FIELD SAMPLING PLAN ADDENDUM 6

WEST LAKE LANDFILL SUPERFUND SITE OPERABLE UNIT 1

Prepared For:

The United States Environmental Protection Agency Region VII

Prepared on Behalf of:

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LIST OF ACRONYMS

ACRONYM	Definition
ft	foot/feet
DI	Design Investigation
DIWP	Design Investigation Work Plan
DMP	Data Management Plan
DOE	U.S. Department of Energy
DPT	direct push technology
EPA	U.S. Environmental Protection Agency
FSP	Field Sampling Plan
HSA	hollow-stem auger
MSW	Municipal Solid Waste
NCC	non-combustible cover
OU	Operable Unit
pCi/g	picocurie/gram
QAPP	Quality Assurance Project Plan
RIM	radiologically impacted material
WAC	waste acceptance criteria

1.0 ADDITIONAL BORINGS

1.1 Introduction

This Field Sampling Plan (FSP) Addendum 6 has been prepared on behalf of West Lake Landfill OU-1 Respondents Bridgeton Landfill, LLC, Cotter Corporation (N.S.L.), and the U.S. Department of Energy (DOE) (collectively, Respondents) for the design investigation for the selected Amended Remedy for Operable Unit 1 (OU-1) of the West Lake Landfill Superfund Site (Site). The United States Environmental Protection Agency (EPA) approved (with modifications) the FSP, with the associated Design Investigation Work Plan (DIWP), Quality Assurance Project Plan (QAPP), and Data Management Plan (DMP), in September 2020. The final version of the FSP is dated October 16, 2020.

Addendum 6 has been prepared in response to: (i) analytical results from soil samples greater than 7.9 picocuries per gram (pCi/g) for combined thorium and/or combined radium in a subset of the borings drilled between November 2020 and March 2022 in OU-1 and (ii) detections of radionuclides greater than 52.9 pCi/g of combined thorium and/or combined radium in the boneyard area of the Closed Demolition Landfill (see Figure A6-1 and Table A6-1). Additional borings are proposed to further delineate the extent of radiologically impacted material (RIM) greater than 52.9 pCi/g and to collect additional waste characterization data in Areas 1 and 2 of OU-1 (see Figure A6-5).

Additional step-out boring locations are proposed as part of this Addendum that vary from certain aspects of the step-out protocols prescribed in Section 2.2.2.1 and 2.2.2.2 of the FSP to delineate the extent of combined radium and/or thorium greater than 7.9 pCi/g. Specifically, the selection of the boring locations for the step-outs varies from the location selection procedures in Section 2.2.2.1 or 2.2.2.2 of the FSP because of logistical challenges (i.e., presence of utilities, structures, and/or topographic constraints), the incorporation of borings advanced as part of the OU-2 gas monitoring well installations near potential step-out locations, refinement of sampling depths based on prior data, and/or based on changes requested by the EPA.

1.2 Summary of Design Investigation Findings

Soil samples collected from 12 recent OU-1 borings (CD-EA-202, A1-PB-114-D, ISL-EA-205-B, ISL-EA-179-A, ISL-EA-179-B, ISL-EA-186-B, ISL-EA-187-A, A2-SB-165, A2-PB-131-D, 8-2A2-158-A, 8-2A2-159-A, and 2A2-159-B) have detections of combined thorium and/or combined radium greater than 7.9 pCi/g. In addition, radionuclides greater than 52.9 pCi/g of combined thorium and/or combined radium were detected in soil samples collected from three recent borings (CD-EA-199, CD-EA-200, and CD-EA-201) drilled within the Boneyard area of the CD and in 8-2A2-159-A. Analytical results are summarized in Table A6-1. Due to these findings additional step-out borings are proposed.

The sample depths shown in the attached tables are reported in feet below Design Investigation (DI) datum at the boring location. In order to provide clarification on the sample depths and measuring points, the following definition is provided:

- DI datum: describes the landfill surface below surficial material[1] where such material exists. If no surficial material exists at a given location, then the current ground surface (at the time of the DI) is considered the DI datum. This datum was developed to eliminate the logging and sampling of surficial material (especially

[1] Surficial material consists of drilling pad, NCC, and/or inert fill.

drilling pad and non-combustible cover [NCC]). In Areas 1 and 2, the DI datum is synonymous with the 2005 ground surface, as defined in Section 2.2.2 of the DIWP.

1.3 Proposed Additional Boring Locations

1.3.1 Closed Demolition Landfill Step-Out Borings

As set forth in Section 1.1 above, step-out borings are required under the protocol in FSP Section 2.2.2.2 when analytical results identify combined radium and/or thorium greater than 7.9 pCi/g. RIM greater than 7.9 pCi/g was detected in boring CD-EA-202 at 20-25 feet (ft) below DI datum (see Table A6-1). The RIM was delineated to the southeast by step-out boring CD-EA-202-A. However, a step-out boring was not drilled to the northeast to delineate RIM in that direction. Therefore, CD-EA-202-B is proposed as shown in Figure A6-3 to complete the delineation of RIM around CD-EA-202. The boring will be drilled to a depth of 5 ft into alluvium using sonic drilling technology at an offset distance of approximately 200 ft. The boring was placed to minimize pad building.

In the Boneyard Area, RIM greater than 52.9 pCi/g was detected at CD-EA-199 (from 4-12 ft below DI datum), at CD-EA-200 (from 10-25 ft below DI datum) and CD-EA-201 (from 16-24 ft below DI datum) as summarized in Table A6-1. Two lines of borings are proposed to the north of the Boneyard borings with the intent of fully delineating RIM in this area (see Figure A6-3). The first line of borings (CD-EA-199-A, CD-EA-199-B, CD-EA-200-A, CD-EA-200-B, and CD-EA-201-A) are proposed approximately 75-100 ft from CD-EA-199, CD-EA-200, and CD-EA-201. The second line of borings (CD-EA-199-C and CD-EA-200-C) are proposed at roughly 150-175 ft from CD-EA-199, CD-EA-200, and CD-EA-201 to provide delineation of RIM. Each of the Boneyard Area step-out borings will be drilled to 20 ft below DI datum using sonic drilling technology.

1.3.2 Area 1 Perimeter Step-Out Boring

Soil with combined thorium greater than 7.9 pCi/g was found at 6-8 ft below DI datum at perimeter boring A1-PB-114-D (see Table A6-1). As required under the protocol in FSP Section 2.2.2.1 one additional perimeter step-out boring at A1-PB-114-E (see Table A6-2), is proposed. The boring is located 6 ft away from A1-PB-114-D, approximately one foot away from the property boundary, and in close proximity to overhead power lines (see Figure A6-3). As such, the boring will only be drilled if safety concerns posed by the power lines can be mitigated. If the boring can be drilled, a low profile geoprobe track rig will be used and power lines are expected to be blanketed to prevent potential arcing of electricity. Proposed depth of this step-out boring is 10 ft below DI datum.

1.3.3 Area 2 Access Road Step-Out Borings

Combined thorium greater than 7.9 pCi/g was detected in soil samples collected from 0-0.5 ft below DI datum in borings ISL-EA-186-B and ISL-EA-187-A and from 0.5-1.0 ft below DI datum in boring A2-SB-165 (see Table A6-1) located along the access road into Area 2 as shown in Figure A6-3.

Two step out borings (ISL-EA-187-B and ISL-EA-187-C) were previously attempted using direct push technology, but due to the presence of wire and nails, the target drill depth was not achieved at either boring. Therefore, these borings will be drilled to 6 ft below DI datum using sonic drilling technology (see Table A6-2).

Four step-out borings (ISL-EA-186-C, ISL-EA-186-D, ISL-EA-186-E, and ISL-EA-186-F) are proposed for ISL-EA-186-B. Two step-out borings (A2-SB-165-A and A2-SB-165-B) are proposed for A2-SB-165. Direct push technology (DPT) drilling is proposed for the step-out borings for ISL-EA-186-B and A2-SB-165 (see Table A6-2).

However, if the target drill depth (4 ft below DI datum) cannot be achieved using this technology, sonic drilling techniques will be employed. Offset distances for these step-outs are roughly 15 ft for the ISL-EA-186-B step-outs and 75 ft for the ISL-EA-165 step-outs. Samples for ISL-EA-186-D and A2-SB-165-B will be held pending the results of ISL-EA-186-C and A2-SB-165-A, respectively.

1.3.4 Inactive Sanitary Landfill Step-Out Borings

Combined thorium greater than 7.9 pCi/g was detected in soil samples collected from 3-4 ft below DI datum in boring ISL-EA-205-B (see Figure A6-4, Table A6-1). Four step-out borings (ISL-EA-205-E, ISL-EA-205-F, ISL-EA-205-G, and ISL-EA-205-H) will be drilled using sonic drilling to depths of 25 ft below DI datum as step-outs of ISL-EA-205-A, ISL-EA-205-B, ISL-EA-205-C, and ISL-EA-205-D (see Table A6-2) because of the difficulty encountered in recovering samples from the bottom of those DPT borings. The top 5 ft of the step-out borings will be sampled in 1 ft intervals as previous results indicate RIM above 7.9 pCi/g is present within the surface cover material.

Combined thorium greater than 7.9 pCi/g was detected in soil samples collected from 4-10 ft below DI datum in boring ISL-EA-179-A, and from 15-20.9 ft below DI datum in ISL-EA-179-B (see Figure A6-4, Table A6-1). A step-out boring for each of ISL-EA-179-A and ISL-EA-179-B will be drilled to a depth of 5 ft into alluvium using sonic technology at a distance of 75 ft to the north (ISL-EA-179-C) of ISL-EA-179-A, and 75 ft to south (ISL-EA-179-D) of ISL-EA-179-B (see Figure A6-4, Table A6-2). Two step-outs (ISL-EA-179-E and ISL-EA-179-F) are proposed about 10 ft west of ISL-EA-179-A and ISL-EA-179-B. Due to the steepness of the slope and difficulty with safely positioning the sonic rig by this slope, the final determination of feasibility of drilling these borings will be made by the sonic drillers when they are on site. If the drillers determine these borings cannot be safely drilled as proposed, Respondents will evaluate the use of DPT or construction of a drill pad that would allow sonic drilling to be performed in a safe manner (e.g., perpendicular to the berm along the western slope of the ISL). If these borings are not drilled, Respondents will document the assumed location of RIM in this area for design purposes for EPA review and approval in the Design Investigation Evaluation Report.

Gas monitoring wells were installed at the toe of the west slope of the ISL in 2021. These borings were sampled for thorium and radium and did not contain levels of combined thorium or combined radium above 7.9 pCi/g nor did they contain Municipal Solid Waste (MSW) (see Table A6-1). However, the upper 7 ft of these borings were cleared using a hydro-vacuum, so no samples were obtained in the upper 7 ft. Due to the proximity of gas monitoring wells BRISL002, BRISL003, and BRISL-004 to ISL-EA-179 and ISL-EA-205, three borings (BRISL002-A, BRISL003-A, and BRISL-004-A) located within 5 ft of the gas monitoring wells (see Figure A6-4, Table A6-2), will be advanced using DPT to a depth of 7 ft to collect data from the zero to 7 ft interval that was hydro-vacuumed due to the nearby presence of a fiber-optic line. These borings will only be drilled if the DPT rig can safely access a location adjacent to these prior gas monitoring wells without endangering the fiber-optic line or other utilities.

1.3.5 Area 2 Perimeter Step-Out Borings

Combined thorium greater than 7.9 pCi/g was detected in soil samples collected from zero to one foot below DI datum in boring A2-PB-131-D (see Table A6-1). Five step-out borings (A2-PB-131-G, A2-PB-131-H, A2-PB-131-I A2-PB-131-J, and A2-PB-131-K) will be advanced in the northwest corner of Area 2, including close to the property line, to complete the delineation of RIM above 7.9 pCi/g in this corner. The borings will be advanced to 2 ft below DI datum using DPT at the locations shown in Figure A6-2 and described in Table A6-2.

1.3.6 Lot 2A2 Step-Out Borings

Combined thorium greater than 7.9 pCi/g was detected in soil samples collected from zero to 1.5 ft below DI datum in 8-2A2-158-A, zero to 2.5 ft below DI datum in boring 8-2A2-159-A (greater than 52.9 pCi/g in the 1.5 to 2 ft sample) and 2.5 to 3.5 ft below DI datum in boring 8-2A2-159-B (see Table A6-1). Two step-out borings (8-2A2-159-C and 8-2A2-159-D) will be advanced west and northwest of 8-2A2-159-B. The borings will be advanced to 4 ft below DI datum using DPT at the locations shown in Figure A6-2 and described in Table A6-2.

