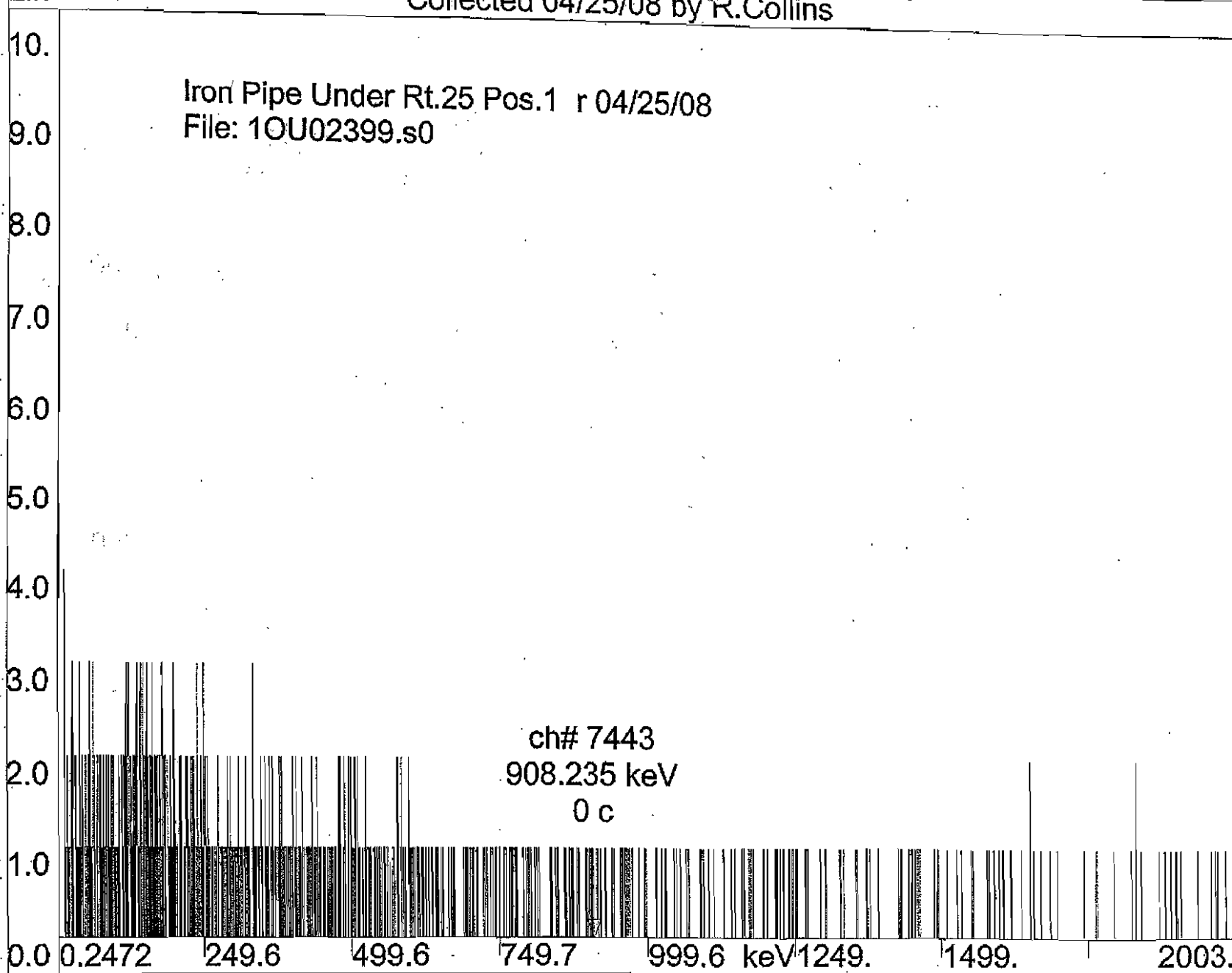


10' West side cast iron remaining left in pl. under Hwy 25



Lin

Collected 04/25/08 by R.Collins

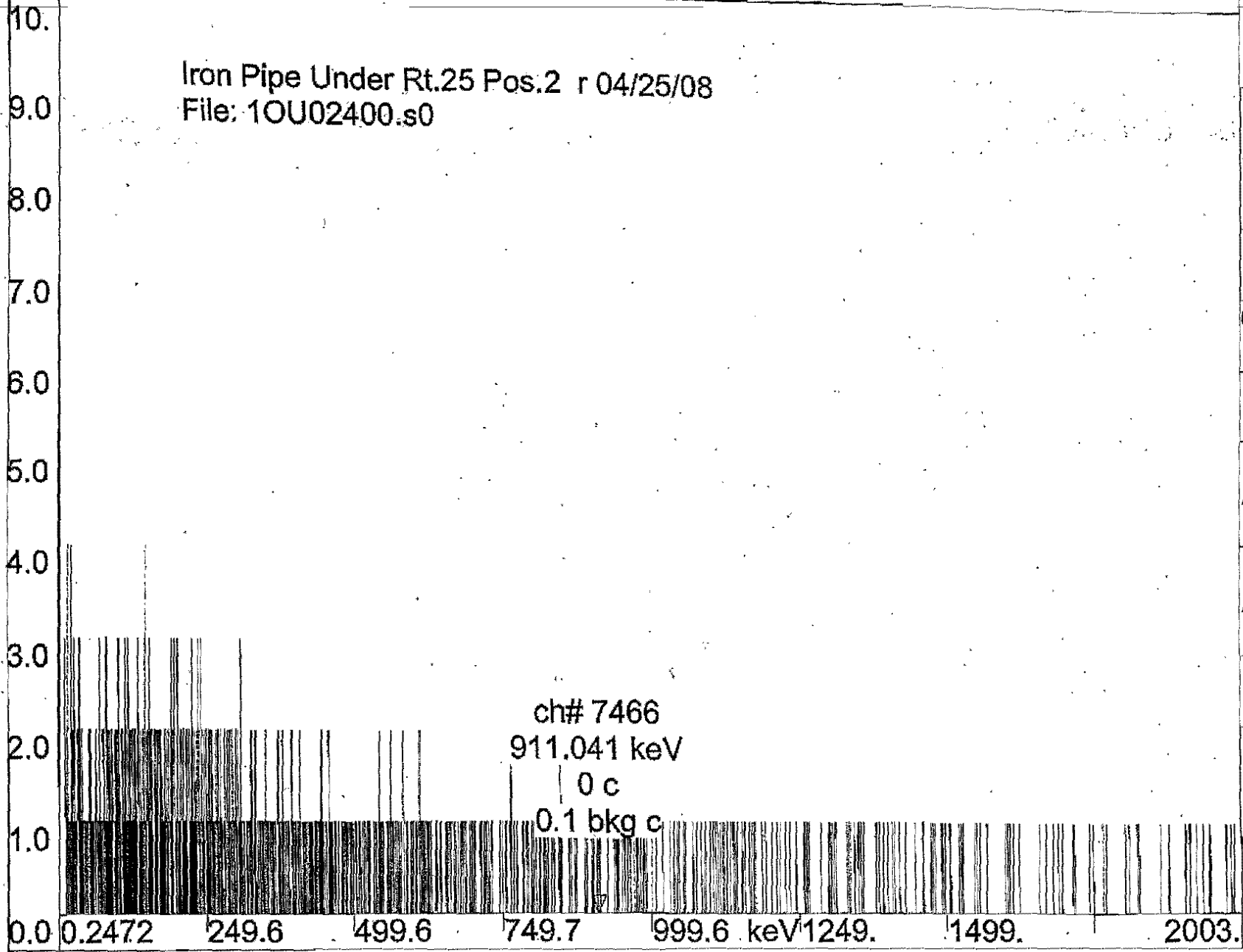


Preset-L 28800.000 Stopped
True Time 900.776
Live Time 900.709
% Dead 0.01
Gross Count 1502
Counts/sec 1.66758
Start Time Apr/25/2008 1:34:21PM
Stop Time Apr/25/2008 1:49:22PM
User ID GB

ROI # 35	Centroid=662.39	Gross =1	Activity= ?	4.39049±	204.03%pCi
Cs-137	FWHM = 0.12	Net =1	MDA =	11.8808±	40.36%pCi
err=200.00%		Bkgnd=0	@ Apr/25/2008 1:34:21PM		

Lin

Collected 04/25/08 by R.Collins

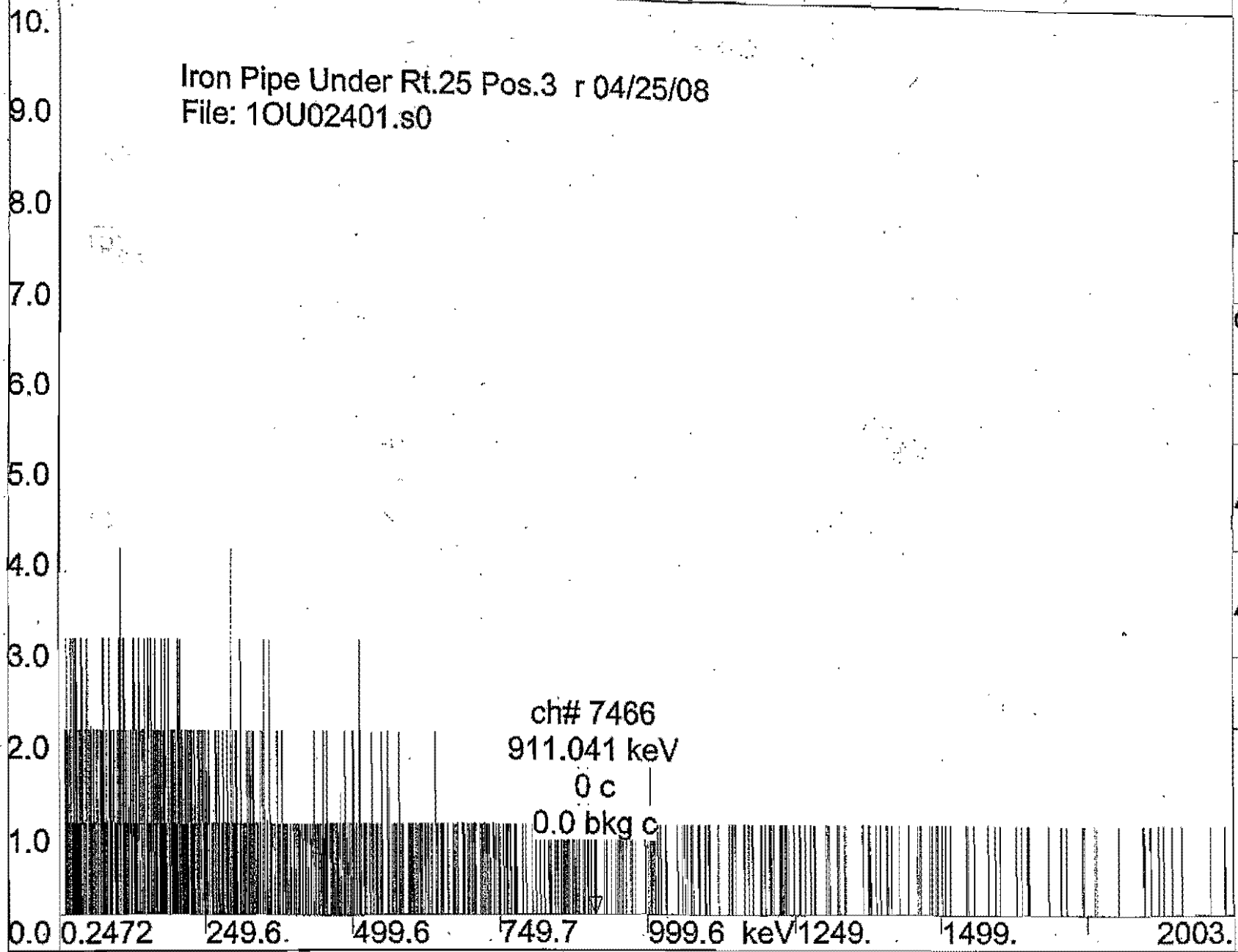


Preset-L 900.000 Stopped
True Time 900.074
Live Time 900.000
% Dead 0.01
Gross Count 1594
Counts/sec 1.77111
Start Time Apr/25/2008 1:52:42PM
Stop Time Apr/25/2008 2:07:42PM
User ID GB

ROI # 37 Centroid=911.04 Gross = 3 Activity= *? 0± 0.00%pCi
Th-232D Net =-2 MDA = 227.741± 40.25%pCi
err=2[illegible].00% Bkgnd= 5 @ Apr/25/2008 1:52:42PM

Lin

Collected 04/25/08 by R.Collins

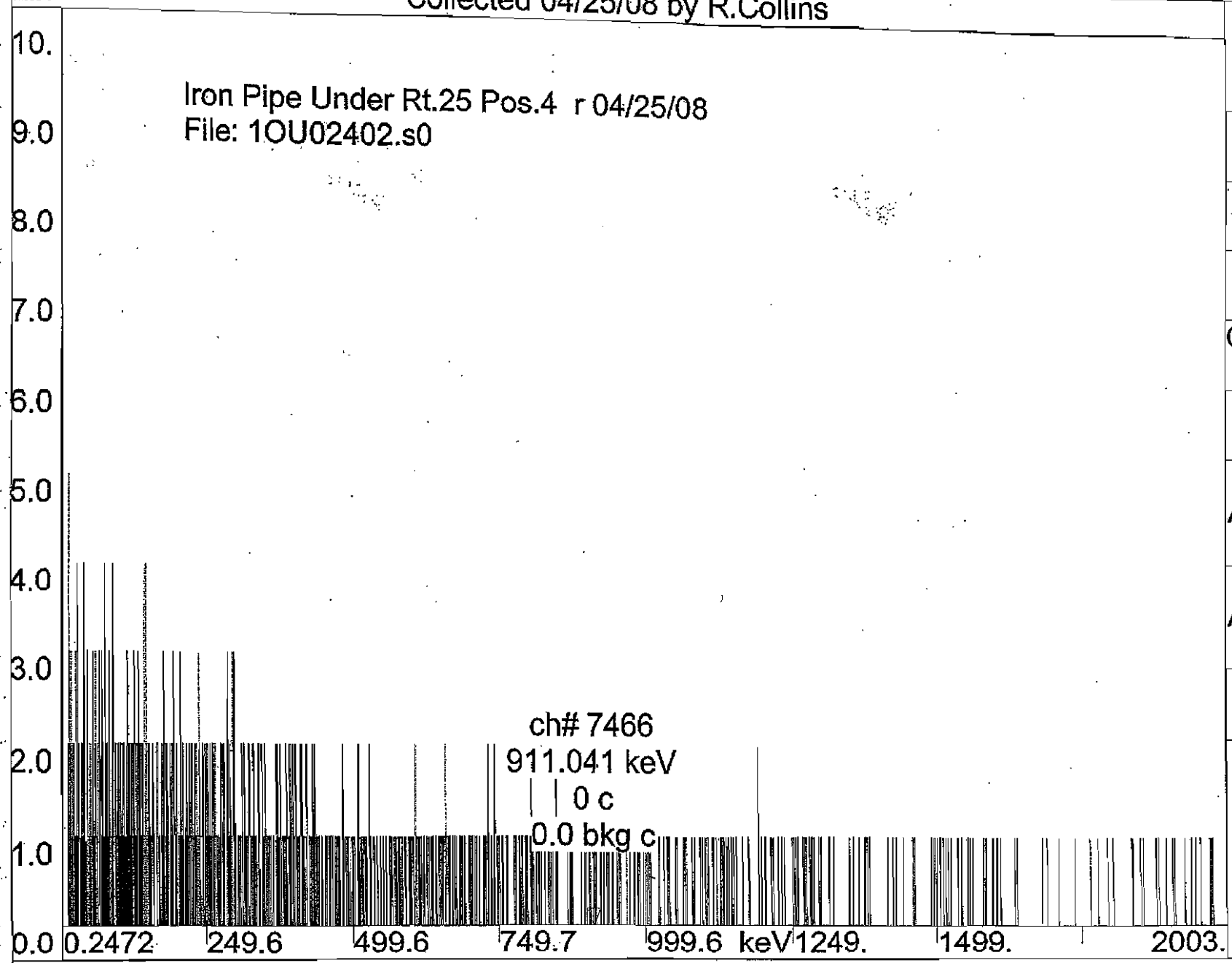


Preset-L 900.000 Stopped
True Time 900.072
Live Time 900.000
% Dead 0.01
Gross Count 1668
Counts/sec 1.85333
Start Time Apr/25/2008 2:18:43PM
Stop Time Apr/25/2008 2:33:43PM
User ID GB

ROI # 37	Centroid=911.04	Gross =2	Activity= *?	35.6169±	147.04%pCi
Th-232D		Net =2	MDA =	48.1901±	40.25%pCi
err=141.42%		Bkgnd=0	@	Apr/25/2008 2:18:43PM	

Lin

Collected 04/25/08 by R.Collins

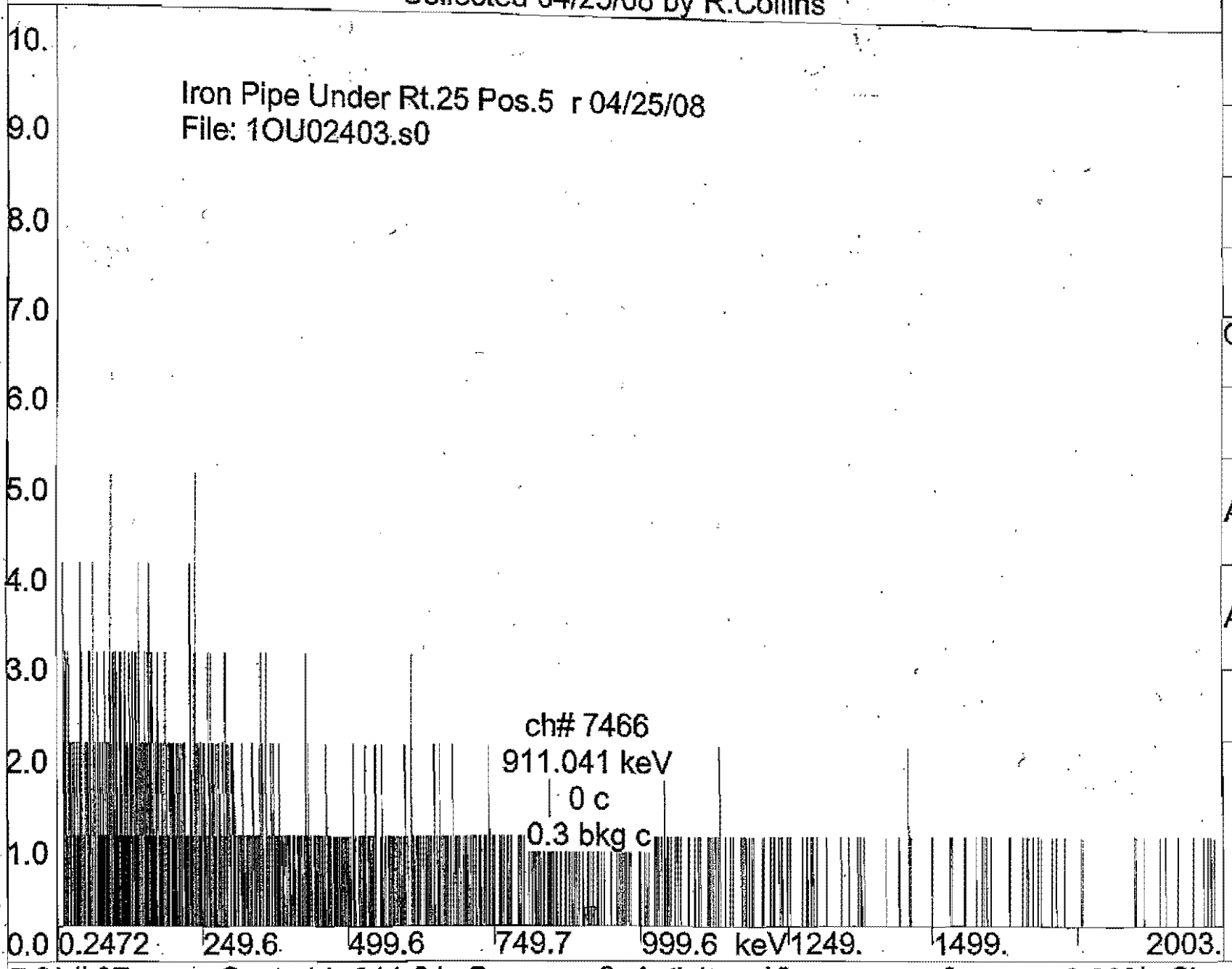


Preset-L 900.000 Stopped
True Time 900.075
Live Time 900.000
% Dead 0.01
Gross Count 1879
Counts/sec 2.08778
Start Time Apr/25/2008 2:40:11PM
Stop Time Apr/25/2008 2:55:12PM
User ID GB

ROI # 37	Centroid=911.04	Gross =3	Activity= *	53.4254±	122.28%pCi
Th-232D		Net =3	MDA =	48.1901±	40.25%pCi
err=1[illegible]47%		Bkgnd=0		Apr/25/2008 2:40:11PM	

Lin

Collected 04/25/08 by R.Collins

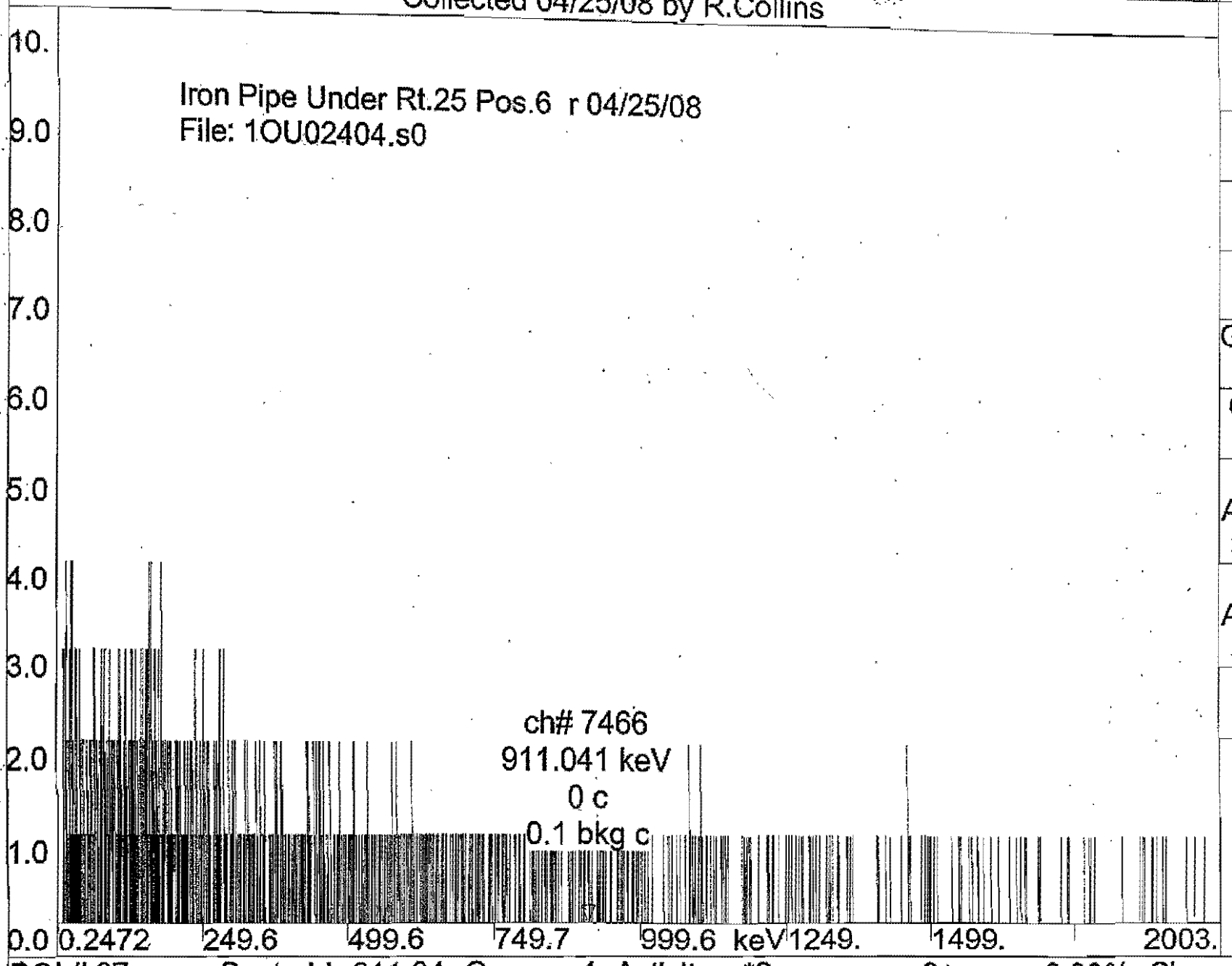


Preset-L 900.000 Stopped
True Time 900.076
Live Time 900.000
% Dead 0.01
Gross Count 1853
Counts/sec 2.05889
Start Time Apr/25/2008 3:09:12PM
Stop Time Apr/25/2008 3:24:12PM
User ID GB

ROI # 37	Centroid=911.04	Gross = 2	Activity= *?	0± 0.00%pCi
Th-232D		Net =-11	MDA =	350.415± 40.25%pCi
err=2000.00%		Bkgnd= 13	@	Apr/25/2008 3:09:12PM

Lin

Collected 04/25/08 by R.Collins



Preset-L 900.000 Stopped
True Time 900.082
Live Time 900.000
% Dead 0.01
Gross Count 1789
Counts/sec 1.98778
Start Time Apr/25/2008 3:26:47PM
Stop Time Apr/25/2008 3:41:47PM
User ID GB

ROI # 37 Centroid=911.04 Gross = 4 Activity= *? 0± 0.00%pCi
Th-232D Net =-1 MDA = 227.174± 40.25%pCi
err=20[illegible]00% Bkgnd= 5 [illegible] Apr/25/2008 3:26:47PM

3006XXXXXX-1004260002

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (OU-I/RAIL SPUR/ OTHER) PRS 7 West	SURVEY #: 08-PS7-0060
PURPOSE: Remove Pipeline east of man hole 312 in process survey	RWP #: 008
	DATE: 5/16/08
	TIME: 0830

MAP/DRAWING

SEE ATTACHED

2360 USED FOR HAND AND FOOT FRISK OF PERSONNEL, SCAN MASSLINS USED ON HAULER TIRES AND SURVEY DATA

LEGEND: K = factor of 1000 △ = Soil Sample Location ---------- = Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5659/5735	11/27/08
Fidler	4113/3996	5/28/08
2221	190/196/240353	1-11-09
3030	5738	10/22/08
—	NFE	—

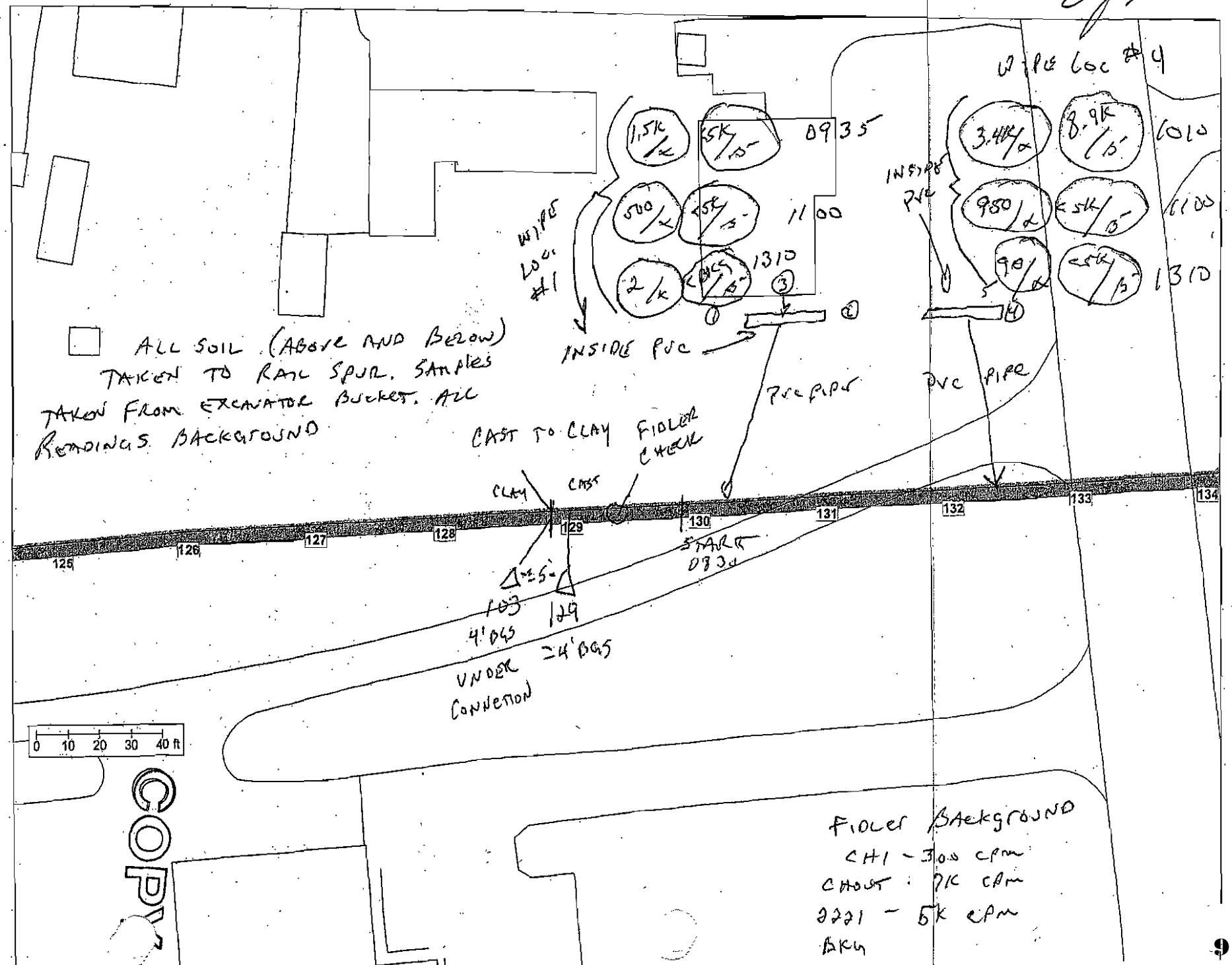
Completed by: (Signature) [signature]	Date: 5/16/08
Completed by: (Print Name) Robert Collins	
Counted by: (Signature) [signature]	Date: 5/16/08
Counted by: (Print Name) Robert Collins Tamie M. Collins	
Approved by: (Signature) [signature]	Date: 5-20-08
Approved by (Print Name) Tonia Beck	

ML-9620A

COPY

08 - PRST - 0060

2 of 3



Survey No.
08-RRS7-0060

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				Removable Contamination Swipes (dpm/100cm²)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	50	240	I/s pvc				
2	11	128	↓				
3	~~244~~ 2 ~~201.8~~		O/s pvc				
4	257	1047	I/s pvc E. of access road				
5	44	201	O/s pvc ↓				
6	16	72	re-count *1				
7	114	424	*4				
8	16	72	↓ *5				
9	16	51	re-count *4				
10	2	110	EXCAVATOR BUCKET				
11	4	102					
12	4	122					
13	2	120	↓ ↓				
14	0	102	EXCAVATOR CAB FLOOR				
15	2	98	↓ ↓ ↓				
16	0	102	HAULER TIRE				
17	2	110	↓ ↓				

N/A

N/A

COPY

COMMENTS: N DNL

ML-9620B

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (OU-1/RAIL SPUR/ OTHER) PAS 7 West	SURVEY #: 08-PAS7-L 5
PURPOSE: IN Process Survey Remove Pipeline East Manhole 312 to Conn-Day Rd	RWP #: 008
	DATE: 5/19/08
	TIME: 0800

MAP/DRAWING

SEE ATTACHED

2360 USED FOR HAND AND FOOT EXISK OF PERSONNEL
SURVEY MASSLINS USED ON HAULER TIRES PRIOR TO
EXITING AREA AND SURVEY DATA

LEGEND: K = factor of 1000 △ = Soil Sample Location ---------- = Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5780 / 5781	11/27/08
Fidler	4113/3996	5/28/08
2221	190196/246353	1-11-09
3030	5867	10/18/08
—	N/A	—

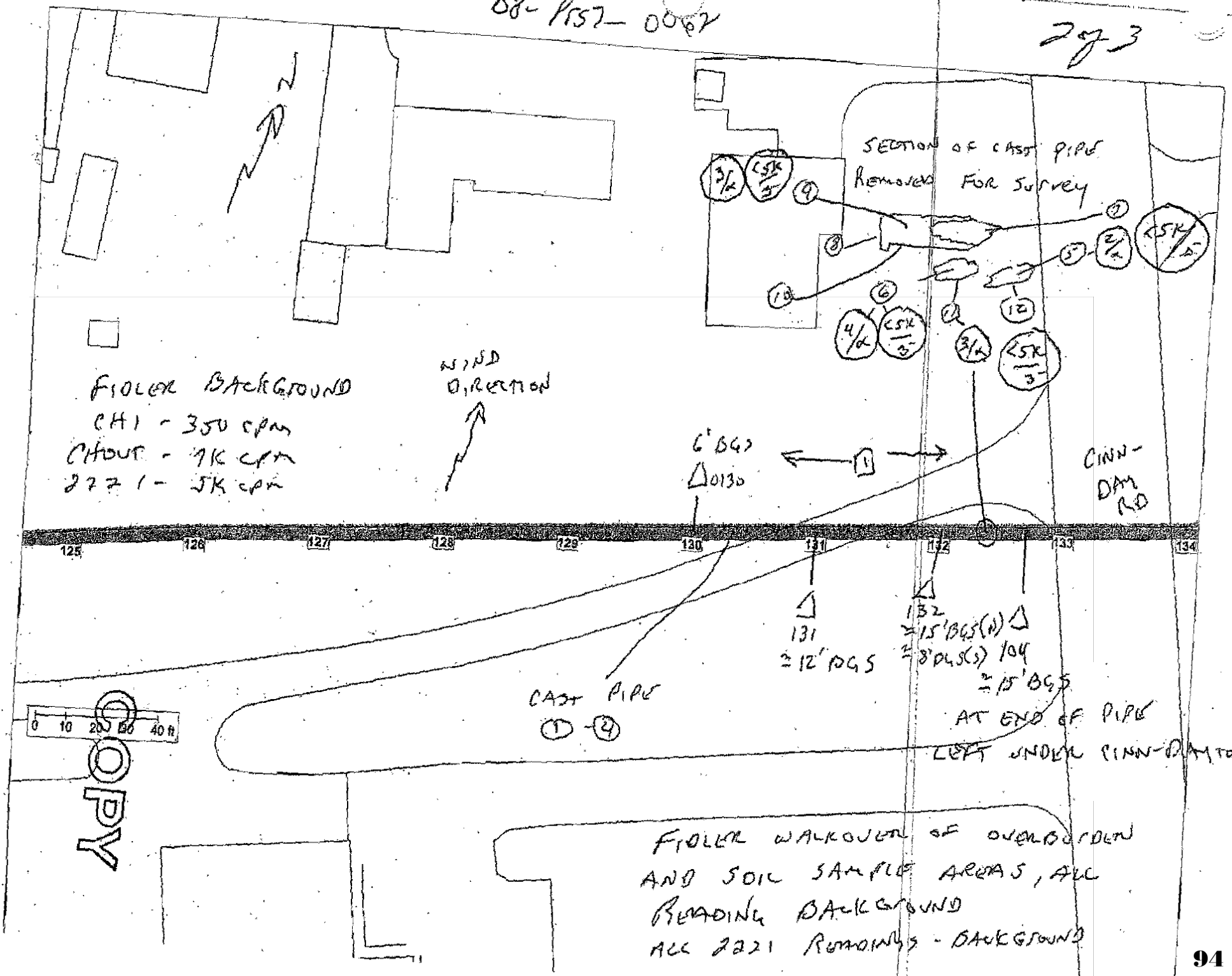
Completed by: (Signature) Robert Collins	Date: 5/19/08
Completed by: (Print Name) Robert Collins	
Counted by: (Signature) Robert Collins	Date: 5/19/08
Counted by: (Print Name) Robert Collins	
Approved by: (Signature) Rallel Beck	Date: 5-20-08
Approved by: (Print Name) Rallel Beck	

ML-9620A

COPY

08-PIST-0062

2 of 3



RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				Removable Contamination Swipes (dpm/100cm²)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	16	78	1/5 CAST PIPE				
2	2	18	" " "				
3	0	55	0/5 CAST PIPE				
4	2	0	" " "				
5	2	0	1/5 CAST PIPE				
6	2	11					
7	2	44					
8	8	14					
9	0	37	0/5				
10	0	22					
11	0	29					
12	0	4					
13	0	56	HANGER TIRE				
14	2	48	" "				
15	0	42	EXCAVATOR BUCKET				
16	2	38					
17	2	28					
18	4	42	" "				
19	0	48	EXCAVATOR CAB FLOOR				
20	2	56	" " "				

NEG

COMMENTS:

COPY

ML-9620B

HEADER INFORMATION in 1OU02526.S0 Collected 05/19/08 by Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : May/19/2008 1:22:37PM
Stopped : May/19/2008 2:22:38PM
True Time : 3600.993 sec
Live Time : 3600.000 sec
Dead Time : 0.03 %
Gross Count : 39239 counts
Gross Rate : 10.8997 cps

GB

Sample
Sampled from May/19/2008 1:22:37PM to May/19/2008 2:22:38PM
Sample Quantity 638 ± 255.2 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02526.S0 Collected 05/19/08 by Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.0000		0.09287	± 0.0
Cs-137	661.66	*?	0.005101	± 0.03026	0.05335	± 0.0
Pb-210	46.52	*	1.201	± 0.7201	0.8242	± 0.3
Bi210m	266.15	*?	0.0000		0.06293	± 0.0
Ra-226	609.31	*	0.9662	± 0.4176	0.1508	± 0.0
Ac-227	50.14	*?	0.0000		0.3942	± 0.1
Th-230	67.68	*?	5.371	± 5.425	8.109	± 3.2
Pa-231	283.67	*?	0.5077	± 1.117	1.850	± 0.7
Th-232	911.07	*	0.6236	± 0.3096	0.2234	± 0.0
Pu-238	17.13	*?	2.431	± 5.059	8.298	± 3.3
U-238D	92.80	*	0.8433	± 0.4751	0.5129	± 0.2
Am-241	59.54	*?	0.0000		0.08920	± 0.0
K-40	1460.75	*	13.09	± 5.451	1.118	± 0.4
Co-60	1173.24	*?	0.0000		0.09135	± 0.0
Co-60	1332.50	*?	0.0000		0.09287	± 0.0
Weighted Average			0.0000			
Cs-137	661.66	*?	0.005101	± 0.03026	0.05335	± 0.0
Tl-208	583.14	*	0.6713	± 0.3035	0.1515	± 0.0

HEADER INFORMATION in 1OU02527.S0 Collected 05/19/08 by Collins

Identification
- User : GB
- MCArd : 1
- Detector : 1
- Geometry : EPA
- Sample :
- Channels : 16384

Acquisition
- Started : May/19/2008 5:08:51PM
- Stopped : May/19/2008 9:08:55PM
- True Time : 14404.505 sec
- Live Time : 14400.000 sec
- Dead Time : 0.03 %
- Gross Count : 178970 counts
- Gross Rate : 12.4285 cps

GB

Sample
Sampled from May/19/2008 5:08:51PM to May/19/2008 9:08:55PM
Sample Quantity 759 ± 303.6 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
~~Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0~~
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02527.S0 Collected 05/19/08 by Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.0000		0.03225	± 0.0
Cs-137	661.66	*	0.05205	± 0.02643	0.02316	± 0.0
Pb-210	46.52		0.9723	± 0.465	0.3914	± [illegible]
Bi210m	266.15	*?	0.0000		0.02795	± 0.0
Ra-226	609.31		0.9051	± 0.3715	0.06284	± 0.0
Ac-227	50.14	*?	0.0000		0.1670	± 0.0
Th-230	67.68	*?	1.033	± 2.273	3.698	± 1.4
Pa-231	283.67	*?	0.0000		0.8575	± 0.3
Th-232	911.07		0.6423	± 0.2706	0.08797	± 0.0
Pu-238	17.13	*?	0.8510	± 2.136	3.503	± 1.4
U-238D	92.80		0.6367	± 0.3034	0.2552	± 0.1
Am-241	59.54	*?	0.0000		0.03916	± 0.0
K-40	1460.75		15.60	± 6.318	0.2939	± 0.1
Co-60	1173.24	*?	0.02030	± 0.0223	0.03381	± 0.0
Co-60	1332.50	*?	0.0000		0.03225	± 0.0
Weighted Average			0.01015	± 0.00557		
Cs-137	661.66	*	0.05205	± 0.02643	0.02316	± 0.0
Tl-208	583.14	*	0.6900	± 0.2855	0.05980	± 0.0

HEADER INFORMATION in 1OU02528.S0 Collected 05/19/08 by Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : May/19/2008 9:10:18PM
Stopped : May/20/2008 1:10:22AM
True Time : 14404.366 sec
Live Time : 14400.000 sec
Dead Time : 0.03 %
Gross Count : 173076 counts
Gross Rate : 12.0192 cps

Sample
Sampled from May/19/2008 9:10:18PM to May/20/2008 1:10:22AM
Sample Quantity 736 ± 294.4 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\WINDOWS\APTEC\LIBRARY\OU1SOILA.LIB Jan/17/2008 8:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02528.S0 Collected 05/19/08 by Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	*?	0.02394	± 0.01985	0.02725	± 0.010
Cs-137	661.66	*?	0.001529	± 0.01458	0.02484	± 0.010
Pb-210	46.52		1.024	± 0.4892	0.4117	± 0.165
Bi210m	266.15	*?	0.0000		0.02756	± 0.011
Ra-226	609.31		0.8373	± 0.3442	0.06033	± 0.024
Ac-227	50.14	*?	0.06337	± 0.1038	0.1661	± 0.066
Th-230	67.68	*?	0.6173	± 2.274	3.752	± 1.507
Pa-231	283.67	*?	0.0000		0.8718	± 0.355
Th-232	911.07	*	0.6301	± 0.2686	0.1081	± 0.043
Pu-238	17.13	*?	1.612	± 2.323	3.678	± 1.478
U-238D	92.80	*	0.9380	± 0.4062	0.2248	± 0.090
Am-241	59.54	*?	0.001253	± 0.02416	0.04027	± 0.016
K-40	1460.75		1.242	± 0.6711	0.6922	± 0.278
Co-60	1173.24	*?	0.0000		0.03581	± 0.014
Co-60	1332.50	*?	0.02394	± 0.01985	0.02725	± 0.010
Weighted Average			0.01198	± 0.004966		
Cs-137	661.66	*?	0.001529	± 0.01458	0.02484	± 0.010
Tl-208	583.14	*	0.6178	± 0.2572	0.06720	± 0.027

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (OU-I/RAIL SPUR/ OTHER) PIS 7 WEST	SURVEY #: 08-PIS7-01 3
PURPOSE: SURVEY PIPELINE UNDER CINN-DAY RD TO FIN	RWP #: NA
	DATE: 6/11/08
	TIME: 0730

MAP/DRAWING

SEE ATTACHED

LEGEND: K = factor of 1000 △ = Soil Sample Location ---------- = Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
~~2360~~	~~5247/5936~~	NA
3030	5898	4-29-09
FIDLER	B8576/3966	4-10-09
2360	5704/5714	1-14-09
—	NFE	—

RAE 6/11/09

Completed by: (Signature) Robert Collins	Date: 6/11/08
Completed by: (Print Name) Robert Collins	
Counted by: (Signature) Robert Collins	Date: 6/11/08
Counted by: (Print Name) Robert Collins	
Approved by: (Signature) Patrick Becker	Date: 6-12-08
Approved by (Print Name) Patrick Becker	

ML-9620A

COPY

08-PRST-0073

2 of 3

FIELD SCAN OF SAMPLE LOCATIONS. BOTH LOCATIONS RESULTED BACKGROUND

CH OUT BACKGROUND 11KCPM
CH 1 " 600CPM

SEVERAL DIRECT INTEGRATED COUNTS WERE CONDUCTED AFTER PIPE WAS EXPOSED. DEFINATE DECAY PATTERN OBSERVED. FINAL INTEGRATED COUNT

98/α

1.5K/β

2360 BACKGROUND
4 CPM ALPHA
205 CPM BETA

③ INSIDE PIPE
④ OUTSIDE PIPE

MCD Service Road

SAMPLE TAKEN AT END AND BELOW PIPE
≈13' BGS
120

137
136
135
134
133
132

Manhole 310

① INSIDE PIPE
② OUTSIDE PIPE

56/α

1.1K/β

2360 BACKGROUND
1.4 ALPHA
298 BETA
CPM

1 UNA
≈15' BGS

SAMPLE TAKEN AT END AND BELOW PIPE

0 5 10 15 20 ft

GOLF

Survey No. 08-PRS7-0073

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				Removable Contamination Swipes (dpm/100cm²)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	10	7	INSIDE CAST PIPE				
2	2	42	OUTSIDE				
3	5	58	INSIDE				
4	0	11	OUTSIDE				

NFL

NFL

COMMENTS: NO NLE

COPY

ML-9620B

HEADER INFORMATION in 1OU02555.S0 Collected 06/11/08 by Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : Jun/11/2008 10:54:37AM
Stopped : Jun/11/2008 11:54:38AM
True Time : 3601.163 sec
Live Time : 3600.000 sec
Dead Time : 0.03 %
Gross Count : 45855 counts
Gross Rate : 12.7375 cps

GB

Sample
Sampled from Jun/11/2008 10:54:37AM to Jun/11/2008 11:54:38AM
Sample Quantity 729 ± 291.6 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\Aptec-NRC\Library\OU1SOILA.LIB Jan/17/2008 7:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02555.S0 Collected 06/11/08 by Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	?	0.04725	± 0.04198	0.05687	± 0.02
Cs-137	661.66	?	0.008034	± 0.03067	0.05293	± 0.02
b-210	46.52		1.069	± 0.6409	0.7350	± 0.29
Bi210m	266.15	?	0.0000		0.06088	± 0.02
Ra-226	609.31		0.8244	± 0.3556	0.1200	± 0.04
Ac-227	50.14	?	0.1961	± 0.2215	0.3386	± 0.13
Th-230	67.68	?	0.0000		8.098	± 3.25
Pa-231	283.67	?	1.023	± 1.066	1.586	± 0.64
Th-232	911.07		0.9160	± 0.4079	0.1642	± 0.06
Pu-238	17.13	?	0.0000		8.036	± 3.22
U-238D	92.80		1.058	± 0.5293	0.4726	± 0.19
Am-241	59.54	?	0.01647	± 0.05073	0.08413	± 0.03
K-40	1460.75		13.80	± 5.71	0.9747	± 0.39
Co-60	1173.24	?	0.0000		0.09416	± 0.03
Co-60	1332.50	?	0.04725	± 0.04198	0.05687	± 0.02
ghted Average			0.02363	± 0.0105		
Cs-137	661.66	?	0.008034	± 0.03067	0.05293	± 0.02
Tl-208	583.14		0.7146	± 0.3182	0.1512	± 0.06

HEADER INFORMATION in 1OU02557.S0 Collected 06/11/08 by Collins

Identification
User : GB
MCArd : 1
Detector : 1
Geometry : EPA
Sample :
Channels : 16384

Acquisition
Started : Jun/11/2008 5:55:57PM
Stopped : Jun/11/2008 9:56:02PM
True Time : 14404.886 sec
Live Time : 14400.000 sec
Dead Time : 0.03 %
Gross Count : 195096 counts
Gross Rate : 13.5483 cps

GB

Sample
Sampled from Jun/11/2008 5:55:57PM to Jun/11/2008 9:56:02PM
Sample Quantity 932 ± 372.8 g

Energy Calibration Jan/30/2008 2:12:27PM 1QC00937.S0
Resolution Calibration Dec/5/2006 11:34:42AM 1CA06_01.S0
Efficiency Calibration Jan/25/2007 10:19:37AM 1CA06_02.S0
Isotope Library C:\Aptec-NRC\Library\OU1SOILA.LIB Jan/17/2008 7:53:42AM

ACTIVITY INFORMATION with MDA's for 1OU02557.S0 Collected 06/11/08 by Collins

Name	Energy keV	Activity Flag	pCi/g	Error pCi/g	MDA pCi/g	Error pCi/g
Co-60	1332.50	?	0.01576	± 0.01518	0.02208	± 0.0
Cs-137	661.66		0.02717	± 0.01745	0.02109	± 0.0
Pb-210	46.52		0.5903	± 0.312	0.3203	± [illegible]
Bi210m	266.15	?	0.0000		0.02389	± 0.0
Ra-226	609.31		0.7211	± 0.2961	0.05131	± 0.0
Ac-227	50.14	?	0.0000		0.1433	± 0.0
Th-230	67.68	?	1.318	± 1.972	3.131	± 1.2
Pa-231	283.67	?	0.0000		0.7472	± 0.3
Th-232	911.07		0.5194	± 0.2195	0.07673	± 0.0
Pu-238	17.13	?	0.0000		3.128	± 1.2
U-238D	92.80		1.051	± 0.447	0.2183	± 0.0
Am-241	59.54	?	0.0000		0.03509	± 0.0
K-40	1460.75		11.68	± 4.733	0.2493	± 0.1
Co-60	1173.24	?	0.0000		0.03447	± 0.0
Co-60	1332.50	?	0.01576	± 0.01518	0.02208	± 0.0
Weighted Average			0.007885	± 0.003797		
Cs-137	661.66		0.02717	± 0.01745	0.02109	± 0.0
Tl-208	510.72	ID only			0.005399	

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (OU-1/RAIL SPUR/ OTHER) PIS 7 WEST	SURVEY #: 08-PIS7-0073
PURPOSE: SURVEY PIPE LINE UNDER CINN-DAY RD TO FILL	RWP #: NA
	DATE: 6/11/08
	TIME: 0730

MAP/DRAWING

SEE ATTACHED

LEGEND: K = factor of 1000 △ = Soil Sample Location ----------= Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
~~2360~~	~~5747/5736~~	NA
3030	5898	4-29-09
Frisker	B8576/3966	4-11-09
2360	5704/5714	1-14-09
	NFS	

RAC 6/11/09

Completed by: (Signature) Robert Collins	Date: 6/11/08
Completed by: (Print Name) Robert Collins	
Counted by: (Signature) Robert Collins	Date: 6/11/08
Counted by: (Print Name) Robert Collins	
Approved by: (Signature) Patrick Becker	Date: 6-12-08
Approved by (Print Name) Patrick Becker	

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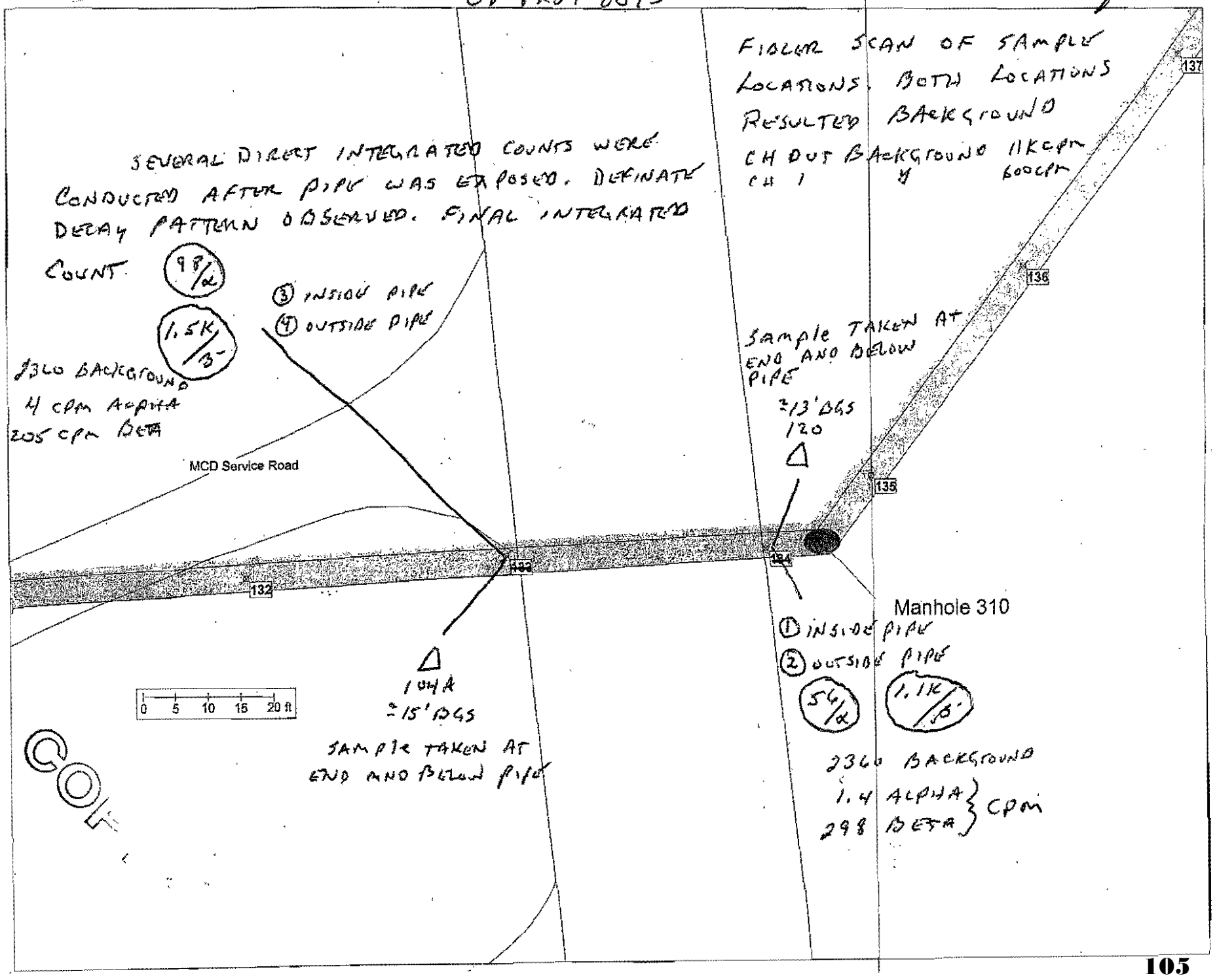
COPY

08-PRST-0073


FIELDER SCAN OF SAMPLE LOCATIONS. BOTH LOCATIONS RESULTED BACKGROUND
CH OUT BACKGROUND 11KCPM
CH 1 " 600CPM
SEVERAL DIRECT INTEGRATED COUNTS WERE CONDUCTED AFTER PIPE WAS EXPOSED. DEFINATE DECAY PATTERN OBSERVED. FINAL INTEGRATED COUNT
98/α
1.5K/β-
2360 BACKGROUND
4 CPM ALPHA
205 CPM BETA
③ INSIDE PIPE
④ OUTSIDE PIPE
MCD Service Road
SAMPLE TAKEN AT END AND BELOW PIPE
≈13' BGS
120
137
136
135
134
133
132
Manhole 310
① INSIDE PIPE
② OUTSIDE PIPE
56/α
1.1K/β-
2360 BACKGROUND
1.4 ALPHA
298 BETA
CPM
10HA
≈15' BGS
SAMPLE TAKEN AT END AND BELOW PIPE
0 5 10 15 20 ft
GOLF

Survey No. 08-P057-0073

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				Removable Contamination Swipes (dpm/100cm²)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	10	7	INSIDE CAST PIPE				
2	2	42	OUTSIDE				
3	5	58	INSIDE				
4	0	11	OUTSIDE				

NFL

NK

COMMENTS: NONE

COPY

ML-9620B

Appendix C

PRS 7 Backfill Information

Backfill Information

On April 15, 2008, Dan DiCarlo (WQSI) and Tom Walsh (EAS) visited Moraine Materials to obtain background information and a sample on potential backfill for use on the PRS 7 West Line.

The Moraine Materials facility is located at 9661 Sugar Street in Germantown, OH 45327. Ed Kirklin (Moraine Materials) provided background information on the facility. Ed stated that the facility existed in the area for approximately 30-40 years. He was not aware of any chemical spills or events that impacted the facility or the potential backfill to be used in PRS 7. In the past, other companies have obtained samples of material from Moraine Materials for testing purposes. Ed was not aware of any problems with any testing results from past samples obtained from Moraine Materials.

Ed showed us the pile which would be the backfill to be used on PRS 7. There was no visual staining or indication of any foreign material present in the pile. A sample of the backfill material to be used on the PRS 7 West Line was taken from the pile by Dan on April 15. The sample was taken to Belmont Laboratories near Dayton, OH on that date for analyses. The Laboratory performed the following analyses using the U.S.EPA's SW-846 procedural protocols: SW7470 (Mercury, TCLP), SW1311/6010B (ICP Metals, TCLP), SW1311/8270C (SVOCS, TCLP Leached) and SW1311/8260B (VOCS, TCLP Leached). The results were reported on April 23, 2008. All TCLP results for the analytes were below detection limits with the exception of barium. Barium was detected at a concentration of 1.0 mg/l which is well below the RCRA regulatory limit of 100 mg/l. All the laboratory results are attached.

Belmont Labs Date: *23-Apr-08*

CLIENT: Water Quality Systems, Inc. **Lab Order:** 0804752
Project: Moraine/ Mound

Lab ID: 0804752-001 **Collection Date:** 4/15/2008 2:45:00 PM
Client Sample ID: Moraine/Mound **Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP		**SW7470**				Analyst: RJE
TCLP Mercury	BDL	0.0020		mg/L	1	4/18/2008 2:17:00 PM
ICP METALS, TCLP		**SW1311/6010B**				Analyst: RJE
TCLP Silver	BDL	0.010		mg/L	1	4/22/2008 11:38:18 AM
TCLP Arsenic	BDL	0.10		mg/L	1	4/22/2008 11:38:18 AM
TCLP Barium	1.0	0.010		mg/L	1	4/22/2008 11:38:18 AM
TCLP Cadmium	BDL	0.010		mg/L	1	4/22/2008 11:38:18 AM
TCLP Chromium	BDL	0.010		mg/L	1	4/22/2008 11:38:18 AM
TCLP Lead	BDL	0.050		mg/L	1	4/22/2008 11:38:18 AM
TCLP Selenium	BDL	0.10		mg/L	1	4/22/2008 11:38:18 AM
SVOCS, TCLP LEACHED		**SW1311/8270C**				Analyst: DG
TCLP 3 & 4-Methylphenol	BDL	0.100		mg/L	1	4/22/2008 2:23:00 AM
TCLP Pyridine	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP 1,4-Dichlorobenzene	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP 2-Methylphenol	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP Hexachloroethane	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP Nitrobenzene	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP Hexachlorobutadiene	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP 2,4,6-Trichlorophenol	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP 2,4,5-Trichlorophenol	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP 2,4-Dinitrotoluene	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP Hexachlorobenzene	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
TCLP Pentachlorophenol	BDL	0.0500		mg/L	1	4/22/2008 2:23:00 AM
Surr: 2-Fluorophenol	13.6	10-41		%REC	1	4/22/2008 2:23:00 AM
Surr: Phenol-d6	5.90	10-40	S	%REC	1	4/22/2008 2:23:00 AM
Surr: Nitrobenzene-d5	36.6	20-63		%REC	1	4/22/2008 2:23:00 AM
Surr: 2-Fluorobiphenyl	41.7	19-58		%REC	1	4/22/2008 2:23:00 AM
Surr: 2,4,6-Tribromophenol	52.7	12-63		%REC	1	4/22/2008 2:23:00 AM
Surr: p-Terphenyl-d14	44.0	10-62		%REC	1	4/22/2008 2:23:00 AM
VOCS, TCLP LEACHED		**SW1311/8260B**				Analyst: MG
TCLP Vinyl chloride	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP 1,1-Dichloroethene	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP 2-Butanone	BDL	0.80		mg/L	40	4/18/2008 11:48:00 AM
TCLP Chloroform	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP 1,2-Dichloroethane	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP Carbon Tetrachloride	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP Benzene	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP Trichloroethene	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP Tetrachloroethene	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
TCLP Chlorobenzene	BDL	0.20		mg/L	40	4/18/2008 11:48:00 AM
Surr: Dibromofluoromethane	104	32-127		%REC	40	4/18/2008 11:48:00 AM
Surr: 1,2-Dichloroethane-d4	87.2	32-122		%REC	40	4/18/2008 11:48:00 AM

Belmont Labs Date: *23-Apr-08*

CLIENT: Water Quality Systems, Inc. **Lab Order:** 0804752
Project: Moraine/ Mound

VOCS, TCLP LEACHED		SW1311/8260B			Analyst: MG
Surr: Toluene-d8	96.8	48-130	%REC	40	4/18/2008 11:48:00 AM
Surr: 4-Bromofluorobenzene	97.8	36-116	%REC	40	4/18/2008 11:48:00 AM

Belmont Labs Date: *23-Apr-08*

CLIENT:	Water Quality Systems, Inc.	**Lab Order:**	0804752
Project:	Moraine/ Mound		

Data Qualifiers (Flags)

!	See Case Narrative
*	Value exceeds Maximum Contaminant Level
A	The total analyte is below detection limit; component analytes were not analyzed.
B	Analyte detected in the associated Method Blank
BDL	Below Detection limit
C	Sample result confirmed by reanalysis
E	Value above quantitation range
F	Unable to obtain a reliable result due to matrix interference
H	Analysis completed outside holding times
J	Analyte detected at an estimated concentration
K	Result from method of standard additions
N	Presumptive evidence of analyte present
NG	No growth
P	Sample preservation does not meet method requirements
PQL	Practical Quantitation Limit
S	Recovery is outside of acceptance limits
V	Calibration criteria exceeded, but acceptable by method

Appendix D

Photos

Excavation in Manhole A-9 Area looking northeast (January 2008)

Excavation in Manhole A-9 area looking northwest (January 2008)

PRS7 East Line excavation plugged with grout looking northeast (March 2008)

Outfall at Great Miami River prior to removal looking north. (April 2008)

Sampling of excavated area east of outfall looking west. (April 2008)

Reroute of storm sewer near outfall looking west. (July 2008)

Excavation of river bed beyond outfall after berm construction, looking south. (July 2008)

PRS 7 West Line excavation looking south (July 2008)

PRS 7 West Line completed excavation looking west to Great Miami River (October 2008)

Completed removal & backfill of PRS7 at outfall looking north. (October 2008)

Repaved bike path looking south (October 2008)

Appendix E

DATA REVIEW AND VALIDATION SUMMARY REPORT POTENTIAL RELEASE SITE 7 VERIFICATION DATA

September 2008

Prepared By:

Shaw Environmental & Infrastructure, Inc.
5050 Section Avenue
Cincinnati, Ohio 45212

Executive Summary

Verification samples were collected from Potential Release Site 7. The soil samples were analyzed for radioactivity using alpha and gamma spectroscopy in accordance with test methods based on U.S. Department of Energy and U.S. Environmental Protection Agency approved methods. These samples were analyzed by TestAmerica at their facility in St. Louis, Missouri. The scope of these reviews and validations was the analytical data generated from the off-site TestAmerica facility.

One hundred percent of the analytical data were reviewed by Shaw Environmental, Inc. in accordance with their standard review practices and the Methods Compendium (DOE, 2002). Three data packages representing approximately 10 percent of the data were selected for validation by Shaw Environmental, Inc. The results of the reviews and validations are presented in this document. The findings indicate that these radioactivity data are usable, no data were rejected.

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Appendix A Validation Documentation

Acronyms and Abbreviations

°C	degrees Centigrade
COC	chain of custody
ID	identifier
LCL	lower control limit
MDA	minimum detectable activity
MHA	Man Hole Area
PRS	Potential Release Site
QA	quality assurance
QC	quality control

1.0 Introduction

This data assessment report has been prepared to describe the data quality for Potential Release Site (PRS) 7 Verification data. Data assessment encompasses two types of quality control (QC) reviews on the data: data review and data validation. Data review involves a review of the basic QC data included in the laboratory data package, for example, laboratory blanks and field duplicates. Data validation is a detailed review of the laboratory data packages, which include all of the data review elements plus verification of such things as proper instrument calibration, instrument calibration validity during sample analysis, identification of target analytes, and proper treatment and quantification of the data. Data validation was performed on approximately 10 percent of the sample data. The results of the data validation are assessed to identify whether any systemic problems are apparent.

2.0 Data Review

The data were reviewed in accordance with the Methods Compendium and TestAmerica's laboratory Standard Operating Procedures (available upon request) (DOE, 2002). Tier III reviews were performed and were based on the summary forms submitted with the analytical data packages. The results of the assessments are presented in this section by lot number. No validation qualifiers were assigned to the data based on these reviews.

2.1 Lot F8A290199

Ten soil samples were collected from the Man Hole Area (MHA) 9 on January 23, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for isotopic thorium analysis by alpha spectroscopy. The laboratory received the samples intact and at 2 degrees Centigrade (°C). There were no irregularities with the associated chain-of-custody (COC) documentation. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample identifiers (ID) and client sample IDs contained in Lot F8A290199:

- F8A290199 (1): MHA9-AL-001
- F8A290199 (2): MHA9-AL-002
- F8A290199 (3): MHA9-AL-003
- F8A290199 (4): MHA9-AL-004
- F8A290199 (5): MHA9-AL-005
- F8A290199 (6): MHA9-AL-006
- F8A290199 (7): MHA9-AL-007
- F8A290199 (8): MHA9-AL-008
- F8A290199 (9): MHA9-AL-009
- F8A290199 (10): MHA9-AL-010

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.1.1 Data Package Completeness

The data package was reviewed for the items listed in Table 1, "Package Completeness Checklist for Lot F8A290199."

2.1.2 Alpha Spectroscopy

The samples were analyzed for isotopic thorium using Method EML A-01-R MOD. The laboratory reported analytes thorium-228, thorium-230, and thorium-232. The associated quality

assurance (QA)/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable. Table 2, "Alpha Spectroscopy Quality Control Review for Lot F8A290199," presents the results.

2.2 Lot F8C180227

Six soil samples were collected from the MHA5 on March 13, 2008. The samples were analyzed for isotopic thorium analysis by alpha spectroscopy. The samples were also validated. Refer to Section 3.1 for the findings.

2.3 Lot F8D010210

Six soil samples were collected from PRS 7 on March 25, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy analysis including isotopic plutonium and thorium. The laboratory received the samples intact and at ambient temperature. The associated COC documentation did not show sample relinquishment from TestAmerica - Dayton to FedEx and FedEx to TestAmerica - St. Louis. Also, no custody seals or tape were noted as being on the sample jars or cooler. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8D010210:

- F8D010210 (1): 0701-0143A-FO
- F8D010210 (2): 0701-0144A-FO
- F8D010210 (3): 0701-0145A-FO
- F8D010210 (4): 0701-0146A-FO
- F8D010210 (5): PRS7-AL-056
- F8D010210 (6): PRS7-AL-057

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.3.1 Data Package Completeness

The data package was reviewed for the items listed in Table 3, "Package Completeness Checklist for Lot F8D010210."

2.3.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium and thorium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable. Table 4, "Alpha Spectroscopy Quality Control Review for Lot F8D010210," presents the results of the review.

2.3.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The reporting limits for plutonium isotopes were not met for the samples listed below because samples contained activity above the minimum detectable activity (MDA):

- F8D010210 (1): 0701-0143A-FO
- F8D010210 (2): 0701-0144A-FO
- F8D010210 (3): 0701-0145A-FO
- F8D010210 (5): PRS7-AL-056

2.3.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. Two thorium samples (F8D010210 (5): PRS7-AL-056 and F8D010210 (6): PRS7-AL-057) had tracer recoveries below the 30 percent lower control limit (LCL). The samples were re-extracted and analyzed with acceptable tracer recoveries.

2.4 Lot F8D290214

Eleven soil samples were collected from PRS 7 from April 21 through 24, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy analysis including isotopic plutonium and thorium. The laboratory received the samples intact and at ambient temperature. The associated COC documentation did not show sample relinquishment from TestAmerica - Dayton to FedEx and FedEx to TestAmerica - St. Louis. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8D290214:

- F8D290214 (1): 0701-0135A-FO
- F8D290214 (2): 0701-0136A-FO
- F8D290214 (3): 0701-0137A-FO
- F8D290214 (4): 0701-0138A-FO
- F8D290214 (5): 0701-0139A-FO
- F8D290214 (6): 0701-0140A-FO
- F8D290214 (7): 0701-0141A-FO
- F8D290214 (8): 0701-0142A-FO
- F8D290214 (9): PRS7-AL-058
- F8D290214 (10): PRS7-AL-059
- F8D290214 (11): PRS7-AL-060

The off-site laboratory misidentified samples 9 through 11 as PR57 instead of PRS7.

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.4.1 Data Package Completeness

The data package was reviewed for the items listed in Table 5, "Package Completeness Checklist for Lot F8D290214."

2.4.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium and thorium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable. Detectors 4, 18, 21, 22, 24, 46, and 50 failed the gross count criteria of the initial pulser check, but passed on the recount.

Table 6, "Alpha Spectroscopy Quality Control Review for Lot F8D290214," presents the results of the review.

2.4.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The reporting limits for plutonium isotopes were not met for the listed samples. The following samples contained activity above the MDA:

- F8D290214 (1): 0701-0135A-FO
- F8D290214 (2): 0701-0136A-FO
- F8D290214 (4): 0701-0138A-FO
- F8D290214 (5): 0701-0139A-FO
- F8D290214 (6): 0701-0140A-FO
- F8D290214 (7): 0701-0141A-FO
- F8D290214 (8): 0701-0142A-FO
- F8D290214 (9): PRS7-AL-058
- F8D290214 (10): PRS7-AL-059
- F8D290214 (11): PRS7-AL-060

2.4.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. No nonconformances were noted for the isotopic thorium analysis.

2.5 Lot F8E020183

Nineteen soil samples were collected from PRS 7 from April 28 through May 1, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha

spectroscopy. All 19 of the soil samples were analyzed for isotopic plutonium and thorium, and six of the samples were also analyzed for isotopic uranium. Sample PRS7-CH-031 was included with the batch of samples but is not part of the validation set. The laboratory received the samples intact and at ambient temperature. The associated COC documentation did not show sample relinquishment from TestAmerica - Dayton to FedEx and FedEx to TestAmerica - St. Louis. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8E020183:

- F8E020183 (1): PRS7-AL-061
- F8E020183 (2): PRS7-AL-062
- F8E020183 (3): PRS7-AL-063
- F8E020183 (4): PRS7-AL-064
- F8E020183 (5): PRS7-AL-065
- F8E020183 (6): PRS7-AL-066
- F8E020183 (7): PRS7-AL-067
- F8E020183 (8): PRS7-AL-068
- F8E020183 (9): PRS7-AL-069
- F8E020183 (10): PRS7-AL-070
- F8E020183 (11): PRS7-AL-071
- F8E020183 (12): PRS7-AL-072
- F8E020183 (13): PRS7-AL-073
- F8E020183 (14): PRS7-AL-074
- F8E020183 (15): PRS7-AL-075
- F8E020183 (16): 07010101A-FO
- F8E020183 (17): 07010102A-FO
- F8E020183 (18): 07010103A-FO
- F8E020183 (19): 07010104A-FO

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.5.1 Data Package Completeness

The data package was reviewed for the items listed in Table 7, "Package Completeness Checklist for Lot F8E020183."

2.5.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 8, "Alpha Spectroscopy Quality Control Review for Lot F8E020183," presents the results of the review.

2.5.2.1 Isotopic Plutonium

In the initial preparation the plutonium sample spectrums were smeared. The two samples (F8E020183 (6): PRS7-AL-066 and F8E020183 (7): PRS7-AL-067) were reprepared/reanalyzed.

The reporting limits for plutonium isotopes were not met for the listed samples (see below) because the samples contained activity above the MDA. The reporting limits for plutonium-238 and plutonium-239/240 for sample F8E020183 (17): 07010102A-FO were not met (MDA was greater than the reporting limit). The following samples were counted for the maximum time allowed:

- F8E020183 (1): PRS7-AL-061
- F8E020183 (2): PRS7-AL-062
- F8E020183 (3): PRS7-AL-063
- F8E020183 (4): PRS7-AL-064
- F8E020183 (6): PRS7-AL-066
- F8E020183 (9): PRS7-AL-069
- F8E020183 (11): PRS7-AL-071
- F8E020183 (13): PRS7-AL-073
- F8E020183 (15): PRS7-AL-075
- F8E020183 (16): 07010101A-FO
- F8E020183 (17): 07010102A-FO
- F8E020183 (18): 07010103A-FO
- F8E020183 (19): 07010104A-FO

2.5.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. No nonconformances were noted for the isotopic thorium analysis.

2.5.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. Sample F8E020183 (1): PRS7-AL-061 was logged in for uranium analysis in error. It was used as the batch duplicate before the error was discovered. The results are reported for QC purposes only.

2.6 Lot F8E130118

Twenty soil samples were collected from PRS 7 from May 1 through May 12, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha

spectroscopy. All 20 of the soil samples were analyzed for isotopic plutonium and thorium, and two of the samples (15 and 17) were also analyzed for isotopic uranium. The laboratory received the samples intact and at ambient temperature. There were no irregularities with the associated COC documentation. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8E130118:

- F8E130118 (1): 0701-0107A-FO
- F8E130118 (2): 0701-0108A-FO
- F8E130118 (3): 0701-0109A-FO
- F8E130118 (4): 0701-0110A-FO
- F8E130118 (5): 0701-0111A-FO
- F8E130118 (6): 0701-0112A-FO
- F8E130118 (7): 0701-0113A-FO
- F8E130118 (8): 0701-0114A-FO
- F8E130118 (9): 0701-0115A-FO
- F8E130118 (10): 0701-0116A-FO
- F8E130118 (11): 0701-0117A-FO
- F8E130118 (12): 0701-0125A-FO
- F8E130118 (13): PRS7-AL-076
- F8E130118 (14): PRS7-AL-077
- F8E130118 (15): PRS7-AL-078
- F8E130118 (16): PRS7-AL-079
- F8E130118 (17): PRS7-AL-080
- F8E130118 (18): PRS7-AL-081
- F8E130118 (19): PRS7-AL-082
- F8E130118 (20): PRS7-AL-083

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.6.1 Data Package Completeness

The data package was reviewed for the items listed in Table 9, "Package Completeness Checklist for Lot F8E130118."

2.6.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 10, "Alpha Spectroscopy Quality Control Review for Lot F8E130118," presents the results of the review.

2.6.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. Detectors AV78 and AV79 failed the full width half maximum criteria on initial pulser check, but passed on the recount. Sample data for the following samples were not affected:

- F8E130118 (2): 0701-0108A-FO
- F8E130118 (12): 0701-0125A-FO
- F8E130118 (17): PRS7-AL-080

2.6.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232.

The thorium samples (see below) had tracer recoveries below the 30 percent LCL. The following samples were re-extracted and reanalyzed with acceptable tracer recoveries:

- F8E130118 (3): 0701-0109A-FO
- F8E130118 (6): 0701-0112A-FO
- F8E130118 (7): 0701-0113A-FO
- F8E130118 (9): 0701-0115A-FO
- F8E130118 (10): 0701-0116A-FO
- F8E130118 (15): PRS7-AL-078
- F8E130118 (16): PRS7-AL-079
- F8E130118 (17): PRS7-AL-080

The laboratory control sample tracer recovery for thorium-230 was outside acceptance limits. Thorium-230 was recovered at 100 percent, demonstrating acceptable sample preparation and instrument performance. All other samples in the batch had acceptable tracer recoveries. Sample data for the samples listed below were not affected:

- F8E130118 (1): 0701-0107A-FO
- F8E130118 (2): 0701-0108A-FO
- F8E130118 (12): 0701-0125A-FO
- F8E130118 (4): 0701-0110A-FO
- F8E130118 (13): PRS7-AL-076
- F8E130118 (5): 0701-0111A-FO
- F8E130118 (8): 0701-0114A-FO
- F8E130118 (11): 0701-0117A-FO
- F8E130118 (14): PRS7-AL-077

- F8E130118 (18): PRS7-AL-081
- F8E130118 (19): PRS7-AL-082
- F8E130118 (20): PRS7-AL-083

2.6.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. No nonconformances or observations were noted with this batch.

2.7 Lot F8E200114

Eighteen soil samples were collected from PRS 7 from May 13 through May 19, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy. All of the soil samples were analyzed for isotopic plutonium and thorium, and four of the samples (3, 8, 9, and 16) were also analyzed for isotopic uranium. The laboratory received the samples intact and at ambient temperature. On COC number 372850, sample number 6 was written as 0701-0123A-FO, it should read 0701-0123B-FO. There were no other irregularities with the associated COC documentation. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8E200114:

- F8E200114 (1): PRS7-AL-088
- F8E200114 (2): PRS7-AL-089
- F8E200114 (3): PRS7-AL-090
- F8E200114 (4): PRS7-AL-091
- F8E200114 (5): PRS7-AL-094
- F8E200114 (6): PRS7-AL-099
- F8E200114 (7): PRS7-AL-100
- F8E200114 (8): PRS7-AL-103
- F8E200114 (9): 0701-0118A-FO
- F8E200114 (10): 0701-0119A-FO
- F8E200114 (11): 0701-0120A-FO
- F8E200114 (12): 0701-0121A-FO
- F8E200114 (13): 0701-0122A-FO
- F8E200114 (14): 0701-0123B-FO
- F8E200114 (15): 0701-0127A-FO
- F8E200114 (16): 0701-0129A-FO
- F8E200114 (17): 0701-0130A-FO
- F8E200114 (18): 0701-0124A-FO

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.7.1 Data Package Completeness

The data package was reviewed for the items listed in Table 11, "Package Completeness Checklist for Lot F8E200114."

2.7.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 12, "Alpha Spectroscopy Quality Control Review for Lot F8E200114," presents the results of the review.

2.7.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. Detector AV78 failed the gross count criteria on the initial pulser check, but passed on the recount. The sample data for the following samples were not affected:

- F8E200114 (14): 0701-0123B-FO
- F8E200114 (17): 0701-0130A-FO

2.7.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. No nonconformances were noted with this batch.

2.7.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. No nonconformances were noted with this batch.

2.8 Lot F8E200120

Twelve soil samples were collected from PRS 7 from April 28 through May 1, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy analysis for isotopic uranium. The laboratory received the samples intact and at ambient temperature. The associated COC documentation did not show sample relinquishment from TestAmerica - Dayton to FedEx and FedEx to TestAmerica - St. Louis. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8E200120:

- F8E200120 (1): PRS7-AL-062
- F8E200120 (2): PRS7-AL-063
- F8E200120 (3): PRS7-AL-064
- F8E200120 (4): PRS7-AL-065
- F8E200120 (5): PRS7-AL-066
- F8E200120 (6): PRS7-AL-067
- F8E200120 (7): PRS7-AL-068
- F8E200120 (8): PRS7-AL-069
- F8E200120 (9): PRS7-AL-070
- F8E200120 (10): PRS7-AL-075
- F8E200120 (11): 0701-0103A-FO
- F8E200120 (12): 0701-0104A-FO

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.8.1 Data Package Completeness

The data package was reviewed for the items listed in Table 13, "Package Completeness Checklist for Lot F8E200120."

2.8.2 Alpha Spectroscopy

The samples were analyzed for isotopic uranium using Method EML A-01-R MOD. The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 14, "Alpha Spectroscopy Quality Control Review for Lot F8E200120," presents the results of the review.

2.9 Lot F8E230152

Ten soil samples were collected from PRS 7 from May 19 through May 21, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy analysis including isotopic plutonium and thorium and gamma spectroscopy. All 10 samples were analyzed for isotopic plutonium and thorium and the last three samples were also analyzed by gamma spectroscopy. The laboratory received the samples intact and at ambient temperature. There were no irregularities associated with the COC documentation. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8E230152:

- F8E230152 (1): 0701-0127B-FO
- F8E230152 (2): 0701-0128A-FO
- F8E230152 (3): 0701-0131A-FO
- F8E230152 (4): 0701-0132A-FO
- F8E230152 (5): PRS7-AL-104
- F8E230152 (6): PRS7-AL-105
- F8E230152 (7): PRS7-AL-108
- F8E230152 (8): PRS7-AL-104
- F8E230152 (9): PRS7-AL-112 (N-126)
- F8E230152 (10): PRS7-AL-113 (N-127)

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.9.1 Data Package Completeness

The data package was reviewed for the items listed in Table 15, "Package Completeness Checklist for Lot F8E230152."

2.9.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium and thorium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 16, "Alpha Spectroscopy Quality Control Review for Lot F8E230152," presents the results of the review.

2.9.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The reporting limits for plutonium isotopes were not met for the following samples because of a shortened count time attributed to the high activities of these samples:

- F8E230152 (1): 0701-0127B-FO
- F8E230152 (2): 0701-0128A-FO
- F8E230152 (6): PRS7-AL-105
- F8E230152 (7): PRS7-AL-108
- F8E230152 (8): PRS7-AL-104
- F8E230152 (9): PRS7-AL-112 (N-126)
- F8E230152 (10): PRS7-AL-113 (N-127)

2.9.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. One thorium sample, F8E230152 (6): PRS7-AL-105, had tracer recovery below the 30 percent LCL. The sample was re-extracted and analyzed with acceptable tracer recoveries.

2.9.3 Gamma Spectroscopy

The samples were analyzed using Method EML GA-01-R-MOD, gamma spectroscopy. Per the Methods Summary page, the laboratory was to report cesium-137 and all hits. The laboratory reported analytes actinium-227, actinium-228, americium-241, bismuth-207, bismuth-210m, bismuth-214, cesium-137, cobalt-60, lead-210, protactinium-231, radium-226, thorium-229, uranium-235, and uranium-238. In addition, the laboratory reported some or all (if a hit) of the following:

- Lead-212
- Lead-214
- Potassium-40
- Thallium-208
- Thorium-227

The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument checks and calibrations were performed and acceptable. Due to an inadequate in-growth period, radium-226 results should be considered estimated and may be biased low.

Table 17, "Gamma Spectroscopy Quality Control Review for Lot F8E230152," presents the results of the gamma spectroscopy review.

2.10 Lot F8E310153

Five soil samples were collected from PRS 7 from May 7 through May 28, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy and gamma spectroscopy. These samples were also validated (see Section 3.2).

2.11 Lot F8F130134

Seven soil samples were collected from PRS 7 from June 2 through June 11, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy. This lot was validated (see Section 3.3).

2.12 Lot F8F210117

Thirteen soil samples were collected from PRS 7 from June 17 and June 18, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy and gamma spectroscopy. All of the soil samples were analyzed for isotopic plutonium, thorium, and

uranium. Sample F8F210117 (13): PRS7-AL-112A was also analyzed for gamma emitters. The laboratory received the samples intact and at ambient temperature. There were no irregularities associated with the COC documentation. The samples were analyzed within the 180 day holding time.

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8F210117:

- F8F210117 (1): PRS7-AL-61A
- F8F210117 (2): PRS7-AL-63A
- F8F210117 (3): PRS7-AL-66A
- F8F210117 (4): PRS7-AL-75A
- F8F210117 (5): PRS7-AL-78A
- F8F210117 (6): PRS7-AL-80A
- F8F210117 (7): PRS7-AL-105A
- F8F210117 (8): PRS7-AL-113A
- F8F210117 (9): PRS7-AL-121
- F8F210117 (10): PRS7-AL-122
- F8F210117 (11): 0701-0128B-FO
- F8F210117 (12): 0701-0102B-FO
- F8F210117 (13): PRS7-AL-112A

2.12.1 Data Package Completeness

The data package was reviewed for the items listed in Table 18, "Package Completeness Checklist for Lot F8F210117."

