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Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

CONTRACT NO. N62473-10-D-0809
CTO NO. 0002

FINAL

SURVEY UNIT 200 PROJECT REPORT

August 9, 2012

DCN: RMAC-0809-0002-0059

PARCEL C STORM DRAIN AND
SANITARY SEWER REMOVAL
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

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1455 Frazee Road, Suite 900
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FINAL

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PARCEL C STORM DRAIN AND SANITARY SEWER REMOVAL HUNTERS POINT NAVAL SHIPYARD SAN FRANCISCO, CALIFORNIA

DCN: RMAC-0809-0002-0059

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Attachment 2 Laboratory Analysis Reports for Trench Unit 200 (on CD only)

Attachment 3 Excavated Soil Unit Scan Data (on CD only)

Attachment 4 Excavated Soil Unit On-Site Laboratory Reports (on CD only)

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Attachment 6 Backfill Material RESRAD Report (on CD only)

Attachment 7 Trench Unit RESRAD Report (on CD only)

Attachment 8 Response to Comments

ABBREVIATIONS AND ACRONYMS

ALARA	as low as reasonably achievable
AM	Action Memorandum
^{214}Bi	bismuth-214
^{137}Cs	cesium-137
DoD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
EPA	U.S. Environmental Protection Agency
FSS	Final Status Survey
HPNS	Hunters Point Naval Shipyard
IR	Installation Restoration (Program)
keV	kiloelectron volt
MDL	method detection limit
mrem/y	millirems per year
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
pCi/g	picocuries per gram
^{226}Ra	radium-226
RASO	Radiological Affairs Support Office
ROC	radionuclide of concern
^{90}Sr	strontium-90
SUPR	Survey Unit Project Report
SVOC	semivolatile organic compound
TPH	total petroleum hydrocarbons
VOC	volatile organic compound
VSP	Visual Sample Plan

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1.0 INTRODUCTION

1.1 PURPOSE

This Survey Unit Project Report (SUPR) documents the work performed in Survey Unit 200 (inclusive of the trench and the associated excavated soil and import fill material used as backfill). The work was conducted under the final Basewide Radiological Management Plan (TtEC 2012). This SUPR summarizes the scope, approach, and radiological surveys resulting from the removal of the storm drains and sanitary sewers located within Area 33 in Parcel C at Hunters Point Naval Shipyard (HPNS), San Francisco, California.

Information that was provided in the SUPRs Abstract (TtEC 2011) will be repeated only if there were exceptions to the information specific to Survey Unit 200.

1.2 BACKGROUND

Survey Unit 200 is the net sum of Trench Unit 200; excavated soil from Excavated Soil Units 334, 421, and 439; and a volume of import fill material, which was used for backfill. There are 20 trench segments associated with Survey Unit 200. Three of the trench segments are located within Installation Restoration (IR) Site 28, and eight of the trench segments are located within IR Site 29. The chemicals of concern associated with both IR Site 28 and IR Site 29 include metals, pesticides, polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), total oil and grease, total petroleum hydrocarbons (TPH), and volatile organic compounds (VOCs). One of the trench segments was not found during excavation. In addition, three manholes were removed from Trench Unit 200.

Survey Unit 200 is located in Parcel C within Area 33 as identified in Figure 1-1. Trench Unit 200 runs east and west along Spear Avenue south of Buildings 217 and 258. The footprint of Trench Unit 200 was 445 linear feet. The total surface area is 9,870.51 square feet (917 square meters) of actual excavated trench, in varying depths up to 9 feet below ground surface.

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2.0 RELEASE CRITERIA

Release criteria information for Survey Unit 200 is presented in Section 2.0 of the SUPRs Abstract (TtEC 2011). No additional radionuclides of concern (ROCs) were identified.

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3.0 FINAL STATUS SURVEYS

3.1 OBJECTIVE OF THE FINAL STATUS SURVEY

The objective of the Final Status Survey (FSS) was to demonstrate that identified residual radioactivity levels inside the excavated trench and within the excavated soil and import fill material used as backfill met the release criteria.

3.2 SURVEY UNIT

Survey Unit 200 is located within Area 33 and consists of two different types of survey units: trench and excavated soil. Survey Unit 200 is the sum of Trench Unit 200; excavated soil from Excavated Soil Units 334, 421, and 439; and a volume of import fill material, which was used for backfill. There are 20 trench segments associated with Survey Unit 200. Three of the trench segments are located within IR Site 28, and eight of the trench segments are located within IR Site 29. The chemicals of concern associated with both IR Site 28 and IR Site 29 include metals, pesticides, PCBs, PAHs, SVOCs, total oil and grease, TPH, and VOCs. One of the trench segments was not found during excavation. In addition, three manholes were removed from Trench Unit 200.

Three sediment samples were available and collected from the manholes associated with the trench segments in Trench Unit 200; analytical results yielded both cesium-137 (^{137}Cs) activity above the release criterion at 0.6539 picocurie per gram (pCi/g) and radium-226 (^{226}Ra) activity above the release criterion at 1.64 pCi/g. No sediment samples were available or collected from the trench segments. The trench unit and each excavated soil unit were systematically sampled independently.

3.2.1 Trench Survey Unit

Scan surveys and systematic sampling were performed in Trench Unit 200. Figure 3-1 shows the approximate systematic sampling locations and provides the lengths of piping segments and locally assigned identification for each trench segment. Trench Unit 200 had a total surface area of 917 square meters. Systematic postexcavation samples were collected after a grid was established using Visual Sample Plan (VSP).