1.3.7 Additional Waste Characterization and Geostatical Model Borings

Seventeen additional borings are proposed to collect supplemental waste characterization data to better define the presence of materials that may exceed waste acceptance criteria (WAC) of disposal sites being considered for disposal. Also, eight additional borings will be drilled to refine the extent of RIM greater than 52.9 pCi/g for use in the geostatistical model for Areas 1 and 2. Borings locations are shown in Figure A6-5 and are described in Table A6-3. In addition, 14 previously collected soil samples (A2-SB-176-3-3.2, A2-SB-171-4.5-5, A2-SB-171-5.5-6, A2-SB-177-9-9.5, A1-SB-159-6.5-7, A1-SB-159-8-8.5, A1-SB-159-8.5-9, A2-SB-166-4-4.5, A2-SB-166-6-6.42, A2-SB-168-10-10.5, A2-SB-175-5-5.5, A1-SB-161-1-1.5, A1-SB-161-2-2.5, and A1-SB-162-2.5-2.8) currently stored at GEL laboratories, with detections of combined thorium or combined radium greater than 52.9 pCi/g will be analyzed for the WAC parameters specified in FSP Section 2.4.5.1 as well as lead-210 to provide waste characterization data for the potential disposal sites.

1.4 Drilling and Sampling Methods and Protocols

The FSP standardizes the field procedures to be performed during the design investigation activities for OU-1. The work proposed in this Addendum 6 uses the standard methods and protocols provided in the FSP. The specific provisions in the FSP that will be used are described below. The details regarding the proposed borings are summarized in Tables A6-2 and A6-3. Table A6-4 outlines the sampling intervals for each group of borings.

Step-out borings A1-PB-114-E, BRISL002-A, BRISL003-A, BRISL004-A, A2-PB-131-G, A2-PB-131-H, A2-PB-131-I, A2-PB-131-J, A2-PB-131-K, 8-2A2-159-C, and 8-2A2-159-D will be advanced using DPT, as described in Section 2.2.1.1 of the FSP, in lieu of hollow-stem auger (HSA) since there are no indications in prior borings of impacts below the surface and near-surface samples and these borings are outside the toe of the landfill in soils. This drill is also smaller in diameter than those used with the other methods being used in the investigation and is less likely to encounter utilities, which is important for BRISL002-A, BRISL003-A, and BRISL004-A which are close to a fiber-optic line. The DPT rigs are also smaller and can access less accessible locations, which is important for the other proposed DPT drilling locations. DPT boring A1-PB-114-E will be advanced to 10 ft below DI datum. The DPT borings BRISL002-A, BRISL003-A, BRISL004-A will be advanced to 7 ft below DI datum and drilled within 5 ft of each corresponding gas monitoring well. DPT step-out borings A2-PB-131-G, A2-PB-131-H, A2-PB-131-I, A2-PB-131-J, and A2-PB-131-K will be advanced to 2 ft below DI datum. DPT borings 8-2A2-159-C, and 8-2A2-159-D will be advanced to 4 ft below DI datum.

Soil samples from these DPT borings will be logged following the procedures in FSP Section 2.4.1. Soil samples from DPT borings A1-PB-114-E, BRISL002-A, BRISL003-A, and BRISL004-A will be collected in accordance with the protocols outlined in FSP Section 2.4.3.1. Soil samples from DPT borings A2-PB-131-G, A2-PB-131-H, A2-PB-131-I, A2-PB-131-J, and A2-PB-131-K will be collected following the procedures outlined in FSP Section 2.4.2.3. Soil samples from 8-2A2-159-C and 8-2A2-159-D will be collected following the protocols in Section 2.4.2.6 of the FSP. All Samples will be submitted for laboratory analysis of the parameters listed in FSP Section 2.4.5.2

with the exception of samples collected from Lot 2A2, which will be submitted for laboratory analysis of the parameters listed in FSP Section 2.4.5.1.

Step out borings ISL-EA-186-C, ISL-EA-186-D, ISL-EA-186-E, ISL-EA-186-F, A2-SB-165-A, and A2-SB-165-B will also be drilled using DPT in the roadway. If the target depth cannot be reached with DPT, then sonic drilling will be used. Borings ISL-EA-186-C, ISL-EA-186-D, A2-SB-165-A, and A2-SB-165-B will be drilled to 4 ft below DI datum and borings ISL-EA-186-E and ISL-EA-186-F will be drilled to 6 ft below DI datum. Soil samples will be logged and sampled following the procedures in FSP Section 2.4.1 and 2.4.2.6. Samples will be submitted to the laboratory for analysis of the radiological parameters listed in FSP Section 2.4.5.2.

Step out borings ISL-EA-187-C and ISL-EA-187-D could not be drilled using DPT previously. Therefore, they will be drilled using sonic technology to 6 ft below DI datum following FSP Section 2.2.1.2. Soil samples will be logged and sampled following the procedures in FSP Section 2.4.1 and 2.4.2.6. Radiological analytical samples will be submitted to the laboratory for analysis of the radiological parameters listed in FSP Section 2.4.5.2.

Sonic drilling technology will be used to drill the following borings: CD-EA-174-A, CD-EA-175-A, CD-EA-190-B, CD-EA-190-C, CD-EA-199-A, CD-EA-199-B, CD-EA-199-C, CD-EA-199-D, CD-EA-200-A, CD-EA-200-B, CD-EA-200-C, CD-EA-200-D, CD-EA-201-A, CD-EA-202-B, CD-EA-208-A, CD-EA-208-B, ISL-EA-179-C, ISL-EA-179-D, ISL-EA-179-E, ISL-EA-179-F, ISL-EA-205-E, ISL-EA-205-F, ISL-EA-205-G, and ISL-EA-205-H. Downhole gamma logging will also be performed in these boreholes following the procedures in FSP Section 2.3.2.

Borings CD-EA-174-A, CD-EA-175-A, CD-EA-190-B, CD-EA-190-C, CD-EA-199-A, CD-EA-199-B, CD-EA-199-C, CD-EA-199-D, CD-EA-200-A, CD-EA-200-B, CD-EA-200-C, CD-EA-200-D, CD-EA-201-A, CD-EA-208-A and CD-EA-208-B will be drilled following FSP Section 2.2.1.2 to 20 ft below DI datum, logged, and sampled following the protocols for “SB” and “TH” borings in FSP Sections 2.4.1 and 2.4.3.

Borings ISL-EA-179-C, ISL-EA-179-D, ISL-EA-179-E, ISL-EA-179-F, and CD-EA-202-B, will be drilled following FSP Section 2.2.1.2 to 5 ft into alluvium, logged, and sampled following the protocols for the “Enclosure A Borings” borings in FSP Sections 2.4.1 and 2.4.3.

Borings ISL-EA-205-E, ISL-EA-205-F, ISL-EA-205-G, and ISL-EA-205-H will be drilled following FSP Section 2.2.1.2 to 25 ft below DI datum, logged, and sampled following the protocols for the “Enclosure A Borings” borings in FSP Sections 2.4.1 and 2.4.3. Samples will be submitted to the laboratory for analysis of the radiological parameters listed in FSP Section 2.4.5.2.

The 17 WAC borings and eight Geostatical borings will also be drilled using sonic technology, following FSP Section 2.2.1.2. The WAC borings will be drilled to 16 ft below DI datum because they are targeting specific locations within the anticipated 0-16 ft RIM shell. Samples collected from the WAC borings will be submitted to the laboratory for analysis of the radiological parameters listed in FSP Section 2.4.5.1 and lead-210 to provide data for disposal site waste characterization. Downhole gamma logging will also be performed in the boreholes following the procedures in FSP Section 2.3.2.

The geostatistical borings will be drilled to 20 ft below DI datum following FSP Section 2.2.1. Both the WAC and geostatistical borings will be logged and sampled following the protocols for “SB” and “TH” borings in FSP Sections 2.4.1 and 2.4.3. Samples collected from the geostatistical borings will be submitted to the laboratory for analysis of the radiological parameters listed in FSP Section 2.4.5.2. Downhole gamma logging will also be performed in the boreholes following the procedures in FSP Section 2.3.2.

Proposed borings will be appropriately abandoned following the protocol described in FSP Section 2.2.3 immediately after drilling and/or gamma logging to minimize safety risks and potential for odors or other emissions to the atmosphere.

2.0 SCHEDULE

The deadline for completion of the Design Investigation field investigation has been established as June 30, 2022. In accordance with XXVII of the March 3, 1993 Administrative Order on Consent, Docket VII-93-F-0005, and paragraph 5.6(c) of the April 2019 Remedial Design Statement of Work, this document is incorporated into and enforceable under the Consent Order.

TABLES

TABLE A6-1 ANALYTICAL RESULTS

						RADIUM-226 pCi/g		RADIUM-228 pCi/g		THORIUM-230 pCi/g		THORIUM-232 pCi/g		TOTAL RADIUM pCi/g		TOTAL THORIUM pCi/g	
Location ID	Sample Code	Pad Thickness/ Depth of Material above DI datum (feet)	Start Depth (below DI datum)	End Depth (below DI datum)	Composite (Y/N)	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
A1-PB-114-D	A1-PB-114-D-0.5-1-N	0.0	0.5	1	N					1.42		0.966				2.39	
A1-PB-114-D	A1-PB-114-D-1-1.5-N	0.0	1	1.5	N					1.48		1.2				2.68	
A1-PB-114-D	A1-PB-114-D-2-4-N	0.0	2	4	Y					1.23		1.1				2.33	
A1-PB-114-D	A1-PB-114-D-4-6-N	0.0	4	6	Y					2.45		0.931				3.38	
A1-PB-114-D	A1-PB-114-D-6-8-N	0.0	6	8	Y					8.5		0.78				9.28	
A1-PB-114-D	A1-PB-114-D-8-10-N	0.0	8	10	Y					1.55		1.22				2.77	
A1-PB-114-D	A1-PB-114-D-10-12-N	0.0	10	12	Y					1.6		1.33				2.93	
A1-PB-114-D	A1-PB-114-D-12-14-N	0.0	12	14	Y					1.38		1.23				2.61	
A1-PB-114-D	A1-PB-114-D-14-16-N	0.0	14	16	Y					1.23		1.01				2.24	
A1-PB-114-D	A1-PB-114-D-16-18-N	0.0	16	18	Y					0.597		0.573				1.17	
A1-PB-114-D	A1-PB-114-D-18-20-N	0.0	18	20	Y					0.973		0.531	J			1.50	J
A1-PB-114-D	A1-PB-114-D-20-22-N	0.0	20	22	Y					1.01		0.865				1.88	
A1-PB-114-D	A1-PB-114-D-22-23-N	0.0	22	23	Y					0.834		0.757				1.59	
A2-PB-131-D	A2-PB-131-D-0-1-N	0.9	0	1	N					12.2		1.36				13.6	
A2-PB-131-D	A2-PB-131-D-1-2-N	0.9	1	2	N					1.76		1.19				2.95	
A2-SB-165	A2-SB-165-0.5-1-N	1.4	0.5	1	N	1.42		1.14		13.5		0.849		2.56		14.349	
A2-SB-165	A2-SB-165-4.5-5-N	1.4	4.5	5	N	1.1		1.08		1.37		1.14		2.18		2.51	
A2-SB-165	A2-SB-165-8.5-9-N	1.4	8.5	9	N	1.1		1.05		1.13		0.892		2.15		2.022	
A2-SB-165	A2-SB-165-13-13.2-N	1.4	13	13.2	N	1.32		1.39		1		1.22		2.71		2.22	
A2-SB-165	A2-SB-165-17.5-17.8-N	1.4	17.5	17.8	N	1.06		1.21		1.45		1.15		2.27		2.6	
A2-SB-165	A2-SB-165-20-25-N	1.4	20	25	Y	1.2		1.14		1.21		1.1		2.34		2.31	
A2-SB-165	A2-SB-165-25-30-N	1.4	25	30	Y	0.737		0.85		0.966		0.836		1.587		1.802	
A2-SB-165	A2-SB-165-30-35-D	1.4	30	35	Y	0.816		1.06		1.05		0.817		1.876		1.867	
A2-SB-165	A2-SB-165-30-35-N	1.4	30	35	Y	1.02		0.928		0.957		0.919		1.948		1.876	
A2-SB-165	A2-SB-165-35-39-N	1.4	35	39	Y	0.441		0.468		0.652		0.487		0.909		1.139	
CD-EA-174	CD-EA-174-0-5-D	0.9	0	5	Y	1.05		0.953		1.14		0.868		2.003		2.008	
CD-EA-174	CD-EA-174-0-5-N	0.9	0	5	Y	1.01		0.97		1.45		0.873		1.98		2.323	
CD-EA-174	CD-EA-174-5-10-N	0.9	5	10	Y	6.49		0.731		155		0.873		7.221		155.873	
CD-EA-174	CD-EA-174-10-15-N	0.9	10	15	Y	8.09		0.871		561		1.17	U	8.961		562.17	
CD-EA-174	CD-EA-174-15-20-N	0.9	15	20	Y	0.419		0.428		0.66		0.486		0.847		1.146	
CD-EA-175	CD-EA-175-0-5-N	1.5	0	5	Y	6.9		0.508		192		1.12		7.408		193.12	
CD-EA-175	CD-EA-175-5-10-N	1.5	5	10	Y	1.19		1.22		1.33		1.2		2.41		2.53	
CD-EA-175	CD-EA-175-10-15-N	1.5	10	15	Y	0.349		0.432		0.34	U	0.14	U	0.781		0.48	U
CD-EA-175	CD-EA-175-15-20-N	1.5	15	20	Y	80.8		0.0828	U	195		0.447	U	80.8828		195.447	
CD-EA-175	CD-EA-175-16.5-17-N	1.5	16.5	17	N	750		2.28	U	7160		10.3	U	752.28		7170.3	
CD-EA-175	CD-EA-175-20-25-D	1.5	20	25	Y	10.3		0.0992	U	0.282	U	-0.0505	U	10.3992		0.282	U
CD-EA-175	CD-EA-175-20-25-N	1.5	20	25	Y	8.91		0.239	U	0.183	U	0.216	U	9.149		0.399	U
CD-EA-175	CD-EA-175-25-30-N	1.5	25	30	Y	0.566		0.754		0.877		0.835		1.32		1.712	
CD-EA-188	CD-EA-188-0-5-N	0.0	0	5	Y	0.882		0.708		1.49		0.655		1.59		2.145	
CD-EA-188	CD-EA-188-5-10-N	0.0	5	10	Y	1.15		0.933		1.24		0.843		2.083		2.083	
CD-EA-188	CD-EA-188-10-15-N	0.0	10	15	Y	0.949		0.869		1.06		0.583		1.818		1.643	
CD-EA-188	CD-EA-188-15-20-N	0.0	15	20	Y	0.801		0.769		1.45	J	0.838		1.57		2.288	J
CD-EA-188	CD-EA-188-20-25-N	0.0	20	25	Y	0.975		0.907		1.24		1		1.882		2.24	
CD-EA-188	CD-EA-188-25-30-D	0.0	25	30	Y	0.715		0.694		0.822		0.906		1.409		1.728	
CD-EA-188	CD-EA-188-25-30-N	0.0	25	30	Y	0.703		0.828		0.818		1.01		1.531		1.828	