2.12.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 19, "Alpha Spectroscopy Quality Control Review for Lot F8F210117," presents the results of the review.

2.12.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The reporting limit for plutonium was not met for the following samples, because there was activity in the following samples above the MDA:

- F8F210117 (1): PRS7-AL-61A
- F8F210117 (3): PRS7-AL-66A
- F8F210117 (4): PRS7-AL-75A
- F8F210117 (7): PRS7-AL-105A
- F8F210117 (9): PRS7-AL-121
- F8F210117 (10): PRS7-AL-122
- F8F210117 (12): 0701-0102B-FO
- F8F210117 (13): PRS7-AL-112A

2.12.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. No nonconformances were noted for the isotopic thorium analysis.

2.12.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. No nonconformances were noted for the isotopic thorium analysis.

2.12.3 Gamma Spectroscopy

Table 20, "Gamma Spectroscopy Quality Control Review for Lot F8F210117," presents the results of the review.

The samples were analyzed using Method EML GA-01-R-MOD, gamma spectroscopy. Per the Methods Summary page, the laboratory was to report cesium-137 and all hits. The laboratory reported analytes actinium-227, actinium-228, americium-241, bismuth-207, bismuth-210M, bismuth-214, cesium-137, cobalt-60, lead-210, protactinium-231, radium-226, thorium-229, uranium-235, and uranium-238. In addition, the laboratory reported some or all (if a hit) of the following:

- Lead-212
- Lead-214
- Potassium-40
- Thallium-208
- Thorium-227

The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument checks and calibrations were performed and acceptable. Due to an inadequate in-growth period, radium-226 results should be considered estimates and may be biased low.

2.13 Lot F8G100253

Six soil samples were collected from PRS 7 on July 7, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy. All six soil samples were analyzed for isotopic plutonium, thorium, and uranium. The laboratory received the samples intact and at 3°C. There were no irregularities with the associated COC documentation. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8G100253:

- F8G100253 (1): PRS7-AL-109AN
- F8G100253 (2): PRS7-AL-111AN
- F8G100253 (3): PRS7-AL-123N
- F8G100253 (4): PRS7-AL-110AS
- F8G100253 (5): PRS7-AL-111AS
- F8G100253 (6): PRS7-AL-123S

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.13.1 Data Package Completeness

The data package was reviewed for the items listed in Table 21, "Package Completeness Checklist for Lot F8G100253."

2.13.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 22, "Alpha Spectroscopy Quality Control Review for Lot F8G100253," presents the results of the review.

2.13.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The reporting limit for plutonium was not met for the following samples because there was activity in the samples above the MDA:

- F8G100253 (2): PRS7-AL-111AN

- F8G100253 (3): PRS7-AL-123N

2.13.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. No nonconformances or observations were noted.

2.13.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. No nonconformances or observations were noted.

2.14 Lot F8G290143

Twenty-one soil samples were collected from PRS 7 on July 23 through 25, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy. All samples were analyzed for isotopic plutonium, thorium, and uranium. The laboratory received the samples intact and at 2°C. There were no irregularities with the associated COC documentation. The samples were analyzed within the 180 day holding time.

Below are the lab sample IDs and client sample IDs contained in Lot F8G290143.

- F8G290143 (1): PRS7-AL-125
- F8G290143 (2): PRS7-AL-126
- F8G290143 (3): PRS7-AL-128A
- F8G290143 (4): PRS7-AL-129
- F8G290143 (5): PRS7-AL-130
- F8G290143 (6): PRS7-AL-131
- F8G290143 (7): PRS7-AL-132
- F8G290143 (8): PRS7-AL-133
- F8G290143 (9): PRS7-AL-134
- F8G290143 (10): PRS7-AL-135
- F8G290143 (11): PRS7-AL-136
- F8G290143 (12): PRS7-AL-137
- F8G290143 (13): PRS7-AL-138
- F8G290143 (14): PRS7-AL-139
- F8G290143 (15): PRS7-AL-140
- F8G290143 (16): PRS7-AL-141
- F8G290143 (17): PRS7-AL-142
- F8G290143 (18): PRS7-AL-143
- F8G290143 (19): PRS7-AL-144
- F8G290143 (20): PRS7-AL-145
- F8G290143 (21): PRS7-AL-146

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.14.1 Data Package Completeness

The data package was reviewed for the items listed in Table 23, "Package Completeness Checklist for Lot F8G290143."

2.14.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 24, "Alpha Spectroscopy Quality Control Review for Lot F8G290143," presents the results of the review.

2.14.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The associated QA/QC data were acceptable.

The reporting limit for plutonium was not met for the following samples because there was activity in the samples above the MDA:

- F8G290143 (1): PRS7-AL-125
- F8G290143 (2): PRS7-AL-126
- F8G290143 (13): PRS7-AL-138
- F8G290143 (14): PRS7-AL-139
- F8G290143 (15): PRS7-AL-140
- F8G290143 (16): PRS7-AL-141
- F8G290143 (18): PRS7-AL-143
- F8G290143 (19): PRS7-AL-144
- F8G290143 (20): PRS7-AL-145

Plutonium sample, PRS7-AL-132 (F8G290143 (7)), had a tracer recovery below the 30 percent LCL. The sample was re-extracted/reanalyzed; the re-extracted sample results were acceptable and were reported.

2.14.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. The associated QA/QC data were acceptable.

Thorium sample, PRS7-AL-133 (F8G290143 (8)) had a tracer recovery below the 30 percent LCL. The sample was re-extracted/reanalyzed; the re-extracted sample results were acceptable and reported.

2.14.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. The associated QA/QC data were acceptable. No nonconformances or observations were noted.

2.15 Lot F8H130258

Four soil samples were collected from PRS 7 on August 11, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for Alpha Spectroscopy. All samples were analyzed for isotopic plutonium, thorium, and uranium. The laboratory received the samples intact and at 2°C. There were no irregularities with the associated COC documentation. The samples were analyzed within the 180 day holding time.

Below are the lab sample IDs and client sample IDs contained in Lot F8H130258.

- F8H130258 (1): PRS7-AL-126A
- F8H130258 (2): PRS7-AL-138A
- F8H130258 (3): PRS7-AL-149
- F8H130258 (4): PRS7-AL-150

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.15.1 Data Package Completeness

The data package was reviewed for the items listed in Table 25, "Package Completeness checklist for Lot F8H130258."

2.15.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 26, "Alpha Spectroscopy Quality Control Review for Lot F8130258," presents the results of the review.

2.15.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The associated QA/QC data were acceptable.

The reporting limit for plutonium was not met for the following samples, because there was activity in the samples above the MDA:

- F8H130258 (2): PRS7-AL-138A
- F8H130258 (3): PRS7-AL-149
- F8H130258 (4): PRS7-AL-150

2.15.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. The associated QA/QC data were acceptable.

In the initial preparation, the thorium Laboratory Control Sample and sample PRS7-AL-126A (F8H130258 (1)) had tracer Full Width Half Maximum data above the 100 kilo electron volts limit. Since the QC for the batch was affected, the entire batch (samples listed below) was reprepared and reanalyzed. The re-extracted sample results were acceptable and reported as follows:

- F8H130258 (1): PRS7-AL-126A
- F8H130258 (2): PRS7-AL-138A
- F8H130258 (3): PRS7-AL-149
- F8H130258 (4): PRS7-AL-150

2.15.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. The associated QA/QC data were acceptable. No nonconformances or observations were noted.

2.16 Lot F8B280295

Twenty soil samples were collected from the MHA13 of PRS 7 on February 19 through February 27, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for isotopic thorium analysis by alpha spectroscopy. The laboratory received the samples intact and at 6°C. There were no irregularities with the associated COC documentation. The samples were analyzed within the 180 day holding time.

Below are the laboratory sample IDs and client sample IDs contained in Lot F8B280295:

- F8B280295 (1): MHA13-AL-027
- F8B280295 (2): MHA13-AL-028
- F8B280295 (3): MHA13-AL-029
- F8B280295 (4): MHA13-AL-030
- F8B280295 (5): MHA13-AL-031
- F8B280295 (6): MHA13-AL-032

- F8B280295 (7): MHA13-AL-033
- F8B280295 (8): MHA13-AL-034
- F8B280295 (9): MHA13-AL-035
- F8B280295 (10): MHA13-AL-036
- F8B280295 (11): MHA13-AL-037
- F8B280295 (12): MHA13-AL-038
- F8B280295 (13): MHA13-AL-039
- F8B280295 (14): MHA13-AL-040
- F8B280295 (15): MHA13-AL-041
- F8B280295 (16): MHA13-AL-042
- F8B280295 (17): MHA13-AL-043
- F8B280295 (18): MHA13-AL-044
- F8B280295 (19): MHA13-AL-045
- F8B280295 (20): MHA13-AL-046

Based on the summary forms and raw data, the data, as reviewed, are usable. No data would be rejected.

2.16.1 Data Package Completeness

The data package was reviewed for the items listed in Table 27,"Package Completeness Checklist for Lot F8B280295."

2.16.2 Alpha Spectroscopy

The samples were analyzed for isotopic thorium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 28, "Alpha Spectroscopy Quality Control Review for Lot F8B280295," presents the results of the review.

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. The associated QA/QC data were acceptable.

Thorium sample, MHA13-AL-031 (F8B280295 (5)) had a tracer recovery below the 30 percent LCL. The sample was reprepared and reanalyzed; the re-extracted sample results were acceptable and reported.

The reporting limit for thorium was not met for sample MHA13-AL-043 (F8B280295 (17)) due to reduced tracer recovery. The tracer recovered at 35 percent, which is above the 30 percent LCL but increased the sample MDA causing it to be above the reporting limit. The data are still usable.

3.0 Tier III Data Validation

Three lots were selected for Tier III data validation. These lots comprise of 17 percent of the lots for this project and represent 8.6 percent of the isotopic plutonium data; 9.2 percent of the isotopic thorium data; 15 percent of the isotopic uranium data; and 56 percent of the Gamma spectroscopy data. The data were validated in accordance with the following guidance:

- Methods Compendium (DOE, 2002)
- TestAmerica's Standard Operating Procedures (available upon request)

Data qualifiers were assigned based on the findings of these validations.

3.1 Lot F8C180227

Six soil samples were collected from the MHA5 on March 13, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for isotopic thorium analysis by alpha spectroscopy.

The laboratory received the samples intact and at 3°C. The associated COC documentation did not show sample relinquishment from TestAmerica - Dayton to FedEx and FedEx to TestAmerica - St. Louis. The samples were analyzed within the 180 day holding time.

Below are the client sample IDs and associated laboratory sample IDs in Lot F8C180227:

Client Sample ID	Lab Sample ID
MHA5-AL-050	F8C180227 (1)
MHA5-AL-051	F8C180227 (2)
MHA5-AL-052	F8C180227 (3)
MHA5-AL-053	F8C180227 (4)
MHA5-AL-054	F8C180227 (5)
MHA5-AL-055	F8C180227 (6)

Based on the summary forms and raw data, the data, as validated, are usable. No data were rejected.

3.1.1 Data Package Completeness

The data package was reviewed for the items listed in Table 29, "Package Completeness Checklist for Lot F8C180227."

3.1.2 Alpha Spectroscopy

The samples were analyzed for isotopic thorium and plutonium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. Per the case narrative, the reporting limit for plutonium was not met. The results were supported by the raw data. The results were also supported by the calculations. Continuing calibration information was supplied and reviewed. There were no irregularities that would result in a data qualifier. No validation qualifiers (J, UJ, or R) were assigned. Table 30, "Alpha Spectroscopy Quality Control Review for Lot F8C180227," presents the QA/QC results. Appendix A, "Validation Documentation," presents the validation reports and qualified data summary forms.

3.1.3 Laboratory Qualifier

The laboratory qualifier "U" applied by the laboratory denotes the result is less than the sample detection limit. No other laboratory qualifiers were used.

3.1.4 Validation Qualifier

The validation qualifier, "=" denotes the result, a detect, is accepted without qualification. This non-Contract Laboratory Program qualifier is used by the validator to indicate to the end user that the result was reviewed and found to be acceptable.

3.2 Lot F8E310153

Five soil samples were collected from PRS 7 from May 7 through May 28, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy and gamma spectroscopy. All of the soil samples were analyzed for isotopic plutonium, thorium, uranium, and Gamma emitters. The laboratory received the samples intact and at ambient temperature. There were no irregularities associated with the COC documentation. The samples were analyzed within the 180 day holding time.

Below are the client sample IDs and associated laboratory sample IDs in Lot F8E310153:

Client Sample ID	Lab Sample ID
PRS7-AL-071A	F8E310153 (1)
PRS7-AL-072A	F8E310153 (2)
PRS7-AL-114	F8E310153 (3)
PRS7-AL-115	F8E310153 (4)
PRS7-AL-116	F8E310153 (5)

Sample PR7-CH-034 was not part of Lot F8E310153 but was analyzed in the batch as the laboratory duplicate for the gamma analysis.

Based on the summary forms and raw data, the data, as validated, are usable. No data were rejected.

3.2.1 Data Package Completeness

The data package was reviewed for the items listed in Table 31, "Package Completeness Checklist for Lot F8E310153."

3.2.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 32, "Alpha Spectroscopy Quality Control Review for Lot F8E310153," presents the results of the review. Appendix A presents the validation reports and qualified data summary forms.

3.2.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. No nonconformances or observations were noted.

3.2.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. No nonconformances or observations were noted for the isotopic thorium analysis.

3.2.2.3 Isotopic Uranium

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. One uranium sample (F8E310153 (2): PRS7-AL-072A) had a tracer recovery below the 30 percent LCL. The sample was re-extracted and reanalyzed in Batch 8158152 with acceptable recovery.

3.2.3 Gamma Spectroscopy

Table 33, "Gamma Spectroscopy Quality Control Review for Lot F8E310153," presents the results of the review.

The samples were analyzed using Method EML GA-01-R-MOD, gamma spectroscopy. Per the Methods Summary page, the laboratory was to report cesium-137 and all hits. The laboratory reported analytes actinium-227, actinium-228, americium-241, bismuth-207, bismuth-210M, bismuth-214, cesium-137, cobalt-60, lead-210, protactinium-231, radium-226, thorium-229, uranium-235, and uranium-238. In addition, the laboratory reported some or all (if a hit) of the following:

- Lead-212
- Lead-214

- Potassium-40
- Thallium-208
- Thorium-227

The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument checks and calibrations were performed and acceptable. Due to an inadequate in-growth period, Radium-226 results may be biased low and are considered estimated (qualified as J).

3.2.4 Laboratory Qualifiers

The following laboratory qualifiers were assigned to the sample results and are listed on the report forms:

- "U" denotes that the result is less than the sample detection limit.
- "J" denotes that the result, a detect, is at a concentration greater that the sample detection limit but less than the stated reporting limit.

3.2.5 Validation Qualifiers

The following validation qualifiers were assigned to the sample results and are listed on the report forms:

- "U" denotes that the result is a nondetect at the concentration indicated, without qualification.
- "="denotes that the result, a detect, is accepted without qualification. This non-Contract Laboratory Program qualifier is used by the validator to indicate to the end user that the result was reviewed and found to be acceptable.
- "J" denotes that the result, a detect, is considered as estimated because of an identified QA/QC anomaly. The result is usable.

3.3 Lot F8F130134

Seven soil samples were collected from PRS 7 from June 2 through June 11, 2008. The samples were sent to the TestAmerica facility located in St. Louis, Missouri for alpha spectroscopy. All seven soil samples were analyzed for isotopic plutonium, thorium, and uranium. The laboratory received the samples intact and at ambient temperature. The associated COC documentation did not show sample relinquishment from TestAmerica - Dayton to FedEx and FedEx to TestAmerica - St. Louis. The samples were analyzed within the 180 day holding time.

Below are the client sample IDs and associated laboratory sample IDs in Lot F8F130134:

Client Sample ID	Lab Sample ID
0701-0105A-FO	F8F130134 (1)
0701-0106A-FO	F8F130134 (2)
PRS7-AL-104A	F8F130134 (3)
PRS7-AL-117	F8F130134 (4)
PRS7-AL-118	F8F130134 (5)
PRS7-AL-119	F8F130134 (6)
PRS7-AL-120	F8F130134 (7)

Based on the summary forms and raw data, the data, as reviewed, are usable. No data were rejected.

3.3.1 Data Package Completeness

The data package was reviewed for the items listed in Table 34, "Package Completeness Checklist for Lot F8F130134."

3.3.2 Alpha Spectroscopy

The samples were analyzed for isotopic plutonium, thorium, and uranium using Method EML A-01-R MOD. The associated QA/QC data were acceptable. The results were supported by the raw data. Instrument pulser checks and calibrations were performed and acceptable.

Table 35, "Alpha Spectroscopy Quality Control Review for Lot F8F130134," presents the results of the review. Appendix A presents the validation reports and qualified data summary forms.

3.3.2.1 Isotopic Plutonium

The laboratory reported analytes plutonium-238 and plutonium-239/240. The reporting limit for plutonium was not met for the following samples because of activity in the samples above the MDA:

- F8F130134 (2): 0701-0105A-FO
- F8F130134 (4): PRS7-AL-117
- F8F130134 (5): PRS7-AL-118
- F8F130134 (6): PRS7-AL-119
- F8F130134 (7): PRS7-AL-120

3.3.2.2 Isotopic Thorium

The laboratory reported analytes thorium-228, thorium-230, and thorium-232. No nonconformances were noted.

3.3.2.3 *Isotopic Uranium*

The laboratory reported analytes uranium-233/234, uranium-235, and uranium-238. No nonconformances were noted.

4.0 References

U.S. Department of Energy (DOE), 2002, *Methods Compendium, Mound Plant, Miamisburg Ohio*, Technical Manual MD-80045, Issue 2, January 22.

Tables

Insert the following tables here:

Table 1
Package Completeness Checklist for Lot F8A290199

Table 2
Alpha Spectroscopy Quality Control Review for Lot F8A290199

Table 3
Package Completeness Checklist for Package F8D010210

Table 4
Alpha Spectroscopy Quality Control Review for Package F8D010210

Table 5
Package Completeness Checklist for Package F8D290214

Table 6
Alpha Spectroscopy Quality Control Review for Package F8D290214

Table 7
Package Completeness Checklist for F8E020183

Table 8
Alpha Spectroscopy Quality Control Review for Package F8E020183

Table 9
Package Completeness Checklist for F8E130118

Table 10
Alpha Spectroscopy Quality Control Review for Package F8E130118

Table 11
Package Completeness Checklist for F8E200114

Table 12
Alpha Spectroscopy Quality Control Review for Package F8E200114

Table 13
Package Completeness Checklist for F8E200120

Table 14
Alpha Spectroscopy Quality Control Review for F8E200120

Table 15
Package Completeness Checklist for F8E230152

Table 16
Alpha Spectroscopy Quality Control Review for F8E230152

Table 17
Gamma Spectroscopy Quality Control Review for F8E230152

Table 18
Package Completeness Checklist for F8F210117

Table 19
Alpha Spectroscopy Quality Control Review for F8F210117

Table 20
Gamma Spectroscopy Quality Control Review for F8F210117

Table 21
Package Completeness Checklist for F8G100253

Table 22
Alpha Spectroscopy Quality Control Review for F8G100253

Table 23
Package Completeness Checklist for F8G290143

Table 24
Alpha Spectroscopy Quality Control Review for F8G290143

Table 25
Package Completeness Checklist for F8H130258

Table 26
Alpha Spectroscopy Quality Control Review for F8H130258

Table 27
Package Completeness Checklist for F8B280295

Table 28
Alpha Spectroscopy Quality Control Review for F8B280295

Table 29
Package Completeness Checklist for F8C180227

Table 30
Alpha Spectroscopy Quality Control Review for F8C180227

Table 31
Package Completeness Checklist for F8E310153

Table 32
Alpha Spectroscopy Quality Control Review for F8E310153

Table 33
Gamma Spectroscopy Quality Control Review for F8E310153

Table 34
Package Completeness Checklist for F8F130134

Table 35
Alpha Spectroscopy Quality Control Review for F8F130134

Appendix A
Validation Documentation

Table of Contents

Validation Report for F8C180227
Validation Report for F8E310153
Validation Report for F8F130134

Validation Report for F8C180227

Validation Report for F8E310153

Validation Report for F8F130134

Table 1
Package Completeness Checklist for Lot F8A290199

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 2
Alpha Spectroscopy Quality Control Review for Lot F8A290199

Lot # F8A290199	Thorium-228, -230, -232		Daily Pulser Det No.		Tracer Yield CL:30-110%	LCS CL: 79-122%
Th Batch	Field ID	Laboratory ID	Th	Pass	Th-229	Th-230
8031114	(Laboratory LCS)	F8A310000-114C	46	Yes	89	102
8031114	(Laboratory MB)	F8A310000-114B	45	Yes	93	NA
8031114	MHA9-AL-001	F8A290199-001	1	Yes	51	102
8031114	(Laboratory Dup)	F8A290199-001X	3	Yes	48	102
8031114	MHA9-AL-002	F8A290199-002	4	Yes	64	102
8031114	MHA9-AL-003	F8A290199-003	6	Yes	74	102
8031114	MHA9-AL-004	F8A290199-004	7	Yes	56	102
8031114	MHA9-AL-005	F8A290199-005	8	Yes	66	102
8031114	MHA9-AL-006	F8A290199-006	18	Yes	66	102
8031114	MHA9-AL-007	F8A290199-007	20	Yes	54	102
8031114	MHA9-AL-008	F8A290199-008	21	Yes	54	102
8031114	MHA9-AL-009	F8A290199-009	22	Yes	51	102
8031114	MHA9-AL-010	F8A290199-010	24 *	Yes	52	102
			Monthly Background	Yes		
			Monthly Calibration	Yes		

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
MHA9-AL-001	8031114	Th-228	0.88	0.85	3	NA	NA	NA	ND
	8031114	Th-230	0.92	1.14	22	NA	NA	NA	ND
	8031114	Th-232	0.89	0.88	0.6	NA	NA	NA	ND

Note(s):

** Detector 24 failed the gross count criteria on the initial pulser check but passed on the recount analysis.*

CL denotes control limit.
ID denotes identifier.
NA denotes not applicable.
pCi/g denotes picoCurie(s) per gram.
RPD denotes relative percent difference.
Det No. denotes detector number.
LCS denotes laboratory control sample.
ND denotes not detected.
RL denotes reporting limit.
Th denotes thorium.

Table 3
Package Completeness Checklist for Lot F8D010210

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	Chain of custody not relinquished
Communication records	no	

Table 4
Alpha Spectroscopy Quality Control Review for Lot F8D010210

Lot F8D010210				Daily Pulser		Tracer Yields		LCS		
				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8094150	NA	(Laboratory LCS)	F8D030000-150C	46	Yes	89				
NA	8094165	(Laboratory LCS)	F8D030000-165C	52	Yes	NA	87			
NA	8099130	(Laboratory LCS)	F8D080000-130C	48	Yes	NA	89			
8094150	NA	(Laboratory MB)	F8D030000-150B	76	Yes	94	NA			
NA	8094165	(Laboratory MB)	F8D030000-165B	48	Yes	NA	65			
NA	8099130	(Laboratory MB)	F8D080000-130B	24	Yes	NA	92			
8094150	8094165	0701-0143A-FO	F8D010210-001	56 / 70	Yes	91	61	94	103	92
8094150	8094165	(Laboratory Dup)	F8D010210-001X	66 / 73	Yes	77	68	94	103	92
8094150	8094165	0701-0144A-FO	F8D010210-002	69 / 74	Yes	84	53	94	103	92
8094150	8094165	0701-0145A-FO	F8D010210-003	70 / 21	Yes	84	32	94	103	92
8094150	8094165	0701-0146A-FO	F8D010210-004	73 / 22	Yes	90	31	94	103	92
8094150	8099130	PRS7-AL-056	F8D010210-005	74 / 49	Yes	83	64	94	103	103
NA	8099130	(Laboratory Dup)	F8D010210-005X	NA / 21	Yes	NA	43	NA	NA	103
8094150	8099130	PRS7-AL-057	F8D010210-006	75 / 23	Yes	85	63	94	103	103
				Monthly Background	Yes					
				Monthly Calibration	Yes					

Table 4 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8D010210

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
0701-0143A-FO	8094150	Pu-238	0.162	0.231	35.1	NA	NA	NA	ND
	8094150	Pu-239	NA	NA	Act< MDC	NA	NA	NA	ND
	8094165	Th-228	1.26	1.25	0.80	NA	NA	NA	ND
	8094165	Th-230	1.65	1.64	0.61	NA	NA	NA	ND
	8094165	Th-232	1.14	1.31	13.9	NA	NA	NA	ND
PRS7-AL-056	8099130	Th-228	0.56	0.44	24.0				
	8099130	Th-230	1.02	0.87	15.9				
	8099130	Th-232	0.47	0.8	52.0				

Note(s):
CL denotes control limit.
Det No. denotes detector number.
ID denotes identifier.
LCS denotes laboratory control sample.
MDC denotes maximum detectable concentration.
NA denotes not applicable.
ND denotes not detected.
pCi/g denotes picoCurie(s) per gram.
Pu denotes plutonium.
RL denotes reporting limit.
RPD denotes relative percent difference.
Th denotes thorium.

Table 5
Package Completeness Checklist for Lot F8D290214

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	Chain of custody not relinquished
Communication records	no	

Table 6
Alpha Spectroscopy Quality Control Review for Lot F8D290214

Lot F8D290214				Daily Pulser		Tracer Yields		LCS		
				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8123097	NA	(Laboratory LCS)	F8E020000-097C	48	Yes	96	NA	99	116	NA
NA	8123098	(Laboratory LCS)	F8E020000-098C	53	Yes	NA	76	NA	NA	109
8123097	NA	(Laboratory MB)	F8E020000-097B	45	Yes	96	NA	NA	NA	NA
NA	8123098	(Laboratory MB)	F8E020000-098B	52	Yes	NA	106	NA	NA	NA
8123097	8123098	0701-0135A-FO	F8D290214-001	46 / 1	Yes	86	67	99	116	109
8123097	8123098	(Laboratory Dup)	F8D290214-001X	66 / 3	Yes	86	84	99	116	109
8123097	8123098	0701-0136A-FO	F8D290214-002	18 / 4	Yes	90	55	99	116	109
8123097	8123098	0701-0137A-FO	F8D290214-003	21 / 6	Yes	93	76	99	116	109
8123097	8123098	0701-0138A-FO	F8D290214-004	22 / 7	Yes	69	75	99	116	109
8123097	8123098	0701-0139A-FO	F8D290214-005	24 / 8	Yes	83	33	99	116	109
8123097	8123098	0701-0140A-FO	F8D290214-006	46 / 1	Yes	87	74	99	116	109
8123097	8123098	0701-0141A-FO	F8D290214-007	50 / 3	Yes	88	78	99	116	109
8123097	8123098	0701-0142A-FO	F8D290214-008	18 / 4	Yes	85	71	99	116	109
8123097	8123098	PRS7-AL-058	F8D290214-009	21 / 6	Yes	88	65	99	116	109
8123097	8123098	PRS7-AL-059	F8D290214-010	22 / 7	Yes	71	70	99	116	109
8123097	8123098	PRS7-AL-060	F8D290214-011	24 / 8	Yes	92	41	99	116	109
			Monthly Background		Yes					
			Monthly Calibration		Yes					

Table 6 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8D290214

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
0701-0135A-FO	8123097	Pu-238	0.114	0.090	24	NA	NA	NA	ND
	8123097	Pu-239	NA	NA	Act< MDC	NA	NA	NA	ND
	8123098	Th-228	1.36	1.07	24	NA	NA	NA	ND
	8123098	Th-230	1.41	1.27	11	NA	NA	NA	ND
	8123098	Th-232	1.07	1.92	15	NA	NA	NA	ND

Note(s):
CL denotes control limit.
Det No. denotes detector number.
ID denotes identifier.
LCS denotes laboratory control sample.
MB denotes method blank.
MDC denotes maximum detectable concentration.
NA denotes not applicable.
ND denotes not detected.
pCi/g denotes picoCurie(s) per gram.
Pu denotes plutonium.
RL denotes reporting limit.
RPD denotes relative percent difference.
Th denotes thorium.

Table 7
Package Completeness Checklist for Lot F8E020183

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	Chain of custody not relinquished
Communication records	no	

Table 8
Alpha Spectroscopy Quality Control Review for Lot F8E020183

Lot F8E020183				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8124141	NA	(Laboratory LCS)	F8E030000-141C	56	Yes	102	NA	96	105	NA
8130263	NA	(Laboratory LCS/LCSD)	F8E090000-263C	55	Yes	93 / 101	NA	106 / 99	109 / 105	NA
NA	8124140	(Laboratory LCS)	F8E030000-140C	48	Yes	NA	95	NA	NA	99
8124141	NA	(Laboratory MB)	F8E030000-141B	55	Yes	91	NA	NA	NA	NA
8130263	NA	(Laboratory MB)	F8E090000-263B	53	Yes	100	NA	NA	NA	NA
NA	8124140	(Laboratory MB)	F8E030000-140B	47	Yes	NA	93	NA	NA	NA
8124141	8124140	PRS7-AL-061	F8E020183-001	66 / 74	Yes	94	50	96	105	99
8124141	8124140	(Laboratory Dup)	F8E020183-001X	69 / 1	Yes	95	47	96	105	99
8124141	8124140	PRS7-AL-062	F8E020183-002	70 / 3	Yes	95	46	96	105	99
8124141	8124140	PRS7-AL-063	F8E020183-003	73 / 4	Yes	95	36	96	105	99
8124141	8124140	PRS7-AL-064	F8E020183-004	74 / 6	Yes	94	59	96	105	99
8124141	8124140	PRS7-AL-065	F8E020183-005	75 / 7	Yes	103	46	96	105	99
8130263	8124140	PRS7-AL-066	F8E020183-006	45 / 8	Yes	93	44	106 / 99	109 / 105	99
8124141	8124140	PRS7-AL-067	F8E020183-007	76 / 18	Yes	97	49	96	105	99
8130263	8124140	PRS7-AL-068	F8E020183-008	52 / 21	Yes	103	54	106 / 99	109 / 105	99

Table 8 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E020183

Lot F8E020183				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8124141	8124140	PRS7-AL-069	F8E020183-009	46 / 22	Yes	91	32	96	105	99
8124141	8124140	PRS7-AL-070	F8E020183-010	78 / 24	Yes	95	55	96	105	99
8124141	8124140	PRS7-AL-071	F8E020183-011	66 / 46	Yes	94	41	96	105	99
8124141	8124140	PRS7-AL-072	F8E020183-012	79 / 50	Yes	96	51	96	105	99
8124141	8124140	PRS7-AL-073	F8E020183-013	73 / 66	Yes	97	37	96	105	99
8124141	8124140	PRS7-AL-074	F8E020183-014	80 / 69	Yes	93	49	96	105	99
8124141	8124140	PRS7-AL-075	F8E020183-015	18 / 70	Yes	92	56	96	105	99
8124141	8124140	0701-0101A-FO	F8E020183-016	22 / 73	Yes	71	49	96	105	99
8124141	8124140	0701-0102A-FO	F8E020183-017	90 / 74	Yes	92	40	96	105	99
8124141	8124140	0701-0103A-FO	F8E020183-018	69 / 8	Yes	89	32	96	105	99
8124141	8124140	0701-0104A-FO	F8E020183-019	48 / 3	Yes	92	31	96	105	99

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8124139	(Laboratory LCS)	F8E030000-139C	48	Yes	94	96	92
8124139	(Laboratory MB)	F8E030000-139B	52	Yes	87	96	92
8124139	PRS7-AL-061	F8E020183-001	50	Yes	84	96	92

Table 8 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E020183

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8124139	(Laboratory Dup)	F8E020183-001X	69	Yes	80	96	92
8124139	PRS7-AL-071	F8E020183-011	50	Yes	84	96	92
8124139	PRS7-AL-072	F8E020183-012	69	Yes	91	96	92
8124139	PRS7-AL-073	F8E020183-013	70	Yes	85	96	92
8124139	PRS7-AL-074	F8E020183-014	73	Yes	81	96	92
8124139	0701-0101A-FO	F8E020183-016	74	Yes	91	96	92
8124139	0701-0102A-FO	F8E020183-017	47	Yes	77	96	92
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-061	8124141	Pu-238	6.29	6.58	5	NA	NA	NA	ND
	8124141	Pu-239	0.047	0.043	9	NA	NA	NA	ND
	8124140	Th-228	0.66	0.80	19	NA	NA	NA	ND
	8124140	Th-230	1.62	1.35	18	NA	NA	NA	ND
	8124140	Th-232	0.72	0.67	6	NA	NA	NA	ND

Table 8 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E020183

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-061	8124139	U-234	3.68	3.87	5	NA	NA	NA	ND
	8124139	U-235	0.062 (J)	0.032 (J)	65	NA	NA	NA	ND
	8124139	U-238	0.98	0.77	23	NA	NA	NA	ND

Note(s):
Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.
CL denotes control limit.
Det No. denotes detector number.
ID denotes identifier.
J denotes that the result, a detect, is at a concentration greater that the sample detection limit but less than the stated reporting limit.
LCS denotes laboratory control sample.
MB denotes method blank.
NA denotes not applicable.
ND denotes not detected.
pCi/g denotes picoCurie(s) per gram.
Pu denotes plutonium.
RL denotes reporting limit.
RPD denotes relative percent difference.
Th denotes thorium.
U denotes uranium.

Table 9
Package Completeness Checklist for Lot F8E130118

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 10
Alpha Spectroscopy Quality Control Review for Lot F8E130118

Lot F8E130118				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8136249	NA	(Laboratory LCS)	F8E150000-249C	83	Yes	93	NA	101	115	NA
NA	8136254	(Laboratory LCS)	F8E150000-254C	53	Yes	NA	23	NA	NA	100
NA	8142414	(Laboratory LCS)	F8E210000-414C	47	Yes	NA	86	NA	NA	106
8136249	NA	(Laboratory MB)	F8E150000-249B	82	Yes	97	NA	NA	NA	NA
NA	8136254	(Laboratory MB)	F8E150000-254B	52	Yes	NA	59	NA	NA	NA
NA	8142414	(Laboratory MB)	F8E210000-414B	45	Yes	NA	88	NA	NA	NA
8136249	8136254	0701-0107A-FO	F8E130118-001	75 / 69	Yes	99	42	101	115	100
8136249	8136254	(Laboratory Dup)	F8E130118-001X	76 / 70	Yes	91	65	101	115	100
8136249	8136254	0701-0108A-FO	F8E130118-002	78 / 73	Yes	96	69	101	115	100
8136249	8142414	0701-0109A-FO	F8E130118-003	79 / 1	Yes	93	81	101	115	106
NA	8142414	(Laboratory Dup)	F8E130118-003X	3	Yes	NA	80	NA	NA	106
8136249	8136254	0701-0110A-FO	F8E130118-004	80 / 49	Yes	91	50	101	115	100
8136249	8136254	0701-0111A-FO	F8E130118-005	81 / 50	Yes	91	43	101	115	100
8136249	8142414	0701-0112A-FO	F8E130118-006	82 / 4	Yes	91	86	101	115	106
8136249	8142414	0701-0113A-FO	F8E130118-007	83 / 6	Yes	94	79	101	115	106
8136249	8136254	0701-0114A-FO	F8E130118-008	84 / 70	Yes	96	59	101	115	100
8136249	8142414	0701-0115A-FO	F8E130118-009	85 / 7	Yes	88	75	101	115	106

Table 10 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E130118

Lot F8E130118				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8136249	8142414	0701-0116A-FO	F8E130118-010	86 / 8	Yes	89	90	101	115	106
8136249	8136254	0701-0117A-FO	F8E130118-011	87 / 46	Yes	92	63	101	115	100
8136249	8136254	0701-0125A-FO	F8E130118-012	88 / 49	Yes	94	55	101	115	100
8136249	8136254	PRS7-AL-076	F8E130118-013	89	Yes	91	65	101	115	100
8136249	8136254	PRS7-AL-077	F8E130118-014	50	Yes	95	57	101	115	100
8136249	8142414	PRS7-AL-078	F8E130118-015	75 / 46	Yes	97	70	101	115	106
8136249	8142414	PRS7-AL-079	F8E130118-016	76 / 49	Yes	85	79	101	115	106
8136249	8142414	PRS7-AL-080	F8E130118-017	78 / 50	Yes	93	86	101	115	106
8136249	8136254	PRS7-AL-081	F8E130118-018	79 / 54	Yes	91	75	101	115	100
8136249	8136254	PRS7-AL-082	F8E130118-019	80 / 46	Yes	91	56	101	115	100
8136249	8136254	PRS7-AL-083	F8E130118-020	81 / 49	Yes	93	45	101	115	100
				Monthly Background	Yes					
				Monthly Calibration	Yes					

Table 10 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E130118

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8136203	(Laboratory LCS)	F8E150000-203C	48	Yes	90		102
8136203	(Laboratory MB)	F8E150000-203B	47	Yes	84		NA
8136203	PRS7-AL-078	F8E130118-015	49	Yes	86		102
8136203	(Laboratory Dup)	F8E130118-015X	50	Yes	87		102
8136203	PRS7-AL-080	F8E130118-017	66	Yes	86		102
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
0701-0107A-FO	8136249	Pu-238	0.026	0.012 (U)	77 *	NA	NA	NA	ND
	8136249	Pu-239	0.0018 (U)	0.0 (U)	200 *	NA	NA	NA	ND
	8136254	Th-228	0.43	0.42	2	NA	NA	NA	ND
	8136254	Th-230	0.72	0.59	19	NA	NA	NA	ND
	8136254	Th-232	0.21	0.28	30	NA	NA	NA	ND
0701-0109A-FO	8142414	Th-228	0.367	0.352	4	NA	NA	NA	ND
	8142414	Th-230	0.75	0.76	1	NA	NA	NA	ND

Table 10 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E130118

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
0701-0109A-FO	8142414	Th-232	0.309	0.328	6	NA	NA	NA	ND
PRS7-AL-078	8136203	U-234	0.71	0.84	17	NA	NA	NA	ND
	8136203	U-235	0.042 (U)	0.030 (J)	33 *	NA	NA	NA	ND
	8136203	U-238	0.84	0.89	5	NA	NA	NA	ND

Note(s):

Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.

** Results were less than sample detection limits (U) or less than reporting limits (J).*

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes that the result, a detect, is at a concentration greater that the sample detection limit but less than the stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

ND denotes not detected.

pCi/g denotes picoCurie(s) per gram.

Pu denotes plutonium.

RL denotes reporting limit.

RPD denotes relative percent difference.

Th denotes thorium.

U denotes uranium.

Table 11
Package Completeness Checklist for Lot F8E200114

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 12
Alpha Spectroscopy Quality Control Review for Lot F8E200114

Lot F8E200114				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8142606	NA	(Laboratory LCS)	F8E210000-606C	81	Yes	96	NA	103	106	NA
NA	8142608	(Laboratory LCS)	F8E210000-608C	67	Yes	NA	80	NA	NA	104
8142606	NA	(Laboratory MB)	F8E210000-606B	80	Yes	94	NA	NA	NA	NA
NA	8142608	(Laboratory MB)	F8E210000-608B	57	Yes	NA	70	NA	NA	NA
8142606	8142608	PRS7-AL-088	F8E200114-001	75 / 73	Yes	88	81	103	106	104
8142606	8142608	(Laboratory Dup)	F8E200114-001X	76 / 74	Yes	95	75	103	106	104
8142606	8142608	PRS7-AL-089	F8E200114-002	79 / 45	Yes	82	65	103	106	104
8142606	8142608	PRS7-AL-090	F8E200114-003	80 / 46	Yes	89	75	103	106	104
8142606	8142608	PRS7-AL-091	F8E200114-004	81 / 47	Yes	90	89	103	106	104
8142606	8142608	PRS7-AL-094	F8E200114-005	82 / 48	Yes	90	64	103	106	104
8142606	8142608	PRS7-AL-099	F8E200114-006	83 / 49	Yes	90	58	103	106	104
8142606	8142608	PRS7-AL-100	F8E200114-007	84 / 50	Yes	94	71	103	106	104
8142606	8142608	PRS7-AL-103	F8E200114-008	85 / 52	Yes	92	76	103	106	104
8142606	8142608	0701-0118A-FO	F8E200114-009	86 / 53	Yes	89	78	103	106	104
8142606	8142608	0701-0119A-FO	F8E200114-010	87 / 54	Yes	90	42	103	106	104
8142606	8142608	0701-0120A-FO	F8E200114-011	88 / 55	Yes	83	59	103	106	104
8142606	8142608	0701-0121A-FO	F8E200114-012	89 / 56	Yes	91	34	103	106	104
8142606	8142608	0701-0122A-FO	F8E200114-013	90 / 57	Yes	90	76	103	106	104

Table 12 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E200114

Lot F8E200114				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8142606	8142608	0701-0123B-FO	F8E200114-014	78 / 66	Yes	91	64	103	106	104
8142606	8142608	0701-0127A-FO	F8E200114-015	75 / 67	Yes	87	40	103	106	104
8142606	8142608	0701-0129A-FO	F8E200114-016	76 / 69	Yes	87	30	103	106	104
8142606	8142608	0701-0130A-FO	F8E200114-017	78 / 70	Yes	92	58	103	106	104
8142606	8142608	0701-0124A-FO	F8E200114-018	79 / 73	Yes	80	35	103	106	104
				Monthly Background	Yes					
				Monthly Calibration	Yes					

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8143197	(Laboratory LCS)	F8E220000-197C	45	Yes	87	104	89
8143197	(Laboratory MB)	F8E220000-197B	48	Yes	105	NA	NA
8143197	PRS7-AL-090	F8E200114-003	1	Yes	90	104	89
8143197	(Laboratory Dup)	F8E200114-003x	3	Yes	94	104	89
8143197	PRS7-AL-103	F8E200114-008	4	Yes	89	104	89
8143197	0701-0118A-FO	F8E200114-009	6	Yes	97	104	89
8143197	0701-0129A-FO	F8E200114-016	7	Yes	95	104	89

Table 12 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E200114

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-088	8142606	Pu-238	0.094	0.064	38	NA	NA	NA	ND
	8142606	Pu-239	0.0041 (U)	0.0037 (U)	11 *	NA	NA	NA	ND
	8142608	Th-228	1.23	0.97	24	NA	NA	NA	ND
	8142608	Th-230	1.77	1.45	20	NA	NA	NA	ND
	8142608	Th-232	1.22	0.81	40	NA	NA	NA	ND

Table 12 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E200114

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-090	8143197	U-234	0.46	0.43	7	NA	NA	NA	ND
	8143197	U-235	-0.0051 (U)	0.023 (U)	313 *	NA	NA	NA	ND
	8143197	U-238	0.54	0.58	7	NA	NA	NA	ND

Note(s):

Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.

** Results were less than sample detection limits (U) or less than reporting limits (J).*

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes that the result, a detect, is at a concentration greater that the sample detection limit but less than the stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

ND denotes not detected.

pCi/g denotes picoCurie(s) per gram.

Pu denotes plutonium.

RL denotes reporting limit.

RPD denotes relative percent difference.

Th denotes thorium.

U denotes that the result is less than the sample detection limit.

U denotes uranium.

Table 13
Package Completeness Checklist for Lot F8E200120

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	Chain of custody not relinquished
Communication records	no	

Table 14
Alpha Spectroscopy Quality Control Review for Lot F8E200120

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8141214	(Laboratory LCS)	F8E200000-214C	68	Yes	87	108	95
8141214	(Laboratory MB)	F8E200000-214B	71	Yes	93	108	95
8141214	PRS7-AL-062	F8E200120-001	4	Yes	90	108	95
8141214	(Laboratory Dup)	F8E200120-001X	6	Yes	96	108	95
8141214	PRS7-AL-063	F8E200120-002	7	Yes	76	108	95
8141214	PRS7-AL-064	F8E200120-003	8	Yes	88	108	95
8141214	PRS7-AL-065	F8E200120-004	46	Yes	85	108	95
8141214	PRS7-AL-066	F8E200120-005	49	Yes	90	108	95
8141214	PRS7-AL-067	F8E200120-006	50	Yes	87	108	95
8141214	PRS7-AL-068	F8E200120-007	66	Yes	83	108	95
8141214	PRS7-AL-069	F8E200120-008	69	Yes	87	108	95
8141214	PRS7-AL-070	F8E200120-009	70	Yes	92	108	95
8141214	PRS7-AL-075	F8E200120-010	73	Yes	85	108	95
8141214	0701-0103A-FO	F8E200120-011	74	Yes	84	108	95
8141214	0701-0104A-FO	F8E200120-012	1	Yes	90	108	95
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Table 14 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E200120

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-062	8141214	U-234	0.80	0.92	15	NA	NA	NA	ND
	8141214	U-235	0.039 (U)	0.028 (J)	34	NA	NA	NA	ND
	8141214	U-238	0.61	0.76	22	NA	NA	NA	ND

Note(s):
CL denotes control limit.
Det No. denotes detector number.
ID denotes identifier.
J Result is greater than the sample detection limit but less than the stated reporting limit.
LCS denotes laboratory control sample.
MB denotes method blank.
NA denotes not applicable.
ND denotes not detected.
pCi/g denotes picoCurie(s) per gram.
Pu denotes plutonium.
RL denotes reporting limit.
RPD denotes relative percent difference.
Th denotes thorium.
U Result is less than the sample detection limit.
U denotes uranium.

Table 15
Package Completeness Checklist for Lot F8E230152

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 16
Alpha Spectroscopy Quality Control Review for Lot F8E230152

Lot F8E230152				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8146015	NA	(Laboratory LCS)	F8E250000-015C	71	Yes	93	NA	91	103	NA
NA	8146016	(Laboratory LCS)	F8E250000-016C	48 *	Yes	NA	84	NA	NA	105
NA	8151133	(Laboratory LCS)	F8E300000-133C	48	Yes	NA	87 / 94	NA	NA	97 / 93
8146015	NA	(Laboratory MB)	F8E250000-015B	79	Yes	98	NA	NA	NA	NA
NA	8146016	(Laboratory MB)	F8E250000-016B	45	Yes	NA	95	NA	NA	NA
NA	8151133	(Laboratory MB)	F8D300000-133B	45	Yes	NA	92	NA	NA	NA
8146015	8146016	0701-0127B-FO	F8E230152-001	8 / 46	Yes	82	69	91	103	105
8146015	8146016	(Laboratory Dup)	F8E230152-001X	46 / 3	Yes	89	79	91	103	105
8146015	8146016	0701-0128A-FO	F8E230152-002	4 / 4	Yes	90	81	91	103	105
8146015	8146016	0701-0131A-FO	F8E230152-003	75 / 6	Yes	92	78	91	103	105
8146015	8146016	0701-0132A-FO	F8E230152-004	76 / 7	Yes	91	82	91	103	105
8146015	8146016	PRS7-AL-104	F8E230152-005	78 / 8	Yes	94	61	91	103	105
8146015	8151133	PRS7-AL-105	F8E230152-006	66 / 46	Yes	98	91	91	103	97 / 93
8146015	8146016	PRS7-AL-108	F8E230152-007	69 / 47	Yes	87	86	91	103	105
8146015	8146016	PRS7-AL-111	F8E230152-008	70 / 49	Yes	92	75	91	103	105
8146015	8146016	PRS7-AL-112	F8E230152-009	73 / 50	Yes	94	42	91	103	105
8146015	8146016	PRS7-AL-113	F8E230152-010	74 /53	Yes	94	67	91	103	105

Table 16 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E230152

Lot F8E230152				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
				Monthly Background	Yes					
				Monthly Calibration	Yes					

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
0701-0127B-FO	8146015	Pu-238	5.79	5.36	8	NA	NA	NA	ND
	8146015	Pu-239	0.104	.0116	11	NA	NA	NA	ND
	8146016	Th-228	0.86	0.104	19	NA	NA	NA	ND
	8146016	Th-230	3.06	3.67	18	NA	NA	NA	ND
	8146016	Th-232	0.77	0.82	7	NA	NA	NA	ND

Note(s):

** Detector failed full width half maximum criteria on initial pulser check, passed on recount.*

CL denotes control limit.
ID denotes identifier.
MB denotes method blank.
ND denotes not detected.
Pu denotes plutonium.
RPD denotes relative percent difference.
Det No. denotes detector number.
LCS denotes laboratory control sample.
NA denotes not applicable.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
Th denotes thorium.

Table 17
Gamma Spectroscopy Quality Control Review for Lot F8E230152

LOT F8E230152			LCS			Method Blank (pCi/g) Above RL?	Det No.	Calibrations		
			CL: 90-110%	CL: 91-120%	CL: 91-112%					
Batch	Field ID	Laboratory ID	Am-241	Cs-137	Co-60			Daily Check OK?	Monthly Bkg OK?	Efficiency Cal OK?
8148341	(Laboratory LCS)	F8E270000-341C	102	111	104	NA	6	Yes	Yes	Yes
8148341	(Laboratory MB)	F8E270000-341B	102	111	104	ND	5	Yes	Yes	Yes
8148341	PRS7-AL-111	F8E230152-008	102	111	104	NA	7	Yes	Yes	Yes
8148341	(Laboratory Dup)	F8E230152-008X	102	111	104	NA	5	Yes	Yes	Yes
8148341	PRS7-AL-112	F8E230152-009	102	111	104	NA	3	Yes	Yes	Yes
8148341	PRS7-AL-113	F8E230152-010	102	111	104	NA	5	Yes	Yes	Yes

		Laboratory Duplicate			Field Duplicate			MS/MSD		
Field ID	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD, CL 50%	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	MS %R	MSD %R	RPD
PRS7-AL-111	Ac-228	0.77	0.78	2	NA	NA	NA	NA	NA	NA
	Bi-214	1.24	1.22	2	NA	NA	NA	NA	NA	NA
	Ra-226	1.24	1.22	2	NA	NA	NA	NA	NA	NA
	Pb-212	0.80	0.89	11	NA	NA	NA	NA	NA	NA
	Pb-214	1.39	1.23	12	NA	NA	NA	NA	NA	NA

Table 17 (Continued)
Gamma Spectroscopy Quality Control Review for Lot F8E230152

Field ID	Isotope	Laboratory Duplicate			Field Duplicate			MS/MSD		
		Value 1 (pCi/g)	Value 2 (pCi/g)	RPD, CL 50%	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	MS %R	MSD %R	RPD
PRS7-AL-111	Ac-228	0.77	0.78	2	NA	NA	NA	NA	NA	NA
	K-40	17.0	17.4	2	NA	NA	NA	NA	NA	NA
	Tl-208	0.231	0.303	27	NA	NA	NA	NA	NA	NA

Note(s):
%R denotes percent recovery.
Am denotes americium.
CL denotes control limit.
Co denotes cobalt.
Cs denotes cesium.
Det No. denotes detector number.
ID denotes identifier.
LCS denotes laboratory control sample.
MB denotes method blank.
MS denotes matrix spike.
MSD denotes matrix spike duplicate.
NA denotes not applicable.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
RPD denotes relative percent difference.
Th denotes thorium.
U denotes uranium.

Table 18
Package Completeness Checklist for Lot F8F210117

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 19
Alpha Spectroscopy Quality Control Review for Lot F8F210117

Lot F8F210117				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8176409	NA	(Laboratory LCS)	F8F240000-109C	72	Yes	92	NA	99	106	NA
NA	8176110	(Laboratory LCS)	F8F240000-110C	57	Yes	NA	98	NA	NA	95
8176409	NA	(Laboratory MB)	F8F240000-109B	75	Yes	91	NA	NA	NA	NA
NA	8176110	(Laboratory MB)	F8F240000-110B	56	Yes	NA	85	NA	NA	NA
8176409	8176110	PRS7-AL-61A	F8F210117-001	47 / 69	Yes	93	76	99	106	95
8176409	8176110	(Laboratory Dup)	F8F210117-001x	48 / 70	Yes	100	64	99	106	95
8176409	8176110	PRS7-AL-63A	F8F210117-002	*81/73	Yes	90	61	99	106	95
8176409	8176110	PRS7-AL-66A	F8F210117-003	50 / 74	Yes	96	71	99	106	95
8176409	8176110	PRS7-AL-75A	F8F210117-004	47 / 47	Yes	97	67	99	106	95
8176409	8176110	PRS7-AL-78A	F8F210117-005	*82/48	Yes	91	81	99	106	95
8176409	8176110	PRS7-AL-80A	F8F210117-006	90 / 49	Yes	86	84	99	106	95
8176409	8176110	PRS7-AL-105A	F8F210117-007	70 / 50	Yes	84	78	99	106	95
8176409	8176110	PRS7-AL-113A	F8F210117-008	75 / 53	Yes	97	68	99	106	95
8176409	8176110	PRS7-AL-121	F8F210117-009	74 / 69	Yes	89	63	99	106	95
8176409	8176110	PRS7-AL-122	F8F210117-010	48 / 70	Yes	95	71	99	106	95
8176409	8176110	0701-0128B-FO	F8F210117-011	78 / 71	Yes	93	84	99	106	95
8176409	8176110	0701-0102B-FO	F8F210117-012	50 / 73	Yes	85	58	99	106	95
8176409	8176110	PRS7-AL-112A	F8F210117-013	53 / 74	Yes	83	52	99	106	95

Table 19 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8F210117

Lot F8F210117				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
			Monthly Background		Yes					
			Monthly Calibration		Yes					

			Daily Pulser		Tracer Yield	LCS	
Uranium			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8176111	(Laboratory LCS)	F8F240000-111C	68	Yes	85	106	94
8176111	(Laboratory MB)	F8F240000-111B	67	Yes	89	106	94
8176111	PRS7-AL-61A	F8F210117-001	69	Yes	96	106	94
8176111	(Laboratory Dup)	F8F210117-001x	70	Yes	88	106	94
8176111	PRS7-AL-63A	F8F210117-002	73	Yes	81	106	94
8176111	PRS7-AL-66A	F8F210117-003	74	Yes	87	106	94
8176111	PRS7-AL-75A	F8F210117-004	69	Yes	83	106	94
8176111	PRS7-AL-78A	F8F210117-005	70	Yes	85	106	94
8176111	PRS7-AL-80A	F8F210117-006	73	Yes	78	106	94
8176111	PRS7-AL-105A	F8F210117-007	74	Yes	86	106	94
8176111	PRS7-AL-113A	F8F210117-008	47	Yes	81	106	94

Table 19 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8F210117

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8176111	PRS7-AL-121	F8F210117-009	48	Yes	83	106	94
8176111	PRS7-AL-122	F8F210117-010	49	Yes	86	106	94
8176111	0701-0128B-FO	F8F210117-011	50	Yes	86	106	94
8176111	0701-0102B-FO	F8F210117-012	53	Yes	82	106	94
8176111	PRS7-AL-112A	F8F210117-013	71	Yes	81	106	94
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-61A	8176109	Pu-238	0.87	0.68	24	NA	NA	NA	ND
	8176109	Pu-239	0.029 (U)	0.023 (U)	22 *	NA	NA	NA	ND
	8176110	Th-228	0.55	0.54	1	NA	NA	NA	ND
	8176110	Th-230	1.40	0.97	36	NA	NA	NA	ND
	8176110	Th-232	0.65	0.58	12	NA	NA	NA	ND
	8176111	U-234	1.05	0.86	20	NA	NA	NA	ND

Table 19 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8F210117

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-	8176111	U-235	0.035 (J)	0.029 (J)	18 *	NA	NA	NA	ND
	8176111	U-238	0.60	0.64	8	NA	NA	NA	ND

Note(s):

** Detector failed the full width half maximum criteria of the initial pulser check, but passed on the recount.*

Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J Result is greater than sample detection limit but less than stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

pCi/g denotes picoCurie(s) per gram.

Pu denotes plutonium.

RL denotes reporting limit.

RPD denotes relative percent difference.

Th denotes thorium.

U Result is less than the sample detection limit.

U denotes uranium.

Table 20
Gamma Spectroscopy Quality Control Review for Lot F8F210117

LOT F8F210117			LCS			Method Blank (pCi/g) Above RL?	Det No.	Calibrations		
			CL: 90-110%	CL: 91-120%	CL: 91-112%			Daily Check OK?	Monthly Bkg OK?	Efficiency Cal OK?
Batch	Field ID	Laboratory ID	Am-241	Cs-137	Co-60					
8176278	(Laboratory LCS)	F8F240000-278C	94	103	103	NA	1	Yes	Yes	NI *
8176278	(Laboratory MB)	F8F240000-278B	NA	NA	NA	ND	5	Yes	Yes	NI *
8176278	PRS7-AL-112A	F8F210117-013	94	103	103	NA	4	Yes	Yes	NI *
8176278	(Laboratory Dup)	F8F210117-013x	94	103	103	NA	8	Yes	Yes	NI *

		Laboratory Duplicate			Field Duplicate			MS/MSD		
Field ID	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD, CL 50%	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	MS %R	MSD %R	RPD
PR7-AL-112A	Bismtuth-214	0.46	0.54	15	NA	NA	NA	NA	NA	NA
(F8F210117-013X)	Radium-226	0.46	0.54	15	NA	NA	NA	NA	NA	NA
	Lead-212	0.316	0.32	0.9	NA	NA	NA	NA	NA	NA
	Lead-214	0.47	0.45	0.11	NA	NA	NA	NA	NA	NA
	Potassium-40	7.8	7.0	11	NA	NA	NA	NA	NA	NA

Note(s):
** Efficiency cals not included in package.*
CL denotes control limit.
Det No. denotes detector number.
MB denotes method blank.
NA denotes not applicable.
RL denotes reporting limit.
%R denotes percent recovery.
Co denotes cobalt.
ID denotes identifier.
MS denotes matrix spike.
NI denotes not included.
RPD denotes relative percent difference.
Am denotes americium.
Cs denotes cesium.
LCS denotes laboratory control sample.
MSD denotes matrix spike duplicate.
pCi/g denotes picoCurie(s) per gram.

Table 21
Package Completeness Checklist for Lot F8G100253

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 22
Alpha Spectroscopy Quality Control Review for Lot F8G100253

Lot F8G100253				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8196092	NA	(Laboratory LCS)	F8G140000-092C	45	Yes	84	NA	108	109	NA
NA	8196093	(Laboratory LCS)	F8G140000-093C	54	Yes	NA	75	NA	NA	98
8196092	NA	(Laboratory MB)	F8G140000-092B	75	Yes	76	NA	NA	NA	NA
NA	8196093	(Laboratory MB)	F8G140000-093B	52	Yes	NA	67	NA	NA	NA
8196092	8196093	PRS7-AL-109AN	F8G100253-001	76 / 69	Yes	96	85	108	109	98
8196092	8196093	(Laboratory Dup)	F8G100253-001X	82 / 73	Yes	89	73	108	109	98
8196092	8196093	PRS7-AL-111AN	F8G100253-002	49 / 74	Yes	97	85	108	109	98
8196092	8196093	PRS7-AL-123N	F8G100253-003	50 / 47	Yes	87	93	108	109	98
8196092	8196093	PRS7-AL-110AS	F8G100253-004	79 / 48	Yes	90	88	108	109	98
8196092	8196093	PRS7-AL-111AS	F8G100253-005	80 / 49	Yes	93	80	108	109	98
8196092	8196093	PRS7-AL-123S	F8G100253-006	81 / 50	Yes	89	88	108	109	98
				Monthly Background	Yes					
				Monthly Calibration	Yes					

Table 22 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G100253

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8196094	(Laboratory LCS)	F8G140000-094C	54	Yes	77	81	74
8196094	(Laboratory MB)	F8G140000-094B	52	Yes	70	NA	NA
8196094	PRS7-AL-109AN	F8G100253-001	63	Yes	76	81	74
8196094	(Laboratory Dup)	F8G100253-001X	64	Yes	81	81	74
8196094	PRS7-AL-111AN	F8G100253-002	66	Yes	86	81	74
8196094	PRS7-AL-123N	F8G100253-003	69	Yes	81	81	74
8196094	PRS7-AL-110AS	F8G100253-004	73	Yes	82	81	74
8196094	PRS7-AL-111AS	F8G100253-005	74	Yes	93	81	74
8196094	PRS7-AL-123S	F8G100253-006	66	Yes	86	81	74
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-109AN	8196092	Pu-238	0.017 (J)	0.024	35 *	NA	NA	NA	ND
	8196092	Pu-239	-0.0037 (U)	0.0040 (U)	6210 *	NA	NA	NA	ND
	8196093	Th-228	0.68	0.85	23	NA	NA	NA	ND

Table 22 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G100253

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-109AN	8196093	Th-230	1.55	1.56	0.7	NA	NA	NA	ND
	8196093	Th-232	0.68	0.72	5	NA	NA	NA	ND
	8196094	U-234	0.77	0.72	6	NA	NA	NA	ND
	8196094	U-235	0.070 (J)	0.064 (J)	9 *	NA	NA	NA	ND
	8196094	U-238	0.94	0.81	14	NA	NA	NA	ND

Note(s):

** Detector (48) failed the initial full width half maximum criteria but passed the recount analysis.*

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes result is greater than sample detection limit but less than stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

ND denotes not detected.

pCi/g denotes picoCurie(s) per gram.

RL denotes reporting limit.

RPD denotes relative percent difference.

U denotes result is less than the sample detection limit.

Table 23
Package Completeness Checklist for Lot F8G290143

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 24
Alpha Spectroscopy Quality Control Review for Lot F8G290143

Lot F8G290143				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 82-117%	CL: 91-122%	CL: 83-120%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8213124	NA	(Lab LCS)	F8G310000-124C	57	Yes	93	NA	103	116	NA
8220185	NA	(Lab LCS)	F8H070000-185C	59	Yes	85 / 85	NA	113 / 105	114 / 121	NA
NA	8213127	(Lab LCS)	F8G310000-127C	57	Yes	NA	84	NA	NA	101
NA	8220186	(Lab LCS)	F8H070000-186C	73	Yes	NA	87 / 94	NA	NA	97 / 96
NA	8214401	(Lab LCS)	F8G310000-183C	49	Yes	NA	82	NA	NA	113
8213124	NA	(Lab MB)	F8G310000-124B	75	Yes	89	NA	103	116	NA
8220185	NA	(Lab MB)	F8H070000-185B	75	Yes	90	NA	113 / 105	114 / 121	NA
NA	8213127	(Lab MB)	F8G310000-127B	55	Yes	NA	86	NA	NA	101
NA	8220186	(Lab MB)	F8H070000-186B	68	Yes	NA	94	NA	NA	97 / 96
NA	8214401	(Lab MB)	F8G310000-183B	57	Yes	NA	85	NA	NA	113
8213124	8213127	PRS7-AL-125	F8G290143-001	45 / 47	Yes	90	53	103	116	101
8213124	8213127	(Lab Dup)	F8G290143-001X	46 / 48	Yes	95	56	103	116	101
8213124	8213127	PRS7-AL-126	F8G290143-002	47 / 49	Yes	89	59	103	116	101
8213124	8213127	PRS7-AL-128A	F8G290143-003	76 / 50	Yes	81	62	103	116	101
8213124	8213127	PRS7-AL-129	F8G290143-004	78 / 53	Yes	91	60	103	116	101
8213124	8213127	PRS7-AL-130	F8G290143-005	79 / 56	Yes	93	42	103	116	101
8213124	8213127	PRS7-AL-131	F8G290143-006	80 / 59	Yes	89	35	103	116	101
8220185	8213127	PRS7-AL-132	F8G290143-007	76 / 65	Yes	87	61	113 / 105	114 / 121	101
8213124	8220186	PRS7-AL-133	F8G290143-008	82 / 66	Yes	79	41	103	116	97 / 96
8213124	8213127	PRS7-AL-124	F8G290143-009	83 / 68	Yes	92	50	103	116	101

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

Lot F8G290143				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 82-117%	CL: 91-122%	CL: 83-120%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8213124	8213127	PRS7-AL-135	F8G290143-010	84 / 73	Yes	97	43	103	116	101
8213124	8213127	PRS7-AL-136	F8G290143-011	85 / 74	Yes	92	46	103	116	101
8213124	8213127	PRS7-AL-137	F8G290143-012	73 / 45	Yes	100	63	103	116	101
8213124	8214401	PRS7-AL-138	F8G290143-013	74 / 46	Yes	86	78	103	116	113
NA	8214401	(Lab Dup)	F8G290143-013X	47	Yes	NA	72	NA	NA	113
8213124	8213127	PRS7-AL-139	F8G290143-014	45 / 46	Yes	91	64	103	116	101
8213124	8213127	PRS7-AL-140	F8G290143-015	46 / 47	Yes	82	68	103	116	101
8213124	8213127	PRS7-AL-141	F8G290143-016	47 / 48	Yes	85	50	103	116	101
8213124	8213127	PRS7-AL-142	F8G290143-017	86 / 49	Yes	51	82	103	116	101
8213124	8213127	PRS7-AL-143	F8G290143-018	49 / 50	Yes	95	64	103	116	101
8213124	8213127	PRS7-AL-144	F8G290143-019	50 / 53	Yes	95	69	103	116	101
8213124	8213127	PRS7-AL-145	F8G290143-020	53 / 56	Yes	78	57	103	116	101
8213124	8213127	PRS7-AL-146	F8G290143-021	87 / 59	Yes	86	92	103	116	101

_ Detector (78) failed the initial gross count criteria but passed the recount analysis.

Monthly Background	Yes
Monthly Calibration	Yes

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8213129	(Lab LCS)	F8G310000-129C	54	Yes	85	107	87
8213129	(Lab MB)	F8G310000-129B	52	Yes	104	107	87
8213129	PRS7-AL-125	F8G290143-001	59	Yes	89	107	87
8213129	(Lab Dup)	F8G290143-001X	65	Yes	90	107	87
8213129	PRS7-AL-126	F8G290143-002	66	Yes	92	107	87
8213129	PRS7-AL-128A	F8G290143-003	68	Yes	91	107	87
8213129	PRS7-AL-129	F8G290143-004	73	Yes	98	107	87
8213129	PRS7-AL-130	F8G290143-005	74	Yes	90	107	87
8213129	PRS7-AL-131	F8G290143-006	45	Yes	89	107	87
8213129	PRS7-AL-132	F8G290143-007	46	Yes	31	107	87
8213129	PRS7-AL-133	F8G290143-008	47	Yes	89	107	87
8213129	PRS7-AL-124	F8G290143-009	48	Yes	91	107	87
8213129	PRS7-AL-135	F8G290143-010	49	Yes	85	107	87
8213129	PRS7-AL-136	F8G290143-011	50	Yes	90	107	87
8213129	PRS7-AL-137	F8G290143-012	53	Yes	95	107	87
8213129	PRS7-AL-138	F8G290143-013	56	Yes	79	107	87
8213129	PRS7-AL-139	F8G290143-014	59	Yes	85	107	87
8213129	PRS7-AL-140	F8G290143-015	65	Yes	88	107	87
8213129	PRS7-AL-141	F8G290143-016	66	Yes	87	107	87
8213129	PRS7-AL-142	F8G290143-017	68	Yes	67	107	87
8213129	PRS7-AL-143	F8G290143-018	73	Yes	86	107	87
8213129	PRS7-AL-144	F8G290143-019	74	Yes	91	107	87

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8213129	(Lab LCS)	F8G310000-129C	54	Yes	85	107	87
8213129	PRS7-AL-145	F8G290143-020	45	Yes	88	107	87
8213129	PRS7-AL-146	F8G290143-021	46	Yes	87	107	87
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-125	8213124	Pu-238	0.156	0.144	8	NA	NA	NA	ND
	8213124	Pu-239	0.008 (U)	0.004 (U)	72 *	NA	NA	NA	ND
	8213127	Th-228	1.10	0.94	15	NA	NA	NA	ND
	8213127	Th-230	1.26	1.56	21	NA	NA	NA	ND
	8213127	Th-232	0.65	0.85	27	NA	NA	NA	ND
	8213129	U-234	0.98	1.29	27	NA	NA	NA	ND
	8213129	U-235	0.068 (J)	0.055 (J)	21 *	NA	NA	NA	ND
	8213129	U-238	1.01	1.13	11	NA	NA	NA	ND

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-138	8214401	Th-228	2.87	4.24	39	NA	NA	NA	ND
	8214401	Th-230	2.36	2.58	9	NA	NA	NA	ND
	8214401	Th-232	2.90	3.22	10	NA	NA	NA	ND

Note(s):

** Detector (48) failed the initial full width half maximum criteria but passed the recount analysis.*

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes result is greater than sample detection limit but less than stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

ND denotes not detected.

pCi/g denotes picoCurie(s) per gram.

RL denotes reporting limit.

RPD denotes relative percent difference.

U denotes result is less than the sample detection limit.

Table 25
Package Completeness Checklist for Lot F8H130258

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 26
Alpha Spectroscopy Quality Control Review for Lot F8H130258

Lot F8H130258				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 82-117%	CL: 91-122%	CL: 83-120%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8228107	NA	(Lab LCS)	F8H150000-107C	54	Yes	95	NA	87	97	NA
NA	8233122	(Lab LCS)	F8H200000-122C	62	Yes	NA	75	NA	NA	107
8228107	NA	(Lab MB)	F8H150000-107B	78 *	Yes	86	NA	87	97	NA
NA	8233122	(Lab MB)	F8H200000-122B	61	Yes	NA	81	NA	NA	107
8228107	8233122	PRS7-AL-126A	F8G290143-001	75 / 46	Yes	88	78	87	97	107
8228107	8233122	(Lab Dup)	F8G290143-001X	76 / 47	Yes	89	76	87	97	107
8228107	8233122	PRS7-AL-138A	F8G290143-002	53 / 48	Yes	84	76	87	97	107
8228107	8233122	PRS7-AL-149	F8G290143-003	56 / 49	Yes	98	80	87	97	107
8228107	8233122	PRS7-AL-150	F8G290143-004	59 / 50	Yes	92	76	87	97	107

_ Detector (78) failed the initial gross count criteria but passed the recount analysis.

Monthly Background	Yes
Monthly Calibration	Yes

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8228111	(Lab LCS)	F8H150000-111C	64	Yes	87	104	91
8228111	(Lab MB)	F8H150000-111B	63	Yes	83	104	91
8228111	PRS7-AL-126A	F8G290143-001	53	Yes	84	104	91

Table 26 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8H130258

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8228111	(Lab LCS)	F8H150000-111C	64	Yes	87	104	91
8228111	(Lab Dup)	F8G290143-001X	56	Yes	79	104	91
8228111	PRS7-AL-138A	F8G290143-002	59	Yes	82	104	91
8228111	PRS7-AL-149	F8G290143-003	65	Yes	79	104	91
8228111	PRS7-AL-150	F8G290143-004	66	Yes	91	104	91
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

Lot F8G290143				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 82-117%	CL: 91-122%	CL: 83-120%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8213124	8213127	PRS7-AL-135	F8G290143-010	84 / 73	Yes	97	43	103	116	101
8213124	8213127	PRS7-AL-136	F8G290143-011	85 / 74	Yes	92	46	103	116	101
8213124	8213127	PRS7-AL-137	F8G290143-012	73 / 45	Yes	100	63	103	116	101
8213124	8214401	PRS7-AL-138	F8G290143-013	74 / 46	Yes	86	78	103	116	113
NA	8214401	(Lab Dup)	F8G290143-013X	47	Yes	NA	72	NA	NA	113
8213124	8213127	PRS7-AL-139	F8G290143-014	45 / 46	Yes	91	64	103	116	101
8213124	8213127	PRS7-AL-140	F8G290143-015	46 / 47	Yes	82	68	103	116	101
8213124	8213127	PRS7-AL-141	F8G290143-016	47 / 48	Yes	85	50	103	116	101
8213124	8213127	PRS7-AL-142	F8G290143-017	86 / 49	Yes	51	82	103	116	101
8213124	8213127	PRS7-AL-143	F8G290143-018	49 / 50	Yes	95	64	103	116	101
8213124	8213127	PRS7-AL-144	F8G290143-019	50 / 53	Yes	95	69	103	116	101
8213124	8213127	PRS7-AL-145	F8G290143-020	53 / 56	Yes	78	57	103	116	101
8213124	8213127	PRS7-AL-146	F8G290143-021	87 / 59	Yes	86	92	103	116	101

_ Detector (78) failed the initial gross count criteria but passed the recount analysis.

Monthly Background	Yes
Monthly Calibration	Yes

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8213129	(Lab LCS)	F8G310000-129C	54	Yes	85	107	87
8213129	(Lab MB)	F8G310000-129B	52	Yes	104	107	87
8213129	PRS7-AL-125	F8G290143-001	59	Yes	89	107	87
8213129	(Lab Dup)	F8G290143-001X	65	Yes	90	107	87
8213129	PRS7-AL-126	F8G290143-002	66	Yes	92	107	87
8213129	PRS7-AL-128A	F8G290143-003	68	Yes	91	107	87
8213129	PRS7-AL-129	F8G290143-004	73	Yes	98	107	87
8213129	PRS7-AL-130	F8G290143-005	74	Yes	90	107	87
8213129	PRS7-AL-131	F8G290143-006	45	Yes	89	107	87
8213129	PRS7-AL-132	F8G290143-007	46	Yes	31	107	87
8213129	PRS7-AL-133	F8G290143-008	47	Yes	89	107	87
8213129	PRS7-AL-124	F8G290143-009	48	Yes	91	107	87
8213129	PRS7-AL-135	F8G290143-010	49	Yes	85	107	87
8213129	PRS7-AL-136	F8G290143-011	50	Yes	90	107	87
8213129	PRS7-AL-137	F8G290143-012	53	Yes	95	107	87
8213129	PRS7-AL-138	F8G290143-013	56	Yes	79	107	87
8213129	PRS7-AL-139	F8G290143-014	59	Yes	85	107	87
8213129	PRS7-AL-140	F8G290143-015	65	Yes	88	107	87
8213129	PRS7-AL-141	F8G290143-016	66	Yes	87	107	87
8213129	PRS7-AL-142	F8G290143-017	68	Yes	67	107	87
8213129	PRS7-AL-143	F8G290143-018	73	Yes	86	107	87
8213129	PRS7-AL-144	F8G290143-019	74	Yes	91	107	87

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8213129	(Lab LCS)	F8G310000-129C	54	Yes	85	107	87
8213129	PRS7-AL-145	F8G290143-020	45	Yes	88	107	87
8213129	PRS7-AL-146	F8G290143-021	46	Yes	87	107	87
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-125	8213124	Pu-238	0.156	0.144	8	NA	NA	NA	ND
	8213124	Pu-239	0.008 (U)	0.004 (U)	72 *	NA	NA	NA	ND
	8213127	Th-228	1.10	0.94	15	NA	NA	NA	ND
	8213127	Th-230	1.26	1.56	21	NA	NA	NA	ND
	8213127	Th-232	0.65	0.85	27	NA	NA	NA	ND
	8213129	U-234	0.98	1.29	27	NA	NA	NA	ND
	8213129	U-235	0.068 (J)	0.055 (J)	21 *	NA	NA	NA	ND
	8213129	U-238	1.01	1.13	11	NA	NA	NA	ND

Table 24 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8G290143

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-138	8214401	Th-228	2.87	4.24	39	NA	NA	NA	ND
	8214401	Th-230	2.36	2.58	9	NA	NA	NA	ND
	8214401	Th-232	2.90	3.22	10	NA	NA	NA	ND

Note(s):

** Detector (48) failed the initial full width half maximum criteria but passed the recount analysis.*

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes result is greater than sample detection limit but less than stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

ND denotes not detected.

pCi/g denotes picoCurie(s) per gram.

RL denotes reporting limit.

RPD denotes relative percent difference.

U denotes result is less than the sample detection limit.

Table 26
Alpha Spectroscopy Quality Control Review for Lot F8H130258

Lot F8H130258				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 82-117%	CL: 91-122%	CL: 83-120%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8228107	NA	(Lab LCS)	F8H150000-107C	54	Yes	95	NA	87	97	NA
NA	8233122	(Lab LCS)	F8H200000-122C	62	Yes	NA	75	NA	NA	107
8228107	NA	(Lab MB)	F8H150000-107B	78 *	Yes	86	NA	87	97	NA
NA	8233122	(Lab MB)	F8H200000-122B	61	Yes	NA	81	NA	NA	107
8228107	8233122	PRS7-AL-126A	F8G290143-001	75 / 46	Yes	88	78	87	97	107
8228107	8233122	(Lab Dup)	F8G290143-001X	76 / 47	Yes	89	76	87	97	107
8228107	8233122	PRS7-AL-138A	F8G290143-002	53 / 48	Yes	84	76	87	97	107
8228107	8233122	PRS7-AL-149	F8G290143-003	56 / 49	Yes	98	80	87	97	107
8228107	8233122	PRS7-AL-150	F8G290143-004	59 / 50	Yes	92	76	87	97	107

_ Detector (78) failed the initial gross count criteria but passed the recount analysis.

Monthly Background	Yes
Monthly Calibration	Yes

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8228111	(Lab LCS)	F8H150000-111C	64	Yes	87	104	91
8228111	(Lab MB)	F8H150000-111B	63	Yes	83	104	91
8228111	PRS7-AL-126A	F8G290143-001	53	Yes	84	104	91

Table 26 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8H130258

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 70-122%	CL: 69-119%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8228111	(Lab LCS)	F8H150000-111C	64	Yes	87	104	91
8228111	(Lab Dup)	F8G290143-001X	56	Yes	79	104	91
8228111	PRS7-AL-138A	F8G290143-002	59	Yes	82	104	91
8228111	PRS7-AL-149	F8G290143-003	65	Yes	79	104	91
8228111	PRS7-AL-150	F8G290143-004	66	Yes	91	104	91
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Table 26 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8H130258

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-126A	8228107	Pu-238	0.0020 (U)	-0.0020 (U)	2080 *	NA	NA	NA	ND
	8228107	Pu-239	0.0060 (J)	0.0020 (U)	101 *	NA	NA	NA	ND
	8233122	Th-228	0.85	0.80	6	NA	NA	NA	ND
	8233122	Th-230	1.50	1.44	4	NA	NA	NA	ND
	8233122	Th-232	0.65	0.78	19	NA	NA	NA	ND
	8228111	U-234	0.78	0.96	21	NA	NA	NA	ND
	8228111	U-235	0.0 (U)	0.017 (U)	200 *	NA	NA	NA	ND
	8228111	U-238	0.97	0.95	1	NA	NA	NA	ND

Note(s):

** Detector (48) failed the initial full width half maximum criteria but passed the recount analysis.*

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes result is greater than sample detection limit but less than stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

ND denotes not detected.

pCi/g denotes picoCurie(s) per gram.

RL denotes reporting limit.

RPD denotes relative percent difference.

U denotes result is less than the sample detection limit.

Table 27
Package Completeness Checklist for Lot F8B280295

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 28
Alpha Spectroscopy Quality Control Review for Lot F8B280295

Lot F8B280295	Thorium-228, -230, -232		Daily Pulser		Tracer Yield	LCS
			Det No.		CL:30-110%	CL: 79-122%
Th Batch	Field ID	Laboratory ID	Th	Pass	Th-229	Th-230
8063125	(Lab LCS)	F8C030000-125C	72	Yes	84	108
8072203	(Lab LCS)	F8C120000-203C	23	Yes	86	100
8063125	(Lab MB)	F8C030000-125B	45	Yes	56	108
8072203	(Lab MB)	F8C120000-203B	55	Yes	89	100
8063125	MHA13-AL-027	F8B280295-001	1	Yes	76	108
8063125	(Lab Dup)	F8B280295-001X	3	Yes	74	108
8063125	MHA13-AL-028	F8B280295-002	4	Yes	40	108
8063125	MHA13-AL-029	F8B280295-003	6	Yes	61	108
8063125	MHA13-AL-030	F8B280295-004	7	Yes	71	108
8072203	MHA13-AL-031	F8B280295-005	18	Yes	80	100
8072203	(Lab Dup)	F8B280295-005X	20	Yes	83	100
8063125	MHA13-AL-032	F8B280295-006	18	Yes	65	108
8063125	MHA13-AL-033	F8B280295-007	20	Yes	66	108
8063125	MHA13-AL-034	F8B280295-008	21	Yes	51	108
8063125	MHA13-AL-035	F8B280295-009	22	Yes	67	108
8063125	MHA13-AL-036	F8B280295-010	23	Yes	57	108
8063125	MHA13-AL-037	F8B280295-011	24 *	Yes	78	108
8063125	MHA13-AL-038	F8B280295-012	49	Yes	41	108
8063125	MHA13-AL-039	F8B280295-013	50	Yes	61	108
8063125	MHA13-AL-040	F8B280295-014	51	Yes	79	108
8063125	MHA13-AL-041	F8B280295-015	53	Yes	80	108
8063125	MHA13-AL-042	F8B280295-016	56	Yes	70	108
8063125	MHA13-AL-043	F8B280295-017	53	Yes	35	108
8063125	MHA13-AL-044	F8B280295-018	70	Yes	82	108
8063125	MHA13-AL-045	F8B280295-019	74	Yes	80	108
8063125	MHA13-AL-046	F8B280295-020	49	Yes	52	108
			Monthly Background	Yes		
			Monthly Calibration	Yes		

Table 28 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8B280295

Laboratory Duplicate						Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
MHA13-AL-027	8063125	Th-228	0.41	0.36	14	NA	NA	NA	ND
	8063125	Th-230	0.92	0.71	25	NA	NA	NA	ND
	8063125	Th-232	0.37	0.35	5	NA	NA	NA	ND
MHA13-AL-031	8072203	Th-228	1.05	0.89	16	NA	NA	NA	ND
	8072203	Th-230	1.11	0.95	16	NA	NA	NA	0.125
	8072203	Th-232	0.99	1.01	1	NA	NA	NA	ND

Note(s):

** Detector 24 failed the gross count criteria on the initial pulser check but passed on the recount analysis.*

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

LCS denotes laboratory control sample.

NA denotes not applicable.

ND denotes not detected.

pCi/g denotes picoCurie(s) per gram.

RL denotes reporting limit.

RPD denotes relative percent difference.

Th denotes thorium.

Table 29
Package Completeness Checklist for Lot F8C180227

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	Chain of custody not relinquished
Communication records	no	

Table 30
Alpha Spectroscopy Quality Control Review for Lot F8C180227

Lot F8C180227			Daily Pulser		Tracer Yield CL: 30-110%	LCS CL: 79-122%
	Thorium-228,230,232		Det No.			
Th Batch	Field ID	Laboratory ID	Th	Pass	Th-229	Th-230
8080101	(Laboratory LCS)	F8C200000-101C	22	Yes	89	99
8080101	(Laboratory MB)	F8C200000-101B	21	Yes	68	NA
8080101	MHA5-AL-050	F8C180227-001	53	Yes	69	99
8080101	(Laboratory Dup)	F8C180227-001X	56	Yes	42	99
8080101	MHA5-AL-051	F8C180227-002	6	Yes	70	99
8080101	MHA5-AL-052	F8C180227-003	7	Yes	64	99
8080101	MHA5-AL-053	F8C180227-004	8	Yes	68	99
8080101	MHA5-AL-054	F8C180227-005	18	Yes	66	99
8080101	MHA5-AL-055	F8C180227-006	20	Yes	69	99
			Monthly Background	Yes		
			Monthly Calibration	Yes		

Table 30 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8C180227

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
MHA5-AL-050	8080101	Th-228	1.15	1.54	29	NA	NA	NA	ND
	8080101	Th-230	0.92	0.94	3	NA	NA	NA	ND
	8080101	Th-232	1.26	1.54	20	NA	NA	NA	ND

Note(s):
%R denotes percent recovery.
CL denotes control limit.
Det No. denotes detector number.
ID denotes identifier.
LCS denotes laboratory control sample.
MB denotes method blank.
MS denotes matrix spike.
MSD denotes matrix spike duplicate.
NA denotes not applicable.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
RPD denotes relative percent difference.