No measurements above the investigation level were identified during the performance of gamma scans in Trench Unit 200. Therefore, no additional surveys or sampling was performed. The trench unit gamma scan ranges, investigation level, and static measurement values are provided in Attachment 1.

Because ^{137}Cs and ^{226}Ra activity was identified inside the manholes, 28 biased samples were collected along the bottom of the trench. None of the sample results identified activity above the release criterion for any ROC.

VSP was used to generate 18 systematic sample locations (samples 29 through 46) based on a random start point and a triangular grid. None of the sample results identified activity above the release criterion for any ROC. These samples were then sent to the off-site laboratory for final release of the trench unit. A summary of the 18 systematic sample results is provided in Table 3-1.

TABLE 3-1

Class 1 Soil Measurements - Trench Unit 200

Sample No.	Date	Time	Results (pCi/g) ^{137}Cs	Flag	MDL	≥MDL	^{90}Sr	Flag	MDL	≥MDL	^{226}Ra	Flag	MDL	≥MDL
29	5/4/2011	13:00:00	0.019	U	0.042	0.042					0.750		0.064	0.750
30	5/4/2011	13:02:00	0.018	U	0.033	0.033	0.145	U	0.175	0.175	0.523	J	0.049	0.523
31	5/4/2011	13:04:00	0.003	U	0.043	0.043					0.565	J	0.060	0.565
32	5/4/2011	13:06:00	-0.007	U	0.035	0.035					0.230	J	0.068	0.230
33	5/4/2011	13:08:00	0.003	U	0.056	0.056					0.496	J	0.051	0.496
34	5/4/2011	13:10:00	0.000	U	0.048	0.048	0.042	U	0.178	0.178	0.469	J	0.058	0.469
35	5/4/2011	13:12:00	0.022	U	0.040	0.040					0.528	J	0.063	0.528
36	5/4/2011	13:14:00	0.018	U	0.037	0.037					0.408	J	0.083	0.408
37	5/4/2011	13:16:00	-0.025	U	0.070	0.070					0.564	J	0.079	0.564
38	5/4/2011	13:18:00	0.006	U	0.036	0.036					0.545	J	0.060	0.545
39	5/4/2011	13:20:00	-0.013	U	0.036	0.036					0.494	J	0.054	0.494
40	5/4/2011	13:22:00	0.000	U	0.047	0.047					0.763		0.082	0.763
41	5/4/2011	13:24:00	-0.003	U	0.039	0.039					0.663	J	0.058	0.663
42	5/4/2011	13:26:00	0.009	U	0.049	0.049					0.641	J	0.042	0.641
43	5/4/2011	13:28:00	-0.009	U	0.041	0.041					0.532	J	0.062	0.532
44	5/4/2011	13:30:00	0.025	U	0.036	0.036					0.506	J	0.048	0.506
45	5/4/2011	13:32:00	-0.002	U	0.040	0.040					0.717		0.051	0.717
46	5/4/2011	13:34:00	-0.027	U	0.051	0.051					0.370	J	0.106	0.370
		mean				**0.043**				**0.177**				**0.542**
		std dev				**0.009**				**0.002**				**0.134**
		median				**0.041**				**0.177**				**0.530**

Notes:
Information concerning flags associated with the on-site laboratory data can be found in Section 4.3 and a discussion of uncertainty can be found in Section 4.5 of the SUPRs Abstract (TtEC 2011).

Abbreviations and Acronyms:
^{137}Cs – cesium-137
MDL – method detection limit
pCi/g – picocuries per gram
^{226}Ra – radium-226
^{90}Sr – strontium-90
std dev – standard deviation
SUPR – Survey Unit Project Report

The ^{137}Cs results show all 18 values less than the reported method detection limit (MDL) and had a "U" flag identified that will require the values to be considered less than the MDL. The ^{226}Ra results show all 18 values greater than the MDL. Fifteen of the samples had a "J" qualifier flag associated with the activity reported.

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The "U" flag indicates that "The result is less than the sample detection limit." The "J" flag indicates that "The result is greater than sample detection limit but less than stated reporting limit." These flag indications are printed on the off-site Department of the Defense (DoD) Environmental Laboratory Accreditation Program (ELAP) accredited laboratory summary reports provided in Attachment 2. Section 4.3 of the SUPRs Abstract (TtEC 2011) also discusses these flags in more detail.

Table 3-1 also contains a summary of the analytical results for radionuclides analyzed by methods other than gamma spectroscopy. The strontium-90 (^{90}Sr) results indicate that for both samples the results are less than the MDL, as designated by the "U" qualifier flag.

Summary statistics (standard deviation, median, and mean activity greater than or equal to the MDL) are calculated and reported at the bottom of Table 3-1 for all radioanalytical results.

Complete off-site DoD ELAP accredited laboratory analytical reports for each Trench Unit 200 soil sample, including biased and duplicate samples, are presented in Attachment 2.

3.2.2 Excavated Soil Units

Excavated Soil Units 334, 421, and 439 were used to backfill Trench Unit 200. The gamma scan of Excavated Soil Units 334, 421, and 439 identified measurements above the investigation level. Therefore, additional samples were collected from each excavated soil unit. The scan data are presented in Attachment 3.

As shown on Figure 3-2 of the SUPRs Abstract (TtEC 2011), 18 systematic soil samples were collected at each excavated soil unit. Each sample was analyzed at the on-site laboratory by gamma spectroscopy for screening purposes in making time-critical radiological remediation decisions. Individual screening laboratory gamma spectroscopy reports are presented in Attachment 4. Two samples of each excavated soil unit were also analyzed for ^{90}Sr. Individual off-site gamma spectroscopy and ^{90}Sr reports are presented in Attachment 5.