TABLE A6-1 ANALYTICAL RESULTS

						RADIUM-226 pCi/g		RADIUM-228 pCi/g		THORIUM-230 pCi/g		THORIUM-232 pCi/g		TOTAL RADIUM pCi/g		TOTAL THORIUM pCi/g	
Location ID	Sample Code	Pad Thickness/ Depth of Material above DI datum (feet)	Start Depth (below DI datum)	End Depth (below DI datum)	Composite (Y/N)	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
CD-EA-190-A	CD-EA-190-A-0-1-N	1.3	0	1	Y					13.8		1.07				14.87	
CD-EA-190-A	CD-EA-190-A-1-2-N	1.3	1	2	Y					28.6		1.02				29.62	
CD-EA-190-A	CD-EA-190-A-2-3-N	1.3	2	3	Y					7.17		0.941				8.111	
CD-EA-190-A	CD-EA-190-A-0-4-N	1.3	0	4	Y					6.42		1.11				7.53	
CD-EA-190-A	CD-EA-190-A-4-8-D	1.3	4	8	Y					1.08	J	0.775				1.86	J
CD-EA-190-A	CD-EA-190-A-4-8-N	1.3	4	8	Y					4.71	J	0.765				5.48	J
CD-EA-190-A	CD-EA-190-A-8-12-N	1.3	8	12	Y					0.915		0.972				1.89	
CD-EA-190-A	CD-EA-190-A-12-16-N	1.3	12	16	Y					0.99		0.776				1.77	
CD-EA-190-A	CD-EA-190-A-16-20-N	1.3	16	20	Y					1.12		0.79				1.91	
CD-EA-190-R	CD-EA-190-R-0-1-N	4.3	0	1	Y					29.6		0.962				30.562	
CD-EA-190-R	CD-EA-190-R-1-2-N	4.3	1	2	Y					16		0.764				16.764	
CD-EA-190-R	CD-EA-190-R-2-3-N	4.3	2	3	Y					1.89		0.865				2.755	
CD-EA-190-R	CD-EA-190-R-3-4-N	4.3	3	4	Y					1.88		0.819				2.699	
CD-EA-190-R	CD-EA-190-R-4-5-N	4.3	4	5	Y					1.81		1.01				2.82	
CD-EA-190-R	CD-EA-190-R-5-6-N	4.3	5	6	Y					2.18		0.225				2.405	
CD-EA-190-R	CD-EA-190-R-6-7-N	4.3	6	7	Y					51.6		0.808				52.408	
CD-EA-190-R	CD-EA-190-R-8-9-N	4.3	8	9	Y					21		0.777				21.777	
CD-EA-190-R	CD-EA-190-R-9-10-N	4.3	9	10	Y					9.09		0.264				9.354	
CD-EA-190-R	CD-EA-190-R-10-11-N	4.3	10	11	Y					2.32		0.229				2.549	
CD-EA-190-R	CD-EA-190-R-0-4-D	4.3	0	4	Y					5.24		0.867				6.11	
CD-EA-190-R	CD-EA-190-R-0-4-N	4.3	0	4	Y					4.58		0.895				5.48	
CD-EA-190-R	CD-EA-190-R-4-8-N	4.3	4	8	Y					4.24		1.05				5.29	
CD-EA-190-R	CD-EA-190-R-8-12-N	4.3	8	12	Y					23.4		0.708				24.1	
CD-EA-190-R	CD-EA-190-R-12-16-N	4.3	12	16	Y					46.7		1.23				47.9	
CD-EA-190-R	CD-EA-190-R-12.5-13-N	4.3	12.5	13	N					190		0.886				191	
CD-EA-190-R	CD-EA-190-R-16-20-N	4.3	16	20	Y					0.677		0.677				1.35	
CD-EA-192	CD-EA-192-0-1-N	0.0	0	1	Y					0.888		0.116				1.004	
CD-EA-192	CD-EA-192-1-2-N	0.0	1	2	Y					1.29		0.323				1.613	
CD-EA-192	CD-EA-192-2-3-N	0.0	2	3	Y					0.96		0.212				1.172	
CD-EA-192	CD-EA-192-3-4-N	0.0	3	4	Y					1.04		0.196				1.236	
CD-EA-192	CD-EA-192-4-5-N	0.0	4	5	Y					3.26		0.96				4.22	
CD-EA-192	CD-EA-192-5-6-N	0.0	5	6	Y					1.52		0.861				2.381	
CD-EA-192	CD-EA-192-6-7-N	0.0	6	7	Y					1.08		0.9				1.98	
CD-EA-192	CD-EA-192-7-8-N	0.0	7	8	Y					0.335		0.185				0.52	
CD-EA-192	CD-EA-192-10-11-N	0.0	10	11	Y					1.59		0.854				2.444	
CD-EA-192	CD-EA-192-11-12-N	0.0	11	12	Y					1.07		1.1				2.17	
CD-EA-192	CD-EA-192-0-5-N	0.0	0	5	Y	0.81		0.411		0.31	U	0.462		1.221		0.772	
CD-EA-192	CD-EA-192-5-10-N	0.0	5	10	Y	0.955		0.845		1.16		0.718		1.8		1.878	
CD-EA-192	CD-EA-192-10-15-N	0.0	10	15	Y	0.833		0.786		0.801		0.778		1.619		1.579	
CD-EA-192	CD-EA-192-15.5-16-N	0.0	15.5	16	N	0.584		0.632		0.928		0.66		1.216		1.588	
CD-EA-192	CD-EA-192-20-25-N	0.0	20	25	Y	0.84		0.798		1.61		0.647		1.638		2.257	
CD-EA-192	CD-EA-192-25-30-N	0.0	25	30	Y	0.599		0.642		1.18		0.757		1.241		1.937	
CD-EA-192	CD-EA-192-30-30.5-N	0.0	30	30.5	N	0.317		0.121	U	0.722		0.292		0.438		1.014	
CD-EA-192	CD-EA-192-35-40-D	0.0	35	40	Y	0.357		0.366		0.72	J	0.524		0.723		1.244	J
CD-EA-192	CD-EA-192-35-40-N	0.0	35	40	Y	0.287		0.372		0.367	J	0.377		0.659		0.744	J
CD-EA-192	CD-EA-192-41.5-41.8-N	0.0	41.5	41.8	N	0.318		0.542		0.76		0.491		0.86		1.251	

TABLE A6-1 ANALYTICAL RESULTS

						RADIUM-226 pCi/g		RADIUM-228 pCi/g		THORIUM-230 pCi/g		THORIUM-232 pCi/g		TOTAL RADIUM pCi/g		TOTAL THORIUM pCi/g	
Location ID	Sample Code	Pad Thickness/ Depth of Material above DI datum (feet)	Start Depth (below DI datum)	End Depth (below DI datum)	Composite (Y/N)	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
CD-EA-198-R	CD-EA-198-R-0-1-N	0.0	0	1	Y					0.872		0.578				1.45	
CD-EA-198-R	CD-EA-198-R-1-2-N	0.0	1	2	Y					1.09		1.1				2.19	
CD-EA-198-R	CD-EA-198-R-2-3-N	0.0	2	3	Y					1.29		0.942				2.232	
CD-EA-198-R	CD-EA-198-R-3-4-N	0.0	3	4	Y					1.22		0.827				2.047	
CD-EA-198-R	CD-EA-198-R-4-5-N	0.0	4	5	Y					3.24		0.484				3.724	
CD-EA-198-R	CD-EA-198-R-5-6-N	0.0	5	6	Y					1.76		0.449				2.209	
CD-EA-198-R	CD-EA-198-R-10-11-N	0.0	10	11	Y					1.7		0.594				2.294	
CD-EA-198-R	CD-EA-198-R-11-12-N	0.0	11	12	Y					2.01		0.877				2.887	
CD-EA-198-R	CD-EA-198-R-0-5-N	0.0	0	5	Y	0.859		0.827		1.22	J	1.01	J	1.686		2.23	J
CD-EA-198-R	CD-EA-198-R-5.5-6-N	0.0	5.5	6	N	0.731		0.57		1.67	J	0.518		1.301		2.188	J
CD-EA-198-R	CD-EA-198-R-10-15-N	0.0	10	15	Y	1.49		0.612		1.7	J	0.734		2.102		2.434	J
CD-EA-198-R	CD-EA-198-R-15-20-D	0.0	15	20	Y	0.816		0.763		1.39	J	1.12		1.579		2.51	J
CD-EA-198-R	CD-EA-198-R-15-20-N	0.0	15	20	Y	0.81		0.867		2.57	J	0.897		1.677		3.467	J
CD-EA-198-R	CD-EA-198-R-20-25-N	0.0	20	25	Y	0.673		0.673		0.896	J	0.664		1.346		1.56	J
CD-EA-198-R	CD-EA-198-R-25-30-N	0.0	25	30	Y	0.975		1.06		1.54	J	0.904		2.035		2.444	J
CD-EA-198-R	CD-EA-198-R-30-35-N	0.0	30	35	Y	0.801		0.77		1.32	J	0.915		1.571		2.235	J
CD-EA-199	CD-EA-199-0-4-N	0.0	0	4	Y					1.73	U	0.866				2.60	
CD-EA-199	CD-EA-199-4-8-N	0.0	4	8	Y					69		1.06				70.1	
CD-EA-199	CD-EA-199-8-12-N	0.0	8	12	Y					73.7		1.01				74.7	
CD-EA-199	CD-EA-199-12-16-D	0.0	12	16	Y					5.52	J	0.829				6.35	J
CD-EA-199	CD-EA-199-12-16-N	0.0	12	16	Y					7.27	J	0.65				7.92	J
CD-EA-199	CD-EA-199-16-20-N	0.0	16	20	Y					1	U	0.888				1.89	
CD-EA-200	CD-EA-200-0-5-N	0.0	0	5	Y					1.46		1.02				2.48	
CD-EA-200	CD-EA-200-5-10-N	0.0	5	10	Y					2.37		0.783				3.15	
CD-EA-200	CD-EA-200-10-15-N	0.0	10	15	Y					71.3		0.952				72.3	
CD-EA-200	CD-EA-200-15-20-N	0.0	15	20	Y					246		0.778				247	
CD-EA-200	CD-EA-200-18-18.5-N	0.0	18	18.5	N					17800		19.6	U			17800	
CD-EA-200	CD-EA-200-20-20.5-N	0.0	20	20.5	N					727		1.37				728	
CD-EA-200	CD-EA-200-20-25-N	0.0	20	25	Y					83.1		0.727				83.8	
CD-EA-200	CD-EA-200-25-30-D	0.0	25	30	Y					2.12		0.989				3.11	
CD-EA-200	CD-EA-200-25-30-N	0.0	25	30	Y					2.49		0.881				3.37	
CD-EA-201	CD-EA-201-0-4-D	0.0	0	4	Y					2.29	U	0.134				2.42	
CD-EA-201	CD-EA-201-0-4-N	0.0	0	4	Y					2.41	U	0.201				2.61	
CD-EA-201	CD-EA-201-4-8-N	0.0	4	8	Y					1.36	U	0.963				2.32	
CD-EA-201	CD-EA-201-8-12-N	0.0	8	12	Y					1.42	U	1.07				2.49	
CD-EA-201	CD-EA-201-12-16-N	0.0	12	16	Y					2.44	U	0.584				3.02	
CD-EA-201	CD-EA-201-16-20-N	0.0	16	20	Y					67		0.227	U			67.2	
CD-EA-201	CD-EA-201-17-17.5-N	0.0	17	17.5	N					88.4		0.685				89.1	
CD-EA-201	CD-EA-201-20-24-N	0.0	20	24	Y					16.3	J	0.527				16.8	J
CD-EA-201	CD-EA-201-24-28-N	0.0	24	28	Y					4.19	J	0.436				4.63	J
CD-EA-201	CD-EA-201-28-32-N	0.0	28	32	Y					0.232	U	0.088				0.320	
CD-EA-201	CD-EA-201-32-36-N	0.0	32	36	Y					0.706	U	0.332				1.04	
CD-EA-201	CD-EA-201-37-37.2-N	0.0	37	37.2	N					0.767	U	0.401				1.17	
CD-EA-201	CD-EA-201-40-44-N	0.0	40	44	Y					0.767	U	0.383				1.15	