Table 31
Package Completeness Checklist for Lot F8E310153

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	
Communication records	no	

Table 32
Alpha Spectroscopy Quality Control Review for Lot F8E310153

Lot F8E310153				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8154314	NA	(Laboratory LCS)	F8F020000-314C	55	Yes	95	NA	97	99	NA
NA	8154316	(Laboratory LCS)	F8F020000-316C	68	Yes	NA	90	NA	NA	102
8154314	NA	(Laboratory MB)	F8F020000-314B	76	Yes	96	NA	NA	NA	NA
NA	8154316	(Laboratory MB)	F8F020000-316B	67	Yes	NA	84	NA	NA	NA
8154314	8154316	PRS7-AL-071A	F8E310153-001	75 / 66	Yes	89	65	97	99	102
8154314	8154316	(Laboratory Dup)	F8E310153-001X	76 / 6	Yes	91	81	97	99	102
8154314	8154316	PRS7-AL-072A	F8E310153-002	78 / 7	Yes	92	64	97	99	102
8154314	8154316	PRS7-AL-114	F8E310153-003	79 / 8	Yes	92	63	97	99	102
8154314	8154316	PRS7-AL-115	F8E310153-004	80 / 1	Yes	94	76	97	99	102
8154314	8154316	PRS7-AL-116	F8E310153-005	81 / 3	Yes	92	63	97	99	102
				Monthly Background	Yes					
				Monthly Calibration	Yes					

Table 32 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E310153

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8154319	(Laboratory LCS)	F8F020000-319C	68	Yes	93	102	95
8154319	(Laboratory MB)	F8F020000-319B	67	Yes	96	102	95
8158152	(Laboratory LCS)	F8F060000-152C	48	Yes	92 / 82	83 / 100	86 / 95
8158152	(Laboratory MB)	F8F060000-152B	45	Yes	88	83 / 100	86 / 95
8154319	PRS7-AL-071A	F8E310153-001	46	Yes	90	102	95
8154319	(Laboratory Dup)	F8E310153-001X	47	Yes	92	102	95
8158152	PRS7-AL-072A	F8E310153-002	46	Yes	83	83 / 100	86 / 95
8154319	PRS7-AL-114	F8E310153-003	50	Yes	83	102	95
8154319	PRS7-AL-115	F8E310153-004	53	Yes	92	102	95
8154319	PRS7-AL-116	F8E310153-005	46	Yes	81	102	95
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Table 32 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E310153

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-071A	8154314	Pu-238	0.014 (J)	0.020 (J)	34	NA	NA	NA	ND
	8154314	Pu-239	0.0020 (U)	-0.0020 (U)	2820 *	NA	NA	NA	ND
	8154316	Th-228	0.62	0.45	31	NA	NA	NA	ND
	8154316	Th-230	1.08	0.97	10	NA	NA	NA	ND
	8154316	Th-232	0.55	0.69	22	NA	NA	NA	ND
	8154319	U-234	0.77	0.59	26	NA	NA	NA	ND
	8154319	U-235	0.038 (J)	-0.0048 (U)	258 *	NA	NA	NA	ND
	8154319	U-238	0.79	0.83	5	NA	NA	NA	ND

Note(s):

** Detector 24 failed the initial gross count criteria of the pulser check but passed the recount.*

Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes result is greater than sample detection limit but less than stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

pCi/g denotes picoCurie(s) per gram.

RL denotes reporting limit.

RPD denotes relative percent difference.

U denotes result is less than the sample detection limit.

Table 33
Gamma Spectroscopy Quality Control Review for Lot F8E310153

LOT F8E310153			LCS			Method Blank (pCi/g) Above RL?	Det No.	Calibrations		
			CL: 90-110%	CL: 91-120%	CL: 91-112%			Daily Check OK?	Monthly Bkg OK?	Efficiency Cal OK?
Batch	Field ID	Laboratory ID	Am-241	Cs-137	Co-60					
8155198	(Laboratory LCS)	F8F030000-198C	107	106	104	NA	8	Yes	Yes	NI *
8155198	(Laboratory MB)	F8F030000-198B	NA	NA	NA	ND	7	Yes	Yes	NI *
8155198	PR7-CH-034	F8E310149-001	107	106	104	NA	5	Yes	Yes	NI *
8155198	(Laboratory Dup)	F8E310149-001X	107	106	104	NA	3	Yes	Yes	NI *
8155198	PRS7-AL-071A	F8E310153-001	107	106	104	NA	3	Yes	Yes	NI *
8155198	PRS7-AL-072A	F8E310153-002	107	106	104	NA	3	Yes	Yes	NI *
8155198	PRS7-AL-114	F8E310153-003	107	106	104	NA	8	Yes	Yes	NI *
8155198	PRS7-AL-115	F8E310153-004	107	106	104	NA	2	Yes	Yes	NI *
8155198	PRS7-AL-116	F8E310153-005	107	106	104	NA	5	Yes	Yes	NI *

Field ID	Isotope	Laboratory Duplicate			Field Duplicate			MS/MSD		
		Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	MS %R	MSD %R	RPD
PR7-CH-034	Actinium-228	82.6	84.0	2	NA	NA	NA	NA	NA	NA
	Bismuth-214	2.72	2.74	0.8	NA	NA	NA	NA	NA	NA
	Cesium-137	1.95	2.04	4	NA	NA	NA	NA	NA	NA
	Radium-226	2.72	2.74	0.8	NA	NA	NA	NA	NA	NA
	Uranium-238	8.6	9.1	5	NA	NA	NA	NA	NA	NA

Table 30
Alpha Spectroscopy Quality Control Review for Lot F8C180227

Lot F8C180227			Daily Pulser		Tracer Yield CL: 30-110%	LCS CL: 79-122%
	Thorium-228,230,232		Det No.			
Th Batch	Field ID	Laboratory ID	Th	Pass	Th-229	Th-230
8080101	(Laboratory LCS)	F8C200000-101C	22	Yes	89	99
8080101	(Laboratory MB)	F8C200000-101B	21	Yes	68	NA
8080101	MHA5-AL-050	F8C180227-001	53	Yes	69	99
8080101	(Laboratory Dup)	F8C180227-001X	56	Yes	42	99
8080101	MHA5-AL-051	F8C180227-002	6	Yes	70	99
8080101	MHA5-AL-052	F8C180227-003	7	Yes	64	99
8080101	MHA5-AL-053	F8C180227-004	8	Yes	68	99
8080101	MHA5-AL-054	F8C180227-005	18	Yes	66	99
8080101	MHA5-AL-055	F8C180227-006	20	Yes	69	99
			Monthly Background	Yes		
			Monthly Calibration	Yes		

Table 30 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8C180227

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
MHA5-AL-050	8080101	Th-228	1.15	1.54	29	NA	NA	NA	ND
	8080101	Th-230	0.92	0.94	3	NA	NA	NA	ND
	8080101	Th-232	1.26	1.54	20	NA	NA	NA	ND

Note(s):
%R denotes percent recovery.
CL denotes control limit.
Det No. denotes detector number.
ID denotes identifier.
LCS denotes laboratory control sample.
MB denotes method blank.
MS denotes matrix spike.
MSD denotes matrix spike duplicate.
NA denotes not applicable.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
RPD denotes relative percent difference.

Table 32
Alpha Spectroscopy Quality Control Review for Lot F8E310153

Lot F8E310153				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8154314	NA	(Laboratory LCS)	F8F020000-314C	55	Yes	95	NA	97	99	NA
NA	8154316	(Laboratory LCS)	F8F020000-316C	68	Yes	NA	90	NA	NA	102
8154314	NA	(Laboratory MB)	F8F020000-314B	76	Yes	96	NA	NA	NA	NA
NA	8154316	(Laboratory MB)	F8F020000-316B	67	Yes	NA	84	NA	NA	NA
8154314	8154316	PRS7-AL-071A	F8E310153-001	75 / 66	Yes	89	65	97	99	102
8154314	8154316	(Laboratory Dup)	F8E310153-001X	76 / 6	Yes	91	81	97	99	102
8154314	8154316	PRS7-AL-072A	F8E310153-002	78 / 7	Yes	92	64	97	99	102
8154314	8154316	PRS7-AL-114	F8E310153-003	79 / 8	Yes	92	63	97	99	102
8154314	8154316	PRS7-AL-115	F8E310153-004	80 / 1	Yes	94	76	97	99	102
8154314	8154316	PRS7-AL-116	F8E310153-005	81 / 3	Yes	92	63	97	99	102
				Monthly Background	Yes					
				Monthly Calibration	Yes					

Table 32 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E310153

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8154319	(Laboratory LCS)	F8F020000-319C	68	Yes	93	102	95
8154319	(Laboratory MB)	F8F020000-319B	67	Yes	96	102	95
8158152	(Laboratory LCS)	F8F060000-152C	48	Yes	92 / 82	83 / 100	86 / 95
8158152	(Laboratory MB)	F8F060000-152B	45	Yes	88	83 / 100	86 / 95
8154319	PRS7-AL-071A	F8E310153-001	46	Yes	90	102	95
8154319	(Laboratory Dup)	F8E310153-001X	47	Yes	92	102	95
8158152	PRS7-AL-072A	F8E310153-002	46	Yes	83	83 / 100	86 / 95
8154319	PRS7-AL-114	F8E310153-003	50	Yes	83	102	95
8154319	PRS7-AL-115	F8E310153-004	53	Yes	92	102	95
8154319	PRS7-AL-116	F8E310153-005	46	Yes	81	102	95
			Monthly Background	Yes			
			Monthly Calibration	Yes			

Table 32 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8E310153

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
PRS7-AL-071A	8154314	Pu-238	0.014 (J)	0.020 (J)	34	NA	NA	NA	ND
	8154314	Pu-239	0.0020 (U)	-0.0020 (U)	2820 *	NA	NA	NA	ND
	8154316	Th-228	0.62	0.45	31	NA	NA	NA	ND
	8154316	Th-230	1.08	0.97	10	NA	NA	NA	ND
	8154316	Th-232	0.55	0.69	22	NA	NA	NA	ND
	8154319	U-234	0.77	0.59	26	NA	NA	NA	ND
	8154319	U-235	0.038 (J)	-0.0048 (U)	258 *	NA	NA	NA	ND
	8154319	U-238	0.79	0.83	5	NA	NA	NA	ND

Note(s):

** Detector 24 failed the initial gross count criteria of the pulser check but passed the recount.*

Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.

CL denotes control limit.

Det No. denotes detector number.

ID denotes identifier.

J denotes result is greater than sample detection limit but less than stated reporting limit.

LCS denotes laboratory control sample.

MB denotes method blank.

NA denotes not applicable.

pCi/g denotes picoCurie(s) per gram.

RL denotes reporting limit.

RPD denotes relative percent difference.

U denotes result is less than the sample detection limit.

Table 33
Gamma Spectroscopy Quality Control Review for Lot F8E310153

LOT F8E310153			LCS			Method Blank (pCi/g) Above RL?	Det No.	Calibrations		
			CL: 90-110%	CL: 91-120%	CL: 91-112%			Daily Check OK?	Monthly Bkg OK?	Efficiency Cal OK?
Batch	Field ID	Laboratory ID	Am-241	Cs-137	Co-60					
8155198	(Laboratory LCS)	F8F030000-198C	107	106	104	NA	8	Yes	Yes	NI *
8155198	(Laboratory MB)	F8F030000-198B	NA	NA	NA	ND	7	Yes	Yes	NI *
8155198	PR7-CH-034	F8E310149-001	107	106	104	NA	5	Yes	Yes	NI *
8155198	(Laboratory Dup)	F8E310149-001X	107	106	104	NA	3	Yes	Yes	NI *
8155198	PRS7-AL-071A	F8E310153-001	107	106	104	NA	3	Yes	Yes	NI *
8155198	PRS7-AL-072A	F8E310153-002	107	106	104	NA	3	Yes	Yes	NI *
8155198	PRS7-AL-114	F8E310153-003	107	106	104	NA	8	Yes	Yes	NI *
8155198	PRS7-AL-115	F8E310153-004	107	106	104	NA	2	Yes	Yes	NI *
8155198	PRS7-AL-116	F8E310153-005	107	106	104	NA	5	Yes	Yes	NI *

Field ID	Isotope	Laboratory Duplicate			Field Duplicate			MS/MSD		
		Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	MS %R	MSD %R	RPD
PR7-CH-034	Actinium-228	82.6	84.0	2	NA	NA	NA	NA	NA	NA
	Bismuth-214	2.72	2.74	0.8	NA	NA	NA	NA	NA	NA
	Cesium-137	1.95	2.04	4	NA	NA	NA	NA	NA	NA
	Radium-226	2.72	2.74	0.8	NA	NA	NA	NA	NA	NA
	Uranium-238	8.6	9.1	5	NA	NA	NA	NA	NA	NA

Table 33 (Continued)
Gamma Spectroscopy Quality Control Review for Lot F8E310153

Field ID	Isotope	Laboratory Duplicate			Field Duplicate			MS/MSD		
		Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	MS %R	MSD %R	RPD
PR7-CH-034	Bismuth-212	49.8	56.0	12	NA	NA	NA	NA	NA	NA
	Lead-212	85.7	88.2	3	NA	NA	NA	NA	NA	NA
	Lead-214	2.50	3.00	18	NA	NA	NA	NA	NA	NA
	Potassium-40	12.1	14.9	21	NA	NA	NA	NA	NA	NA
	Thallium-208	30.0	28.7	4	NA	NA	NA	NA	NA	NA

Note(s):
** Efficiency cals not included in package.*
%R denotes percent recovery.
Am denotes americium.
CL denotes control limit.
Co denotes cobalt.
Cs denotes cesium.
Det No. denotes detector number.
ID denotes identifier.
LCS denotes laboratory control sample.
MB denotes method blank.
MS denotes matrix spike.
MSD denotes matrix spike duplicate.
NA denotes not applicable.
NI denotes not included.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
RPD denotes relative percent difference.

Table 33 (Continued)
Gamma Spectroscopy Quality Control Review for Lot F8E310153

Field ID	Isotope	Laboratory Duplicate			Field Duplicate			MS/MSD		
		Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD (CL 50%)	MS %R	MSD %R	RPD
PR7-CH-034	Bismuth-212	49.8	56.0	12	NA	NA	NA	NA	NA	NA
	Lead-212	85.7	88.2	3	NA	NA	NA	NA	NA	NA
	Lead-214	2.50	3.00	18	NA	NA	NA	NA	NA	NA
	Potassium-40	12.1	14.9	21	NA	NA	NA	NA	NA	NA
	Thallium-208	30.0	28.7	4	NA	NA	NA	NA	NA	NA

Note(s):
** Efficiency cals not included in package.*
%R denotes percent recovery.
Am denotes americium.
CL denotes control limit.
Co denotes cobalt.
Cs denotes cesium.
Det No. denotes detector number.
ID denotes identifier.
LCS denotes laboratory control sample.
MB denotes method blank.
MS denotes matrix spike.
MSD denotes matrix spike duplicate.
NA denotes not applicable.
NI denotes not included.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
RPD denotes relative percent difference.

Table 34
Package Completeness Checklist for Lot F8F130134

Review Item	Present?	Comment
Table of Contents	yes	
Case narrative	yes	
Cover page	yes	
Cross reference page	yes	
Description of data qualifiers used in the report	yes	
Applicable Standard Operating Procedure	no	Reference methods are listed
Summary of sample results	yes	
Summary of Quality Control results	yes	
Raw Data	Yes	
Sample data	yes	
Standards data	yes	Analyte, activity, and reference date. Certificates not included.
Sample Receipt	yes	Chain of custody not relinquished
Communication records	no	

Table 35
Alpha Spectroscopy Quality Control Review for Lot F8F130134

Lot F8F130134				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8167012	NA	(Laboratory LCS)	F8F150000-012C	67	Yes	91	NA	100	112	NA
NA	8167013	(Laboratory LCS)	F8F150000-013C	68	Yes	NA	86	NA	NA	106
8167012	NA	(Laboratory MB)	F8F150000-012B	75	Yes	91	NA	NA	NA	NA
NA	8167013	(Laboratory MB)	F8F150000-013B	67	Yes	NA	88	NA	NA	NA
8167012	8167013	0701-0106A-FO	F8F130134-001	75 / 73	Yes	94	61	100	112	106
8167012	8167013	(Laboratory Dup)	F8F130134-001X	76 / 74	Yes	94	60	100	112	106
8167012	8167013	0701-0105A-FO	F8F130134-002	49 / 46	Yes	98	54	100	112	106
8167012	8167013	PRS7-AL-104A	F8F130134-003	78 / 47	Yes	93	75	100	112	106
8167012	8167013	PRS7-AL-117	F8F130134-004	53 / 49	Yes	89	66	100	112	106
8167012	8167013	PRS7-AL-118	F8F130134-005	69 / 50	Yes	95	73	100	112	106
8167012	8167013	PRS7-AL-119	F8F130134-006	70 / 53	Yes	90	68	100	112	106
8167012	8167013	PRS7-AL-120	F8F130134-007	73 / 69	Yes	93	83	100	112	106

Table 35 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8F30134

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8167014	(Laboratory LCS)	F8F150000-014C	48	Yes	88	95	97
8167014	(Laboratory MB)	F8F150000-014B	45	Yes	86	NA	NA
8167014	0701-0106A-FO	F8F130134-001	74	Yes	87	95	97
8167014	(Laboratory Dup)	F8F130134-001X	46	Yes	93	95	97
8167014	0701-0105A-FO	F8F130134-002	47	Yes	81	95	97
8167014	PRS7-AL-104A	F8F130134-003	49	Yes	86	95	97
8167014	PRS7-AL-117	F8F130134-004	50	Yes	75	95	97
8167014	PRS7-AL-118	F8F130134-005	53	Yes	83	95	97
8167014	PRS7-AL-119	F8F130134-006	69	Yes	82	95	97
8167014	PRS7-AL-120	F8F130134-007	70	Yes	79	95	97
				Monthly Background	Yes		
				Monthly Calibration	Yes		

Table 35 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8F30134

	Laboratory Duplicate					Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
0701-0106A-FO	8167012	Pu-238	0.0076 (J)	0.0038 (U)	67 *	NA	NA	NA	ND
	8167012	Pu-239	0.0038 (U)	0.0 (U)	200 *	NA	NA	NA	ND
	8167013	Th-228	0.26	0.28	7	NA	NA	NA	ND
	8167013	Th-230	0.54	0.59	9	NA	NA	NA	ND
	8167013	Th-232	0.27	0.192 (J)	34	NA	NA	NA	ND
	8167014	U-234	0.280	0.262	7	NA	NA	NA	ND
	8167014	U-235	0.007 (U)	0.0 (U)	200 *	NA	NA	NA	ND
	8167014	U-238	0.37	0.32	13	NA	NA	NA	ND

Note(s):

** Detector 24 failed the initial gross count criteria of the pulser check but passed the recount.*

Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.

CL denotes control limit.
ID denotes identifier.
LCS denotes laboratory control sample.
NA denotes not applicable.
Pu denotes plutonium.
RPD denotes relative percent difference.
U denotes result is less than the sample detection limit.
Det No. denotes detector number.
J denotes result is greater than sample detection limit but less than stated reporting limit.
MB denotes method blank.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
Th denotes thorium.
U denotes uranium.

Table 35
Alpha Spectroscopy Quality Control Review for Lot F8F130134

Lot F8F130134				Daily Pulser		Tracer Yields		LCS		
Plutonium and Thorium				Det No.		CL: 30-110%	CL: 30-110%	CL: 79-113%	CL: 84-123%	CL: 79-122%
Pu Batch	Th Batch	Field ID	Laboratory ID	Pu-Th	Pass	Pu-242	Th-229	Pu-238	Pu-239	Th-230
8167012	NA	(Laboratory LCS)	F8F150000-012C	67	Yes	91	NA	100	112	NA
NA	8167013	(Laboratory LCS)	F8F150000-013C	68	Yes	NA	86	NA	NA	106
8167012	NA	(Laboratory MB)	F8F150000-012B	75	Yes	91	NA	NA	NA	NA
NA	8167013	(Laboratory MB)	F8F150000-013B	67	Yes	NA	88	NA	NA	NA
8167012	8167013	0701-0106A-FO	F8F130134-001	75 / 73	Yes	94	61	100	112	106
8167012	8167013	(Laboratory Dup)	F8F130134-001X	76 / 74	Yes	94	60	100	112	106
8167012	8167013	0701-0105A-FO	F8F130134-002	49 / 46	Yes	98	54	100	112	106
8167012	8167013	PRS7-AL-104A	F8F130134-003	78 / 47	Yes	93	75	100	112	106
8167012	8167013	PRS7-AL-117	F8F130134-004	53 / 49	Yes	89	66	100	112	106
8167012	8167013	PRS7-AL-118	F8F130134-005	69 / 50	Yes	95	73	100	112	106
8167012	8167013	PRS7-AL-119	F8F130134-006	70 / 53	Yes	90	68	100	112	106
8167012	8167013	PRS7-AL-120	F8F130134-007	73 / 69	Yes	93	83	100	112	106

Table 35 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8F30134

Uranium			Daily Pulser		Tracer Yield	LCS	
			Det No.		CL: 30-110%	CL: 66-125%	CL: 64-123%
U Batch	Field ID	Laboratory ID	U	Pass	U-232	U-234	U-238
8167014	(Laboratory LCS)	F8F150000-014C	48	Yes	88	95	97
8167014	(Laboratory MB)	F8F150000-014B	45	Yes	86	NA	NA
8167014	0701-0106A-FO	F8F130134-001	74	Yes	87	95	97
8167014	(Laboratory Dup)	F8F130134-001X	46	Yes	93	95	97
8167014	0701-0105A-FO	F8F130134-002	47	Yes	81	95	97
8167014	PRS7-AL-104A	F8F130134-003	49	Yes	86	95	97
8167014	PRS7-AL-117	F8F130134-004	50	Yes	75	95	97
8167014	PRS7-AL-118	F8F130134-005	53	Yes	83	95	97
8167014	PRS7-AL-119	F8F130134-006	69	Yes	82	95	97
8167014	PRS7-AL-120	F8F130134-007	70	Yes	79	95	97
				Monthly Background	Yes		
				Monthly Calibration	Yes		

Table 35 (Continued)
Alpha Spectroscopy Quality Control Review for Lot F8F30134

			Laboratory Duplicate			Field Duplicate			Method Blank (pCi/g)
Field ID	Batch	Isotope	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	Value 1 (pCi/g)	Value 2 (pCi/g)	RPD	CL: > RL
0701-0106A-FO	8167012	Pu-238	0.0076 (J)	0.0038 (U)	67 *	NA	NA	NA	ND
	8167012	Pu-239	0.0038 (U)	0.0 (U)	200 *	NA	NA	NA	ND
	8167013	Th-228	0.26	0.28	7	NA	NA	NA	ND
	8167013	Th-230	0.54	0.59	9	NA	NA	NA	ND
	8167013	Th-232	0.27	0.192 (J)	34	NA	NA	NA	ND
	8167014	U-234	0.280	0.262	7	NA	NA	NA	ND
	8167014	U-235	0.007 (U)	0.0 (U)	200 *	NA	NA	NA	ND
	8167014	U-238	0.37	0.32	13	NA	NA	NA	ND

Note(s):

** Detector 24 failed the initial gross count criteria of the pulser check but passed the recount.*

Underlined detector failed the gross count criteria of the initial pulser check, but passed on the recount.

CL denotes control limit.
ID denotes identifier.
LCS denotes laboratory control sample.
NA denotes not applicable.
Pu denotes plutonium.
RPD denotes relative percent difference.
U denotes result is less than the sample detection limit.
Det No. denotes detector number.
J denotes result is greater than sample detection limit but less than stated reporting limit.
MB denotes method blank.
pCi/g denotes picoCurie(s) per gram.
RL denotes reporting limit.
Th denotes thorium.
U denotes uranium.

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Project: F8F130134 Rad Validation - 7 Soils Page 1 of 4

Job Number: 123959 Date: 8/18/2008 Comp. By: Beunex Checked By:

Sample ID	SDate	Lab ID
0701-0106A-FO	6/2/08	001 ← lab dup
0701-0105A-FO	6/9/08	002
PRS7-AL-104A	6/11/08	003
PRS7-AL-117	6/9/08	004
PRS7-AL-118	↓	005
PRS7-AL-119		006
PRS7-AL-120	6/11/08	007

- Samples don't have relinquish sig from Sewicek
- COC doesn't list carrier

method DOE A-01-R Mod.

Iso. Pu, Th, U

Lab No.	Iso Th Pup Date	Iso Th A date	Iso Th Batch	Iso Pu Pup Date	Iso Pu A Date	Iso Pu Batch	Iso U Pup Date	Iso U A Date	Iso U Batch
001	6/15	6/19	8167013	6/15	6/19	8167012	6/15	6/18	8167014
002 Dup	"	"	"	"	"	"	"	6/19	8167014
003	"	"	"	"	6/18	"	"	6/19	"
004	"	"	"	"	6/19	"	"	"	"
005	"	"	"	"	6/18	"	"	"	"
006	"	"	"	"	"	"	"	"	"
007	"	"	"	"	"	"	"	"	"
007	"	"	"	"	"	"	"	"	"

Form Number: 458_1
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Shaw®

Project: F8F130134 - Validation Page 2 of 4

Job Number: 123959 Date: Comp. By: Bennett Checked By:

Lab Dup.

pCi/g

	001	001x	RPD
Th 228	0.26	0.28	7.4
230	0.54	0.59	8.8
232	0.27	0.192	33.8
Pu 238	0.0076	ND	—
239/40	ND	ND	—
U 233/234	0.280	0.262	6.6
235	ND	ND	—
238	0.37	0.32	14.5

No action

Used 35% RPD - (CLP Guidelines)

Method Blank

Iso Pu : 238 - ND
239/40 - ND
Batch : 8167012 No action

Iso Th : 228 - ND
230 - 0.027 pCi/g
232 - ND
Batch 8167013
No action 230 for samples >5x mblk.

Iso U: 233/234 - ND
235 : ND
238 - ND
Batch 8167014 No action

Form Number: 458_1
Rev. 08-16-07

Shaw

Project: F-8F130134- Validation Page 3 of 4

Job Number: Date: Comp. By: Bennett Checked By:

LCS: No action

Iso	Pu	Spike	Result	% R	CL	Batch
	238	1.53 pCi/g	1.53	100	82-117	8167012
	239/240	1.44 pCi/g	1.61	112	91-122	
Iso	Th					
	230	58.5	62.1	106	83-120	8167013
Iso	U					
	233/234	19.6	18.7	95	70-122	8167014
	238	19.6	19.0	97	69-119	

Alpha Spectroscopy

- Calibration?
  Pu - 5/30
  Th - 5/30
  U - 5/30.

  No initial calibration date provided.
  → No action

- Daily Pulser
  U, Th, Pu - 6/18 - pass
  6/19 - pass
  → No action

- Prep Sheet
  Pu ✓ Th ✓ U ✓

- Runlog: Pu ✓ Th ✓ U ✓

Form Number: 468_1
Rev. 08-16-07

Shaw®

Project: F-8F130 134 - Validation Page 4 of 4

Job Number: Date: Comp. By: Bennett Checked By:

Monthly Background

May 2008

May 2008 Monthly Calibration - Th, Pu, Am

5/28

No field duplicates

manual integration used - Th on 002, 004, 005, MBLK.

Form Number: 458_1
Rev. 08-16-07

Case Narrative
LOT NUMBER: F8F130134

This report contains the analytical results for the seven samples received under chain of custody by TestAmerica St. Louis on June 13, 2008. These samples are associated with your Miamisburg Mound project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Isotopic Plutonium by Alpha Spectroscopy (EML A-01-R MOD)
The reporting limit for Plutonium was not met. There is activity in the samples above the MDA.
Affected Samples:
F8F130134 (2): 0701-0105A-FO
F8F130134 (4): PRS7-AL-117
F8F130134 (5): PRS7-AL-118
F8F130134 (6): PRS7-AL-119
F8F130134 (7): PRS7-AL-120

*

There were no other nonconformances or observations noted with any analysis on this lot.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: 0701-0106A-FO

Radiochemistry

Lab Sample ID: F8F130134-001
Work Order: KPWA0
Matrix: SOLID

Date Collected: 06/02/08 1500
Date Received: 06/13/08 0945

Parameter	Result	Qual	√Φ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167013		Yld % 61
Thorium 228	0.26		=	0.11	0.20	0.05	06/15/08	06/19/08
Thorium 230	0.54		↓	0.17	0.20	0.09	06/15/08	06/19/08
Thorium 232	0.27		↓	0.12	0.20	0.07	06/15/08	06/19/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167012		Yld % 94
Plutonium 238	0.0076	J	=	0.0076	0.0200	0.0051	06/15/08	06/19/08
Plutonium 239/40	0.0038	U	U	0.0054	0.0200	0.0051	06/15/08	06/19/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167014		Yld % 87
Uranium 233/234	0.280		=	0.098	0.200	0.042	06/15/08	06/18/08
Uranium 235	0.007	U	U	0.020	0.200	0.045	06/15/08	06/18/08
Uranium 238	0.37		=	0.11	0.20	0.04	06/15/08	06/18/08

JB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: 0701-0106A-FO DUP

Radiochemistry

Lab Sample ID: F8F130134-001X
Work Order: KPWA0
Matrix: SOLID

Date Collected: 06/02/08 1500
Date Received: 06/13/08 0945

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167012		Yld % 94
Plutonium 238	0.0038	U	U	0.0053	0.0200	0.0051	06/15/08	06/19/08
Plutonium 239/40	0.0	U	U	0.0053	0.0200	0.014	06/15/08	06/19/08
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167013		Yld % 60
Thorium 228	0.28		=	0.12	0.20	0.07	06/15/08	06/19/08
Thorium 230	0.59		↓	0.17	0.20	0.06	06/15/08	06/19/08
Thorium 232	0.192	J	↓	0.096	0.200	0.052	06/15/08	06/19/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167014		Yld % 93
Uranium 233/234	0.262		=	0.091	0.200	0.039	06/15/08	06/19/08
Uranium 235	0.0	U	U	0.0092	0.200	0.025	06/15/08	06/19/08
Uranium 238	0.32		=	0.10	0.20	0.05	06/15/08	06/19/08

LJB
8/8/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: 0701-0105A-FO

Radiochemistry

Lab Sample ID: F8F130134-002
Work Order: KPWCA
Matrix: SOLID

Date Collected: 06/09/08 1010
Date Received: 06/13/08 0945

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167013		Yld % 54
Thorium 228	0.52		=	0.17	0.20	0.1	06/15/08	06/19/08
Thorium 230	1.15		↓	0.26	0.20	0.07	06/15/08	06/19/08
Thorium 232	0.50		↓	0.17	0.20	0.06	06/15/08	06/19/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167012		Yld % 98
Plutonium 238	0.075		=	0.051	0.020	0.054	06/15/08	06/18/08
Plutonium 239/40	0.002	U	U	0.015	0.020	0.040	06/15/08	06/18/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167014		Yld % 81
Uranium 233/234	0.63		=	0.16	0.20	0.04	06/15/08	06/19/08
Uranium 235	0.039	U	U	0.045	0.200	0.058	06/15/08	06/19/08
Uranium 238	0.70		=	0.17	0.20	0.05	06/15/08	06/19/08

JDB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-104A

Radiochemistry

Lab Sample ID: F8F130134-003
Work Order: KPWCC
Matrix: SOLID

Date Collected: 06/11/08 1405
Date Received: 06/13/08 0945

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167013		Yld % 75
Thorium 228	1.00		=	0.22	0.20	0.09	06/15/08	06/19/08
Thorium 230	1.20			0.24	0.20	0.05	06/15/08	06/19/08
Thorium 232	0.93			0.20	0.20	0.06	06/15/08	06/19/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167012		Yld % 93
Plutonium 238	0.065		=	0.023	0.020	0.005	06/15/08	06/19/08
Plutonium 239/40	0.0	U	U	0.0037	0.0200	0.0050	06/15/08	06/19/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167014		Yld % 86
Uranium 233/234	0.62		=	0.15	0.20	0.05	06/15/08	06/19/08
Uranium 235	0.012	U	U	0.029	0.200	0.057	06/15/08	06/19/08
Uranium 238	0.93		=	0.19	0.20	0.05	06/15/08	06/19/08

JJB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-117

Radiochemistry

Lab Sample ID: F8F130134-004
Work Order: KPWCH
Matrix: SOLID

Date Collected: 06/09/08 0920
Date Received: 06/13/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8167013		Yld % 66
Thorium 228	0.74		0.19	0.20	0.08	06/15/08	06/19/08
Thorium 230	1.24		0.25	0.20	0.06	06/15/08	06/19/08
Thorium 232	0.50		0.15	0.20	0.05	06/15/08	06/19/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8167012		Yld % 89
Plutonium 238	0.121		0.067	0.020	0.063	06/15/08	06/18/08
Plutonium 239/40	-0.002	U	0.018	0.020	0.052	06/15/08	06/18/08
Iso URANIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8167014		Yld % 75
Uranium 233/234	0.85		0.19	0.20	0.06	06/15/08	06/19/08
Uranium 235	0.047	J	0.047	0.200	0.032	06/15/08	06/19/08
Uranium 238	0.93		0.20	0.20	0.04	06/15/08	06/19/08

VQ

1JB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-118

Radiochemistry

Lab Sample ID: F8F130134-005
Work Order: KPWCM
Matrix: SOLID

Date Collected: 06/09/08 1400
Date Received: 06/13/08 0945

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167013		Yld % 73
Thorium 228	0.84		=	0.20	0.20	0.09	06/15/08	06/19/08
Thorium 230	1.28		↓	0.25	0.20	0.06	06/15/08	06/19/08
Thorium 232	0.79		↓	0.19	0.20	0.04	06/15/08	06/19/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167012		Yld % 95
Plutonium 238	0.78		=	0.17	0.02	0.07	06/15/08	06/18/08
Plutonium 239/40	0.005	U	U	0.015	0.020	0.032	06/15/08	06/18/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167014		Yld % 83
Uranium 233/234	0.88		=	0.19	0.20	0.04	06/15/08	06/19/08
Uranium 235	0.010	U	U	0.021	0.200	0.028	06/15/08	06/19/08
Uranium 238	0.64		=	0.15	0.20	0.04	06/15/08	06/19/08

IJB
8/8/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-119

Radiochemistry

Lab Sample ID: F8F130134-006
Work Order: KPWCN
Matrix: SOLID

Date Collected: 06/09/08 1405
Date Received: 06/13/08 0945

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167013	Yld % 68
Thorium 228	0.79		0.19	0.20	0.09	06/15/08	06/19/08
Thorium 230	1.48		0.27	0.20	0.03	06/15/08	06/19/08
Thorium 232	0.93		0.21	0.20	0.05	06/15/08	06/19/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167012	Yld % 90
Plutonium 238	0.35		0.11	0.02	0.04	06/15/08	06/18/08
Plutonium 239/40	0.002	U	0.017	0.020	0.045	06/15/08	06/18/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167014	Yld % 82
Uranium 233/234	0.76		0.17	0.20	0.04	06/15/08	06/19/08
Uranium 235	0.031	J	0.036	0.200	0.028	06/15/08	06/19/08
Uranium 238	0.93		0.19	0.20	0.02	06/15/08	06/19/08

VQ

U

WB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-120

Radiochemistry

Lab Sample ID: F8F130134-007
Work Order: KPWCQ
Matrix: SOLID

Date Collected: 06/11/08 0930
Date Received: 06/13/08 0945

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167013		Yld % 83
Thorium 228	1.08		=	0.21	0.20	0.06	06/15/08	06/19/08
Thorium 230	1.49		↓	0.25	0.20	0.02	06/15/08	06/19/08
Thorium 232	1.06		↓	0.21	0.20	0.04	06/15/08	06/19/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167012		Yld % 93
Plutonium 238	0.045		=	0.037	0.020	0.020	06/15/08	06/18/08
Plutonium 239/40	-0.0018	U	U	0.0037	0.0200	0.034	06/15/08	06/18/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8167014		Yld % 79
Uranium 233/234	0.77		=	0.18	0.20	0.06	06/15/08	06/19/08
Uranium 235	0.052	J	↓	0.049	0.200	0.050	06/15/08	06/19/08
Uranium 238	0.90		↓	0.19	0.20	0.05	06/15/08	06/19/08

JJB
8/8/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

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Project: F8C180227 Rad validation Page 1 of 2

Job Number: Date: 8/18/2008 Comp. By: Bennett Checked By:

Iso Th - 6 soils

Sample ID.	S.Date	Lab ID	PrepDate	ADate	Batch	
MHA5-AL-050	3/13/08	001	3/20	3/24	8080101	← Lab Dup
MHA5-AL-051		002	"	3/21	"	
MHA5-AL-052		003	"	"	"	
MHA5-AL-053		004	"	"	"	
MHA5-AL-054		005	"	"	"	
MHA5-AL-055		006	"	"	"	

- 3°C
- no relinquished sig from service ctr.
- EMC. A-01-R MOD

Method Blank -

Th 228 - ND
230 - ND
232 - ND

No action

LCS Th. 230 99% R (79-122)

Lab Duplicate

	001	001X	RPD
Th 228	1.15	1.54	29
230	0.92	0.94	2
232	1.26	1.54	20.

No action

Form Number: 458_1
Rev.08-16-07

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Project: F8C180227 Rad Validation Page 2 of 2

Job Number: Date: 8/18/2008 Comp. By: Bennett Checked By:

001	AV53 -	3/24 @	11:49
002	AV54	"	"
003	AV 6	3/21	19:25
004	AV 8	3/21	19:25
005	AV18	3/21	19:25
006	AV20	3/21	19:25

Feb 2008 Calibr - 2/29

Daily Pulsers. 3/21 ✓ 3/24 ✓

Run Log ✓

Prep Log ✓

Monthly backgrd ✓

Monthly Calibration

Tracer yields (30-110) ✓

Form Number: 458_1
Rev. 08-16-07

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: MHA5-AL-050

Radiochemistry

Lab Sample ID: F8C180227-001
Work Order: KJRR5
Matrix: SOLID

Date Collected: 03/13/08 0000
Date Received: 03/18/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8080101		Yld % 69
Thorium 228	1.15	=	0.24	0.20	0.09	03/20/08	03/24/08
Thorium 230	0.92		0.21	0.20	0.06	03/20/08	03/24/08
Thorium 232	1.26		0.25	0.20	0.05	03/20/08	03/24/08

VQ

NJB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: MHA5-AL-050 DUP

Radiochemistry

Lab Sample ID: F8C180227-001X
Work Order: KJRR5
Matrix: SOLID

Date Collected: 03/13/08 0000
Date Received: 03/18/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8080101		Yld % 42
Thorium 228	1.54		0.35	0.20	0.16	03/20/08	03/24/08
Thorium 230	0.94		0.27	0.20	0.09	03/20/08	03/24/08
Thorium 232	1.54		0.35	0.20	0.09	03/20/08	03/24/08

VQ

JB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: MHA5-AL-051

Radiochemistry

Lab Sample ID: F8C180227-002
Work Order: KJRR7
Matrix: SOLID

Date Collected: 03/13/08 0000
Date Received: 03/18/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8080101		Yld % 70
Thorium 228	0.56	=	0.16	0.20	0.09	03/20/08	03/21/08
Thorium 230	1.19		0.24	0.20	0.07	03/20/08	03/21/08
Thorium 232	0.54		0.16	0.20	0.07	03/20/08	03/21/08

KJB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: MHA5-AL-052

Radiochemistry

Lab Sample ID: F8C180227-003
Work Order: KJRR8
Matrix: SOLID

Date Collected: 03/13/08 0000
Date Received: 03/18/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8080101		Yld % 64
Thorium 228	0.71		0.19	0.20	0.09	03/20/08	03/21/08
Thorium 230	1.03		0.23	0.20	0.05	03/20/08	03/21/08
Thorium 232	0.76		0.19	0.20	0.06	03/20/08	03/21/08

VQ

IJB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: MHA5-AL-053

Radiochemistry

Lab Sample ID: F8C180227-004
Work Order: KJRR9
Matrix: SOLID

Date Collected: 03/13/08 0000
Date Received: 03/18/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8080101		Yld % 68
Thorium 228	0.95	=	0.21	0.20	0.06	03/20/08	03/21/08
Thorium 230	0.83		0.19	0.20	0.04	03/20/08	03/21/08
Thorium 232	1.11		0.23	0.20	0.03	03/20/08	03/21/08

VQ

JJB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: MHA5-AL-054

Radiochemistry

Lab Sample ID: F8C180227-005
Work Order: KJRTA
Matrix: SOLID

Date Collected: 03/13/08 0000
Date Received: 03/18/08 0915

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8080101		Yld % 66
Thorium 228	1.04	=	0.24	0.20	0.12	03/20/08	03/21/08
Thorium 230	0.89		0.21	0.20	0.05	03/20/08	03/21/08
Thorium 232	0.99		0.23	0.20	0.05	03/20/08	03/21/08

IJB
8/8/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: MHA5-AL-055

Radiochemistry

Lab Sample ID: F8C180227-006
Work Order: KJRTD
Matrix: SOLID

Date Collected: 03/13/08 0000
Date Received: 03/18/08 0915

Parameter	Result	Qual V/Q	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8080101		Yld % 69
Thorium 228	0.72	=	0.19	0.20	0.11	03/20/08	03/21/08
Thorium 230	0.99	↓	0.21	0.20	0.06	03/20/08	03/21/08
Thorium 232	0.84		0.19	0.20	0.06	03/20/08	03/21/08

JB
81806

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

TestAmerica St. Louis

METHOD BLANK REPORT

Radiochemistry

Client Lot ID: F8C180227
Matrix: SOLID

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Lab Sample ID Analysis Date
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g	Batch # 8080101		Yld % 68	F8C200000-101B
Thorium 228	-0.0105	U	0.0075	0.100	0.042	03/20/08	03/21/08
Thorium 230	0.017	U	0.022	0.100	0.031	03/20/08	03/21/08
Thorium 232	-0.0037	U	0.0044	0.100	0.030	03/20/08	03/21/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined using instrument performance only
Bold results are greater than the MDC

U Result is less than the sample detection limit.

TestAmerica St. Louis

Laboratory Control Sample Report

Radiochemistry

Client Lot ID: F8C180227
Matrix: SOLID

Parameter	Spike Amount	Result	Total Uncert. (2 σ+/-)	MDC	% Yld	% Rec	Lab Sample ID / QC Control Limits
Iso THORIUM (LONG CT) DOE A-01-R MOD		pCi/g		A-01-R MOD			F8C200000-101C
Thorium 230	58.5	57.6	6.2	0.3	89	99	(79 - 122)
	Batch #:	8080101		Analysis Date:	03/21/08		

NOTE(S)

MDC is determined by instrument performance only
Calculations are performed before rounding to avoid round-off error in calculated results .

TestAmerica St. Louis

DUPLICATE EVALUATION REPORT

Radiochemistry

Client Lot ID: F8C180227
Matrix: SOLID

Date Sampled: 03/13/08
Date Received: 03/18/08

Parameter	SAMPLE Result	Total Uncert. (2σ+/-)	% Yld	DUPLICATE Result	Total Uncert. (2 σ+/-)	% Yld	QC Sample ID Precision	
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g	A-01-R MOD			F8C180227-001	
Thorium 228	1.15	0.24	69	1.54	0.35	42	29	%RPD
Thorium 230	0.92	0.21	69	0.94	0.27	42	3	%RPD
Thorium 232	1.26	0.25	69	1.54	0.35	42	20	%RPD
Batch #:		8080101 (Sample)		8080101 (Duplicate)				

NOTE(S)

Data are incomplete without the case narrative.
Calculations are performed before rounding to avoid round-off error in calculated results

Shaw®

Project: F8E310153 Rad Validation Page 1 of 5

Job Number: 123959 Date: 8/18/2008 Comp. By: Bennett Checked By:

5 soils. – Gamma, Iso Pu, Iso Th, Iso U
↳ 231 apci/g RL.

Sample ID	S. Date	Lab ID
PRS7-AL-071A	5/28/08	001 ← Iso lab dup.
PRS7-AL-072A	↓	002
PR7-AL-114	↓	003
PRS7-AL-115	5/7/08	004
PRS7-AL-116	↓	005

- Rec'd @ ambient temp, intact, seals intact

Methods:
Gamma: Cs-137 + hits – EML GA-01-R-MOD
Iso Pu, Th, U – EML A-01-R-MOD

Lab No.	Iso U E Date	Iso U A Date	Iso U Batch	Iso Pu E Date	Iso Pu A Date	Iso Pu Batch	Iso Th E Date	Iso Th A Date	Iso Th Batch	Gamma E Date	Gamma A Date	Gamma Batch
001	6/2	6/5	8154319	6/2	6/5	8154314	6/2	6/5	8154316	6/3	6/3	8155[illegible]
002	5/31	6/6	8158152	"	"	"	"	6/4	"	"	"	"
003	6/2	6/5	8154319	"	"	"	"	"	"	"	"	"
004	"	"	"	"	"	"	"	6/5	"	"	"	"
005	"	"	"	"	"	"	"	"	"	"	"	"
001 Dup	6/2	6/5	8154319	6/2	6/5	8154314	6/2	6/5	8154316	—		

Form Number: 458_1
Rev. 08-16-07

Shaw®

Project: F8E310153 Rad Validation Page 2 of 5

Job Number: Date: 8/18/2008 Comp. By: Bennett Checked By:

Method Blank

Iso U:	U 233/234	0.016 pCi/g	Batch 8154319	- No action - Samples > 5x MB.
	U 238	0.021 "		
Iso Pu:	ND, ND		- Batch 8154314	- No action
Iso Th:	Th 228	0.023 pCi/g	Batch 8154316	No action - Samples > 5x MB.
	Th 230	0.040 pCi/g		
	Th 232	ND		
Gamma:	ND - Batch 8155798			- No action
Iso U:	ND, ND, ND - Batch 8158152			- No action.

LCS:

		Spike pCi/g	Result.	% R	CL	Batch
Iso Pu:	238	1.53	1.49	97	79-113	8154314
	239/240	1.44	1.43	99	84-123	
Iso Th:	230	58.5	59.8	102	79-122	8154316
Iso U:	233/234	19.4	19.9	~~93~~ 102	66-125	8154319
	238	19.4	18.6	~~93~~ 95	64-123	
Gamma:	Am 241	98.8	106	107	90-110	8155798
	Cs 137	37.1	39.2	106	91-120	
	Co 60	61.4	63.7	104	91-112	
Iso U:	~~233/234~~	~~19.6~~	~~16.4~~	~~83~~	~~66-125~~	8158152
	238:	19.6	19.6	100	66-125	
			16.8	86	64-123	
			18.6	95		

Form Number: 458_1
Rev. 08-16-07

Shaw®

Project: F8E310153 Rad validation Page 3 of 5

Job Number: Date: 8/18/2008 Comp. By: Bennett Checked By:

Lab Dup

		001	001X	RPD	
Iso Pu	238	0.014	0.020	35	using crit value of 35%.
	239/240	ND	ND	—	
Iso Th	228	0.62	0.45	32	
	230	1.08	0.97	11	No action
	232	0.55	0.69	23	
U	233/234	0.77	0.59	24	
	235	0.038	ND	—	
	238	0.79	0.83	5	

Gamma lab dup was ~~GA-01~~ F8E310149-001 (Batch 8155198) - PR7-CH-034. not assoc w/ this SDG.

Alpha Spectroscopy

Pu - Calibr AV75: 5/30/08
AV76: 5/30
AV78: 5/28
AV79: 5/30
AV80: 5/30

No action

manual integr used for LCS.

daily pulser: 6/4, 6/5, 6/6

Form Number: 458_1
Rev. 08-16-07

Shaw®

Project: F8E310153 Rad Validation Page 4 of 5

Job Number: Date: 8/18/2008 Comp. By: Bennett Checked By:

Th

Manual integr used for -001, -001X, -005, MBLK, LCS.

Calibration: AV66 - 5/30
AV6 - 5/30
AV7 - 5/30
AV8 - 5/30
AV1 - 5/30
AV3 - 5/30

daily pulser: 6/4, 6/5

No action

U

Calibration: AV46 5/30
AV47 5/30
AV50 5/30
AV53 5/30

AV67 5/27 (BLK)
AV68 5/30 (LCS)
AV45 5/30 (LCSD)

daily pulser: 6/5, 6/6

Alpha monthly background: May 2008

No action

Monthly Calibrations:

AV1 - 5/28
AV3 - "
AV4 - "
AV6 - 5/29
AV7 - "
AV8 - "
AV45 - 5/28
AV46 - 5/29
AV47 - 5/29
AV48 - 5/29

AV49 - 5/29
AV50 - "
AV52 - "
AV53 - "
AV54 - 5/27
AV55 - "
AV56 - "
AV57 - "
AV66 - 5/30
AV67 - 5/27
AV68 - 5/30

AV69 - 5/30
AV70 "
AV71 - 5/29
AV72 - 5/27
AV73 5/30
AV74 5/30
AV75 5/28
AV76 5/28
AV78 "
AV79 5/29
AV80 "

AV81 - 5/29
AV82 "
AV83 5/28
AV84 "
AV85 "
AV86 "
AV87 "
AV88 "
AV89 - "
AV90 - "
AV92 "

AV93 - 5/27 AV94 5/27 AV95 5/29 AV96 5/29 AV97 - 5/29
AV98 5/29

Form Number: 458_1
Rev. 06-16-07

Shaw®

Project: F&E 310153 Rad validation Page 5 of 5

Job Number: Date: 8/18/2008 Comp. By: Bennett Checked By:

Gamma

Prep sheet - ~~could not find~~ . p. 396 & 441

Run log ✓

Instrument checks

Detector

001 3 - 6/3 @ 11:19

002 3 - 6/5 @ 10:23

003 3 - 6/3 @ 11:21

004 2 - 6/3 @ 12:02

005 - 5 - 6/3 @ 12:05

daily check - 6/3 { det. 3 ✓, det. 2 ✓, det. 5 ✓ } 6/4 { ✓, ✓, ✓ } 6/5 { ✓, ✓, ✓ }

Long Backgrounds - May 2008 ✓

No action

Form Number: 458_1
Rev. 08-16-07

Case Narrative
LOT NUMBER: F8E310153

This report contains the analytical results for the five samples received under chain of custody by TestAmerica St. Louis on May 31, 2008. These samples are associated with your Miamisburg Mound project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Gamma Spectroscopy - Cesium-137 & Hits (EML GA-01-R MOD)
Radium-226 is reported in these samples at the client's request. Radium-226 is reported from the 609.31 keV line of Bismuth-214. Because the samples have not had a 21-day ingrowth, the activity for Radium-226 is an estimated value and may be biased low. This bias is caused by the disruption of secular equilibrium between Radium-226 and Bismuth-214 by the loss of Radon-222 during sample preparation. K

Affected Samples:
F8E310153 (1): PRS7-AL-071A
F8E310153 (2): PRS7-AL-072A
F8E310153 (3): PRS7-AL-114
F8E310153 (4): PRS7-AL-115
F8E310153 (5): PRS7-AL-116

J.

Isotopic Uranium by Alpha Spectroscopy (EML A-01-R MOD)
The Uranium sample had a tracer recovery below the 30% QC limit. The sample was re-extracted and reanalyzed. The re-extracted sample results were acceptable and reported.
Affected Samples:
F8E310153 (2): PRS7-AL-072A

There were no other nonconformances or observations noted with any analysis on this lot.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-071A

Radiochemistry

Lab Sample ID: F8E310153-001
Work Order: KN6VE
Matrix: SOLID

Date Collected: 05/28/08 0940
Date Received: 05/31/08 0845

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 8155198		Yld %
Actinium 227	0.03	U	U	0.22		0.38	06/03/08	06/03/08
Actinium 228	0.44		=	0.19		0.34	06/03/08	06/03/08
Americium 241	0.02	U	U	0.12		0.21	06/03/08	06/03/08
Bismuth-207	0.018	U	↓	0.040		0.20	06/03/08	06/03/08
Bismuth-210M	-0.027	U	↓	0.065		0.11	06/03/08	06/03/08
Bismuth 214	0.77		=	0.17		0.18	06/03/08	06/03/08
Cesium 137	0.006	U	U	0.046	0.200	0.084	06/03/08	06/03/08
Cobalt 60	0.013	U	↓	0.039		0.072	06/03/08	06/03/08
Lead 210	2.1	U	↓	1.6	3.7	2.2	06/03/08	06/03/08
Protactinium 231	0.4	U	↓	8.2	2.0	2.3	06/03/08	06/03/08
Radium (226)	0.77		J	0.17		0.18	06/03/08	06/03/08
Thorium 229	0.0	U	U	0.76		1.3	06/03/08	06/03/08
Uranium 235	0.05	U	↓	0.27		0.46	06/03/08	06/03/08
Uranium 238	0.8	U	↓	1.2		2.0	06/03/08	06/03/08
--- Other Detected Radionuclides ---								
Lead 212	0.72		=	0.15		0.15	06/03/08	06/03/08
Lead 214	0.74		↓	0.13		0.15	06/03/08	06/03/08
Potassium 40	14.8		↓	1.9		0.4	06/03/08	06/03/08
Thallium 208	0.256		↓	0.075		0.085	06/03/08	06/03/08
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154316		Yld % 65
Thorium 228	0.62		=	0.17	0.20	0.08	06/02/08	06/05/08
Thorium 230	1.08		↓	0.23	0.20	0.03	06/02/08	06/05/08
Thorium 232	0.55		↓	0.16	0.20	0.06	06/02/08	06/05/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154314		Yld % 89
Plutonium 238	0.014	J	=	0.011	0.020	0.005	06/02/08	06/05/08
Plutonium 239/40	0.0020	U	U	0.0040	0.0200	0.0054	06/02/08	06/05/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154319		Yld % 90
Uranium 233/234	0.77		=	0.17	0.10	0.04	06/02/08	06/05/08
Uranium 235	0.038	J	↓	0.038	0.100	0.026	06/02/08	06/05/08
Uranium 238	0.79		↓	0.17	0.10	0.05	06/02/08	06/05/08

NOTE(S) JJB 8/18/2008

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-071A DUP

Radiochemistry

Lab Sample ID: F8E310153-001X
Work Order: KN6VE
Matrix: SOLID

Date Collected: 05/28/08 0940
Date Received: 05/31/08 0845

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154314		Yld % 91
Plutonium 238	0.020	J	=	0.013	0.020	0.005	06/02/08	06/05/08
Plutonium 239/40	-0.0020	U	U	0.0039	0.0200	0.014	06/02/08	06/05/08
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154316		Yld % 81
Thorium 228	0.45		=	0.14	0.20	0.08	06/02/08	06/04/08
Thorium 230	0.97		↓	0.20	0.20	0.07	06/02/08	06/04/08
Thorium 232	0.69		↓	0.17	0.20	0.06	06/02/08	06/04/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154319		Yld % 92
Uranium 233/234	0.59		=	0.14	0.10	0.04	06/02/08	06/05/08
Uranium 235	-0.0048	U	U	0.0068	0.100	0.051	06/02/08	06/05/08
Uranium 238	0.83		=	0.18	0.10	0.04	06/02/08	06/05/08

IJB
81808

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-072A

Radiochemistry

Lab Sample ID: F8E310153-002
Work Order: KN6VK
Matrix: SOLID

Date Collected: 05/28/08 1015
Date Received: 05/31/08 0845

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 8155198		Yld %
Actinium 227	-0.08	U	U	0.29		0.50	06/03/08	06/05/08
Actinium 228	1.02		=	0.21		0.21	06/03/08	06/05/08
Americium 241	-0.01	U	U	0.10		0.18	06/03/08	06/05/08
Bismuth-207	0.023	U		0.028		0.098	06/03/08	06/05/08
Bismuth-210M	0.001	U		0.050		0.086	06/03/08	06/05/08
Bismuth 214	1.08			0.15		0.12	06/03/08	06/05/08
Cesium 137	-0.0001	U	U	0.039	0.200	0.069	06/03/08	06/05/08
Cobalt 60	0.0	U	U	0.041		0.075	06/03/08	06/05/08
Lead 210	2.5	J	=	1.4	3.7	1.8	06/03/08	06/05/08
Protactinium 231	0.0	U	U	0.21	2.00	1.5	06/03/08	06/05/08
Radium (226)	1.08		J	0.15		0.12	06/03/08	06/05/08
Thorium 229	0.47	U	U	0.55		0.90	06/03/08	06/05/08
Uranium 235	0.19	U	U	0.22		0.37	06/03/08	06/05/08
Uranium 238	1.5		=	1.1		1.4	06/03/08	06/05/08
--- Other Detected Radionuclides ---								
Lead 212	0.84		=	0.13		0.12	06/03/08	06/05/08
Lead 214	1.31			0.17		0.13	06/03/08	06/05/08
Potassium 40	15.7			1.6		0.4	06/03/08	06/05/08
Thallium 208	0.318			0.074		0.060	06/03/08	06/05/08
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154316		Yld % 64
Thorium 228	0.67		=	0.19	0.20	0.12	06/02/08	06/04/08
Thorium 230	1.43			0.28	0.20	0.08	06/02/08	06/04/08
Thorium 232	0.61			0.17	0.20	0.06	06/02/08	06/04/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154314		Yld % 92
Plutonium 238	0.0113	J	=	0.0093	0.0200	0.0051	06/02/08	06/05/08
Plutonium 239/40	0.0	U	U	0.0038	0.0200	0.0051	06/02/08	06/05/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8158152		Yld % 83
Uranium 233/234	0.90		=	0.19	0.20	0.04	05/31/08	06/06/08
Uranium 235	0.041	J		0.041	0.200	0.028	05/31/08	06/06/08
Uranium 238	1.00			0.20	0.20	0.05	05/31/08	06/06/08

NJB 8/18/2008

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-114

Radiochemistry

Lab Sample ID: F8E310153-003
Work Order: KN6VL
Matrix: SOLID

Date Collected: 05/28/08 1355
Date Received: 05/31/08 0845

Parameter	Result	Qual		Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 8155198		Yld %
Actinium 227	-0.19	U	U	0.30		0.50	06/03/08	06/03/08
Actinium 228	0.23		=	0.16		0.23	06/03/08	06/03/08
Americium 241	0.003	U	U	0.091		0.16	06/03/08	06/03/08
Bismuth-207	0.0005	U		0.031		0.13	06/03/08	06/03/08
Bismuth-210M	0.013	U		0.049		0.086	06/03/08	06/03/08
Bismuth 214	0.44		=	0.12		0.11	06/03/08	06/03/08
Cesium 137	0.000007	U	U	0.031	0.200	0.060	06/03/08	06/03/08
Cobalt 60	0.001	U		0.044		0.087	06/03/08	06/03/08
Lead 210	0.0	U		1.1	3.7	1.9	06/03/08	06/03/08
Protactinium 231	0.0	U		1.5	2.0	1.7	06/03/08	06/03/08
Radium (226)	0.44		J	0.12		0.11	06/03/08	06/03/08
Thorium 229	0.13	U	U	0.52		0.91	06/03/08	06/03/08
Uranium 235	0.13	U		0.18		0.31	06/03/08	06/03/08
Uranium 238	0.23	U		0.96		1.7	06/03/08	06/03/08
--- Other Detected Radionuclides ---								
Lead 212	0.326		=	0.097		0.10	06/03/08	06/03/08
Lead 214	0.37			0.10		0.13	06/03/08	06/03/08
Potassium 40	6.7			1.3		0.5	06/03/08	06/03/08
Thallium 208	0.112			0.058		0.079	06/03/08	06/03/08
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154316		Yld % 63
Thorium 228	0.35		=	0.13	0.20	0.09	06/02/08	06/04/08
Thorium 230	0.83			0.20	0.20	0.06	06/02/08	06/04/08
Thorium 232	0.42			0.14	0.20	0.04	06/02/08	06/04/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154314		Yld % 92
Plutonium 238	0.0019	U	U	0.0037	0.0200	0.0050	06/02/08	06/05/08
Plutonium 239/40	-0.0019	U	U	0.0065	0.0200	0.017	06/02/08	06/05/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154319		Yld % 83
Uranium 233/234	0.61		=	0.15	0.10	0.05	06/02/08	06/05/08
Uranium 235	0.010	U	U	0.021	0.100	0.028	06/02/08	06/05/08
Uranium 238	0.39		=	0.12	0.10	0.04	06/02/08	06/05/08

NJB 8/18/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

U Result is less than the sample detection limit.

Shaw E & I Inc

Client Sample ID: PRS7-AL-115

Radiochemistry

Lab Sample ID: F8E310153-004
Work Order: KN6VM
Matrix: SOLID

Date Collected: 05/07/08 0000
Date Received: 05/31/08 0845

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.			pCi/g		Batch # 8155198		Yld %
Actinium 227	-0.05	U	0.86		1.4	06/03/08	06/03/08
Actinium 228	0.50		0.28		0.38	06/03/08	06/03/08
Americium 241	-0.0007	U	0.10		0.18	06/03/08	06/03/08
Bismuth-207	0.027	U	0.048		0.15	06/03/08	06/03/08
Bismuth-210M	-0.002	U	0.051		0.094	06/03/08	06/03/08
Bismuth 214	0.78		0.21		0.19	06/03/08	06/03/08
Cesium 137	0.030	U	0.059	0.200	0.10	06/03/08	06/03/08
Cobalt 60	0.0009	U	0.068		0.13	06/03/08	06/03/08
Lead 210	-0.05	U	1.7	3.7	3.1	06/03/08	06/03/08
Protactinium 231	0.08	U	3.6	2.0	2.1	06/03/08	06/03/08
Radium (226)	0.78		0.21		0.19	06/03/08	06/03/08
Thorium 229	-0.27	U	0.67		1.2	06/03/08	06/03/08
Uranium 235	-0.008	U	0.29		0.50	06/03/08	06/03/08
Uranium 238	1	U	1.2		2.0	06/03/08	06/03/08
--- Other Detected Radionuclides ---							
Lead 212	0.72		0.16		0.17	06/03/08	06/03/08
Lead 214	1.09		0.21		0.14	06/03/08	06/03/08
Potassium 40	13.5		2.2		0.6	06/03/08	06/03/08
Thallium 208	0.258		0.096		0.096	06/03/08	06/03/08
Iso THORIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8154316		Yld % 76
Thorium 228	0.74		0.18	0.20	0.07	06/02/08	06/05/08
Thorium 230	1.41		0.26	0.20	0.05	06/02/08	06/05/08
Thorium 232	1.0		0.21	0.20	0.05	06/02/08	06/05/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8154314		Yld % 94
Plutonium 238	0.052		0.021	0.020	0.014	06/02/08	06/05/08
Plutonium 239/40	0.0058	J	0.0067	0.0200	0.0052	06/02/08	06/05/08
Iso URANIUM (LONG CT) DOE A-01-R MOD			pCi/g		Batch # 8154319		Yld % 92
Uranium 233/234	0.84		0.17	0.10	0.04	06/02/08	06/05/08
Uranium 235	0.046	J	0.041	0.100	0.025	06/02/08	06/05/08
Uranium 238	0.84		0.17	0.10	0.03	06/02/08	06/05/08

IJB 8/8/08

NOTE(S)

Data are incomplete without the case narrative.

MDC is determined by instrument performance only.
Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

TestAmerica St. Louis

Shaw E & I Inc

Client Sample ID: PRS7-AL-116

Radiochemistry

Lab Sample ID: F8E310153-005
Work Order: KN6VP
Matrix: SOLID

Date Collected: 05/07/08 0000
Date Received: 05/31/08 0845

Parameter	Result	Qual	VQ	Total Uncert. (2 σ+/-)	RL	MDC	Prep Date	Analysis Date
Gamma Cs-137 & Hits by DOE GA-01-R MOD.				pCi/g		Batch # 8155198		Yld %
Actinium 227	-0.17	U	U	0.35		0.59	06/03/08	06/03/08
Actinium 228	0.79		=	0.27		0.40	06/03/08	06/03/08
Americium 241	0.03	U	U	0.13		0.22	06/03/08	06/03/08
Bismuth-207	0.0	U	↓	0.62		0.18	06/03/08	06/03/08
Bismuth-210M	0.049	U	↓	0.067		0.11	06/03/08	06/03/08
Bismuth 214	0.69		=	0.21		0.25	06/03/08	06/03/08
Cesium 137	0.051	U	U	0.075	0.200	0.13	06/03/08	06/03/08
Cobalt 60	0.034	U	↓	0.067		0.12	06/03/08	06/03/08
Lead 210	0.4	U	↓	1.7	3.7	3.0	06/03/08	06/03/08
Protactinium 231	0.0	U	↓	7.6	2.0	2.4	06/03/08	06/03/08
Radium (226)	0.69		J	0.21		0.25	06/03/08	06/03/08
Thorium 229	0.58	U	U	0.68		1.1	06/03/08	06/03/08
Uranium 235	0.0	U	↓	0.30		0.53	06/03/08	06/03/08
Uranium 238	0.8	U	↓	1.3		2.3	06/03/08	06/03/08
--- Other Detected Radionuclides ---								
Lead 212	0.72		=	0.15		0.12	06/03/08	06/03/08
Lead 214	0.83		↓	0.17		0.19	06/03/08	06/03/08
Potassium 40	14.4		↓	2.4		0.6	06/03/08	06/03/08
Thallium 208	0.302		↓	0.0999		0.11	06/03/08	06/03/08
Iso THORIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154316		Yld % 63
Thorium 228	0.71		=	0.19	0.20	0.08	06/02/08	06/05/08
Thorium 230	1.39		↓	0.28	0.20	0.07	06/02/08	06/05/08
Thorium 232	0.63		↓	0.18	0.20	0.08	06/02/08	06/05/08
Iso PLUTONIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154314		Yld % 92
Plutonium 238	0.017	J	=	0.011	0.020	0.005	06/02/08	06/05/08
Plutonium 239/40	0.0	U	U	0.0038	0.0200	0.0051	06/02/08	06/05/08
Iso URANIUM (LONG CT) DOE A-01-R MOD				pCi/g		Batch # 8154319		Yld % 81
Uranium 233/234	0.96		=	0.20	0.10	0.04	06/02/08	06/05/08
Uranium 235	0.032	J	↓	0.037	0.100	0.028	06/02/08	06/05/08
Uranium 238	0.89		↓	0.19	0.10	0.05	06/02/08	06/05/08

JB 8/8/08

NOTE(S)

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Bold results are greater than the MDC

J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

Appendix F

Radiological Data Report

January 2009

Final

Connie Gerbig, Mound Radiological Control Manager

PRS 7 Radiological Data Report

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Table 1: Surface Contamination Guidelines

Allowable Total Residual Surface Contamination (dpm/100 cm^2)[1]			
Radionuclides[2]	Average[3,4]	Maximum[5,6]	Removable[6]
Group 1 - Transuranics, I-125, I-129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	100	300	20
Group 2 - Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1000	3,000	200
Group 3 - U-Natural, U-235, U-238, and associated decay products, alpha emitters	5,000	15,000	1,000
Group 4 - Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous[7] fission) except for Sr-90 and other noted above.	5,000	15,000	1,000
Tritium	N/A	N/A	10,000

1. As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

2. Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exits, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.

3. Measurements of average contamination should not be averaged over an area of more than 1 m^2. For objects of smaller surface area, the average should be derived for each object.

4. Dose Rate: The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr and 1.0 mrad/hr, respectively, at 1 cm. Since building materials have naturally occurring radioactive material, background should be accounted for.

5. The maximum concentration level applies to an area of not more than 100 cm^2.

6. The amount of removable material per 100 cm^2 of surface area should be determined by wiping the area of that size with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wiping with an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped.

7. This category of radionuclides includes mixed fission products, including Sr-90 which is present in them. It does not apply to Sr-90 which has been separated from the other fission products or mixtures where the Sr-90 has been enriched.

Reference: Work Plan for Environmental Restoration of the DOE Mound Site Mound 2000 Approach Final, Rev. 0

Manhole A-5 Removal

Manhole A-5. Figure 1 shows this manhole's general location off Capstone Dr. Figure 3 shows the manhole location with respect to the Mound Site. Radiological survey results determined that the removal of Manhole A-5 was more cost effective than remediation. The radiological contamination was limited to inside the manhole and showed elevated levels of Pu-238.

The manhole had previously been abandoned and there were no lines remaining attached to this manhole. The soils excavated were necessary layback for the removal and the area did not require further remediation. The excavated manhole and surrounding soils were transported to the Mound Rail Spur for disposal via rail as Low Level Waste to EnergySolutions facility in Clive, Utah.

During this excavation an abandoned, open ended 6" cast iron line of unknown origin was encountered north northwest of the manhole, it was surveyed with results less than Table 1 values and plugged by filling the bottom of the excavation with concrete. Excavation limits are shown on Photo 1 and Figure 2. After sampling, the area was backfilled. The excavation before and after backfilling was field surveyed with a FIDLER and 2X2. No elevated readings were noted. Sample results of the confirmation samples were compared to Mound Soil Cleanup Objectives and are shown in Table 2. All sample data are less than the Cleanup Objectives.

The onsite soil screening lab will report results for Ac-227, Am-241, Cs-137, Co-60, Pu-238, Ra-226, Th-230, Th-232 and U-238. Bi-207 will be reported if greater than its MDA. Th-230 MDA will be < 10 pCi/g. All final "as left samples" will be sent offsite for iso-Th analysis.

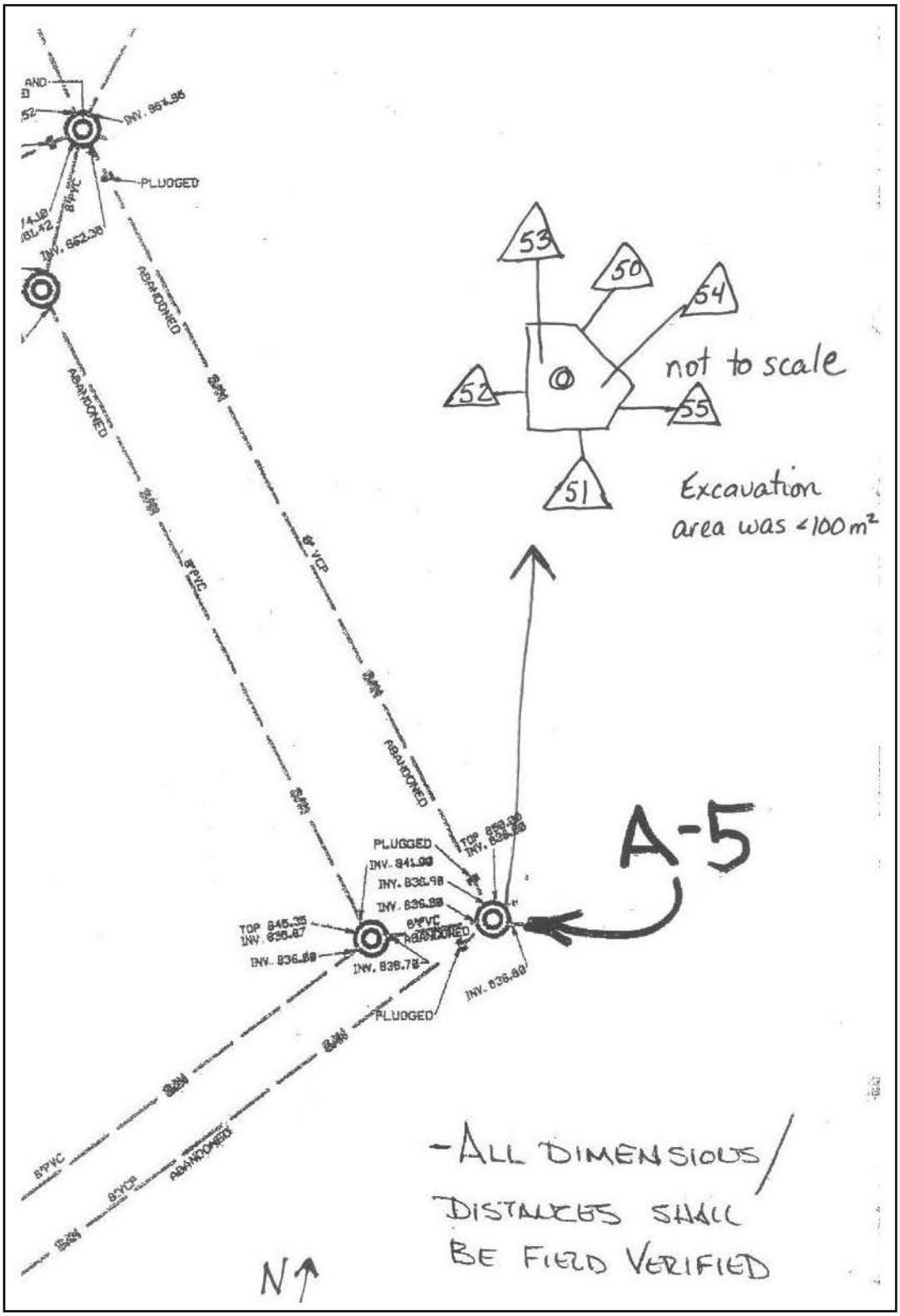

Figure 1: Manhole A-5 Location

Photo 1: Completed excavation of Manhole A-5 shown facing northeast

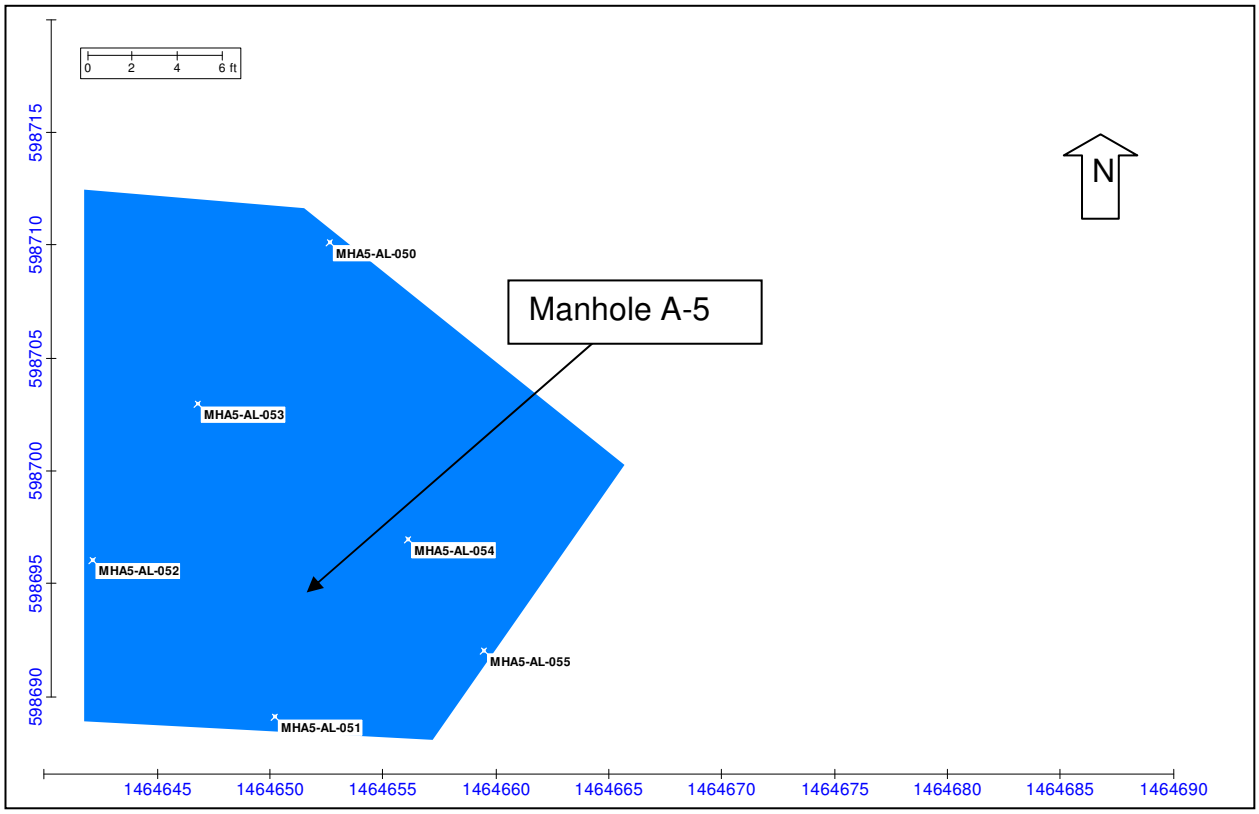

Figure 2: Manhole A-5 excavation area boundaries
with sample locations.
Excavated area is 428 ft^2 (~40 m^2)
Sample IDs as indicated:

X Coordinate	Y Coordinate	Sample ID
1464652.66	598710.16	MHA5-AL-050
1464650.22	598689.11	MHA5-AL-051
1464642.13	598696.04	MHA5-AL-052
1464646.82	598703.01	MHA5-AL-053
1464656.12	598696.97	MHA5-AL-054
1464659.47	598692.06	MHA5-AL-055

Table 2: Analytical Results for Manhole A-5 Verification Samples

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA5-AL-050	3/13/2008	Actinium-227	4.6	0.26	0.28	U	onsite
MHA5-AL-050	3/13/2008	Americium-241	63	0.00	0.07	U	onsite
MHA5-AL-050	3/13/2008	Bismuth-210M	8.3	0.03	0.05	U	onsite
MHA5-AL-050	3/13/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA5-AL-050	3/13/2008	Cobalt-60	0.7	0.00	0.07	U	onsite
MHA5-AL-050	3/13/2008	Lead-210	7.4	0.43	0.67	U	onsite
MHA5-AL-050	3/13/2008	Plutonium-238	55	5.53	6.93	U	onsite
MHA5-AL-050	3/13/2008	Protactinium-231	4	0.58	1.50	U	onsite
MHA5-AL-050	3/13/2008	Radium-226	2.9	0.54	0.12		onsite
MHA5-AL-050	3/13/2008	Thorium-228	2.6	1.15	0.09		iso-Th
MHA5-AL-050	3/13/2008	Thorium-230	2.8	0.00	6.81	U	onsite
MHA5-AL-050	3/13/2008	Thorium-230	2.8	0.92	0.06		iso-Th
MHA5-AL-050	3/13/2008	Thorium-232	2.1	0.54	0.19		onsite
MHA5-AL-050	3/13/2008	Thorium-232	2.1	1.26	0.05		iso-Th
MHA5-AL-050	3/13/2008	Uranium-238	2.2	0.66	0.44		onsite
MHA5-AL-051	3/13/2008	Actinium-227	4.6	0.16	0.24	U	onsite
MHA5-AL-051	3/13/2008	Americium-241	63	0.00	0.06	U	onsite
MHA5-AL-051	3/13/2008	Bismuth-210M	8.3	0.00	0.04	U	onsite
MHA5-AL-051	3/13/2008	Cesium-137	3.8	0.01	0.04	U	onsite
MHA5-AL-051	3/13/2008	Cobalt-60	0.7	0.02	0.04	U	onsite
MHA5-AL-051	3/13/2008	Lead-210	7.4	0.17	0.59	U	onsite
MHA5-AL-051	3/13/2008	Plutonium-238	55	4.51	5.41	U	onsite
MHA5-AL-051	3/13/2008	Protactinium-231	4	0.18	1.40	U	onsite
MHA5-AL-051	3/13/2008	Radium-226	2.9	0.62	0.11		onsite
MHA5-AL-051	3/13/2008	Thorium-228	2.6	0.56	0.09		iso-Th
MHA5-AL-051	3/13/2008	Thorium-230	2.8	2.98	5.74	U	onsite
MHA5-AL-051	3/13/2008	Thorium-230	2.8	1.19	0.07		iso-Th
MHA5-AL-051	3/13/2008	Thorium-232	2.1	0.53	0.12		onsite
MHA5-AL-051	3/13/2008	Thorium-232	2.1	0.54	0.07		iso-Th
MHA5-AL-051	3/13/2008	Uranium-238	2.2	0.48	0.36		onsite
MHA5-AL-052	3/13/2008	Actinium-227	4.6	0.00	0.28	U	onsite
MHA5-AL-052	3/13/2008	Americium-241	63	0.04	0.07	U	onsite
MHA5-AL-052	3/13/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA5-AL-052	3/13/2008	Cesium-137	3.8	0.02	0.04	U	onsite
MHA5-AL-052	3/13/2008	Cobalt-60	0.7	0.00	0.06	U	onsite
MHA5-AL-052	3/13/2008	Lead-210	7.4	0.56	0.63	U	onsite
MHA5-AL-052	3/13/2008	Plutonium-238	55	2.18	5.84	U	onsite
MHA5-AL-052	3/13/2008	Protactinium-231	4	0.20	1.51	U	onsite
MHA5-AL-052	3/13/2008	Radium-226	2.9	0.54	0.11		onsite
MHA5-AL-052	3/13/2008	Thorium-228	2.6	0.71	0.09		iso-Th
MHA5-AL-052	3/13/2008	Thorium-230	2.8	0.00	6.35	U	onsite
MHA5-AL-052	3/13/2008	Thorium-230	2.8	1.03	0.05		iso-Th
MHA5-AL-052	3/13/2008	Thorium-232	2.1	0.52	0.17		onsite
MHA5-AL-052	3/13/2008	Thorium-232	2.1	0.76	0.06		iso-Th
MHA5-AL-052	3/13/2008	Uranium-238	2.2	0.78	0.38		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA5-AL-053	3/13/2008	Actinium-227	4.6	0.00	0.34	U	onsite
MHA5-AL-053	3/13/2008	Americium-241	63	0.05	0.08	U	onsite
MHA5-AL-053	3/13/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA5-AL-053	3/13/2008	Cesium-137	3.8	0.01	0.05	U	onsite
MHA5-AL-053	3/13/2008	Cobalt-60	0.7	0.03	0.06	U	onsite
MHA5-AL-053	3/13/2008	Lead-210	7.4	0.35	0.72	U	onsite
MHA5-AL-053	3/13/2008	Plutonium-238	55	1.84	7.36	U	onsite
MHA5-AL-053	3/13/2008	Protactinium-231	4	0.46	1.79	U	onsite
MHA5-AL-053	3/13/2008	Radium-226	2.9	0.68	0.13		onsite
MHA5-AL-053	3/13/2008	Thorium-228	2.6	0.95	0.06		iso-Th
MHA5-AL-053	3/13/2008	Thorium-230	2.8	0.00	7.62	U	onsite
MHA5-AL-053	3/13/2008	Thorium-230	2.8	0.83	0.04		iso-Th
MHA5-AL-053	3/13/2008	Thorium-232	2.1	0.71	0.24		onsite
MHA5-AL-053	3/13/2008	Thorium-232	2.1	1.11	0.03		iso-Th
MHA5-AL-053	3/13/2008	Uranium-238	2.2	0.66	0.47		onsite
MHA5-AL-054	3/13/2008	Actinium-227	4.6	0.05	0.25	U	onsite
MHA5-AL-054	3/13/2008	Americium-241	63	0.00	0.06	U	onsite
MHA5-AL-054	3/13/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA5-AL-054	3/13/2008	Cesium-137	3.8	0.00	0.04	U	onsite
MHA5-AL-054	3/13/2008	Cobalt-60	0.7	0.02	0.05	U	onsite
MHA5-AL-054	3/13/2008	Lead-210	7.4	0.62	0.55		onsite
MHA5-AL-054	3/13/2008	Plutonium-238	55	0.33	5.52	U	onsite
MHA5-AL-054	3/13/2008	Protactinium-231	4	0.00	1.53	U	onsite
MHA5-AL-054	3/13/2008	Radium-226	2.9	0.51	0.11		onsite
MHA5-AL-054	3/13/2008	Thorium-228	2.6	1.04	0.12		iso-Th
MHA5-AL-054	3/13/2008	Thorium-230	2.8	1.61	5.73	U	onsite
MHA5-AL-054	3/13/2008	Thorium-230	2.8	0.89	0.05		iso-Th
MHA5-AL-054	3/13/2008	Thorium-232	2.1	0.57	0.14		onsite
MHA5-AL-054	3/13/2008	Thorium-232	2.1	0.99	0.05		iso-Th
MHA5-AL-054	3/13/2008	Uranium-238	2.2	0.55	0.37		onsite
MHA5-AL-055	3/13/2008	Actinium-227	4.6	0.00	0.25	U	onsite
MHA5-AL-055	3/13/2008	Americium-241	63	0.00	0.06	U	onsite
MHA5-AL-055	3/13/2008	Bismuth-210M	8.3	0.02	0.04	U	onsite
MHA5-AL-055	3/13/2008	Cesium-137	3.8	0.03	0.03	U	onsite
MHA5-AL-055	3/13/2008	Cobalt-60	0.7	0.00	0.05	U	onsite
MHA5-AL-055	3/13/2008	Lead-210	7.4	0.52	0.56	U	onsite
MHA5-AL-055	3/13/2008	Plutonium-238	55	2.58	5.28	U	onsite
MHA5-AL-055	3/13/2008	Protactinium-231	4	0.31	1.33	U	onsite
MHA5-AL-055	3/13/2008	Radium-226	2.9	0.50	0.10		onsite
MHA5-AL-055	3/13/2008	Thorium-228	2.6	0.72	0.11		iso-Th
MHA5-AL-055	3/13/2008	Thorium-230	2.8	0.14	5.59	U	onsite
MHA5-AL-055	3/13/2008	Thorium-230	2.8	0.99	0.06		iso-Th
MHA5-AL-055	3/13/2008	Thorium-232	2.1	0.40	0.18		onsite
MHA5-AL-055	3/13/2008	Thorium-232	2.1	0.84	0.06		iso-Th
MHA5-AL-055	3/13/2008	Uranium-238	2.2	0.50	0.36		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis

MDC	Minimum Detectable Concentration
CO	Cleanup Objective
FLAGS: U	Calculated Activity less than or equal to sample Minimum Detectable Level

NOTE: When an onsite and iso-Th result are presented for the same sample location and radionuclide, the iso-Th result is superior.