3.2.2.1 Excavated Soil Unit 334

Eighteen additional biased samples were collected from Excavated Soil Unit 334. One of the systematic sample results identified ^{226}Ra to be present at 2.03 pCi/g. Additionally, one of the biased sample results also identified ^{226}Ra to be present at 1.98 pCi/g. Five additional samples were collected to further characterize the extent of the contamination. Sample results identified ^{226}Ra to be present at 2.23 pCi/g in one additional location.

Two more samples were collected to further characterize the extent of the contamination. Sample results did not identify any additional radioactive contamination. Using the additional sampling

data, the ^{226}Ra contaminated areas were either bounded by four sample points or bounded by sample points and the edge of the pad and remediated.

VSP was used to generate a second set of 18 systematic sample locations (samples 44 through 61) based on a random start point and a triangular grid. Two of the systematic sample results identified ^{226}Ra to be present at 1.72 and 1.486 pCi/g. Four additional samples were collected to further characterize the extent of the contaminated area. Sample results did not identify any additional radioactive contamination. Using the additional sampling data, the ^{226}Ra contaminated areas were bounded by four sample points and remediated.

VSP was used to generate the final set of 18 systematic sample locations (samples 66 through 83) based on a random start point and a triangular grid. Sample numbers 72 and 83 were randomly selected to be analyzed for ^{90}Sr. A summary of the systematic sample results for Excavated Soil Unit 334 is provided in Table 3-2.

TABLE 3-2

Class 1 Soil Measurements - Excavated Soil Unit 334

Sample No.	Date	Time	Results (pCi/g) ^{137}Cs	Flag	MDL	≥MDL	^{90}Sr	Flag	MDL	≥MDL	^{226}Ra	Flag	MDL	≥MDL
66	3/14/2011	10:05:00	-0.007	U	0.047	0.047					1.190		0.074	1.190
67	3/14/2011	10:10:00	0.017	U	0.053	0.053					0.484	J	0.060	0.484
68	3/14/2011	10:15:00	0.000	U	0.065	0.065					1.190		0.060	1.190
69	3/14/2011	10:20:00	-0.007	U	0.038	0.038					0.834		0.056	0.834
70	3/14/2011	10:25:00	-0.005	U	0.031	0.031					0.301	J	0.061	0.301
71	3/14/2011	10:30:00	0.007	U	0.034	0.034					0.680	J	0.044	0.680
72	3/14/2011	10:35:00	0.037	J	0.025	0.037	0.027	U	0.218	0.218	0.397	J	0.054	0.397
73	3/14/2011	10:40:00	-0.001	U	0.041	0.041					0.587	J	0.044	0.587
74	3/14/2011	10:45:00	-0.004	U	0.066	0.066					0.961		0.064	0.961
75	3/14/2011	10:50:00	0.000	U	0.057	0.057					0.506	J	0.062	0.506
76	3/14/2011	10:55:00	-0.005	U	0.034	0.034					0.930		0.032	0.930
77	3/14/2011	11:00:00	0.006	U	0.044	0.044					0.747		0.045	0.747
78	3/14/2011	11:05:00	0.018	U	0.038	0.038					0.466	J	0.051	0.466
79	3/14/2011	11:10:00	-0.006	U	0.039	0.039					0.431	J	0.057	0.431
80	3/14/2011	11:15:00	0.011	U	0.032	0.032					0.802		0.062	0.802
81	3/14/2011	11:20:00	0.006	U	0.056	0.056					0.736		0.098	0.736
82	3/14/2011	11:25:00	0.000	U	0.057	0.057					0.640	J	0.046	0.640
83	3/14/2011	11:30:00	0.000	U	0.040	0.040	0.217	U	0.237	0.237	0.727		0.057	0.727
		mean				**0.045**				**0.228**				**0.701**
		std dev				**0.011**				**0.013**				**0.256**
		median				**0.041**				**0.228**				**0.704**

Notes:
Information concerning flags associated with the on-site laboratory data can be found in Section 4.3 and a discussion of uncertainty can be found in Section 4.5 of the SUPRs Abstract (TtEC 2011).

Abbreviations and Acronyms:
^{137}Cs – cesium-137
MDL – method detection limit
pCi/g – picocuries per gram
^{226}Ra – radium-226
^{90}Sr – strontium-90
std dev – standard deviation
SUPR – Survey Unit Project Report

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The ^{137}Cs results show all 18 values less than the reported MDL and had a "U" flag identified that will require the values to be considered less than the MDL. The ^{226}Ra results show all 18 values greater than the MDL. Nine of the samples had a "J" qualifier flag associated with the reported ^{226}Ra activity.

The "U" flag indicates that "The result is less than the sample detection limit." The "J" flag indicates that "The result is greater than sample detection limit but less than stated reporting limit." These flag indications are printed on the off-site DoD ELAP accredited laboratory summary reports provided in Attachment 5. Section 4.3 of the SUPRs Abstract (TtEC 2011) also discusses these flags in more detail.

Table 3-2 also contains a summary of the analytical results for radionuclides analyzed by methods other than gamma spectroscopy. The ^{90}Sr results indicate that for both samples, the results are less than the MDL, as designated by the "U" qualifier flag.

Summary statistics (standard deviation, median, and mean activity greater than or equal to the MDL) are calculated and reported at the bottom of Table 3-2 for all radioanalytical results.

Complete off-site DoD ELAP accredited laboratory analytical reports for each Excavated Soil Unit 334 soil sample, including duplicate samples, are presented in Attachment 5.