TABLE A6-1 ANALYTICAL RESULTS

						RADIUM-226 pCi/g		RADIUM-228 pCi/g		THORIUM-230 pCi/g		THORIUM-232 pCi/g		TOTAL RADIUM pCi/g		TOTAL THORIUM pCi/g	
Location ID	Sample Code	Pad Thickness/ Depth of Material above DI datum (feet)	Start Depth (below DI datum)	End Depth (below DI datum)	Composite (Y/N)	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
CD-EA-202	CD-EA-202-0-5-N	0.5	0	5	Y	0.541		0.385		0.628	J	0.296		0.926		0.924	J
CD-EA-202	CD-EA-202-5-10-N	0.5	5	10	Y	1.05		0.958		4.62	J	0.876		2.008		5.496	J
CD-EA-202	CD-EA-202-10-15-N	0.5	10	15	Y	1.69		0.969		25		0.899		2.659		25.899	
CD-EA-202	CD-EA-202-15-20-N	0.5	15	20	Y	0.91		0.696		1.31	J	0.473		1.606		1.783	J
CD-EA-202	CD-EA-202-20-25-N	0.5	20	25	Y	0.886		1.05		0.805	J	0.804		1.936		1.609	J
CD-EA-202	CD-EA-202-25-30-N	0.5	25	30	Y	0.823		0.968		1.32	J	0.958		1.791		2.278	J
CD-EA-202	CD-EA-202-30-35-N	0.5	30	35	Y	0.359		0.361		0.819	J	0.318		0.72		1.137	J
CD-EA-202	CD-EA-202-35-40-N	0.5	35	40	Y	1.13		0.847		1.51	J	0.617		1.977		2.127	J
CD-EA-202	CD-EA-202-40-45-D	0.5	40	45	Y	1.14		1.04		2.38	J	1.05		2.18		3.43	J
CD-EA-202	CD-EA-202-40-45-N	0.5	40	45	Y	0.875		1.07		1.94	J	0.914		1.945		2.854	J
CD-EA-202	CD-EA-202-45-50-N	0.5	45	50	Y	0.546		0.763		0.78	J	0.879		1.309		1.659	J
CD-EA-202	CD-EA-202-50-55-N	0.5	50	55	Y	0.643		0.954		1.07	J	0.957		1.597		2.027	J
CD-EA-208	CD-EA-208-0-4-N	0.0	0	4	Y					12.7	J	0.987				13.7	J
CD-EA-208	CD-EA-208-4-8-D	0.0	4	8	Y					6.09	J	0.876				6.97	J
CD-EA-208	CD-EA-208-4-8-N	0.0	4	8	Y					37.6	J	0.874				38.5	J
CD-EA-208	CD-EA-208-8-12-N	0.0	8	12	Y					1.67	U	0.959				2.63	
CD-EA-208	CD-EA-208-12-16-N	0.0	12	16	Y					1.29	U	0.645				1.94	
CD-EA-208	CD-EA-208-16-20-N	0.0	16	20	Y					1.13	UJ	0.838	J			1.97	J
CD-EA-208	CD-EA-208-0-1-N	0.0	0	1	Y					8.27		0.554				8.824	
CD-EA-208	CD-EA-208-1-2-N	0.0	1	2	Y					2.17		0.649				2.819	
CD-EA-208	CD-EA-208-2-3-N	0.0	2	3	Y					1.89		0.964				2.854	
CD-EA-208	CD-EA-208-3-3.4-N	0.0	3	3.4	N					235		1.08				236.08	
CD-EA-208	CD-EA-208-4-5-N	0.0	4	5	Y					4.35		0.126				4.476	
CD-EA-208	CD-EA-208-5-6-N	0.0	5	6	Y					1.49		0.156				1.646	
CD-EA-208	CD-EA-208-6-7-N	0.0	6	7	Y					1.14		0.887				2.027	
CD-EA-208	CD-EA-208-7-8-N	0.0	7	8	Y					1.27		0.963				2.233	
CD-EA-208	CD-EA-208-8-9-N	0.0	8	9	Y					2.61		1.1				3.71	
CD-EA-208	CD-EA-208-9-10-N	0.0	9	10	Y					1.43		1.04				2.47	
CD-EA-208	CD-EA-208-10-11-N	0.0	10	11	Y					0.922		0.5				1.422	
CD-EA-208	CD-EA-208-12-13-N	0.0	12	13	Y					0.76		0.184				0.944	
CD-EA-208	CD-EA-208-13-13.5-N	0.0	13	13.5	N					0.84		0.853				1.693	
CD-EA-208	CD-EA-208-16-17-N	0.0	16	17	Y					1.21		0.708				1.918	
CD-EA-208	CD-EA-208-17-18-N	0.0	17	18	Y					0.97		0.803				1.773	

TABLE A6-1 ANALYTICAL RESULTS

						RADIUM-226 pCi/g		RADIUM-228 pCi/g		THORIUM-230 pCi/g		THORIUM-232 pCi/g		TOTAL RADIUM pCi/g		TOTAL THORIUM pCi/g	
Location ID	Sample Code	Pad Thickness/ Depth of Material above DI datum (feet)	Start Depth (below DI datum)	End Depth (below DI datum)	Composite (Y/N)	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
CD-EA-209-R	CD-EA-209-R-0-4-N	4.1	0	4	Y					10.6		0.815				11.4	
CD-EA-209-R	CD-EA-209-R-4-8-N	4.1	4	8	Y					6.21		0.496				6.71	
CD-EA-209-R	CD-EA-209-R-8-12-D	4.1	8	12	Y					19.5	J	0.735				20.2	J
CD-EA-209-R	CD-EA-209-R-8-12-N	4.1	8	12	Y					9.03	J	0.687				9.72	J
CD-EA-209-R	CD-EA-209-R-12-16-N	4.1	12	16	Y					3.7		0.6				4.30	
CD-EA-209-R	CD-EA-209-R-17-17.3-N	4.1	17	17.3	N					2.63		0.143				2.77	
CD-EA-209-R	CD-EA-209-R-0-1-N	4.1	0	1	Y					9.8		0.858				10.658	
CD-EA-209-R	CD-EA-209-R-1-2-N	4.1	1	2	Y					7.33		0.853				8.183	
CD-EA-209-R	CD-EA-209-R-2-3-N	4.1	2	3	Y					6.56		0.458				7.018	
CD-EA-209-R	CD-EA-209-R-3-3.5-N	4.1	3	3.5	N					10		0.876				10.876	
CD-EA-209-R	CD-EA-209-R-4-5-N	4.1	4	5	Y					4.16		0.719				4.879	
CD-EA-209-R	CD-EA-209-R-5-6-N	4.1	5	6	Y					1.7		0.884				2.584	
CD-EA-209-R	CD-EA-209-R-6-7-N	4.1	6	7	Y					3.46		0.843				4.303	
CD-EA-209-R	CD-EA-209-R-8-9-N	4.1	8	9	Y					33.7		0.917				34.617	
CD-EA-209-R	CD-EA-209-R-9-10-N	4.1	9	10	Y					15.8		0.67				16.47	
CD-EA-209-R	CD-EA-209-R-10-11-N	4.1	10	11	Y					1.08		0.645				1.725	
CD-EA-209-R	CD-EA-209-R-12-13-N	4.1	12	13	Y					5.11		0.533				5.643	
CD-EA-209-R	CD-EA-209-R-13-14-N	4.1	13	14	Y					0.546		0.25				0.796	
CD-EA-209-R	CD-EA-209-R-16-17-N	4.1	16	17	Y					4.17		0.326				4.496	
CD-EA-209-R	CD-EA-209-R-17-17.3-NR	4.1	17	17.3	N					3.78		0.132				3.912	
ISL-EA-179-A	ISL-EA-179-A-0-4-N	1.9	0	4	Y					1.75		0.911				2.66	
ISL-EA-179-A	ISL-EA-179-A-4-10-N	1.9	4	10	Y					14.7		1.09				15.8	
ISL-EA-179-A	ISL-EA-179-A-10-15-N	1.9	10	15	Y					1.27		0.386				1.66	
ISL-EA-179-A	ISL-EA-179-A-15-20-N	1.9	15	20	Y					5.87		0.482				6.35	
ISL-EA-179-A	ISL-EA-179-A-20-25-N	1.9	20	25	Y					1.54		0.968				2.51	
ISL-EA-179-A	ISL-EA-179-A-25-30-N	1.9	25	30	Y					1.46		0.869				2.33	
ISL-EA-179-A	ISL-EA-179-A-30-35-N	1.9	30	35	Y					1.14		0.674				1.81	
ISL-EA-179-A	ISL-EA-179-A-35-40-D	1.9	35	40	Y					0.735		0.821				1.56	
ISL-EA-179-A	ISL-EA-179-A-35-40-N	1.9	35	40	Y					0.766		0.716				1.48	
ISL-EA-179-B	ISL-EA-179-B-0-4-N	2.1	0	4	Y					1.54		0.971				2.51	
ISL-EA-179-B	ISL-EA-179-B-4-10-N	2.1	4	10	Y					5.31		0.712				6.02	
ISL-EA-179-B	ISL-EA-179-B-10-15-N	2.1	10	15	Y					0.464		0.259				0.723	
ISL-EA-179-B	ISL-EA-179-B-15-20-N	2.1	15	20	Y					14.7		0.925				15.6	
ISL-EA-179-B	ISL-EA-179-B-20.5-20.9-N	2.1	20.5	20.9	N					12.6		0.264				12.9	
ISL-EA-179-B	ISL-EA-179-B-25-30-N	2.1	25	30	Y					1.18		1.39				2.57	
ISL-EA-179-B	ISL-EA-179-B-30-35-D	2.1	30	35	Y					1.21		1.01				2.22	
ISL-EA-179-B	ISL-EA-179-B-30-35-N	2.1	30	35	Y					1.3		0.979				2.28	
ISL-EA-179-B	ISL-EA-179-B-35-40-N	2.1	35	40	Y					1.13		1.05				2.18	
ISL-EA-187-A	ISL-EA-187-A-0-5-N	0.8	0	5	Y					13.7		0.924				14.6	
ISL-EA-187-A	ISL-EA-187-A-5-10-N	0.8	5	10	Y					1.39		1.1				2.49	
ISL-EA-187-A	ISL-EA-187-A-11-11.2-N	0.8	11	11.2	N					1.48		1.41				2.89	
ISL-EA-187-A	ISL-EA-187-A-15-20-N	0.8	15	20	Y					1.36		0.84				2.20	
ISL-EA-187-A	ISL-EA-187-A-20-25-N	0.8	20	25	Y					1.41		1.2				2.61	
ISL-EA-187-A	ISL-EA-187-A-25-30-D	0.8	25	30	Y					0.94		1.05				1.99	
ISL-EA-187-A	ISL-EA-187-A-25-30-N	0.8	25	30	Y					1.48		1.14				2.62	
ISL-EA-187-A	ISL-EA-187-A-30-35-N	0.8	30	35	Y					1.16		1.16				2.32	
ISL-EA-187-A	ISL-EA-187-A-35-40-N	0.8	35	40	Y					0.961		0.875				1.84	