Manhole A-9 to A-13 Removal

The general location for Manhole A-9 and A-13 in relation to the Mound Site are shown on Figure 3. Manhole A-9 was removed, transported to Mound Rail Spur and disposed of as Low Level Waste (LLW) at EnergySolutions facility in Clive, Utah. The surrounding soil was also contaminated with Th-232 to an approximate depth of 3 feet. This was also removed for disposal as LLW.

The piping leading into the manhole contained Th-232 contamination in the piping sediment above cleanup levels and the line itself was greater than Table 1 values; this was removed for disposal as LLW. The piping was then excavated up gradient to the next manhole (aka Manhole A-13). Radiological contamination (Th-232) was found in the sediment of the entire length of line between Manhole A-9 and Manhole A-13. Area excavated is shown on Figure 4; along with confirmation sample locations. Manhole A-13 was removed and the lines leading into that manhole (previously abandoned) were surveyed and found to be less than Table 1 values. The lines were plugged with concrete and the area backfilled. The excavation before and after backfilling was field surveyed with a FIDLER and 2X2. No elevated readings were noted. In-process wipes, directs and soil samples will be collected during excavation for personnel protection and/or waste management (WM) use.

The onsite soil screening lab will report results for Ac-227, Am-241, Cs-137, Co-60, Pu-238, Ra-226, Th-230, Th-232 and U-238. Bi-207 will be reported if greater than its MDA. Th-230 MDA will be < 10 pCi/g. All final “as left samples” will be sent offsite for iso-Th analysis.

Table 4 reports results of the confirmation sampling performed as part of this remediation. All sample data are less than Cleanup Objectives for Mound Site.

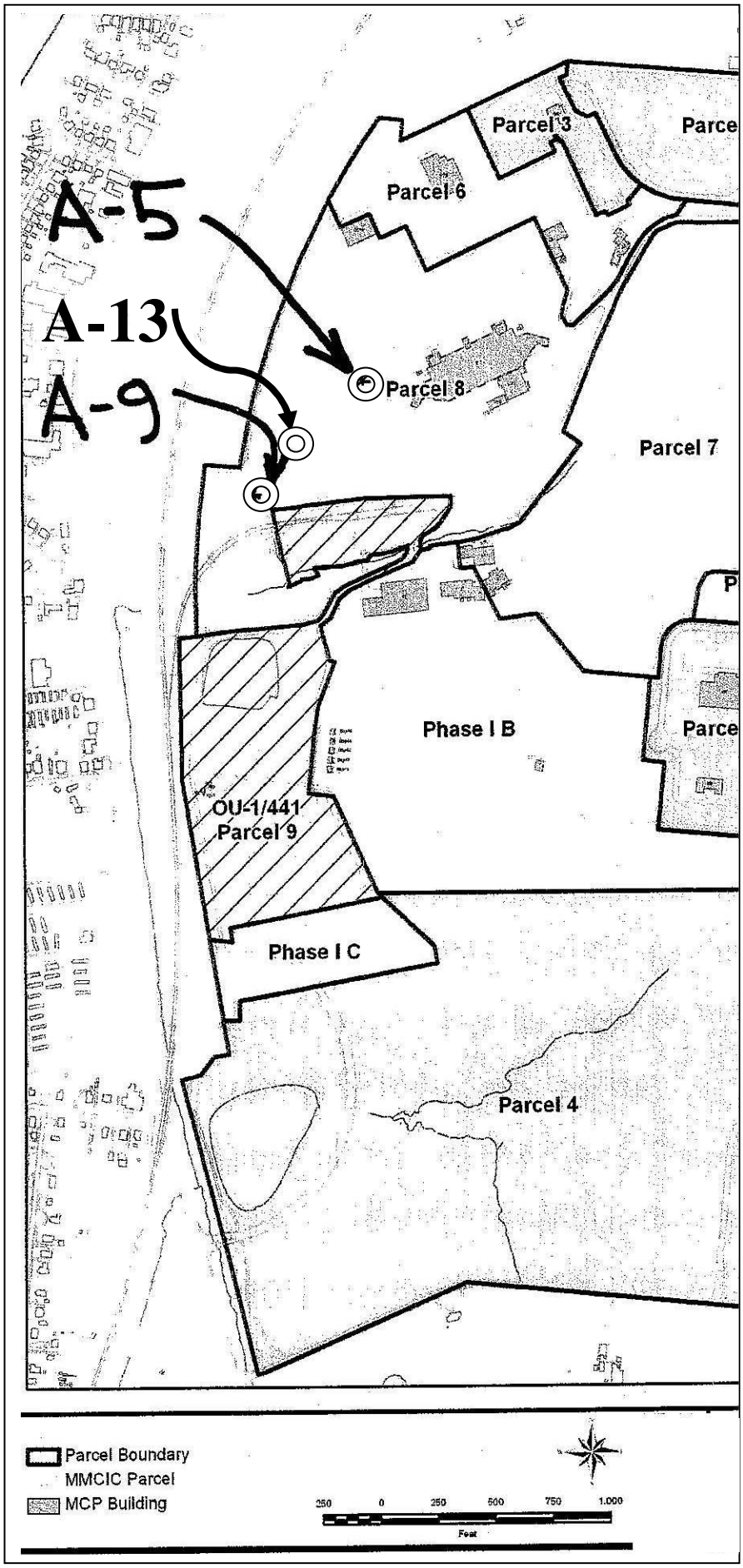

Figure 3: Approximate Site locations of Manhole A-9 and A-13

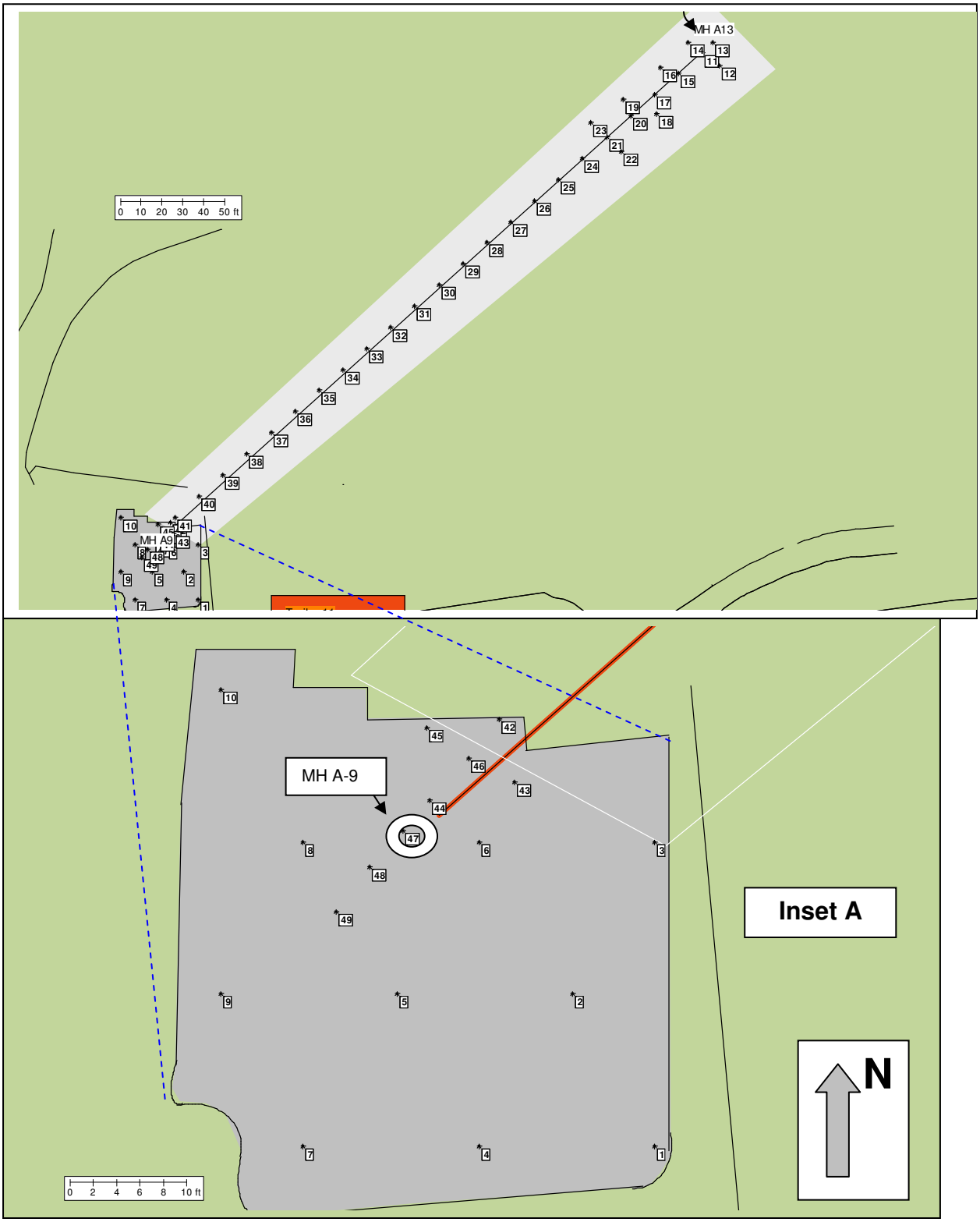

Figure 4: Manhole A-9, outfall line and Manhole A-13 excavation area with sample locations. **Inset A:** Close-up view of Manhole A-5 excavation area samples. Sample IDs are MHA9(or13)-AL-0XX; Only XX is shown above for simplicity.

SAMPLE ID	Y coordinate	X coordinate
MHA9-AL-001	1464224	598179
MHA9-AL-002	1464217	598192
MHA9-AL-003	1464224	598205
MHA9-AL-004	1464209	598179
MHA9-AL-005	1464202	598192
MHA9-AL-006	1464209	598205
MHA9-AL-007	1464194	598179
MHA9-AL-008	1464194	598205
MHA9-AL-009	1464187	598192
MHA9-AL-010	1464187	598218
MHA13-AL-011	1464466	598438
MHA13-AL-012	1464474	598432
MHA13-AL-013	1464471	598443
MHA13-AL-014	1464459	598443
MHA13-AL-015	1464455	598428
MHA13-AL-016	1464446	598431
MHA13-AL-017	1464443	598418
MHA13-AL-018	1464444	598409
MHA13-AL-019	1464428	598416
MHA13-AL-020	1464432	598408
MHA13-AL-021	1464420	598398
MHA13-AL-022	1464427	598391
MHA13-AL-023	1464412	598405
MHA13-AL-024	1464409	598388
MHA13-AL-025	1464397	598378
MHA13-AL-026	1464386	598368
MHA13-AL-027	1464374	598358
MHA13-AL-028	1464363	598348
MHA13-AL-029	1464351	598338
MHA13-AL-030	1464340	598328
MHA13-AL-031	1464328	598318
MHA13-AL-032	1464317	598308
MHA13-AL-033	1464305	598298
MHA13-AL-034	1464294	598288
MHA13-AL-035	1464282	598278
MHA13-AL-036	1464271	598268
MHA13-AL-037	1464259	598258
MHA13-AL-038	1464248	598248
MHA13-AL-039	1464236	598238
MHA13-AL-040	1464225	598228
MHA13-AL-041	1464213	598218
MHA13-AL-042	1464211	598215.5
MHA13-AL-043	1464212	598210.1
MHA13-AL-044	1464205	598208.6
MHA13-AL-045	1464205	598214.7
MHA13-AL-046	1464208	598212.2
MHA13-AL-047	1464202	598206
MHA13-AL-048	1464200	598202.9
MHA13-AL-049	1464197	598199

Table 3: Analytical Results for Manhole A-9 to A-13 Verification Samples

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA9-AL-001	1/23/2008	Actinium-227	4.6	0.01	0.31	U	onsite
MHA9-AL-001	1/23/2008	Americium-241	63	0.00	0.08	U	onsite
MHA9-AL-001	1/23/2008	Bismuth-210M	8.3	0.04	0.05	U	onsite
MHA9-AL-001	1/23/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA9-AL-001	1/23/2008	Cobalt-60	0.7	0.00	0.06	U	onsite
MHA9-AL-001	1/23/2008	Lead-210	7.4	1.11	0.65		onsite
MHA9-AL-001	1/23/2008	Plutonium-238	55	0.00	7.37	U	onsite
MHA9-AL-001	1/23/2008	Protactinium-231	4	0.09	1.63	U	onsite
MHA9-AL-001	1/23/2008	Radium-226	2.9	0.66	0.11		onsite
MHA9-AL-001	1/23/2008	Thorium-228	2.6	0.88	0.06		iso-Th
MHA9-AL-001	1/23/2008	Thorium-230*	2.8	2.19	6.60	U	onsite
MHA9-AL-001	1/23/2008	Thorium-230*	2.8	0.92	0.06		iso-Th
MHA9-AL-001	1/23/2008	Thorium-232*	2.1	0.64	0.14		onsite
MHA9-AL-001	1/23/2008	Thorium-232*	2.1	0.89	0.05		iso-Th
MHA9-AL-001	1/23/2008	Uranium-238	2.2	0.97	0.41		onsite
MHA9-AL-002	1/23/2008	Actinium-227	4.6	0.07	0.24	U	onsite
MHA9-AL-002	1/23/2008	Americium-241	63	0.05	0.06	U	onsite
MHA9-AL-002	1/23/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA9-AL-002	1/23/2008	Cesium-137	3.8	0.00	0.04	U	onsite
MHA9-AL-002	1/23/2008	Cobalt-60	0.7	0.00	0.05	U	onsite
MHA9-AL-002	1/23/2008	Lead-210	7.4	0.55	0.55	U	onsite
MHA9-AL-002	1/23/2008	Plutonium-238	55	0.45	5.66	U	onsite
MHA9-AL-002	1/23/2008	Protactinium-231	4	0.39	1.36	U	onsite
MHA9-AL-002	1/23/2008	Radium-226	2.9	0.65	0.09		onsite
MHA9-AL-002	1/23/2008	Thorium-228	2.6	0.39	0.05		iso-Th
MHA9-AL-002	1/23/2008	Thorium-230	2.8	1.50	5.68	U	onsite
MHA9-AL-002	1/23/2008	Thorium-230	2.8	0.79	0.04		iso-Th
MHA9-AL-002	1/23/2008	Thorium-232	2.1	0.33	0.18		onsite
MHA9-AL-002	1/23/2008	Thorium-232	2.1	0.54	0.04		iso-Th
MHA9-AL-002	1/23/2008	Uranium-238	2.2	0.46	0.35		onsite
MHA9-AL-003	1/23/2008	Actinium-227	4.6	0.07	0.29	U	onsite
MHA9-AL-003	1/23/2008	Americium-241	63	0.00	0.07	U	onsite
MHA9-AL-003	1/23/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA9-AL-003	1/23/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA9-AL-003	1/23/2008	Cobalt-60	0.7	0.00	0.09	U	onsite
MHA9-AL-003	1/23/2008	Lead-210	7.4	0.57	0.65	U	onsite
MHA9-AL-003	1/23/2008	Plutonium-238	55	0.00	7.14	U	onsite
MHA9-AL-003	1/23/2008	Protactinium-231	4	0.00	1.77	U	onsite
MHA9-AL-003	1/23/2008	Radium-226	2.9	0.70	0.10		onsite
MHA9-AL-003	1/23/2008	Thorium-228	2.6	0.48	0.04		iso-Th
MHA9-AL-003	1/23/2008	Thorium-230	2.8	3.16	6.14	U	onsite
MHA9-AL-003	1/23/2008	Thorium-230	2.8	0.86	0.04		iso-Th
MHA9-AL-003	1/23/2008	Thorium-232	2.1	0.30	0.18		onsite
MHA9-AL-003	1/23/2008	Thorium-232	2.1	0.47	0.04		iso-Th
MHA9-AL-003	1/23/2008	Uranium-238	2.2	0.68	0.38		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA9-AL-004	1/23/2008	Actinium-227	4.6	0.02	0.30	U	onsite
MHA9-AL-004	1/23/2008	Americium-241	63	0.00	0.08	U	onsite
MHA9-AL-004	1/23/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA9-AL-004	1/23/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA9-AL-004	1/23/2008	Cobalt-60	0.7	0.00	0.09	U	onsite
MHA9-AL-004	1/23/2008	Lead-210	7.4	1.33	0.61		onsite
MHA9-AL-004	1/23/2008	Plutonium-238	55	0.00	7.54	U	onsite
MHA9-AL-004	1/23/2008	Protactinium-231	4	0.00	1.71	U	onsite
MHA9-AL-004	1/23/2008	Radium-226	2.9	0.74	0.11		onsite
MHA9-AL-004	1/23/2008	Thorium-228	2.6	0.67	0.05		iso-Th
MHA9-AL-004	1/23/2008	Thorium-230	2.8	1.29	6.74	U	onsite
MHA9-AL-004	1/23/2008	Thorium-230	2.8	0.86	0.04		iso-Th
MHA9-AL-004	1/23/2008	Thorium-232	2.1	0.54	0.20		onsite
MHA9-AL-004	1/23/2008	Thorium-232	2.1	0.57	0.04		iso-Th
MHA9-AL-004	1/23/2008	Uranium-238	2.2	0.46	0.45		onsite
MHA9-AL-005	1/23/2008	Actinium-227	4.6	0.00	0.29	U	onsite
MHA9-AL-005	1/23/2008	Americium-241	63	0.02	0.07	U	onsite
MHA9-AL-005	1/23/2008	Bismuth-210M	8.3	0.01	0.05	U	onsite
MHA9-AL-005	1/23/2008	Cesium-137	3.8	0.01	0.05	U	onsite
MHA9-AL-005	1/23/2008	Cobalt-60	0.7	0.01	0.05	U	onsite
MHA9-AL-005	1/23/2008	Lead-210	7.4	0.60	0.59		onsite
MHA9-AL-005	1/23/2008	Plutonium-238	55	0.05	6.22	U	onsite
MHA9-AL-005	1/23/2008	Protactinium-231	4	0.00	1.63	U	onsite
MHA9-AL-005	1/23/2008	Radium-226	2.9	0.65	0.10		onsite
MHA9-AL-005	1/23/2008	Thorium-228	2.6	0.57	0.05		iso-Th
MHA9-AL-005	1/23/2008	Thorium-230	2.8	0.00	6.40	U	onsite
MHA9-AL-005	1/23/2008	Thorium-230	2.8	1.14	0.02		iso-Th
MHA9-AL-005	1/23/2008	Thorium-232	2.1	0.52	0.13		onsite
MHA9-AL-005	1/23/2008	Thorium-232	2.1	0.63	0.02		iso-Th
MHA9-AL-005	1/23/2008	Uranium-238	2.2	0.79	0.35		onsite
MHA9-AL-006	1/23/2008	Actinium-227	4.6	0.08	0.24	U	onsite
MHA9-AL-006	1/23/2008	Americium-241	63	0.00	0.06	U	onsite
MHA9-AL-006	1/23/2008	Bismuth-210M	8.3	0.01	0.04	U	onsite
MHA9-AL-006	1/23/2008	Cesium-137	3.8	0.00	0.04	U	onsite
MHA9-AL-006	1/23/2008	Cobalt-60	0.7	0.03	0.04	U	onsite
MHA9-AL-006	1/23/2008	Lead-210	7.4	0.52	0.57	U	onsite
MHA9-AL-006	1/23/2008	Plutonium-238	55	2.60	5.28	U	onsite
MHA9-AL-006	1/23/2008	Protactinium-231	4	0.32	1.36	U	onsite
MHA9-AL-006	1/23/2008	Radium-226	2.9	0.72	0.10		onsite
MHA9-AL-006	1/23/2008	Thorium-228	2.6	0.44	0.05		iso-Th
MHA9-AL-006	1/23/2008	Thorium-230	2.8	0.84	5.64	U	onsite
MHA9-AL-006	1/23/2008	Thorium-230	2.8	1.00	0.03		iso-Th
MHA9-AL-006	1/23/2008	Thorium-232	2.1	0.27	0.16		onsite
MHA9-AL-006	1/23/2008	Thorium-232	2.1	0.44	0.03		iso-Th
MHA9-AL-006	1/23/2008	Uranium-238	2.2	0.47	0.36		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA9-AL-007	1/23/2008	Actinium-227	4.6	0.00	0.33	U	onsite
MHA9-AL-007	1/23/2008	Americium-241	63	0.08	0.06		onsite
MHA9-AL-007	1/23/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA9-AL-007	1/23/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA9-AL-007	1/23/2008	Cobalt-60	0.7	0.01	0.05	U	onsite
MHA9-AL-007	1/23/2008	Lead-210	7.4	0.99	0.61		onsite
MHA9-AL-007	1/23/2008	Plutonium-238	55	0.23	6.50	U	onsite
MHA9-AL-007	1/23/2008	Protactinium-231	4	0.00	1.95	U	onsite
MHA9-AL-007	1/23/2008	Radium-226	2.9	0.69	0.13		onsite
MHA9-AL-007	1/23/2008	Thorium-228	2.6	0.62	0.08		iso-Th
MHA9-AL-007	1/23/2008	Thorium-230	2.8	1.79	6.23	U	onsite
MHA9-AL-007	1/23/2008	Thorium-230	2.8	1.02	0.06		iso-Th
MHA9-AL-007	1/23/2008	Thorium-232	2.1	0.46	0.14		onsite
MHA9-AL-007	1/23/2008	Thorium-232	2.1	0.53	0.04		iso-Th
MHA9-AL-007	1/23/2008	Uranium-238	2.2	0.76	0.38		onsite
MHA9-AL-008	1/23/2008	Actinium-227	4.6	0.00	0.29	U	onsite
MHA9-AL-008	1/23/2008	Americium-241	63	0.02	0.06	U	onsite
MHA9-AL-008	1/23/2008	Bismuth-210M	8.3	0.01	0.05	U	onsite
MHA9-AL-008	1/23/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA9-AL-008	1/23/2008	Cobalt-60	0.7	0.03	0.03	U	onsite
MHA9-AL-008	1/23/2008	Lead-210	7.4	0.39	0.66	U	onsite
MHA9-AL-008	1/23/2008	Plutonium-238	55	1.44	5.71	U	onsite
MHA9-AL-008	1/23/2008	Protactinium-231	4	0.14	1.51	U	onsite
MHA9-AL-008	1/23/2008	Radium-226	2.9	0.72	0.10		onsite
MHA9-AL-008	1/23/2008	Thorium-228	2.6	0.58	0.05		iso-Th
MHA9-AL-008	1/23/2008	Thorium-230	2.8	2.43	6.06	U	onsite
MHA9-AL-008	1/23/2008	Thorium-230	2.8	1.07	0.02		iso-Th
MHA9-AL-008	1/23/2008	Thorium-232	2.1	0.33	0.17		onsite
MHA9-AL-008	1/23/2008	Thorium-232	2.1	0.65	0.04		iso-Th
MHA9-AL-008	1/23/2008	Uranium-238	2.2	0.76	0.37		onsite
MHA9-AL-009	1/23/2008	Actinium-227	4.6	0.00	0.30	U	onsite
MHA9-AL-009	1/23/2008	Americium-241	63	0.00	0.07	U	onsite
MHA9-AL-009	1/23/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA9-AL-009	1/23/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA9-AL-009	1/23/2008	Cobalt-60	0.7	0.00	0.06	U	onsite
MHA9-AL-009	1/23/2008	Lead-210	7.4	0.60	0.62	U	onsite
MHA9-AL-009	1/23/2008	Plutonium-238	55	0.00	6.76	U	onsite
MHA9-AL-009	1/23/2008	Protactinium-231	4	0.00	1.82	U	onsite
MHA9-AL-009	1/23/2008	Radium-226	2.9	0.69	0.12		onsite
MHA9-AL-009	1/23/2008	Thorium-228	2.6	0.54	0.07		iso-Th
MHA9-AL-009	1/23/2008	Thorium-230	2.8	0.00	6.52	U	onsite
MHA9-AL-009	1/23/2008	Thorium-230	2.8	0.79	0.05		iso-Th
MHA9-AL-009	1/23/2008	Thorium-232	2.1	0.50	0.14		onsite
MHA9-AL-009	1/23/2008	Thorium-232	2.1	0.60	0.05		iso-Th
MHA9-AL-009	1/23/2008	Uranium-238	2.2	0.75	0.38		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA9-AL-010	1/23/2008	Actinium-227	4.6	0.00	0.29	U	onsite
MHA9-AL-010	1/23/2008	Americium-241	63	0.00	0.07	U	onsite
MHA9-AL-010	1/23/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA9-AL-010	1/23/2008	Cesium-137	3.8	0.02	0.04	U	onsite
MHA9-AL-010	1/23/2008	Cobalt-60	0.7	0.00	0.06	U	onsite
MHA9-AL-010	1/23/2008	Lead-210	7.4	0.29	0.68	U	onsite
MHA9-AL-010	1/23/2008	Plutonium-238	55	0.00	6.25	U	onsite
MHA9-AL-010	1/23/2008	Protactinium-231	4	0.25	1.40	U	onsite
MHA9-AL-010	1/23/2008	Radium-226	2.9	0.85	0.08		onsite
MHA9-AL-010	1/23/2008	Thorium-228	2.6	0.49	0.07		iso-Th
MHA9-AL-010	1/23/2008	Thorium-230	2.8	0.69	6.24	U	onsite
MHA9-AL-010	1/23/2008	Thorium-230	2.8	0.96	0.05		iso-Th
MHA9-AL-010	1/23/2008	Thorium-232	2.1	0.34	0.15		onsite
MHA9-AL-010	1/23/2008	Thorium-232	2.1	0.50	0.02		iso-Th
MHA9-AL-010	1/23/2008	Uranium-238	2.2	0.76	0.39		onsite
MHA13-AL-011	2/13/2008	Actinium-227	4.6	0.07	0.40	U	onsite
MHA13-AL-011	2/13/2008	Americium-241	63	0.02	0.10	U	onsite
MHA13-AL-011	2/13/2008	Bismuth-210M	8.3	0.02	0.07	U	onsite
MHA13-AL-011	2/13/2008	Cesium-137	3.8	0.00	0.07	U	onsite
MHA13-AL-011	2/13/2008	Cobalt-60	0.7	0.00	0.11	U	onsite
MHA13-AL-011	2/13/2008	Lead-210	7.4	0.00	0.93	U	onsite
MHA13-AL-011	2/12/2008	Plutonium-238	55	0.20	9.01	U	onsite
MHA13-AL-011	2/13/2008	Protactinium-231	4	1.85	1.91	U	onsite
MHA13-AL-011	2/13/2008	Radium-226	2.9	0.85	0.15		onsite
MHA13-AL-011	2/12/2008	Thorium-228	2.6	1.08	0.09		iso-Th
MHA13-AL-011	2/13/2008	Thorium-230	2.8	4.00	8.58	U	onsite
MHA13-AL-011	2/12/2008	Thorium-230	2.8	0.91	0.05		iso-Th
MHA13-AL-011	2/13/2008	Thorium-232	2.1	0.60	0.31		onsite
MHA13-AL-011	2/12/2008	Thorium-232	2.1	1.17	0.05		iso-Th
MHA13-AL-011	2/12/2008	Uranium-238	2.2	1.20	0.54		onsite
MHA13-AL-012	2/13/2008	Actinium-227	4.6	0.04	0.31	U	onsite
MHA13-AL-012	2/13/2008	Americium-241	63	0.00	0.07	U	onsite
MHA13-AL-012	2/13/2008	Bismuth-210M	8.3	0.02	0.05	U	onsite
MHA13-AL-012	2/13/2008	Cesium-137	3.8	0.01	0.05	U	onsite
MHA13-AL-012	2/13/2008	Cobalt-60	0.7	0.01	0.05	U	onsite
MHA13-AL-012	2/13/2008	Lead-210	7.4	0.22	0.65	U	onsite
MHA13-AL-012	2/12/2008	Plutonium-238	55	0.00	6.60	U	onsite
MHA13-AL-012	2/13/2008	Protactinium-231	4	0.00	1.58	U	onsite
MHA13-AL-012	2/13/2008	Radium-226	2.9	0.56	0.12		onsite
MHA13-AL-012	2/12/2008	Thorium-228	2.6	0.97	0.07		iso-Th
MHA13-AL-012	2/13/2008	Thorium-230	2.8	0.47	7.00	U	onsite
MHA13-AL-012	2/12/2008	Thorium-230	2.8	0.90	0.05		iso-Th
MHA13-AL-012	2/13/2008	Thorium-232	2.1	0.57	0.08		onsite
MHA13-AL-012	2/12/2008	Thorium-232	2.1	0.81	0.06		iso-Th
MHA13-AL-012	2/12/2008	Uranium-238	2.2	0.59	0.42		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-013	2/13/2008	Actinium-227	4.6	0.20	0.29	U	onsite
MHA13-AL-013	2/13/2008	Americium-241	63	0.00	0.07	U	onsite
MHA13-AL-013	2/13/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-013	2/13/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-013	2/13/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-013	2/13/2008	Lead-210	7.4	0.44	0.66	U	onsite
MHA13-AL-013	2/12/2008	Plutonium-238	55	0.75	6.40	U	onsite
MHA13-AL-013	2/13/2008	Protactinium-231	4	0.00	1.72	U	onsite
MHA13-AL-013	2/13/2008	Radium-226	2.9	0.64	0.11		onsite
MHA13-AL-013	2/12/2008	Thorium-228	2.6	0.95	0.08		iso-Th
MHA13-AL-013	2/13/2008	Thorium-230	2.8	0.15	6.95	U	onsite
MHA13-AL-013	2/12/2008	Thorium-230	2.8	0.85	0.06		iso-Th
MHA13-AL-013	2/13/2008	Thorium-232	2.1	0.61	0.20		onsite
MHA13-AL-013	2/12/2008	Thorium-232	2.1	0.92	0.06		iso-Th
MHA13-AL-013	2/12/2008	Uranium-238	2.2	0.67	0.43		onsite
MHA13-AL-014	2/13/2008	Actinium-227	4.6	0.00	0.43	U	onsite
MHA13-AL-014	2/13/2008	Americium-241	63	0.05	0.09	U	onsite
MHA13-AL-014	2/13/2008	Bismuth-210M	8.3	0.03	0.07	U	onsite
MHA13-AL-014	2/13/2008	Cesium-137	3.8	0.00	0.07	U	onsite
MHA13-AL-014	2/13/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-014	2/13/2008	Lead-210	7.4	0.00	0.90	U	onsite
MHA13-AL-014	2/12/2008	Plutonium-238	55	2.54	8.80	U	onsite
MHA13-AL-014	2/13/2008	Protactinium-231	4	0.00	2.11	U	onsite
MHA13-AL-014	2/13/2008	Radium-226	2.9	0.74	0.13		onsite
MHA13-AL-014	2/12/2008	Thorium-228	2.6	1.16	0.08		iso-Th
MHA13-AL-014	2/13/2008	Thorium-230	2.8	0.48	8.74	U	onsite
MHA13-AL-014	2/12/2008	Thorium-230	2.8	1.16	0.06		iso-Th
MHA13-AL-014	2/13/2008	Thorium-232	2.1	0.83	0.24		onsite
MHA13-AL-014	2/12/2008	Thorium-232	2.1	1.36	0.05		iso-Th
MHA13-AL-014	2/12/2008	Uranium-238	2.2	0.90	0.55		onsite
MHA13-AL-015	2/14/2008	Actinium-227	4.6	0.04	0.34	U	onsite
MHA13-AL-015	2/14/2008	Americium-241	63	0.00	0.09	U	onsite
MHA13-AL-015	2/14/2008	Bismuth-210M	8.3	0.03	0.05	U	onsite
MHA13-AL-015	2/14/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-015	2/14/2008	Cobalt-60	0.7	0.00	0.09	U	onsite
MHA13-AL-015	2/14/2008	Lead-210	7.4	0.67	0.74	U	onsite
MHA13-AL-015	2/14/2008	Plutonium-238	55	0.00	7.67	U	onsite
MHA13-AL-015	2/14/2008	Protactinium-231	4	0.00	1.82	U	onsite
MHA13-AL-015	2/14/2008	Radium-226	2.9	0.76	0.11		onsite
MHA13-AL-015	2/14/2008	Thorium-228	2.6	1.01	0.05		iso-Th
MHA13-AL-015	2/14/2008	Thorium-230	2.8	1.06	7.24	U	onsite
MHA13-AL-015	2/14/2008	Thorium-230	2.8	0.99	0.04		iso-Th
MHA13-AL-015	2/14/2008	Thorium-232	2.1	0.89	0.18		onsite
MHA13-AL-015	2/14/2008	Thorium-232	2.1	1.06	0.02		iso-Th
MHA13-AL-015	2/14/2008	Uranium-238	2.2	1.18	0.45		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-016	2/14/2008	Actinium-227	4.6	0.00	0.31	U	onsite
MHA13-AL-016	2/14/2008	Americium-241	63	0.00	0.08	U	onsite
MHA13-AL-016	2/14/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-016	2/14/2008	Cesium-137	3.8	0.02	0.05	U	onsite
MHA13-AL-016	2/14/2008	Cobalt-60	0.7	0.04	0.05	U	onsite
MHA13-AL-016	2/14/2008	Lead-210	7.4	0.58	0.68	U	onsite
MHA13-AL-016	2/14/2008	Plutonium-238	55	3.70	5.82	U	onsite
MHA13-AL-016	2/14/2008	Protactinium-231	4	0.00	1.64	U	onsite
MHA13-AL-016	2/14/2008	Radium-226	2.9	0.88	0.10		onsite
MHA13-AL-016	2/14/2008	Thorium-228	2.6	1.09	0.09		iso-Th
MHA13-AL-016	2/14/2008	Thorium-230	2.8	0.00	7.20	U	onsite
MHA13-AL-016	2/14/2008	Thorium-230	2.8	1.08	0.04		iso-Th
MHA13-AL-016	2/14/2008	Thorium-232	2.1	0.57	0.22		onsite
MHA13-AL-016	2/14/2008	Thorium-232	2.1	1.08	0.04		iso-Th
MHA13-AL-016	2/14/2008	Uranium-238	2.2	0.65	0.42		onsite
MHA13-AL-017	2/14/2008	Actinium-227	4.6	0.00	0.34	U	onsite
MHA13-AL-017	2/14/2008	Americium-241	63	0.00	0.08	U	onsite
MHA13-AL-017	2/14/2008	Bismuth-210M	8.3	0.01	0.06	U	onsite
MHA13-AL-017	2/14/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-017	2/14/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-017	2/14/2008	Lead-210	7.4	0.29	0.75	U	onsite
MHA13-AL-017	2/14/2008	Plutonium-238	55	3.29	7.23	U	onsite
MHA13-AL-017	2/14/2008	Protactinium-231	4	0.00	1.96	U	onsite
MHA13-AL-017	2/14/2008	Radium-226	2.9	0.75	0.13		onsite
MHA13-AL-017	2/14/2008	Thorium-228	2.6	1.32	0.10		iso-Th
MHA13-AL-017	2/14/2008	Thorium-230	2.8	4.40	7.57	U	onsite
MHA13-AL-017	2/14/2008	Thorium-230	2.8	0.80	0.06		iso-Th
MHA13-AL-017	2/14/2008	Thorium-232	2.1	0.76	0.21		onsite
MHA13-AL-017	2/14/2008	Thorium-232	2.1	0.97	0.06		iso-Th
MHA13-AL-017	2/14/2008	Uranium-238	2.2	0.55	0.50		onsite
MHA13-AL-018	2/14/2008	Actinium-227	4.6	0.07	0.35	U	onsite
MHA13-AL-018	2/14/2008	Americium-241	63	0.01	0.08	U	onsite
MHA13-AL-018	2/14/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-018	2/14/2008	Cesium-137	3.8	0.01	0.05	U	onsite
MHA13-AL-018	2/14/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-018	2/14/2008	Lead-210	7.4	0.39	0.79	U	onsite
MHA13-AL-018	2/14/2008	Plutonium-238	55	1.16	7.35	U	onsite
MHA13-AL-018	2/14/2008	Protactinium-231	4	0.00	2.06	U	onsite
MHA13-AL-018	2/14/2008	Radium-226	2.9	0.62	0.16		onsite
MHA13-AL-018	2/14/2008	Thorium-228	2.6	1.15	0.07		iso-Th
MHA13-AL-018	2/14/2008	Thorium-230	2.8	0.00	7.95	U	onsite
MHA13-AL-018	2/14/2008	Thorium-230	2.8	1.03	0.05		iso-Th
MHA13-AL-018	2/14/2008	Thorium-232	2.1	0.57	0.26		onsite
MHA13-AL-018	2/14/2008	Thorium-232	2.1	1.22	0.05		iso-Th
MHA13-AL-018	2/14/2008	Uranium-238	2.2	1.07	0.46		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-019	2/14/2008	Actinium-227	4.6	0.02	0.38	U	onsite
MHA13-AL-019	2/14/2008	Americium-241	63	0.03	0.09	U	onsite
MHA13-AL-019	2/14/2008	Bismuth-210M	8.3	0.02	0.06	U	onsite
MHA13-AL-019	2/14/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-019	2/14/2008	Cobalt-60	0.7	0.00	0.11	U	onsite
MHA13-AL-019	2/14/2008	Lead-210	7.4	1.00	0.84		onsite
MHA13-AL-019	2/14/2008	Plutonium-238	55	1.46	7.95	U	onsite
MHA13-AL-019	2/14/2008	Protactinium-231	4	0.00	1.98	U	onsite
MHA13-AL-019	2/14/2008	Radium-226	2.9	0.87	0.10		onsite
MHA13-AL-019	2/14/2008	Thorium-228	2.6	1.19	0.05		iso-Th
MHA13-AL-019	2/14/2008	Thorium-230	2.8	2.46	8.21	U	onsite
MHA13-AL-019	2/14/2008	Thorium-230	2.8	0.99	0.05		iso-Th
MHA13-AL-019	2/14/2008	Thorium-232	2.1	0.56	0.32		onsite
MHA13-AL-019	2/14/2008	Thorium-232	2.1	1.00	0.04		iso-Th
MHA13-AL-019	2/14/2008	Uranium-238	2.2	1.12	0.50		onsite
MHA13-AL-020	2/14/2008	Actinium-227	4.6	0.16	0.27	U	onsite
MHA13-AL-020	2/14/2008	Americium-241	63	0.02	0.07	U	onsite
MHA13-AL-020	2/14/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-020	2/14/2008	Cesium-137	3.8	0.01	0.04	U	onsite
MHA13-AL-020	2/14/2008	Cobalt-60	0.7	0.00	0.06	U	onsite
MHA13-AL-020	2/14/2008	Lead-210	7.4	0.24	0.59	U	onsite
MHA13-AL-020	2/14/2008	Plutonium-238	55	13.51	5.31		onsite
MHA13-AL-020	2/14/2008	Protactinium-231	4	0.00	1.55	U	onsite
MHA13-AL-020	2/14/2008	Radium-226	2.9	0.48	0.11		onsite
MHA13-AL-020	2/14/2008	Thorium-228	2.6	1.18	0.07		iso-Th
MHA13-AL-020	2/14/2008	Thorium-230	2.8	0.00	6.49	U	onsite
MHA13-AL-020	2/14/2008	Thorium-230	2.8	1.00	0.02		iso-Th
MHA13-AL-020	2/14/2008	Thorium-232	2.1	0.31	0.19		onsite
MHA13-AL-020	2/14/2008	Thorium-232	2.1	0.82	0.04		iso-Th
MHA13-AL-020	2/14/2008	Uranium-238	2.2	0.61	0.38		onsite
MHA13-AL-021	2/14/2008	Actinium-227	4.6	0.14	0.30	U	onsite
MHA13-AL-021	2/14/2008	Americium-241	63	0.02	0.08	U	onsite
MHA13-AL-021	2/14/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-021	2/14/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA13-AL-021	2/14/2008	Cobalt-60	0.7	0.01	0.06	U	onsite
MHA13-AL-021	2/14/2008	Lead-210	7.4	0.47	0.71	U	onsite
MHA13-AL-021	2/14/2008	Plutonium-238	55	0.00	6.98	U	onsite
MHA13-AL-021	2/14/2008	Protactinium-231	4	0.39	1.65	U	onsite
MHA13-AL-021	2/14/2008	Radium-226	2.9	0.57	0.13		onsite
MHA13-AL-021	2/14/2008	Thorium-228	2.6	1.35	0.10		iso-Th
MHA13-AL-021	2/14/2008	Thorium-230	2.8	0.00	7.05	U	onsite
MHA13-AL-021	2/14/2008	Thorium-230	2.8	0.99	0.05		iso-Th
MHA13-AL-021	2/14/2008	Thorium-232	2.1	0.64	0.22		onsite
MHA13-AL-021	2/14/2008	Thorium-232	2.1	0.99	0.05		iso-Th
MHA13-AL-021	2/14/2008	Uranium-238	2.2	0.72	0.45		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-022	2/14/2008	Actinium-227	4.6	0.02	0.31	U	onsite
MHA13-AL-022	2/14/2008	Americium-241	63	0.03	0.07	U	onsite
MHA13-AL-022	2/14/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-022	2/14/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA13-AL-022	2/14/2008	Cobalt-60	0.7	0.00	0.07	U	onsite
MHA13-AL-022	2/14/2008	Lead-210	7.4	0.91	0.62		onsite
MHA13-AL-022	2/14/2008	Plutonium-238	55	0.17	6.58	U	onsite
MHA13-AL-022	2/14/2008	Protactinium-231	4	0.21	1.71	U	onsite
MHA13-AL-022	2/14/2008	Radium-226	2.9	0.63	0.12		onsite
MHA13-AL-022	2/14/2008	Thorium-228	2.6	0.94	0.08		iso-Th
MHA13-AL-022	2/14/2008	Thorium-230	2.8	0.43	6.80	U	onsite
MHA13-AL-022	2/14/2008	Thorium-230	2.8	0.96	0.04		iso-Th
MHA13-AL-022	2/14/2008	Thorium-232	2.1	0.46	0.22		onsite
MHA13-AL-022	2/14/2008	Thorium-232	2.1	0.80	0.02		iso-Th
MHA13-AL-022	2/14/2008	Uranium-238	2.2	0.45	0.44		onsite
MHA13-AL-023	2/14/2008	Actinium-227	4.6	0.00	0.38	U	onsite
MHA13-AL-023	2/14/2008	Americium-241	63	0.00	0.09	U	onsite
MHA13-AL-023	2/14/2008	Bismuth-210M	8.3	0.01	0.06	U	onsite
MHA13-AL-023	2/14/2008	Cesium-137	3.8	0.03	0.05	U	onsite
MHA13-AL-023	2/14/2008	Cobalt-60	0.7	0.00	0.11	U	onsite
MHA13-AL-023	2/14/2008	Lead-210	7.4	0.58	0.82	U	onsite
MHA13-AL-023	2/14/2008	Plutonium-238	55	1.14	8.05	U	onsite
MHA13-AL-023	2/14/2008	Protactinium-231	4	0.94	1.85	U	onsite
MHA13-AL-023	2/14/2008	Radium-226	2.9	0.67	0.16		onsite
MHA13-AL-023	2/14/2008	Thorium-228	2.6	1.17	0.08		iso-Th
MHA13-AL-023	2/14/2008	Thorium-230	2.8	2.45	8.51	U	onsite
MHA13-AL-023	2/14/2008	Thorium-230	2.8	0.96	0.05		iso-Th
MHA13-AL-023	2/14/2008	Thorium-232	2.1	0.74	0.25		onsite
MHA13-AL-023	2/14/2008	Thorium-232	2.1	1.28	0.05		iso-Th
MHA13-AL-023	2/14/2008	Uranium-238	2.2	0.67	0.52		onsite
MHA13-AL-024	2/14/2008	Actinium-227	4.6	0.05	0.30	U	onsite
MHA13-AL-024	2/14/2008	Americium-241	63	0.01	0.08	U	onsite
MHA13-AL-024	2/14/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-024	2/14/2008	Cesium-137	3.8	0.04	0.05	U	onsite
MHA13-AL-024	2/14/2008	Cobalt-60	0.7	0.02	0.05	U	onsite
MHA13-AL-024	2/14/2008	Lead-210	7.4	1.08	0.63		onsite
MHA13-AL-024	2/14/2008	Plutonium-238	55	6.36	7.25	U	onsite
MHA13-AL-024	2/14/2008	Protactinium-231	4	0.38	1.53	U	onsite
MHA13-AL-024	2/14/2008	Radium-226	2.9	0.57	0.11		onsite
MHA13-AL-024	2/14/2008	Thorium-228	2.6	0.73	0.08		iso-Th
MHA13-AL-024	2/14/2008	Thorium-230	2.8	0.00	7.15	U	onsite
MHA13-AL-024	2/14/2008	Thorium-230	2.8	0.90	0.04		iso-Th
MHA13-AL-024	2/14/2008	Thorium-232	2.1	0.30	0.21		onsite
MHA13-AL-024	2/14/2008	Thorium-232	2.1	0.69	0.04		iso-Th
MHA13-AL-024	2/14/2008	Uranium-238	2.2	0.58	0.42		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-025	2/14/2008	Actinium-227	4.6	0.00	0.33	U	onsite
MHA13-AL-025	2/14/2008	Americium-241	63	0.02	0.07	U	onsite
MHA13-AL-025	2/14/2008	Bismuth-210M	8.3	0.01	0.06	U	onsite
MHA13-AL-025	2/14/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA13-AL-025	2/14/2008	Cobalt-60	0.7	0.01	0.06	U	onsite
MHA13-AL-025	2/14/2008	Lead-210	7.4	0.81	0.65		onsite
MHA13-AL-025	2/14/2008	Plutonium-238	55	0.96	7.32	U	onsite
MHA13-AL-025	2/14/2008	Protactinium-231	4	0.00	2.03	U	onsite
MHA13-AL-025	2/14/2008	Radium-226	2.9	0.50	0.15		onsite
MHA13-AL-025	2/14/2008	Thorium-228	2.6	1.09	0.05		iso-Th
MHA13-AL-025	2/14/2008	Thorium-230	2.8	0.71	7.20	U	onsite
MHA13-AL-025	2/14/2008	Thorium-230	2.8	0.98	0.04		iso-Th
MHA13-AL-025	2/14/2008	Thorium-232	2.1	0.52	0.21		onsite
MHA13-AL-025	2/14/2008	Thorium-232	2.1	1.00	0.02		iso-Th
MHA13-AL-025	2/14/2008	Uranium-238	2.2	1.00	0.43		onsite
MHA13-AL-026	2/14/2008	Actinium-227	4.6	0.00	0.39	U	onsite
MHA13-AL-026	2/14/2008	Americium-241	63	0.00	0.09	U	onsite
MHA13-AL-026	2/14/2008	Bismuth-210M	8.3	0.03	0.06	U	onsite
MHA13-AL-026	2/14/2008	Cesium-137	3.8	0.03	0.05	U	onsite
MHA13-AL-026	2/14/2008	Cobalt-60	0.7	0.00	0.10	U	onsite
MHA13-AL-026	2/14/2008	Lead-210	7.4	0.80	0.86	U	onsite
MHA13-AL-026	2/14/2008	Plutonium-238	55	0.00	8.50	U	onsite
MHA13-AL-026	2/14/2008	Protactinium-231	4	0.00	2.15	U	onsite
MHA13-AL-026	2/14/2008	Radium-226	2.9	0.73	0.17		onsite
MHA13-AL-026	2/14/2008	Thorium-228	2.6	1.32	0.07		iso-Th
MHA13-AL-026	2/14/2008	Thorium-230	2.8	2.83	8.66	U	onsite
MHA13-AL-026	2/14/2008	Thorium-230	2.8	1.06	0.04		iso-Th
MHA13-AL-026	2/14/2008	Thorium-232	2.1	0.99	0.21		onsite
MHA13-AL-026	2/14/2008	Thorium-232	2.1	1.13	0.02		iso-Th
MHA13-AL-026	2/14/2008	Uranium-238	2.2	1.11	0.53		onsite
MHA13-AL-027	2/19/2008	Actinium-227	4.6	0.01	0.20	U	onsite
MHA13-AL-027	2/19/2008	Americium-241	63	0.00	0.05	U	onsite
MHA13-AL-027	2/19/2008	Bismuth-210M	8.3	0.00	0.04	U	onsite
MHA13-AL-027	2/19/2008	Cesium-137	3.8	0.02	0.02	U	onsite
MHA13-AL-027	2/19/2008	Cobalt-60	0.7	0.00	0.03	U	onsite
MHA13-AL-027	2/19/2008	Lead-210	7.4	0.14	0.48	U	onsite
MHA13-AL-027	2/19/2008	Plutonium-238	55	1.29	3.76	U	onsite
MHA13-AL-027	2/19/2008	Protactinium-231	4	0.00	1.24	U	onsite
MHA13-AL-027	2/19/2008	Radium-226	2.9	0.46	0.08		onsite
MHA13-AL-027	2/19/2008	Thorium-228	2.6	0.41	0.09		iso-Th
MHA13-AL-027	2/19/2008	Thorium-230	2.8	2.96	4.31	U	onsite
MHA13-AL-027	2/19/2008	Thorium-230	2.8	0.92	0.05		iso-Th
MHA13-AL-027	2/19/2008	Thorium-232	2.1	0.26	0.12		onsite
MHA13-AL-027	2/19/2008	Thorium-232	2.1	0.37	0.05		iso-Th
MHA13-AL-027	2/19/2008	Uranium-238	2.2	0.19	0.30	U	onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-028	2/19/2008	Actinium-227	4.6	0.14	0.31	U	onsite
MHA13-AL-028	2/19/2008	Americium-241	63	0.02	0.08	U	onsite
MHA13-AL-028	2/19/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-028	2/19/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA13-AL-028	2/19/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-028	2/19/2008	Lead-210	7.4	1.03	0.68		onsite
MHA13-AL-028	2/19/2008	Plutonium-238	55	1.86	6.87	U	onsite
MHA13-AL-028	2/19/2008	Protactinium-231	4	0.00	1.84	U	onsite
MHA13-AL-028	2/19/2008	Radium-226	2.9	0.70	0.12		onsite
MHA13-AL-028	2/19/2008	Thorium-228	2.6	1.20	0.13		iso-Th
MHA13-AL-028	2/19/2008	Thorium-230	2.8	0.00	7.56	U	onsite
MHA13-AL-028	2/19/2008	Thorium-230	2.8	1.15	0.11		iso-Th
MHA13-AL-028	2/19/2008	Thorium-232	2.1	0.73	0.18		onsite
MHA13-AL-028	2/19/2008	Thorium-232	2.1	1.32	0.11		iso-Th
MHA13-AL-028	2/19/2008	Uranium-238	2.2	0.91	0.46		onsite
MHA13-AL-029	2/20/2008	Actinium-227	4.6	0.12	0.32	U	onsite
MHA13-AL-029	2/20/2008	Americium-241	63	0.00	0.08	U	onsite
MHA13-AL-029	2/20/2008	Bismuth-210M	8.3	0.02	0.05	U	onsite
MHA13-AL-029	2/20/2008	Cesium-137	3.8	0.02	0.05	U	onsite
MHA13-AL-029	2/20/2008	Cobalt-60	0.7	0.03	0.06	U	onsite
MHA13-AL-029	2/20/2008	Lead-210	7.4	0.19	0.75	U	onsite
MHA13-AL-029	2/20/2008	Plutonium-238	55	0.00	7.27	U	onsite
MHA13-AL-029	2/20/2008	Protactinium-231	4	0.00	1.77	U	onsite
MHA13-AL-029	2/20/2008	Radium-226	2.9	0.71	0.13		onsite
MHA13-AL-029	2/20/2008	Thorium-228	2.6	1.25	0.10		iso-Th
MHA13-AL-029	2/20/2008	Thorium-230	2.8	1.16	7.34	U	onsite
MHA13-AL-029	2/20/2008	Thorium-230	2.8	1.17	0.08		iso-Th
MHA13-AL-029	2/20/2008	Thorium-232	2.1	0.62	0.22		onsite
MHA13-AL-029	2/20/2008	Thorium-232	2.1	1.22	0.08		iso-Th
MHA13-AL-029	2/20/2008	Uranium-238	2.2	0.89	0.47		onsite
MHA13-AL-030	2/20/2008	Actinium-227	4.6	0.00	0.32	U	onsite
MHA13-AL-030	2/20/2008	Americium-241	63	0.00	0.08	U	onsite
MHA13-AL-030	2/20/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-030	2/20/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-030	2/20/2008	Cobalt-60	0.7	0.00	0.07	U	onsite
MHA13-AL-030	2/20/2008	Lead-210	7.4	0.31	0.73	U	onsite
MHA13-AL-030	2/20/2008	Plutonium-238	55	4.74	6.85	U	onsite
MHA13-AL-030	2/20/2008	Protactinium-231	4	0.00	1.81	U	onsite
MHA13-AL-030	2/20/2008	Radium-226	2.9	0.61	0.10		onsite
MHA13-AL-030	2/20/2008	Thorium-228	2.6	0.88	0.08		iso-Th
MHA13-AL-030	2/20/2008	Thorium-230	2.8	0.00	7.59	U	onsite
MHA13-AL-030	2/20/2008	Thorium-230	2.8	1.01	0.05		iso-Th
MHA13-AL-030	2/20/2008	Thorium-232	2.1	0.69	0.22		onsite
MHA13-AL-030	2/20/2008	Thorium-232	2.1	1.15	0.05		iso-Th
MHA13-AL-030	2/20/2008	Uranium-238	2.2	0.51	0.46		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-031	2/20/2008	Actinium-227	4.6	0.02	0.33	U	onsite
MHA13-AL-031	2/20/2008	Americium-241	63	0.00	0.08	U	onsite
MHA13-AL-031	2/20/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-031	2/20/2008	Cesium-137	3.8	0.01	0.05	U	onsite
MHA13-AL-031	2/20/2008	Cobalt-60	0.7	0.00	0.07	U	onsite
MHA13-AL-031	2/20/2008	Lead-210	7.4	0.14	0.77	U	onsite
MHA13-AL-031	2/20/2008	Plutonium-238	55	0.00	7.59	U	onsite
MHA13-AL-031	2/20/2008	Protactinium-231	4	0.00	1.86	U	onsite
MHA13-AL-031	2/20/2008	Radium-226	2.9	0.55	0.15		onsite
MHA13-AL-031	2/20/2008	Thorium-228	2.6	1.05	0.09		iso-Th
MHA13-AL-031	2/20/2008	Thorium-230	2.8	0.00	7.49	U	onsite
MHA13-AL-031	2/20/2008	Thorium-230	2.8	1.11	0.04		iso-Th
MHA13-AL-031	2/20/2008	Thorium-232	2.1	0.72	0.20		onsite
MHA13-AL-031	2/20/2008	Thorium-232	2.1	0.99	0.04		iso-Th
MHA13-AL-031	2/20/2008	Uranium-238	2.2	0.89	0.44		onsite
MHA13-AL-032	2/20/2008	Actinium-227	4.6	0.20	0.31	U	onsite
MHA13-AL-032	2/20/2008	Americium-241	63	0.00	0.07	U	onsite
MHA13-AL-032	2/20/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-032	2/20/2008	Cesium-137	3.8	0.02	0.05	U	onsite
MHA13-AL-032	2/20/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-032	2/20/2008	Lead-210	7.4	0.21	0.73	U	onsite
MHA13-AL-032	2/20/2008	Plutonium-238	55	0.00	6.99	U	onsite
MHA13-AL-032	2/20/2008	Protactinium-231	4	0.00	1.60	U	onsite
MHA13-AL-032	2/20/2008	Radium-226	2.9	0.76	0.10		onsite
MHA13-AL-032	2/20/2008	Thorium-228	2.6	0.97	0.12		iso-Th
MHA13-AL-032	2/20/2008	Thorium-230	2.8	5.00	6.49	U	onsite
MHA13-AL-032	2/20/2008	Thorium-230	2.8	0.93	0.05		iso-Th
MHA13-AL-032	2/20/2008	Thorium-232	2.1	0.82	0.18		onsite
MHA13-AL-032	2/20/2008	Thorium-232	2.1	1.01	0.05		iso-Th
MHA13-AL-032	2/20/2008	Uranium-238	2.2	1.09	0.41		onsite
MHA13-AL-033	2/21/2008	Actinium-227	4.6	0.00	0.36	U	onsite
MHA13-AL-033	2/21/2008	Americium-241	63	0.01	0.08	U	onsite
MHA13-AL-033	2/21/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-033	2/21/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-033	2/21/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-033	2/21/2008	Lead-210	7.4	0.60	0.76	U	onsite
MHA13-AL-033	2/21/2008	Plutonium-238	55	0.69	7.74	U	onsite
MHA13-AL-033	2/21/2008	Protactinium-231	4	0.00	2.01	U	onsite
MHA13-AL-033	2/21/2008	Radium-226	2.9	0.73	0.12		onsite
MHA13-AL-033	2/21/2008	Thorium-228	2.6	1.28	0.12		iso-Th
MHA13-AL-033	2/21/2008	Thorium-230	2.8	2.22	7.68	U	onsite
MHA13-AL-033	2/21/2008	Thorium-230	2.8	1.03	0.07		iso-Th
MHA13-AL-033	2/21/2008	Thorium-232	2.1	0.75	0.23		onsite
MHA13-AL-033	2/21/2008	Thorium-232	2.1	0.96	0.07		iso-Th
MHA13-AL-033	2/21/2008	Uranium-238	2.2	1.44	0.46		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-034	2/21/2008	Actinium-227	4.6	0.02	0.33	U	onsite
MHA13-AL-034	2/21/2008	Americium-241	63	0.00	0.08	U	onsite
MHA13-AL-034	2/21/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-034	2/21/2008	Cesium-137	3.8	0.03	0.05	U	onsite
MHA13-AL-034	2/21/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-034	2/21/2008	Lead-210	7.4	0.68	0.69	U	onsite
MHA13-AL-034	2/21/2008	Plutonium-238	55	0.00	7.54	U	onsite
MHA13-AL-034	2/21/2008	Protactinium-231	4	1.04	1.71	U	onsite
MHA13-AL-034	2/21/2008	Radium-226	2.9	0.63	0.12		onsite
MHA13-AL-034	2/21/2008	Thorium-228	2.6	1.16	0.11		iso-Th
MHA13-AL-034	2/21/2008	Thorium-230	2.8	1.38	7.19	U	onsite
MHA13-AL-034	2/21/2008	Thorium-230	2.8	0.85	0.08		iso-Th
MHA13-AL-034	2/21/2008	Thorium-232	2.1	0.55	0.29		onsite
MHA13-AL-034	2/21/2008	Thorium-232	2.1	1.02	0.08		iso-Th
MHA13-AL-034	2/21/2008	Uranium-238	2.2	0.89	0.45		onsite
MHA13-AL-035	2/26/2008	Actinium-227	4.6	0.13	0.26	U	onsite
MHA13-AL-035	2/26/2008	Americium-241	63	0.04	0.06	U	onsite
MHA13-AL-035	2/26/2008	Bismuth-210M	8.3	0.00	0.04	U	onsite
MHA13-AL-035	2/26/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA13-AL-035	2/26/2008	Cobalt-60	0.7	0.02	0.05	U	onsite
MHA13-AL-035	2/26/2008	Lead-210	7.4	0.55	0.56	U	onsite
MHA13-AL-035	2/26/2008	Plutonium-238	55	1.08	5.61	U	onsite
MHA13-AL-035	2/26/2008	Protactinium-231	4	0.00	1.56	U	onsite
MHA13-AL-035	2/26/2008	Radium-226	2.9	0.56	0.10		onsite
MHA13-AL-035	2/26/2008	Thorium-228	2.6	0.78	0.09		iso-Th
MHA13-AL-035	2/26/2008	Thorium-230	2.8	0.00	6.45	U	onsite
MHA13-AL-035	2/26/2008	Thorium-230	2.8	0.94	0.05		iso-Th
MHA13-AL-035	2/26/2008	Thorium-232	2.1	0.63	0.13		onsite
MHA13-AL-035	2/26/2008	Thorium-232	2.1	0.60	0.06		iso-Th
MHA13-AL-035	2/26/2008	Uranium-238	2.2	0.76	0.37		onsite
MHA13-AL-036	2/26/2008	Actinium-227	4.6	0.00	0.32	U	onsite
MHA13-AL-036	2/26/2008	Americium-241	63	0.02	0.08	U	onsite
MHA13-AL-036	2/26/2008	Bismuth-210M	8.3	0.01	0.06	U	onsite
MHA13-AL-036	2/26/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-036	2/26/2008	Cobalt-60	0.7	0.00	0.07	U	onsite
MHA13-AL-036	2/26/2008	Lead-210	7.4	0.69	0.71	U	onsite
MHA13-AL-036	2/26/2008	Plutonium-238	55	0.00	7.30	U	onsite
MHA13-AL-036	2/26/2008	Protactinium-231	4	0.39	1.81	U	onsite
MHA13-AL-036	2/26/2008	Radium-226	2.9	0.58	0.16		onsite
MHA13-AL-036	2/26/2008	Thorium-228	2.6	1.01	0.09		iso-Th
MHA13-AL-036	2/26/2008	Thorium-230	2.8	0.00	7.69	U	onsite
MHA13-AL-036	2/26/2008	Thorium-230	2.8	1.10	0.07		iso-Th
MHA13-AL-036	2/26/2008	Thorium-232	2.1	0.88	0.19		onsite
MHA13-AL-036	2/26/2008	Thorium-232	2.1	1.06	0.07		iso-Th
MHA13-AL-036	2/26/2008	Uranium-238	2.2	0.76	0.45		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-037	2/26/2008	Actinium-227	4.6	0.14	0.36	U	onsite
MHA13-AL-037	2/26/2008	Americium-241	63	0.01	0.09	U	onsite
MHA13-AL-037	2/26/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-037	2/26/2008	Cesium-137	3.8	0.02	0.05	U	onsite
MHA13-AL-037	2/26/2008	Cobalt-60	0.7	0.03	0.07	U	onsite
MHA13-AL-037	2/26/2008	Lead-210	7.4	0.49	0.81	U	onsite
MHA13-AL-037	2/26/2008	Plutonium-238	55	1.43	7.87	U	onsite
MHA13-AL-037	2/26/2008	Protactinium-231	4	0.00	2.06	U	onsite
MHA13-AL-037	2/26/2008	Radium-226	2.9	0.75	0.14		onsite
MHA13-AL-037	2/26/2008	Thorium-228	2.6	1.16	0.05		iso-Th
MHA13-AL-037	2/26/2008	Thorium-230	2.8	0.00	8.32	U	onsite
MHA13-AL-037	2/26/2008	Thorium-230	2.8	1.34	0.06		iso-Th
MHA13-AL-037	2/26/2008	Thorium-232	2.1	0.67	0.26		onsite
MHA13-AL-037	2/26/2008	Thorium-232	2.1	1.21	0.05		iso-Th
MHA13-AL-037	2/26/2008	Uranium-238	2.2	0.95	0.50		onsite
MHA13-AL-038	2/26/2008	Actinium-227	4.6	0.03	0.29	U	onsite
MHA13-AL-038	2/26/2008	Americium-241	63	0.00	0.07	U	onsite
MHA13-AL-038	2/26/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-038	2/26/2008	Cesium-137	3.8	0.01	0.05	U	onsite
MHA13-AL-038	2/26/2008	Cobalt-60	0.7	0.01	0.05	U	onsite
MHA13-AL-038	2/26/2008	Lead-210	7.4	0.64	0.62		onsite
MHA13-AL-038	2/26/2008	Plutonium-238	55	2.56	6.28	U	onsite
MHA13-AL-038	2/26/2008	Protactinium-231	4	0.00	1.62	U	onsite
MHA13-AL-038	2/26/2008	Radium-226	2.9	0.64	0.10		onsite
MHA13-AL-038	2/26/2008	Thorium-228	2.6	1.02	0.14		iso-Th
MHA13-AL-038	2/26/2008	Thorium-230	2.8	1.23	6.32	U	onsite
MHA13-AL-038	2/26/2008	Thorium-230	2.8	1.14	0.04		iso-Th
MHA13-AL-038	2/26/2008	Thorium-232	2.1	0.59	0.18		onsite
MHA13-AL-038	2/26/2008	Thorium-232	2.1	1.24	0.09		iso-Th
MHA13-AL-038	2/26/2008	Uranium-238	2.2	0.83	0.40		onsite
MHA13-AL-039	2/27/2008	Actinium-227	4.6	0.00	0.41	U	onsite
MHA13-AL-039	2/27/2008	Americium-241	63	0.00	0.10	U	onsite
MHA13-AL-039	2/27/2008	Bismuth-210M	8.3	0.00	0.07	U	onsite
MHA13-AL-039	2/27/2008	Cesium-137	3.8	0.03	0.06	U	onsite
MHA13-AL-039	2/27/2008	Cobalt-60	0.7	0.04	0.05	U	onsite
MHA13-AL-039	2/27/2008	Lead-210	7.4	0.69	0.90	U	onsite
MHA13-AL-039	2/27/2008	Plutonium-238	55	0.00	9.25	U	onsite
MHA13-AL-039	2/27/2008	Protactinium-231	4	0.00	2.27	U	onsite
MHA13-AL-039	2/27/2008	Radium-226	2.9	0.58	0.17		onsite
MHA13-AL-039	2/27/2008	Thorium-228	2.6	1.24	0.12		iso-Th
MHA13-AL-039	2/27/2008	Thorium-230	2.8	0.10	8.92	U	onsite
MHA13-AL-039	2/27/2008	Thorium-230	2.8	0.75	0.07		iso-Th
MHA13-AL-039	2/27/2008	Thorium-232	2.1	0.69	0.26		onsite
MHA13-AL-039	2/27/2008	Thorium-232	2.1	1.29	0.06		iso-Th
MHA13-AL-039	2/27/2008	Uranium-238	2.2	0.90	0.54		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-040	2/27/2008	Actinium-227	4.6	0.00	0.35	U	onsite
MHA13-AL-040	2/27/2008	Americium-241	63	0.00	0.09	U	onsite
MHA13-AL-040	2/27/2008	Bismuth-210M	8.3	0.00	0.06	U	onsite
MHA13-AL-040	2/27/2008	Cesium-137	3.8	0.03	0.05	U	onsite
MHA13-AL-040	2/27/2008	Cobalt-60	0.7	0.00	0.08	U	onsite
MHA13-AL-040	2/27/2008	Lead-210	7.4	0.61	0.78	U	onsite
MHA13-AL-040	2/27/2008	Plutonium-238	55	0.00	8.15	U	onsite
MHA13-AL-040	2/27/2008	Protactinium-231	4	0.00	1.91	U	onsite
MHA13-AL-040	2/27/2008	Radium-226	2.9	0.82	0.13		onsite
MHA13-AL-040	2/27/2008	Thorium-228	2.6	1.20	0.08		iso-Th
MHA13-AL-040	2/27/2008	Thorium-230	2.8	0.00	8.32	U	onsite
MHA13-AL-040	2/27/2008	Thorium-230	2.8	1.08	0.04		iso-Th
MHA13-AL-040	2/27/2008	Thorium-232	2.1	0.87	0.18		onsite
MHA13-AL-040	2/27/2008	Thorium-232	2.1	1.06	0.02		iso-Th
MHA13-AL-040	2/27/2008	Uranium-238	2.2	0.97	0.49		onsite
MHA13-AL-041	2/27/2008	Actinium-227	4.6	0.00	0.27	U	onsite
MHA13-AL-041	2/27/2008	Americium-241	63	0.00	0.06	U	onsite
MHA13-AL-041	2/27/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-041	2/27/2008	Cesium-137	3.8	0.01	0.04	U	onsite
MHA13-AL-041	2/27/2008	Cobalt-60	0.7	0.00	0.07	U	onsite
MHA13-AL-041	2/27/2008	Lead-210	7.4	0.94	0.58		onsite
MHA13-AL-041	2/27/2008	Plutonium-238	55	1.68	6.47	U	onsite
MHA13-AL-041	2/27/2008	Protactinium-231	4	0.73	1.34	U	onsite
MHA13-AL-041	2/27/2008	Radium-226	2.9	0.62	0.12		onsite
MHA13-AL-041	2/27/2008	Thorium-228	2.6	0.40	0.08		iso-Th
MHA13-AL-041	2/27/2008	Thorium-230	2.8	2.26	5.89	U	onsite
MHA13-AL-041	2/27/2008	Thorium-230	2.8	0.96	0.05		iso-Th
MHA13-AL-041	2/27/2008	Thorium-232	2.1	0.46	0.15		onsite
MHA13-AL-041	2/27/2008	Thorium-232	2.1	0.47	0.05		iso-Th
MHA13-AL-041	2/27/2008	Uranium-238	2.2	0.42	0.39		onsite
MHA13-AL-042	2/27/2008	Actinium-227	4.6	0.01	0.27	U	onsite
MHA13-AL-042	2/27/2008	Americium-241	63	0.01	0.06	U	onsite
MHA13-AL-042	2/27/2008	Bismuth-210M	8.3	0.02	0.04	U	onsite
MHA13-AL-042	2/27/2008	Cesium-137	3.8	0.01	0.04	U	onsite
MHA13-AL-042	2/27/2008	Cobalt-60	0.7	0.00	0.07	U	onsite
MHA13-AL-042	2/27/2008	Lead-210	7.4	0.87	0.58		onsite
MHA13-AL-042	2/27/2008	Plutonium-238	55	2.34	5.93	U	onsite
MHA13-AL-042	2/27/2008	Protactinium-231	4	0.39	1.45	U	onsite
MHA13-AL-042	2/27/2008	Radium-226	2.9	0.71	0.10		onsite
MHA13-AL-042	2/27/2008	Thorium-228	2.6	0.54	0.10		iso-Th
MHA13-AL-042	2/27/2008	Thorium-230	2.8	0.00	6.60	U	onsite
MHA13-AL-042	2/27/2008	Thorium-230	2.8	1.11	0.05		iso-Th
MHA13-AL-042	2/27/2008	Thorium-232	2.1	0.28	0.21		onsite
MHA13-AL-042	2/27/2008	Thorium-232	2.1	0.55	0.05		iso-Th
MHA13-AL-042	2/27/2008	Uranium-238	2.2	0.61	0.33		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-043	2/27/2008	Actinium-227	4.6	0.00	0.26	U	onsite
MHA13-AL-043	2/27/2008	Americium-241	63	0.03	0.05	U	onsite
MHA13-AL-043	2/27/2008	Bismuth-210M	8.3	0.01	0.04	U	onsite
MHA13-AL-043	2/27/2008	Cesium-137	3.8	0.02	0.03	U	onsite
MHA13-AL-043	2/27/2008	Cobalt-60	0.7	0.00	0.05	U	onsite
MHA13-AL-043	2/27/2008	Lead-210	7.4	0.94	0.46		onsite
MHA13-AL-043	2/27/2008	Plutonium-238	55	2.72	5.05	U	onsite
MHA13-AL-043	2/27/2008	Protactinium-231	4	0.38	1.23	U	onsite
MHA13-AL-043	2/27/2008	Radium-226	2.9	0.58	0.09		onsite
MHA13-AL-043	2/27/2008	Thorium-228	2.6	0.37	0.18		iso-Th
MHA13-AL-043	2/27/2008	Thorium-230	2.8	3.52	4.87	U	onsite
MHA13-AL-043	2/27/2008	Thorium-230	2.8	0.93	0.12		iso-Th
MHA13-AL-043	2/27/2008	Thorium-232	2.1	0.33	0.12		onsite
MHA13-AL-043	2/27/2008	Thorium-232	2.1	0.48	0.10		iso-Th
MHA13-AL-043	2/27/2008	Uranium-238	2.2	0.36	0.34		onsite
MHA13-AL-044	2/27/2008	Actinium-227	4.6	0.00	0.29	U	onsite
MHA13-AL-044	2/27/2008	Americium-241	63	0.00	0.07	U	onsite
MHA13-AL-044	2/27/2008	Bismuth-210M	8.3	0.02	0.04	U	onsite
MHA13-AL-044	2/27/2008	Cesium-137	3.8	0.00	0.05	U	onsite
MHA13-AL-044	2/27/2008	Cobalt-60	0.7	0.00	0.05	U	onsite
MHA13-AL-044	2/27/2008	Lead-210	7.4	0.71	0.58		onsite
MHA13-AL-044	2/27/2008	Plutonium-238	55	1.38	5.54	U	onsite
MHA13-AL-044	2/27/2008	Protactinium-231	4	0.00	1.46	U	onsite
MHA13-AL-044	2/27/2008	Radium-226	2.9	0.62	0.11		onsite
MHA13-AL-044	2/27/2008	Thorium-228	2.6	0.39	0.06		iso-Th
MHA13-AL-044	2/27/2008	Thorium-230	2.8	0.52	5.74	U	onsite
MHA13-AL-044	2/27/2008	Thorium-230	2.8	0.96	0.04		iso-Th
MHA13-AL-044	2/27/2008	Thorium-232	2.1	0.59	0.02		onsite
MHA13-AL-044	2/27/2008	Thorium-232	2.1	0.49	0.04		iso-Th
MHA13-AL-044	2/27/2008	Uranium-238	2.2	0.83	0.35		onsite
MHA13-AL-045	2/27/2008	Actinium-227	4.6	0.15	0.27	U	onsite
MHA13-AL-045	2/27/2008	Americium-241	63	0.01	0.07	U	onsite
MHA13-AL-045	2/27/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-045	2/27/2008	Cesium-137	3.8	0.00	0.04	U	onsite
MHA13-AL-045	2/27/2008	Cobalt-60	0.7	0.00	0.06	U	onsite
MHA13-AL-045	2/27/2008	Lead-210	7.4	0.40	0.61	U	onsite
MHA13-AL-045	2/27/2008	Plutonium-238	55	0.53	6.30	U	onsite
MHA13-AL-045	2/27/2008	Protactinium-231	4	0.30	1.53	U	onsite
MHA13-AL-045	2/27/2008	Radium-226	2.9	0.68	0.10		onsite
MHA13-AL-045	2/27/2008	Thorium-228	2.6	0.43	0.07		iso-Th
MHA13-AL-045	2/27/2008	Thorium-230	2.8	0.00	6.20	U	onsite
MHA13-AL-045	2/27/2008	Thorium-230	2.8	0.98	0.05		iso-Th
MHA13-AL-045	2/27/2008	Thorium-232	2.1	0.30	0.16		onsite
MHA13-AL-045	2/27/2008	Thorium-232	2.1	0.45	0.02		iso-Th
MHA13-AL-045	2/27/2008	Uranium-238	2.2	0.58	0.41		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-046	2/27/2008	Actinium-227	4.6	0.12	0.20	U	onsite
MHA13-AL-046	2/27/2008	Americium-241	63	0.01	0.05	U	onsite
MHA13-AL-046	2/27/2008	Bismuth-210M	8.3	0.00	0.04	U	onsite
MHA13-AL-046	2/27/2008	Cesium-137	3.8	0.03	0.03	U	onsite
MHA13-AL-046	2/27/2008	Cobalt-60	0.7	0.02	0.04	U	onsite
MHA13-AL-046	2/27/2008	Lead-210	7.4	0.33	0.46	U	onsite
MHA13-AL-046	2/27/2008	Plutonium-238	55	0.90	4.61	U	onsite
MHA13-AL-046	2/27/2008	Protactinium-231	4	0.25	1.11	U	onsite
MHA13-AL-046	2/27/2008	Radium-226	2.9	0.55	0.07		onsite
MHA13-AL-046	2/27/2008	Thorium-228	2.6	0.34	0.11		iso-Th
MHA13-AL-046	2/27/2008	Thorium-230	2.8	0.00	5.02	U	onsite
MHA13-AL-046	2/27/2008	Thorium-230	2.8	0.78	0.03		iso-Th
MHA13-AL-046	2/27/2008	Thorium-232	2.1	0.17	0.14		onsite
MHA13-AL-046	2/27/2008	Thorium-232	2.1	0.31	0.07		iso-Th
MHA13-AL-046	2/27/2008	Uranium-238	2.2	0.53	0.28		onsite
MHA13-AL-047	3/3/2008	Actinium-227	4.6	0.00	0.38	U	onsite
MHA13-AL-047	3/3/2008	Americium-241	63	0.08	0.09	U	onsite
MHA13-AL-047	3/3/2008	Bismuth-210M	8.3	0.03	0.06	U	onsite
MHA13-AL-047	3/3/2008	Cesium-137	3.8	0.00	0.06	U	onsite
MHA13-AL-047	3/3/2008	Cobalt-60	0.7	0.04	0.07	U	onsite
MHA13-AL-047	3/3/2008	Lead-210	7.4	0.39	0.89	U	onsite
MHA13-AL-047	3/3/2008	Plutonium-238	55	2.54	8.01	U	onsite
MHA13-AL-047	3/3/2008	Protactinium-231	4	0.00	2.05	U	onsite
MHA13-AL-047	3/3/2008	Radium-226	2.9	0.85	0.14		onsite
MHA13-AL-047	3/3/2008	Thorium-228	2.6	1.34	0.10		iso-Th
MHA13-AL-047	3/3/2008	Thorium-230	2.8	0.00	8.83	U	onsite
MHA13-AL-047	3/3/2008	Thorium-230	2.8	1.38	0.05		iso-Th
MHA13-AL-047	3/3/2008	Thorium-232	2.1	0.91	0.24		onsite
MHA13-AL-047	3/3/2008	Thorium-232	2.1	1.26	0.05		iso-Th
MHA13-AL-047	3/3/2008	Uranium-238	2.2	1.22	0.59		onsite
MHA13-AL-048	3/3/2008	Actinium-227	4.6	0.11	0.22	U	onsite
MHA13-AL-048	3/3/2008	Americium-241	63	0.00	0.06	U	onsite
MHA13-AL-048	3/3/2008	Bismuth-210M	8.3	0.00	0.04	U	onsite
MHA13-AL-048	3/3/2008	Cesium-137	3.8	0.00	0.04	U	onsite
MHA13-AL-048	3/3/2008	Cobalt-60	0.7	0.01	0.04	U	onsite
MHA13-AL-048	3/3/2008	Lead-210	7.4	0.52	0.57	U	onsite
MHA13-AL-048	3/3/2008	Plutonium-238	55	2.14	4.94	U	onsite
MHA13-AL-048	3/3/2008	Protactinium-231	4	0.57	1.18	U	onsite
MHA13-AL-048	3/3/2008	Radium-226	2.9	0.59	0.11		onsite
MHA13-AL-048	3/3/2008	Thorium-228	2.6	0.54	0.07		iso-Th
MHA13-AL-048	3/3/2008	Thorium-230	2.8	0.00	5.46	U	onsite
MHA13-AL-048	3/3/2008	Thorium-230	2.8	1.16	0.06		iso-Th
MHA13-AL-048	3/3/2008	Thorium-232	2.1	0.44	0.13		onsite
MHA13-AL-048	3/3/2008	Thorium-232	2.1	0.52	0.06		iso-Th
MHA13-AL-048	3/3/2008	Uranium-238	2.2	0.60	0.32		onsite

Sample ID	Sample Date	Analyte	CO pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
MHA13-AL-049	3/3/2008	Actinium-227	4.6	0.01	0.29	U	onsite
MHA13-AL-049	3/3/2008	Americium-241	63	0.04	0.06	U	onsite
MHA13-AL-049	3/3/2008	Bismuth-210M	8.3	0.00	0.05	U	onsite
MHA13-AL-049	3/3/2008	Cesium-137	3.8	0.01	0.04	U	onsite
MHA13-AL-049	3/3/2008	Cobalt-60	0.7	0.03	0.05	U	onsite
MHA13-AL-049	3/3/2008	Lead-210	7.4	0.57	0.64	U	onsite
MHA13-AL-049	3/3/2008	Plutonium-238	55	0.00	6.79	U	onsite
MHA13-AL-049	3/3/2008	Protactinium-231	4	0.00	1.59	U	onsite
MHA13-AL-049	3/3/2008	Radium-226	2.9	0.58	0.10		onsite
MHA13-AL-049	3/3/2008	Thorium-228	2.6	0.62	0.08		iso-Th
MHA13-AL-049	3/3/2008	Thorium-230	2.8	4.87	5.99	U	onsite
MHA13-AL-049	3/3/2008	Thorium-230	2.8	0.93	0.05		iso-Th
MHA13-AL-049	3/3/2008	Thorium-232	2.1	0.41	0.14		onsite
MHA13-AL-049	3/3/2008	Thorium-232	2.1	0.57	0.06		iso-Th
MHA13-AL-049	3/3/2008	Uranium-238	2.2	0.73	0.39		onsite

MDC	Minimum Detectable Concentration
CO	Cleanup Objective
iso-Th	Offsite isotopic thorium analysis
FLAGS: U	Calculated Activity less than or equal to sample Minimum Detectable Level

*When an onsite and an iso-Th result are presented for the same sample location and radionuclide, the iso-Th result is superior.

PRS 7 East and West

Off-site remediation consisted of the removal of 5 manholes and the abandoned sanitary outfall line disposed of as LLW via railcars to Utah. Figure 5 shows an overall view of this section of the remediation. Manholes B-1 and B-3 and the piping connecting them under the railroad tracks remained intact.

Figure 6 shows the locations and IDs of the MARSSIM systematic samples.

Figure 7 identifies the manholes by number shown.

PRS 7 West line Overburden and Backfill Determination Guide is included in this section. This document was created when assumptions in the work plan proved to be false. Additional sampling of the overburden was necessary to ensure no soils above the comparison values were reused as backfill.