3.2.2.2 Excavated Soil Unit 421

Eight additional biased samples were collected from Excavated Soil Unit 421. None of the sample results identified activity above the release criterion for any ROC. These samples were then sent to the off-site laboratory for final release of the excavated soil unit. Sample numbers 14 and 22 were randomly selected to be analyzed for ^{90}Sr. A summary of the systematic sample results for Excavated Soil Unit 421 is provided in Table 3-3.

The ^{137}Cs results show 17 of the 18 values less than the reported MDL and had a "U" flag identified that will require the values to be considered less than the MDL. The ^{226}Ra results show all 18 values greater than the MDL. Ten of the samples had a "J" qualifier flag associated with the reported ^{226}Ra activity.

The "U" flag indicates that "The result is less than the sample detection limit." The "J" flag indicates that "The result is greater than sample detection limit but less than stated reporting limit." These flag indications are printed on the off-site DoD ELAP accredited laboratory summary reports provided in Attachment 5. Section 4.3 of the SUPRs Abstract (TtEC 2011) also discusses these flags in more detail.

TABLE 3-3

Class 1 Soil Measurements - Excavated Soil Unit 421

Sample No.	Date	Time	^{137}Cs	Flag	MDL	≥MDL	^{90}Sr	Flag	MDL	≥MDL	^{226}Ra	Flag	MDL	≥MDL
			Results (pCi/g)											
9	4/11/2011	13:40:00	0.014	U	0.030	0.030					0.455	J	0.040	0.455
10	4/11/2011	13:40:00	0.007	U	0.028	0.028					0.649	J	0.058	0.649
11	4/11/2011	13:45:00	0.004	U	0.063	0.063					0.642	J	0.058	0.642
12	4/11/2011	13:50:00	0.019	U	0.033	0.033					0.761		0.068	0.761
13	4/11/2011	13:55:00	0.026	U	0.029	0.029					0.704		0.056	0.704
14	4/11/2011	14:00:00	0.077		0.008	0.077	0.205		0.198	0.205	0.504	J	0.062	0.504
15	4/11/2011	14:05:00	0.000	U	0.047	0.047					0.587	J	0.081	0.587
16	4/11/2011	14:10:00	0.013	U	0.051	0.051					0.708		0.060	0.708
17	4/11/2011	14:15:00	0.012	U	0.036	0.036					0.619	J	0.019	0.619
18	4/11/2011	14:20:00	0.010	U	0.038	0.038					0.827		0.062	0.827
19	4/11/2011	14:25:00	0.009	U	0.030	0.030					0.711		0.047	0.711
20	4/11/2011	14:30:00	0.014	U	0.039	0.039					0.819		0.055	0.819
21	4/11/2011	14:35:00	0.023	U	0.036	0.036					0.635	J	0.065	0.635
22	4/11/2011	14:40:00	0.013	U	0.057	0.057	-0.127	U	0.176	0.176	0.706		0.074	0.706
23	4/11/2011	14:45:00	0.001	U	0.057	0.057					0.987		0.020	0.987
24	4/11/2011	14:50:00	0.006	U	0.037	0.037					0.629	J	0.051	0.629
25	4/11/2011	14:55:00	0.000	U	0.053	0.053					0.649	J	0.046	0.649
26	4/11/2011	15:00:00	-0.003	U	0.032	0.032					0.651	J	0.080	0.651
		mean				**0.043**				**0.191**				**0.680**
		std dev				**0.014**				**0.021**				**0.121**
		median				**0.038**				**0.191**				**0.650**

Notes:
Information concerning flags associated with the on-site laboratory data can be found in Section 4.3 and a discussion of uncertainty can be found in Section 4.5 of the SUPRs Abstract (TtEC 2011).

Abbreviations and Acronyms:

^{137}Cs – cesium-137
MDL – method detection limit
pCi/g – picocuries per gram
^{226}Ra – radium-226
^{90}Sr – strontium-90
std dev – standard deviation
SUPR – Survey Unit Project Report

Table 3-3 also contains a summary of the analytical results for radionuclides analyzed by methods other than gamma spectroscopy. The ^{90}Sr results indicate that for one sample, the result is less than the MDL, as designated by the "U" qualifier flag.

Summary statistics (standard deviation, median, and mean activity greater than or equal to the MDL) are calculated and reported at the bottom of Table 3-3 for all radioanalytical results.

Complete off-site DoD ELAP accredited laboratory analytical reports for each Excavated Soil Unit 421 soil sample, including duplicate sample, are presented in Attachment 5.

3.2.2.3 Excavated Soil Unit 439

Four additional biased samples were collected from Excavated Soil Unit 439. None of the sample results identified activity above the release criterion for any ROC. These samples were then sent

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to the off-site laboratory for final release of the excavated soil unit. Sample numbers 7 and 11 were randomly selected to be analyzed for ^{90}Sr. A summary of the systematic sample results for Excavated Soil Unit 439 is provided in Table 3-4.