TABLE A6-1 ANALYTICAL RESULTS

						RADIUM-226 pCi/g		RADIUM-228 pCi/g		THORIUM-230 pCi/g		THORIUM-232 pCi/g		TOTAL RADIUM pCi/g		TOTAL THORIUM pCi/g	
Location ID	Sample Code	Pad Thickness/ Depth of Material above DI datum (feet)	Start Depth (below DI datum)	End Depth (below DI datum)	Composite (Y/N)	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
ISL-EA-205-B	ISL-EA-205-B-0-0.5-N	0.0	0	0.5	N					1.41		0.835				2.25	
ISL-EA-205-B	ISL-EA-205-B-0.5-1-N	0.0	0.5	1	N					1.59		0.972				2.56	
ISL-EA-205-B	ISL-EA-205-B-1-1.5-N	0.0	1	1.5	N					0.938		0.916				1.85	
ISL-EA-205-B	ISL-EA-205-B-1.5-2-N	0.0	1.5	2	N					1.46		1.1				2.56	
ISL-EA-205-B	ISL-EA-205-B-2-3-N	0.0	2	3	Y					1.5		1.39				2.89	
ISL-EA-205-B	ISL-EA-205-B-3-4-N	0.0	3	4	Y					19.9		1.07				21.0	
L002	L002-(5-7)-N	0.0	5	7	Y	0.727	J	0.512		1.48		0.409					
L002	L002-(7-9)-N	0.0	7	9	Y	1.05		1.11		1.29		1.15					
L002	L002-(9-11)-N	0.0	9	11	Y	1.2		1.32		1.75		1.42					
L002	L002-(11-13)-N	0.0	11	13	Y	1.27		1.22		1.4		1.26					
L002	L002-(13-15)-N	0.0	13	15	Y	1.04		0.973		1.05		1.01					
L002	L002-(15-17)-N	0.0	15	17	Y	0.681		0.863		0.763		0.704					
L002	L002-(17-19)-N	0.0	17	19	Y	0.657		0.932		0.937		0.978					
L002	L002-(19-21)-N	0.0	19	21	Y	0.689		0.957		1.13	J	0.632					
L002	L002-(21-23)-N	0.0	21	23	Y	0.447		0.324		0.423		0.585					
L002	L002-(23-25)-N	0.0	23	25	Y	0.457		0.47		0.341		0.358					
L003	L003-(5-7)-N	0.0	5	7	Y	1.05		1.51		1.42		0.969					
L003	L003-(7-9)-N	0.0	7	9	Y	1.07		0.88		1.56		0.998					
L003	L003-(9-11)-N	0.0	9	11	Y	0.944		1.07		1.17		0.975					
L003	L003-(11-13)-N	0.0	11	13	Y	1.18		1.18		1.2		1.26					
L003	L003-(13-15)-N	0.0	13	15	Y	0.508		0.525		0.914		0.67					
L003	L003-(15-17)-N	0.0	15	17	Y	0.767		1.15		0.863		0.744					
L003	L003-(17-19)-N	0.0	17	19	Y	0.908		0.898		0.848		0.835					
L003	L003-(19-21)-N	0.0	19	21	Y	0.999		1.36		0.645		0.819					
L003	L003-(21-23)-N	0.0	21	23	Y	0.418		0.692		0.717		0.67					
L003	L003-(23-25)-N	0.0	23	25	Y	0.508		0.34		0.521		0.502					
L003	L003-(25-27)-N	0.0	25	27	Y	0.431		0.495		0.8		0.586					
L004	L004-(5-7)-N	0.0	5	7	Y	1.34		1.02		1.21		1.2					
L004	L004-(7-9)-N	0.0	7	9	Y	1.03		1		1.12		1.03					
L004	L004-(9-11)-N	0.0	9	11	Y	1.09		1.3		1.01		0.964					
L004	L004-(11-13)-N	0.0	11	13	Y	1.13		1.21		1.1		1.02					
L004	L004-(13-15)-N	0.0	13	15	Y	1.35		1.25		1.15		1.07					
L004	L004-(15-17)-N	0.0	15	17	Y	1.06		0.917		1.1		1.14					
L004	L004-(17-19)-N	0.0	17	19	Y	1.18		1.23		1.29		0.976					
L004	L004-(19-21)-N	0.0	19	21	Y	1.07		1.31		1.24		0.962					
L004	L004-(21-23)-N	0.0	21	23	Y	0.835		0.934		1.03		0.775					
L004	L004-(23-25)-N	0.0	23	25	Y	0.549		0.364		0.592		0.653					
8-2A2-159-B	8-2A2-159-B-0-0.5-N	0.0	0	0.5	N					2.50		0.671				3.17	
8-2A2-159-B	8-2A2-159-B-0.5-1-N	0.0	0.5	1	N					8.53		1.20				9.73	
8-2A2-159-B	8-2A2-159-B-1-1.5-N	0.0	1	1.5	N					1.91		1.26				3.17	
8-2A2-159-B	8-2A2-159-B-1.5-2-N	0.0	1.5	2	N					1.25		0.948				2.20	
8-2A2-159-B	8-2A2-159-B-2-2.5-N	0.0	2	2.5	N					1.48		1.19				2.67	
8-2A2-159-B	8-2A2-159-B-2.5-3-N	0.0	2.5	3	N					24.6		1.14				25.74	
8-2A2-159-B	8-2A2-159-B-3-3.5-N	0.0	3	3.5	N					22.8		1.04				23.84	
8-2A2-159-B	8-2A2-159-B-3.5-4-N	0.0	3.5	4	N					1.51		1.25				2.76	

TABLE A6-1 ANALYTICAL RESULTS

						RADIUM-226 pCi/g		RADIUM-228 pCi/g		THORIUM-230 pCi/g		THORIUM-232 pCi/g		TOTAL RADIUM pCi/g		TOTAL THORIUM pCi/g	
Location ID	Sample Code	Pad Thickness/ Depth of Material above DI datum (feet)	Start Depth (below DI datum)	End Depth (below DI datum)	Composite (Y/N)	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
CD-EA-209-A	CD-EA-209-A-0-0.5-N	0.5	0	0.5	N					1.48		0.252				1.73	
CD-EA-209-A	CD-EA-209-A-0.5-1-N	0.5	0.5	1	N					1.52		0.683				2.20	
CD-EA-209-A	CD-EA-209-A-1-1.5-N	0.5	1	1.5	N					1.03		0.418				1.45	
CD-EA-209-A	CD-EA-209-A-1.5-2-N	0.5	1.5	2	N					1.26		0.833				2.09	
CD-EA-209-A	CD-EA-209-A-2-4-N	0.5	2	4	Y					1.31		1.02				2.33	
CD-EA-209-A	CD-EA-209-A-4-6-N	0.5	4	6	Y					1.24		0.956				2.20	
CD-EA-209-A	CD-EA-209-A-6-8-N	0.5	6	8	Y					1.20		0.953				2.15	
CD-EA-209-A	CD-EA-209-A-8-10-N	0.5	8	10	Y					2.41		1.07				3.48	
CD-EA-209-A	CD-EA-209-A-10-12-N	0.5	10	12	Y					1.64		0.876				2.52	
CD-EA-209-A	CD-EA-209-A-12-14-N	0.5	12	14	Y					2.28		0.836				3.12	
CD-EA-209-A	CD-EA-209-A-14-16-N	0.5	14	16	Y					2.01		0.983				2.99	
CD-EA-209-A	CD-EA-209-A-16-18-N	0.5	16	18	Y					1.36		0.831				2.19	
CD-EA-209-A	CD-EA-209-A-18-20-N	0.5	18	20	Y					1.83		1.63				3.46	
CD-EA-209-A	CD-EA-209-A-20-22-N	0.5	20	22	Y					1.75		1.64				3.39	
CD-EA-209-A	CD-EA-209-A-22-24-N	0.5	22	24	Y					1.27		1.21				2.48	
CD-EA-209-A	CD-EA-209-A-24-26-N	0.5	24	26	Y					0.733		0.818				1.55	
CD-EA-209-A	CD-EA-209-A-26-28-N	0.5	26	28	Y					0.980		0.806				1.79	
CD-EA-209-A	CD-EA-209-A-28-29.5-N	0.5	28	29.5	Y					0.819		0.798				1.62	
ISL-EA-186-B	ISL-EA-186-B-0-0.5-N	3.0	0	0.5	N					23.7		0.225				23.93	
ISL-EA-186-B	ISL-EA-186-B-1-1.5-N	3.0	1	1.5	N					1.79		0.598				2.39	
ISL-EA-186-B	ISL-EA-186-B-2-4-N	3.0	2	4	Y					1.60		1.17				2.77	
ISL-EA-186-B	ISL-EA-186-B-4-6-N	3.0	4	6	Y					1.39		1.14				2.53	
ISL-EA-186-B	ISL-EA-186-B-6-8-N	3.0	6	8	Y					1.55		1.01				2.56	
ISL-EA-186-B	ISL-EA-186-B-8-10-N	3.0	8	10	Y					1.41		0.774				2.18	
ISL-EA-186-B	ISL-EA-186-B-10-12-N	3.0	10	12	Y					1.22		0.987				2.21	
ISL-EA-186-B	ISL-EA-186-B-12-14-N	3.0	12	14	Y					1.30		1.11				2.41	
ISL-EA-186-B	ISL-EA-186-B-14-16-N	3.0	14	16	Y					1.27		0.913				2.18	
ISL-EA-186-B	ISL-EA-186-B-16-18-N	3.0	16	18	Y					2.17		1.56				3.73	
ISL-EA-186-B	ISL-EA-186-B-18-20-N	3.0	18	20	Y					1.51		1.03				2.54	
ISL-EA-186-B	ISL-EA-186-B-20-22-N	3.0	20	22	Y					0.877		0.766				1.64	
ISL-EA-186-B	ISL-EA-186-B-22-24-N	3.0	22	24	Y					0.875		0.709				1.58	
ISL-EA-186-B	ISL-EA-186-B-24-26-D	3.0	24	26	Y					0.704		0.712				1.42	
ISL-EA-186-B	ISL-EA-186-B-24-26-N	3.0	24	26	Y					0.887		0.764				1.65	
ISL-EA-186-B	ISL-EA-186-B-26-27-N	3.0	26	27	Y					0.803		0.918				1.72	

Notes:
1. Unvalidated data shown in red.
2. Thorium analyzed on a expedited turnaround time (TAT). Radium analyzed on a standard TAT due to methodologies.

TABLE A6-2 PROPOSED ADDENDUM 6 STEP-OUT BORINGS

Area	Northing	Easting	Location ID	Drilling Method	Estimated Total Boring Depth (feet B2005GS)	Total Laboratory Analytical Samples	Core Scan Interval (feet B2005GS)	Downhole Gamma Interval (feet B2005GS)	Justification
Area 1	1,069,496.56	836,961.51	A1-PB-114-E	DPT	10	6	0-10	-	Rush Thorium results >7.9 pCi/g at 6 to 8 ft below DI Datum at A1-PB-114-D
Area 2	1,070,572.10	834,264.31	A2-PB-131-G	DPT	2	2	0-2	-	Rush Thorium results >7.9 pCi/g at 0 to 1 ft below DI Datum at A2-PB-131-D
Area 2	1,070,548.34	834,273.28	A2-PB-131-H	DPT	2	2	0-2	-	
Area 2	1,070,549.46	834,232.92	A2-PB-131-I	DPT	2	2	0-2	-	
Area 2	1,070,528.61	834,208.70	A2-PB-131-J	DPT	2	2	0-2	-	
Area 2	1,070,516.05	834,240.77	A2-PB-131-K	DPT	2	2	0-2	-	
CD	1,070,237.94	836,176.88	CD-EA-202-B	Sonic	35	14	0-35	0-35	Rush Thorium results >7.9 pCi/g at 10 to 15 ft below DI Datum at CD-EA-202
CD - Boneyard	1,069,368.39	835,869.93	CD-EA-174-A	Sonic	20	8	0-20	0-20	Rush Thorium results >52.9 pCi/g at 5 to 15 ft below DI Datum at CD-EA-174
CD - Boneyard	1,069,490.04	836,055.98	CD-EA-175-A	Sonic	20	8	0-20	0-20	Rush Thorium results >52.9 pCi/g at 0 to 5 and 15 to 20 ft below DI Datum at CD-EA-175
CD - Boneyard	1,069,400.56	835,923.15	CD-EA-190-B	Sonic	20	8	0-20	0-20	Rush Thorium results >52.9 pCi/g at 12.5 to 13 ft below DI Datum at CD-EA-190
CD - Boneyard	1,069,452.65	835,999.01	CD-EA-190-C	Sonic	20	8	0-20	0-20	
CD - Boneyard	1,069,446.33	835,753.64	CD-EA-199-A	Sonic	20	8	0-20	0-20	Rush Thorium results >52.9 pCi/g at 4 to 12 ft below DI Datum at CD-EA-199
CD - Boneyard	1,069,495.72	835,690.33	CD-EA-199-B	Sonic	20	8	0-20	0-20	
CD - Boneyard	1,069,548.46	835,797.76	CD-EA-199-C	Sonic	20	8	0-20	0-20	
CD - Boneyard	1,069,620.64	835,798.48	CD-EA-199-D	Sonic	20	8	0-20	0-20	
CD - Boneyard	1,069,563.83	835,976.11	CD-EA-200-A	Sonic	20	8	0-20	0-20	Rush Thorium results >52.9 pCi/g at 10 to 25 ft below DI Datum at CD-EA-200
CD - Boneyard	1,069,621.17	835,957.12	CD-EA-200-B	Sonic	20	8	0-20	0-20	
CD - Boneyard	1,069,592.51	835,876.24	CD-EA-200-C	Sonic	20	8	0-20	0-20	
CD - Boneyard	1,069,681.41	835,890.25	CD-EA-200-D	Sonic	20	8	0-20	0-20	
CD - Boneyard	1,069,678.72	836,021.14	CD-EA-201-A	Sonic	20	8	0-20	0-20	Rush Thorium results >52.9 pCi/g at 16 to 20 ft below DI Datum at CD-EA-201
CD - Boneyard	1,069,335.13	835,737.57	CD-EA-208-A	Sonic	20	8	0-20	0-20	Rush Thorium results >52.9 pCi/g at 0 to 8 ft below DI Datum at CD-EA-208
CD - Boneyard	1,069,336.99	835,804.67	CD-EA-208-B	Sonic	20	8	0-20	0-20	
ISL	1,068,760.57	834,670.13	ISL-EA-179-C	Sonic	42	18	0-42	0-42	Rush Thorium results >7.9 pCi/g at 4 to 10 ft below DI Datum at ISL-EA-179-A
ISL	1,068,439.12	834,679.15	ISL-EA-179-D	Sonic	42	18	0-42	0-42	Rush Thorium results >7.9 pCi/g at 15 to 20.9 ft below DI Datum at ISL-EA-179-B
ISL	1,068,684.40	834,654.93	ISL-EA-179-E	Sonic	45	18	0-45	0-45	Rush Thorium results >7.9 pCi/g at 4 to 10 ft below DI Datum at ISL-EA-179-A
ISL	1,068,511.81	834,662.37	ISL-EA-179-F	Sonic	45	18	0-45	0-45	Rush Thorium results >7.9 pCi/g at 15 to 20.9 ft below DI Datum at ISL-EA-179-B
ISL	1,068,628.91	834,585.53	BRISL002-A	DPT	7	7	0-7	-	Rush Thorium results > 7.9 pCi/g at ISL-EA-179-A, ISL-EA-179-B, ISL-EA-181, and ISL-EA-205-B
ISL	1,068,206.42	834,603.51	BRISL003-A	DPT	7	7	0-7	-	
ISL	1,067,794.04	834,592.79	BRISL004-A	DPT	7	7	0-7	-	
ISL	1,067,676.17	834,678.91	ISL-EA-205-E	Sonic	25	10	0-25	0-25	Rush Thorium results >7.9 pCi/g at 0 to 4 ft below DI Datum at ISL-EA-205 and ISL-EA-205-B
ISL	1,067,718.10	834,718.89	ISL-EA-205-F	Sonic	25	10	0-25	0-25	
ISL	1,067,675.02	834,759.80	ISL-EA-205-G	Sonic	25	10	0-25	0-25	
ISL	1,067,632.73	834,718.93	ISL-EA-205-H	Sonic	25	10	0-25	0-25	