Table 4 lists the comparison values for offsite excavations.

RSDS 08-PRS7-0035 and 08-PRS7-0036 show overburden sample locations and walkover results. Table 4a reports Overburden sample results.

Figure 8 is an overall map of PRS 7 east and west removal sectioned off and labeled with a letter (A-L). On the pages that follow Figure 8 are individual section maps showing detailed information about each section starting at the Great Miami River to 10 feet beyond the Mound Site fence.

Table 5 lists the PRS 7 East and West sample results. This includes the biased locations; un-bias, and systematic sampling. Forty-two (42) systematic MARSSIM samples were collected, along with 78 bias/unbias samples. A total of approximately 120 soil samples were collected to confirm the bottom and sides of the trench were left in a satisfactory condition.

Data analysis starting on page 108 evaluates the one exceedence to the comparison values of Th-230 among the systematic samples and 4 locations of bias and judgmental samples. The one location showing a positive result for Pb-214 is considered an anomaly.

Contaminates of primary concern were Pu-238 and Th-230. Elevated samples contained U-238, U-233 and Ra-226 in addition to the expected COCs of Pb-210, Th-230, Th-232, and Pu-238. The elevated samples containing Uranium were confined to the area depicted on Figure 8, Section A.

Onsite soil screening lab will report results for Ac-227, Am-241, Cs-137, Co-60, Pa-231, Pb-210, Pu-238, Ra-226, Th-230, Th-232 and U-238. Bi-207 will be reported if greater than its MDA. After all samples are analyzed onsite and then they were sent offsite (100 %) for iso-Th and iso-Pu analysis to obtain lower MDAs. All samples collected from Figure 8, Section A were sent offsite for iso-U analysis; along with randomly selected samples of the other areas.

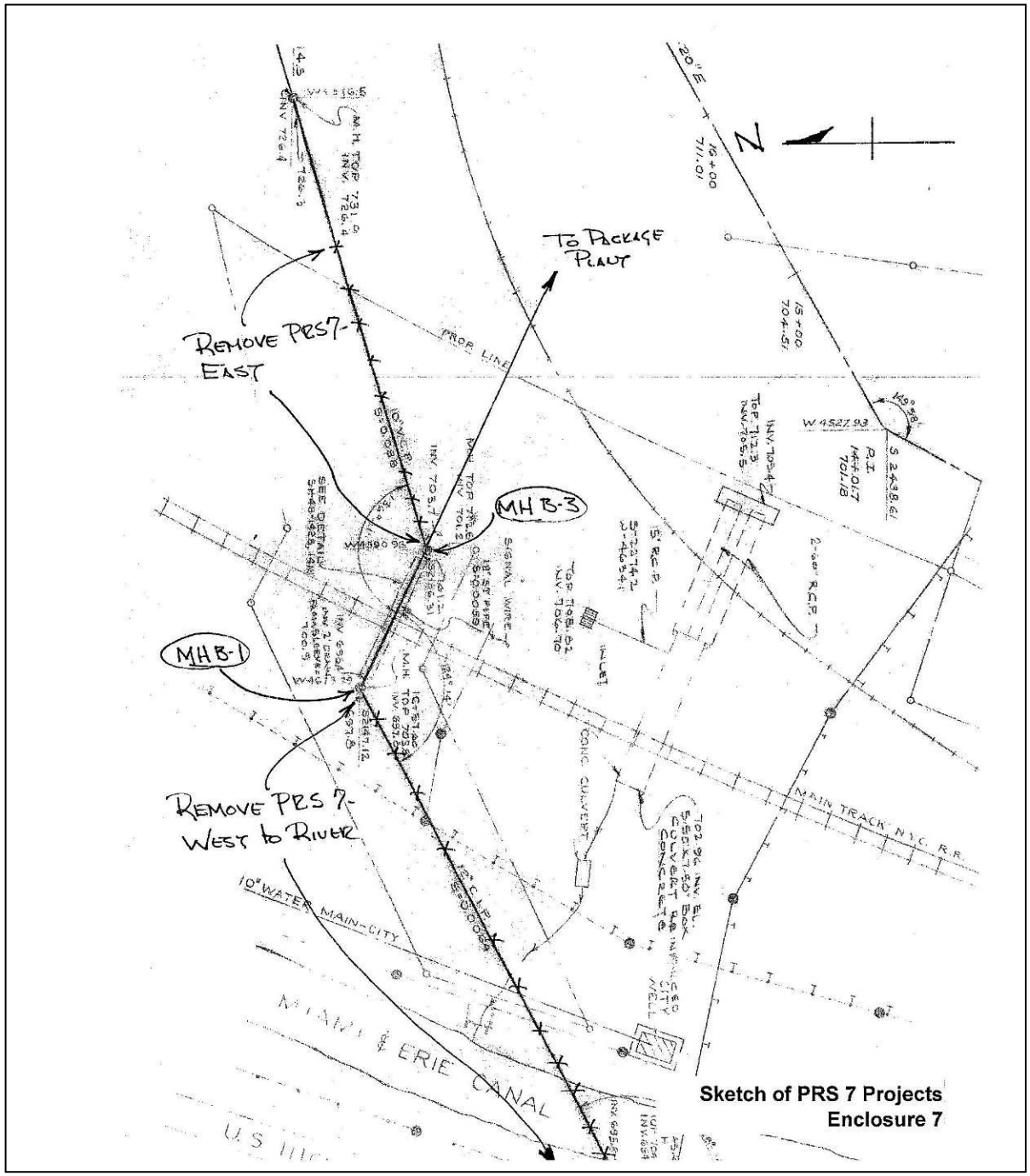

Figure 5: Drawing of PRS 7 East and West

Figure 6: PRS 7 East and West line removed.

Sample locations shown are MARSSIM systematic samples.
Sample IDs are 0701-XXXA-FO; Only XXX is shown for simplicity.

Sample ID	Y Coordinate	X Coordinate
0701-101A-FO	1462217.1	597540.8
0701-102B-FO	1462258.4	597542.9
0701-103A-FO	1462299.1	597545.4
0701-104A-FO	1462339.9	597547.9
0701-105A-FO	1462381	597550
0701-106A-FO	1462420.4	597552.1
0701-107A-FO	1462460.5	597554.5
0701-108A-FO	1462500.6	597556.6
0701-109A-FO	1462540.7	597559.1
0701-110A-FO	1462580.8	597561.6
0701-111A-FO	1462620.9	597563.7
0701-112A-FO	1462662.1	597565.4
0701-113A-FO	1462702	597567
0701-114A-FO	1462742	597569
0701-115A-FO	1462782	597571
0701-116A-FO	1462822	597573
0701-117A-FO	1462862	597575
0701-118A-FO	1462902	597577
0701-119A-FO	1462942	597579
0701-120A-FO	1462982	597581.6
0701-121A-FO	1463022	597586
0701-122A-FO	1463062	597589
0701-123B-FO	1463102	597592
0701-124A-FO	1463142	597595
0701-125A-FO	1463182	597598
0701-128B-FO	**1463302**	**597607**
0701-129A-FO	1463342	597609
0701-130A-FO	1463382	597611
0701-131A-FO	1463422	597613
0701-132A-FO	1463462	597615
0701-135A-FO	1463561.3	597630.2
0701-136A-FO	1463585.9	597662.2
0701-137A-FO	1463610.2	597694.9
0701-138A-FO	1463635.1	597727.2
0701-139A-FO	1463660.7	597759.3
0701-140A-FO	1463677.6	597791.3
0701-141A-FO	1463701.2	597822.6
0701-142A-FO	1463725.4	597855.3
0701-143A-FO	1463832.7	597870.8
0701-144A-FO	1463863	597896.8
0701-145A-FO	1463892.9	597922.8
0701-146A-FO	1463922.7	597949.4

MARSSIM SYSTEMATIC SAMPLES
WITH SAMPLE COORDINATES

Sample results reported in Table 5

All systematic sample results are less than the comparison values set in Table 4 except the one bolded.

0701-XXXA-FO

0701 is PRS 7, survey unit 01
XXX is the sample location
A is the sequential number for that sample location. For example, an A would be the first sample collected from that location, B would be the second one, and so on
FO represents this is the final, original sample (not a duplicate or split)

Note: Sample locations 0701-126A-FO, 0701-127A-FO were not collected due to encountering ground water. Sidewall samples are substituted and reported in Table 5. Samples 0701-133A-FO and 0701-134A-FO were not collected due to the area under Old Hwy 25 not requiring remediation.

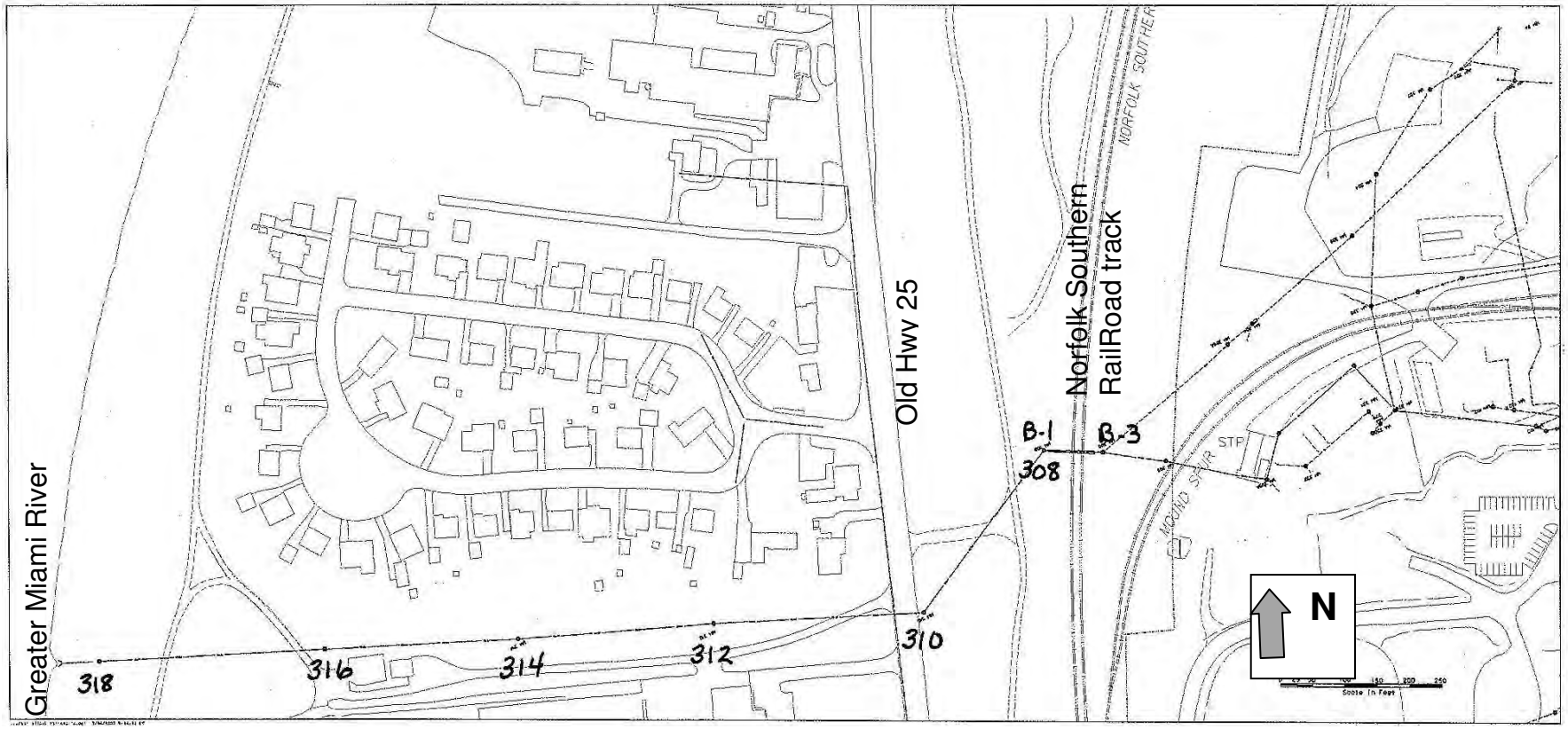

Figure 7: PRS 7 West Line Manhole Identifications

PRS 7 West Line Overburden and Backfill Determination Guide

Purpose: This addendum to the PRS 7 Radiological Survey Plan provides the steps to perform radiological characterization of the soils material associated with the PRS 7 West Line.

PRS 7 West Line is divided into 5 sections between manholes.

1. To begin the radiological characterization process of the section:

   a) Remove topsoil to approximately 1 foot depth
   b) RCT performs a walkover of the cleared area with a NaI survey instrument
   c) If NaI survey notes detections, collect a high bias sample and analyze via onsite gamma spectroscopy
   d) If no detections are noted, collect 3 unbias samples and analyze all three collected samples via onsite gamma spectroscopy
   e) Compare the gamma spectroscopy results with the Comparison Value concentration column listed in the Table below
   f) If all sample results from a section are below the Comparison Value concentration column listed in the Table, follow Section 3.4 of the PRS Work Package.
   g) If any sample from a section exceeds the comparison value concentration column listed in the Table, go to Step 2.

   (Note: The achievable MDAs for Th-230 and Pa-231 are higher than the Comparison Value concentrations in the Table. In these cases, the actual result will be compared to the MDA. If the result is < MDA for Th-230 and Pa-231 AND the other isotopes are < than the Comparison Value concentrations, the soil may be reused in the PRS 7 West Line excavation as backfill provided Step 5 passes).

2. The overburden within the section can be excavated.

3. The overburden soil will be field surveyed with a NaI instrument.

4. If detections are noted during the NaI survey of the excavated overburden in Step 3 above, the soil will be removed as LLW and hauled to the PRS 441 rail spur for transport/disposal.

5. If no detections are noted in Step 3 above, the soil will be sampled at a rate of 1 sample/20 cy. The sample will be analyzed onsite via gamma spectroscopy. The results will be compared with the appropriate Comparison Value concentration column or to the MDA for Th-230 and Pa-231.

6. If either comparison in Step 5 fails, the soil is deemed to be LLW and hauled to the PRS 441 rail spur for transport/disposal.

Table 4: Comparison Values for Offsite Excavation (pCi/g)

	MAXIMUM	Achievable MDA	SOIL	Overburden:Backfill	
RADIONUCLIDE	Value encountered	onsite	BACKGROUND	COMPARISON VALUE	
		onsite/offsite		RAGS	1X10-5 risk level + background
Actinium 227+D	0.19	0.29/0.4	0.11	0.7	0.81
Actinium 228	**82.6**	**NA/0.4**	**NC**	**NC**	**1.48**
Americium 241	0.1291	0.09/0.4	0	19	19
Bismuth 207	<MDA	NA/0.1	NC	NC	ND
Bismuth 210M	0.03	0.06/0.1	0	1.1	1.1
Bismuth 214	**2.72**	**NA/0.2**	**NC**	**NC**	**1.3**
Cesium 137+D	**1.95**	**0.06/0.08**	**0.42**	**0.44**	**0.86**
Cobalt 60	0.04	0.06/0.07	0	0.09	0.09
Lead 210+D	**3.635**	**0.8/2.2**	1.2	**3**	**4.2**
Lead 212	**85.7**	**2/0.2**	**NC**	**NC**	**1.48**
Lead 214	**2.5**	**NA/0.13**	NC	**NC**	**1.30**
Plutonium 238	**6.290**	**17/0.1**	0.13	**29**	**29.13**
Plutonium 239/240	1.28	NA/0.1	0.18	29	29.18
Protactinium 231+D	<MDA	2.0/1.9*	0.11	0.6	0.71
Radium 226+D	**2.72**	**0.9/0.2**	**2**	**0.13**	**2.13**
Thorium 228+D	**93**	**NA/0.1**	**1.5**	**0.14**	**1.64**
Thorium 229	0.58	NA/1	NC	NC	1.1
Thorium 230+D	**46.2**	**8*/0.1**	1.9	**0.1**	**2**
Thorium 232+D	**121**	**0.2/0.1**	1.4	**0.08**	**1.48**
Uranium 233/234	**11.7**	**NA/0.1**	**1.1**	**NC**	**1.1**
Uranium 235	0.12	2/0.2	0.11	0.56	0.57
Uranium 238 +D	**12.1**	**0.5/0.1**	**1.2**	**0.1**	**1.3**

BOLD – Contaminants of Concern

Residential – 1 x 10-5 risk calculation based on USEPA Risk Assessment Guidance (RAGS), default input parameters.
+D – includes daughter products; consistent with the approach utilized for the Mound Plant.
Soil Background – Except for Th-230, background values (95% UTL) are based on the Operable Unit 9 Soils Investigation Chemistry Report (DOE, 1994) or in the case of nuclides with short half lives (Ac-227, Pb-210, and Pa-231) are based on the parent nuclide background and assumption of equilibrium with the parent nuclide.

Th-230 background value is based on Regional Soils Investigation, DOE 1995
MDA- Minimum Detectable Activity
ND – None detected, result will have a "U" flag
NC - Not calculated

* Overburden analysis for Pa-231 and Th-230, the actual MDA will be compared to the result.
Judgmental/Bias samples were analyzed offsite via isotopic Thorium and isotopic Plutonium.

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (OU-1/RAIL SPUR/ OTHER) PRST WEST	SURVEY #: 08-PRST-0035
PURPOSE: SURVEY OF AREAS ABOVE PIPELINE FOR REMOVAL	RWP #: NA
	DATE: 4/14/08
	TIME: 1400

MAP/DRAWING

SEE ATTACHED

LEGEND: K = factor of 1000 △ = Soil Sample Location -·-·-·-·- = Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
FIDLER	4113 / 3994	5/28/08
2221 W/2x2	190196 / 240353	1-11-09
3030	5738	4-9-09
3030	5814	11-26-08
—	NFE	—

Completed by: (Signature) Robert Collins	Date: 4/14/08
Completed by: (Print Name) Robert Collins	
Counted by: (Signature) Robert Collins	Date: 4/14/08
Counted by: (Print Name) Robert Collins	
Approved by: (Signature) Patrick Reed	Date: 4-15-08
Approved by: (Print Name) Patrick Reed	

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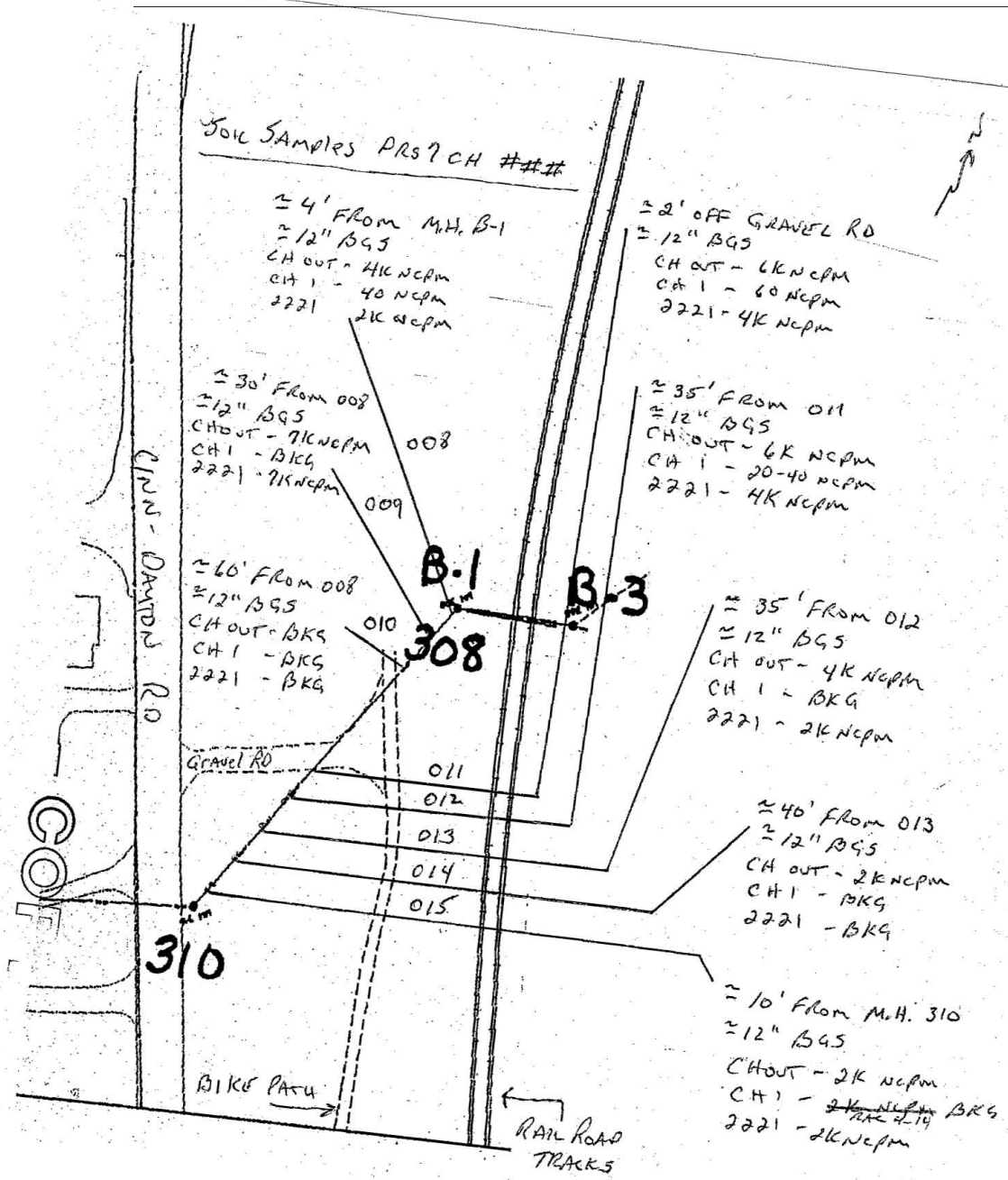

08-PRS7-0035

Pg 2 of 3

Survey No. 08-PRS7-0035

Page 3 of 3

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination Swipes (dpm/100cm²)				Removable Contamination Swipes (dpm/100cm²)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	0	96	EXCAVATOR BUCKET I/S				
2	2	102	↓ ↓				
3	2	110	O/S				
4	0	90	↓ ↓				
5	0	102	EXCAVATOR CAB FLOOR				
6	0	92	↓ ↓ ↓				

COMMENTS: I/S - INSIDE, O/S - OUTSIDE

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RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (OU-1/RAIL SPUR/ OTHER) PRS 7 WEST	SURVEY #: 08-PRS 7-0036
PURPOSE: SURVEY OF AREAS ABOVE PIPELINE FOR REMOVAL	RWP #: NA
	DATE: 4/15/08
	TIME: 0900

MAP/DRAWING

SEE ATTACHED

LEGEND: K = factor of 1000 △ = Soil Sample Location ----------= Radiological Boundary (#) = Smear Number

(#/α) or β = Direct Contamination Measurement in DPM / 100 cm² [#] = air Sample Number / Location

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
FIDLER	4113 / 3994	5/28/08
2221 w/2x2	190196/240353	1-11-09
3030	5739	4-9-09
3030	5814	11-24-08
3030	5743	4-9-09

Completed by: (Signature) Robert Collins	Date: 4/15/08
Completed by: (Print Name) ROBERT COLLINS	
Counted by: (Signature) Robert Collins	Date: 4/15/08
Counted by: (Print Name) ROBERT COLLINS	
Approved by: (Signature) Patrick Beck	Date: 4-15-08
Approved by: (Print Name) Patrick Beck	

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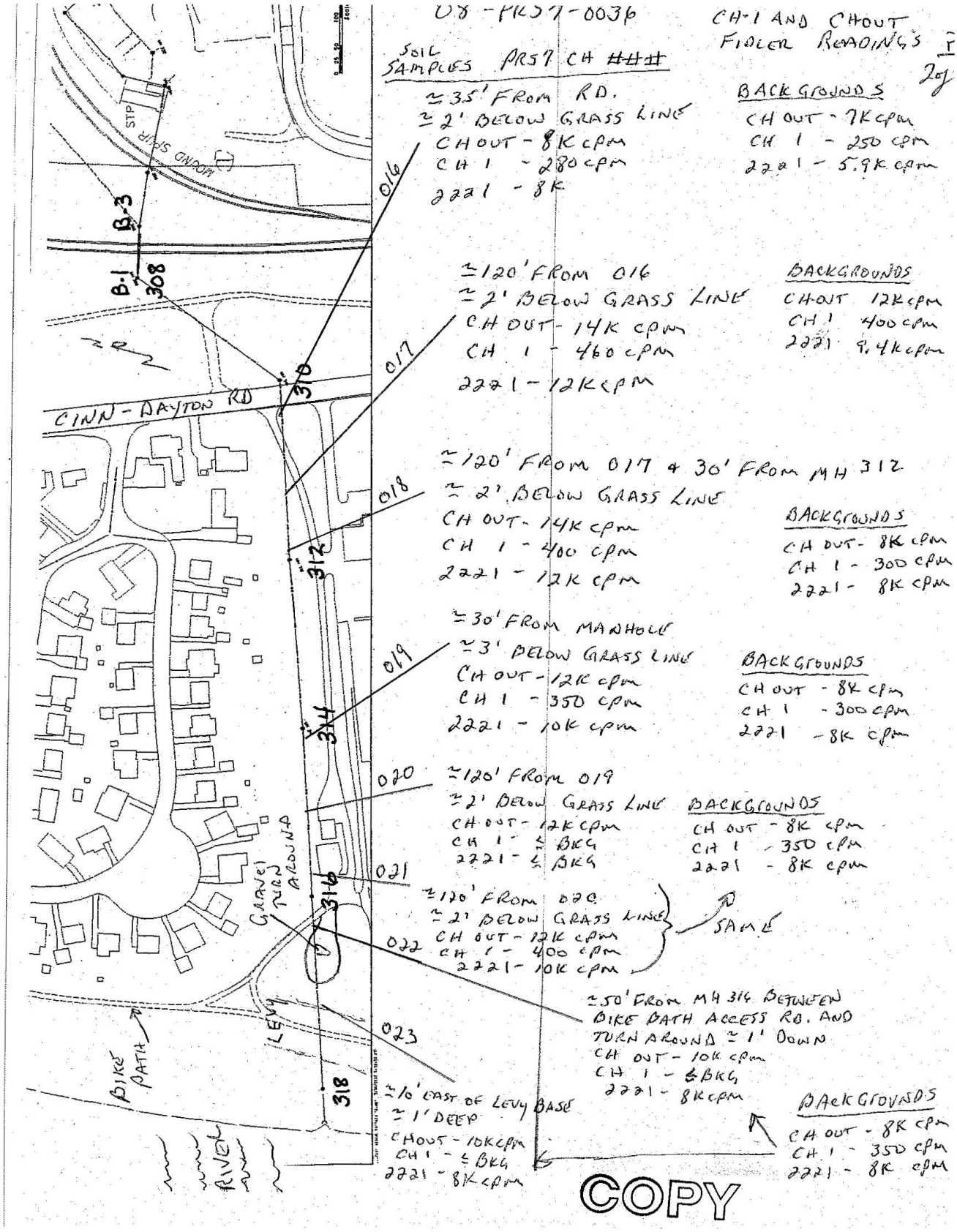
08-PRS7-0036
CH-1 AND CHOUT FIELD READINGS
SOIL SAMPLES PRS7 CH ####
≈35' FROM RD.
≈2' BELOW GRASS LINE
CH OUT - 8K cpm
CH 1 - 280 cpm
2221 - 8K
BACKGROUNDS
CH OUT - 7K cpm
CH 1 - 250 cpm
2221 - 5.9K cpm
016
≈120' FROM 016
≈2' BELOW GRASS LINE
CH OUT - 14K cpm
CH 1 - 460 cpm
2221 - 12K cpm
BACKGROUNDS
CH OUT 12K cpm
CH 1 400 cpm
2221 9.4K cpm
017
≈120' FROM 017 + 30' FROM MH 312
≈2' BELOW GRASS LINE
CH OUT - 14K cpm
CH 1 - 400 cpm
2221 - 12K cpm
BACKGROUNDS
CH OUT - 8K cpm
CH 1 - 300 cpm
2221 - 8K cpm
018
≈30' FROM MANHOLE
≈3' BELOW GRASS LINE
CH OUT - 12K cpm
CH 1 - 350 cpm
2221 - 10K cpm
BACKGROUNDS
CH OUT - 8K cpm
CH 1 - 300 cpm
2221 - 8K cpm
019
≈120' FROM 019
≈2' BELOW GRASS LINE
CH OUT - 12K cpm
CH 1 - ≤ BKG
2221 - ≤ BKG
BACKGROUNDS
CH OUT - 8K cpm
CH 1 - 350 cpm
2221 - 8K cpm
020
≈120' FROM 020
≈2' BELOW GRASS LINE
CH OUT - 12K cpm
CH 1 - 400 cpm
2221 - 10K cpm
SAME
021
022
≈50' FROM MH 314 BETWEEN BIKE PATH ACCESS RD. AND TURN AROUND ≈1' DOWN
CH OUT - 10K cpm
CH 1 - ≤ BKG
2221 - 8K cpm
BACKGROUNDS
CH OUT - 8K cpm
CH 1 - 350 cpm
2221 - 8K cpm
023
≈10' EAST OF LEVY BASE
≈1' DEEP
CH OUT - 10K cpm
CH 1 - ≤ BKG
2221 - 8K cpm
STP
MOUNT SAINT
B-3
B-1
308
310
CINN-DAYTON RD
312
314
GRAVEL TURN AROUND
316
LEVY
318
BIKE PATH
RIVER
COPY

Survey No. 08-PRS7-0036

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RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				Removable Contamination			
Swipes (dpm/100cm^2)				Swipes (dpm/100cm^2)			
Sample #	α	β/γ	Comments	Sample#	α	β/γ	Comments
1	0	105	EXCAVATOR BUCKET I/S				
2	2	154					
3	2	112					
4	3	170	O/S				
5	2	101	O/S				
6	2	126	EXCAVATOR CAB FLOOR				
7	0	108					
8	0	96	PEDAL				

N/A

COMMENTS: I/S = INSIDE, O/S = OUTSIDE

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Table 4a Overburden Sample Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags
PRS7-CH-008	04/14/08	Actinium-227	0.81	0.15	0.33	U
PRS7-CH-008	04/14/08	Americium-241	19.00	0.03	0.08	U
PRS7-CH-008	04/14/08	Bismuth-210M	1.10	0.00	0.06	U
PRS7-CH-008	04/14/08	Cesium-137	0.86	0.02	0.06	U
PRS7-CH-008	04/14/08	Cobalt-60	0.09	0.00	0.07	U
PRS7-CH-008	04/14/08	Lead-210	4.20	1.08	0.77	
PRS7-CH-008	04/14/08	Plutonium-238	29.13	4.34	6.67	U
PRS7-CH-008	04/14/08	Protactinium-231	0.71	1.37	1.75	U
PRS7-CH-008	04/14/08	Radium-226	2.13	0.73	0.13	
PRS7-CH-008	04/14/08	Thorium-230	2.00	0.00	8.16	U
PRS7-CH-008	04/14/08	Thorium-232	1.48	0.72	0.21	
PRS7-CH-008	04/14/08	Uranium-238	1.30	1.23	0.46	
PRS7-CH-009	04/14/08	Actinium-227	0.81	0.19	0.34	U
PRS7-CH-009	04/14/08	Americium-241	19.00	0.03	0.08	U
PRS7-CH-009	04/14/08	Bismuth-210M	1.10	0.00	0.06	U
PRS7-CH-009	04/14/08	Cesium-137	0.86	0.05	0.05	U
PRS7-CH-009	04/14/08	Cobalt-60	0.09	0.02	0.05	U
PRS7-CH-009	04/14/08	Lead-210	4.20	1.19	0.81	
PRS7-CH-009	04/14/08	Plutonium-238	29.13	0.91	8.18	U
PRS7-CH-009	04/14/08	Protactinium-231	0.71	0.03	1.70	U
PRS7-CH-009	04/14/08	Radium-226	2.13	0.92	0.12	
PRS7-CH-009	04/14/08	Thorium-230	2.00	0.00	7.84	U
PRS7-CH-009	04/14/08	Thorium-232	1.48	0.63	0.19	
PRS7-CH-009	04/14/08	Uranium-238	1.30	0.87	0.42	
PRS7-CH-010	04/14/08	Actinium-227	0.81	0.08	0.32	U
PRS7-CH-010	04/14/08	Americium-241	19.00	0.06	0.08	U
PRS7-CH-010	04/14/08	Bismuth-210M	1.10	0.01	0.05	U
PRS7-CH-010	04/14/08	Cesium-137	0.86	0.12	0.06	
PRS7-CH-010	04/14/08	Cobalt-60	0.09	0.01	0.07	U
PRS7-CH-010	04/14/08	Lead-210	4.20	0.92	0.73	
PRS7-CH-010	04/14/08	Plutonium-238	29.13	10.72	8.20	
PRS7-CH-010	04/14/08	Protactinium-231	0.71	0.00	1.87	U
PRS7-CH-010	04/14/08	Radium-226	2.13	0.77	0.14	
PRS7-CH-010	04/14/08	Thorium-230	2.00	1.12	7.34	U
PRS7-CH-010	04/14/08	Thorium-232	1.48	0.62	0.20	
PRS7-CH-010	04/14/08	Uranium-238	1.30	0.80	0.47	
PRS7-CH-011	04/14/08	Actinium-227	0.81	0.08	0.36	U
PRS7-CH-011	04/14/08	Americium-241	19.00	0.04	0.08	U
PRS7-CH-011	04/14/08	Bismuth-210M	1.10	0.03	0.06	U
PRS7-CH-011	04/14/08	Cesium-137	0.86	0.16	0.06	
PRS7-CH-011	04/14/08	Cobalt-60	0.09	0.04	0.05	U
PRS7-CH-011	04/14/08	Lead-210	4.20	1.15	0.81	
PRS7-CH-011	04/14/08	Plutonium-238	29.13	3.08	7.79	U
PRS7-CH-011	04/14/08	Protactinium-231	0.71	0.39	1.75	U
PRS7-CH-011	04/14/08	Radium-226	2.13	0.86	0.13	
PRS7-CH-011	04/14/08	Thorium-230	2.00	0.00	8.15	U
PRS7-CH-011	04/14/08	Thorium-232	1.48	0.64	0.21	
PRS7-CH-011	04/14/08	Uranium-238	1.30	0.93	0.48	
PRS7-CH-012	04/14/08	Actinium-227	0.81	0.14	0.31	U

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags
PRS7-CH-012	04/14/08	Americium-241	19.00	0.00	0.08	U
PRS7-CH-012	04/14/08	Bismuth-210M	1.10	0.00	0.05	U
PRS7-CH-012	04/14/08	Cesium-137	0.86	0.04	0.04	U
PRS7-CH-012	04/14/08	Cobalt-60	0.09	0.04	0.05	U
PRS7-CH-012	04/14/08	Lead-210	4.20	0.69	0.75	U
PRS7-CH-012	04/14/08	Plutonium-238	29.13	0.00	7.61	U
PRS7-CH-012	04/14/08	Protactinium-231	0.71	0.79	1.62	U
PRS7-CH-012	04/14/08	Radium-226	2.13	0.90	0.10	
PRS7-CH-012	04/14/08	Thorium-230	2.00	0.00	7.95	U
PRS7-CH-012	04/14/08	Thorium-232	1.48	0.79	0.18	
PRS7-CH-012	04/14/08	Uranium-238	1.30	0.87	0.45	
PRS7-CH-013	04/14/08	Actinium-227	0.81	0.00	0.32	U
PRS7-CH-013	04/14/08	Americium-241	19.00	0.01	0.08	U
PRS7-CH-013	04/14/08	Bismuth-210M	1.10	0.00	0.06	U
PRS7-CH-013	04/14/08	Cesium-137	0.86	0.03	0.05	U
PRS7-CH-013	04/14/08	Cobalt-60	0.09	0.00	0.06	U
PRS7-CH-013	04/14/08	Lead-210	4.20	0.95	0.69	
PRS7-CH-013	04/14/08	Plutonium-238	29.13	3.08	6.81	U
PRS7-CH-013	04/14/08	Protactinium-231	0.71	0.01	1.76	U
PRS7-CH-013	04/14/08	Radium-226	2.13	0.69	0.15	
PRS7-CH-013	04/14/08	Thorium-230	2.00	4.68	6.91	U
PRS7-CH-013	04/14/08	Thorium-232	1.48	0.47	0.20	
PRS7-CH-013	04/14/08	Uranium-238	1.30	0.78	0.43	
PRS7-CH-014	04/14/08	Actinium-227	0.81	0.09	0.31	U
PRS7-CH-014	04/14/08	Americium-241	19.00	0.02	0.07	U
PRS7-CH-014	04/14/08	Bismuth-210M	1.10	0.00	0.06	U
PRS7-CH-014	04/14/08	Cesium-137	0.86	0.00	0.05	U
PRS7-CH-014	04/14/08	Cobalt-60	0.09	0.02	0.06	U
PRS7-CH-014	04/14/08	Lead-210	4.20	0.44	0.77	U
PRS7-CH-014	04/14/08	Plutonium-238	29.13	0.00	7.37	U
PRS7-CH-014	04/14/08	Protactinium-231	0.71	0.18	1.72	U
PRS7-CH-014	04/14/08	Radium-226	2.13	0.79	0.12	
PRS7-CH-014	04/14/08	Thorium-230	2.00	0.85	7.38	U
PRS7-CH-014	04/14/08	Thorium-232	1.48	0.63	0.16	
PRS7-CH-014	04/14/08	Uranium-238	1.30	0.99	0.43	
PRS7-CH-015	04/14/08	Actinium-227	0.81	0.00	0.32	U
PRS7-CH-015	04/14/08	Americium-241	19.00	0.05	0.07	U
PRS7-CH-015	04/14/08	Bismuth-210M	1.10	0.03	0.05	U
PRS7-CH-015	04/14/08	Cesium-137	0.86	0.02	0.06	U
PRS7-CH-015	04/14/08	Cobalt-60	0.09	0.00	0.07	U
PRS7-CH-015	04/14/08	Lead-210	4.20	0.35	0.69	U
PRS7-CH-015	04/14/08	Plutonium-238	29.13	10.87	8.39	
PRS7-CH-015	04/14/08	Protactinium-231	0.71	0.00	1.80	U
PRS7-CH-015	04/14/08	Radium-226	2.13	0.64	0.14	
PRS7-CH-015	04/14/08	Thorium-230	2.00	2.35	6.67	U
PRS7-CH-015	04/14/08	Thorium-232	1.48	0.38	0.21	
PRS7-CH-015	04/14/08	Uranium-238	1.30	0.48	0.45	
PRS7-CH-016	04/15/08	Actinium-227	0.81	0.08	0.29	U
PRS7-CH-016	04/15/08	Americium-241	19.00	0.03	0.07	U
PRS7-CH-016	04/15/08	Bismuth-210M	1.10	0.01	0.05	U

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags
PRS7-CH-016	04/15/08	Cesium-137	0.86	0.03	0.05	U
PRS7-CH-016	04/15/08	Cobalt-60	0.09	0.00	0.05	U
PRS7-CH-016	04/15/08	Lead-210	4.20	0.68	0.65	
PRS7-CH-016	04/15/08	Plutonium-238	29.13	0.00	6.35	U
PRS7-CH-016	04/15/08	Protactinium-231	0.71	0.00	1.72	U
PRS7-CH-016	04/15/08	Radium-226	2.13	0.75	0.09	
PRS7-CH-016	04/15/08	Thorium-230	2.00	0.00	6.48	U
PRS7-CH-016	04/15/08	Thorium-232	1.48	0.36	0.18	
PRS7-CH-016	04/15/08	Uranium-238	1.30	0.66	0.39	
PRS7-CH-017	04/15/08	Actinium-227	0.81	0.12	0.39	U
PRS7-CH-017	04/15/08	Americium-241	19.00	0.00	0.09	U
PRS7-CH-017	04/15/08	Bismuth-210M	1.10	0.00	0.06	U
PRS7-CH-017	04/15/08	Cesium-137	0.86	0.00	0.07	U
PRS7-CH-017	04/15/08	Cobalt-60	0.09	0.00	0.05	U
PRS7-CH-017	04/15/08	Lead-210	4.20	1.12	0.81	
PRS7-CH-017	04/15/08	Plutonium-238	29.13	0.00	8.60	U
PRS7-CH-017	04/15/08	Protactinium-231	0.71	0.53	1.89	U
PRS7-CH-017	04/15/08	Radium-226	2.13	0.89	0.13	
PRS7-CH-017	04/15/08	Thorium-230	2.00	0.00	8.69	U
PRS7-CH-017	04/15/08	Thorium-232	1.48	0.79	0.20	
PRS7-CH-017	04/15/08	Uranium-238	1.30	0.77	0.56	
PRS7-CH-018	04/15/08	Actinium-227	0.81	0.00	0.40	U
PRS7-CH-018	04/15/08	Americium-241	19.00	0.00	0.09	U
PRS7-CH-018	04/15/08	Bismuth-210M	1.10	0.00	0.06	U
PRS7-CH-018	04/15/08	Cesium-137	0.86	0.06	0.06	
PRS7-CH-018	04/15/08	Cobalt-60	0.09	0.00	0.07	U
PRS7-CH-018	04/15/08	Lead-210	4.20	0.86	0.85	
PRS7-CH-018	04/15/08	Plutonium-238	29.13	3.61	8.01	U
PRS7-CH-018	04/15/08	Protactinium-231	0.71	0.04	1.97	U
PRS7-CH-018	04/15/08	Radium-226	2.13	0.78	0.17	
PRS7-CH-018	04/15/08	Thorium-230	2.00	0.00	8.46	U
PRS7-CH-018	04/15/08	Thorium-232	1.48	0.77	0.22	
PRS7-CH-018	04/15/08	Uranium-238	1.30	1.13	0.52	
PRS7-CH-019	04/15/08	Actinium-227	0.81	0.00	0.29	U
PRS7-CH-019	04/15/08	Americium-241	19.00	0.00	0.07	U
PRS7-CH-019	04/15/08	Bismuth-210M	1.10	0.00	0.05	U
PRS7-CH-019	04/15/08	Cesium-137	0.86	0.12	0.05	
PRS7-CH-019	04/15/08	Cobalt-60	0.09	0.00	0.06	U
PRS7-CH-019	04/15/08	Lead-210	4.20	0.19	0.63	U
PRS7-CH-019	04/15/08	Plutonium-238	29.13	0.00	6.12	U
PRS7-CH-019	04/15/08	Protactinium-231	0.71	0.02	1.49	U
PRS7-CH-019	04/15/08	Radium-226	2.13	0.70	0.11	
PRS7-CH-019	04/15/08	Thorium-230	2.00	3.31	5.61	U
PRS7-CH-019	04/15/08	Thorium-232	1.48	0.41	0.14	
PRS7-CH-019	04/15/08	Uranium-238	1.30	0.56	0.37	
PRS7-CH-020	04/15/08	Actinium-227	0.81	0.00	0.30	U
PRS7-CH-020	04/15/08	Americium-241	19.00	0.03	0.07	U
PRS7-CH-020	04/15/08	Bismuth-210M	1.10	0.00	0.05	U
PRS7-CH-020	04/15/08	Cesium-137	0.86	0.02	0.04	U
PRS7-CH-020	04/15/08	Cobalt-60	0.09	0.00	0.07	U

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags
PRS7-CH-020	04/15/08	Lead-210	4.20	0.33	0.66	U
PRS7-CH-020	04/15/08	Plutonium-238	29.13	4.53	6.04	U
PRS7-CH-020	04/15/08	Protactinium-231	0.71	0.00	1.58	U
PRS7-CH-020	04/15/08	Radium-226	2.13	0.54	0.11	
PRS7-CH-020	04/15/08	Thorium-230	2.00	2.38	6.40	U
PRS7-CH-020	04/15/08	Thorium-232	1.48	0.42	0.18	
PRS7-CH-020	04/15/08	Uranium-238	1.30	0.70	0.38	
PRS7-CH-021	04/15/08	Actinium-227	0.81	0.00	0.31	U
PRS7-CH-021	04/15/08	Americium-241	19.00	0.00	0.08	U
PRS7-CH-021	04/15/08	Bismuth-210M	1.10	0.00	0.05	U
PRS7-CH-021	04/15/08	Cesium-137	0.86	0.02	0.05	U
PRS7-CH-021	04/15/08	Cobalt-60	0.09	0.01	0.05	U
PRS7-CH-021	04/15/08	Lead-210	4.20	0.95	0.66	
PRS7-CH-021	04/15/08	Plutonium-238	29.13	0.00	7.17	U
PRS7-CH-021	04/15/08	Protactinium-231	0.71	0.11	1.69	U
PRS7-CH-021	04/15/08	Radium-226	2.13	0.83	0.11	
PRS7-CH-021	04/15/08	Thorium-230	2.00	0.00	7.43	U
PRS7-CH-021	04/15/08	Thorium-232	1.48	0.56	0.17	
PRS7-CH-021	04/15/08	Uranium-238	1.30	0.91	0.43	
PRS7-CH-022	04/15/08	Actinium-227	0.81	0.00	0.30	U
PRS7-CH-022	04/15/08	Americium-241	19.00	0.02	0.07	U
PRS7-CH-022	04/15/08	Bismuth-210M	1.10	0.00	0.05	U
PRS7-CH-022	04/15/08	Cesium-137	0.86	0.03	0.05	U
PRS7-CH-022	04/15/08	Cobalt-60	0.09	0.02	0.04	U
PRS7-CH-022	04/15/08	Lead-210	4.20	0.62	0.60	
PRS7-CH-022	04/15/08	Plutonium-238	29.13	0.00	5.99	U
PRS7-CH-022	04/15/08	Protactinium-231	0.71	0.48	1.48	U
PRS7-CH-022	04/15/08	Radium-226	2.13	0.79	0.10	
PRS7-CH-022	04/15/08	Thorium-230	2.00	0.00	6.43	U
PRS7-CH-022	04/15/08	Thorium-232	1.48	0.48	0.18	
PRS7-CH-022	04/15/08	Uranium-238	1.30	0.57	0.40	
PRS7-CH-023	04/15/08	Actinium-227	0.81	0.16	0.33	U
PRS7-CH-023	04/15/08	Americium-241	19.00	0.00	0.08	U
PRS7-CH-023	04/15/08	Bismuth-210M	1.10	0.00	0.06	U
PRS7-CH-023	04/15/08	Cesium-137	0.86	0.08	0.05	
PRS7-CH-023	04/15/08	Cobalt-60	0.09	0.00	0.07	U
PRS7-CH-023	04/15/08	Lead-210	4.20	1.19	0.76	
PRS7-CH-023	04/15/08	Plutonium-238	29.13	0.16	7.26	U
PRS7-CH-023	04/15/08	Protactinium-231	0.71	0.00	1.86	U
PRS7-CH-023	04/15/08	Radium-226	2.13	0.81	0.13	
PRS7-CH-023	04/15/08	Thorium-230	2.00	0.00	7.67	U
PRS7-CH-023	04/15/08	Thorium-232	1.48	0.51	0.20	
PRS7-CH-023	04/15/08	Uranium-238	1.30	0.80	0.47	

PRS7-CH Characterization samples
CV Comparison Values
MDA Minimum Detectable Activity
Flags: U Calculated Activity less than or equal to sample Minimum Detectable Limit

Overburden/Backfill Conclusion:

All sample results from most sections were below the Comparison Value concentration column listed in Table 4 and Section 3.4 of the PRS Work Package *except* Sections 312-314 and 318 to the river. These 2 sections had exceedences in the initial samples. During excavation portions of Section 312 to 310 had elevated field readings. Overburden from these areas was removed and disposed of as Low Level Waste (LLRW). Backfill material (approx. 3000 tons) was brought to these and other offsite areas from a DOE approved vendor.

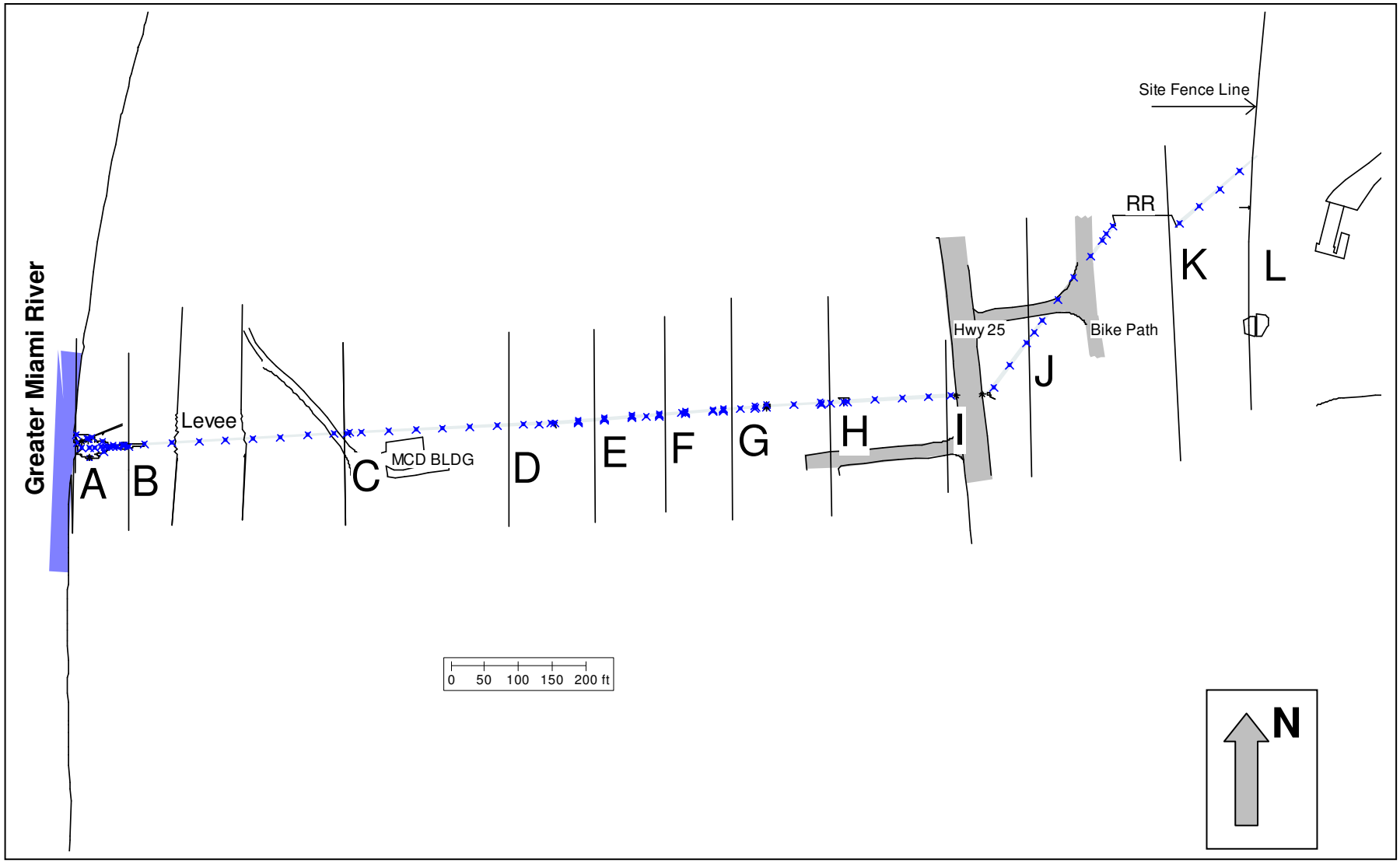
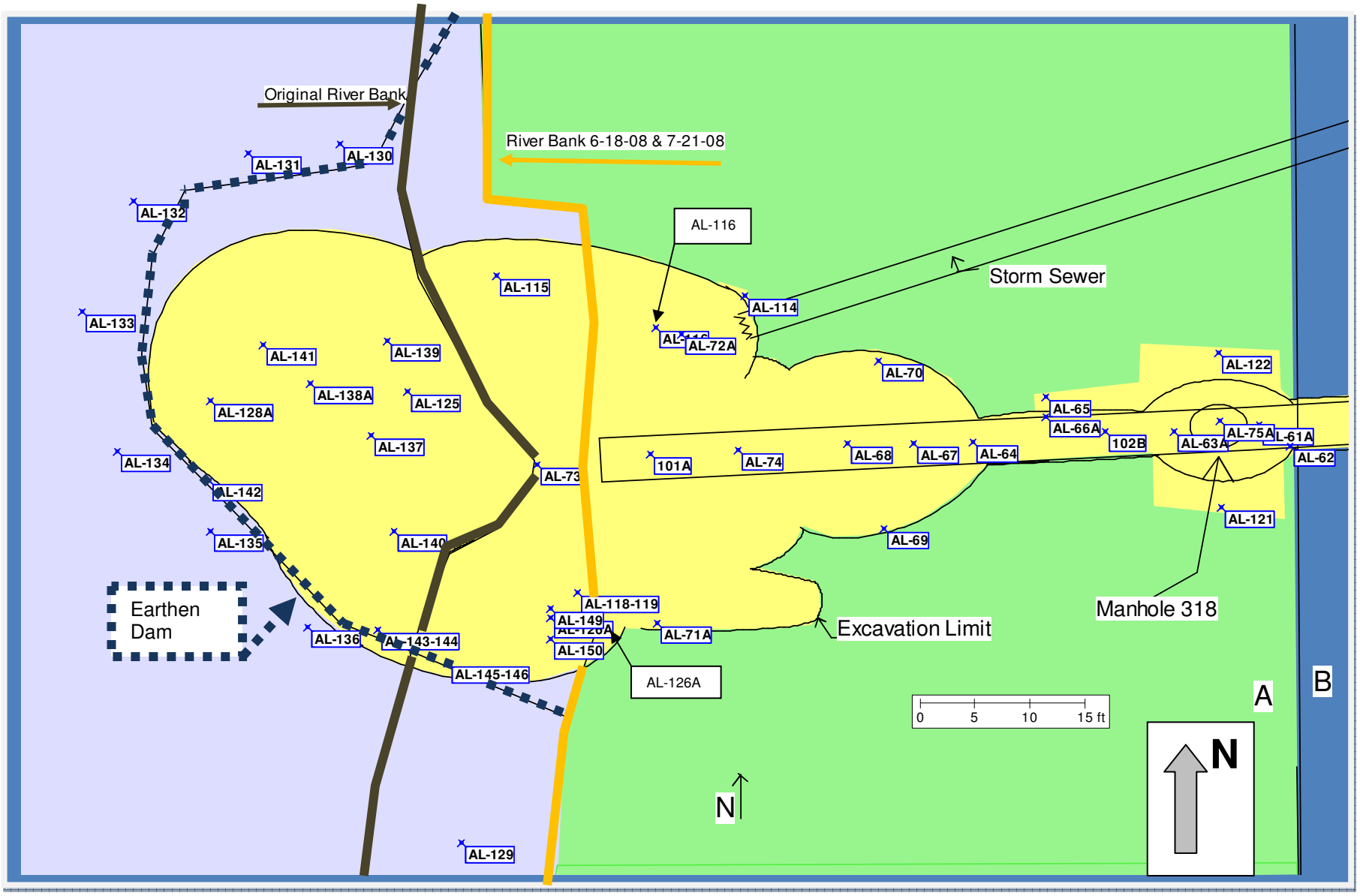


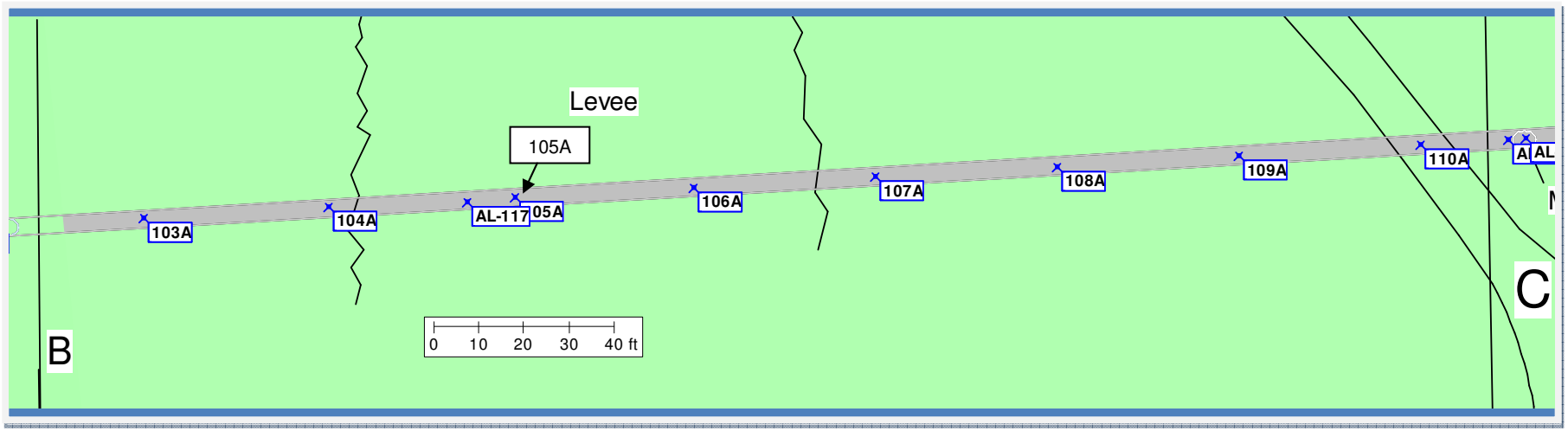
Figure 8: Overall map of PRS 7 East and West Lines Offsite

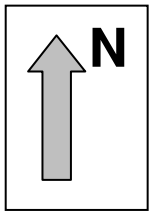
Individual sections are labeled. Close up views of the sections follow.



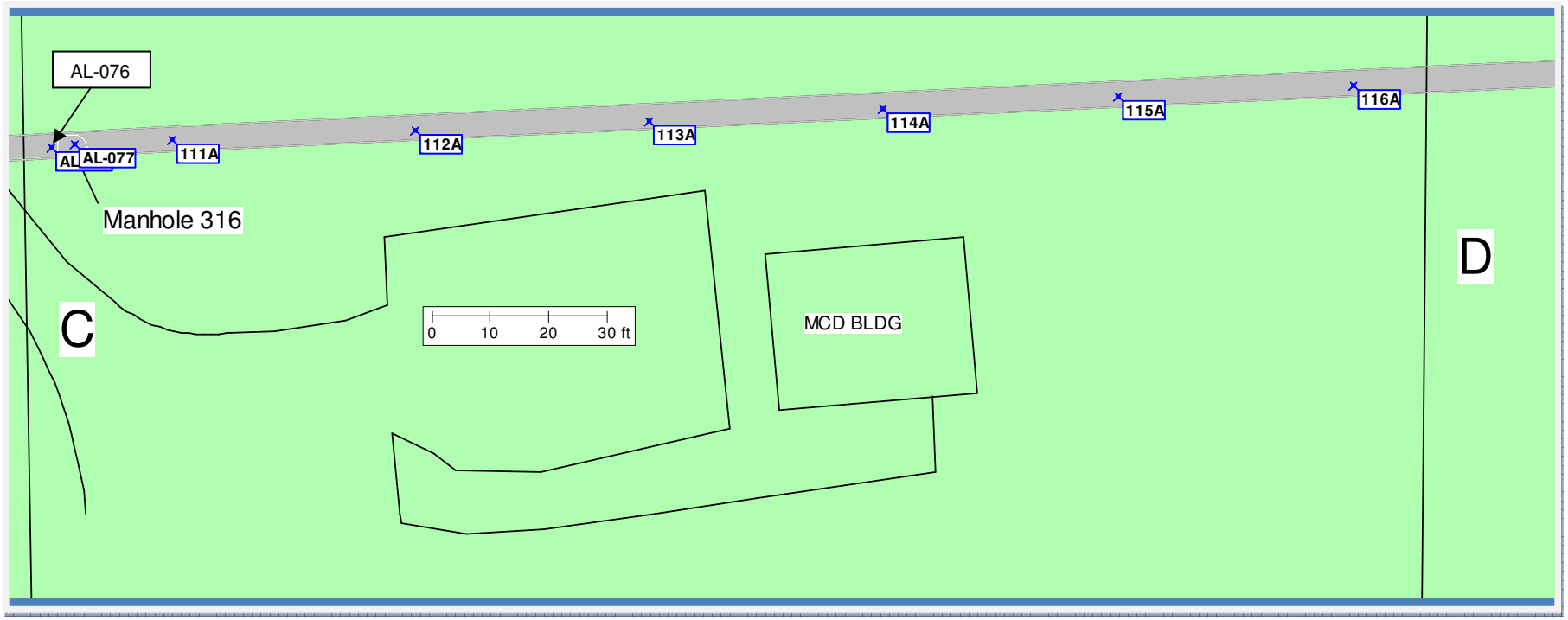
Section A:

lAll sample locations in this area were analyzed via gamma spec, offsite isotopic thorium, plutonium and uranium.

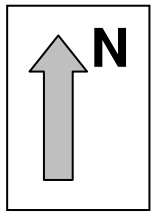

Levee
105A
103A
104A
AL-117
05A
106A
107A
108A
109A
110A
B
C
0 10 20 30 40 ft

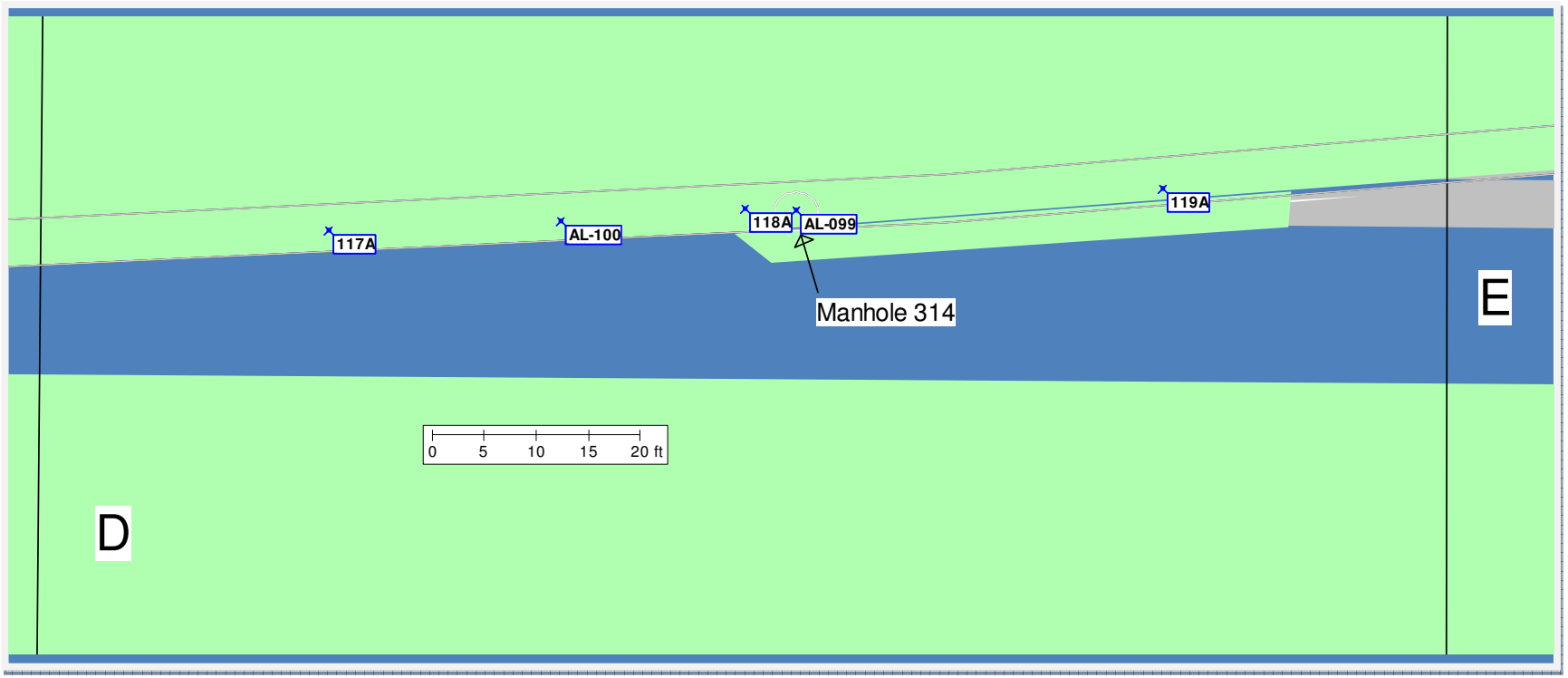

N

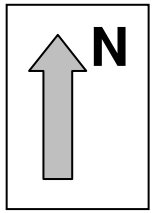
Section B


AL-076
AL
AL-077
111A
112A
113A
114A
115A
116A
Manhole 316
C
D
0
10
20
30 ft
MCD BLDG

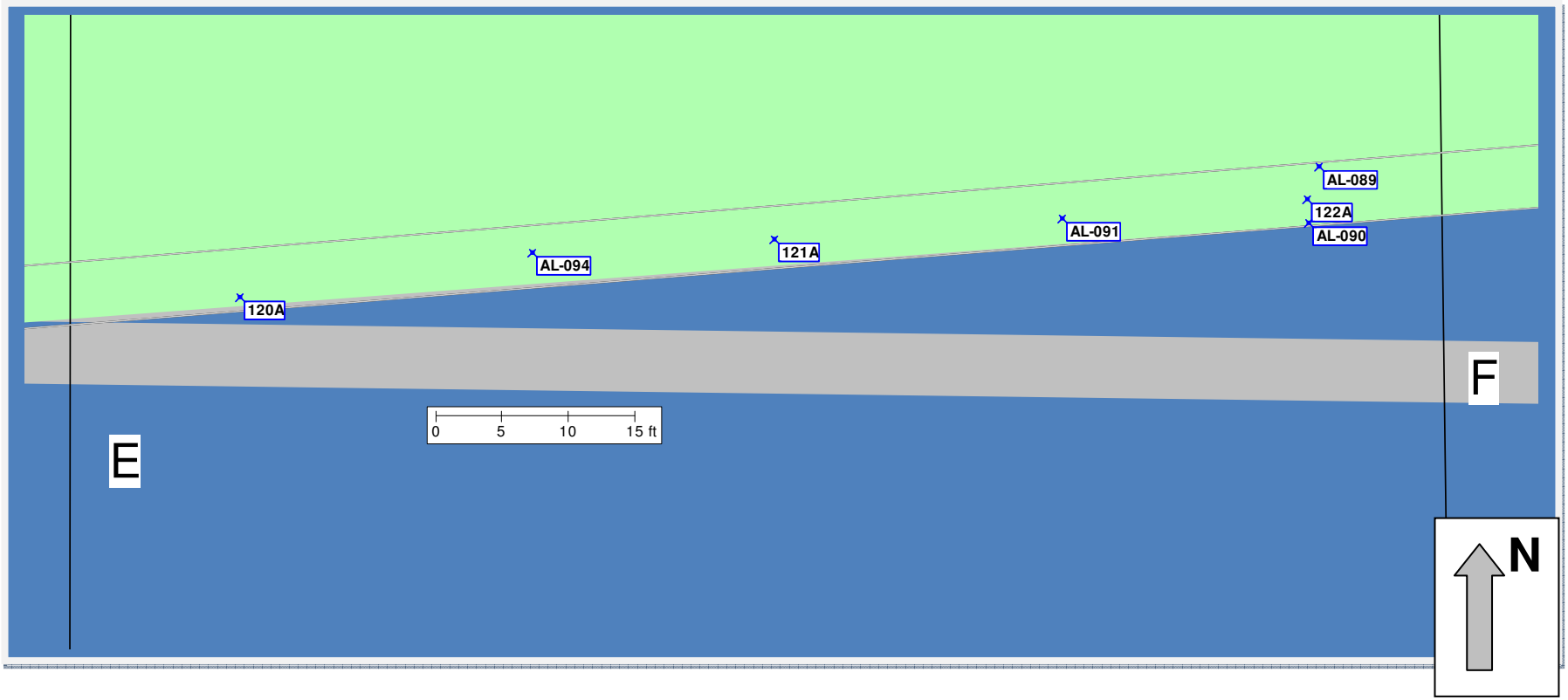
Section C


N

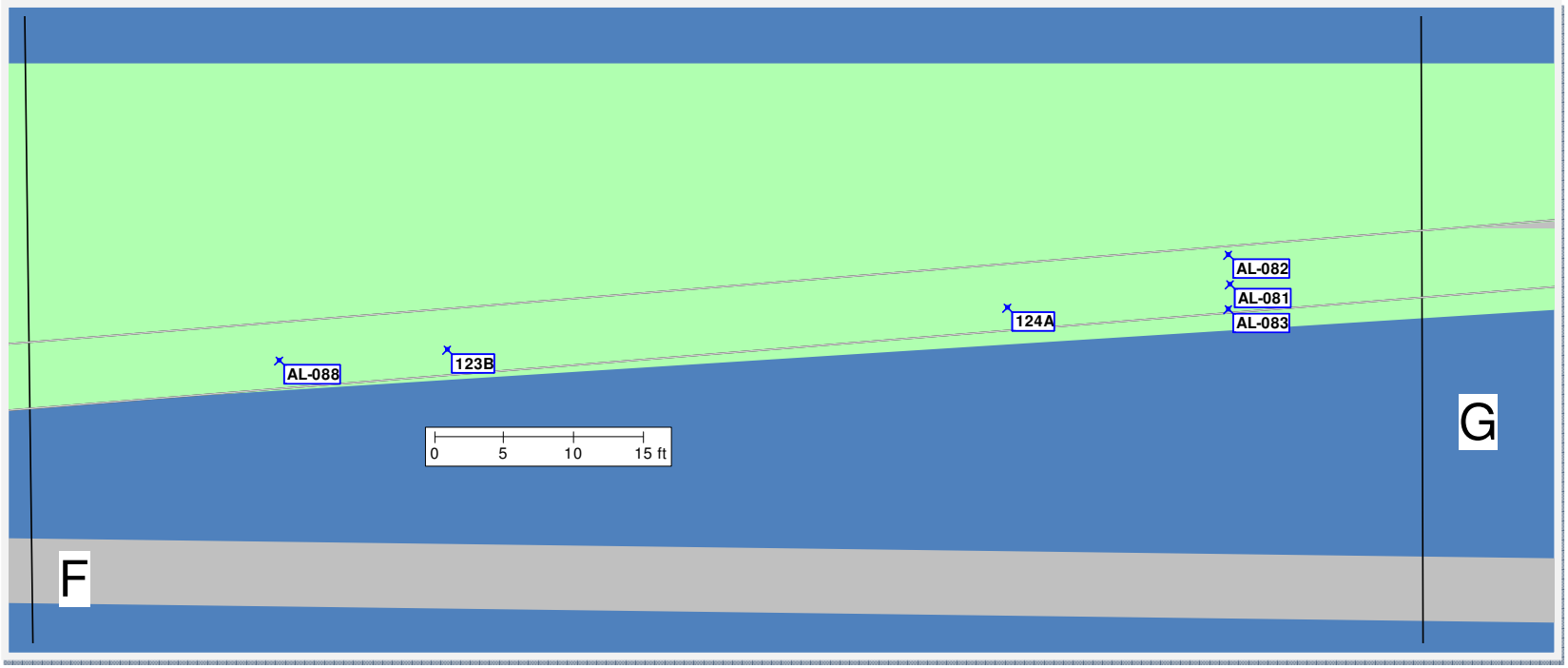




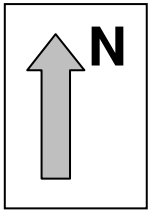
Section D

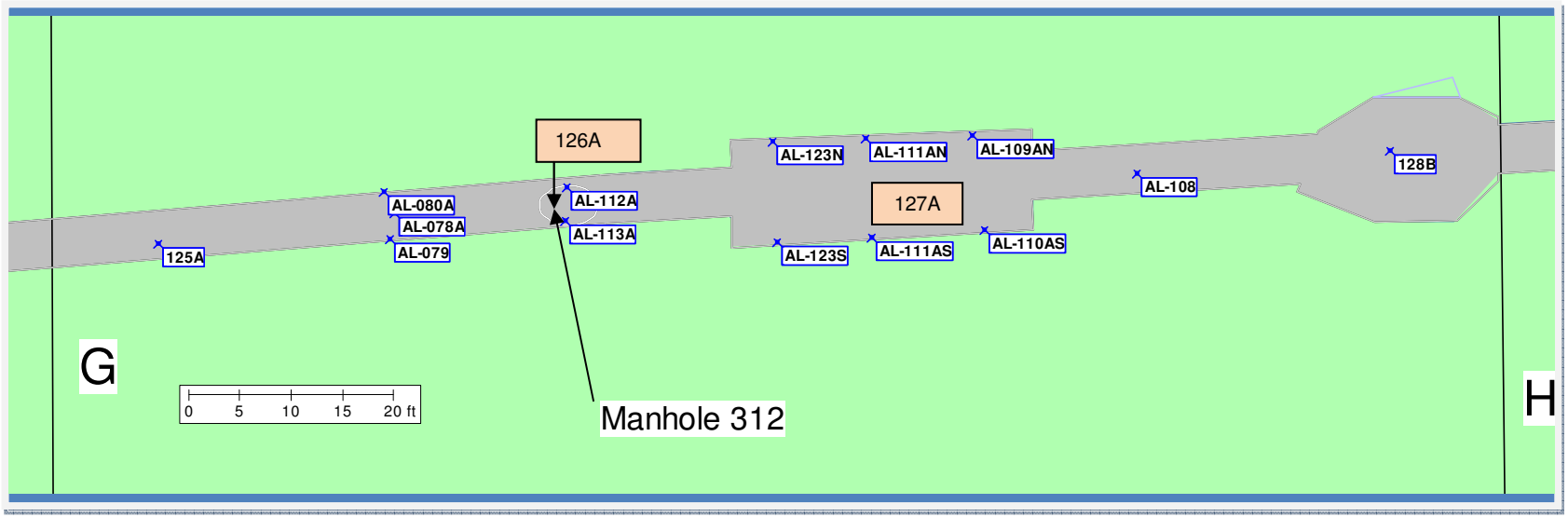


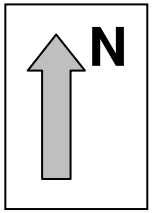
Section E



Section F

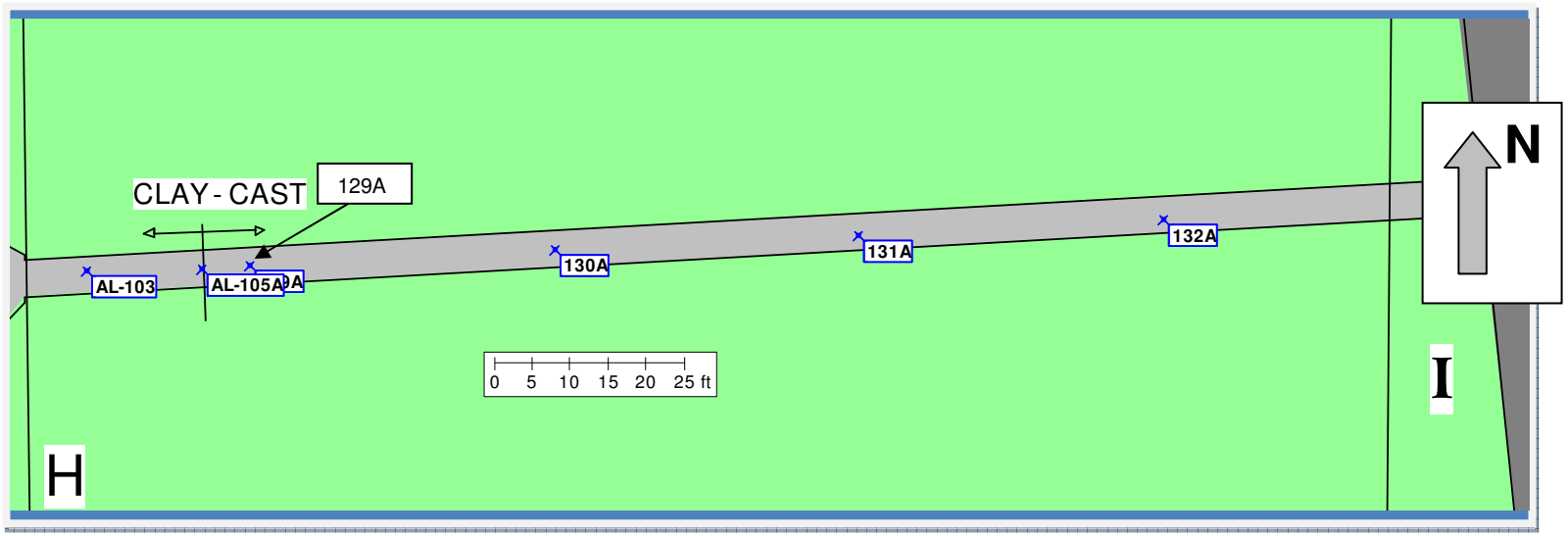






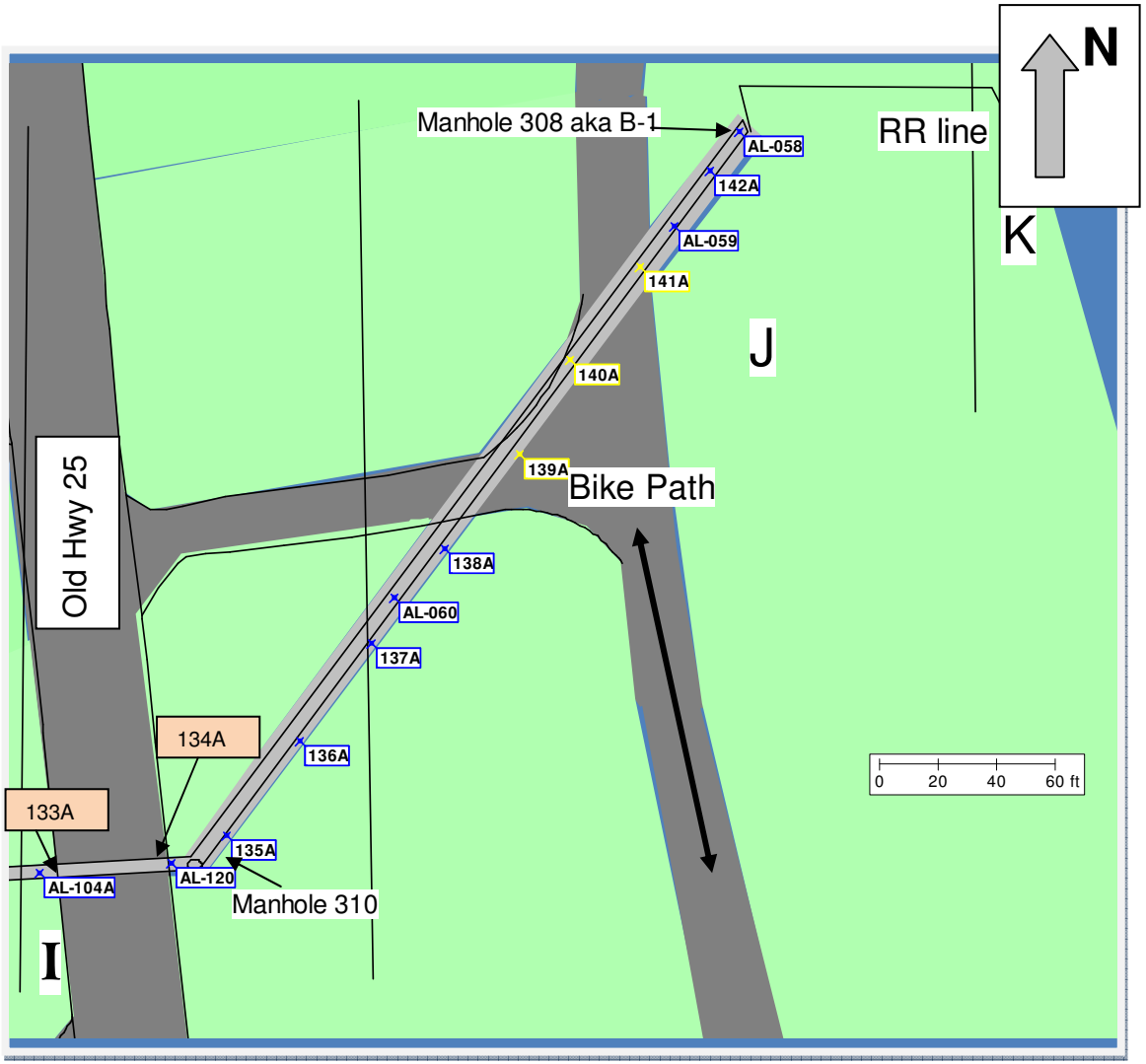
Section G

NOTE: 0701-0126A-FO and 0701-0127A-FO (highlighted in boxes) were not collected due to excavation to ground water in these locations. Sidewall samples were collected as shown in those areas.



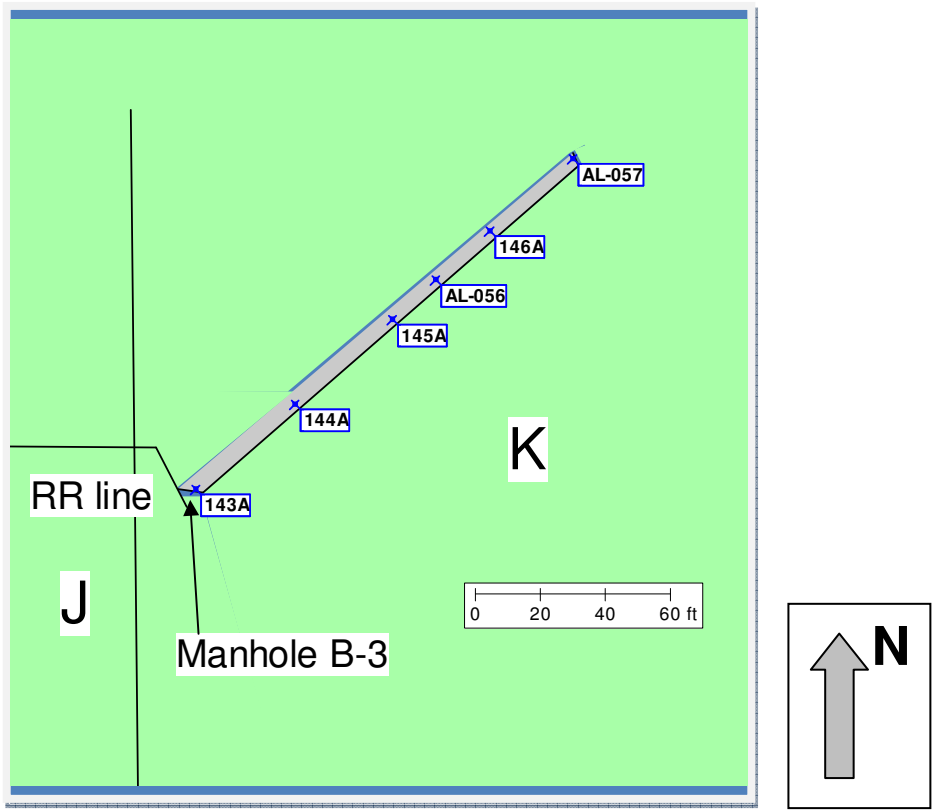
Section H

Clay – Cast: signifies the line material shifting from Clay to Cast Iron



Sections I and J

NOTE: 0701-0133A-FO and 0701-0134A-FO (highlighted in boxes) were not collected due to not excavating in that area. This section of line is discussed in the Free Release Package.