TABLE 3-4

Class 1 Soil Measurements - Excavated Soil Unit 439

Sample No.	Date	Time	^{137}Cs	Flag	MDL	≥MDL	^{90}Sr	Flag	MDL	≥MDL	^{226}Ra	Flag	MDL	≥MDL
			Results (pCi/g)											
5	4/13/2011	10:00:00	0.014	U	0.043	0.043					0.566	J	0.064	0.566
6	4/13/2011	10:05:00	0.000	U	0.054	0.054					0.688	J	0.057	0.688
7	4/13/2011	10:10:00	-0.033	U	0.064	0.064	-0.031	U	0.109	0.109	0.739		0.069	0.739
8	4/13/2011	10:15:00	0.067	J	0.063	0.067					0.636	J	0.046	0.636
9	4/13/2011	10:20:00	-0.036	U	0.060	0.060					0.606	J	0.078	0.606
10	4/13/2011	10:25:00	0.020	U	0.064	0.064					0.649	J	0.060	0.649
11	4/13/2011	10:30:00	0.011	U	0.049	0.049	-0.302	U	0.257	0.257	0.923		0.067	0.923
12	4/13/2011	10:35:00	0.000	U	0.064	0.064					0.878		0.085	0.878
13	4/13/2011	10:40:00	0.007	U	0.065	0.065					0.741		0.070	0.741
14	4/13/2011	10:45:00	0.001	U	0.034	0.034					0.653	J	0.074	0.653
15	4/13/2011	10:50:00	0.053	U	0.071	0.071					0.376	J	0.099	0.376
16	4/13/2011	10:55:00	0.030	U	0.036	0.036					0.436	J	0.084	0.436
17	4/13/2011	11:00:00	0.000	U	0.038	0.038					0.609	J	0.076	0.609
18	4/13/2011	11:05:00	0.064	U	0.070	0.070					0.568	J	0.073	0.568
19	4/13/2011	11:10:00	-0.006	U	0.050	0.050					0.549	J	0.082	0.549
20	4/13/2011	11:15:00	-0.035	U	0.057	0.057					0.117	J	0.112	0.117
21	4/13/2011	11:20:00	0.001	U	0.054	0.054					0.739		0.062	0.739
22	4/13/2011	11:25:00	0.034	J	0.032	0.034					0.582	J	0.047	0.582
		mean				**0.054**				**0.183**				**0.614**
		std dev				**0.013**				**0.105**				**0.183**
		median				**0.056**				**0.183**				**0.623**

Notes:
Information concerning flags associated with the on-site laboratory data can be found in Section 4.3 and a discussion of uncertainty can be found in Section 4.5 of the SUPRs Abstract (TtEC 2011).

Abbreviations and Acronyms:
^{137}Cs – cesium-137
MDL – method detection limit
pCi/g – picocuries per gram
^{226}Ra – radium-226
^{90}Sr – strontium-90
std dev – standard deviation
SUPR – Survey Unit Project Report

The ^{137}Cs results show 16 of the 18 values less than the reported MDL and had a "U" flag identified that will require the values to be considered less than the MDL. The other two samples had a "J" qualifier flag associated with the activity. The ^{226}Ra results show all 18 values greater than the MDL. Thirteen of the samples had a "J" qualifier flag associated with the reported ^{226}Ra activity.

The "U" flag indicates that "The result is less than the sample detection limit." The "J" flag indicates that "The result is greater than sample detection limit but less than stated reporting limit." These flag indications are printed on the off-site DoD ELAP accredited laboratory

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summary reports provided in Attachment 5. Section 4.3 of the SUPRs Abstract (TtEC 2011) also discusses these flags in more detail.

Table 3-4 also contains a summary of the analytical results for radionuclides analyzed by methods other than gamma spectroscopy. The ^{90}Sr results indicate that for both samples, the results are less than the MDL, as designated by the "U" qualifier flag.

Summary statistics (standard deviation, median, and mean activity greater than or equal to the MDL) are calculated and reported at the bottom of Table 3-4 for all radioanalytical results.

Complete off-site DoD ELAP accredited laboratory analytical reports for each Excavated Soil Unit 439 soil sample, including duplicate samples, are presented in Attachment 5.

3.2.3 Import Fill Material

Approximately 727 cubic yards of import fill material was required to complete backfilling activities. Import fill sample information for Survey Unit 200 is presented in Section 3.2.6 of the SUPRs Abstract (TtEC 2011).

3.3 REFERENCE AREA

Reference area sample information for Survey Unit 200 is presented in Section 3.3 of the SUPRs Abstract (TtEC 2011).

4.0 LABORATORY ANALYSIS

Information concerning laboratory analysis is presented in Section 4.0 of the SUPRs Abstract (TtEC 2011). Specifically, information concerning flags associated with the off-site laboratory data can be found in Section 4.3 and discussion about uncertainty can be found in Section 4.5 of the SUPRs Abstract (TtEC 2011).

The on-site laboratory results were used for screening purposes only for making radiological remediation decisions for time critical actions. The on-site laboratory results are purposely biased conservatively high, which may have resulted in some remediation of soil that might not have occurred if the results from the off-site DoD ELAP accredited laboratory had been used. All definitive data for the final systematic samples are from the DoD ELAP accredited off-site laboratory. The minimum detectable activities and MDLs for both the on-site and off-site laboratory were well below the release criteria for all ROCs.

Results of the on-site and off-site laboratory data were reviewed to ensure that the activities for all ROCs were below the release criteria. These data were then evaluated by the Laboratory Manager. The on-site laboratory analyzed the samples directly for ^{226}Ra using the U.S. Environmental Protection Agency (EPA) 901.1 MOD method and calculating the ^{226}Ra activity from the 3.6 percent abundant 186.2 kiloelectron-volt (keV) gamma spectrum line for ^{226}Ra. The off-site DoD ELAP accredited laboratory counted the samples using the EPA 901.1 MOD method, and the ^{226}Ra results were calculated and reported from the 46.09 percent abundant 609.31 keV gamma spectrum line of bismuth-214 (^{214}Bi) after an in-growth period of greater than 21 days to allow the ^{214}Bi to approach secular equilibrium with ^{226}Ra.