TABLE A6-2 PROPOSED ADDENDUM 6 STEP-OUT BORINGS

Area	Northing	Easting	Location ID	Drilling Method	Estimated Total Boring Depth (feet B2005GS)	Total Laboratory Analytical Samples	Core Scan Interval (feet B2005GS)	Downhole Gamma Interval (feet B2005GS)	Justification
Area 2 Access Road	1,069,167.49	835,725.87	ISL-EA-186-C	DPT (or Sonic)	4	6	0-4	-	Rush Thorium results >7.9 pCi/g at 0 to 5 ft below DI Datum at ISL-EA-186-A and ISL-EA-186-B
Area 2 Access Road	1,069,174.51	835,732.99	ISL-EA-186-D*	DPT (or Sonic)	4	6	0-4	-	
Area 2 Access Road	1,069,181.66	835,711.76	ISL-EA-186-E	DPT (or Sonic)	6	8	0-6	-	
Area 2 Access Road	1,069,152.64	835,739.26	ISL-EA-186-F	DPT (or Sonic)	6	8	0-6	-	
Area 2 Access Road	1,069,401.35	835,492.59	ISL-EA-187-B	Sonic	6	8	0-6	-	Rush Thorium results >7.9 pCi/g at 0 to 5 ft below DI Datum at ISL-EA-187-A
Area 2 Access Road	1,069,406.54	835,501.78	ISL-EA-187-C	Sonic	6	8	0-6	-	
Area 2 Access Road	1,069,489.44	835,455.19	A2-SB-165-A	DPT (or Sonic)	4	6	0-4	-	Rush Thorium results >7.9 pCi/g at 0.5 to 1 ft below DI Datum at A2-SB-165
Area 2 Access Road	1,069,496.21	835,462.55	A2-SB-165-B*	DPT (or Sonic)	4	6	0-4	-	
Lot2A2	1,069,744.71	834,266.88	8-2A2-159-C	DPT	4	8	0-4	-	Rush Thorium results >7.9 pCi/g at 0.5 to 3.5 ft below DI Datum at 8-2A2-159-B
Lot2A2	1,069,725.92	834,252.63	8-2A2-159-D	DPT	4	8	0-4	-	
TOTAL BORING/ SAMPLE COUNT	-	-	43	-	-	355	-	-	

*Samples will be held pending analytical results from ISL-EA-186-C and A2 -SB-165-A, respectively.

TABLE A6-3 PROPOSED WASTE ACCEPTANCE CRITERIA AND 52.9 PCI/G RIM EXTENT BORINGS

Area	Northing (NAD83 State Plane MO E, ft)	Easting (NAD83 State Plane MO E, ft)	Location ID	Waste Characterization - Sonic Borings	Geostatistical Model 52.9 pCi/g Extent- Sonic Borings	Estimated Total Boring Depth (feet B2005GS)	Total Laboratory Analytical Samples	Core Scan Gamma Interval (feet B2005GS)	Downhole Gamma Interval (feet B2005GS)
A1	1,069,151.79	836,136.40	A1-SB-179	X		16	7	0-16	0-16
A1	1,069,253.51	836,168.70	A1-SB-180	X		16	7	0-16	0-16
A1	1,069,187.53	836,207.19	A1-SB-181	X		16	7	0-16	0-16
A1	1,069,157.98	836,251.17	A1-SB-182	X		16	7	0-16	0-16
A2	1,069,757.48	834,590.56	A2-SB-183	X		16	7	0-16	0-16
A2	1,069,840.52	834,637.85	A2-SB-184	X		16	7	0-16	0-16
A2	1,069,946.08	834,750.73	A2-SB-185	X		16	7	0-16	0-16
A2	1,070,029.68	834,795.77	A2-SB-186	X		16	7	0-16	0-16
A2	1,070,104.84	834,831.80	A2-SB-187	X		16	7	0-16	0-16
A2	1,070,069.66	834,878.25	A2-SB-188	X		16	7	0-16	0-16
A2	1,070,131.30	834,923.29	A2-SB-189	X		16	7	0-16	0-16
A2	1,070,505.69	834,821.67	A2-SB-190	X		16	7	0-16	0-16
A2	1,070,580.57	834,867.55	A2-SB-191	X		16	7	0-16	0-16
A2	1,070,513.85	834,912.87	A2-SB-192	X		16	7	0-16	0-16
A2	1,070,633.21	835,247.85	A2-SB-193	X		16	7	0-16	0-16
A2	1,070,707.80	835,295.42	A2-SB-194	X		16	7	0-16	0-16
A2	1,070,637.99	835,343.28	A2-SB-195	X		16	7	0-16	0-16
A1	1,069,164.70	835,951.04	A1-SB-196		X	20	5	0-20	0-20
A1	1,069,174.05	836,307.75	A1-SB-197		X	20	5	0-20	0-20
A1	1,069,265.28	836,721.20	A1-SB-198		X	20	5	0-20	0-20
A1	1,069,395.48	836,880.35	A1-SB-199		X	20	5	0-20	0-20
A2	1,069,573.25	835,123.42	A2-SB-200		X	20	5	0-20	0-20
A2	1,070,366.96	834,729.16	A2-SB-201		X	20	5	0-20	0-20
A2	1,070,839.44	834,934.11	A2-SB-202		X	20	5	0-20	0-20
A2	1,070,984.46	835,106.21	A2-SB-203		X	20	5	0-20	0-20
TOTAL BORING/ SAMPLE COUNT	-	-	25	17	8	-	159	-	-

Notes:
1. Sample counts do not include QC samples.
2. All sample counts are estimates and may vary vased on field conditions (e.g., core recovery, and number of areas of elevated gamma response per boring).

TABLE A6-4 GRAB AND COMPOSITE SAMPLE COLLECTION INTERVALS SUMMARY

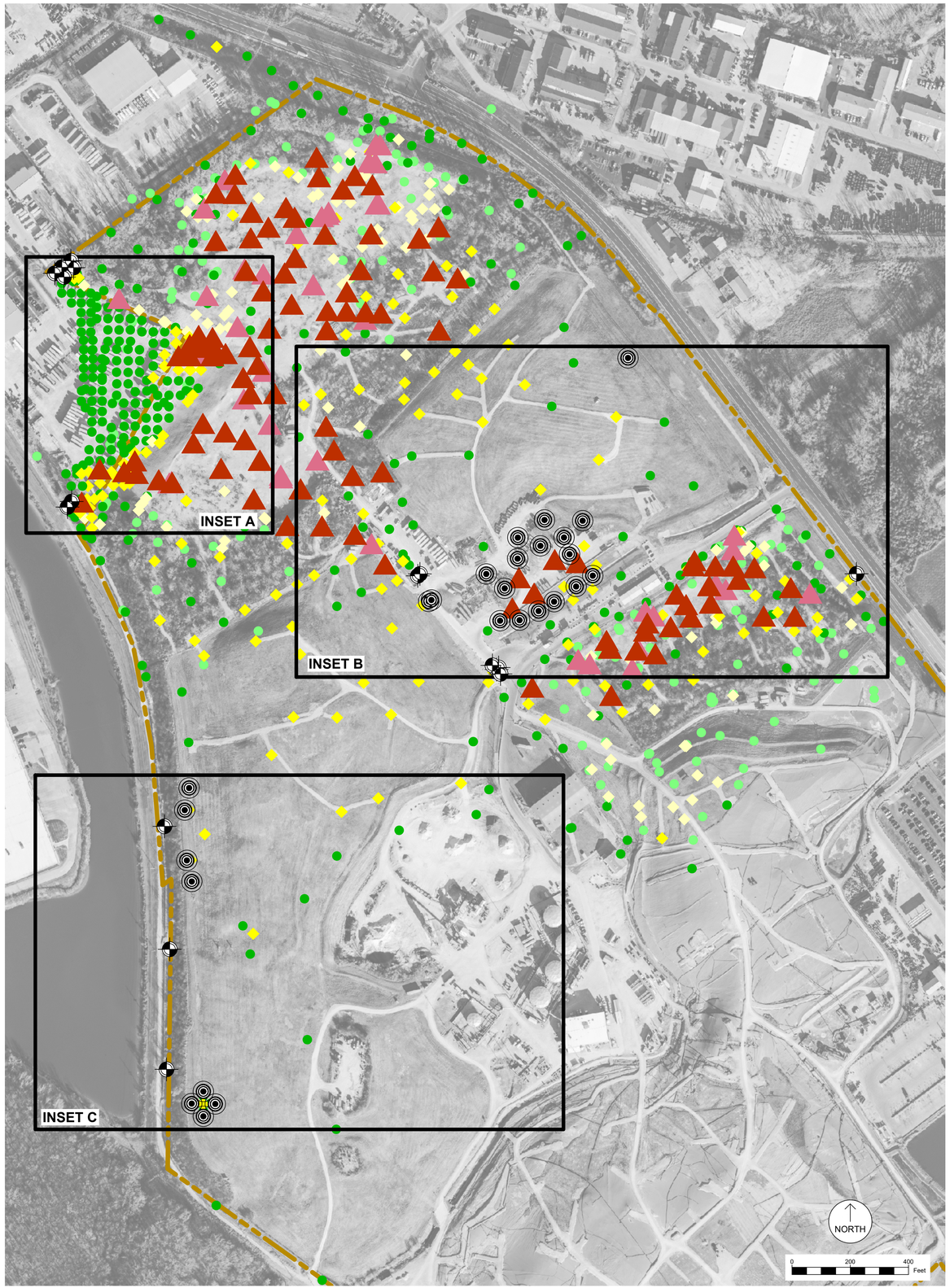
Area	Borings	Estimated Boring Depth	Grab Sample Collection Intervals (ft below DI datum)	Composite Sample Collection Intervals (ft below DI datum)
Area 1	A1-PB-114-E	10	Samples collected from 0-1 and 1-2 from the six inch interval with highest radiological response	2-4, 4-6, 6-8, 8-10
Area 2	A2-PB-131-G, A2-PB-131-H, A2-PB-131-I, A2-PB-131-J, A2-PB-131-K	2	None	0-1, 1-2
CD	CD-EA-202-B	35	One six inch sample collected per core run where gamma is > 20,000 cpm	0-5, 5-10, 10-15, 15-20, 20-25, 25-30, 30-35
CD - Boneyard	CD-EA-174-A, CD-EA-175-B, CD-EA-190-B, CD-EA-190-C, CD-EA-199-A, CD-EA-199-B, CD-EA-199-C, CD-EA-199-D, CD-EA-200-A, CD-EA-200-B, CD-EA-200-C, CD-EA-200-D, CD-EA-201-A, CD-EA-208-A, CD-EA-208-B	20	One six inch sample collected per core run where gamma is > 20,000 cpm	0-4, 4-8, 8-12, 12-16, 16-20
ISL	ISL-EA-179-C, ISL-EA-179-D, ISL-EA-179-E, ISL-EA-179-F	40 to 45	One six inch sample collected per core run where gamma is > 20,000 cpm	0-5, 5-10, 10-15, 15-20, 20-25, 25-30, 30-35,35-40, 40-45
ISL	ISL-EA-205-E, ISL-EA-205-F, ISL-EA-205-G, ISL-EA-205-H	25	One six inch sample collected per core run where gamma is > 20,000 cpm starting at 5 ft below DI datum	0-1, 1-2, 2-3, 3-4, 4-5, 5-10, 10-15, 15-20, 20-25