AL-057
146A
AL-056
145A
144A
K
RR line
143A
J
Manhole B-3
0
20
40
60 ft
N

Section K

Sample ID	Y Coordinate	X Coordinate
PRS7-AL-056	1463906.2	597934.5
PRS7-AL-057	1463948.4	597971.6
PRS7-AL-058	1463735	597868.5
PRS7-AL-059	1463712.9	597836.5
PRS7-AL-060	1463618.1	597710.8
PRS7-AL-061A	1462272.4	597543.4
PRS7-AL-062	1462275.2	597541.5
PRS7-AL-063A	1462264.7	597542.9
PRS7-AL-064	1462246.5	597541.9
PRS7-AL-065	1462253.1	597546
PRS7-AL-066A	1462253.1	597544.2
PRS7-AL-067	1462241	597541.7
PRS7-AL-068	1462235	597541.7
PRS7-AL-069	1462238.4	597533.9
PRS7-AL-070	1462237.9	597549.3
PRS7-AL-071A	1462217.8	597525.2
PRS7-AL-072A	**1462220**	**597551.8**
PRS7-AL-073	1462206.8	597539.8
PRS7-AL-074	1462225.1	597541.1
PRS7-AL-075A	**1462268.9**	**597543.8**
PRS7-AL-076	1462600.3	597562.5
PRS7-AL-077	1462604.1	597562.9
PRS7-AL-078A	1463205	597601
PRS7-AL-079	1463204.6	597598.5
PRS7-AL-080A	**1463204**	**597603**
PRS7-AL-081	1463157.9	597596.6
PRS7-AL-082	1463157.8	597598.8
PRS7-AL-083	1463157.8	597594.9
PRS7-AL-088	1463089.9	597591.2
PRS7-AL-089	1463062.9	597591.4
PRS7-AL-090	1463062.1	597587.2
PRS7-AL-091	1463043.6	597587.5
PRS7-AL-094	1463003.9	597585
PRS7-AL-099	1462906.9	597576.9
PRS7-AL-100	1462884.3	597575.9
PRS7-AL-103	1463320.7	597608.3
PRS7-AL-104A	1463497.6	597617.5
PRS7-AL-105A	1463335.7	597608.5
PRS7-AL-108	1463277.3	597604.9
PRS7-AL-109AN	1463261.3	597608.5
PRS7-AL-110AS	1463262.5	597599.3
PRS7-AL-111AN	1463250.9	597608.3
PRS7-AL-111AS	1463251.5	597598.6
PRS7-AL-112A	1463221.8	597603.5
PRS7-AL-113A	1463221.7	597600.3
PRS7-AL-114	1462225.7	597555.4
PRS7-AL-115	1462203.2	597557.2
PRS7-AL-116	1462217.7	597552.4
PRS7-AL-117	1462370.3	597548.8
PRS7-AL-118	1462210.5	597528
PRS7-AL-119	1462210.5	597528
PRS7-AL-120	1463542.7	597620.4
PRS7-AL-121	1462269	597535.9
PRS7-AL-122	1462268.8	597550.1
PRS7-AL-123N	1463241.9	597607.9
PRS7-AL-123S	1463242.3	597598.2
PRS7-AL-125	1462195.1	597546.5
PRS7-AL-126A	1462208.1	597525.7
PRS7-AL-128A	1462177.2	597545.7

BIAS AND UNBIAS JUDGMENTAL SAMPLES WITH SAMPLE COORDINATES

All sample results are less than comparison Values set in Table 4 except those that are Bolded. Four locations.

All results are reported in Table 5.

Sample ID	Y Coordinate	X Coordinate
PRS7-AL-129	1462200	597505
PRS7-AL-130	1462189	597569.3
PRS7-AL-131	1462180.6	597568.5
PRS7-AL-132	1462170.2	597564.1
PRS7-AL-133	1462165.6	597553.9
PRS7-AL-134	1462168.7	597541
PRS7-AL-135	1462177.2	597533.7
PRS7-AL-136	1462186	597524.8
PRS7-AL-137	1462191.8	597542.5
PRS7-AL-138A	1462186.2	597547.2
PRS7-AL-139	1462193.3	597551.2
PRS7-AL-140	**1462193.8**	**597533.6**
PRS7-AL-141	1462182	597550.8
PRS7-AL-142	1462177.1	597538.3
PRS7-AL-143	1462192.4	597524.6
PRS7-AL-144	1462192.4	597524.6
PRS7-AL-145	1462198.8	597521.5
PRS7-AL-146	1462198.8	597521.5
PRS7-AL-149	1462208.1	597526.5
PRS7-AL-150	1462208.1	597523.7

PRS7-AL-XXXA

PRS7 represents PRS 7
AL signifies an “as left” sample, these are the bias and judgmental samples
XXX is the unique sample location
A is the sequential number for that sample location. For example, no letter would follow the ID on the first sample collected from that location; A would be a resample after continued remediation, and so on. Where an “N” or “S” are shown this is a north sidewall sample and a south sidewall sample.

Note: Sample locations
PRS7-AL-084 through PRS7-AL-087;-092 through -093; -095 through -098; -101 through -102; -106 through -107; -124; -127; -147 through -148 results are not reported on Table 5. They were collected and analyzed onsite but are not included in Table 5 because some were characterization and bounding samples; some were characterization of the laydown area; and some were removed with additional excavation and a new number assigned because of chasing north or south.

All samples that represent the ‘as left’ condition of the trench are included in Table 5 regardless of number sequence.

Table 5: PRS 7 East and West All Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0101A-FO	4/30/08	Actinium-227	0.81	0.05	0.28	U	onsite
0701-0101A-FO	4/30/08	Americium-241	19.00	0.01	0.07	U	onsite
0701-0101A-FO	4/30/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
0701-0101A-FO	4/30/08	Cesium-137	0.86	0.01	0.05	U	onsite
0701-0101A-FO	4/30/08	Cobalt-60	0.09	0.00	0.06	U	onsite
0701-0101A-FO	4/30/08	Lead-210	4.20	0.00	0.69	U	onsite
0701-0101A-FO	4/30/08	Plutonium-238	29.13	0.45	6.90	U	onsite
0701-0101A-FO	4/30/08	Plutonium-238	29.13	1.18	0.04		Iso-Pu
0701-0101A-FO	4/30/08	Plutonium-239/40	29.18	0.02	0.01		Iso-Pu
0701-0101A-FO	4/30/08	Protactinium-231	0.71	0.00	1.84	U	onsite
0701-0101A-FO	4/30/08	Radium-226	2.13	0.52	0.08		onsite
0701-0101A-FO	4/30/08	Thorium-228	1.64	0.61	0.08		Iso-Th
0701-0101A-FO	4/30/08	Thorium-230	2.00	1.67	6.19	U	onsite
0701-0101A-FO	4/30/08	Thorium-230	2.00	1.59	0.11		Iso-Th
0701-0101A-FO	4/30/08	Thorium-232	1.48	0.50	0.15		onsite
0701-0101A-FO	4/30/08	Thorium-232	1.48	0.61	0.11		Iso-Th
0701-0101A-FO	4/30/08	Uranium-233/234	1.10	0.82	0.03		Iso-U
0701-0101A-FO	4/30/08	Uranium-235	0.57	0.04	0.05	U	Iso-U
0701-0101A-FO	4/30/08	Uranium-238	1.30	0.59	0.41		onsite
0701-0101A-FO	4/30/08	Uranium-238	1.30	0.80	0.03		Iso-U
0701-0102B-FO	6/18/08	Actinium-227	0.81	0.01	0.12	U	onsite
0701-0102B-FO	6/18/08	Americium-241	19.00	0.01	0.03	U	onsite
0701-0102B-FO	6/18/08	Bismuth-210M	1.10	0.01	0.02	U	onsite
0701-0102B-FO	6/18/08	Cesium-137	0.86	0.02	0.02		onsite
0701-0102B-FO	6/18/08	Cobalt-60	0.09	0.00	0.02	U	onsite
0701-0102B-FO	6/18/08	Lead-210	4.20	0.72	0.28		onsite
0701-0102B-FO	6/18/08	Plutonium-238	29.13	0.66	2.64	U	onsite
0701-0102B-FO	6/18/08	Plutonium-238	29.13	0.26	0.07		iso-Pu
0701-0102B-FO	6/18/08	Plutonium-239/40	29.18	-0.01	0.06	U	iso-Pu
0701-0102B-FO	6/18/08	Protactinium-231	0.71	0.00	0.66	U	onsite
0701-0102B-FO	6/18/08	Radium-226	2.13	0.62	0.05		onsite
0701-0102B-FO	6/18/08	Thorium-228	1.64	0.47	0.07		iso-Th
0701-0102B-FO	6/18/08	Thorium-230	2.00	0.44	2.81	U	onsite
0701-0102B-FO	6/18/08	Thorium-230	2.00	1.07	0.07		iso-Th
0701-0102B-FO	6/18/08	Thorium-232	1.48	0.32	0.07		onsite
0701-0102B-FO	6/18/08	Thorium-232	1.48	0.48	0.08		iso-Th
0701-0102B-FO	6/18/08	Uranium-233/234	1.10	0.61	0.04		iso-U
0701-0102B-FO	6/18/08	Uranium-235	0.57	0.04	0.03	J	iso-U
0701-0102B-FO	6/18/08	Uranium-238	1.30	0.69	0.19		onsite
0701-0102B-FO	6/18/08	Uranium-238	1.30	0.74	0.04		iso-U
0701-0103A-FO	4/28/08	Actinium-227	0.81	0.00	0.26	U	onsite
0701-0103A-FO	4/28/08	Americium-241	19.00	0.03	0.05	U	onsite
0701-0103A-FO	4/28/08	Bismuth-210M	1.10	0.01	0.04	U	onsite
0701-0103A-FO	4/28/08	Cesium-137	0.86	0.06	0.03		onsite
0701-0103A-FO	4/28/08	Cobalt-60	0.09	0.00	0.06	U	onsite
0701-0103A-FO	4/28/08	Lead-210	4.20	0.66	0.51		onsite
0701-0103A-FO	4/28/08	Plutonium-238	29.13	1.25	5.46	U	onsite
0701-0103A-FO	4/28/08	Plutonium-238	29.13	0.26	0.03		Iso-Pu
0701-0103A-FO	4/28/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
0701-0103A-FO	4/28/08	Protactinium-231	0.71	0.00	1.30	U	onsite
0701-0103A-FO	4/28/08	Radium-226	2.13	0.55	0.08		onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0103A-FO	4/28/08	Thorium-228	1.64	0.40	0.17		Iso-Th
0701-0103A-FO	4/28/08	Thorium-230	2.00	0.00	5.38	U	onsite
0701-0103A-FO	4/28/08	Thorium-230	2.00	1.20	0.13		Iso-Th
0701-0103A-FO	4/28/08	Thorium-232	1.48	0.22	0.15		onsite
0701-0103A-FO	4/28/08	Thorium-232	1.48	0.61	0.11		Iso-Th
0701-0103A-FO	4/28/08	Uranium-233/234	1.10	0.77	0.04		Iso-U
0701-0103A-FO	4/28/08	Uranium-235	0.57	0.01	0.05	U	Iso-U
0701-0103A-FO	4/28/08	Uranium-238	1.30	0.59	0.32		onsite
0701-0103A-FO	4/28/08	Uranium-238	1.30	0.62	0.04		Iso-U
0701-0104A-FO	4/28/08	Actinium-227	0.81	0.08	0.30	U	onsite
0701-0104A-FO	4/28/08	Americium-241	19.00	0.01	0.08	U	onsite
0701-0104A-FO	4/28/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
0701-0104A-FO	4/28/08	Cesium-137	0.86	0.09	0.05		onsite
0701-0104A-FO	4/28/08	Cobalt-60	0.09	0.00	0.06	U	onsite
0701-0104A-FO	4/28/08	Lead-210	4.20	0.25	0.79	U	onsite
0701-0104A-FO	4/28/08	Plutonium-238	29.13	0.00	7.75	U	onsite
0701-0104A-FO	4/28/08	Plutonium-238	29.13	0.03	0.02		Iso-Pu
0701-0104A-FO	4/28/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0104A-FO	4/28/08	Protactinium-231	0.71	0.00	1.79	U	onsite
0701-0104A-FO	4/28/08	Radium-226	2.13	0.63	0.13		onsite
0701-0104A-FO	4/28/08	Thorium-228	1.64	0.43	0.22		Iso-Th
0701-0104A-FO	4/28/08	Thorium-230	2.00	3.36	7.00	U	onsite
0701-0104A-FO	4/28/08	Thorium-230	2.00	1.19	0.16		Iso-Th
0701-0104A-FO	4/28/08	Thorium-232	1.48	0.31	0.21		onsite
0701-0104A-FO	4/28/08	Thorium-232	1.48	0.65	0.13		Iso-Th
0701-0104A-FO	4/28/08	Uranium-233/234	1.10	0.75	0.05		Iso-U
0701-0104A-FO	4/28/08	Uranium-235	0.57	0.06	0.03	J	Iso-U
0701-0104A-FO	4/28/08	Uranium-238	1.30	0.55	0.44		onsite
0701-0104A-FO	4/28/08	Uranium-238	1.30	0.82	0.05		Iso-U
0701-0105A-FO	6/9/08	Actinium-227	0.81	0.12	0.24	U	onsite
0701-0105A-FO	6/9/08	Americium-241	19.00	0.00	0.06	U	onsite
0701-0105A-FO	6/9/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
0701-0105A-FO	6/9/08	Cesium-137	0.86	0.00	0.04	U	onsite
0701-0105A-FO	6/9/08	Cobalt-60	0.09	0.00	0.05	U	onsite
0701-0105A-FO	6/9/08	Lead-210	4.20	0.61	0.51		onsite
0701-0105A-FO	6/9/08	Plutonium-238	29.13	0.00	5.61	U	onsite
0701-0105A-FO	6/9/08	Plutonium-238	29.13	0.08	0.05		Iso-Pu
0701-0105A-FO	6/9/08	Plutonium-239/40	29.18	0.00	0.04	U	Iso-Pu
0701-0105A-FO	6/9/08	Protactinium-231	0.71	0.00	1.36	U	onsite
0701-0105A-FO	6/9/08	Radium-226	2.13	0.54	0.10		onsite
0701-0105A-FO	6/9/08	Thorium-228	1.64	0.52	0.10		Iso-Th
0701-0105A-FO	6/9/08	Thorium-230	2.00	2.95	5.25	U	onsite
0701-0105A-FO	6/9/08	Thorium-230	2.00	1.15	0.07		Iso-Th
0701-0105A-FO	6/9/08	Thorium-232	1.48	0.20	0.17		onsite
0701-0105A-FO	6/9/08	Thorium-232	1.48	0.50	0.06		Iso-Th
0701-0105A-FO	6/9/08	Uranium-233/234	1.10	0.63	0.04		Iso-U
0701-0105A-FO	6/9/08	Uranium-235	0.57	0.04	0.06	U	Iso-U
0701-0105A-FO	6/9/08	Uranium-238	1.30	0.52	0.32		onsite
0701-0105A-FO	6/9/08	Uranium-238	1.30	0.70	0.05		Iso-U
0701-0106A-FO	6/2/08	Actinium-227	0.81	0.00	0.22	U	onsite
0701-0106A-FO	6/2/08	Americium-241	19.00	0.00	0.05	U	onsite
0701-0106A-FO	6/2/08	Bismuth-210M	1.10	0.01	0.03	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0106A-FO	6/2/08	Cesium-137	0.86	0.00	0.04	U	onsite
0701-0106A-FO	6/2/08	Cobalt-60	0.09	0.00	0.05	U	onsite
0701-0106A-FO	6/2/08	Lead-210	4.20	0.47	0.44		onsite
0701-0106A-FO	6/2/08	Plutonium-238	29.13	0.00	5.28	U	onsite
0701-0106A-FO	6/2/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu
0701-0106A-FO	6/2/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0106A-FO	6/2/08	Protactinium-231	0.71	0.00	1.10	U	onsite
0701-0106A-FO	6/2/08	Radium-226	2.13	0.34	0.09		onsite
0701-0106A-FO	6/2/08	Thorium-228	1.64	0.26	0.05		Iso-Th
0701-0106A-FO	6/2/08	Thorium-230	2.00	0.00	4.55	U	onsite
0701-0106A-FO	6/2/08	Thorium-230	2.00	0.54	0.09		Iso-Th
0701-0106A-FO	6/2/08	Thorium-232	1.48	0.12	0.14	U	onsite
0701-0106A-FO	6/2/08	Thorium-232	1.48	0.27	0.07		Iso-Th
0701-0106A-FO	6/2/08	Uranium-233/234	1.10	0.28	0.04		Iso-U
0701-0106A-FO	6/2/08	Uranium-235	0.57	0.01	0.05	U	Iso-U
0701-0106A-FO	6/2/08	Uranium-238	1.30	0.19	0.30	U	onsite
0701-0106A-FO	6/2/08	Uranium-238	1.30	0.37	0.04		Iso-U
0701-0107A-FO	5/1/08	Actinium-227	0.81	0.00	0.24	U	onsite
0701-0107A-FO	5/1/08	Americium-241	19.00	0.03	0.05	U	onsite
0701-0107A-FO	5/1/08	Bismuth-210M	1.10	0.01	0.04	U	onsite
0701-0107A-FO	5/1/08	Cesium-137	0.86	0.00	0.04	U	onsite
0701-0107A-FO	5/1/08	Cobalt-60	0.09	0.00	0.06	U	onsite
0701-0107A-FO	5/1/08	Lead-210	4.20	0.47	0.51	U	onsite
0701-0107A-FO	5/1/08	Plutonium-238	29.13	0.00	5.97	U	onsite
0701-0107A-FO	5/1/08	Plutonium-238	29.13	0.03	0.01		Iso-Pu
0701-0107A-FO	5/1/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0107A-FO	5/1/08	Protactinium-231	0.71	0.00	1.40	U	onsite
0701-0107A-FO	5/1/08	Radium-226	2.13	0.49	0.08		onsite
0701-0107A-FO	5/1/08	Thorium-228	1.64	0.43	0.12		Iso-Th
0701-0107A-FO	5/1/08	Thorium-230	2.00	0.00	5.45	U	onsite
0701-0107A-FO	5/1/08	Thorium-230	2.00	0.72	0.04		Iso-Th
0701-0107A-FO	5/1/08	Thorium-232	1.48	0.41	0.07		onsite
0701-0107A-FO	5/1/08	Thorium-232	1.48	0.21	0.07		Iso-Th
0701-0107A-FO	5/1/08	Uranium-238	1.30	0.32	0.33	U	onsite
0701-0108A-FO	5/1/08	Actinium-227	0.81	0.07	0.23	U	onsite
0701-0108A-FO	5/1/08	Americium-241	19.00	0.00	0.06	U	onsite
0701-0108A-FO	5/1/08	Bismuth-210M	1.10	0.01	0.04	U	onsite
0701-0108A-FO	5/1/08	Cesium-137	0.86	0.01	0.03	U	onsite
0701-0108A-FO	5/1/08	Cobalt-60	0.09	0.00	0.05	U	onsite
0701-0108A-FO	5/1/08	Lead-210	4.20	0.56	0.45		onsite
0701-0108A-FO	5/1/08	Plutonium-238	29.13	4.73	5.55	U	onsite
0701-0108A-FO	5/1/08	Plutonium-238	29.13	0.03	0.01		Iso-Pu
0701-0108A-FO	5/1/08	Plutonium-239/40	29.18	0.00	0.00	U	Iso-Pu
0701-0108A-FO	5/1/08	Protactinium-231	0.71	0.56	1.26	U	onsite
0701-0108A-FO	5/1/08	Radium-226	2.13	0.47	0.08		onsite
0701-0108A-FO	5/1/08	Thorium-228	1.64	0.25	0.05		Iso-Th
0701-0108A-FO	5/1/08	Thorium-230	2.00	0.00	5.26	U	onsite
0701-0108A-FO	5/1/08	Thorium-230	2.00	0.75	0.07		Iso-Th
0701-0108A-FO	5/1/08	Thorium-232	1.48	0.33	0.09		onsite
0701-0108A-FO	5/1/08	Thorium-232	1.48	0.19	0.07	J	Iso-Th
0701-0108A-FO	5/1/08	Uranium-238	1.30	0.24	0.33	U	onsite
0701-0109A-FO	5/2/08	Actinium-227	0.81	0.15	0.25	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0109A-FO	5/2/08	Americium-241	19.00	0.00	0.07	U	onsite
0701-0109A-FO	5/2/08	Bismuth-210M	1.10	0.02	0.04	U	onsite
0701-0109A-FO	5/2/08	Cesium-137	0.86	0.02	0.03	U	onsite
0701-0109A-FO	5/2/08	Cobalt-60	0.09	0.00	0.03	U	onsite
0701-0109A-FO	5/2/08	Lead-210	4.20	0.74	0.54		onsite
0701-0109A-FO	5/2/08	Plutonium-238	29.13	0.00	6.17	U	onsite
0701-0109A-FO	5/2/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
0701-0109A-FO	5/2/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0109A-FO	5/2/08	Protactinium-231	0.71	0.00	1.50	U	onsite
0701-0109A-FO	5/2/08	Radium-226	2.13	0.62	0.09		onsite
0701-0109A-FO	5/2/08	Thorium-228	1.64	0.37	0.04		Iso-Th
0701-0109A-FO	5/2/08	Thorium-230	2.00	0.69	5.73	U	onsite
0701-0109A-FO	5/2/08	Thorium-230	2.00	0.75	0.03		Iso-Th
0701-0109A-FO	5/2/08	Thorium-232	1.48	0.33	0.15		onsite
0701-0109A-FO	5/2/08	Thorium-232	1.48	0.31	0.03		Iso-Th
0701-0109A-FO	5/2/08	Uranium-238	1.30	0.44	0.39		onsite
0701-0110A-FO	5/5/08	Actinium-227	0.81	0.00	0.17	U	onsite
0701-0110A-FO	5/5/08	Americium-241	19.00	0.00	0.04	U	onsite
0701-0110A-FO	5/5/08	Bismuth-210M	1.10	0.01	0.03	U	onsite
0701-0110A-FO	5/5/08	Cesium-137	0.86	0.01	0.03	U	onsite
0701-0110A-FO	5/5/08	Cobalt-60	0.09	0.01	0.03	U	onsite
0701-0110A-FO	5/5/08	Lead-210	4.20	0.55	0.38		onsite
0701-0110A-FO	5/5/08	Plutonium-238	29.13	0.00	4.00	U	onsite
0701-0110A-FO	5/5/08	Plutonium-238	29.13	0.24	0.01		Iso-Pu
0701-0110A-FO	5/5/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
0701-0110A-FO	5/5/08	Protactinium-231	0.71	0.44	0.82	U	onsite
0701-0110A-FO	5/5/08	Radium-226	2.13	0.47	0.07		onsite
0701-0110A-FO	5/5/08	Thorium-228	1.64	0.31	0.13		Iso-Th
0701-0110A-FO	5/5/08	Thorium-230	2.00	2.33	3.87	U	onsite
0701-0110A-FO	5/5/08	Thorium-230	2.00	1.35	0.09		Iso-Th
0701-0110A-FO	5/5/08	Thorium-232	1.48	0.37	0.09		onsite
0701-0110A-FO	5/5/08	Thorium-232	1.48	0.34	0.07		Iso-Th
0701-0110A-FO	5/5/08	Uranium-238	1.30	0.51	0.24		onsite
0701-0111A-FO	5/5/08	Actinium-227	0.81	0.06	0.16	U	onsite
0701-0111A-FO	5/5/08	Americium-241	19.00	0.02	0.04	U	onsite
0701-0111A-FO	5/5/08	Bismuth-210M	1.10	0.02	0.03	U	onsite
0701-0111A-FO	5/5/08	Cesium-137	0.86	0.00	0.02	U	onsite
0701-0111A-FO	5/5/08	Cobalt-60	0.09	0.00	0.03	U	onsite
0701-0111A-FO	5/5/08	Lead-210	4.20	0.31	0.38	U	onsite
0701-0111A-FO	5/5/08	Plutonium-238	29.13	0.00	3.81	U	onsite
0701-0111A-FO	5/5/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
0701-0111A-FO	5/5/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0111A-FO	5/5/08	Protactinium-231	0.71	0.08	0.91	U	onsite
0701-0111A-FO	5/5/08	Radium-226	2.13	0.46	0.07		onsite
0701-0111A-FO	5/5/08	Thorium-228	1.64	0.21	0.17		Iso-Th
0701-0111A-FO	5/5/08	Thorium-230	2.00	2.37	3.41	U	onsite
0701-0111A-FO	5/5/08	Thorium-230	2.00	0.66	0.09		Iso-Th
0701-0111A-FO	5/5/08	Thorium-232	1.48	0.33	0.08		onsite
0701-0111A-FO	5/5/08	Thorium-232	1.48	0.27	0.04		Iso-Th
0701-0111A-FO	5/5/08	Uranium-238	1.30	0.39	0.22		onsite
0701-0112A-FO	5/6/08	Actinium-227	0.81	0.00	0.20	U	onsite
0701-0112A-FO	5/6/08	Americium-241	19.00	0.00	0.05	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0112A-FO	5/6/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
0701-0112A-FO	5/6/08	Cesium-137	0.86	0.00	0.03	U	onsite
0701-0112A-FO	5/6/08	Cobalt-60	0.09	0.01	0.03	U	onsite
0701-0112A-FO	5/6/08	Lead-210	4.20	0.31	0.45	U	onsite
0701-0112A-FO	5/6/08	Plutonium-238	29.13	0.84	4.27	U	onsite
0701-0112A-FO	5/6/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu
0701-0112A-FO	5/6/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0112A-FO	5/6/08	Protactinium-231	0.71	0.00	1.19	U	onsite
0701-0112A-FO	5/6/08	Radium-226	2.13	0.64	0.07		onsite
0701-0112A-FO	5/6/08	Thorium-228	1.64	0.37	0.04		Iso-Th
0701-0112A-FO	5/6/08	Thorium-230	2.00	3.77	4.20	U	onsite
0701-0112A-FO	5/6/08	Thorium-230	2.00	0.74	0.02		Iso-Th
0701-0112A-FO	5/6/08	Thorium-232	1.48	0.37	0.09		onsite
0701-0112A-FO	5/6/08	Thorium-232	1.48	0.31	0.03		Iso-Th
0701-0112A-FO	5/6/08	Uranium-238	1.30	0.35	0.29		onsite
0701-0113A-FO	5/6/08	Actinium-227	0.81	0.00	0.22	U	onsite
0701-0113A-FO	5/6/08	Americium-241	19.00	0.00	0.05	U	onsite
0701-0113A-FO	5/6/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
0701-0113A-FO	5/6/08	Cesium-137	0.86	0.01	0.03	U	onsite
0701-0113A-FO	5/6/08	Cobalt-60	0.09	0.00	0.04	U	onsite
0701-0113A-FO	5/6/08	Lead-210	4.20	0.61	0.45		onsite
0701-0113A-FO	5/6/08	Plutonium-238	29.13	1.83	4.60	U	onsite
0701-0113A-FO	5/6/08	Plutonium-238	29.13	0.03	0.02		Iso-Pu
0701-0113A-FO	5/6/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0113A-FO	5/6/08	Protactinium-231	0.71	0.78	1.02	U	onsite
0701-0113A-FO	5/6/08	Radium-226	2.13	0.53	0.08		onsite
0701-0113A-FO	5/6/08	Thorium-228	1.64	0.55	0.04		Iso-Th
0701-0113A-FO	5/6/08	Thorium-230	2.00	0.00	4.90	U	onsite
0701-0113A-FO	5/6/08	Thorium-230	2.00	0.95	0.03		Iso-Th
0701-0113A-FO	5/6/08	Thorium-232	1.48	0.36	0.10		onsite
0701-0113A-FO	5/6/08	Thorium-232	1.48	0.52	0.02		Iso-Th
0701-0113A-FO	5/6/08	Uranium-238	1.30	0.57	0.29		onsite
0701-0114A-FO	5/6/08	Actinium-227	0.81	0.21	0.22	U	onsite
0701-0114A-FO	5/6/08	Americium-241	19.00	0.02	0.05	U	onsite
0701-0114A-FO	5/6/08	Bismuth-210M	1.10	0.01	0.04	U	onsite
0701-0114A-FO	5/6/08	Cesium-137	0.86	0.00	0.03	U	onsite
0701-0114A-FO	5/6/08	Cobalt-60	0.09	0.01	0.04	U	onsite
0701-0114A-FO	5/6/08	Lead-210	4.20	0.54	0.51		onsite
0701-0114A-FO	5/6/08	Plutonium-238	29.13	0.00	5.31	U	onsite
0701-0114A-FO	5/6/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
0701-0114A-FO	5/6/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0114A-FO	5/6/08	Protactinium-231	0.71	0.00	1.24	U	onsite
0701-0114A-FO	5/6/08	Radium-226	2.13	0.54	0.10		onsite
0701-0114A-FO	5/6/08	Thorium-228	1.64	0.29	0.11		Iso-Th
0701-0114A-FO	5/6/08	Thorium-230	2.00	0.00	5.03	U	onsite
0701-0114A-FO	5/6/08	Thorium-230	2.00	0.98	0.05		Iso-Th
0701-0114A-FO	5/6/08	Thorium-232	1.48	0.31	0.12		onsite
0701-0114A-FO	5/6/08	Thorium-232	1.48	0.45	0.06		Iso-Th
0701-0114A-FO	5/6/08	Uranium-238	1.30	0.55	0.30		onsite
0701-0115A-FO	5/7/08	Actinium-227	0.81	0.06	0.28	U	onsite
0701-0115A-FO	5/7/08	Americium-241	19.00	0.00	0.08	U	onsite
0701-0115A-FO	5/7/08	Bismuth-210M	1.10	0.02	0.04	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0115A-FO	5/7/08	Cesium-137	0.86	0.03	0.04	U	onsite
0701-0115A-FO	5/7/08	Cobalt-60	0.09	0.02	0.05	U	onsite
0701-0115A-FO	5/7/08	Lead-210	4.20	0.58	0.64	U	onsite
0701-0115A-FO	5/7/08	Plutonium-238	29.13	0.00	6.79	U	onsite
0701-0115A-FO	5/7/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
0701-0115A-FO	5/7/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0115A-FO	5/7/08	Protactinium-231	0.71	0.00	1.58	U	onsite
0701-0115A-FO	5/7/08	Radium-226	2.13	0.57	0.13		onsite
0701-0115A-FO	5/7/08	Thorium-228	1.64	0.45	0.05		Iso-Th
0701-0115A-FO	5/7/08	Thorium-230	2.00	0.33	6.22	U	onsite
0701-0115A-FO	5/7/08	Thorium-230	2.00	0.91	0.03		Iso-Th
0701-0115A-FO	5/7/08	Thorium-232	1.48	0.32	0.18		onsite
0701-0115A-FO	5/7/08	Thorium-232	1.48	0.52	0.01		Iso-Th
0701-0115A-FO	5/7/08	Uranium-238	1.30	0.84	0.38		onsite
0701-0116A-FO	5/7/08	Actinium-227	0.81	0.00	0.24	U	onsite
0701-0116A-FO	5/7/08	Americium-241	19.00	0.01	0.06	U	onsite
0701-0116A-FO	5/7/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
0701-0116A-FO	5/7/08	Cesium-137	0.86	0.00	0.04	U	onsite
0701-0116A-FO	5/7/08	Cobalt-60	0.09	0.00	0.07	U	onsite
0701-0116A-FO	5/7/08	Lead-210	4.20	0.23	0.57	U	onsite
0701-0116A-FO	5/7/08	Plutonium-238	29.13	1.90	5.31	U	onsite
0701-0116A-FO	5/7/08	Plutonium-238	29.13	0.12	0.01		Iso-Pu
0701-0116A-FO	5/7/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0116A-FO	5/7/08	Protactinium-231	0.71	0.00	1.45	U	onsite
0701-0116A-FO	5/7/08	Radium-226	2.13	0.40	0.10		onsite
0701-0116A-FO	5/7/08	Thorium-228	1.64	0.34	0.03		Iso-Th
0701-0116A-FO	5/7/08	Thorium-230	2.00	2.18	5.31	U	onsite
0701-0116A-FO	5/7/08	Thorium-230	2.00	0.75	0.02		Iso-Th
0701-0116A-FO	5/7/08	Thorium-232	1.48	0.32	0.12		onsite
0701-0116A-FO	5/7/08	Thorium-232	1.48	0.28	0.02		Iso-Th
0701-0116A-FO	5/7/08	Uranium-238	1.30	0.47	0.33		onsite
0701-0117A-FO	5/7/08	Actinium-227	0.81	0.12	0.30	U	onsite
0701-0117A-FO	5/7/08	Americium-241	19.00	0.00	0.07	U	onsite
0701-0117A-FO	5/7/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
0701-0117A-FO	5/7/08	Cesium-137	0.86	0.00	0.05	U	onsite
0701-0117A-FO	5/7/08	Cobalt-60	0.09	0.00	0.06	U	onsite
0701-0117A-FO	5/7/08	Lead-210	4.20	0.92	0.64		onsite
0701-0117A-FO	5/7/08	Plutonium-238	29.13	4.24	5.74	U	onsite
0701-0117A-FO	5/7/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu
0701-0117A-FO	5/7/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0117A-FO	5/7/08	Protactinium-231	0.71	0.00	1.74	U	onsite
0701-0117A-FO	5/7/08	Radium-226	2.13	0.62	0.12		onsite
0701-0117A-FO	5/7/08	Thorium-228	1.64	0.68	0.09		Iso-Th
0701-0117A-FO	5/7/08	Thorium-230	2.00	1.02	6.46	U	onsite
0701-0117A-FO	5/7/08	Thorium-230	2.00	1.41	0.06		Iso-Th
0701-0117A-FO	5/7/08	Thorium-232	1.48	0.47	0.17		onsite
0701-0117A-FO	5/7/08	Thorium-232	1.48	0.80	0.05		Iso-Th
0701-0117A-FO	5/7/08	Uranium-238	1.30	0.90	0.40		onsite
0701-0118A-FO	5/14/08	Actinium-227	0.81	0.06	0.26	U	onsite
0701-0118A-FO	5/14/08	Americium-241	19.00	0.03	0.06	U	onsite
0701-0118A-FO	5/14/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
0701-0118A-FO	5/14/08	Cesium-137	0.86	0.08	0.05		onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0118A-FO	5/14/08	Cobalt-60	0.09	0.00	0.05	U	onsite
0701-0118A-FO	5/14/08	Lead-210	4.20	0.28	0.64	U	onsite
0701-0118A-FO	5/14/08	Plutonium-238	29.13	4.46	5.70	U	onsite
0701-0118A-FO	5/14/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
0701-0118A-FO	5/14/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
0701-0118A-FO	5/14/08	Protactinium-231	0.71	0.62	1.47	U	onsite
0701-0118A-FO	5/14/08	Radium-226	2.13	0.47	0.12		onsite
0701-0118A-FO	5/14/08	Thorium-228	1.64	0.51	0.07		Iso-Th
0701-0118A-FO	5/14/08	Thorium-230	2.00	0.00	6.02	U	onsite
0701-0118A-FO	5/14/08	Thorium-230	2.00	1.07	0.02		Iso-Th
0701-0118A-FO	5/14/08	Thorium-232	1.48	0.33	0.16		onsite
0701-0118A-FO	5/14/08	Thorium-232	1.48	0.44	0.04		Iso-Th
0701-0118A-FO	5/14/08	Uranium-233/234	1.10	0.40	0.06		Iso-U
0701-0118A-FO	5/14/08	Uranium-235	0.57	0.01	0.05	U	Iso-U
0701-0118A-FO	5/14/08	Uranium-238	1.30	0.74	0.36		onsite
0701-0118A-FO	5/14/08	Uranium-238	1.30	0.43	0.04		Iso-U
0701-0119A-FO	5/14/08	Actinium-227	0.81	0.00	0.26	U	onsite
0701-0119A-FO	5/14/08	Americium-241	19.00	0.02	0.06	U	onsite
0701-0119A-FO	5/14/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
0701-0119A-FO	5/14/08	Cesium-137	0.86	0.04	0.03		onsite
0701-0119A-FO	5/14/08	Cobalt-60	0.09	0.01	0.04	U	onsite
0701-0119A-FO	5/14/08	Lead-210	4.20	0.44	0.56	U	onsite
0701-0119A-FO	5/14/08	Plutonium-238	29.13	0.00	5.63	U	onsite
0701-0119A-FO	5/14/08	Plutonium-238	29.13	0.10	0.02		Iso-Pu
0701-0119A-FO	5/14/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0119A-FO	5/14/08	Protactinium-231	0.71	0.00	1.28	U	onsite
0701-0119A-FO	5/14/08	Radium-226	2.13	0.61	0.09		onsite
0701-0119A-FO	5/14/08	Thorium-228	1.64	0.55	0.09		Iso-Th
0701-0119A-FO	5/14/08	Thorium-230	2.00	1.18	5.69	U	onsite
0701-0119A-FO	5/14/08	Thorium-230	2.00	1.39	0.09		Iso-Th
0701-0119A-FO	5/14/08	Thorium-232	1.48	0.24	0.18		onsite
0701-0119A-FO	5/14/08	Thorium-232	1.48	0.70	0.06		Iso-Th
0701-0119A-FO	5/14/08	Uranium-238	1.30	0.26	0.39	U	onsite
0701-0120A-FO	5/13/08	Actinium-227	0.81	0.00	0.35	U	onsite
0701-0120A-FO	5/13/08	Americium-241	19.00	0.00	0.08	U	onsite
0701-0120A-FO	5/13/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
0701-0120A-FO	5/13/08	Cesium-137	0.86	0.00	0.05	U	onsite
0701-0120A-FO	5/13/08	Cobalt-60	0.09	0.00	0.07	U	onsite
0701-0120A-FO	5/13/08	Lead-210	4.20	0.53	0.68	U	onsite
0701-0120A-FO	5/13/08	Plutonium-238	29.13	5.34	6.06	U	onsite
0701-0120A-FO	5/13/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
0701-0120A-FO	5/13/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0120A-FO	5/13/08	Protactinium-231	0.71	0.26	1.58	U	onsite
0701-0120A-FO	5/13/08	Radium-226	2.13	0.71	0.11		onsite
0701-0120A-FO	5/13/08	Thorium-228	1.64	0.71	0.08		Iso-Th
0701-0120A-FO	5/13/08	Thorium-230	2.00	0.48	7.10	U	onsite
0701-0120A-FO	5/13/08	Thorium-230	2.00	1.42	0.03		Iso-Th
0701-0120A-FO	5/13/08	Thorium-232	1.48	0.66	0.13		onsite
0701-0120A-FO	5/13/08	Thorium-232	1.48	0.68	0.03		Iso-Th
0701-0120A-FO	5/13/08	Uranium-238	1.30	0.25	0.47	U	onsite
0701-0121A-FO	5/13/08	Actinium-227	0.81	0.06	0.24	U	onsite
0701-0121A-FO	5/13/08	Americium-241	19.00	0.00	0.06	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0121A-FO	5/13/08	Bismuth-210M	1.10	0.01	0.04	U	onsite
0701-0121A-FO	5/13/08	Cesium-137	0.86	0.00	0.05	U	onsite
0701-0121A-FO	5/13/08	Cobalt-60	0.09	0.01	0.05	U	onsite
0701-0121A-FO	5/13/08	Lead-210	4.20	0.43	0.56	U	onsite
0701-0121A-FO	5/13/08	Plutonium-238	29.13	3.04	5.32	U	onsite
0701-0121A-FO	5/13/08	Plutonium-238	29.13	0.18	0.01		Iso-Pu
0701-0121A-FO	5/13/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0121A-FO	5/13/08	Protactinium-231	0.71	0.00	1.54	U	onsite
0701-0121A-FO	5/13/08	Radium-226	2.13	0.55	0.11		onsite
0701-0121A-FO	5/13/08	Thorium-228	1.64	0.22	0.15		Iso-Th
0701-0121A-FO	5/13/08	Thorium-230	2.00	0.20	5.43	U	onsite
0701-0121A-FO	5/13/08	Thorium-230	2.00	1.01	0.12		Iso-Th
0701-0121A-FO	5/13/08	Thorium-232	1.48	0.17	0.15		onsite
0701-0121A-FO	5/13/08	Thorium-232	1.48	0.26	0.06		Iso-Th
0701-0121A-FO	5/13/08	Uranium-238	1.30	0.66	0.31		onsite
0701-0122A-FO	5/13/08	Actinium-227	0.81	0.19	0.29	U	onsite
0701-0122A-FO	5/13/08	Americium-241	19.00	0.05	0.07	U	onsite
0701-0122A-FO	5/13/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
0701-0122A-FO	5/13/08	Cesium-137	0.86	0.02	0.04	U	onsite
0701-0122A-FO	5/13/08	Cobalt-60	0.09	0.02	0.05	U	onsite
0701-0122A-FO	5/13/08	Lead-210	4.20	0.70	0.67		onsite
0701-0122A-FO	5/13/08	Plutonium-238	29.13	2.80	6.33	U	onsite
0701-0122A-FO	5/13/08	Plutonium-238	29.13	0.04	0.01		Iso-Pu
0701-0122A-FO	5/13/08	Plutonium-239/40	29.18	0.01	0.02	U	Iso-Pu
0701-0122A-FO	5/13/08	Protactinium-231	0.71	0.00	1.72	U	onsite
0701-0122A-FO	5/13/08	Radium-226	2.13	0.61	0.14		onsite
0701-0122A-FO	5/13/08	Thorium-228	1.64	0.65	0.06		Iso-Th
0701-0122A-FO	5/13/08	Thorium-230	2.00	0.00	6.42	U	onsite
0701-0122A-FO	5/13/08	Thorium-230	2.00	1.37	0.05		Iso-Th
0701-0122A-FO	5/13/08	Thorium-232	1.48	0.34	0.19		onsite
0701-0122A-FO	5/13/08	Thorium-232	1.48	0.61	0.04		Iso-Th
0701-0122A-FO	5/13/08	Uranium-238	1.30	0.60	0.41		onsite
0701-0123B-FO	5/13/08	Actinium-227	0.81	0.02	0.32	U	onsite
0701-0123B-FO	5/13/08	Americium-241	19.00	0.04	0.08	U	onsite
0701-0123B-FO	5/13/08	Bismuth-210M	1.10	0.02	0.05	U	onsite
0701-0123B-FO	5/13/08	Cesium-137	0.86	0.04	0.04	U	onsite
0701-0123B-FO	5/13/08	Cobalt-60	0.09	0.00	0.07	U	onsite
0701-0123B-FO	5/13/08	Lead-210	4.20	0.77	0.71		onsite
0701-0123B-FO	5/13/08	Plutonium-238	29.13	0.00	7.04	U	onsite
0701-0123B-FO	5/13/08	Plutonium-238	29.13	0.02	0.01		Iso-Pu
0701-0123B-FO	5/13/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0123B-FO	5/13/08	Protactinium-231	0.71	0.00	1.66	U	onsite
0701-0123B-FO	5/13/08	Radium-226	2.13	0.57	0.12		onsite
0701-0123B-FO	5/13/08	Thorium-228	1.64	1.41	0.08		Iso-Th
0701-0123B-FO	5/13/08	Thorium-230	2.00	2.31	7.09	U	onsite
0701-0123B-FO	**5/13/08**	**Thorium-230**	**2.00**	**2.16**	**0.03**		**Iso-Th**
0701-0123B-FO	5/13/08	Thorium-232	1.48	0.46	0.23		onsite
0701-0123B-FO	5/13/08	Thorium-232	1.48	0.98	0.06		Iso-Th
0701-0123B-FO	5/13/08	Uranium-238	1.30	0.64	0.40		onsite
0701-0124A-FO	5/12/08	Actinium-227	0.81	0.14	0.29	U	onsite
0701-0124A-FO	5/12/08	Americium-241	19.00	0.00	0.07	U	onsite
0701-0124A-FO	5/12/08	Bismuth-210M	1.10	0.00	0.05	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0124A-FO	5/12/08	Cesium-137	0.86	0.00	0.05	U	onsite
0701-0124A-FO	5/12/08	Cobalt-60	0.09	0.01	0.05	U	onsite
0701-0124A-FO	5/12/08	Lead-210	4.20	0.63	0.62		onsite
0701-0124A-FO	5/12/08	Plutonium-238	29.13	0.00	6.85	U	onsite
0701-0124A-FO	5/12/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
0701-0124A-FO	5/12/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
0701-0124A-FO	5/12/08	Protactinium-231	0.71	0.00	1.61	U	onsite
0701-0124A-FO	5/12/08	Radium-226	2.13	0.65	0.11		onsite
0701-0124A-FO	5/12/08	Thorium-228	1.64	0.71	0.09		Iso-Th
0701-0124A-FO	5/12/08	Thorium-230	2.00	2.07	6.25	U	onsite
0701-0124A-FO	5/12/08	Thorium-230	2.00	1.56	0.16		Iso-Th
0701-0124A-FO	5/12/08	Thorium-232	1.48	0.64	0.16		onsite
0701-0124A-FO	5/12/08	Thorium-232	1.48	0.83	0.12		Iso-Th
0701-0124A-FO	5/12/08	Uranium-238	1.30	0.48	0.42		onsite
0701-0125A-FO	5/9/08	Actinium-227	0.81	0.05	0.11	U	onsite
0701-0125A-FO	5/9/08	Americium-241	19.00	0.00	0.03	U	onsite
0701-0125A-FO	5/9/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
0701-0125A-FO	5/9/08	Cesium-137	0.86	0.00	0.02	U	onsite
0701-0125A-FO	5/9/08	Cobalt-60	0.09	0.00	0.02	U	onsite
0701-0125A-FO	5/9/08	Lead-210	4.20	1.12	0.26		onsite
0701-0125A-FO	5/9/08	Plutonium-238	29.13	0.08	2.50	U	onsite
0701-0125A-FO	5/9/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
0701-0125A-FO	5/9/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0125A-FO	5/9/08	Protactinium-231	0.71	0.00	0.56	U	onsite
0701-0125A-FO	5/9/08	Radium-226	2.13	1.08	0.04		onsite
0701-0125A-FO	5/9/08	Thorium-228	1.64	0.80	0.12		Iso-Th
0701-0125A-FO	5/9/08	Thorium-230	2.00	1.64	2.46	U	onsite
0701-0125A-FO	5/9/08	Thorium-230	2.00	1.19	0.08		Iso-Th
0701-0125A-FO	5/9/08	Thorium-232	1.48	0.91	0.06		onsite
0701-0125A-FO	5/9/08	Thorium-232	1.48	0.87	0.06		Iso-Th
0701-0125A-FO	5/9/08	Uranium-238	1.30	1.27	0.14		onsite
0701-0128B-FO	6/18/08	Actinium-227	0.81	0.09	0.15	U	onsite
0701-0128B-FO	6/18/08	Americium-241	19.00	0.00	0.04	U	onsite
0701-0128B-FO	6/18/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
0701-0128B-FO	6/18/08	Cesium-137	0.86	0.00	0.02	U	onsite
0701-0128B-FO	6/18/08	Cobalt-60	0.09	0.00	0.03	U	onsite
0701-0128B-FO	6/18/08	Lead-210	4.20	0.67	0.37		onsite
0701-0128B-FO	6/18/08	Plutonium-238	29.13	0.00	3.19	U	onsite
0701-0128B-FO	6/18/08	Plutonium-238	29.13	0.06	0.01		iso-Pu
0701-0128B-FO	6/18/08	Plutonium-239/40	29.18	0.00	0.01	U	iso-Pu
0701-0128B-FO	6/18/08	Protactinium-231	0.71	0.02	0.78	U	onsite
0701-0128B-FO	6/18/08	Radium-226	2.13	0.93	0.05		onsite
0701-0128B-FO	6/18/08	Thorium-228	1.64	0.60	0.06		iso-Th
0701-0128B-FO	6/18/08	Thorium-230	2.00	2.30	3.25	U	onsite
0701-0128B-FO	6/18/08	Thorium-230	2.00	1.57	0.04		iso-Th
0701-0128B-FO	6/18/08	Thorium-232	1.48	0.48	0.08		onsite
0701-0128B-FO	6/18/08	Thorium-232	1.48	0.62	0.02		iso-Th
0701-0128B-FO	6/18/08	Uranium-233/234	1.10	0.69	0.04		iso-U
0701-0128B-FO	6/18/08	Uranium-235	0.57	0.03	0.05	U	iso-U
0701-0128B-FO	6/18/08	Uranium-238	1.30	0.53	0.21		onsite
0701-0128B-FO	6/18/08	Uranium-238	1.30	0.73	0.05		iso-U
0701-0129A-FO	5/16/08	Actinium-227	0.81	0.14	0.15	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0129A-FO	5/16/08	Americium-241	19.00	0.00	0.04	U	onsite
0701-0129A-FO	5/16/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
0701-0129A-FO	5/16/08	Cesium-137	0.86	0.03	0.02		onsite
0701-0129A-FO	5/16/08	Cobalt-60	0.09	0.00	0.03	U	onsite
0701-0129A-FO	5/16/08	Lead-210	4.20	0.77	0.34		onsite
0701-0129A-FO	5/16/08	Plutonium-238	29.13	0.00	3.50	U	onsite
0701-0129A-FO	5/16/08	Plutonium-238	29.13	0.08	0.01		Iso-Pu
0701-0129A-FO	5/16/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
0701-0129A-FO	5/16/08	Protactinium-231	0.71	0.00	0.81	U	onsite
0701-0129A-FO	5/16/08	Radium-226	2.13	0.71	0.05		onsite
0701-0129A-FO	5/16/08	Thorium-228	1.64	0.73	0.17		Iso-Th
0701-0129A-FO	5/16/08	Thorium-230	2.00	1.29	3.40	U	onsite
0701-0129A-FO	5/16/08	Thorium-230	2.00	1.59	0.10		Iso-Th
0701-0129A-FO	5/16/08	Thorium-232	1.48	0.47	0.10		onsite
0701-0129A-FO	5/16/08	Thorium-232	1.48	0.62	0.10		Iso-Th
0701-0129A-FO	5/16/08	Uranium-233/234	1.10	0.51	0.06		Iso-U
0701-0129A-FO	5/16/08	Uranium-235	0.57	0.04	0.02	J	Iso-U
0701-0129A-FO	5/16/08	Uranium-238	1.30	0.76	0.21		onsite
0701-0129A-FO	5/16/08	Uranium-238	1.30	0.70	0.05		Iso-U
0701-0130A-FO	5/19/08	Actinium-227	0.81	0.09	0.37	U	onsite
0701-0130A-FO	5/19/08	Americium-241	19.00	0.00	0.10	U	onsite
0701-0130A-FO	5/19/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
0701-0130A-FO	5/19/08	Cesium-137	0.86	0.00	0.07	U	onsite
0701-0130A-FO	5/19/08	Cobalt-60	0.09	0.03	0.05	U	onsite
0701-0130A-FO	5/19/08	Lead-210	4.20	1.14	0.83		onsite
0701-0130A-FO	5/19/08	Plutonium-238	29.13	1.48	8.35	U	onsite
0701-0130A-FO	5/19/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
0701-0130A-FO	5/19/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0130A-FO	5/19/08	Protactinium-231	0.71	1.16	1.82	U	onsite
0701-0130A-FO	5/19/08	Radium-226	2.13	1.14	0.15		onsite
0701-0130A-FO	5/19/08	Thorium-228	1.64	1.02	0.08		Iso-Th
0701-0130A-FO	5/19/08	Thorium-230	2.00	0.00	8.67	U	onsite
0701-0130A-FO	5/19/08	Thorium-230	2.00	1.21	0.06		Iso-Th
0701-0130A-FO	5/19/08	Thorium-232	1.48	0.88	0.16		onsite
0701-0130A-FO	5/19/08	Thorium-232	1.48	0.89	0.06		Iso-Th
0701-0130A-FO	5/19/08	Uranium-238	1.30	0.73	0.51		onsite
0701-0131A-FO	5/19/08	Actinium-227	0.81	0.00	0.39	U	onsite
0701-0131A-FO	5/19/08	Americium-241	19.00	0.00	0.09	U	onsite
0701-0131A-FO	5/19/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
0701-0131A-FO	5/19/08	Cesium-137	0.86	0.01	0.05	U	onsite
0701-0131A-FO	5/19/08	Cobalt-60	0.09	0.00	0.09	U	onsite
0701-0131A-FO	5/19/08	Lead-210	4.20	1.20	0.82		onsite
0701-0131A-FO	5/19/08	Plutonium-238	29.13	2.43	8.30	U	onsite
0701-0131A-FO	5/19/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu
0701-0131A-FO	5/19/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0131A-FO	5/19/08	Protactinium-231	0.71	0.51	1.85	U	onsite
0701-0131A-FO	5/19/08	Radium-226	2.13	0.97	0.15		onsite
0701-0131A-FO	5/19/08	Thorium-228	1.64	0.98	0.09		Iso-Th
0701-0131A-FO	5/19/08	Thorium-230	2.00	5.37	8.11	U	onsite
0701-0131A-FO	5/19/08	Thorium-230	2.00	1.87	0.07		Iso-Th
0701-0131A-FO	5/19/08	Thorium-232	1.48	0.62	0.22		onsite
0701-0131A-FO	5/19/08	Thorium-232	1.48	1.17	0.06		Iso-Th

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0131A-FO	5/19/08	Uranium-238	1.30	0.84	0.51		onsite
0701-0132A-FO	5/19/08	Actinium-227	0.81	0.00	0.17	U	onsite
0701-0132A-FO	5/19/08	Americium-241	19.00	0.00	0.04	U	onsite
0701-0132A-FO	5/19/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
0701-0132A-FO	5/19/08	Cesium-137	0.86	0.05	0.02		onsite
0701-0132A-FO	5/19/08	Cobalt-60	0.09	0.00	0.03	U	onsite
0701-0132A-FO	5/19/08	Lead-210	4.20	0.97	0.39		onsite
0701-0132A-FO	5/19/08	Plutonium-238	29.13	0.85	3.50	U	onsite
0701-0132A-FO	5/19/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu
0701-0132A-FO	5/19/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
0701-0132A-FO	5/19/08	Protactinium-231	0.71	0.00	0.86	U	onsite
0701-0132A-FO	5/19/08	Radium-226	2.13	0.91	0.06		onsite
0701-0132A-FO	5/19/08	Thorium-228	1.64	0.83	0.09		Iso-Th
0701-0132A-FO	5/19/08	Thorium-230	2.00	1.03	3.70	U	onsite
0701-0132A-FO	5/19/08	Thorium-230	2.00	1.47	0.06		Iso-Th
0701-0132A-FO	5/19/08	Thorium-232	1.48	0.64	0.09		onsite
0701-0132A-FO	5/19/08	Thorium-232	1.48	0.88	0.05		Iso-Th
0701-0132A-FO	5/19/08	Uranium-238	1.30	0.64	0.26		onsite
0701-0135A-FO	4/24/08	Actinium-227	0.81	0.18	0.34	U	onsite
0701-0135A-FO	4/24/08	Americium-241	19.00	0.04	0.09	U	onsite
0701-0135A-FO	4/24/08	Bismuth-210M	1.10	0.00	0.07	U	onsite
0701-0135A-FO	4/24/08	Cesium-137	0.86	0.03	0.04	U	onsite
0701-0135A-FO	4/24/08	Cobalt-60	0.09	0.01	0.06	U	onsite
0701-0135A-FO	4/24/08	Lead-210	4.20	0.91	0.79		onsite
0701-0135A-FO	4/24/08	Plutonium-238	29.13	0.00	8.22	U	onsite
0701-0135A-FO	4/24/08	Plutonium-238	29.13	0.11	0.02		Iso-Pu
0701-0135A-FO	4/24/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0135A-FO	4/24/08	Protactinium-231	0.71	0.02	1.89	U	onsite
0701-0135A-FO	4/24/08	Radium-226	2.13	0.96	0.12		onsite
0701-0135A-FO	4/24/08	Thorium-228	1.64	1.36	0.05		Iso-Th
0701-0135A-FO	4/24/08	Thorium-230	2.00	0.83	7.99	U	onsite
0701-0135A-FO	4/24/08	Thorium-230	2.00	1.41	0.04		Iso-Th
0701-0135A-FO	4/24/08	Thorium-232	1.48	0.87	0.19		onsite
0701-0135A-FO	4/24/08	Thorium-232	1.48	1.07	0.04		Iso-Th
0701-0135A-FO	4/24/08	Uranium-238	1.30	1.06	0.50		onsite
0701-0136A-FO	4/24/08	Actinium-227	0.81	0.10	0.30	U	onsite
0701-0136A-FO	4/24/08	Americium-241	19.00	0.00	0.07	U	onsite
0701-0136A-FO	4/24/08	Bismuth-210M	1.10	0.02	0.05	U	onsite
0701-0136A-FO	4/24/08	Cesium-137	0.86	0.00	0.05	U	onsite
0701-0136A-FO	4/24/08	Cobalt-60	0.09	0.00	0.06	U	onsite
0701-0136A-FO	4/24/08	Lead-210	4.20	0.80	0.67		onsite
0701-0136A-FO	4/24/08	Plutonium-238	29.13	0.00	6.94	U	onsite
0701-0136A-FO	4/24/08	Plutonium-238	29.13	0.11	0.02		Iso-Pu
0701-0136A-FO	4/24/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0136A-FO	4/24/08	Protactinium-231	0.71	0.68	1.43	U	onsite
0701-0136A-FO	4/24/08	Radium-226	2.13	0.91	0.12		onsite
0701-0136A-FO	4/24/08	Thorium-228	1.64	0.93	0.06		Iso-Th
0701-0136A-FO	4/24/08	Thorium-230	2.00	0.00	7.08	U	onsite
0701-0136A-FO	4/24/08	Thorium-230	2.00	1.12	0.03		Iso-Th
0701-0136A-FO	4/24/08	Thorium-232	1.48	0.70	0.13		onsite
0701-0136A-FO	4/24/08	Thorium-232	1.48	0.91	0.06		Iso-Th
0701-0136A-FO	4/24/08	Uranium-238	1.30	0.99	0.41		onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0137A-FO	4/23/08	Actinium-227	0.81	0.05	0.20	U	onsite
0701-0137A-FO	4/23/08	Americium-241	19.00	0.00	0.05	U	onsite
0701-0137A-FO	4/23/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
0701-0137A-FO	4/23/08	Cesium-137	0.86	0.00	0.03	U	onsite
0701-0137A-FO	4/23/08	Cobalt-60	0.09	0.00	0.04	U	onsite
0701-0137A-FO	4/23/08	Lead-210	4.20	1.03	0.52		onsite
0701-0137A-FO	4/23/08	Plutonium-238	29.13	0.00	4.63	U	onsite
0701-0137A-FO	4/23/08	Plutonium-238	29.13	0.01	0.01	U	Iso-Pu
0701-0137A-FO	4/23/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0137A-FO	4/23/08	Protactinium-231	0.71	0.00	1.09	U	onsite
0701-0137A-FO	4/23/08	Radium-226	2.13	0.98	0.07		onsite
0701-0137A-FO	4/23/08	Thorium-228	1.64	1.16	0.04		Iso-Th
0701-0137A-FO	4/23/08	Thorium-230	2.00	4.18	4.36	U	onsite
0701-0137A-FO	4/23/08	Thorium-230	2.00	1.49	0.04		Iso-Th
0701-0137A-FO	4/23/08	Thorium-232	1.48	0.92	0.11		onsite
0701-0137A-FO	4/23/08	Thorium-232	1.48	1.19	0.02		Iso-Th
0701-0137A-FO	4/23/08	Uranium-238	1.30	0.88	0.28		onsite
0701-0138A-FO	4/23/08	Actinium-227	0.81	0.23	0.31	U	onsite
0701-0138A-FO	4/23/08	Americium-241	19.00	0.01	0.08	U	onsite
0701-0138A-FO	4/23/08	Bismuth-210M	1.10	0.01	0.05	U	onsite
0701-0138A-FO	4/23/08	Cesium-137	0.86	0.00	0.06	U	onsite
0701-0138A-FO	4/23/08	Cobalt-60	0.09	0.04	0.05	U	onsite
0701-0138A-FO	4/23/08	Lead-210	4.20	0.81	0.73		onsite
0701-0138A-FO	4/23/08	Plutonium-238	29.13	0.00	8.03	U	onsite
0701-0138A-FO	4/23/08	Plutonium-238	29.13	0.03	0.02		Iso-Pu
0701-0138A-FO	4/23/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0138A-FO	4/23/08	Protactinium-231	0.71	0.94	1.69	U	onsite
0701-0138A-FO	4/23/08	Radium-226	2.13	1.11	0.09		onsite
0701-0138A-FO	4/23/08	Thorium-228	1.64	1.04	0.06		Iso-Th
0701-0138A-FO	4/23/08	Thorium-230	2.00	2.47	7.49	U	onsite
0701-0138A-FO	4/23/08	Thorium-230	2.00	1.21	0.04		Iso-Th
0701-0138A-FO	4/23/08	Thorium-232	1.48	0.76	0.13		onsite
0701-0138A-FO	4/23/08	Thorium-232	1.48	0.89	0.02		Iso-Th
0701-0138A-FO	4/23/08	Uranium-238	1.30	0.89	0.45		onsite
0701-0139A-FO	4/23/08	Actinium-227	0.81	0.02	0.14	U	onsite
0701-0139A-FO	4/23/08	Americium-241	19.00	0.00	0.04	U	onsite
0701-0139A-FO	4/23/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
0701-0139A-FO	4/23/08	Cesium-137	0.86	0.00	0.02	U	onsite
0701-0139A-FO	4/23/08	Cobalt-60	0.09	0.01	0.02	U	onsite
0701-0139A-FO	4/23/08	Lead-210	4.20	0.74	0.33		onsite
0701-0139A-FO	4/23/08	Plutonium-238	29.13	0.31	3.11	U	onsite
0701-0139A-FO	4/23/08	Plutonium-238	29.13	0.03	0.01		Iso-Pu
0701-0139A-FO	4/23/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0139A-FO	4/23/08	Protactinium-231	0.71	0.09	0.72	U	onsite
0701-0139A-FO	4/23/08	Radium-226	2.13	0.84	0.06		onsite
0701-0139A-FO	4/23/08	Thorium-228	1.64	1.10	0.08		Iso-Th
0701-0139A-FO	4/23/08	Thorium-230	2.00	0.03	3.20	U	onsite
0701-0139A-FO	4/23/08	Thorium-230	2.00	1.65	0.05		Iso-Th
0701-0139A-FO	4/23/08	Thorium-232	1.48	0.73	0.08		onsite
0701-0139A-FO	4/23/08	Thorium-232	1.48	1.20	0.05		Iso-Th
0701-0139A-FO	4/23/08	Uranium-238	1.30	1.30	0.18		onsite
0701-0140A-FO	4/22/08	Actinium-227	0.81	0.03	0.39	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0140A-FO	4/22/08	Americium-241	19.00	0.00	0.10	U	onsite
0701-0140A-FO	4/22/08	Bismuth-210M	1.10	0.00	0.07	U	onsite
0701-0140A-FO	4/22/08	Cesium-137	0.86	0.00	0.05	U	onsite
0701-0140A-FO	4/22/08	Cobalt-60	0.09	0.01	0.06	U	onsite
0701-0140A-FO	4/22/08	Lead-210	4.20	0.82	0.85	U	onsite
0701-0140A-FO	4/22/08	Plutonium-238	29.13	0.00	9.80	U	onsite
0701-0140A-FO	4/22/08	Plutonium-238	29.13	0.53	0.02		Iso-Pu
0701-0140A-FO	4/22/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
0701-0140A-FO	4/22/08	Protactinium-231	0.71	0.00	2.21	U	onsite
0701-0140A-FO	4/22/08	Radium-226	2.13	1.02	0.15		onsite
0701-0140A-FO	4/22/08	Thorium-228	1.64	0.96	0.05		Iso-Th
0701-0140A-FO	4/22/08	Thorium-230	2.00	0.00	9.31	U	onsite
0701-0140A-FO	4/22/08	Thorium-230	2.00	1.58	0.03		Iso-Th
0701-0140A-FO	4/22/08	Thorium-232	1.48	0.86	0.25		onsite
0701-0140A-FO	4/22/08	Thorium-232	1.48	1.02	0.04		Iso-Th
0701-0140A-FO	4/22/08	Uranium-238	1.30	1.00	0.54		onsite
0701-0141A-FO	4/22/08	Actinium-227	0.81	0.00	0.32	U	onsite
0701-0141A-FO	4/22/08	Americium-241	19.00	0.00	0.08	U	onsite
0701-0141A-FO	4/22/08	Bismuth-210M	1.10	0.01	0.05	U	onsite
0701-0141A-FO	4/22/08	Cesium-137	0.86	0.00	0.04	U	onsite
0701-0141A-FO	4/22/08	Cobalt-60	0.09	0.00	0.06	U	onsite
0701-0141A-FO	4/22/08	Lead-210	4.20	0.39	0.72	U	onsite
0701-0141A-FO	4/22/08	Plutonium-238	29.13	1.03	6.68	U	onsite
0701-0141A-FO	4/22/08	Plutonium-238	29.13	0.07	0.02		Iso-Pu
0701-0141A-FO	4/22/08	Plutonium-239/40	29.18	-0.01	0.02	U	Iso-Pu
0701-0141A-FO	4/22/08	Protactinium-231	0.71	0.00	1.59	U	onsite
0701-0141A-FO	4/22/08	Radium-226	2.13	0.78	0.08		onsite
0701-0141A-FO	4/22/08	Thorium-228	1.64	0.68	0.04		Iso-Th
0701-0141A-FO	4/22/08	Thorium-230	2.00	3.97	6.44	U	onsite
0701-0141A-FO	4/22/08	Thorium-230	2.00	1.47	0.03		Iso-Th
0701-0141A-FO	4/22/08	Thorium-232	1.48	0.64	0.16		onsite
0701-0141A-FO	4/22/08	Thorium-232	1.48	0.64	0.03		Iso-Th
0701-0141A-FO	4/22/08	Uranium-238	1.30	0.68	0.43		onsite
0701-0142A-FO	4/21/08	Actinium-227	0.81	0.00	0.39	U	onsite
0701-0142A-FO	4/21/08	Americium-241	19.00	0.00	0.09	U	onsite
0701-0142A-FO	4/21/08	Bismuth-210M	1.10	0.02	0.06	U	onsite
0701-0142A-FO	4/21/08	Cesium-137	0.86	0.00	0.06	U	onsite
0701-0142A-FO	4/21/08	Cobalt-60	0.09	0.00	0.07	U	onsite
0701-0142A-FO	4/21/08	Lead-210	4.20	1.06	0.83		onsite
0701-0142A-FO	4/21/08	Plutonium-238	29.13	0.00	8.75	U	onsite
0701-0142A-FO	4/21/08	Plutonium-238	29.13	0.07	0.02		Iso-Pu
0701-0142A-FO	4/21/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0142A-FO	4/21/08	Protactinium-231	0.71	0.50	1.96	U	onsite
0701-0142A-FO	4/21/08	Radium-226	2.13	1.22	0.13		onsite
0701-0142A-FO	4/21/08	Thorium-228	1.64	1.00	0.05		Iso-Th
0701-0142A-FO	4/21/08	Thorium-230	2.00	2.39	8.56	U	onsite
0701-0142A-FO	4/21/08	Thorium-230	2.00	1.42	0.03		Iso-Th
0701-0142A-FO	4/21/08	Thorium-232	1.48	0.87	0.22		onsite
0701-0142A-FO	4/21/08	Thorium-232	1.48	1.00	0.05		Iso-Th
0701-0142A-FO	4/21/08	Uranium-238	1.30	1.04	0.54		onsite
0701-0143A-FO	3/25/08	Actinium-227	0.81	0.00	0.40	U	onsite
0701-0143A-FO	3/25/08	Americium-241	19.00	0.00	0.10	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0143A-FO	3/25/08	Bismuth-210M	1.10	0.00	0.08	U	onsite
0701-0143A-FO	3/25/08	Cesium-137	0.86	0.04	0.05	U	onsite
0701-0143A-FO	3/25/08	Cobalt-60	0.09	0.00	0.09	U	onsite
0701-0143A-FO	3/25/08	Lead-210	4.20	0.78	0.90	U	onsite
0701-0143A-FO	3/25/08	Plutonium-238	29.13	3.69	8.23	U	onsite
0701-0143A-FO	3/25/08	Plutonium-238	29.13	0.16	0.02		Iso-Pu
0701-0143A-FO	3/25/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
0701-0143A-FO	3/25/08	Protactinium-231	0.71	0.37	2.05	U	onsite
0701-0143A-FO	3/25/08	Radium-226	2.13	1.01	0.16		onsite
0701-0143A-FO	3/25/08	Thorium-228	1.64	1.26	0.04		Iso-Th
0701-0143A-FO	3/25/08	Thorium-230	2.00	4.61	8.95	U	onsite
0701-0143A-FO	3/25/08	Thorium-230	2.00	1.65	0.03		Iso-Th
0701-0143A-FO	3/25/08	Thorium-232	1.48	0.63	0.28		onsite
0701-0143A-FO	3/25/08	Thorium-232	1.48	1.14	0.02		Iso-Th
0701-0143A-FO	3/25/08	Uranium-238	1.30	1.02	0.54		onsite
0701-0144A-FO	3/25/08	Actinium-227	0.81	0.00	0.32	U	onsite
0701-0144A-FO	3/25/08	Americium-241	19.00	0.00	0.07	U	onsite
0701-0144A-FO	3/25/08	Bismuth-210M	1.10	0.01	0.05	U	onsite
0701-0144A-FO	3/25/08	Cesium-137	0.86	0.00	0.06	U	onsite
0701-0144A-FO	3/25/08	Cobalt-60	0.09	0.01	0.06	U	onsite
0701-0144A-FO	3/25/08	Lead-210	4.20	0.67	0.69	U	onsite
0701-0144A-FO	3/25/08	Plutonium-238	29.13	1.03	6.51	U	onsite
0701-0144A-FO	3/25/08	Plutonium-238	29.13	0.03	0.02		Iso-Pu
0701-0144A-FO	3/25/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
0701-0144A-FO	3/25/08	Protactinium-231	0.71	1.10	1.56	U	onsite
0701-0144A-FO	3/25/08	Radium-226	2.13	1.00	0.10		onsite
0701-0144A-FO	3/25/08	Thorium-228	1.64	0.41	0.04		Iso-Th
0701-0144A-FO	3/25/08	Thorium-230	2.00	0.52	6.77	U	onsite
0701-0144A-FO	3/25/08	Thorium-230	2.00	1.07	0.03		Iso-Th
0701-0144A-FO	3/25/08	Thorium-232	1.48	0.36	0.16		onsite
0701-0144A-FO	3/25/08	Thorium-232	1.48	0.41	0.04		Iso-Th
0701-0144A-FO	3/25/08	Uranium-238	1.30	0.57	0.43		onsite
0701-0145A-FO	3/26/08	Actinium-227	0.81	0.15	0.28	U	onsite
0701-0145A-FO	3/26/08	Americium-241	19.00	0.00	0.07	U	onsite
0701-0145A-FO	3/26/08	Bismuth-210M	1.10	0.03	0.05	U	onsite
0701-0145A-FO	3/26/08	Cesium-137	0.86	0.02	0.05	U	onsite
0701-0145A-FO	3/26/08	Cobalt-60	0.09	0.01	0.05	U	onsite
0701-0145A-FO	3/26/08	Lead-210	4.20	0.13	0.69	U	onsite
0701-0145A-FO	3/26/08	Plutonium-238	29.13	0.00	6.58	U	onsite
0701-0145A-FO	3/26/08	Plutonium-238	29.13	0.41	0.02		Iso-Pu
0701-0145A-FO	3/26/08	Plutonium-239/40	29.18	1.28	0.01		Iso-Pu
0701-0145A-FO	3/26/08	Protactinium-231	0.71	0.00	1.63	U	onsite
0701-0145A-FO	3/26/08	Radium-226	2.13	0.83	0.10		onsite
0701-0145A-FO	3/26/08	Thorium-228	1.64	0.67	0.08		Iso-Th
0701-0145A-FO	3/26/08	Thorium-230	2.00	0.00	6.55	U	onsite
0701-0145A-FO	3/26/08	Thorium-230	2.00	1.17	0.03		Iso-Th
0701-0145A-FO	3/26/08	Thorium-232	1.48	0.37	0.17		onsite
0701-0145A-FO	3/26/08	Thorium-232	1.48	0.50	0.05		Iso-Th
0701-0145A-FO	3/26/08	Uranium-238	1.30	0.70	0.38		onsite
0701-0146A-FO	3/26/08	Actinium-227	0.81	0.08	0.24	U	onsite
0701-0146A-FO	3/26/08	Americium-241	19.00	0.01	0.06	U	onsite
0701-0146A-FO	3/26/08	Bismuth-210M	1.10	0.00	0.05	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
0701-0146A-FO	3/26/08	Cesium-137	0.86	0.02	0.04	U	onsite
0701-0146A-FO	3/26/08	Cobalt-60	0.09	0.00	0.05	U	onsite
0701-0146A-FO	3/26/08	Lead-210	4.20	0.29	0.56	U	onsite
0701-0146A-FO	3/26/08	Plutonium-238	29.13	0.00	5.92	U	onsite
0701-0146A-FO	3/26/08	Plutonium-238	29.13	0.21	0.01		Iso-Pu
0701-0146A-FO	3/26/08	Plutonium-239/40	29.18	0.01	0.01	J	Iso-Pu
0701-0146A-FO	3/26/08	Protactinium-231	0.71	0.29	1.31	U	onsite
0701-0146A-FO	3/26/08	Radium-226	2.13	0.58	0.11		onsite
0701-0146A-FO	3/26/08	Thorium-228	1.64	0.49	0.10		Iso-Th
0701-0146A-FO	3/26/08	Thorium-230	2.00	0.92	5.64	U	onsite
0701-0146A-FO	3/26/08	Thorium-230	2.00	1.08	0.03		Iso-Th
0701-0146A-FO	3/26/08	Thorium-232	1.48	0.48	0.09		onsite
0701-0146A-FO	3/26/08	Thorium-232	1.48	0.40	0.05		Iso-Th
0701-0146A-FO	3/26/08	Uranium-238	1.30	0.52	0.38		onsite
PRS7-AL-056	3/26/08	Actinium-227	0.81	0.07	0.26	U	onsite
PRS7-AL-056	3/26/08	Americium-241	19.00	0.01	0.06	U	onsite
PRS7-AL-056	3/26/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-056	3/26/08	Cesium-137	0.86	0.01	0.04	U	onsite
PRS7-AL-056	3/26/08	Cobalt-60	0.09	0.00	0.05	U	onsite
PRS7-AL-056	3/26/08	Lead-210	4.20	1.00	0.54		onsite
PRS7-AL-056	3/26/08	Plutonium-238	29.13	0.25	5.92	U	onsite
PRS7-AL-056	3/26/08	Plutonium-238	29.13	0.02	0.02		Iso-Pu
PRS7-AL-056	3/26/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-056	3/26/08	Protactinium-231	0.71	0.17	1.33	U	onsite
PRS7-AL-056	3/26/08	Radium-226	2.13	0.78	0.10		onsite
PRS7-AL-056	3/26/08	Thorium-228	1.64	0.56	0.10		Iso-Th
PRS7-AL-056	3/26/08	Thorium-230	2.00	1.52	5.49	U	onsite
PRS7-AL-056	3/26/08	Thorium-230	2.00	1.02	0.06		Iso-Th
PRS7-AL-056	3/26/08	Thorium-232	1.48	0.33	0.16		onsite
PRS7-AL-056	3/26/08	Thorium-232	1.48	0.47	0.06		Iso-Th
PRS7-AL-056	3/26/08	Uranium-238	1.30	0.20	0.41	U	onsite
PRS7-AL-057	3/26/08	Actinium-227	0.81	0.00	0.29	U	onsite
PRS7-AL-057	3/26/08	Americium-241	19.00	0.02	0.07	U	onsite
PRS7-AL-057	3/26/08	Bismuth-210M	1.10	0.01	0.05	U	onsite
PRS7-AL-057	3/26/08	Cesium-137	0.86	0.01	0.04	U	onsite
PRS7-AL-057	3/26/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-057	3/26/08	Lead-210	4.20	0.57	0.68	U	onsite
PRS7-AL-057	3/26/08	Plutonium-238	29.13	0.19	6.27	U	onsite
PRS7-AL-057	3/26/08	Plutonium-238	29.13	0.01	0.01		Iso-Pu
PRS7-AL-057	3/26/08	Plutonium-239/40	29.18	0.00	0.00	J	Iso-Pu
PRS7-AL-057	3/26/08	Protactinium-231	0.71	0.00	1.62	U	onsite
PRS7-AL-057	3/26/08	Radium-226	2.13	0.77	0.14		onsite
PRS7-AL-057	3/26/08	Thorium-228	1.64	0.41	0.09		Iso-Th
PRS7-AL-057	3/26/08	Thorium-230	2.00	2.28	6.38	U	onsite
PRS7-AL-057	3/26/08	Thorium-230	2.00	0.97	0.07		Iso-Th
PRS7-AL-057	3/26/08	Thorium-232	1.48	0.45	0.13		onsite
PRS7-AL-057	3/26/08	Thorium-232	1.48	0.29	0.06		Iso-Th
PRS7-AL-057	3/26/08	Uranium-238	1.30	0.89	0.39		onsite
PRS7-AL-058	4/21/08	Actinium-227	0.81	0.04	0.34	U	onsite
PRS7-AL-058	4/21/08	Americium-241	19.00	0.05	0.08	U	onsite
PRS7-AL-058	4/21/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-058	4/21/08	Cesium-137	0.86	0.05	0.06	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-058	4/21/08	Cobalt-60	0.09	0.00	0.07	U	onsite
PRS7-AL-058	4/21/08	Lead-210	4.20	0.85	0.76		onsite
PRS7-AL-058	4/21/08	Plutonium-238	29.13	0.78	7.22	U	onsite
PRS7-AL-058	4/21/08	Plutonium-238	29.13	0.94	0.01		Iso-Pu
PRS7-AL-058	4/21/08	Plutonium-239/40	29.18	0.01	0.01		Iso-Pu
PRS7-AL-058	4/21/08	Protactinium-231	0.71	0.00	1.89	U	onsite
PRS7-AL-058	4/21/08	Radium-226	2.13	0.88	0.14		onsite
PRS7-AL-058	4/21/08	Thorium-228	1.64	0.95	0.05		Iso-Th
PRS7-AL-058	4/21/08	Thorium-230	2.00	0.00	7.78	U	onsite
PRS7-AL-058	4/21/08	Thorium-230	2.00	1.78	0.04		Iso-Th
PRS7-AL-058	4/21/08	Thorium-232	1.48	0.69	0.18		onsite
PRS7-AL-058	4/21/08	Thorium-232	1.48	0.91	0.03		Iso-Th
PRS7-AL-058	4/21/08	Uranium-238	1.30	0.75	0.47		onsite
PRS7-AL-059	4/22/08	Actinium-227	0.81	0.00	0.32	U	onsite
PRS7-AL-059	4/22/08	Americium-241	19.00	0.00	0.08	U	onsite
PRS7-AL-059	4/22/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-059	4/22/08	Cesium-137	0.86	0.00	0.06	U	onsite
PRS7-AL-059	4/22/08	Cobalt-60	0.09	0.00	0.07	U	onsite
PRS7-AL-059	4/22/08	Lead-210	4.20	0.86	0.69		onsite
PRS7-AL-059	4/22/08	Plutonium-238	29.13	0.00	7.40	U	onsite
PRS7-AL-059	4/22/08	Plutonium-238	29.13	0.22	0.02		Iso-Pu
PRS7-AL-059	4/22/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
PRS7-AL-059	4/22/08	Protactinium-231	0.71	0.00	1.87	U	onsite
PRS7-AL-059	4/22/08	Radium-226	2.13	0.95	0.10		onsite
PRS7-AL-059	4/22/08	Thorium-228	1.64	1.25	0.06		Iso-Th
PRS7-AL-059	4/22/08	Thorium-230	2.00	0.00	7.30	U	onsite
PRS7-AL-059	4/22/08	Thorium-230	2.00	1.55	0.04		Iso-Th
PRS7-AL-059	4/22/08	Thorium-232	1.48	0.72	0.18		onsite
PRS7-AL-059	4/22/08	Thorium-232	1.48	1.18	0.02		Iso-Th
PRS7-AL-059	4/22/08	Uranium-238	1.30	1.05	0.44		onsite
PRS7-AL-060	4/23/08	Actinium-227	0.81	0.05	0.13	U	onsite
PRS7-AL-060	4/23/08	Americium-241	19.00	0.03	0.03	U	onsite
PRS7-AL-060	4/23/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-060	4/23/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-060	4/23/08	Cobalt-60	0.09	0.01	0.02	U	onsite
PRS7-AL-060	4/23/08	Lead-210	4.20	0.46	0.31		onsite
PRS7-AL-060	4/23/08	Plutonium-238	29.13	0.00	2.89	U	onsite
PRS7-AL-060	4/23/08	Plutonium-238	29.13	0.21	0.01		Iso-Pu
PRS7-AL-060	4/23/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
PRS7-AL-060	4/23/08	Protactinium-231	0.71	0.00	0.68	U	onsite
PRS7-AL-060	4/23/08	Radium-226	2.13	0.57	0.05		onsite
PRS7-AL-060	4/23/08	Thorium-228	1.64	0.80	0.07		Iso-Th
PRS7-AL-060	4/23/08	Thorium-230	2.00	0.00	2.91	U	onsite
PRS7-AL-060	4/23/08	Thorium-230	2.00	1.08	0.05		Iso-Th
PRS7-AL-060	4/23/08	Thorium-232	1.48	0.44	0.07		onsite
PRS7-AL-060	4/23/08	Thorium-232	1.48	0.60	0.04		Iso-Th
PRS7-AL-060	4/23/08	Uranium-238	1.30	0.51	0.18		onsite
PRS7-AL-061A	6/18/08	Actinium-227	0.81	0.01	0.14	U	onsite
PRS7-AL-061A	6/18/08	Americium-241	19.00	0.06	0.03		onsite
PRS7-AL-061A	6/18/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-061A	6/18/08	Cesium-137	0.86	0.01	0.02	U	onsite
PRS7-AL-061A	6/18/08	Cobalt-60	0.09	0.01	0.02	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-061A	6/18/08	Lead-210	4.20	0.64	0.30		onsite
PRS7-AL-061A	6/18/08	Plutonium-238	29.13	0.00	3.07	U	onsite
PRS7-AL-061A	6/18/08	Plutonium-238	29.13	0.87	0.06		iso-Pu
PRS7-AL-061A	6/18/08	Plutonium-239/40	29.18	0.03	0.04	U	iso-Pu
PRS7-AL-061A	6/18/08	Protactinium-231	0.71	0.28	0.70	U	onsite
PRS7-AL-061A	6/18/08	Radium-226	2.13	0.59	0.06		onsite
PRS7-AL-061A	6/18/08	Thorium-228	1.64	0.55	0.06		iso-Th
PRS7-AL-061A	6/18/08	Thorium-230	2.00	2.77	3.04	U	onsite
PRS7-AL-061A	6/18/08	Thorium-230	2.00	1.40	0.04		iso-Th
PRS7-AL-061A	6/18/08	Thorium-232	1.48	0.40	0.08		onsite
PRS7-AL-061A	6/18/08	Thorium-232	1.48	0.65	0.05		iso-Th
PRS7-AL-061A	6/18/08	Uranium-233/234	1.10	1.05	0.02		iso-U
PRS7-AL-061A	6/18/08	Uranium-235	0.57	0.04	0.02	J	iso-U
PRS7-AL-061A	6/18/08	Uranium-238	1.30	0.58	0.23		onsite
PRS7-AL-061A	6/18/08	Uranium-238	1.30	0.60	0.03		iso-U
PRS7-AL-062	4/28/08	Actinium-227	0.81	0.01	0.27	U	onsite
PRS7-AL-062	4/28/08	Americium-241	19.00	0.00	0.06	U	onsite
PRS7-AL-062	4/28/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-062	4/28/08	Cesium-137	0.86	0.06	0.05		onsite
PRS7-AL-062	4/28/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-062	4/28/08	Lead-210	4.20	0.32	0.59	U	onsite
PRS7-AL-062	4/28/08	Plutonium-238	29.13	0.00	5.72	U	onsite
PRS7-AL-062	4/28/08	Plutonium-238	29.13	0.63	0.03		Iso-Pu
PRS7-AL-062	4/28/08	Plutonium-239/40	29.18	0.01	0.02	U	Iso-Pu
PRS7-AL-062	4/28/08	Protactinium-231	0.71	0.79	1.25	U	onsite
PRS7-AL-062	4/28/08	Radium-226	2.13	0.52	0.12		onsite
PRS7-AL-062	4/28/08	Thorium-228	1.64	0.37	0.15		Iso-Th
PRS7-AL-062	4/28/08	Thorium-230	2.00	2.07	5.35	U	onsite
PRS7-AL-062	4/28/08	Thorium-230	2.00	0.88	0.11		Iso-Th
PRS7-AL-062	4/28/08	Thorium-232	1.48	0.30	0.17		onsite
PRS7-AL-062	4/28/08	Thorium-232	1.48	0.28	0.09		Iso-Th
PRS7-AL-062	4/28/08	Uranium-233/234	1.10	0.80	0.05		Iso-U
PRS7-AL-062	4/28/08	Uranium-235	0.57	0.04	0.05	U	Iso-U
PRS7-AL-062	4/28/08	Uranium-238	1.30	0.36	0.35		onsite
PRS7-AL-062	4/28/08	Uranium-238	1.30	0.61	0.06		Iso-U
PRS7-AL-063A	6/18/08	Actinium-227	0.81	0.03	0.16	U	onsite
PRS7-AL-063A	6/18/08	Americium-241	19.00	0.00	0.04	U	onsite
PRS7-AL-063A	6/18/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-063A	6/18/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-063A	6/18/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-063A	6/18/08	Lead-210	4.20	0.82	0.37		onsite
PRS7-AL-063A	6/18/08	Plutonium-238	29.13	0.00	3.64	U	onsite
PRS7-AL-063A	6/18/08	Plutonium-238	29.13	0.02	0.01		iso-Pu
PRS7-AL-063A	6/18/08	Plutonium-239/40	29.18	0.00	0.01	U	iso-Pu
PRS7-AL-063A	6/18/08	Protactinium-231	0.71	0.00	0.88	U	onsite
PRS7-AL-063A	6/18/08	Radium-226	2.13	0.81	0.06		onsite
PRS7-AL-063A	6/18/08	Thorium-228	1.64	0.85	0.07		iso-Th
PRS7-AL-063A	6/18/08	Thorium-230	2.00	0.00	3.56	U	onsite
PRS7-AL-063A	6/18/08	Thorium-230	2.00	1.39	0.07		iso-Th
PRS7-AL-063A	6/18/08	Thorium-232	1.48	0.52	0.09		onsite
PRS7-AL-063A	6/18/08	Thorium-232	1.48	0.66	0.08		iso-Th
PRS7-AL-063A	6/18/08	Uranium-233/234	1.10	0.86	0.06		iso-U