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5.0 STATISTICAL TESTS

Because all sample results in Tables 3-1 through 3-4 were less than the release criteria for the ROCs, there was no basis for performing statistical tests for Trench Unit 200 or Excavated Soil Units 334, 421, and 439 per Section 8.2.2.1 of Multi-Agency Radiation Survey and Site Investigation Manual (DoD et al. 2000).

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6.0 DOSE MODELING

6.1 MODELING INPUT PARAMETERS USING LARGER OF MDL OR REPORTED ACTIVITY

Table 6-1 shows the mean concentrations of ^{137}Cs, ^{226}Ra, and ^{90}Sr from using the actual activity and replacing it with the MDL value if the reported activity was less than the MDL. The activity used to model ^{226}Ra is based on the isotopic net concentration (with background ^{226}Ra subtracted). No background is subtracted from the ^{137}Cs or ^{90}Sr values, as these radionuclides are not naturally occurring or expected at drain piping depths from global fallout from nuclear weapons testing.

Table 6-1 also provides the average net concentrations of residual radioactivity of material used as backfill, as well as the trench unit average net concentrations of residual radioactivity.

TABLE 6-1

MODELING PARAMETERS USING LARGER OF MDL OR REPORTED ACTIVITY CONCENTRATIONS

Survey Unit 200	Residual Activity ≥ MDL (pCi/g)			Volume of Material (yd^3)	Percent of Fill	Weighted Sum (pCi/g) (Backfill)		
	^{137}Cs	^{90}Sr	^{226}Ra			^{137}Cs	^{90}Sr	^{226}Ra
ESU 334	0.045	0.228	0.701	220	15.75%	0.007	0.036	0.110
ESU 421	0.043	0.191	0.680	225	16.11%	0.007	0.031	0.110
ESU 439	0.054	0.183	0.614	225	16.11%	0.009	0.029	0.099
Import Fill	0.040	0.070	0.538	727	52.04%	0.021	0.036	0.280
Backfill Material Average Activity	0.046	0.168	0.633	Weighted Sum Activity		0.044	0.133	0.599
Trench Unit Average Activity	0.043	0.177	0.542	Backfill Net Activity		0.044	0.133	-0.026
Reference Area Average Activity	0.038	0.194	0.625	Trench Unit Net Activity		0.043	0.177	-0.083

Abbreviations and Acronyms:
^{137}Cs – cesium-137
ESU – excavated soil unit
MDL – method detection limit
pCi/g – picocuries per gram
^{226}Ra – radium-226
^{90}Sr – strontium-90
yd^3 – cubic yard

Using the data provided in Table 6-1, the average net concentrations of residual radioactivity of material used as backfill in Survey Unit 200 were 0.044 pCi/g for ^{137}Cs, 0.133 pCi/g for ^{90}Sr, and -0.026 pCi/g for ^{226}Ra. The trench unit average net concentrations of residual radioactivity were 0.043 pCi/g for ^{137}Cs, 0.177 pCi/g for ^{90}Sr, and -0.083 pCi/g for ^{226}Ra.

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6.2 DOSE AND RISK MODELING RESULTS

Modeling resulted in a net residual dose of 0.5808 millirem per year (mrem/y) with an increased cancer risk of 7.661×10^{-6} for the backfill material and 0.7423 mrem/y with an increased cancer risk of 9.695×10^{-6} for the trench unit.

Dose and risk modeling results for the backfill material and trench unit are summarized in Table 6-2. Based on these results, no further dose modeling is determined to be reasonable or prudent. The RESRAD reports can be found in Attachments 6 and 7.

TABLE 6-2

DOSE AND RISK MODELING SUMMARY

Dose and Risk Modeling Summary - Trench Unit 200										
Survey Unit	Modeling Parameter	Survey Area	Average Activity (pCi/g)			Net Activity (pCi/g)			Dose (mrem/y)	Cancer Risk
			^{137}Cs	^{90}Sr	^{226}Ra	^{137}Cs	^{90}Sr	^{226}Ra		
Backfill	Activity ≥ MDL	1,397 cy	0.044	0.133	0.599	0.044	0.133	-0.026	0.5808	7.661E-06
Trench Unit	Activity ≥ MDL	917 m^2	0.043	0.177	0.542	0.043	0.177	-0.083	0.7423	9.695E-06

Abbreviations and Acronyms:
^{137}Cs – cesium-137
cy – cubic yard
m^2 – square meter
MDL – method detection limit
mrem/y – millirems per year
pCi/g – picocuries per gram
^{226}Ra – radium-226
^{90}Sr – strontium-90

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7.0 RECOMMENDATION OF FINAL UNRESTRICTED RELEASE

7.1 RADIONUCLIDE-SPECIFIC RELEASE CRITERIA

The radionuclide-specific release criteria used for the FSS are equivalent to the ROC release criteria established in the final Base-wide Radiological Removal Action, Action Memorandum – Revision 2006 (AM) (DON 2006). The radionuclide-specific release criteria are presented in terms of mass activity concentrations and refer to average levels of radiation or radioactivity above background levels.

7.2 RADIONUCLIDE-SPECIFIC RELEASE CRITERIA MODELING

Radionuclide-specific release criteria were obtained from the AM and were then modeled using RESRAD Version 6.3, based on the 25 mrem/y total effective dose equivalent or were otherwise risk based; the final doses are all less than this 25 mrem/y release criterion. The model for the critical group was based on default RESRAD Version 6.5 parameters. This model shows that with all the radionuclide-specific release criteria combined (the ROCs), the dose to the average member of the critical group for this trench unit would be 17.75 mrem/y.