TABLE A6-4 GRAB AND COMPOSITE SAMPLE COLLECTION INTERVALS SUMMARY

Area	Borings	Estimated Boring Depth	Grab Sample Collection Intervals (ft below DI datum)	Composite Sample Collection Intervals (ft below DI datum)
ISL - Gas Probe Wells	BRISL002-A, BRISL003-A, BRISL004-A	7	None	0-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7
ISL - Access Road into Area 2	ISL-EA-186-C, ISL-EA-186-D, ISL-EA-186-E, ISL-EA-186-F, ISL-EA-187-B, ISL-EA-187-C, A2-SB-165-A, A2-SB-165-B	4 to 6	0-0.5, 0.5-1, 1-1.5, 1.5-2	2-3, 3-4, 4-5, 5-6
Lot 2A2	8-2A2-159-C, 8-2A2-159-D	4	0-0.5, 0.5-1, 1-1.5, 1.5-2, 2-2.5, 2.5-3, 3-3.5, 3.5-4	None
WAC*	A1-SB-179, A1-SB-180, A1-SB-181, A1-SB-182, A2-SB-183, A2-SB-184, A2-SB-185, A2-SB-186, A2-SB-187, A2-SB-188, A2-SB-189, A2-SB-190, A2-SB-191, A2-SB-192, A2-SB-193, A2-SB-194, A2-SB-195	16	Up to two biased six inch samples collected based on elevation per boring. One six inch sample collected per core run where gamma is > 40,000 cpm. Two six inch samples collected, one above and one below the greatest gamma reading above 40,000 cpm per boring.	None
Geostatistical Model 52.9 pCi/g Extent	A1-SB-196, A1-SB-197, A1-SB-198, A1-SB-199, A2-SB-199, A2-SB-200, A2-SB-201, A2-SB-202, A2-SB-203	20	One six inch sample collected per core run where gamma is > 40,000 cpm. If gamma is <40,000 cpm, a sample will be collected from a randomly selected depth interval per core run.	None

* Additional grab samples may be collected based on gamma readings

FIGURES



LEGEND

	PRE-D.I. BORING	D.I. BORING	
PROPERTY BOUNDARY			BORING MAXIMUM ≤ 7.9 pCi/g
PROPOSED DPT			BORING MAXIMUM > 7.9 pCi/g
PROPOSED SONIC			SAMPLE > 52.9 pCi/g AND ABOVE 12 FEET

NOTE:

1.) AERIAL TOPOGRAPHY WAS PROVIDED BY COOPER AERIAL SURVEYS CO. AND IS DATED DECEMBER 8, 2021.

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FEEZOR ENGINEERING
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Missouri State Certificate Of Authority #: E-2009012211

PROJECT
WEST LAKE LANDFILL
RDWP DESIGN AND MANAGEMENT
BRIDGETON, ST. LOUIS COUNTY, MO

PREPARED FOR
WEST LAKE LANDFILL
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

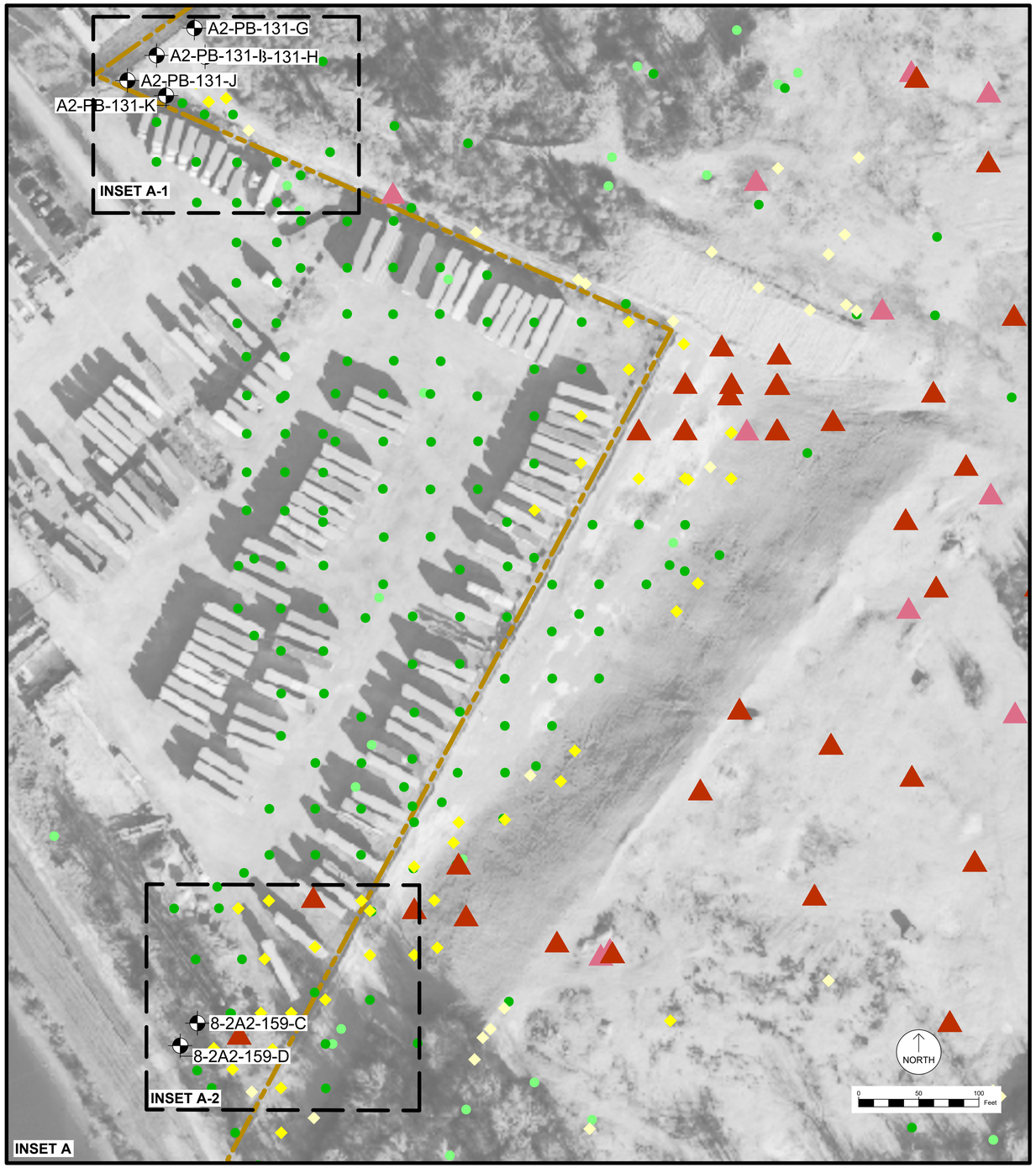
APRIL 2022
DESIGNED BY: PML
APPROVED BY: ---

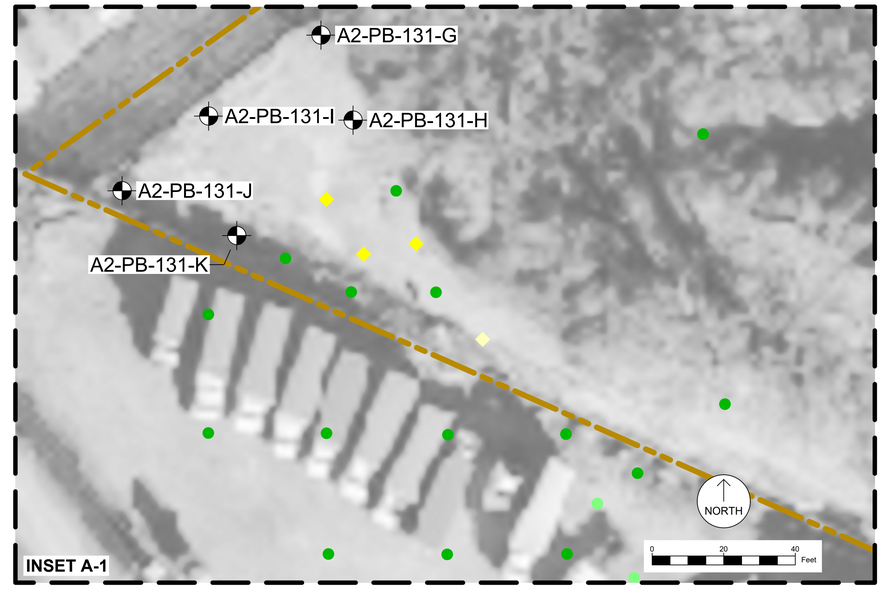
DRAWING # A6-1

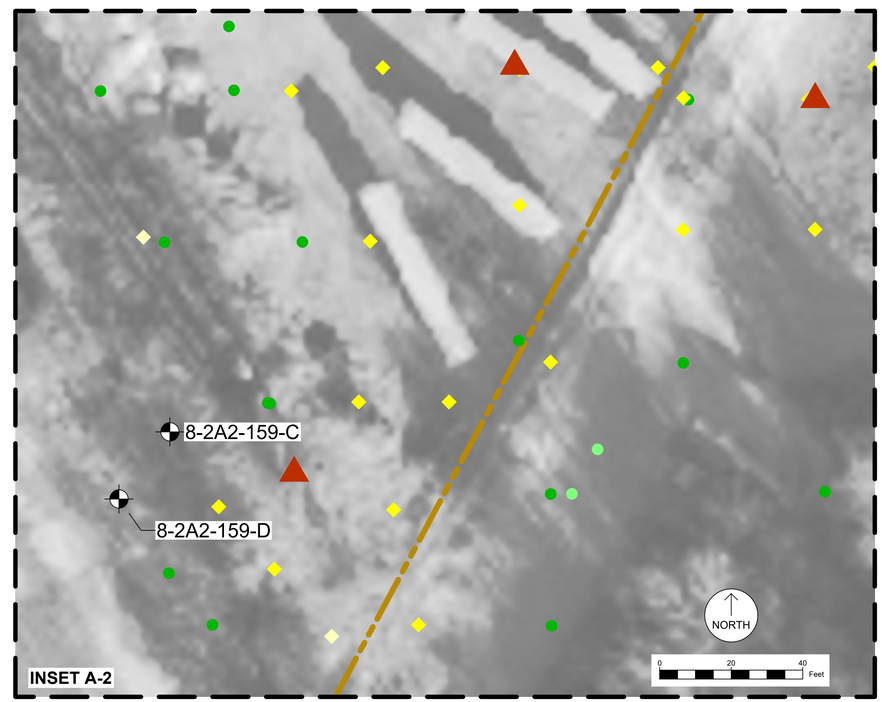
REVISIONS:	DATE	DSN.	APV.
#_ _____	__/__/__	___	___

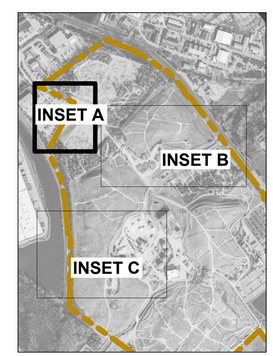
DRAWING TITLE
ADDENDUM 6
PROPOSED STEPOUT LOCATIONS - PLAN VIEW

PROJECT NUMBER: BT-191 | FILE PATH: C:\Users\parsi\Dropbox (Feezor Engineering)\Bridgeton\BT-191 (RDWP Design And Management)\to Be Filed\2022-04-05 Proposed Borings (ADD 5)\proposed AUG6 Borings_4-15-22\proposed Borings_add6_4-22-22









LEGEND

	PRE-D.I. BORING	D.I. BORING	
PROPERTY BOUNDARY			
PROPOSED DPT			BORING MAXIMUM ≤ 7.9 pCi/g
PROPOSED SONIC			BORING MAXIMUM > 7.9 pCi/g
			SAMPLE > 52.9 pCi/g AND ABOVE 12 FEET

NOTE:

1.) AERIAL TOPOGRAPHY WAS PROVIDED BY COOPER AERIAL SURVEYS CO. AND IS DATED DECEMBER 8, 2021.