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-063A	6/18/08	Uranium-235	0.57	0.07	0.05	J	iso-U
PRS7-AL-063A	6/18/08	Uranium-238	1.30	0.94	0.24		onsite
PRS7-AL-063A	6/18/08	Uranium-238	1.30	0.77	0.07		iso-U
PRS7-AL-064	4/29/08	Actinium-227	0.81	0.00	0.26	U	onsite
PRS7-AL-064	4/29/08	Americium-241	19.00	0.00	0.06	U	onsite
PRS7-AL-064	4/29/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-064	4/29/08	Cesium-137	0.86	0.05	0.04		onsite
PRS7-AL-064	4/29/08	Cobalt-60	0.09	0.00	0.05	U	onsite
PRS7-AL-064	4/29/08	Lead-210	4.20	0.76	0.57		onsite
PRS7-AL-064	4/29/08	Plutonium-238	29.13	0.00	6.07	U	onsite
PRS7-AL-064	4/29/08	Plutonium-238	29.13	0.11	0.03		Iso-Pu
PRS7-AL-064	4/29/08	Plutonium-239/40	29.18	0.01	0.03	U	Iso-Pu
PRS7-AL-064	4/29/08	Protactinium-231	0.71	0.00	1.41	U	onsite
PRS7-AL-064	4/29/08	Radium-226	2.13	0.62	0.12		onsite
PRS7-AL-064	4/29/08	Thorium-228	1.64	0.61	0.12		Iso-Th
PRS7-AL-064	4/29/08	Thorium-230	2.00	0.00	6.09	U	onsite
PRS7-AL-064	4/29/08	Thorium-230	2.00	1.32	0.09		Iso-Th
PRS7-AL-064	4/29/08	Thorium-232	1.48	0.34	0.15		onsite
PRS7-AL-064	4/29/08	Thorium-232	1.48	0.52	0.07		Iso-Th
PRS7-AL-064	4/29/08	Uranium-233/234	1.10	0.63	0.03		Iso-U
PRS7-AL-064	4/29/08	Uranium-235	0.57	0.03	0.04	U	Iso-U
PRS7-AL-064	4/29/08	Uranium-238	1.30	0.58	0.37		onsite
PRS7-AL-064	4/29/08	Uranium-238	1.30	0.76	0.03		Iso-U
PRS7-AL-065	4/29/08	Actinium-227	0.81	0.08	0.33	U	onsite
PRS7-AL-065	4/29/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-065	4/29/08	Bismuth-210M	1.10	0.02	0.05	U	onsite
PRS7-AL-065	4/29/08	Cesium-137	0.86	0.05	0.05	U	onsite
PRS7-AL-065	4/29/08	Cobalt-60	0.09	0.04	0.05	U	onsite
PRS7-AL-065	4/29/08	Lead-210	4.20	1.30	0.64		onsite
PRS7-AL-065	4/29/08	Plutonium-238	29.13	4.96	6.80	U	onsite
PRS7-AL-065	4/29/08	Plutonium-238	29.13	0.02	0.01		Iso-Pu
PRS7-AL-065	4/29/08	Plutonium-239/40	29.18	0.01	0.01	U	Iso-Pu
PRS7-AL-065	4/29/08	Protactinium-231	0.71	0.00	1.81	U	onsite
PRS7-AL-065	4/29/08	Radium-226	2.13	0.93	0.10		onsite
PRS7-AL-065	4/29/08	Thorium-228	1.64	0.34	0.19		Iso-Th
PRS7-AL-065	4/29/08	Thorium-230	2.00	5.54	6.80	U	onsite
PRS7-AL-065	4/29/08	Thorium-230	2.00	1.20	0.12		Iso-Th
PRS7-AL-065	4/29/08	Thorium-232	1.48	0.48	0.18		onsite
PRS7-AL-065	4/29/08	Thorium-232	1.48	0.45	0.05		Iso-Th
PRS7-AL-065	4/29/08	Uranium-233/234	1.10	0.73	0.04		Iso-U
PRS7-AL-065	4/29/08	Uranium-235	0.57	0.06	0.03	J	Iso-U
PRS7-AL-065	4/29/08	Uranium-238	1.30	0.65	0.45		onsite
PRS7-AL-065	4/29/08	Uranium-238	1.30	0.96	0.04		Iso-U
PRS7-AL-066A	6/18/08	Actinium-227	0.81	0.00	0.15	U	onsite
PRS7-AL-066A	6/18/08	Americium-241	19.00	0.03	0.03	U	onsite
PRS7-AL-066A	6/18/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-066A	6/18/08	Cesium-137	0.86	0.17	0.02		onsite
PRS7-AL-066A	6/18/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-066A	6/18/08	Lead-210	4.20	0.91	0.38		onsite
PRS7-AL-066A	6/18/08	Plutonium-238	29.13	0.00	3.23	U	onsite
PRS7-AL-066A	6/18/08	Plutonium-238	29.13	1.22	0.07		iso-Pu
PRS7-AL-066A	6/18/08	Plutonium-239/40	29.18	0.00	0.05	U	iso-Pu

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-066A	6/18/08	Protactinium-231	0.71	0.08	0.75	U	onsite
PRS7-AL-066A	6/18/08	Radium-226	2.13	0.65	0.06		onsite
PRS7-AL-066A	6/18/08	Thorium-228	1.64	0.57	0.06		iso-Th
PRS7-AL-066A	6/18/08	Thorium-230	2.00	0.00	3.28	U	onsite
PRS7-AL-066A	6/18/08	Thorium-230	2.00	1.14	0.04		iso-Th
PRS7-AL-066A	6/18/08	Thorium-232	1.48	0.44	0.07		onsite
PRS7-AL-066A	6/18/08	Thorium-232	1.48	0.63	0.05		iso-Th
PRS7-AL-066A	6/18/08	Uranium-233/234	1.10	0.72	0.04		iso-U
PRS7-AL-066A	6/18/08	Uranium-235	0.57	0.03	0.03	J	iso-U
PRS7-AL-066A	6/18/08	Uranium-238	1.30	0.77	0.19		onsite
PRS7-AL-066A	6/18/08	Uranium-238	1.30	0.67	0.04		iso-U
PRS7-AL-067	4/30/08	Actinium-227	0.81	0.00	0.34	U	onsite
PRS7-AL-067	4/30/08	Americium-241	19.00	0.03	0.08	U	onsite
PRS7-AL-067	4/30/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-067	4/30/08	Cesium-137	0.86	0.00	0.06	U	onsite
PRS7-AL-067	4/30/08	Cobalt-60	0.09	0.01	0.06	U	onsite
PRS7-AL-067	4/30/08	Lead-210	4.20	0.88	0.72		onsite
PRS7-AL-067	4/30/08	Plutonium-238	29.13	0.00	7.43	U	onsite
PRS7-AL-067	4/30/08	Plutonium-238	29.13	0.03	0.01		Iso-Pu
PRS7-AL-067	4/30/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-067	4/30/08	Protactinium-231	0.71	0.91	1.60	U	onsite
PRS7-AL-067	4/30/08	Radium-226	2.13	1.15	0.12		onsite
PRS7-AL-067	4/30/08	Thorium-228	1.64	0.91	0.17		Iso-Th
PRS7-AL-067	4/30/08	Thorium-230	2.00	0.00	7.67	U	onsite
PRS7-AL-067	4/30/08	Thorium-230	2.00	1.87	0.09		Iso-Th
PRS7-AL-067	4/30/08	Thorium-232	1.48	0.62	0.19		onsite
PRS7-AL-067	4/30/08	Thorium-232	1.48	1.06	0.05		Iso-Th
PRS7-AL-067	4/30/08	Uranium-233/234	1.10	1.08	0.05		Iso-U
PRS7-AL-067	4/30/08	Uranium-235	0.57	0.05	0.03	J	Iso-U
PRS7-AL-067	4/30/08	Uranium-238	1.30	0.89	0.43		onsite
PRS7-AL-067	4/30/08	Uranium-238	1.30	1.08	0.04		Iso-U
PRS7-AL-068	4/30/08	Actinium-227	0.81	0.00	0.31	U	onsite
PRS7-AL-068	4/30/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-068	4/30/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-068	4/30/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-068	4/30/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-068	4/30/08	Lead-210	4.20	0.40	0.64	U	onsite
PRS7-AL-068	4/30/08	Plutonium-238	29.13	0.00	6.55	U	onsite
PRS7-AL-068	4/30/08	Plutonium-238	29.13	0.11	0.01		Iso-Pu
PRS7-AL-068	4/30/08	Plutonium-239/40	29.18	0.00	0.00	U	Iso-Pu
PRS7-AL-068	4/30/08	Protactinium-231	0.71	0.59	1.30	U	onsite
PRS7-AL-068	4/30/08	Radium-226	2.13	0.80	0.11		onsite
PRS7-AL-068	4/30/08	Thorium-228	1.64	0.62	0.11		Iso-Th
PRS7-AL-068	4/30/08	Thorium-230	2.00	0.00	6.43	U	onsite
PRS7-AL-068	4/30/08	Thorium-230	2.00	1.28	0.05		Iso-Th
PRS7-AL-068	4/30/08	Thorium-232	1.48	0.44	0.17		onsite
PRS7-AL-068	4/30/08	Thorium-232	1.48	0.65	0.08		Iso-Th
PRS7-AL-068	4/30/08	Uranium-233/234	1.10	0.90	0.04		Iso-U
PRS7-AL-068	4/30/08	Uranium-235	0.57	0.05	0.03	J	Iso-U
PRS7-AL-068	4/30/08	Uranium-238	1.30	0.77	0.35		onsite
PRS7-AL-068	4/30/08	Uranium-238	1.30	0.94	0.05		Iso-U
PRS7-AL-069	4/30/08	Actinium-227	0.81	0.00	0.30	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-069	4/30/08	Americium-241	19.00	0.06	0.06	U	onsite
PRS7-AL-069	4/30/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-069	4/30/08	Cesium-137	0.86	0.12	0.05		onsite
PRS7-AL-069	4/30/08	Cobalt-60	0.09	0.00	0.08	U	onsite
PRS7-AL-069	4/30/08	Lead-210	4.20	0.53	0.69	U	onsite
PRS7-AL-069	4/30/08	Plutonium-238	29.13	0.02	6.47	U	onsite
PRS7-AL-069	4/30/08	Plutonium-238	29.13	0.33	0.03		Iso-Pu
PRS7-AL-069	4/30/08	Plutonium-239/40	29.18	0.01	0.02	U	Iso-Pu
PRS7-AL-069	4/30/08	Protactinium-231	0.71	0.00	1.46	U	onsite
PRS7-AL-069	4/30/08	Radium-226	2.13	0.67	0.10		onsite
PRS7-AL-069	4/30/08	Thorium-228	1.64	0.40	0.19		Iso-Th
PRS7-AL-069	4/30/08	Thorium-230	2.00	3.44	6.04	U	onsite
PRS7-AL-069	4/30/08	Thorium-230	2.00	1.64	0.12		Iso-Th
PRS7-AL-069	4/30/08	Thorium-232	1.48	0.23	0.22		onsite
PRS7-AL-069	4/30/08	Thorium-232	1.48	0.54	0.10		Iso-Th
PRS7-AL-069	4/30/08	Uranium-233/234	1.10	0.97	0.04		Iso-U
PRS7-AL-069	4/30/08	Uranium-235	0.57	0.04	0.03	J	Iso-U
PRS7-AL-069	4/30/08	Uranium-238	1.30	0.70	0.38		onsite
PRS7-AL-069	4/30/08	Uranium-238	1.30	0.89	0.04		Iso-U
PRS7-AL-070	4/30/08	Actinium-227	0.81	0.00	0.28	U	onsite
PRS7-AL-070	4/30/08	Americium-241	19.00	0.04	0.06	U	onsite
PRS7-AL-070	4/30/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-070	4/30/08	Cesium-137	0.86	0.01	0.04	U	onsite
PRS7-AL-070	4/30/08	Cobalt-60	0.09	0.00	0.07	U	onsite
PRS7-AL-070	4/30/08	Lead-210	4.20	0.73	0.58		onsite
PRS7-AL-070	4/30/08	Plutonium-238	29.13	0.00	5.91	U	onsite
PRS7-AL-070	4/30/08	Plutonium-238	29.13	0.01	0.00	J	Iso-Pu
PRS7-AL-070	4/30/08	Plutonium-239/40	29.18	0.00	0.00	U	Iso-Pu
PRS7-AL-070	4/30/08	Protactinium-231	0.71	0.00	1.43	U	onsite
PRS7-AL-070	4/30/08	Radium-226	2.13	0.78	0.13		onsite
PRS7-AL-070	4/30/08	Thorium-228	1.64	0.71	0.11		Iso-Th
PRS7-AL-070	4/30/08	Thorium-230	2.00	1.36	5.97	U	onsite
PRS7-AL-070	4/30/08	Thorium-230	2.00	1.33	0.09		Iso-Th
PRS7-AL-070	4/30/08	Thorium-232	1.48	0.43	0.16		onsite
PRS7-AL-070	4/30/08	Thorium-232	1.48	0.64	0.08		Iso-Th
PRS7-AL-070	4/30/08	Uranium-233/234	1.10	0.81	0.03		Iso-U
PRS7-AL-070	4/30/08	Uranium-235	0.57	0.07	0.03	J	Iso-U
PRS7-AL-070	4/30/08	Uranium-238	1.30	0.51	0.39		onsite
PRS7-AL-070	4/30/08	Uranium-238	1.30	0.80	0.03		Iso-U
PRS7-AL-071A	5/28/08	Actinium-227	0.81	0.03	0.38	U	Gamma
PRS7-AL-071A	5/28/08	Actinium-228	1.48	0.44	0.34		Gamma
PRS7-AL-071A	5/28/08	Americium-241	19.00	0.02	0.21	U	Gamma
PRS7-AL-071A	5/28/08	Bismuth-207	ND	0.02	0.20	U	Gamma
PRS7-AL-071A	5/28/08	Bismuth-210M	1.10	-0.03	0.11	U	Gamma
PRS7-AL-071A	5/28/08	Bismuth-214	1.30	0.77	0.18		Gamma
PRS7-AL-071A	5/28/08	Cesium-137	0.86	0.01	0.08	U	Gamma
PRS7-AL-071A	5/28/08	Cobalt-60	0.09	0.01	0.07	U	Gamma
PRS7-AL-071A	5/28/08	Lead-210	4.20	2.10	2.20	U	Gamma
PRS7-AL-071A	5/28/08	Lead-212	1.48	0.72	0.15		Gamma
PRS7-AL-071A	5/28/08	Lead-214	1.30	0.74	0.15		Gamma
PRS7-AL-071A	5/28/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu
PRS7-AL-071A	5/28/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-071A	5/28/08	Protactinium-231	0.71	0.40	2.30	U	Gamma
PRS7-AL-071A	5/28/08	Radium-226	2.13	0.77	0.18		Gamma
PRS7-AL-071A	5/28/08	Thorium-228	1.64	0.62	0.08		Iso-Th
PRS7-AL-071A	5/28/08	Thorium-229	1.10	0.00	1.30	U	Gamma
PRS7-AL-071A	5/28/08	Thorium-230	2.00	1.08	0.03		Iso-Th
PRS7-AL-071A	5/28/08	Thorium-232	1.48	0.55	0.06		Iso-Th
PRS7-AL-071A	5/28/08	Uranium-233/234	1.10	0.77	0.04		Iso-U
PRS7-AL-071A	5/28/08	Uranium-235	0.57	0.04	0.03	J	Iso-U
PRS7-AL-071A	5/28/08	Uranium-235	0.57	0.05	0.46	U	Gamma
PRS7-AL-071A	5/28/08	Uranium-238	1.30	0.79	0.05		Iso-U
PRS7-AL-071A	5/28/08	Uranium-238	1.30	0.80	2.00	U	Gamma
PRS7-AL-072A	5/28/08	Actinium-227	0.81	-0.08	0.50	U	Gamma
PRS7-AL-072A	5/28/08	Actinium-228	1.48	1.02	0.21		Gamma
PRS7-AL-072A	5/28/08	Americium-241	19.00	-0.01	0.18	U	Gamma
PRS7-AL-072A	5/28/08	Bismuth-207	ND	0.02	0.10	U	Gamma
PRS7-AL-072A	5/28/08	Bismuth-210M	1.10	0.00	0.09	U	Gamma
PRS7-AL-072A	5/28/08	Bismuth-214	1.30	1.08	0.12		Gamma
PRS7-AL-072A	5/28/08	Cesium-137	0.86	0.00	0.07	U	Gamma
PRS7-AL-072A	5/28/08	Cobalt-60	0.09	0.00	0.08	U	Gamma
PRS7-AL-072A	5/28/08	Lead-210	4.20	2.50	1.80	J	Gamma
PRS7-AL-072A	5/28/08	Lead-212	1.48	0.84	0.12		Gamma
PRS7-AL-072A	**5/28/08**	**Lead-214**	**1.30**	**1.31**	**0.13**		**Gamma**
PRS7-AL-072A	5/28/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu
PRS7-AL-072A	5/28/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-072A	5/28/08	Protactinium-231	0.71	0.00	1.50	U	Gamma
PRS7-AL-072A	5/28/08	Radium-226	2.13	1.08	0.12		Gamma
PRS7-AL-072A	5/28/08	Thorium-228	1.64	0.67	0.12		Iso-Th
PRS7-AL-072A	5/28/08	Thorium-229	1.10	0.47	0.90	U	Gamma
PRS7-AL-072A	5/28/08	Thorium-230	2.00	1.43	0.08		Iso-Th
PRS7-AL-072A	5/28/08	Thorium-232	1.48	0.61	0.06		Iso-Th
PRS7-AL-072A	5/28/08	Uranium-233/234	1.10	0.90	0.04		Iso-U
PRS7-AL-072A	5/28/08	Uranium-235	0.57	0.04	0.03	J	Iso-U
PRS7-AL-072A	5/28/08	Uranium-235	0.57	0.19	0.37	U	Gamma
PRS7-AL-072A	5/28/08	Uranium-238	1.30	1.50	1.40		Gamma
PRS7-AL-072A	5/28/08	Uranium-238	1.30	1.00	0.05		Iso-U
PRS7-AL-073	4/30/08	Actinium-227	0.81	0.09	0.33	U	onsite
PRS7-AL-073	4/30/08	Americium-241	19.00	0.00	0.08	U	onsite
PRS7-AL-073	4/30/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-073	4/30/08	Cesium-137	0.86	0.03	0.06	U	onsite
PRS7-AL-073	4/30/08	Cobalt-60	0.09	0.00	0.07	U	onsite
PRS7-AL-073	4/30/08	Lead-210	4.20	1.36	0.73		onsite
PRS7-AL-073	4/30/08	Plutonium-238	29.13	0.00	7.46	U	onsite
PRS7-AL-073	4/30/08	Plutonium-238	29.13	0.35	0.02		Iso-Pu
PRS7-AL-073	4/30/08	Plutonium-239/40	29.18	0.01	0.00	J	Iso-Pu
PRS7-AL-073	4/30/08	Protactinium-231	0.71	0.19	1.81	U	onsite
PRS7-AL-073	4/30/08	Radium-226	2.13	0.77	0.13		onsite
PRS7-AL-073	4/30/08	Thorium-228	1.64	0.64	0.19		Iso-Th
PRS7-AL-073	4/30/08	Thorium-230	2.00	0.00	7.72	U	onsite
PRS7-AL-073	4/30/08	Thorium-230	2.00	1.83	0.07		Iso-Th
PRS7-AL-073	4/30/08	Thorium-232	1.48	0.37	0.24		onsite
PRS7-AL-073	4/30/08	Thorium-232	1.48	0.68	0.12		Iso-Th
PRS7-AL-073	**4/30/08**	**Uranium-233/234**	**1.10**	**1.13**	**0.04**		**Iso-U**

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-073	4/30/08	Uranium-235	0.57	0.03	0.03	J	Iso-U
PRS7-AL-073	4/30/08	Uranium-238	1.30	0.91	0.48		onsite
PRS7-AL-073	4/30/08	Uranium-238	1.30	1.21	0.04		Iso-U
PRS7-AL-074	4/30/08	Actinium-227	0.81	0.00	0.26	U	onsite
PRS7-AL-074	4/30/08	Americium-241	19.00	0.00	0.06	U	onsite
PRS7-AL-074	4/30/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-074	4/30/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-074	4/30/08	Cobalt-60	0.09	0.01	0.04	U	onsite
PRS7-AL-074	4/30/08	Lead-210	4.20	0.31	0.57	U	onsite
PRS7-AL-074	4/30/08	Plutonium-238	29.13	1.93	5.64	U	onsite
PRS7-AL-074	4/30/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
PRS7-AL-074	4/30/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-074	4/30/08	Protactinium-231	0.71	0.40	1.46	U	onsite
PRS7-AL-074	4/30/08	Radium-226	2.13	0.65	0.10		onsite
PRS7-AL-074	4/30/08	Thorium-228	1.64	0.24	0.13		Iso-Th
PRS7-AL-074	4/30/08	Thorium-230	2.00	0.03	5.71	U	onsite
PRS7-AL-074	4/30/08	Thorium-230	2.00	0.85	0.05		Iso-Th
PRS7-AL-074	4/30/08	Thorium-232	1.48	0.37	0.11		onsite
PRS7-AL-074	4/30/08	Thorium-232	1.48	0.27	0.08		Iso-Th
PRS7-AL-074	4/30/08	Uranium-233/234	1.10	0.57	0.06		Iso-U
PRS7-AL-074	4/30/08	Uranium-235	0.57	0.05	0.05	J	Iso-U
PRS7-AL-074	4/30/08	Uranium-238	1.30	0.53	0.37		onsite
PRS7-AL-074	4/30/08	Uranium-238	1.30	0.87	0.05		Iso-U
PRS7-AL-075A	6/18/08	Actinium-227	0.81	0.08	0.13	U	onsite
PRS7-AL-075A	6/18/08	Americium-241	19.00	0.02	0.03	U	onsite
PRS7-AL-075A	6/18/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-075A	6/18/08	Cesium-137	0.86	0.03	0.02		onsite
PRS7-AL-075A	6/18/08	Cobalt-60	0.09	0.01	0.02	U	onsite
PRS7-AL-075A	6/18/08	Lead-210	4.20	0.75	0.27		onsite
PRS7-AL-075A	6/18/08	Plutonium-238	29.13	0.73	2.76	U	onsite
PRS7-AL-075A	6/18/08	Plutonium-238	29.13	0.21	0.06		iso-Pu
PRS7-AL-075A	6/18/08	Plutonium-239/40	29.18	0.01	0.03	U	iso-Pu
PRS7-AL-075A	6/18/08	Protactinium-231	0.71	0.04	0.70	U	onsite
PRS7-AL-075A	6/18/08	Radium-226	2.13	0.79	0.05		onsite
PRS7-AL-075A	6/18/08	Thorium-228	1.64	0.69	0.08		iso-Th
PRS7-AL-075A	6/18/08	Thorium-230	2.00	0.66	2.93	U	onsite
PRS7-AL-075A	6/18/08	Thorium-230	2.00	1.33	0.05		iso-Th
PRS7-AL-075A	6/18/08	Thorium-232	1.48	0.36	0.07		onsite
PRS7-AL-075A	6/18/08	Thorium-232	1.48	0.62	0.05		iso-Th
PRS7-AL-075A	**6/18/08**	**Uranium-233/234**	**1.10**	**1.16**	**0.02**		**iso-U**
PRS7-AL-075A	6/18/08	Uranium-235	0.57	0.12	0.03	J	iso-U
PRS7-AL-075A	6/18/08	Uranium-238	1.30	0.43	0.21		onsite
PRS7-AL-075A	6/18/08	Uranium-238	1.30	0.79	0.04		iso-U
PRS7-AL-076	5/5/08	Actinium-227	0.81	0.09	0.16	U	onsite
PRS7-AL-076	5/5/08	Americium-241	19.00	0.00	0.04	U	onsite
PRS7-AL-076	5/5/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-076	5/5/08	Cesium-137	0.86	0.02	0.02		onsite
PRS7-AL-076	5/5/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-076	5/5/08	Lead-210	4.20	0.50	0.36		onsite
PRS7-AL-076	5/5/08	Plutonium-238	29.13	0.00	3.79	U	onsite
PRS7-AL-076	5/5/08	Plutonium-238	29.13	0.07	0.02		Iso-Pu
PRS7-AL-076	5/5/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-076	5/5/08	Protactinium-231	0.71	0.28	0.88	U	onsite
PRS7-AL-076	5/5/08	Radium-226	2.13	0.55	0.06		onsite
PRS7-AL-076	5/5/08	Thorium-228	1.64	0.29	0.11		Iso-Th
PRS7-AL-076	5/5/08	Thorium-230	2.00	0.00	3.80	U	onsite
PRS7-AL-076	5/5/08	Thorium-230	2.00	0.87	0.06		Iso-Th
PRS7-AL-076	5/5/08	Thorium-232	1.48	0.28	0.10		onsite
PRS7-AL-076	5/5/08	Thorium-232	1.48	0.31	0.03		Iso-Th
PRS7-AL-076	5/5/08	Uranium-238	1.30	0.43	0.20		onsite
PRS7-AL-077	5/5/08	Actinium-227	0.81	0.05	0.15	U	onsite
PRS7-AL-077	5/5/08	Americium-241	19.00	0.00	0.04	U	onsite
PRS7-AL-077	5/5/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-077	5/5/08	Cesium-137	0.86	0.00	0.03	U	onsite
PRS7-AL-077	5/5/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-077	5/5/08	Lead-210	4.20	0.36	0.34		onsite
PRS7-AL-077	5/5/08	Plutonium-238	29.13	0.45	3.48	U	onsite
PRS7-AL-077	5/5/08	Plutonium-238	29.13	-0.01	0.02	U	Iso-Pu
PRS7-AL-077	5/5/08	Plutonium-239/40	29.18	0.00	0.00	U	Iso-Pu
PRS7-AL-077	5/5/08	Protactinium-231	0.71	0.10	0.85	U	onsite
PRS7-AL-077	5/5/08	Radium-226	2.13	0.48	0.06		onsite
PRS7-AL-077	5/5/08	Thorium-228	1.64	0.22	0.11		Iso-Th
PRS7-AL-077	5/5/08	Thorium-230	2.00	0.35	3.49	U	onsite
PRS7-AL-077	5/5/08	Thorium-230	2.00	0.44	0.03		Iso-Th
PRS7-AL-077	5/5/08	Thorium-232	1.48	0.26	0.09		onsite
PRS7-AL-077	5/5/08	Thorium-232	1.48	0.33	0.06		Iso-Th
PRS7-AL-077	5/5/08	Uranium-238	1.30	0.43	0.20		onsite
PRS7-AL-078A	6/17/08	Actinium-227	0.81	0.04	0.13	U	onsite
PRS7-AL-078A	6/17/08	Americium-241	19.00	0.00	0.03	U	onsite
PRS7-AL-078A	6/17/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-078A	6/17/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-078A	6/17/08	Cobalt-60	0.09	0.00	0.02	U	onsite
PRS7-AL-078A	6/17/08	Lead-210	4.20	0.85	0.30		onsite
PRS7-AL-078A	6/17/08	Plutonium-238	29.13	0.00	2.67	U	onsite
PRS7-AL-078A	6/17/08	Plutonium-238	29.13	0.00	0.01	U	iso-Pu
PRS7-AL-078A	6/17/08	Plutonium-239/40	29.18	0.00	0.01	U	iso-Pu
PRS7-AL-078A	6/17/08	Protactinium-231	0.71	0.00	0.67	U	onsite
PRS7-AL-078A	6/17/08	Radium-226	2.13	0.83	0.04		onsite
PRS7-AL-078A	6/17/08	Thorium-228	1.64	0.82	0.07		iso-Th
PRS7-AL-078A	6/17/08	Thorium-230	2.00	0.31	2.80	U	onsite
PRS7-AL-078A	6/17/08	Thorium-230	2.00	1.61	0.04		iso-Th
PRS7-AL-078A	6/17/08	Thorium-232	1.48	0.54	0.07		onsite
PRS7-AL-078A	6/17/08	Thorium-232	1.48	0.91	0.04		iso-Th
PRS7-AL-078A	6/17/08	Uranium-233/234	1.10	0.64	0.02		iso-U
PRS7-AL-078A	6/17/08	Uranium-235	0.57	0.01	0.03	U	iso-U
PRS7-AL-078A	6/17/08	Uranium-238	1.30	1.01	0.16		onsite
PRS7-AL-078A	6/17/08	Uranium-238	1.30	0.88	0.05		iso-U
PRS7-AL-079	5/9/08	Actinium-227	0.81	0.00	0.10	U	onsite
PRS7-AL-079	5/9/08	Americium-241	19.00	0.00	0.02	U	onsite
PRS7-AL-079	5/9/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-079	5/9/08	Cesium-137	0.86	0.00	0.01	U	onsite
PRS7-AL-079	5/9/08	Cobalt-60	0.09	0.00	0.02	U	onsite
PRS7-AL-079	5/9/08	Lead-210	4.20	0.92	0.23		onsite
PRS7-AL-079	5/9/08	Plutonium-238	29.13	0.00	2.17	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-079	5/9/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
PRS7-AL-079	5/9/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-079	5/9/08	Protactinium-231	0.71	0.24	0.49	U	onsite
PRS7-AL-079	5/9/08	Radium-226	2.13	0.92	0.04		onsite
PRS7-AL-079	5/9/08	Thorium-228	1.64	0.85	0.04		Iso-Th
PRS7-AL-079	5/9/08	Thorium-230	2.00	0.79	2.22	U	onsite
PRS7-AL-079	5/9/08	Thorium-230	2.00	1.04	0.03		Iso-Th
PRS7-AL-079	5/9/08	Thorium-232	1.48	0.78	0.05		onsite
PRS7-AL-079	5/9/08	Thorium-232	1.48	0.55	0.02		Iso-Th
PRS7-AL-079	5/9/08	Uranium-238	1.30	1.16	0.13		onsite
PRS7-AL-080A	6/17/08	Actinium-227	0.81	0.08	0.14	U	onsite
PRS7-AL-080A	6/17/08	Americium-241	19.00	0.00	0.03	U	onsite
PRS7-AL-080A	6/17/08	Bismuth-210M	1.10	0.01	0.02	U	onsite
PRS7-AL-080A	6/17/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-080A	6/17/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-080A	6/17/08	Lead-210	4.20	1.07	0.32		onsite
PRS7-AL-080A	6/17/08	Plutonium-238	29.13	0.00	3.05	U	onsite
PRS7-AL-080A	6/17/08	Plutonium-238	29.13	0.00	0.01	U	iso-Pu
PRS7-AL-080A	6/17/08	Plutonium-239/40	29.18	0.00	0.01	U	iso-Pu
PRS7-AL-080A	6/17/08	Protactinium-231	0.71	0.00	0.70	U	onsite
PRS7-AL-080A	6/17/08	Radium-226	2.13	0.98	0.05		onsite
PRS7-AL-080A	6/17/08	Thorium-228	1.64	1.63	0.07		iso-Th
PRS7-AL-080A	6/17/08	Thorium-230	2.00	1.84	3.17	U	onsite
PRS7-AL-080A	**6/17/08**	**Thorium-230**	**2.00**	**2.06**	**0.06**		**iso-Th**
PRS7-AL-080A	6/17/08	Thorium-232	1.48	0.90	0.07		onsite
PRS7-AL-080A	6/17/08	Thorium-232	1.48	1.32	0.04		iso-Th
PRS7-AL-080A	**6/17/08**	**Uranium-233/234**	**1.10**	**1.24**	**0.06**		**iso-U**
PRS7-AL-080A	6/17/08	Uranium-235	0.57	0.06	0.05	J	iso-U
PRS7-AL-080A	6/17/08	Uranium-238	1.30	1.32	0.18		onsite
PRS7-AL-080A	6/17/08	Uranium-238	1.30	1.16	0.07		iso-U
PRS7-AL-081	5/12/08	Actinium-227	0.81	0.04	0.31	U	onsite
PRS7-AL-081	5/12/08	Americium-241	19.00	0.02	0.07	U	onsite
PRS7-AL-081	5/12/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-081	5/12/08	Cesium-137	0.86	0.02	0.05	U	onsite
PRS7-AL-081	5/12/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-081	5/12/08	Lead-210	4.20	0.59	0.70	U	onsite
PRS7-AL-081	5/12/08	Plutonium-238	29.13	1.60	6.58	U	onsite
PRS7-AL-081	5/12/08	Plutonium-238	29.13	0.07	0.01		Iso-Pu
PRS7-AL-081	5/12/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-081	5/12/08	Protactinium-231	0.71	0.80	1.64	U	onsite
PRS7-AL-081	5/12/08	Radium-226	2.13	0.74	0.11		onsite
PRS7-AL-081	5/12/08	Thorium-228	1.64	0.62	0.07		Iso-Th
PRS7-AL-081	5/12/08	Thorium-230	2.00	0.00	7.33	U	onsite
PRS7-AL-081	5/12/08	Thorium-230	2.00	1.18	0.02		Iso-Th
PRS7-AL-081	5/12/08	Thorium-232	1.48	0.64	0.18		onsite
PRS7-AL-081	5/12/08	Thorium-232	1.48	0.67	0.05		Iso-Th
PRS7-AL-081	5/12/08	Uranium-238	1.30	0.89	0.43		onsite
PRS7-AL-082	5/12/08	Actinium-227	0.81	0.00	0.36	U	onsite
PRS7-AL-082	5/12/08	Americium-241	19.00	0.00	0.09	U	onsite
PRS7-AL-082	5/12/08	Bismuth-210M	1.10	0.01	0.06	U	onsite
PRS7-AL-082	5/12/08	Cesium-137	0.86	0.03	0.05	U	onsite
PRS7-AL-082	5/12/08	Cobalt-60	0.09	0.00	0.09	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-082	5/12/08	Lead-210	4.20	0.49	0.81	U	onsite
PRS7-AL-082	5/12/08	Plutonium-238	29.13	0.00	8.21	U	onsite
PRS7-AL-082	5/12/08	Plutonium-238	29.13	0.04	0.02		Iso-Pu
PRS7-AL-082	5/12/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-082	5/12/08	Protactinium-231	0.71	0.20	1.94	U	onsite
PRS7-AL-082	5/12/08	Radium-226	2.13	0.76	0.14		onsite
PRS7-AL-082	5/12/08	Thorium-228	1.64	0.85	0.10		Iso-Th
PRS7-AL-082	5/12/08	Thorium-230	2.00	0.00	7.83	U	onsite
PRS7-AL-082	5/12/08	Thorium-230	2.00	1.02	0.06		Iso-Th
PRS7-AL-082	5/12/08	Thorium-232	1.48	0.50	0.27		onsite
PRS7-AL-082	5/12/08	Thorium-232	1.48	0.79	0.06		Iso-Th
PRS7-AL-082	5/12/08	Uranium-238	1.30	0.97	0.49		onsite
PRS7-AL-083	5/12/08	Actinium-227	0.81	0.05	0.35	U	onsite
PRS7-AL-083	5/12/08	Americium-241	19.00	0.00	0.09	U	onsite
PRS7-AL-083	5/12/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-083	5/12/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-083	5/12/08	Cobalt-60	0.09	0.00	0.07	U	onsite
PRS7-AL-083	5/12/08	Lead-210	4.20	0.37	0.80	U	onsite
PRS7-AL-083	5/12/08	Plutonium-238	29.13	3.25	8.14	U	onsite
PRS7-AL-083	5/12/08	Plutonium-238	29.13	0.02	0.01		Iso-Pu
PRS7-AL-083	5/12/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-083	5/12/08	Protactinium-231	0.71	0.00	1.66	U	onsite
PRS7-AL-083	5/12/08	Radium-226	2.13	0.69	0.15		onsite
PRS7-AL-083	5/12/08	Thorium-228	1.64	0.97	0.14		Iso-Th
PRS7-AL-083	5/12/08	Thorium-230	2.00	3.79	7.44	U	onsite
PRS7-AL-083	5/12/08	Thorium-230	2.00	1.60	0.10		Iso-Th
PRS7-AL-083	5/12/08	Thorium-232	1.48	0.62	0.23		onsite
PRS7-AL-083	5/12/08	Thorium-232	1.48	0.66	0.07		Iso-Th
PRS7-AL-083	5/12/08	Uranium-238	1.30	0.91	0.45		onsite
PRS7-AL-088	5/13/08	Actinium-227	0.81	0.05	0.32	U	onsite
PRS7-AL-088	5/13/08	Americium-241	19.00	0.01	0.07	U	onsite
PRS7-AL-088	5/13/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-088	5/13/08	Cesium-137	0.86	0.03	0.06	U	onsite
PRS7-AL-088	5/13/08	Cobalt-60	0.09	0.01	0.05	U	onsite
PRS7-AL-088	5/13/08	Lead-210	4.20	0.39	0.74	U	onsite
PRS7-AL-088	5/13/08	Plutonium-238	29.13	4.14	7.07	U	onsite
PRS7-AL-088	5/13/08	Plutonium-238	29.13	0.09	0.01		Iso-Pu
PRS7-AL-088	5/13/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-088	5/13/08	Protactinium-231	0.71	0.00	1.93	U	onsite
PRS7-AL-088	5/13/08	Radium-226	2.13	0.69	0.12		onsite
PRS7-AL-088	5/13/08	Thorium-228	1.64	1.23	0.04		Iso-Th
PRS7-AL-088	5/13/08	Thorium-230	2.00	4.88	7.30	U	onsite
PRS7-AL-088	5/13/08	Thorium-230	2.00	1.77	0.07		Iso-Th
PRS7-AL-088	5/13/08	Thorium-232	1.48	0.52	0.19		onsite
PRS7-AL-088	5/13/08	Thorium-232	1.48	1.22	0.05		Iso-Th
PRS7-AL-088	5/13/08	Uranium-238	1.30	0.74	0.50		onsite
PRS7-AL-089	5/13/08	Actinium-227	0.81	0.00	0.33	U	onsite
PRS7-AL-089	5/13/08	Americium-241	19.00	0.00	0.08	U	onsite
PRS7-AL-089	5/13/08	Bismuth-210M	1.10	0.02	0.05	U	onsite
PRS7-AL-089	5/13/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-089	5/13/08	Cobalt-60	0.09	0.04	0.05	U	onsite
PRS7-AL-089	5/13/08	Lead-210	4.20	0.21	0.76	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-089	5/13/08	Plutonium-238	29.13	2.09	6.94	U	onsite
PRS7-AL-089	5/13/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
PRS7-AL-089	5/13/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-089	5/13/08	Protactinium-231	0.71	0.00	1.68	U	onsite
PRS7-AL-089	5/13/08	Radium-226	2.13	0.57	0.14		onsite
PRS7-AL-089	5/13/08	Thorium-228	1.64	0.68	0.06		Iso-Th
PRS7-AL-089	5/13/08	Thorium-230	2.00	1.43	7.02	U	onsite
PRS7-AL-089	5/13/08	Thorium-230	2.00	1.40	0.03		Iso-Th
PRS7-AL-089	5/13/08	Thorium-232	1.48	0.51	0.19		onsite
PRS7-AL-089	5/13/08	Thorium-232	1.48	0.64	0.05		Iso-Th
PRS7-AL-089	5/13/08	Uranium-238	1.30	0.74	0.44		onsite
PRS7-AL-090	5/13/08	Actinium-227	0.81	0.10	0.30	U	onsite
PRS7-AL-090	5/13/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-090	5/13/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-090	5/13/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-090	5/13/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-090	5/13/08	Lead-210	4.20	0.48	0.69	U	onsite
PRS7-AL-090	5/13/08	Plutonium-238	29.13	2.01	6.31	U	onsite
PRS7-AL-090	5/13/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
PRS7-AL-090	5/13/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-090	5/13/08	Protactinium-231	0.71	0.38	1.44	U	onsite
PRS7-AL-090	5/13/08	Radium-226	2.13	0.63	0.10		onsite
PRS7-AL-090	5/13/08	Thorium-228	1.64	0.59	0.07		Iso-Th
PRS7-AL-090	5/13/08	Thorium-230	2.00	0.00	6.76	U	onsite
PRS7-AL-090	5/13/08	Thorium-230	2.00	1.27	0.05		Iso-Th
PRS7-AL-090	5/13/08	Thorium-232	1.48	0.31	0.18		onsite
PRS7-AL-090	5/13/08	Thorium-232	1.48	0.49	0.05		Iso-Th
PRS7-AL-090	5/13/08	Uranium-233/234	1.10	0.46	0.05		Iso-U
PRS7-AL-090	5/13/08	Uranium-235	0.57	-0.01	0.05	U	Iso-U
PRS7-AL-090	5/13/08	Uranium-238	1.30	0.65	0.34		onsite
PRS7-AL-090	5/13/08	Uranium-238	1.30	0.54	0.06		Iso-U
PRS7-AL-091	5/13/08	Actinium-227	0.81	0.23	0.26	U	onsite
PRS7-AL-091	5/13/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-091	5/13/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-091	5/13/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-091	5/13/08	Cobalt-60	0.09	0.01	0.05	U	onsite
PRS7-AL-091	5/13/08	Lead-210	4.20	0.65	0.61		onsite
PRS7-AL-091	5/13/08	Plutonium-238	29.13	1.39	5.87	U	onsite
PRS7-AL-091	5/13/08	Plutonium-238	29.13	0.02	0.01	J	Iso-Pu
PRS7-AL-091	5/13/08	Plutonium-239/40	29.18	0.01	0.01	J	Iso-Pu
PRS7-AL-091	5/13/08	Protactinium-231	0.71	0.09	1.41	U	onsite
PRS7-AL-091	5/13/08	Radium-226	2.13	0.66	0.11		onsite
PRS7-AL-091	5/13/08	Thorium-228	1.64	0.52	0.08		Iso-Th
PRS7-AL-091	5/13/08	Thorium-230	2.00	4.17	5.70	U	onsite
PRS7-AL-091	5/13/08	Thorium-230	2.00	1.08	0.04		Iso-Th
PRS7-AL-091	5/13/08	Thorium-232	1.48	0.28	0.16		onsite
PRS7-AL-091	5/13/08	Thorium-232	1.48	0.46	0.05		Iso-Th
PRS7-AL-091	5/13/08	Uranium-238	1.30	0.89	0.36		onsite
PRS7-AL-094	5/13/08	Actinium-227	0.81	0.20	0.30	U	onsite
PRS7-AL-094	5/13/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-094	5/13/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-094	5/13/08	Cesium-137	0.86	0.02	0.04	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-094	5/13/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-094	5/13/08	Lead-210	4.20	0.92	0.61		onsite
PRS7-AL-094	5/13/08	Plutonium-238	29.13	1.97	6.53	U	onsite
PRS7-AL-094	5/13/08	Plutonium-238	29.13	0.06	0.01		Iso-Pu
PRS7-AL-094	5/13/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-094	5/13/08	Protactinium-231	0.71	0.11	1.55	U	onsite
PRS7-AL-094	5/13/08	Radium-226	2.13	0.57	0.14		onsite
PRS7-AL-094	5/13/08	Thorium-228	1.64	0.60	0.08		Iso-Th
PRS7-AL-094	5/13/08	Thorium-230	2.00	1.95	6.37	U	onsite
PRS7-AL-094	5/13/08	Thorium-230	2.00	1.11	0.07		Iso-Th
PRS7-AL-094	5/13/08	Thorium-232	1.48	0.41	0.18		onsite
PRS7-AL-094	5/13/08	Thorium-232	1.48	0.63	0.06		Iso-Th
PRS7-AL-094	5/13/08	Uranium-238	1.30	0.76	0.39		onsite
PRS7-AL-099	5/14/08	Actinium-227	0.81	0.12	0.23	U	onsite
PRS7-AL-099	5/14/08	Americium-241	19.00	0.00	0.06	U	onsite
PRS7-AL-099	5/14/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-099	5/14/08	Cesium-137	0.86	0.04	0.04	U	onsite
PRS7-AL-099	5/14/08	Cobalt-60	0.09	0.00	0.05	U	onsite
PRS7-AL-099	5/14/08	Lead-210	4.20	0.68	0.46		onsite
PRS7-AL-099	5/14/08	Plutonium-238	29.13	1.30	5.31	U	onsite
PRS7-AL-099	5/14/08	Plutonium-238	29.13	0.21	0.01		Iso-Pu
PRS7-AL-099	5/14/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-099	5/14/08	Protactinium-231	0.71	0.48	1.28	U	onsite
PRS7-AL-099	5/14/08	Radium-226	2.13	0.51	0.08		onsite
PRS7-AL-099	5/14/08	Thorium-228	1.64	0.42	0.09		Iso-Th
PRS7-AL-099	5/14/08	Thorium-230	2.00	0.00	5.29	U	onsite
PRS7-AL-099	5/14/08	Thorium-230	2.00	1.16	0.07		Iso-Th
PRS7-AL-099	5/14/08	Thorium-232	1.48	0.25	0.14		onsite
PRS7-AL-099	5/14/08	Thorium-232	1.48	0.47	0.07		Iso-Th
PRS7-AL-099	5/14/08	Uranium-238	1.30	0.35	0.33		onsite
PRS7-AL-100	5/14/08	Actinium-227	0.81	0.01	0.27	U	onsite
PRS7-AL-100	5/14/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-100	5/14/08	Bismuth-210M	1.10	0.02	0.04	U	onsite
PRS7-AL-100	5/14/08	Cesium-137	0.86	0.07	0.04		onsite
PRS7-AL-100	5/14/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-100	5/14/08	Lead-210	4.20	0.23	0.65	U	onsite
PRS7-AL-100	5/14/08	Plutonium-238	29.13	0.00	6.49	U	onsite
PRS7-AL-100	5/14/08	Plutonium-238	29.13	0.01	0.02	U	Iso-Pu
PRS7-AL-100	5/14/08	Plutonium-239/40	29.18	0.01	0.01	J	Iso-Pu
PRS7-AL-100	5/14/08	Protactinium-231	0.71	0.27	1.44	U	onsite
PRS7-AL-100	5/14/08	Radium-226	2.13	0.58	0.09		onsite
PRS7-AL-100	5/14/08	Thorium-228	1.64	0.60	0.09		Iso-Th
PRS7-AL-100	5/14/08	Thorium-230	2.00	0.00	6.27	U	onsite
PRS7-AL-100	5/14/08	Thorium-230	2.00	1.24	0.06		Iso-Th
PRS7-AL-100	5/14/08	Thorium-232	1.48	0.40	0.18		onsite
PRS7-AL-100	5/14/08	Thorium-232	1.48	0.62	0.04		Iso-Th
PRS7-AL-100	5/14/08	Uranium-238	1.30	0.77	0.36		onsite
PRS7-AL-103	5/16/08	Actinium-227	0.81	0.01	0.15	U	onsite
PRS7-AL-103	5/16/08	Americium-241	19.00	0.00	0.03	U	onsite
PRS7-AL-103	5/16/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-103	5/16/08	Cesium-137	0.86	0.05	0.02		onsite
PRS7-AL-103	5/16/08	Cobalt-60	0.09	0.01	0.03	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-103	5/16/08	Lead-210	4.20	0.61	0.29		onsite
PRS7-AL-103	5/16/08	Plutonium-238	29.13	2.64	2.89	U	onsite
PRS7-AL-103	5/16/08	Plutonium-238	29.13	0.45	0.01		Iso-Pu
PRS7-AL-103	5/16/08	Plutonium-239/40	29.18	0.01	0.01	J	Iso-Pu
PRS7-AL-103	5/16/08	Protactinium-231	0.71	0.21	0.73	U	onsite
PRS7-AL-103	5/16/08	Radium-226	2.13	0.77	0.05		onsite
PRS7-AL-103	5/16/08	Thorium-228	1.64	0.91	0.04		Iso-Th
PRS7-AL-103	5/16/08	Thorium-230	2.00	0.00	3.27	U	onsite
PRS7-AL-103	5/16/08	Thorium-230	2.00	1.51	0.02		Iso-Th
PRS7-AL-103	5/16/08	Thorium-232	1.48	0.49	0.07		onsite
PRS7-AL-103	5/16/08	Thorium-232	1.48	0.56	0.04		Iso-Th
PRS7-AL-103	5/16/08	Uranium-233/234	1.10	1.03	0.06		Iso-U
PRS7-AL-103	5/16/08	Uranium-235	0.57	0.02	0.05	U	Iso-U
PRS7-AL-103	5/16/08	Uranium-238	1.30	0.77	0.20		onsite
PRS7-AL-103	5/16/08	Uranium-238	1.30	0.73	0.05		Iso-U
PRS7-AL-104A	6/11/08	Actinium-227	0.81	0.00	0.14	U	onsite
PRS7-AL-104A	6/11/08	Americium-241	19.00	0.00	0.04	U	onsite
PRS7-AL-104A	6/11/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-104A	6/11/08	Cesium-137	0.86	0.03	0.02		onsite
PRS7-AL-104A	6/11/08	Cobalt-60	0.09	0.02	0.02	U	onsite
PRS7-AL-104A	6/11/08	Lead-210	4.20	0.59	0.32		onsite
PRS7-AL-104A	6/11/08	Plutonium-238	29.13	0.00	3.13	U	onsite
PRS7-AL-104A	6/11/08	Plutonium-238	29.13	0.07	0.01		Iso-Pu
PRS7-AL-104A	6/11/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-104A	6/11/08	Protactinium-231	0.71	0.00	0.75	U	onsite
PRS7-AL-104A	6/11/08	Radium-226	2.13	0.72	0.05		onsite
PRS7-AL-104A	6/11/08	Thorium-228	1.64	1.00	0.09		Iso-Th
PRS7-AL-104A	6/11/08	Thorium-230	2.00	1.32	3.13	U	onsite
PRS7-AL-104A	6/11/08	Thorium-230	2.00	1.20	0.05		Iso-Th
PRS7-AL-104A	6/11/08	Thorium-232	1.48	0.52	0.08		onsite
PRS7-AL-104A	6/11/08	Thorium-232	1.48	0.93	0.06		Iso-Th
PRS7-AL-104A	6/11/08	Uranium-233/234	1.10	0.62	0.05		Iso-U
PRS7-AL-104A	6/11/08	Uranium-235	0.57	0.01	0.06	U	Iso-U
PRS7-AL-104A	6/11/08	Uranium-238	1.30	1.05	0.22		onsite
PRS7-AL-104A	6/11/08	Uranium-238	1.30	0.93	0.05		Iso-U
PRS7-AL-105A	6/18/08	Actinium-227	0.81	0.02	0.12	U	onsite
PRS7-AL-105A	6/18/08	Americium-241	19.00	0.01	0.03	U	onsite
PRS7-AL-105A	6/18/08	Bismuth-210M	1.10	0.01	0.02	U	onsite
PRS7-AL-105A	6/18/08	Cesium-137	0.86	0.01	0.02	U	onsite
PRS7-AL-105A	6/18/08	Cobalt-60	0.09	0.02	0.02	U	onsite
PRS7-AL-105A	6/18/08	Lead-210	4.20	0.72	0.29		onsite
PRS7-AL-105A	6/18/08	Plutonium-238	29.13	0.00	2.61	U	onsite
PRS7-AL-105A	6/18/08	Plutonium-238	29.13	0.40	0.06		iso-Pu
PRS7-AL-105A	6/18/08	Plutonium-239/40	29.18	0.00	0.04	U	iso-Pu
PRS7-AL-105A	6/18/08	Protactinium-231	0.71	0.00	0.65	U	onsite
PRS7-AL-105A	6/18/08	Radium-226	2.13	0.62	0.04		onsite
PRS7-AL-105A	6/18/08	Thorium-228	1.64	0.56	0.08		iso-Th
PRS7-AL-105A	6/18/08	Thorium-230	2.00	0.50	2.74	U	onsite
PRS7-AL-105A	6/18/08	Thorium-230	2.00	1.46	0.05		iso-Th
PRS7-AL-105A	6/18/08	Thorium-232	1.48	0.41	0.06		onsite
PRS7-AL-105A	6/18/08	Thorium-232	1.48	0.53	0.04		iso-Th
PRS7-AL-105A	6/18/08	Uranium-233/234	1.10	0.67	0.04		iso-U

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-105A	6/18/08	Uranium-235	0.57	0.04	0.03	J	iso-U
PRS7-AL-105A	6/18/08	Uranium-238	1.30	0.57	0.18		onsite
PRS7-AL-105A	6/18/08	Uranium-238	1.30	0.57	0.04		iso-U
PRS7-AL-108	5/21/08	Actinium-227	0.81	0.00	0.27	U	onsite
PRS7-AL-108	5/21/08	Americium-241	19.00	0.00	0.06	U	onsite
PRS7-AL-108	5/21/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-108	5/21/08	Cesium-137	0.86	0.03	0.03	U	onsite
PRS7-AL-108	5/21/08	Cobalt-60	0.09	0.03	0.04	U	onsite
PRS7-AL-108	5/21/08	Lead-210	4.20	1.11	0.56		onsite
PRS7-AL-108	5/21/08	Plutonium-238	29.13	0.00	5.77	U	onsite
PRS7-AL-108	5/21/08	Plutonium-238	29.13	0.26	0.08		Iso-Pu
PRS7-AL-108	5/21/08	Plutonium-239/40	29.18	0.00	0.04	U	Iso-Pu
PRS7-AL-108	5/21/08	Protactinium-231	0.71	0.00	1.64	U	onsite
PRS7-AL-108	5/21/08	Radium-226	2.13	0.56	0.12		onsite
PRS7-AL-108	5/21/08	Thorium-228	1.64	0.59	0.08		Iso-Th
PRS7-AL-108	5/21/08	Thorium-230	2.00	0.03	5.86	U	onsite
PRS7-AL-108	5/21/08	Thorium-230	2.00	1.33	0.04		Iso-Th
PRS7-AL-108	5/21/08	Thorium-232	1.48	0.36	0.16		onsite
PRS7-AL-108	5/21/08	Thorium-232	1.48	0.64	0.05		Iso-Th
PRS7-AL-108	5/21/08	Uranium-238	1.30	0.61	0.37		onsite
PRS7-AL-109AN	7/7/08	Actinium-227	0.81	0.00	0.17	U	onsite
PRS7-AL-109AN	7/7/08	Americium-241	19.00	0.04	0.04	U	onsite
PRS7-AL-109AN	7/7/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-109AN	7/7/08	Cesium-137	0.86	0.02	0.02	U	onsite
PRS7-AL-109AN	7/7/08	Cobalt-60	0.09	0.00	0.04	U	onsite
PRS7-AL-109AN	7/7/08	Lead-210	4.20	0.86	0.38		onsite
PRS7-AL-109AN	7/7/08	Plutonium-238	29.13	0.47	3.67	U	onsite
PRS7-AL-109AN	7/7/08	Plutonium-238	29.13	0.02	0.01	J	Iso-Pu
PRS7-AL-109AN	7/7/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-109AN	7/7/08	Protactinium-231	0.71	0.39	0.85	U	onsite
PRS7-AL-109AN	7/7/08	Radium-226	2.13	0.70	0.07		onsite
PRS7-AL-109AN	7/7/08	Thorium-228	1.64	0.68	0.05		Iso-Th
PRS7-AL-109AN	7/7/08	Thorium-230	2.00	1.09	3.87	U	onsite
PRS7-AL-109AN	7/7/08	Thorium-230	2.00	1.55	0.04		Iso-Th
PRS7-AL-109AN	7/7/08	Thorium-232	1.48	0.54	0.09		onsite
PRS7-AL-109AN	7/7/08	Thorium-232	1.48	0.68	0.04		Iso-Th
PRS7-AL-109AN	7/7/08	Uranium-233/234	1.10	0.77	0.05		Iso-U
PRS7-AL-109AN	7/7/08	Uranium-235	0.57	0.07	0.03	J	Iso-U
PRS7-AL-109AN	7/7/08	Uranium-238	1.30	0.88	0.26		onsite
PRS7-AL-109AN	7/7/08	Uranium-238	1.30	0.94	0.03		Iso-U
PRS7-AL-110AS	7/7/08	Actinium-227	0.81	0.11	0.18	U	onsite
PRS7-AL-110AS	7/7/08	Americium-241	19.00	0.00	0.05	U	onsite
PRS7-AL-110AS	7/7/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-110AS	7/7/08	Cesium-137	0.86	0.02	0.02	U	onsite
PRS7-AL-110AS	7/7/08	Cobalt-60	0.09	0.01	0.03	U	onsite
PRS7-AL-110AS	7/7/08	Lead-210	4.20	0.93	0.42		onsite
PRS7-AL-110AS	7/7/08	Plutonium-238	29.13	0.00	4.33	U	onsite
PRS7-AL-110AS	7/7/08	Plutonium-238	29.13	0.02	0.01	J	Iso-Pu
PRS7-AL-110AS	7/7/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-110AS	7/7/08	Protactinium-231	0.71	0.00	1.06	U	onsite
PRS7-AL-110AS	7/7/08	Radium-226	2.13	0.80	0.06		onsite
PRS7-AL-110AS	7/7/08	Thorium-228	1.64	0.67	0.06		Iso-Th

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-110AS	7/7/08	Thorium-230	2.00	2.2	4.16	U	onsite
PRS7-AL-110AS	7/7/08	Thorium-230	2.00	1.41	0.04		Iso-Th
PRS7-AL-110AS	7/7/08	Thorium-232	1.48	0.53	0.11		onsite
PRS7-AL-110AS	7/7/08	Thorium-232	1.48	0.69	0.04		Iso-Th
PRS7-AL-110AS	7/7/08	Uranium-233/234	1.10	0.78	0.06		Iso-U
PRS7-AL-110AS	7/7/08	Uranium-235	0.57	0.06	0.05	J	Iso-U
PRS7-AL-110AS	7/7/08	Uranium-238	1.30	0.92	0.24		onsite
PRS7-AL-110AS	7/7/08	Uranium-238	1.30	0.88	0.07		Iso-U
PRS7-AL-111AN	7/7/08	Actinium-227	0.81	0.0	0.19	U	onsite
PRS7-AL-111AN	7/7/08	Americium-241	19.00	0.0	0.04	U	onsite
PRS7-AL-111AN	7/7/08	Bismuth-210M	1.10	0.0	0.03	U	onsite
PRS7-AL-111AN	7/7/08	Cesium-137	0.86	0.0	0.03	U	onsite
PRS7-AL-111AN	7/7/08	Cobalt-60	0.09	0.03	0.03		onsite
PRS7-AL-111AN	7/7/08	Lead-210	4.20	1.07	0.43		onsite
PRS7-AL-111AN	7/7/08	Plutonium-238	29.13	0.0	4.03	U	onsite
PRS7-AL-111AN	7/7/08	Plutonium-238	29.13	0.10	0.06		Iso-Pu
PRS7-AL-111AN	7/7/08	Plutonium-239/40	29.18	-0.01	0.04	U	Iso-Pu
PRS7-AL-111AN	7/7/08	Protactinium-231	0.71	0.23	0.88	U	onsite
PRS7-AL-111AN	7/7/08	Radium-226	2.13	0.76	0.06		onsite
PRS7-AL-111AN	7/7/08	Thorium-228	1.64	0.75	0.05		Iso-Th
PRS7-AL-111AN	7/7/08	Thorium-230	2.00	0.82	4.09	U	onsite
PRS7-AL-111AN	7/7/08	Thorium-230	2.00	1.55	0.04		Iso-Th
PRS7-AL-111AN	7/7/08	Thorium-232	1.48	0.57	0.10		onsite
PRS7-AL-111AN	7/7/08	Thorium-232	1.48	0.89	0.04		Iso-Th
PRS7-AL-111AN	7/7/08	Uranium-233/234	1.10	0.69	0.04		Iso-U
PRS7-AL-111AN	7/7/08	Uranium-235	0.57	0.07	0.05	J	Iso-U
PRS7-AL-111AN	7/7/08	Uranium-238	1.30	0.64	0.30		onsite
PRS7-AL-111AN	7/7/08	Uranium-238	1.30	0.82	0.04		Iso-U
PRS7-AL-111AS	7/7/08	Actinium-227	0.81	0.00	0.19	U	onsite
PRS7-AL-111AS	7/7/08	Americium-241	19.00	0.00	0.05	U	onsite
PRS7-AL-111AS	7/7/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-111AS	7/7/08	Cesium-137	0.86	0.01	0.03	U	onsite
PRS7-AL-111AS	7/7/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-111AS	7/7/08	Lead-210	4.20	0.66	0.43		onsite
PRS7-AL-111AS	7/7/08	Plutonium-238	29.13	0.00	4.14	U	onsite
PRS7-AL-111AS	7/7/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
PRS7-AL-111AS	7/7/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-111AS	7/7/08	Protactinium-231	0.71	0.17	1.00	U	onsite
PRS7-AL-111AS	7/7/08	Radium-226	2.13	0.91	0.07		onsite
PRS7-AL-111AS	7/7/08	Thorium-228	1.64	1.03	0.07		Iso-Th
PRS7-AL-111AS	7/7/08	Thorium-230	2.00	1.00	4.19	U	onsite
PRS7-AL-111AS	7/7/08	Thorium-230	2.00	1.68	0.06		Iso-Th
PRS7-AL-111AS	7/7/08	Thorium-232	1.48	0.65	0.12		onsite
PRS7-AL-111AS	7/7/08	Thorium-232	1.48	1.00	0.04		Iso-Th
PRS7-AL-111AS	7/7/08	Uranium-233/234	1.10	0.72	0.04		Iso-U
PRS7-AL-111AS	7/7/08	Uranium-235	0.57	0.05	0.03	J	Iso-U
PRS7-AL-111AS	7/7/08	Uranium-238	1.30	0.95	0.30		onsite
PRS7-AL-111AS	7/7/08	Uranium-238	1.30	0.72	0.04		Iso-U
PRS7-AL-112A	6/17/08	Actinium-227	0.81	-0.24	0.54	U	gamma
PRS7-AL-112A	6/17/08	Actinium-228	1.48	0.20	0.23	U	gamma
PRS7-AL-112A	6/17/08	Americium-241	19.00	-0.01	0.14	U	gamma
PRS7-AL-112A	6/17/08	Bismuth-207	ND	0.00	0.13	U	gamma

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-112A	6/17/08	Bismuth-210M	1.10	-0.01	0.09	U	gamma
PRS7-AL-112A	6/17/08	Bismuth-214	1.30	0.46	0.10		gamma
PRS7-AL-112A	6/17/08	Cesium-137	0.86	0.01	0.08	U	gamma
PRS7-AL-112A	6/17/08	Cobalt-60	0.09	-0.02	0.10	U	gamma
PRS7-AL-112A	6/17/08	Lead-210	4.20	0.30	2.10	U	gamma
PRS7-AL-112A	6/17/08	Lead-212	NC	0.32	0.08		gamma
PRS7-AL-112A	6/17/08	Lead-214	1.30	0.47	0.13		gamma
PRS7-AL-112A	6/17/08	Plutonium-238	29.13	0.17	0.07		iso-Pu
PRS7-AL-112A	6/17/08	Plutonium-239/40	29.18	0.00	0.04	U	iso-Pu
PRS7-AL-112A	6/17/08	Protactinium-231	0.71	0.00	1.40	U	gamma
PRS7-AL-112A	6/17/08	Radium-226	2.13	0.46	0.10		gamma
PRS7-AL-112A	6/17/08	Thorium-228	1.64	0.31	0.08		iso-Th
PRS7-AL-112A	6/17/08	Thorium-229	1.10	-0.09	0.86	U	gamma
PRS7-AL-112A	6/17/08	Thorium-230	2.00	0.92	0.06		iso-Th
PRS7-AL-112A	6/17/08	Thorium-232	1.48	0.28	0.07		iso-Th
PRS7-AL-112A	6/17/08	Uranium-233/234	1.10	0.53	0.04		iso-U
PRS7-AL-112A	6/17/08	Uranium-235	0.57	0.05	0.03	J	iso-U
PRS7-AL-112A	6/17/08	Uranium-235	0.57	0.01	0.26	U	gamma
PRS7-AL-112A	6/17/08	Uranium-238	1.30	0.60	0.02		iso-U
PRS7-AL-112A	6/17/08	Uranium-238	1.30	0.58	1.50	U	gamma
PRS7-AL-113A	6/18/08	Actinium-227	0.81	0.00	0.12	U	onsite
PRS7-AL-113A	6/18/08	Americium-241	19.00	0.00	0.03	U	onsite
PRS7-AL-113A	6/18/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-113A	6/18/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-113A	6/18/08	Cobalt-60	0.09	0.00	0.02	U	onsite
PRS7-AL-113A	6/18/08	Lead-210	4.20	0.78	0.28		onsite
PRS7-AL-113A	6/18/08	Plutonium-238	29.13	0.00	2.51	U	onsite
PRS7-AL-113A	6/17/08	Plutonium-238	29.13	0.00	0.01	U	iso-Pu
PRS7-AL-113A	6/17/08	Plutonium-239/40	29.18	0.00	0.01	U	iso-Pu
PRS7-AL-113A	6/18/08	Protactinium-231	0.71	0.00	0.62	U	onsite
PRS7-AL-113A	6/18/08	Radium-226	2.13	0.76	0.04		onsite
PRS7-AL-113A	6/17/08	Thorium-228	1.64	0.92	0.09		iso-Th
PRS7-AL-113A	6/18/08	Thorium-230	2.00	1.94	2.55	U	onsite
PRS7-AL-113A	6/17/08	Thorium-230	2.00	1.97	0.05		iso-Th
PRS7-AL-113A	6/18/08	Thorium-232	1.48	0.58	0.06		onsite
PRS7-AL-113A	6/17/08	Thorium-232	1.48	1.08	0.05		iso-Th
PRS7-AL-113A	6/17/08	Uranium-233/234	1.10	0.64	0.05		iso-U
PRS7-AL-113A	6/17/08	Uranium-235	0.57	0.04	0.05	U	iso-U
PRS7-AL-113A	6/18/08	Uranium-238	1.30	1.05	0.14		onsite
PRS7-AL-113A	6/17/08	Uranium-238	1.30	0.76	0.05		iso-U
PRS7-AL-114	5/28/08	Actinium-227	0.81	-0.19	0.50	U	Gamma
PRS7-AL-114	5/28/08	Actinium-228	1.48	0.23	0.23		Gamma
PRS7-AL-114	5/28/08	Americium-241	19.00	0.00	0.16	U	Gamma
PRS7-AL-114	5/28/08	Bismuth-207	ND	0.00	0.13	U	Gamma
PRS7-AL-114	5/28/08	Bismuth-210M	1.10	0.01	0.09	U	Gamma
PRS7-AL-114	5/28/08	Bismuth-214	1.30	0.44	0.11		Gamma
PRS7-AL-114	5/28/08	Cesium-137	0.86	0.00	0.06	U	Gamma
PRS7-AL-114	5/28/08	Cobalt-60	0.09	0.00	0.09	U	Gamma
PRS7-AL-114	5/28/08	Lead-210	4.20	0.00	1.90	U	Gamma
PRS7-AL-114	5/28/08	Lead-212	1.48	0.33	0.10		Gamma
PRS7-AL-114	5/28/08	Lead-214	1.30	0.37	0.13		Gamma
PRS7-AL-114	5/28/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-114	5/28/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-114	5/28/08	Protactinium-231	0.71	0.00	1.70	U	Gamma
PRS7-AL-114	5/28/08	Radium-226	2.13	0.44	0.11		Gamma
PRS7-AL-114	5/28/08	Thorium-228	1.64	0.35	0.09		Iso-Th
PRS7-AL-114	5/28/08	Thorium-229	1.10	0.13	0.91	U	Gamma
PRS7-AL-114	5/28/08	Thorium-230	2.00	0.83	0.06		Iso-Th
PRS7-AL-114	5/28/08	Thorium-232	1.48	0.42	0.04		Iso-Th
PRS7-AL-114	5/28/08	Uranium-233/234	1.10	0.61	0.05		Iso-U
PRS7-AL-114	5/28/08	Uranium-235	0.57	0.01	0.03	U	Iso-U
PRS7-AL-114	5/28/08	Uranium-235	0.57	0.13	0.31	U	Gamma
PRS7-AL-114	5/28/08	Uranium-238	1.30	0.39	0.04		Iso-U
PRS7-AL-114	5/28/08	Uranium-238	1.30	0.23	1.70	U	Gamma
PRS7-AL-115	5/7/08	Actinium-227	0.81	0.00	0.14	U	onsite
PRS7-AL-115	5/7/08	Actinium-227	0.81	-0.05	1.40	U	Gamma
PRS7-AL-115	5/7/08	Actinium-228	1.48	0.50	0.38		Gamma
PRS7-AL-115	5/7/08	Americium-241	19.00	0.01	0.03	U	onsite
PRS7-AL-115	5/7/08	Americium-241	19.00	0.00	0.18	U	Gamma
PRS7-AL-115	5/7/08	Bismuth-207	ND	0.03	0.15	U	Gamma
PRS7-AL-115	5/7/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-115	5/7/08	Bismuth-210M	1.10	0.00	0.09	U	Gamma
PRS7-AL-115	5/7/08	Bismuth-214	1.30	0.78	0.19		Gamma
PRS7-AL-115	5/7/08	Cesium-137	0.86	0.04	0.02		onsite
PRS7-AL-115	5/7/08	Cesium-137	0.86	0.03	0.10	U	Gamma
PRS7-AL-115	5/7/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-115	5/7/08	Cobalt-60	0.09	0.00	0.13	U	Gamma
PRS7-AL-115	5/7/08	Lead-210	4.20	0.85	0.32		onsite
PRS7-AL-115	5/7/08	Lead-210	4.20	-0.05	3.10	U	Gamma
PRS7-AL-115	5/7/08	Lead-212	1.48	0.72	0.17		Gamma
PRS7-AL-115	5/7/08	Lead-214	1.30	1.09	0.14		Gamma
PRS7-AL-115	5/7/08	Plutonium-238	29.13	0.00	3.28	U	onsite
PRS7-AL-115	5/7/08	Plutonium-238	29.13	0.05	0.01		Iso-Pu
PRS7-AL-115	5/7/08	Plutonium-239/40	29.18	0.01	0.01	J	Iso-Pu
PRS7-AL-115	5/7/08	Protactinium-231	0.71	0.17	0.71	U	onsite
PRS7-AL-115	5/7/08	Protactinium-231	0.71	0.08	2.10	U	Gamma
PRS7-AL-115	5/7/08	Radium-226	2.13	0.77	0.06		onsite
PRS7-AL-115	5/7/08	Radium-226	2.13	0.78	0.19		Gamma
PRS7-AL-115	5/7/08	Thorium-228	1.64	0.74	0.07		Iso-Th
PRS7-AL-115	5/7/08	Thorium-229	1.10	-0.27	1.20	U	Gamma
PRS7-AL-115	5/7/08	Thorium-230	2.00	0.63	3.20	U	onsite
PRS7-AL-115	5/7/08	Thorium-230	2.00	1.41	0.05		Iso-Th
PRS7-AL-115	5/7/08	Thorium-232	1.48	0.46	0.07		onsite
PRS7-AL-115	5/7/08	Thorium-232	1.48	1.00	0.05		Iso-Th
PRS7-AL-115	5/7/08	Uranium-233/234	1.10	0.84	0.04		Iso-U
PRS7-AL-115	5/7/08	Uranium-235	0.57	0.05	0.03	J	Iso-U
PRS7-AL-115	5/7/08	Uranium-235	0.57	-0.01	0.50	U	Gamma
PRS7-AL-115	5/7/08	Uranium-238	1.30	0.52	0.22		onsite
PRS7-AL-115	5/7/08	Uranium-238	1.30	0.84	0.03		Iso-U
PRS7-AL-115	5/7/08	Uranium-238	1.30	1.00	2.00	U	Gamma
PRS7-AL-116	5/7/08	Actinium-227	0.81	0.00	0.14	U	onsite
PRS7-AL-116	5/7/08	Actinium-227	0.81	-0.17	0.59	U	Gamma
PRS7-AL-116	5/7/08	Actinium-228	1.48	0.79	0.40		Gamma
PRS7-AL-116	5/7/08	Americium-241	19.00	0.00	0.03	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-116	5/7/08	Americium-241	19.00	0.03	0.22	U	Gamma
PRS7-AL-116	5/7/08	Bismuth-207	ND	0.00	0.18	U	Gamma
PRS7-AL-116	5/7/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-116	5/7/08	Bismuth-210M	1.10	0.05	0.11	U	Gamma
PRS7-AL-116	5/7/08	Bismuth-214	1.30	0.69	0.25		Gamma
PRS7-AL-116	5/7/08	Cesium-137	0.86	0.02	0.02	U	onsite
PRS7-AL-116	5/7/08	Cesium-137	0.86	0.05	0.13	U	Gamma
PRS7-AL-116	5/7/08	Cobalt-60	0.09	0.01	0.02	U	onsite
PRS7-AL-116	5/7/08	Cobalt-60	0.09	0.03	0.12	U	Gamma
PRS7-AL-116	5/7/08	Lead-210	4.20	0.84	0.30		onsite
PRS7-AL-116	5/7/08	Lead-210	4.20	0.40	3.00	U	Gamma
PRS7-AL-116	5/7/08	Lead-212	1.48	0.72	0.12		Gamma
PRS7-AL-116	5/7/08	Lead-214	1.30	0.83	0.19		Gamma
PRS7-AL-116	5/7/08	Plutonium-238	29.13	0.00	2.96	U	onsite
PRS7-AL-116	5/7/08	Plutonium-238	29.13	0.02	0.01	J	Iso-Pu
PRS7-AL-116	5/7/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-116	5/7/08	Protactinium-231	0.71	0.00	0.73	U	onsite
PRS7-AL-116	5/7/08	Protactinium-231	0.71	0.00	2.40	U	Gamma
PRS7-AL-116	5/7/08	Radium-226	2.13	0.97	0.05		onsite
PRS7-AL-116	5/7/08	Radium-226	2.13	0.69	0.25		Gamma
PRS7-AL-116	5/7/08	Thorium-228	1.64	0.71	0.08		Iso-Th
PRS7-AL-116	5/7/08	Thorium-229	1.10	0.58	1.10	U	Gamma
PRS7-AL-116	5/7/08	Thorium-230	2.00	0.00	3.24	U	onsite
PRS7-AL-116	5/7/08	Thorium-230	2.00	1.39	0.07		Iso-Th
PRS7-AL-116	5/7/08	Thorium-232	1.48	0.49	0.07		onsite
PRS7-AL-116	5/7/08	Thorium-232	1.48	0.63	0.08		Iso-Th
PRS7-AL-116	5/7/08	Uranium-233/234	1.10	0.96	0.04		Iso-U
PRS7-AL-116	5/7/08	Uranium-235	0.57	0.03	0.03	J	Iso-U
PRS7-AL-116	5/7/08	Uranium-235	0.57	0.00	0.53	U	Gamma
PRS7-AL-116	5/7/08	Uranium-238	1.30	0.86	0.18		onsite
PRS7-AL-116	5/7/08	Uranium-238	1.30	0.89	0.05		Iso-U
PRS7-AL-116	5/7/08	Uranium-238	1.30	0.80	2.30	U	Gamma
PRS7-AL-117	6/9/08	Actinium-227	0.81	0.00	0.27	U	onsite
PRS7-AL-117	6/9/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-117	6/9/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-117	6/9/08	Cesium-137	0.86	0.03	0.03	U	onsite
PRS7-AL-117	6/9/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-117	6/9/08	Lead-210	4.20	0.65	0.57		onsite
PRS7-AL-117	6/9/08	Plutonium-238	29.13	0.45	5.48	U	onsite
PRS7-AL-117	6/9/08	Plutonium-238	29.13	0.12	0.06		Iso-Pu
PRS7-AL-117	6/9/08	Plutonium-239/40	29.18	0.00	0.05	U	Iso-Pu
PRS7-AL-117	6/9/08	Protactinium-231	0.71	0.00	1.51	U	onsite
PRS7-AL-117	6/9/08	Radium-226	2.13	0.64	0.09		onsite
PRS7-AL-117	6/9/08	Thorium-228	1.64	0.74	0.08		Iso-Th
PRS7-AL-117	6/9/08	Thorium-230	2.00	0.97	5.89	U	onsite
PRS7-AL-117	6/9/08	Thorium-230	2.00	1.24	0.06		Iso-Th
PRS7-AL-117	6/9/08	Thorium-232	1.48	0.43	0.12		onsite
PRS7-AL-117	6/9/08	Thorium-232	1.48	0.50	0.05		Iso-Th
PRS7-AL-117	6/9/08	Uranium-233/234	1.10	0.85	0.06		Iso-U
PRS7-AL-117	6/9/08	Uranium-235	0.57	0.05	0.03	J	Iso-U
PRS7-AL-117	6/9/08	Uranium-238	1.30	0.41	0.37		onsite
PRS7-AL-117	6/9/08	Uranium-238	1.30	0.93	0.04		Iso-U

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-118	6/9/08	Actinium-227	0.81	0.11	0.26	U	onsite
PRS7-AL-118	6/9/08	Americium-241	19.00	0.00	0.06	U	onsite
PRS7-AL-118	6/9/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-118	6/9/08	Cesium-137	0.86	0.00	0.04	U	onsite
PRS7-AL-118	6/9/08	Cobalt-60	0.09	0.00	0.05	U	onsite
PRS7-AL-118	6/9/08	Lead-210	4.20	0.51	0.61	U	onsite
PRS7-AL-118	6/9/08	Plutonium-238	29.13	0.19	5.65	U	onsite
PRS7-AL-118	6/9/08	Plutonium-238	29.13	0.78	0.07		Iso-Pu
PRS7-AL-118	6/9/08	Plutonium-239/40	29.18	0.01	0.03	U	Iso-Pu
PRS7-AL-118	6/9/08	Protactinium-231	0.71	0.42	1.20	U	onsite
PRS7-AL-118	6/9/08	Radium-226	2.13	0.81	0.10		onsite
PRS7-AL-118	6/9/08	Thorium-228	1.64	0.84	0.09		Iso-Th
PRS7-AL-118	6/9/08	Thorium-230	2.00	3.20	5.49	U	onsite
PRS7-AL-118	6/9/08	Thorium-230	2.00	1.28	0.06		Iso-Th
PRS7-AL-118	6/9/08	Thorium-232	1.48	0.40	0.16		onsite
PRS7-AL-118	6/9/08	Thorium-232	1.48	0.79	0.04		Iso-Th
PRS7-AL-118	6/9/08	Uranium-233/234	1.10	0.88	0.04		Iso-U
PRS7-AL-118	6/9/08	Uranium-235	0.57	0.01	0.03	U	Iso-U
PRS7-AL-118	6/9/08	Uranium-238	1.30	0.86	0.35		onsite
PRS7-AL-118	6/9/08	Uranium-238	1.30	0.64	0.04		Iso-U
PRS7-AL-119	6/9/08	Actinium-227	0.81	0.00	0.29	U	onsite
PRS7-AL-119	6/9/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-119	6/9/08	Bismuth-210M	1.10	0.01	0.04	U	onsite
PRS7-AL-119	6/9/08	Cesium-137	0.86	0.02	0.04	U	onsite
PRS7-AL-119	6/9/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-119	6/9/08	Lead-210	4.20	0.39	0.64	U	onsite
PRS7-AL-119	6/9/08	Plutonium-238	29.13	0.00	6.16	U	onsite
PRS7-AL-119	6/9/08	Plutonium-238	29.13	0.35	0.04		Iso-Pu
PRS7-AL-119	6/9/08	Plutonium-239/40	29.18	0.00	0.05	U	Iso-Pu
PRS7-AL-119	6/9/08	Protactinium-231	0.71	0.98	1.31	U	onsite
PRS7-AL-119	6/9/08	Radium-226	2.13	0.82	0.11		onsite
PRS7-AL-119	6/9/08	Thorium-228	1.64	0.79	0.09		Iso-Th
PRS7-AL-119	6/9/08	Thorium-230	2.00	2.30	6.37	U	onsite
PRS7-AL-119	6/9/08	Thorium-230	2.00	1.48	0.03		Iso-Th
PRS7-AL-119	6/9/08	Thorium-232	1.48	0.39	0.17		onsite
PRS7-AL-119	6/9/08	Thorium-232	1.48	0.93	0.05		Iso-Th
PRS7-AL-119	6/9/08	Uranium-233/234	1.10	0.76	0.04		Iso-U
PRS7-AL-119	6/9/08	Uranium-235	0.57	0.03	0.03	J	Iso-U
PRS7-AL-119	6/9/08	Uranium-238	1.30	0.30	0.41	U	onsite
PRS7-AL-119	6/9/08	Uranium-238	1.30	0.93	0.02		Iso-U
PRS7-AL-120	6/11/08	Actinium-227	0.81	0.20	0.34	U	onsite
PRS7-AL-120	6/11/08	Americium-241	19.00	0.02	0.08	U	onsite
PRS7-AL-120	6/11/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-120	6/11/08	Cesium-137	0.86	0.01	0.05	U	onsite
PRS7-AL-120	6/11/08	Cobalt-60	0.09	0.05	0.06	U	onsite
PRS7-AL-120	6/11/08	Lead-210	4.20	1.07	0.74		onsite
PRS7-AL-120	6/11/08	Plutonium-238	29.13	0.00	8.04	U	onsite
PRS7-AL-120	6/11/08	Plutonium-238	29.13	0.05	0.02		Iso-Pu
PRS7-AL-120	6/11/08	Plutonium-239/40	29.18	0.00	0.03	U	Iso-Pu
PRS7-AL-120	6/11/08	Protactinium-231	0.71	1.02	1.59	U	onsite
PRS7-AL-120	6/11/08	Radium-226	2.13	0.82	0.12		onsite
PRS7-AL-120	6/11/08	Thorium-228	1.64	1.08	0.06		Iso-Th