7.3 AS LOW AS REASONABLY ACHIEVABLE

As low as reasonably achievable (ALARA) is a philosophy of striving for excellence in the practice of health physics and is an important aspect of radiation-safety regulations. The National Council on Radiation Protection and Measurements has stated, "ALARA is simply the continuation of good radiation-protection programs and practices which traditionally have been effective in keeping the average and individual exposures for monitored workers well below the limits" (NCRP 1993). The application of ALARA clearly includes the consideration of economic and social factors, and thus will inherently be different for different sources or facilities.

The ALARA concept is founded on the professional judgment of radiation-safety managers and personnel and is not, therefore, able to be used as a measure as to whether or not a particular radiation-safety program is adequate in comparison with other programs. Additionally, the ALARA concept does not provide a numerical limit below which the ALARA concept is achieved.

7.4 ENVIRONMENTAL ALARA PROCESS

This section describes the steps taken to implement the environmental ALARA policy:

- Identification of Potential Radiological Impacts
- Review of Radiological Impacts

- Performance of Qualitative ALARA Analyses
- Performance of Quantitative ALARA Analyses

7.4.1 Identification of Potential Radiological Impacts

Each new radiological operation was subjected to ALARA reviews before work began to ensure that radiation exposures to workers, the public, and the environment met ALARA principles. ALARA reviews were conducted for all operations, practices, and procedures that have potential for individual or collective doses to workers. Reviews culminated in changes or additions to work planning documents, standard operating procedures, and radiological work permits.

These documents were used to identify activities that have potential for radiological environmental impacts and could require environmental ALARA analysis. If a radiological impact was identified that could impact the environment significantly, the Radiation Safety Officer communicated the impact to the work staff and the Radiological Affairs Support Office (RASO).

7.4.2 Review of Radiological Impacts

Radiological impacts to the environment, workers, and the public from field operations were assessed for compliance with ALARA principles. Results from radiological survey activities, and air, soil, sediment, and water samples were used to assess the radiological impacts of HPNS activities.

Environmental radiological impacts from radiological activities were determined using nine methods: 1) air monitoring stations located around the excavation site perimeter to track radiological impacts; several air-sampling devices monitor radionuclides in the ambient air, and the results of this monitoring are provided to the RASO on a monthly basis; 2) field monitoring and sampling to identify areas requiring additional remediation; 3) remediation of contaminated areas at or above the release criteria; 4) control of radiologically impacted areas and work sites; 5) frisking of personnel and examining equipment leaving a radiologically controlled area; 6) use of release criteria that equate to dose and risk; 7) review of historical radiological operations to allow complete investigation of all areas of radiological concern; 8) characterization of radiologically impacted sites to ensure complete removal of radioactive material above the release criteria; and 9) dosimetry worn by personnel to measure time-averaged doses from gamma radiation.

7.4.3 Performance of Qualitative ALARA Analyses

Laboratory analyses were performed for 19 different isotopes to ensure that any possible radioactive contamination has been identified. After each excavation was completed, the qualitative radiological impacts from operations were evaluated by performing a dose and risk

assessment. The results of analysis and assessments are provided to the RASO and regulatory agencies for review.

7.4.4 Performance of Quantitative ALARA Analyses

Based on qualitative ALARA analyses, excavation projects that could cause the potential dose to the public to exceed 100 millirems (individual) or 10 person-rems (collective) are subjected to quantitative ALARA analyses using the steps described below. To date, no operations at HPNS have resulted in an individual dose to the public greater than 100 millirems or a collective dose greater than 10 person-rems.

Quantitative ALARA analyses include societal, technological, economic, and public policy considerations. In addition, these ALARA analyses consider Nuclear Regulatory Commission guidance for performing the following environmental ALARA assessments:

- Identification of possible radiation protection systems, such as alternative operating methods or controls, that are reasonably achievable. The options range from the most rudimentary (base case) to the most technologically sophisticated systems.
- Quantification of exposures and doses to workers and the public in the vicinity of the work through air monitoring and dosimetry.
- Quantification of the economic factors, including the costs of purchasing, installing, operating, and maintaining the radiological equipment, and the potential health effects associated with the exposure of people and any other direct or indirect cost resulting from exposures to radiation during investigations and/or remediations.
- Identification and estimation of other health and non-health detriments and benefits, such as equipment loss and accidents.
- Evaluation of process alternatives using a quantitative cost-benefit analysis, when possible. When evaluations included assumptions, judgments, and limitations that could be quantified, and potential doses were well below the dose limit, qualitative analyses were used with full documentation.
- Implementation of the ALARA principles and monitoring of the results.

The following specific factors were used in performing a quantitative ALARA analysis:

- Dose to workers, the public, and the environment before and during work processes
- Residual dose to the local population
- Applicable alternative processes (treatments, operating methods, or controls) for site investigations or remediations
- Costs for each alternative evaluated
- Societal and environmental (positive and negative) impacts associated with alternatives

7.5 ALARA ANALYSIS RESULTS

Based on recent estimates of dose to the public from HPNS operations, only qualitative ALARA analyses were required. Much of the data and analyses used for environmental ALARA evaluations were developed as part of the routine work processes.

Qualitative ALARA analyses resulted in no gamma measurements above the investigation levels; none of the sample results identified activity above the release criterion for any ROC; no air sampling results were above 10 percent of the derived air concentration; and no personnel dosimetry badges processed identified gamma doses above background levels.