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PROJECT
WEST LAKE LANDFILL
RDWP DESIGN AND MANAGEMENT
BRIDGETON, ST. LOUIS COUNTY, MO

PREPARED FOR
WEST LAKE LANDFILL
13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

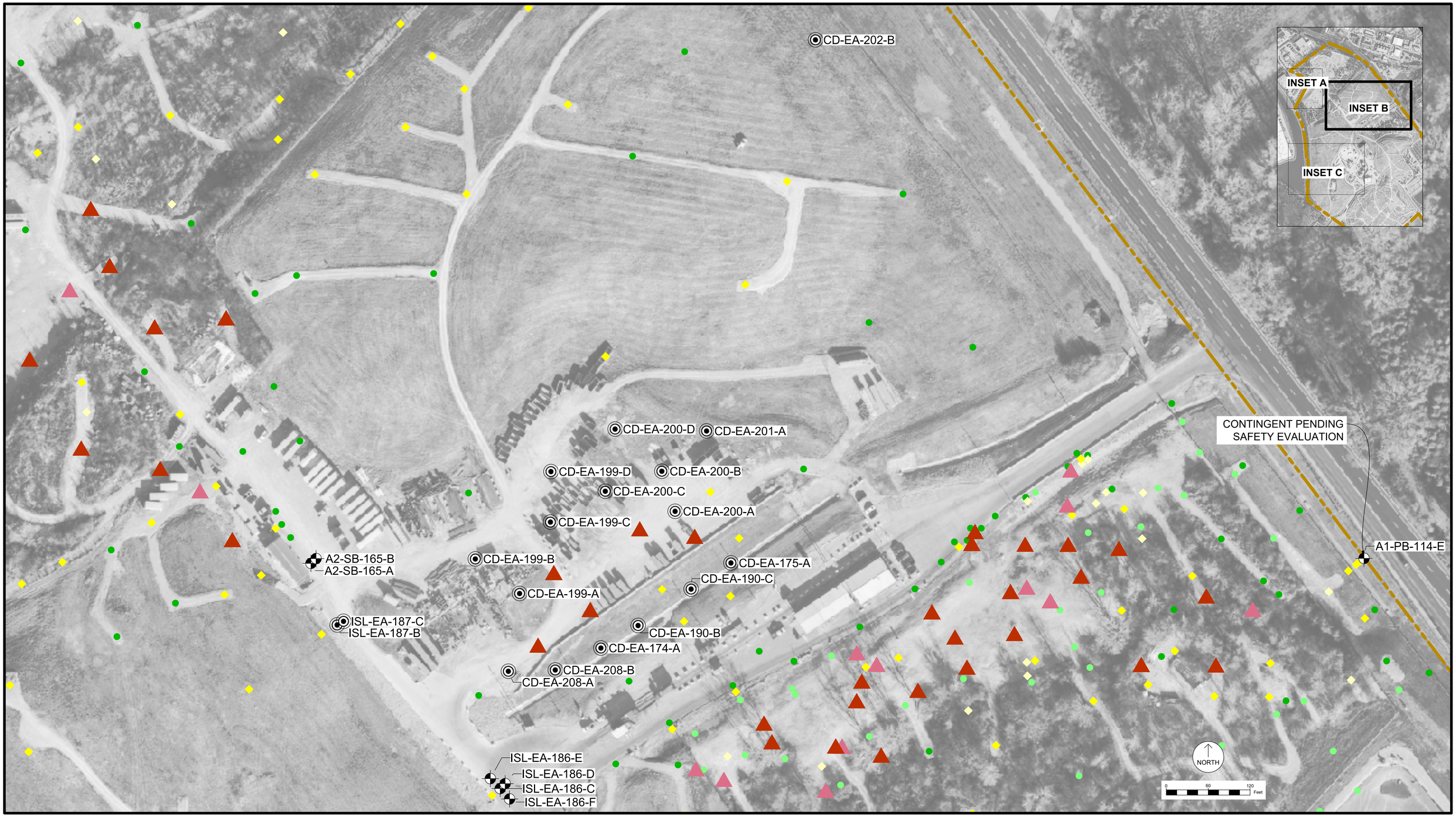
APRIL 2022
DESIGNED BY: PML
APPROVED BY: ---

DRAWING # A6-2

REVISIONS:	DATE	DSN.	APV.
#_	__/__/__	___	___

DRAWING TITLE
ADDENDUM 6
PROPOSED STEPOUT LOCATIONS - INSET A

PROJECT NUMBER: BT-191 | FILE PATH: C:\Users\pmc\Dropbox (Feezor Engineering)\Bridgeton\BT-191 (RDWP Design And Management)\to Be Filed\2022-04-05 Proposed Borings (ADD 6)\proposed ADD6 Borings_4-15-22\proposed Borings_add6_4-20-22



LEGEND

	PRE-D.I. BORING	D.I. BORING	
PROPERTY BOUNDARY			
PROPOSED DPT			BORING MAXIMUM ≤ 7.9 pCi/g
PROPOSED SONIC			BORING MAXIMUM > 7.9 pCi/g
			SAMPLE > 52.9 pCi/g AND ABOVE 12 FEET

NOTE:

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BRIDGETON, ST. LOUIS COUNTY, MO

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13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

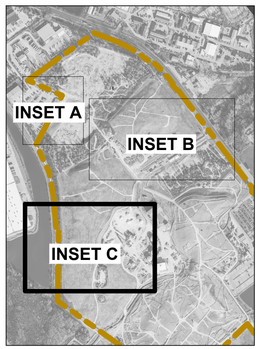
APRIL 2022
DESIGNED BY: PML
APPROVED BY: ---

DRAWING # **A6-3**

REVISIONS:	DATE	DSN.	APV.
#-	__/__/__	___	___

DRAWING TITLE
ADDENDUM 6
PROPOSED STEPOUT LOCATIONS - INSET B

PROJECT NUMBER: AA-000 | FILE PATH: C:\Users\pete\Dropbox (Feezor Engineering)\Bridgeton\81-191 (RDWP Design And Management)\to file\2022-04-05 Proposed Borings (ALL)\proposed ALL Borings_4-9-22\proposed Borings_addd_4-11-22



LEGEND

		PRE-D.I. BORING	D.I. BORING	
	PROPERTY BOUNDARY			BORING MAXIMUM ≤ 7.9 pCi/g
	PROPOSED DPT			BORING MAXIMUM > 7.9 pCi/g
	PROPOSED SONIC			SAMPLE > 52.9 pCi/g AND ABOVE 12 FEET

NOTE:

1.) AERIAL TOPOGRAPHY WAS PROVIDED BY COOPER AERIAL SURVEYS CO. AND IS DATED DECEMBER 8, 2021.

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PROJECT
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BRIDGETON, ST. LOUIS COUNTY, MO

PREPARED FOR
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13570 ST. CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

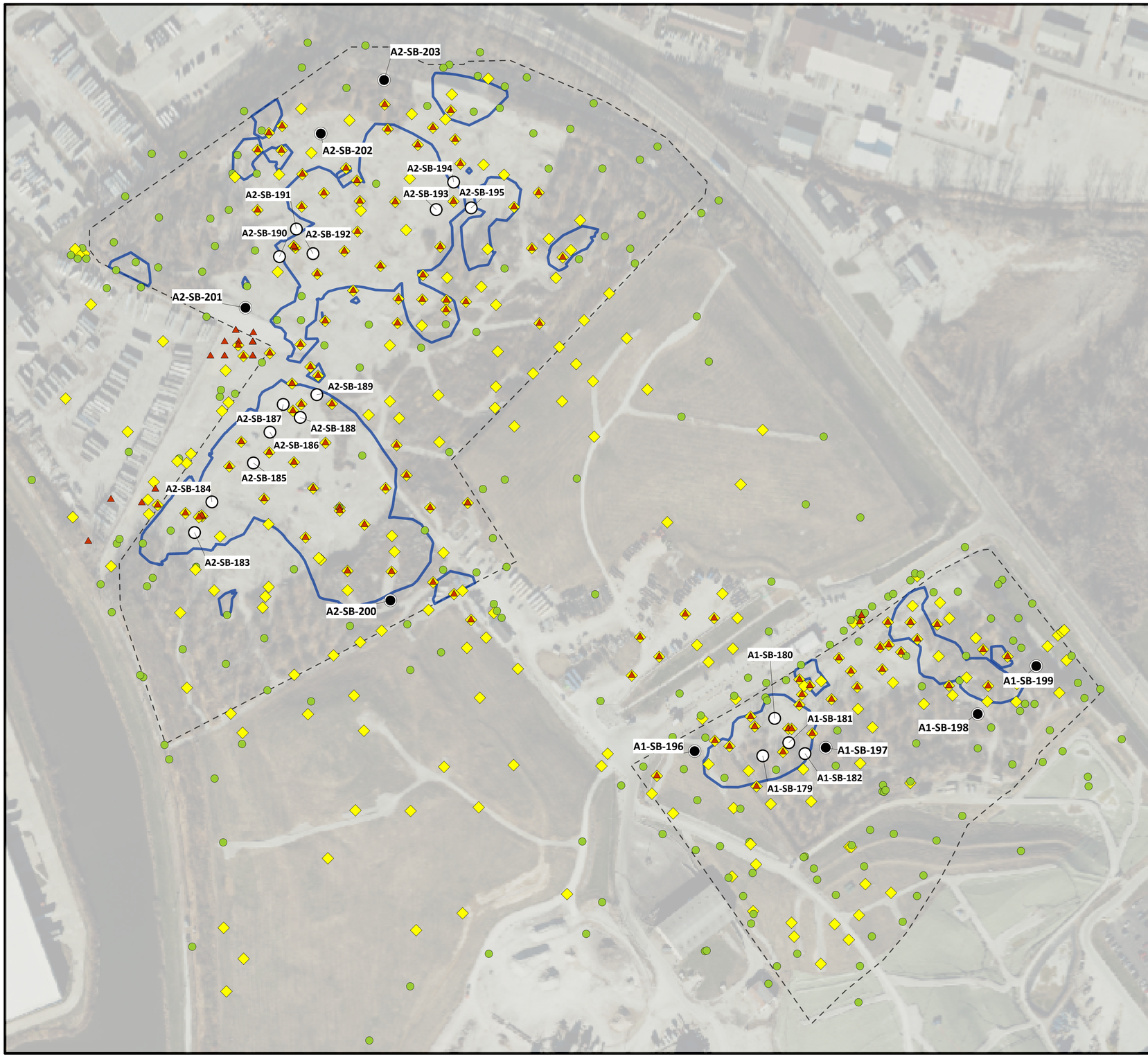
APRIL 2022
DESIGNED BY: PML
APPROVED BY: ---

DRAWING # A6-4

REVISIONS:	DATE	DSN.	APV.
#-	__/__/__	___	___

DRAWING TITLE
ADDENDUM 6
PROPOSED STEPOUT LOCATIONS - INSET C

PROJECT NUMBER: AA-000 | FILE PATH: C:\Users\pmlin\Dropbox (Feezor Engineering)\Bridgeton\81-191 (RDWP Design And Management)\0 Ma Files\2022-04-05 Proposed Borings (ALL)\proposed AUG Borings_4-9-22\proposed Borings_add6_4-11-22



Boring Maximum ≤ 7.9 pCi/g

Boring Maximum >7.9 pCi/g

Sample > 52.9 pCi/g and above 12 feet

Proposed Geostatistical (52.9 pCi/g extent)

Proposed WAC Boring

OU-1 Area 1 & 2 Boundaries

Pre-RODA RIM Boundary > 52.9 pCi/g 0-16 feet B2005GS
(at 50% probability of exceeding 52.9 pCi/g)

0 250 500 750 1000 Feet

N

Notes:

1. This is a layered PDF - see the Adobe layer manager to turn on Pre-RODA boring IDs.
2. The extent of RIM >52.9 pCi/g shown on the figure is based on the geostatitical model prepared to support the DIWP (Oct. 2020).

PROJECT

WEST LAKE LANDFILL
RDWP DESIGN AND MANAGEMENT
BRIDGETON, ST LOUIS COUNTY, MO

PREPARED FOR

WEST LAKE LANDFILL
13570 ST CHARLES ROCK ROAD
BRIDGETON, MISSOURI 63044

DRAWING TITLE

ADDENDUM 6
PROPOSED WAC AND 52.9 pCi/g RIM EXTENT BORINGS

April 14, 2022
Drawn by: JS
Approved by: JWS

FIGURE: A6-5

PARSONS
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File path: \\NYBUF03FS01\PCTGprojects\West_lake\DI\Addendum 6\Addendum_6_Proposed_Borings_Map_v1.5_20220407.srf