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-120	6/11/08	Thorium-230	2.00	0.00	8.10	U	onsite
PRS7-AL-120	6/11/08	Thorium-230	2.00	1.49	0.02		Iso-Th
PRS7-AL-120	6/11/08	Thorium-232	1.48	0.92	0.16		onsite
PRS7-AL-120	6/11/08	Thorium-232	1.48	1.06	0.04		Iso-Th
PRS7-AL-120	6/11/08	Uranium-233/234	1.10	0.77	0.06		Iso-U
PRS7-AL-120	6/11/08	Uranium-235	0.57	0.05	0.05	J	Iso-U
PRS7-AL-120	6/11/08	Uranium-238	1.30	1.06	0.47		onsite
PRS7-AL-120	6/11/08	Uranium-238	1.30	0.90	0.05		Iso-U
PRS7-AL-121	6/18/08	Actinium-227	0.81	0.05	0.12	U	onsite
PRS7-AL-121	6/18/08	Americium-241	19.00	0.01	0.03	U	onsite
PRS7-AL-121	6/18/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-121	6/18/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-121	6/18/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-121	6/18/08	Lead-210	4.20	0.50	0.28		onsite
PRS7-AL-121	6/18/08	Plutonium-238	29.13	0.00	2.74	U	onsite
PRS7-AL-121	6/18/08	Plutonium-238	29.13	0.06	0.05		iso-Pu
PRS7-AL-121	6/18/08	Plutonium-239/40	29.18	-0.01	0.05	U	iso-Pu
PRS7-AL-121	6/18/08	Protactinium-231	0.71	0.00	0.69	U	onsite
PRS7-AL-121	6/18/08	Radium-226	2.13	0.80	0.04		onsite
PRS7-AL-121	6/18/08	Thorium-228	1.64	0.53	0.07		iso-Th
PRS7-AL-121	6/18/08	Thorium-230	2.00	0.00	2.85	U	onsite
PRS7-AL-121	6/18/08	Thorium-230	2.00	1.10	0.05		iso-Th
PRS7-AL-121	6/18/08	Thorium-232	1.48	0.42	0.06		onsite
PRS7-AL-121	6/18/08	Thorium-232	1.48	0.38	0.06		iso-Th
PRS7-AL-121	6/18/08	Uranium-233/234	1.10	0.83	0.04		iso-U
PRS7-AL-121	6/18/08	Uranium-235	0.57	0.01	0.03	U	iso-U
PRS7-AL-121	6/18/08	Uranium-238	1.30	0.53	0.18		onsite
PRS7-AL-121	6/18/08	Uranium-238	1.30	0.75	0.05		iso-U
PRS7-AL-122	6/18/08	Actinium-227	0.81	0.00	0.13	U	onsite
PRS7-AL-122	6/18/08	Americium-241	19.00	0.02	0.03	U	onsite
PRS7-AL-122	6/18/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-122	6/18/08	Cesium-137	0.86	0.07	0.02		onsite
PRS7-AL-122	6/18/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-122	6/18/08	Lead-210	4.20	0.54	0.29		onsite
PRS7-AL-122	6/18/08	Plutonium-238	29.13	1.12	2.70	U	onsite
PRS7-AL-122	6/18/08	Plutonium-238	29.13	0.70	0.06		iso-Pu
PRS7-AL-122	6/18/08	Plutonium-239/40	29.18	0.01	0.04	U	iso-Pu
PRS7-AL-122	6/18/08	Protactinium-231	0.71	0.19	0.63	U	onsite
PRS7-AL-122	6/18/08	Radium-226	2.13	0.54	0.05		onsite
PRS7-AL-122	6/18/08	Thorium-228	1.64	0.65	0.08		iso-Th
PRS7-AL-122	6/18/08	Thorium-230	2.00	1.33	2.68	U	onsite
PRS7-AL-122	6/18/08	Thorium-230	2.00	1.32	0.03		iso-Th
PRS7-AL-122	6/18/08	Thorium-232	1.48	0.37	0.07		onsite
PRS7-AL-122	6/18/08	Thorium-232	1.48	0.63	0.04		iso-Th
PRS7-AL-122	6/18/08	Uranium-233/234	1.10	0.76	0.07		iso-U
PRS7-AL-122	6/18/08	Uranium-235	0.57	0.07	0.04	J	iso-U
PRS7-AL-122	6/18/08	Uranium-238	1.30	0.37	0.19		onsite
PRS7-AL-122	6/18/08	Uranium-238	1.30	0.96	0.05		iso-U
PRS7-AL-123N	7/7/08	Actinium-227	0.81	0.02	0.18	U	onsite
PRS7-AL-123N	7/7/08	Americium-241	19.00	0.00	0.05	U	onsite
PRS7-AL-123N	7/7/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-123N	7/7/08	Cesium-137	0.86	0.01	0.03	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-123N	7/7/08	Cobalt-60	0.09	0.01	0.03	U	onsite
PRS7-AL-123N	7/7/08	Lead-210	4.20	0.85	0.33		onsite
PRS7-AL-123N	7/7/08	Plutonium-238	29.13	0.00	4.16	U	onsite
PRS7-AL-123N	7/7/08	Plutonium-238	29.13	0.09	0.07		Iso-Pu
PRS7-AL-123N	7/7/08	Plutonium-239/40	29.18	-0.01	0.05	U	Iso-Pu
PRS7-AL-123N	7/7/08	Protactinium-231	0.71	0.00	1.02	U	onsite
PRS7-AL-123N	7/7/08	Radium-226	2.13	0.83	0.07		onsite
PRS7-AL-123N	7/7/08	Thorium-228	1.64	0.62	0.06		Iso-Th
PRS7-AL-123N	7/7/08	Thorium-230	2.00	0.65	4.18	U	onsite
PRS7-AL-123N	7/7/08	Thorium-230	2.00	1.57	0.04		Iso-Th
PRS7-AL-123N	7/7/08	Thorium-232	1.48	0.63	0.09		onsite
PRS7-AL-123N	7/7/08	Thorium-232	1.48	0.69	0.03		Iso-Th
PRS7-AL-123N	7/7/08	Uranium-233/234	1.10	0.77	0.02		Iso-U
PRS7-AL-123N	7/7/08	Uranium-235	0.57	0.02	0.03	U	Iso-U
PRS7-AL-123N	7/7/08	Uranium-238	1.30	0.70	0.26		onsite
PRS7-AL-123N	7/7/08	Uranium-238	1.30	0.89	0.04		Iso-U
PRS7-AL-123S	7/7/08	Actinium-227	0.81	0.03	0.18	U	onsite
PRS7-AL-123S	7/7/08	Americium-241	19.00	0.01	0.04	U	onsite
PRS7-AL-123S	7/7/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-123S	7/7/08	Cesium-137	0.86	0.00	0.03	U	onsite
PRS7-AL-123S	7/7/08	Cobalt-60	0.09	0.00	0.04	U	onsite
PRS7-AL-123S	7/7/08	Lead-210	4.20	0.88	0.41		onsite
PRS7-AL-123S	7/7/08	Plutonium-238	29.13	1.46	3.91	U	onsite
PRS7-AL-123S	7/7/08	Plutonium-238	29.13	0.03	0.01		Iso-Pu
PRS7-AL-123S	7/7/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-123S	7/7/08	Protactinium-231	0.71	0.00	1.01	U	onsite
PRS7-AL-123S	7/7/08	Radium-226	2.13	0.87	0.07		onsite
PRS7-AL-123S	7/7/08	Thorium-228	1.64	0.69	0.07		Iso-Th
PRS7-AL-123S	7/7/08	Thorium-230	2.00	0.90	4.20	U	onsite
PRS7-AL-123S	7/7/08	Thorium-230	2.00	1.31	0.04		Iso-Th
PRS7-AL-123S	7/7/08	Thorium-232	1.48	0.69	0.08		onsite
PRS7-AL-123S	7/7/08	Thorium-232	1.48	0.69	0.03		Iso-Th
PRS7-AL-123S	7/7/08	Uranium-233/234	1.10	0.94	0.04		Iso-U
PRS7-AL-123S	7/7/08	Uranium-235	0.57	0.04	0.05	U	Iso-U
PRS7-AL-123S	7/7/08	Uranium-238	1.30	0.85	0.25		onsite
PRS7-AL-123S	7/7/08	Uranium-238	1.30	0.82	0.04		Iso-U
PRS7-AL-125	7/23/08	Actinium-227	0.81	0.06	0.28	U	onsite
PRS7-AL-125	7/23/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-125	7/23/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-125	7/23/08	Cesium-137	0.86	0.00	0.04	U	onsite
PRS7-AL-125	7/23/08	Cobalt-60	0.09	0.00	0.08	U	onsite
PRS7-AL-125	7/23/08	Lead-210	4.20	0.35	0.64	U	onsite
PRS7-AL-125	7/23/08	Plutonium-238	29.13	0.00	6.11	U	onsite
PRS7-AL-125	7/23/08	Plutonium-238	29.13	0.16	0.06		Iso-Pu
PRS7-AL-125	7/23/08	Plutonium-239/40	29.18	0.01	0.02	U	Iso-Pu
PRS7-AL-125	7/23/08	Protactinium-231	0.71	0.00	1.48	U	onsite
PRS7-AL-125	7/23/08	Radium-226	2.13	0.84	0.11		onsite
PRS7-AL-125	7/23/08	Thorium-228	1.64	1.10	0.09		Iso-Th
PRS7-AL-125	7/23/08	Thorium-230	2.00	4.97	6.46	U	onsite
PRS7-AL-125	7/23/08	Thorium-230	2.00	1.26	0.06		Iso-Th
PRS7-AL-125	7/23/08	Thorium-232	1.48	0.40	0.18		onsite
PRS7-AL-125	7/23/08	Thorium-232	1.48	0.65	0.07		Iso-Th

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-125	7/23/08	Uranium-233/234	1.10	0.98	0.06		Iso-U
PRS7-AL-125	7/23/08	Uranium-235	0.57	0.07	0.03	J	Iso-U
PRS7-AL-125	7/23/08	Uranium-238	1.30	0.60	0.41		onsite
PRS7-AL-125	7/23/08	Uranium-238	1.30	1.01	0.02		Iso-U
PRS7-AL-126A	8/11/08	Actinium-227	0.81	0.00	0.15	U	onsite
PRS7-AL-126A	8/11/08	Americium-241	19.00	0.03	0.03	U	onsite
PRS7-AL-126A	8/11/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-126A	8/11/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-126A	8/11/08	Cobalt-60	0.09	0.00	0.02	U	onsite
PRS7-AL-126A	8/11/08	Lead-210	4.20	0.82	0.36		onsite
PRS7-AL-126A	8/11/08	Plutonium-238	29.13	0.12	3.05	U	onsite
PRS7-AL-126A	8/11/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
PRS7-AL-126A	8/11/08	Plutonium-239/40	29.18	0.01	0.01	J	Iso-Pu
PRS7-AL-126A	8/11/08	Protactinium-231	0.71	0.00	0.77	U	onsite
PRS7-AL-126A	8/11/08	Radium-226	2.13	1.08	0.06		onsite
PRS7-AL-126A	8/11/08	Thorium-228	1.64	0.85	0.08		Iso-Th
PRS7-AL-126A	8/11/08	Thorium-230	2.00	0.93	3.26	U	onsite
PRS7-AL-126A	8/11/08	Thorium-230	2.00	1.50	0.05		Iso-Th
PRS7-AL-126A	8/11/08	Thorium-232	1.48	0.41	0.09		onsite
PRS7-AL-126A	8/11/08	Thorium-232	1.48	0.65	0.02		Iso-Th
PRS7-AL-126A	8/11/08	Uranium-233/234	1.10	0.78	0.05		Iso-U
PRS7-AL-126A	8/11/08	Uranium-235	0.57	0.00	0.03	U	Iso-U
PRS7-AL-126A	8/11/08	Uranium-238	1.30	0.59	0.21		onsite
PRS7-AL-126A	8/11/08	Uranium-238	1.30	0.97	0.04		Iso-U
PRS7-AL-128A	7/25/08	Actinium-227	0.81	0.00	0.27	U	onsite
PRS7-AL-128A	7/25/08	Americium-241	19.00	0.02	0.06	U	onsite
PRS7-AL-128A	7/25/08	Bismuth-210M	1.10	0.01	0.04	U	onsite
PRS7-AL-128A	7/25/08	Cesium-137	0.86	0.00	0.04	U	onsite
PRS7-AL-128A	7/25/08	Cobalt-60	0.09	0.01	0.05	U	onsite
PRS7-AL-128A	7/25/08	Lead-210	4.20	0.08	0.65	U	onsite
PRS7-AL-128A	7/25/08	Plutonium-238	29.13	0.00	5.59	U	onsite
PRS7-AL-128A	7/25/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
PRS7-AL-128A	7/25/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-128A	7/25/08	Protactinium-231	0.71	0.00	1.27	U	onsite
PRS7-AL-128A	7/25/08	Radium-226	2.13	0.78	0.09		onsite
PRS7-AL-128A	7/25/08	Thorium-228	1.64	0.75	0.12		Iso-Th
PRS7-AL-128A	7/25/08	Thorium-230	2.00	1.84	6.00	U	onsite
PRS7-AL-128A	7/25/08	Thorium-230	2.00	1.01	0.05		Iso-Th
PRS7-AL-128A	7/25/08	Thorium-232	1.48	0.32	0.14		onsite
PRS7-AL-128A	7/25/08	Thorium-232	1.48	0.64	0.05		Iso-Th
PRS7-AL-128A	7/25/08	Uranium-233/234	1.10	0.76	0.04		Iso-U
PRS7-AL-128A	7/25/08	Uranium-235	0.57	0.04	0.03	J	Iso-U
PRS7-AL-128A	7/25/08	Uranium-238	1.30	0.45	0.37		onsite
PRS7-AL-128A	7/25/08	Uranium-238	1.30	0.99	0.03		Iso-U
PRS7-AL-129	7/23/08	Actinium-227	0.81	0.00	0.31	U	onsite
PRS7-AL-129	7/23/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-129	7/23/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-129	7/23/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-129	7/23/08	Cobalt-60	0.09	0.01	0.05	U	onsite
PRS7-AL-129	7/23/08	Lead-210	4.20	0.70	0.67		onsite
PRS7-AL-129	7/23/08	Plutonium-238	29.13	0.31	6.16	U	onsite
PRS7-AL-129	7/23/08	Plutonium-238	29.13	0.01	0.01	J	Iso-Pu

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-129	7/23/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-129	7/23/08	Protactinium-231	0.71	0.33	1.38	U	onsite
PRS7-AL-129	7/23/08	Radium-226	2.13	0.97	0.11		onsite
PRS7-AL-129	7/23/08	Thorium-228	1.64	0.80	0.09		Iso-Th
PRS7-AL-129	7/23/08	Thorium-230	2.00	2.61	6.40	U	onsite
PRS7-AL-129	7/23/08	Thorium-230	2.00	1.29	0.03		Iso-Th
PRS7-AL-129	7/23/08	Thorium-232	1.48	0.29	0.21		onsite
PRS7-AL-129	7/23/08	Thorium-232	1.48	0.74	0.05		Iso-Th
PRS7-AL-129	7/23/08	Uranium-233/234	1.10	0.65	0.06		Iso-U
PRS7-AL-129	7/23/08	Uranium-235	0.57	0.02	0.04	U	Iso-U
PRS7-AL-129	7/23/08	Uranium-238	1.30	0.74	0.40		onsite
PRS7-AL-129	7/23/08	Uranium-238	1.30	0.83	0.05		Iso-U
PRS7-AL-130	7/24/08	Actinium-227	0.81	0.07	0.13	U	onsite
PRS7-AL-130	7/24/08	Americium-241	19.00	0.00	0.03	U	onsite
PRS7-AL-130	7/24/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-130	7/24/08	Cesium-137	0.86	0.01	0.02	U	onsite
PRS7-AL-130	7/24/08	Cobalt-60	0.09	0.01	0.02	U	onsite
PRS7-AL-130	7/24/08	Lead-210	4.20	0.30	0.30		onsite
PRS7-AL-130	7/24/08	Plutonium-238	29.13	2.25	2.96	U	onsite
PRS7-AL-130	7/24/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
PRS7-AL-130	7/24/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-130	7/24/08	Protactinium-231	0.71	0.00	0.73	U	onsite
PRS7-AL-130	7/24/08	Radium-226	2.13	0.49	0.06		onsite
PRS7-AL-130	7/24/08	Thorium-228	1.64	0.23	0.14		Iso-Th
PRS7-AL-130	7/24/08	Thorium-230	2.00	0.00	3.12	U	onsite
PRS7-AL-130	7/24/08	Thorium-230	2.00	0.81	0.11		Iso-Th
PRS7-AL-130	7/24/08	Thorium-232	1.48	0.19	0.08		onsite
PRS7-AL-130	7/24/08	Thorium-232	1.48	0.45	0.08		Iso-Th
PRS7-AL-130	7/24/08	Uranium-233/234	1.10	0.51	0.05		Iso-U
PRS7-AL-130	7/24/08	Uranium-235	0.57	0.08	0.03	J	Iso-U
PRS7-AL-130	7/24/08	Uranium-238	1.30	0.47	0.19		onsite
PRS7-AL-130	7/24/08	Uranium-238	1.30	0.58	0.04		Iso-U
PRS7-AL-131	7/24/08	Actinium-227	0.81	0.07	0.14	U	onsite
PRS7-AL-131	7/24/08	Americium-241	19.00	0.01	0.03	U	onsite
PRS7-AL-131	7/24/08	Bismuth-210M	1.10	0.01	0.02	U	onsite
PRS7-AL-131	7/24/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-131	7/24/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-131	7/24/08	Lead-210	4.20	0.26	0.32	U	onsite
PRS7-AL-131	7/24/08	Plutonium-238	29.13	0.00	3.18	U	onsite
PRS7-AL-131	7/24/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
PRS7-AL-131	7/24/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-131	7/24/08	Protactinium-231	0.71	0.00	0.79	U	onsite
PRS7-AL-131	7/24/08	Radium-226	2.13	0.55	0.05		onsite
PRS7-AL-131	7/24/08	Thorium-228	1.64	0.51	0.13		Iso-Th
PRS7-AL-131	7/24/08	Thorium-230	2.00	1.05	3.19	U	onsite
PRS7-AL-131	7/24/08	Thorium-230	2.00	0.67	0.14		Iso-Th
PRS7-AL-131	7/24/08	Thorium-232	1.48	0.13	0.09		onsite
PRS7-AL-131	7/24/08	Thorium-232	1.48	0.49	0.05		Iso-Th
PRS7-AL-131	7/24/08	Uranium-233/234	1.10	0.75	0.02		Iso-U
PRS7-AL-131	7/24/08	Uranium-235	0.57	0.04	0.04	U	Iso-U
PRS7-AL-131	7/24/08	Uranium-238	1.30	0.54	0.19		onsite
PRS7-AL-131	7/24/08	Uranium-238	1.30	0.77	0.02		Iso-U

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-132	7/24/08	Actinium-227	0.81	0.00	0.14	U	onsite
PRS7-AL-132	7/24/08	Americium-241	19.00	0.01	0.03	U	onsite
PRS7-AL-132	7/24/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-132	7/24/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-132	7/24/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-132	7/24/08	Lead-210	4.20	0.47	0.29		onsite
PRS7-AL-132	7/24/08	Plutonium-238	29.13	0.30	2.57	U	onsite
PRS7-AL-132	7/24/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
PRS7-AL-132	7/24/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-132	7/24/08	Protactinium-231	0.71	0.00	0.83	U	onsite
PRS7-AL-132	7/24/08	Radium-226	2.13	0.47	0.06		onsite
PRS7-AL-132	7/24/08	Thorium-228	1.64	0.44	0.06		Iso-Th
PRS7-AL-132	7/24/08	Thorium-230	2.00	2.36	3.09	U	onsite
PRS7-AL-132	7/24/08	Thorium-230	2.00	1.17	0.07		Iso-Th
PRS7-AL-132	7/24/08	Thorium-232	1.48	0.18	0.10		onsite
PRS7-AL-132	7/24/08	Thorium-232	1.48	0.37	0.03		Iso-Th
PRS7-AL-132	7/24/08	Uranium-233/234	1.10	0.52	0.13		Iso-U
PRS7-AL-132	7/24/08	Uranium-235	0.57	0.03	0.08	U	Iso-U
PRS7-AL-132	7/24/08	Uranium-238	1.30	0.35	0.21		onsite
PRS7-AL-132	7/24/08	Uranium-238	1.30	0.70	0.10		Iso-U
PRS7-AL-133	7/24/08	Actinium-227	0.81	0.00	0.14	U	onsite
PRS7-AL-133	7/24/08	Americium-241	19.00	0.00	0.03	U	onsite
PRS7-AL-133	7/24/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-133	7/24/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-133	7/24/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-133	7/24/08	Lead-210	4.20	0.18	0.29	U	onsite
PRS7-AL-133	7/24/08	Plutonium-238	29.13	0.00	3.16	U	onsite
PRS7-AL-133	7/24/08	Plutonium-238	29.13	0.00	0.02	U	Iso-Pu
PRS7-AL-133	7/24/08	Plutonium-239/40	29.18	-0.01	0.02	U	Iso-Pu
PRS7-AL-133	7/24/08	Protactinium-231	0.71	0.00	0.80	U	onsite
PRS7-AL-133	7/24/08	Radium-226	2.13	0.52	0.06		onsite
PRS7-AL-133	7/24/08	Thorium-228	1.64	0.31	0.12		Iso-Th
PRS7-AL-133	7/24/08	Thorium-230	2.00	1.85	2.86	U	onsite
PRS7-AL-133	7/24/08	Thorium-230	2.00	0.94	0.09		Iso-Th
PRS7-AL-133	7/24/08	Thorium-232	1.48	0.21	0.07		onsite
PRS7-AL-133	7/24/08	Thorium-232	1.48	0.26	0.04		Iso-Th
PRS7-AL-133	7/24/08	Uranium-233/234	1.10	0.77	0.04		Iso-U
PRS7-AL-133	7/24/08	Uranium-235	0.57	0.05	0.05	U	Iso-U
PRS7-AL-133	7/24/08	Uranium-238	1.30	0.28	0.20		onsite
PRS7-AL-133	7/24/08	Uranium-238	1.30	0.82	0.05		Iso-U
PRS7-AL-134	7/24/08	Actinium-227	0.81	0.07	0.13	U	onsite
PRS7-AL-134	7/24/08	Americium-241	19.00	0.02	0.03	U	onsite
PRS7-AL-134	7/24/08	Bismuth-210M	1.10	0.01	0.02	U	onsite
PRS7-AL-134	7/24/08	Cesium-137	0.86	0.01	0.02	U	onsite
PRS7-AL-134	7/24/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-134	7/24/08	Lead-210	4.20	0.33	0.30		onsite
PRS7-AL-134	7/24/08	Plutonium-238	29.13	0.00	3.05	U	onsite
PRS7-AL-134	7/24/08	Plutonium-238	29.13	-0.01	0.02	U	Iso-Pu
PRS7-AL-134	7/24/08	Plutonium-239/40	29.18	0.00	0.01	U	Iso-Pu
PRS7-AL-134	7/24/08	Protactinium-231	0.71	0.00	0.73	U	onsite
PRS7-AL-134	7/24/08	Radium-226	2.13	0.53	0.05		onsite
PRS7-AL-134	7/24/08	Thorium-228	1.64	0.36	0.10		Iso-Th

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-134	7/24/08	Thorium-230	2.00	0.36	3.16	U	onsite
PRS7-AL-134	7/24/08	Thorium-230	2.00	0.82	0.06		Iso-Th
PRS7-AL-134	7/24/08	Thorium-232	1.48	0.28	0.07		onsite
PRS7-AL-134	7/24/08	Thorium-232	1.48	0.38	0.07		Iso-Th
PRS7-AL-134	7/24/08	Uranium-233/234	1.10	0.62	0.05		Iso-U
PRS7-AL-134	7/24/08	Uranium-235	0.57	0.02	0.05	U	Iso-U
PRS7-AL-134	7/24/08	Uranium-238	1.30	0.30	0.20		onsite
PRS7-AL-134	7/24/08	Uranium-238	1.30	0.70	0.05		Iso-U
PRS7-AL-135	7/24/08	Actinium-227	0.81	0.03	0.14	U	onsite
PRS7-AL-135	7/24/08	Americium-241	19.00	0.01	0.03	U	onsite
PRS7-AL-135	7/24/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-135	7/24/08	Cesium-137	0.86	0.00	0.03	U	onsite
PRS7-AL-135	7/24/08	Cobalt-60	0.09	0.00	0.03	U	onsite
PRS7-AL-135	7/24/08	Lead-210	4.20	0.30	0.32	U	onsite
PRS7-AL-135	7/24/08	Plutonium-238	29.13	0.86	3.07	U	onsite
PRS7-AL-135	7/24/08	Plutonium-238	29.13	0.01	0.00	J	Iso-Pu
PRS7-AL-135	7/24/08	Plutonium-239/40	29.18	0.00	0.00	U	Iso-Pu
PRS7-AL-135	7/24/08	Protactinium-231	0.71	0.00	0.77	U	onsite
PRS7-AL-135	7/24/08	Radium-226	2.13	0.52	0.06		onsite
PRS7-AL-135	7/24/08	Thorium-228	1.64	0.40	0.04		Iso-Th
PRS7-AL-135	7/24/08	Thorium-230	2.00	0.00	3.24	U	onsite
PRS7-AL-135	7/24/08	Thorium-230	2.00	0.81	0.12		Iso-Th
PRS7-AL-135	7/24/08	Thorium-232	1.48	0.31	0.05		onsite
PRS7-AL-135	7/24/08	Thorium-232	1.48	0.47	0.07		Iso-Th
PRS7-AL-135	7/24/08	Uranium-233/234	1.10	0.60	0.07		Iso-U
PRS7-AL-135	7/24/08	Uranium-235	0.57	0.02	0.05	U	Iso-U
PRS7-AL-135	7/24/08	Uranium-238	1.30	0.39	0.20		onsite
PRS7-AL-135	7/24/08	Uranium-238	1.30	0.75	0.05		Iso-U
PRS7-AL-136	7/24/08	Actinium-227	0.81	0.00	0.16	U	onsite
PRS7-AL-136	7/24/08	Americium-241	19.00	0.00	0.04	U	onsite
PRS7-AL-136	7/24/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-136	7/24/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-136	7/24/08	Cobalt-60	0.09	0.01	0.03	U	onsite
PRS7-AL-136	7/24/08	Lead-210	4.20	0.46	0.33		onsite
PRS7-AL-136	7/24/08	Plutonium-238	29.13	2.16	3.26	U	onsite
PRS7-AL-136	7/24/08	Plutonium-238	29.13	0.00	0.01	U	Iso-Pu
PRS7-AL-136	7/24/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-136	7/24/08	Protactinium-231	0.71	0.30	0.82	U	onsite
PRS7-AL-136	7/24/08	Radium-226	2.13	0.57	0.06		onsite
PRS7-AL-136	7/24/08	Thorium-228	1.64	0.37	0.09		Iso-Th
PRS7-AL-136	7/24/08	Thorium-230	2.00	0.95	3.41	U	onsite
PRS7-AL-136	7/24/08	Thorium-230	2.00	0.88	0.09		Iso-Th
PRS7-AL-136	7/24/08	Thorium-232	1.48	0.29	0.07		onsite
PRS7-AL-136	7/24/08	Thorium-232	1.48	0.38	0.09		Iso-Th
PRS7-AL-136	7/24/08	Uranium-233/234	1.10	0.78	0.05		Iso-U
PRS7-AL-136	7/24/08	Uranium-235	0.57	0.05	0.04	J	Iso-U
PRS7-AL-136	7/24/08	Uranium-238	1.30	0.53	0.22		onsite
PRS7-AL-136	7/24/08	Uranium-238	1.30	0.91	0.04		Iso-U
PRS7-AL-137	7/25/08	Actinium-227	0.81	0.00	0.27	U	onsite
PRS7-AL-137	7/25/08	Americium-241	19.00	0.00	0.06	U	onsite
PRS7-AL-137	7/25/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-137	7/25/08	Cesium-137	0.86	0.03	0.03	U	onsite

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-137	7/25/08	Cobalt-60	0.09	0.00	0.05	U	onsite
PRS7-AL-137	7/25/08	Lead-210	4.20	0.38	0.60	U	onsite
PRS7-AL-137	7/25/08	Plutonium-238	29.13	0.00	5.64	U	onsite
PRS7-AL-137	7/25/08	Plutonium-238	29.13	0.02	0.02		Iso-Pu
PRS7-AL-137	7/25/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-137	7/25/08	Protactinium-231	0.71	0.62	1.30	U	onsite
PRS7-AL-137	7/25/08	Radium-226	2.13	0.79	0.10		onsite
PRS7-AL-137	7/25/08	Thorium-228	1.64	0.72	0.09		Iso-Th
PRS7-AL-137	7/25/08	Thorium-230	2.00	0.00	6.12	U	onsite
PRS7-AL-137	7/25/08	Thorium-230	2.00	1.12	0.03		Iso-Th
PRS7-AL-137	7/25/08	Thorium-232	1.48	0.43	0.15		onsite
PRS7-AL-137	7/25/08	Thorium-232	1.48	0.47	0.05		Iso-Th
PRS7-AL-137	7/25/08	Uranium-233/234	1.10	0.84	0.04		Iso-U
PRS7-AL-137	7/25/08	Uranium-235	0.57	0.00	0.02	U	Iso-U
PRS7-AL-137	7/25/08	Uranium-238	1.30	0.59	0.37		onsite
PRS7-AL-137	7/25/08	Uranium-238	1.30	0.95	0.04		Iso-U
PRS7-AL-138A	8/11/08	Actinium-227	0.81	0.00	0.15	U	onsite
PRS7-AL-138A	8/11/08	Americium-241	19.00	0.01	0.04	U	onsite
PRS7-AL-138A	8/11/08	Bismuth-210M	1.10	0.00	0.03	U	onsite
PRS7-AL-138A	8/11/08	Cesium-137	0.86	0.00	0.02	U	onsite
PRS7-AL-138A	8/11/08	Cobalt-60	0.09	0.01	0.02	U	onsite
PRS7-AL-138A	8/11/08	Lead-210	4.20	0.87	0.37		onsite
PRS7-AL-138A	8/11/08	Plutonium-238	29.13	0.11	3.16	U	onsite
PRS7-AL-138A	8/11/08	Plutonium-238	29.13	0.08	0.06		Iso-Pu
PRS7-AL-138A	8/11/08	Plutonium-239/40	29.18	0.04	0.05	U	Iso-Pu
PRS7-AL-138A	8/11/08	Protactinium-231	0.71	0.00	0.77	U	onsite
PRS7-AL-138A	8/11/08	Radium-226	2.13	1.12	0.05		onsite
PRS7-AL-138A	8/11/08	Thorium-228	1.64	1.01	0.06		Iso-Th
PRS7-AL-138A	8/11/08	Thorium-230	2.00	2.10	3.24	U	onsite
PRS7-AL-138A	8/11/08	Thorium-230	2.00	1.72	0.05		Iso-Th
PRS7-AL-138A	8/11/08	Thorium-232	1.48	0.45	0.08		onsite
PRS7-AL-138A	8/11/08	Thorium-232	1.48	0.86	0.05		Iso-Th
PRS7-AL-138A	8/11/08	Uranium-233/234	1.10	0.79	0.06		Iso-U
PRS7-AL-138A	8/11/08	Uranium-235	0.57	0.05	0.03	J	Iso-U
PRS7-AL-138A	8/11/08	Uranium-238	1.30	0.79	0.19		onsite
PRS7-AL-138A	8/11/08	Uranium-238	1.30	0.78	0.02		Iso-U
PRS7-AL-139	7/25/08	Actinium-227	0.81	0.06	0.26	U	onsite
PRS7-AL-139	7/25/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-139	7/25/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-139	7/25/08	Cesium-137	0.86	0.00	0.04	U	onsite
PRS7-AL-139	7/25/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-139	7/25/08	Lead-210	4.20	0.96	0.56		onsite
PRS7-AL-139	7/25/08	Plutonium-238	29.13	0.00	5.66	U	onsite
PRS7-AL-139	7/25/08	Plutonium-238	29.13	0.20	0.06		Iso-Pu
PRS7-AL-139	7/25/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-139	7/25/08	Protactinium-231	0.71	0.18	1.30	U	onsite
PRS7-AL-139	7/25/08	Radium-226	2.13	0.81	0.12		onsite
PRS7-AL-139	7/25/08	Thorium-228	1.64	0.50	0.10		Iso-Th
PRS7-AL-139	7/25/08	Thorium-230	2.00	0.00	6.20	U	onsite
PRS7-AL-139	7/25/08	Thorium-230	2.00	1.11	0.06		Iso-Th
PRS7-AL-139	7/25/08	Thorium-232	1.48	0.50	0.12		onsite
PRS7-AL-139	7/25/08	Thorium-232	1.48	0.73	0.03		Iso-Th

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-139	7/25/08	Uranium-233/234	1.10	0.85	0.06		Iso-U
PRS7-AL-139	7/25/08	Uranium-235	0.57	0.05	0.03	J	Iso-U
PRS7-AL-139	7/25/08	Uranium-238	1.30	0.38	0.39	U	onsite
PRS7-AL-139	7/25/08	Uranium-238	1.30	0.69	0.02		Iso-U
PRS7-AL-140	7/25/08	Actinium-227	0.81	0.09	0.27	U	onsite
PRS7-AL-140	7/25/08	Americium-241	19.00	0.02	0.07	U	onsite
PRS7-AL-140	7/25/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-140	7/25/08	Cesium-137	0.86	0.01	0.04	U	onsite
PRS7-AL-140	7/25/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-140	7/25/08	Lead-210	4.20	0.87	0.61		onsite
PRS7-AL-140	7/25/08	Plutonium-238	29.13	5.67	6.03	U	onsite
PRS7-AL-140	7/25/08	Plutonium-238	29.13	0.10	0.07		Iso-Pu
PRS7-AL-140	7/25/08	Plutonium-239/40	29.18	0.00	0.05	U	Iso-Pu
PRS7-AL-140	7/25/08	Protactinium-231	0.71	0.89	1.46	U	onsite
PRS7-AL-140	7/25/08	Radium-226	2.13	0.85	0.09		onsite
PRS7-AL-140	7/25/08	Thorium-228	1.64	0.58	0.07		Iso-Th
PRS7-AL-140	7/25/08	Thorium-230	2.00	3.28	6.24	U	onsite
PRS7-AL-140	7/25/08	Thorium-230	2.00	1.96	0.05		Iso-Th
PRS7-AL-140	7/25/08	Thorium-232	1.48	0.57	0.10		onsite
PRS7-AL-140	7/25/08	Thorium-232	1.48	0.64	0.06		Iso-Th
PRS7-AL-140	**7/25/08**	**Uranium-233/234**	**1.10**	**1.16**	**0.06**		**Iso-U**
PRS7-AL-140	7/25/08	Uranium-235	0.57	0.04	0.04	U	Iso-U
PRS7-AL-140	7/25/08	Uranium-238	1.30	1.03	0.41		onsite
PRS7-AL-140	7/25/08	Uranium-238	1.30	1.02	0.04		Iso-U
PRS7-AL-141	7/25/08	Actinium-227	0.81	0.00	0.25	U	onsite
PRS7-AL-141	7/25/08	Americium-241	19.00	0.03	0.05	U	onsite
PRS7-AL-141	7/25/08	Bismuth-210M	1.10	0.02	0.04	U	onsite
PRS7-AL-141	7/25/08	Cesium-137	0.86	0.00	0.04	U	onsite
PRS7-AL-141	7/25/08	Cobalt-60	0.09	0.02	0.05	U	onsite
PRS7-AL-141	7/25/08	Lead-210	4.20	0.83	0.49		onsite
PRS7-AL-141	7/25/08	Plutonium-238	29.13	0.00	5.33	U	onsite
PRS7-AL-141	7/25/08	Plutonium-238	29.13	0.06	0.05		Iso-Pu
PRS7-AL-141	7/25/08	Plutonium-239/40	29.18	0.00	0.04	U	Iso-Pu
PRS7-AL-141	7/25/08	Protactinium-231	0.71	0.00	1.45	U	onsite
PRS7-AL-141	7/25/08	Radium-226	2.13	0.54	0.10		onsite
PRS7-AL-141	7/25/08	Thorium-228	1.64	0.61	0.10		Iso-Th
PRS7-AL-141	7/25/08	Thorium-230	2.00	2.75	5.15	U	onsite
PRS7-AL-141	7/25/08	Thorium-230	2.00	0.98	0.08		Iso-Th
PRS7-AL-141	7/25/08	Thorium-232	1.48	0.22	0.14		onsite
PRS7-AL-141	7/25/08	Thorium-232	1.48	0.56	0.08		Iso-Th
PRS7-AL-141	7/25/08	Uranium-233/234	1.10	0.72	0.04		Iso-U
PRS7-AL-141	7/25/08	Uranium-235	0.57	0.08	0.04	J	Iso-U
PRS7-AL-141	7/25/08	Uranium-238	1.30	0.71	0.34		onsite
PRS7-AL-141	7/25/08	Uranium-238	1.30	0.82	0.04		Iso-U
PRS7-AL-142	7/25/08	Actinium-227	0.81	0.00	0.22	U	onsite
PRS7-AL-142	7/25/08	Americium-241	19.00	0.00	0.05	U	onsite
PRS7-AL-142	7/25/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-142	7/25/08	Cesium-137	0.86	0.00	0.03	U	onsite
PRS7-AL-142	7/25/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-142	7/25/08	Lead-210	4.20	0.27	0.46	U	onsite
PRS7-AL-142	7/25/08	Plutonium-238	29.13	0.64	4.13	U	onsite
PRS7-AL-142	7/25/08	Plutonium-238	29.13	0.01	0.03	U	Iso-Pu

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-142	7/25/08	Plutonium-239/40	29.18	0.00	0.03	U	Iso-Pu
PRS7-AL-142	7/25/08	Protactinium-231	0.71	0.30	1.09	U	onsite
PRS7-AL-142	7/25/08	Radium-226	2.13	0.55	0.09		onsite
PRS7-AL-142	7/25/08	Thorium-228	1.64	0.37	0.06		Iso-Th
PRS7-AL-142	7/25/08	Thorium-230	2.00	0.00	4.77	U	onsite
PRS7-AL-142	7/25/08	Thorium-230	2.00	0.85	0.06		Iso-Th
PRS7-AL-142	7/25/08	Thorium-232	1.48	0.25	0.11		onsite
PRS7-AL-142	7/25/08	Thorium-232	1.48	0.40	0.06		Iso-Th
PRS7-AL-142	7/25/08	Uranium-233/234	1.10	0.73	0.05		Iso-U
PRS7-AL-142	7/25/08	Uranium-235	0.57	0.03	0.04	U	Iso-U
PRS7-AL-142	7/25/08	Uranium-238	1.30	0.48	0.30		onsite
PRS7-AL-142	7/25/08	Uranium-238	1.30	0.78	0.05		Iso-U
PRS7-AL-143	7/25/08	Actinium-227	0.81	0.18	0.27	U	onsite
PRS7-AL-143	7/25/08	Americium-241	19.00	0.00	0.07	U	onsite
PRS7-AL-143	7/25/08	Bismuth-210M	1.10	0.00	0.05	U	onsite
PRS7-AL-143	7/25/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-143	7/25/08	Cobalt-60	0.09	0.04	0.04		onsite
PRS7-AL-143	7/25/08	Lead-210	4.20	0.79	0.59		onsite
PRS7-AL-143	7/25/08	Plutonium-238	29.13	0.90	5.81	U	onsite
PRS7-AL-143	7/25/08	Plutonium-238	29.13	0.07	0.05		Iso-Pu
PRS7-AL-143	7/25/08	Plutonium-239/40	29.18	0.01	0.05	U	Iso-Pu
PRS7-AL-143	7/25/08	Protactinium-231	0.71	0.00	1.46	U	onsite
PRS7-AL-143	7/25/08	Radium-226	2.13	0.93	0.11		onsite
PRS7-AL-143	7/25/08	Thorium-228	1.64	0.65	0.12		Iso-Th
PRS7-AL-143	7/25/08	Thorium-230	2.00	2.21	6.29	U	onsite
PRS7-AL-143	7/25/08	Thorium-230	2.00	1.89	0.06		Iso-Th
PRS7-AL-143	7/25/08	Thorium-232	1.48	0.35	0.16		onsite
PRS7-AL-143	7/25/08	Thorium-232	1.48	0.75	0.05		Iso-Th
PRS7-AL-143	7/25/08	Uranium-233/234	1.10	0.74	0.06		Iso-U
PRS7-AL-143	7/25/08	Uranium-235	0.57	0.04	0.05	U	Iso-U
PRS7-AL-143	7/25/08	Uranium-238	1.30	0.53	0.39		onsite
PRS7-AL-143	7/25/08	Uranium-238	1.30	0.80	0.06		Iso-U
PRS7-AL-144	7/25/08	Actinium-227	0.81	0.00	0.22	U	onsite
PRS7-AL-144	7/25/08	Americium-241	19.00	0.02	0.05	U	onsite
PRS7-AL-144	7/25/08	Bismuth-210M	1.10	0.00	0.04	U	onsite
PRS7-AL-144	7/25/08	Cesium-137	0.86	0.01	0.03	U	onsite
PRS7-AL-144	7/25/08	Cobalt-60	0.09	0.03	0.03		onsite
PRS7-AL-144	7/25/08	Lead-210	4.20	0.55	0.43		onsite
PRS7-AL-144	7/25/08	Plutonium-238	29.13	0.00	4.98	U	onsite
PRS7-AL-144	7/25/08	Plutonium-238	29.13	0.13	0.07		Iso-Pu
PRS7-AL-144	7/25/08	Plutonium-239/40	29.18	-0.01	0.07	U	Iso-Pu
PRS7-AL-144	7/25/08	Protactinium-231	0.71	0.00	1.08	U	onsite
PRS7-AL-144	7/25/08	Radium-226	2.13	0.37	0.09		onsite
PRS7-AL-144	7/25/08	Thorium-228	1.64	0.23	0.08		Iso-Th
PRS7-AL-144	7/25/08	Thorium-230	2.00	0.52	4.53	U	onsite
PRS7-AL-144	7/25/08	Thorium-230	2.00	0.68	0.03		Iso-Th
PRS7-AL-144	7/25/08	Thorium-232	1.48	0.17	0.09		onsite
PRS7-AL-144	7/25/08	Thorium-232	1.48	0.25	0.04		Iso-Th
PRS7-AL-144	7/25/08	Uranium-233/234	1.10	0.62	0.05		Iso-U
PRS7-AL-144	7/25/08	Uranium-235	0.57	0.04	0.03	J	Iso-U
PRS7-AL-144	7/25/08	Uranium-238	1.30	0.37	0.29		onsite
PRS7-AL-144	7/25/08	Uranium-238	1.30	0.61	0.04		Iso-U

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-145	7/25/08	Actinium-227	0.81	0.17	0.30	U	onsite
PRS7-AL-145	7/25/08	Americium-241	19.00	0.00	0.08	U	onsite
PRS7-AL-145	7/25/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-145	7/25/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-145	7/25/08	Cobalt-60	0.09	0.00	0.06	U	onsite
PRS7-AL-145	7/25/08	Lead-210	4.20	0.99	0.71		onsite
PRS7-AL-145	7/25/08	Plutonium-238	29.13	2.62	6.18	U	onsite
PRS7-AL-145	7/25/08	Plutonium-238	29.13	0.27	0.06		Iso-Pu
PRS7-AL-145	7/25/08	Plutonium-239/40	29.18	0.06	0.05		Iso-Pu
PRS7-AL-145	7/25/08	Protactinium-231	0.71	0.87	1.39	U	onsite
PRS7-AL-145	7/25/08	Radium-226	2.13	1.00	0.13		onsite
PRS7-AL-145	7/25/08	Thorium-228	1.64	0.76	0.10		Iso-Th
PRS7-AL-145	7/25/08	Thorium-230	2.00	6.23	6.66	U	onsite
PRS7-AL-145	7/25/08	Thorium-230	2.00	1.33	0.08		Iso-Th
PRS7-AL-145	7/25/08	Thorium-232	1.48	0.52	0.14		onsite
PRS7-AL-145	7/25/08	Thorium-232	1.48	0.64	0.06		Iso-Th
PRS7-AL-145	7/25/08	Uranium-233/234	1.10	0.89	0.02		Iso-U
PRS7-AL-145	7/25/08	Uranium-235	0.57	0.06	0.05	J	Iso-U
PRS7-AL-145	7/25/08	Uranium-238	1.30	0.70	0.43		onsite
PRS7-AL-145	7/25/08	Uranium-238	1.30	1.27	0.02		Iso-U
PRS7-AL-146	7/25/08	Actinium-227	0.81	0.00	0.30	U	onsite
PRS7-AL-146	7/25/08	Americium-241	19.00	0.01	0.07	U	onsite
PRS7-AL-146	7/25/08	Bismuth-210M	1.10	0.00	0.06	U	onsite
PRS7-AL-146	7/25/08	Cesium-137	0.86	0.00	0.05	U	onsite
PRS7-AL-146	7/25/08	Cobalt-60	0.09	0.00	0.07	U	onsite
PRS7-AL-146	7/25/08	Lead-210	4.20	0.29	0.72	U	onsite
PRS7-AL-146	7/25/08	Plutonium-238	29.13	1.16	6.20	U	onsite
PRS7-AL-146	7/25/08	Plutonium-238	29.13	0.01	0.02	U	Iso-Pu
PRS7-AL-146	7/25/08	Plutonium-239/40	29.18	0.00	0.02	U	Iso-Pu
PRS7-AL-146	7/25/08	Protactinium-231	0.71	0.31	1.37	U	onsite
PRS7-AL-146	7/25/08	Radium-226	2.13	0.98	0.12		onsite
PRS7-AL-146	7/25/08	Thorium-228	1.64	0.63	0.05		Iso-Th
PRS7-AL-146	7/25/08	Thorium-230	2.00	2.01	6.56	U	onsite
PRS7-AL-146	7/25/08	Thorium-230	2.00	1.09	0.05		Iso-Th
PRS7-AL-146	7/25/08	Thorium-232	1.48	0.39	0.17		onsite
PRS7-AL-146	7/25/08	Thorium-232	1.48	0.44	0.02		Iso-Th
PRS7-AL-146	7/25/08	Uranium-233/234	1.10	0.73	0.05		Iso-U
PRS7-AL-146	7/25/08	Uranium-235	0.57	0.04	0.03	J	Iso-U
PRS7-AL-146	7/25/08	Uranium-238	1.30	0.75	0.35		onsite
PRS7-AL-146	7/25/08	Uranium-238	1.30	0.79	0.04		Iso-U
PRS7-AL-149	8/11/08	Actinium-227	0.81	0.00	0.13	U	onsite
PRS7-AL-149	8/11/08	Americium-241	19.00	0.01	0.03	U	onsite
PRS7-AL-149	8/11/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-149	8/11/08	Cesium-137	0.86	0.01	0.02	U	onsite
PRS7-AL-149	8/11/08	Cobalt-60	0.09	0.01	0.02	U	onsite
PRS7-AL-149	8/11/08	Lead-210	4.20	0.48	0.28		onsite
PRS7-AL-149	8/11/08	Plutonium-238	29.13	0.00	2.71	U	onsite
PRS7-AL-149	8/11/08	Plutonium-238	29.13	0.40	0.06		Iso-Pu
PRS7-AL-149	8/11/08	Plutonium-239/40	29.18	0.03	0.04	U	Iso-Pu
PRS7-AL-149	8/11/08	Protactinium-231	0.71	0.00	0.65	U	onsite
PRS7-AL-149	8/11/08	Radium-226	2.13	0.84	0.04		onsite
PRS7-AL-149	8/11/08	Thorium-228	1.64	0.63	0.07		Iso-Th

Table 5: PRS 7 East and West Results

Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	MDC pCi/g	Flags	Analysis
PRS7-AL-149	8/11/08	Thorium-230	2.00	0.00	2.84	U	onsite
PRS7-AL-149	8/11/08	Thorium-230	2.00	0.96	0.06		Iso-Th
PRS7-AL-149	8/11/08	Thorium-232	1.48	0.38	0.06		onsite
PRS7-AL-149	8/11/08	Thorium-232	1.48	0.59	0.06		Iso-Th
PRS7-AL-149	8/11/08	Uranium-233/234	1.10	0.79	0.07		Iso-U
PRS7-AL-149	8/11/08	Uranium-235	0.57	0.00	0.05	U	Iso-U
PRS7-AL-149	8/11/08	Uranium-238	1.30	0.49	0.17		onsite
PRS7-AL-149	8/11/08	Uranium-238	1.30	0.83	0.05		Iso-U
PRS7-AL-150	8/11/08	Actinium-227	0.81	0.00	0.14	U	onsite
PRS7-AL-150	8/11/08	Americium-241	19.00	0.00	0.03	U	onsite
PRS7-AL-150	8/11/08	Bismuth-210M	1.10	0.00	0.02	U	onsite
PRS7-AL-150	8/11/08	Cesium-137	0.86	0.01	0.02	U	onsite
PRS7-AL-150	8/11/08	Cobalt-60	0.09	0.01	0.02	U	onsite
PRS7-AL-150	8/11/08	Lead-210	4.20	0.63	0.35		onsite
PRS7-AL-150	8/11/08	Plutonium-238	29.13	1.59	2.83	U	onsite
PRS7-AL-150	8/11/08	Plutonium-238	29.13	1.08	0.05		Iso-Pu
PRS7-AL-150	8/11/08	Plutonium-239/40	29.18	0.00	0.04	U	Iso-Pu
PRS7-AL-150	8/11/08	Protactinium-231	0.71	0.00	0.73	U	onsite
PRS7-AL-150	8/11/08	Radium-226	2.13	0.91	0.05		onsite
PRS7-AL-150	8/11/08	Thorium-228	1.64	0.82	0.10		Iso-Th
PRS7-AL-150	8/11/08	Thorium-230	2.00	1.13	3.15	U	onsite
PRS7-AL-150	8/11/08	Thorium-230	2.00	1.69	0.04		Iso-Th
PRS7-AL-150	8/11/08	Thorium-232	1.48	0.42	0.08		onsite
PRS7-AL-150	8/11/08	Thorium-232	1.48	0.89	0.04		Iso-Th
PRS7-AL-150	8/11/08	Uranium-233/234	1.10	0.90	0.04		Iso-U
PRS7-AL-150	8/11/08	Uranium-235	0.57	0.03	0.04	U	Iso-U
PRS7-AL-150	8/11/08	Uranium-238	1.30	0.59	0.22		onsite
PRS7-AL-150	8/11/08	Uranium-238	1.30	0.93	0.03		Iso-U

Table 5: PRS 7 East and West Results

CV	Comparison Value
bkg	background
gamma	offsite Gamma Cs-137 & Hits by DOE GA-01-R MOD
Iso-Pu	Isotopic PLUTONIUM (LONG CT) DOE A-01-R MOD
Iso-Th	Isotopic THORIUM (LONG CT) DOE A-01-R MOD
Iso-U	Isotopic URANIUM (LONG CT) DOE A-01-R MOD
onsite	Onsite gamma spec, soil screening lab
pCi/g	picoCurie/gram
Flags: U	Calculated Activity less than or equal to sample Minimum Detectable Limit
Flags: J	The associated numerical value is an estimated quantity
NC	None Calculated
ND	None Detected – result must have a “U” qualifying flag
MDC	Minimum Detectable Concentration
Bold font	Highlights results >comparison value

NOTE: Where multiple results exist at the same sample location, isotopic analysis is more accurate than offsite gamma which is more accurate than onsite gamma spec.

Data Analysis

One sample within the systematic sample set exceeded the comparison value for Th-230. Sign Test for Th-230 indicated that the “as left” conditions pass the MARSSIM survey and therefore are protective of human heath and the environment. 42 systematic samples were collected and analyzed; per MARSSIM only 12 would have been required to meet the number necessary to assure 95% confidence in the conclusion of the sampling event.

A small number of bias samples indicated soil concentrations from isolated areas that had concentrations of Th-230 and U-233/234 marginally greater than the comparison values. The Core Team agreed not to excavate these 3 discrete, small areas. The data indicates that the 95% UCL of the mean for all post excavation samples for these radionuclides to be less than the comparison values. The distribution of this data further suggests that the residual concentrations of Th-230 and U-233/234 are indistinguishable from background soil concentrations (normal distribution).Summary statistics and histogram of distribution follow on pages 110-113.

SIGN TEST

Sample count (N)	Sample ID	Sample Date	Analyte	CV pCi/g	Result pCi/g	Flags
1	0701-0101A-FO	4/30/08	Thorium-230	2.00	1.59	-
2	0701-0102B-FO	6/18/08	Thorium-230	2.00	1.07	-
3	0701-0103A-FO	4/28/08	Thorium-230	2.00	1.20	-
4	0701-0104A-FO	4/28/08	Thorium-230	2.00	1.19	-
5	0701-0105A-FO	6/9/08	Thorium-230	2.00	1.15	-
6	0701-0106A-FO	6/2/08	Thorium-230	2.00	0.54	-
7	0701-0107A-FO	5/1/08	Thorium-230	2.00	0.72	-
8	0701-0108A-FO	5/1/08	Thorium-230	2.00	0.75	-
9	0701-0109A-FO	5/2/08	Thorium-230	2.00	0.75	-
10	0701-0110A-FO	5/5/08	Thorium-230	2.00	1.35	-
11	0701-0111A-FO	5/5/08	Thorium-230	2.00	0.66	-
12	0701-0112A-FO	5/6/08	Thorium-230	2.00	0.74	-
13	0701-0113A-FO	5/6/08	Thorium-230	2.00	0.95	-
14	0701-0114A-FO	5/6/08	Thorium-230	2.00	0.98	-
15	0701-0115A-FO	5/7/08	Thorium-230	2.00	0.91	-
16	0701-0116A-FO	5/7/08	Thorium-230	2.00	0.75	-
17	0701-0117A-FO	5/7/08	Thorium-230	2.00	1.41	-
18	0701-0118A-FO	5/14/08	Thorium-230	2.00	1.07	-
19	0701-0119A-FO	5/14/08	Thorium-230	2.00	1.39	-
20	0701-0120A-FO	5/13/08	Thorium-230	2.00	1.42	-
21	0701-0121A-FO	5/13/08	Thorium-230	2.00	1.01	-
22	0701-0122A-FO	5/13/08	Thorium-230	2.00	1.37	-
23	**0701-0123B-FO**	**5/13/08**	**Thorium-230**	**2.00**	**2.16**	+
24	0701-0124A-FO	5/12/08	Thorium-230	2.00	1.56	-
25	0701-0125A-FO	5/9/08	Thorium-230	2.00	1.19	-
26	0701-0128B-FO	6/18/08	Thorium-230	2.00	1.57	-
27	0701-0129A-FO	5/16/08	Thorium-230	2.00	1.59	-
28	0701-0130A-FO	5/19/08	Thorium-230	2.00	1.21	-
29	0701-0131A-FO	5/19/08	Thorium-230	2.00	1.87	-
30	0701-0132A-FO	5/19/08	Thorium-230	2.00	1.47	-
31	0701-0135A-FO	4/24/08	Thorium-230	2.00	1.41	-
32	0701-0136A-FO	4/24/08	Thorium-230	2.00	1.12	-
33	0701-0137A-FO	4/23/08	Thorium-230	2.00	1.49	-
34	0701-0138A-FO	4/23/08	Thorium-230	2.00	1.21	-
35	0701-0139A-FO	4/23/08	Thorium-230	2.00	1.65	-
36	0701-0140A-FO	4/22/08	Thorium-230	2.00	1.58	-
37	0701-0141A-FO	4/22/08	Thorium-230	2.00	1.47	-
38	0701-0142A-FO	4/21/08	Thorium-230	2.00	1.42	-
39	0701-0143A-FO	3/25/08	Thorium-230	2.00	1.65	-
40	0701-0144A-FO	3/25/08	Thorium-230	2.00	1.07	-
41	0701-0145A-FO	3/26/08	Thorium-230	2.00	1.17	-
42	0701-0146A-FO	3/26/08	Thorium-230	2.00	1.08	-

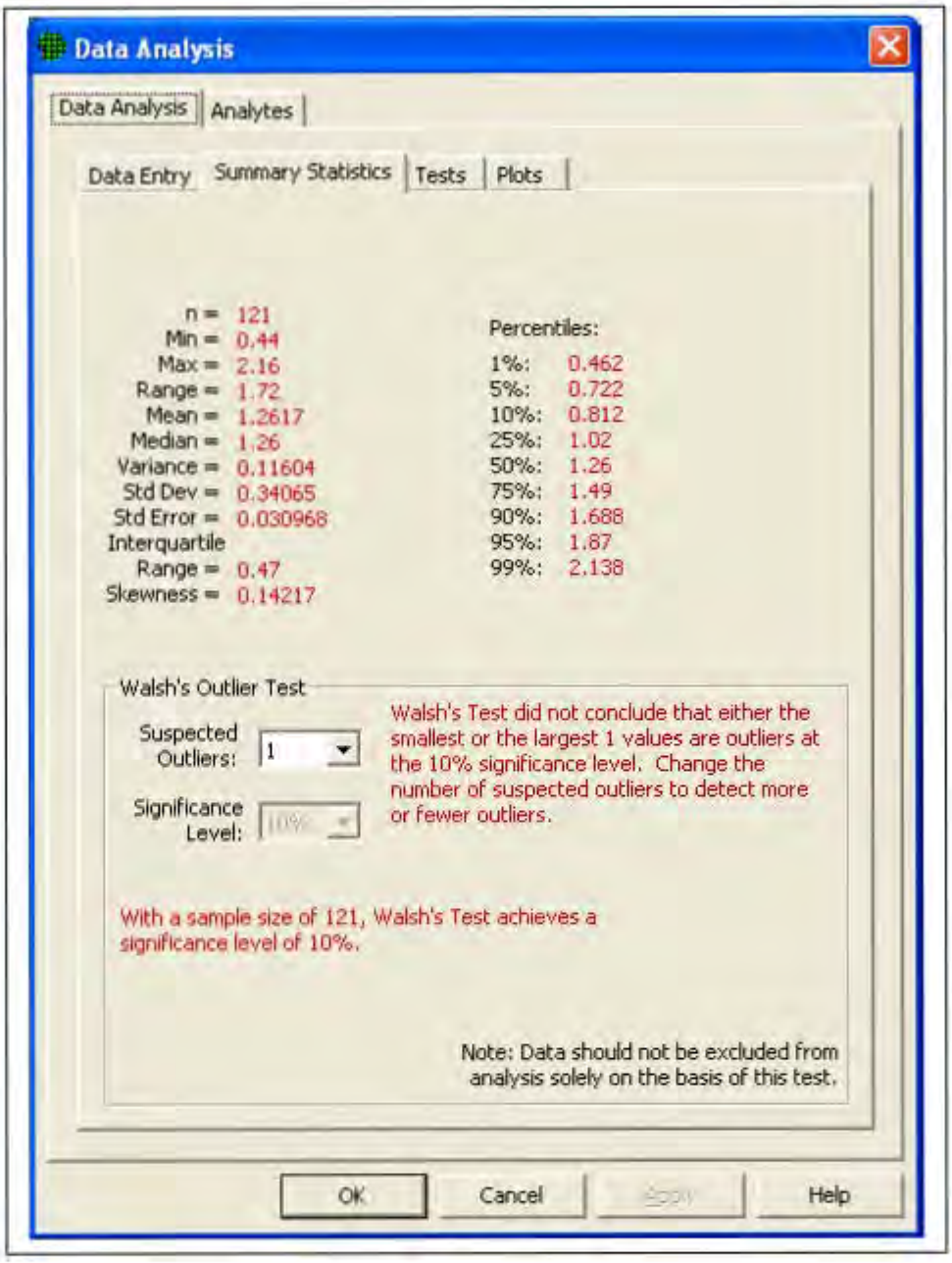
N=42 Number of positive difference (S+) = 1

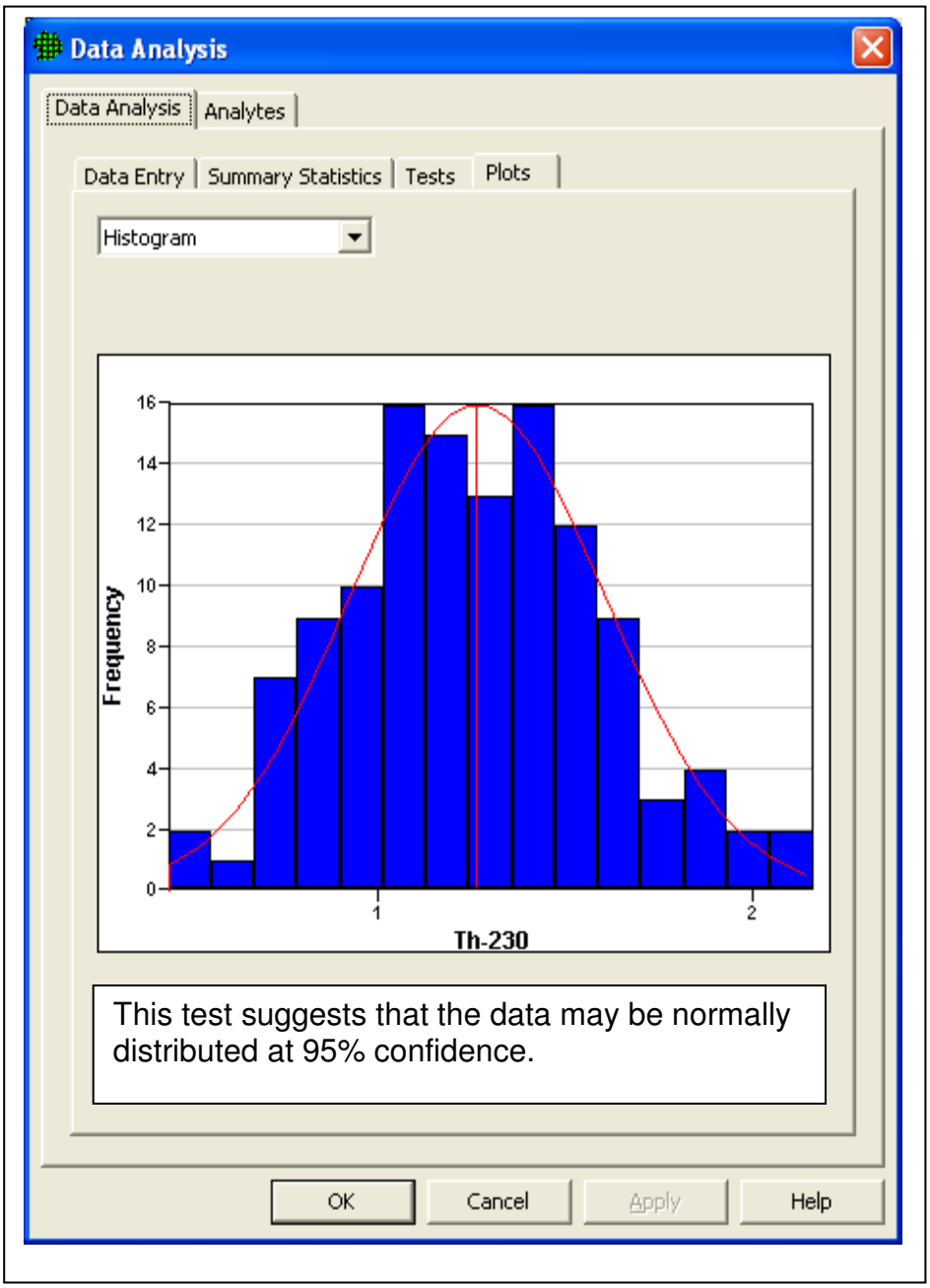
Critical value (k)= 21 from MARSSIM Table I.3 Critcial Values for the Sign Test

S+<k (1<21) **Passes the sign test**

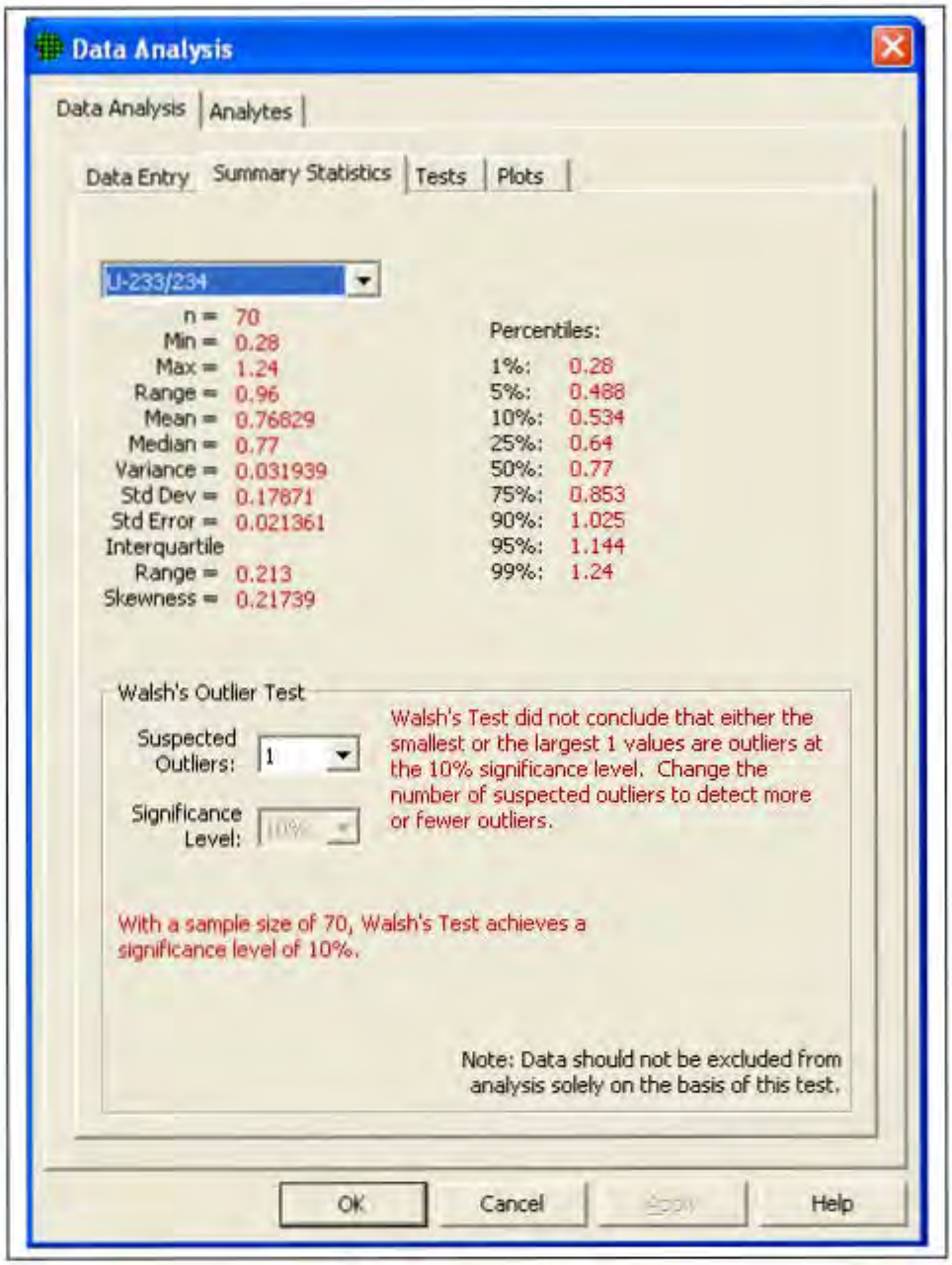
The Sign Test suggests that sampling was adequate to show the area is no longer contaminated above the CV with 95% probability

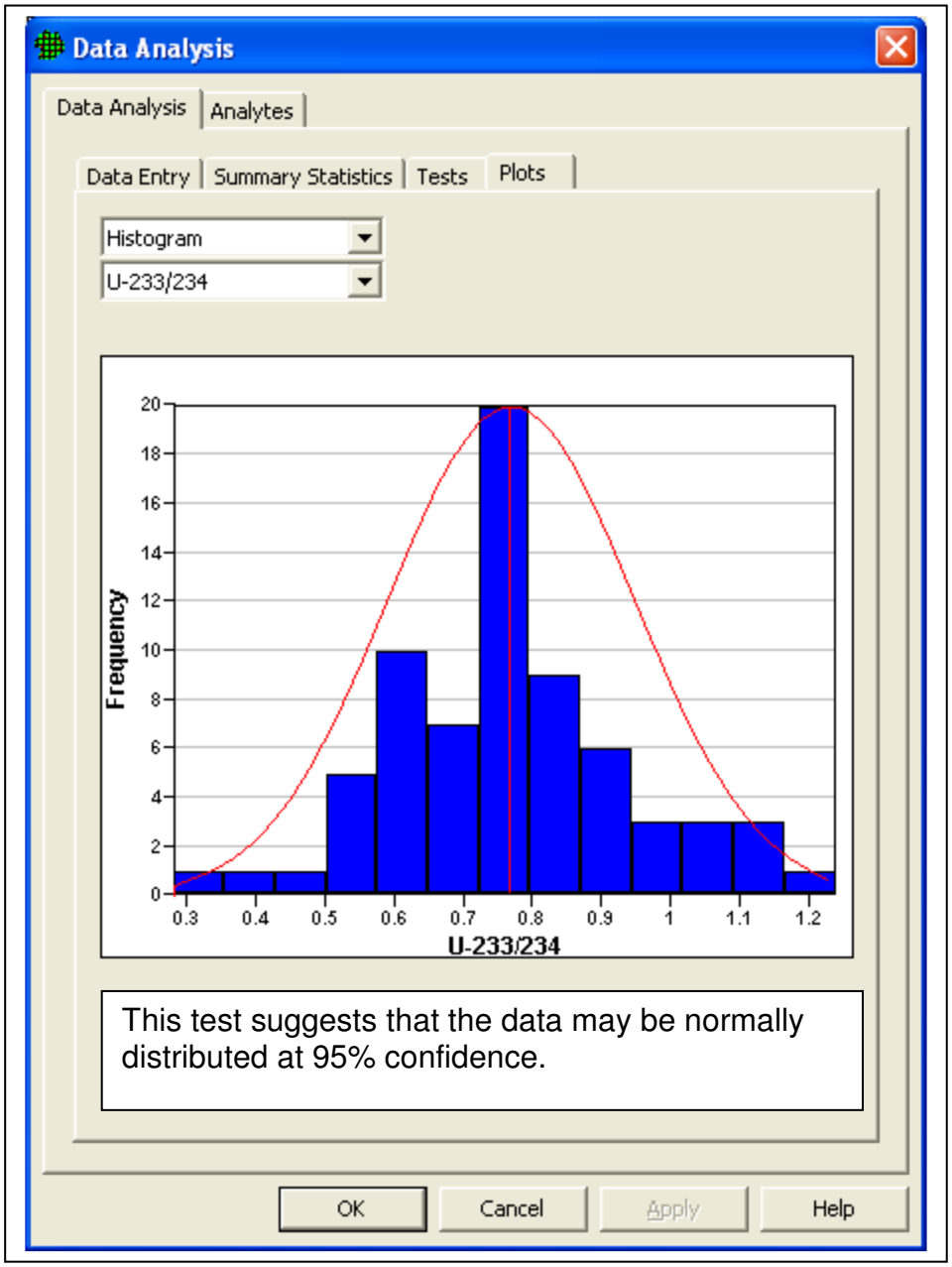
Statistical Tests for Th-230 results of PRS 7 offsite results.




Data Analysis
Data Analysis
Analytes
Data Entry
Summary Statistics
Tests
Plots
Histogram
Frequency
16
14
12
10
8
6
4
2
0
1
2
Th-230
This test suggests that the data may be normally distributed at 95% confidence.
OK
Cancel
Apply
Help

Statistical Tests for U-233/234 results of PRS 7 offsite results.




Data Analysis
Data Analysis
Analytes
Data Entry
Summary Statistics
Tests
Plots
Histogram
U-233/234
Frequency
20
18
16
14
12
10
8
6
4
2
0
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
U-233/234
This test suggests that the data may be normally distributed at 95% confidence.
OK
Cancel
Apply
Help

Walkover of Haul Road Post Excavation

Prior to and during the PRS 7 West excavation the haul road was surveyed monthly using a FIDLER and a NaI detector with an areal target of approximately 25%. These surveys showed no elevations during the entire excavation process.

The walkover that follows is a GPS assisted NaI detector walkover survey performed post excavation to ensure that no elevated soils above the comparison values might have remained. No elevated activity was detected during this walkover.

DISCUSSION

A surface gamma scan of the PRS 7 East and West haul road was conducted to confirm that significant areas near-surface soil contamination did not exist. The scan employed a Ludlum Model 44-10, 2" x 2" sodium iodide (NaI) detector coupled with a Ludlum Model 2221 ratemeter/scaler. The gamma surface scan was conducted in accordance with procedure OU1-RP-105.321. Detector distance from the surface was maintained as small as practical (typically less than 5 cm) and rates of movement relative to the surface (0.5 m/s) was selected to achieve a detection sensitivity that would identify residual activity of gamma-emitting radionuclides equal to or less than the established Mound "hot-spot" criteria.

Target areal coverage for the PRS 7 haul route was 25% of 100% of the road surface. The moisture content during these walkover activities was not a factor. Any low lying wet areas were very small, isolated, and able to be avoided considering the coverage requirement.

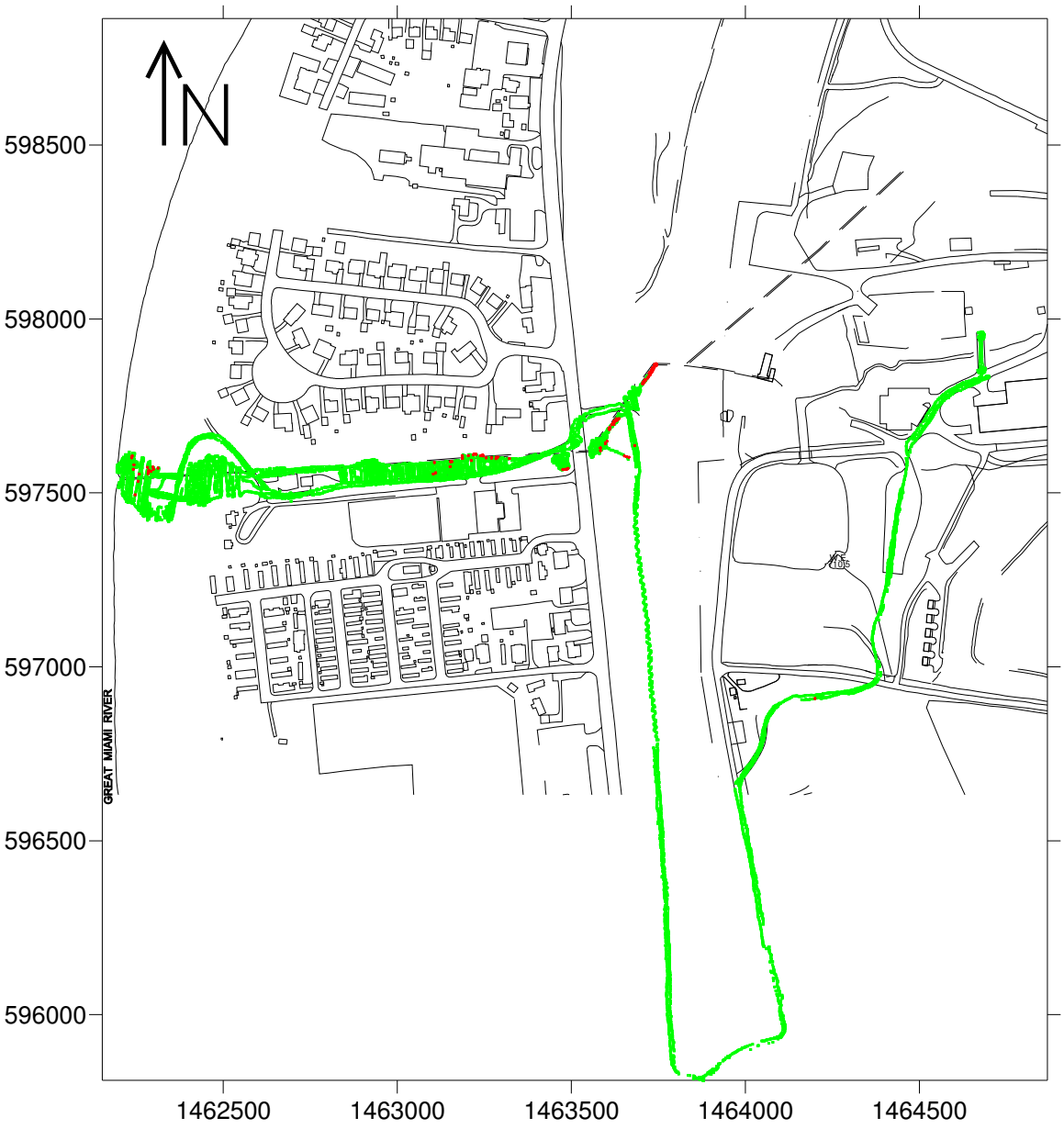
Audible response signals were continuously monitored for detectable increases in count rate. Any suspect locations were immediately rescanned in attempt to confirm as a positive indication.

In addition to monitoring the audible signals, counts were integrated for 2 second intervals and the results logged, along with planer coordinates, through Global Positioning System (GPS) technology.
A plot of the GPS-assisted scan data for the PRS 7 haul route is provided as Figure 9.

2" x 2" Detector

Figure 9 presents the results of the 2" x 2" detector scan of the haul route. During the walkover, no "hot spot" locations were identified. The average count rate was 5487 cpm (counts per minute), and the maximum count rate was 9553 cpm. 98.12% of the readings were less than 2 standard deviations above the average and 1.88% were between 2 and 4 standard deviations above the average. Data points are displayed as green (within average "background" plus 2 standard deviations) and orange (between average plus 2 standard deviations and average plus 4 standard deviations). The size of a green or orange data point represents the scan coverage area for that count rate integration. The cumulative frequency distribution for the 2" x 2" detector scans are presented in Figure 10.

PRS7, 44-10 Probe



Legend:	# of
< Background + 2σ	6886
Background + 2σ to Background + 4σ	132
> Background + 4σ	0

Descriptive Statistics	
Mean	5487
Standard Deviation	1210
Minimum	2385
Maximum	9553
# of Data Points	7018

Figure 9: Haul Road Walkover Map

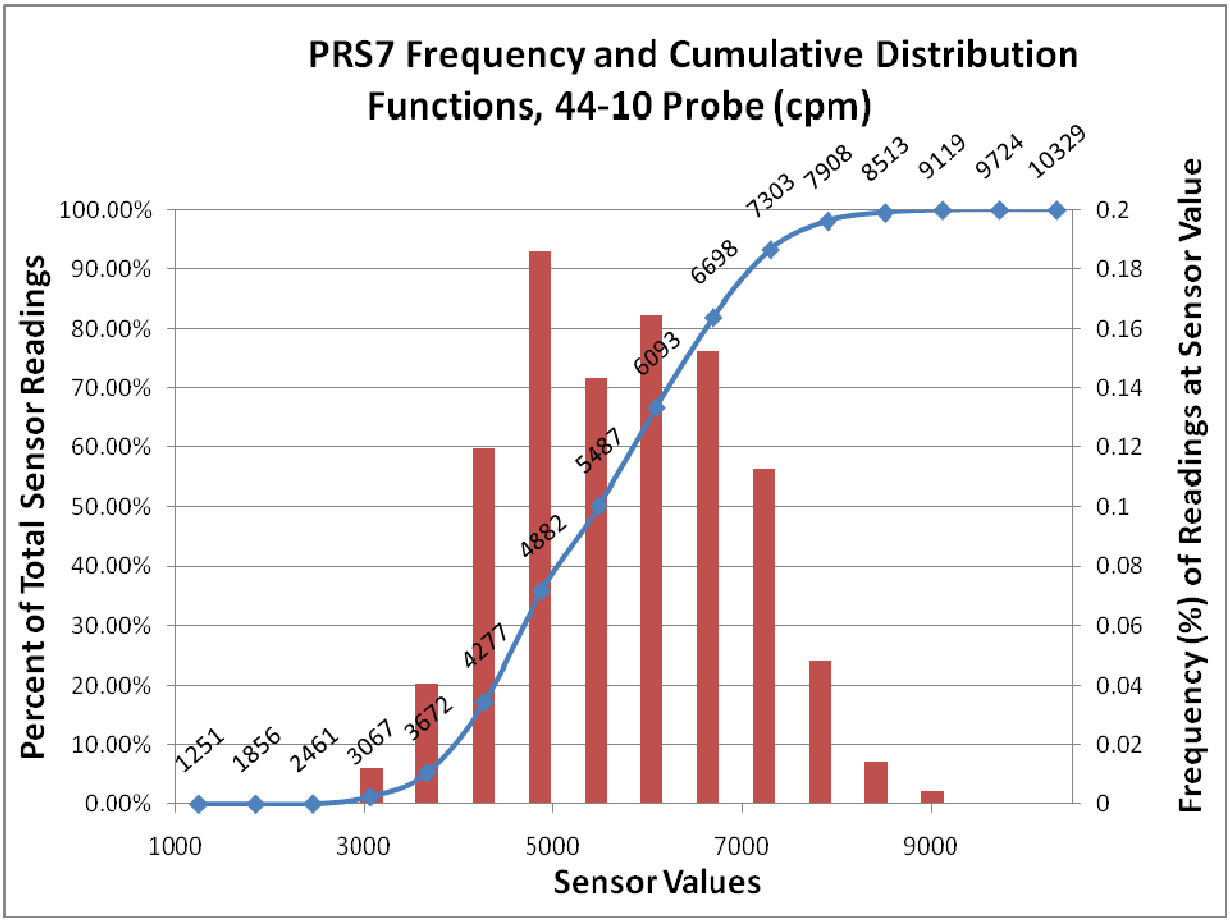


Figure 10: Haul Road Walkover Frequency and Cumulative Distribution