7.6 RECOMMENDATIONS

Dose modeling using RESRAD determined that the potential dose of Survey Unit 200 due to activity concentrations greater than or equal to the MDL has been determined to be 0.7423 mrem/y with an increased cancer risk of 9.695×10^{-6} as shown in Table 6-2. These results are less than the Nuclear Regulatory Commission criterion of 25 mrem/y with an increased cancer risk that falls within the EPA risk management range of 10^{-4} to 10^{-6}, which supports free release. Therefore, no further action is recommended for Survey Unit 200.

8.0 REFERENCES

DoD (Department of Defense), Department of Energy, Nuclear Regulatory Commission, and U.S. Environmental Protection Agency. 2000. Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). NUREG-1575. August.

DON (Department of the Navy). 2006. Final Basewide Radiological Removal Action, Action Memorandum – Revision 2006, Hunters Point Shipyard, San Francisco, California.

NCRP (National Council on Radiation Protection and Measurements). 1993. The National Council on Radiation Protection and Measurements, Report Number 116.

TtEC (Tetra Tech EC, Inc.). 2011. Final Survey Unit Project Reports Abstract for Sanitary Sewer and Storm Drain Removal Conducted after January 1, 2011, Hunters Point Naval Shipyard, San Francisco, California. July 8.

——————. 2012. Final Basewide Radiological Management Plan, Hunters Point Naval Shipyard, San Francisco, California. February 3.

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FIGURES

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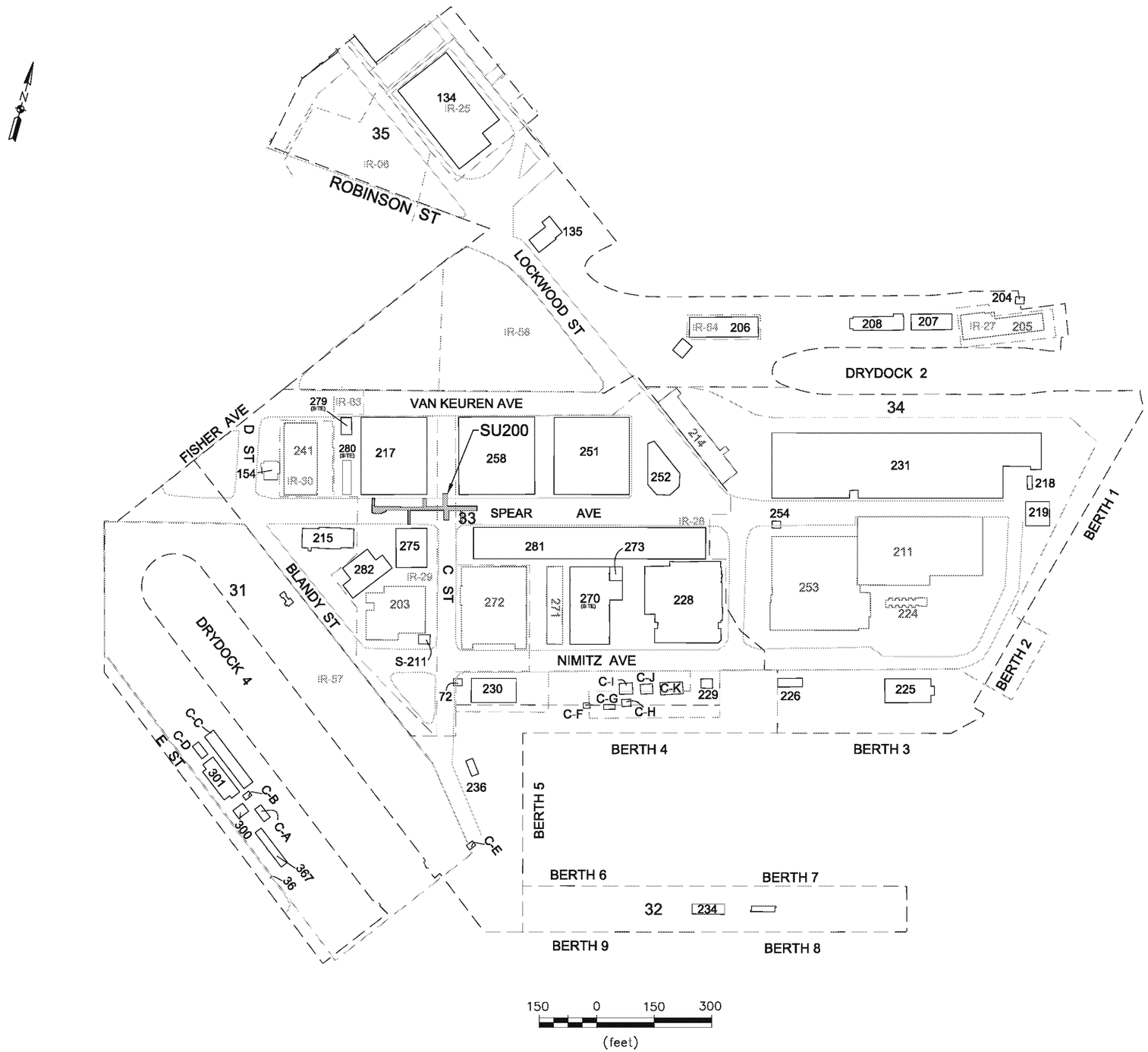


LEGEND

- SURVEY UNIT (SU)
- 33 — WORK AREA BOUNDARY AND NUMBER
- IR-4 — IR BOUNDARY AND NUMBER
- 140 — IMPACTED BUILDING BUILDING NUMBER
- 142 (BITE) — IMPACTED BUILDING FORMER BUILDING LOCATION
- 128 — NON-IMPACTED BUILDING BUILDING NUMBER

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

SURVEY UNIT 200 PROJECT REPORT

FIGURE 1-1

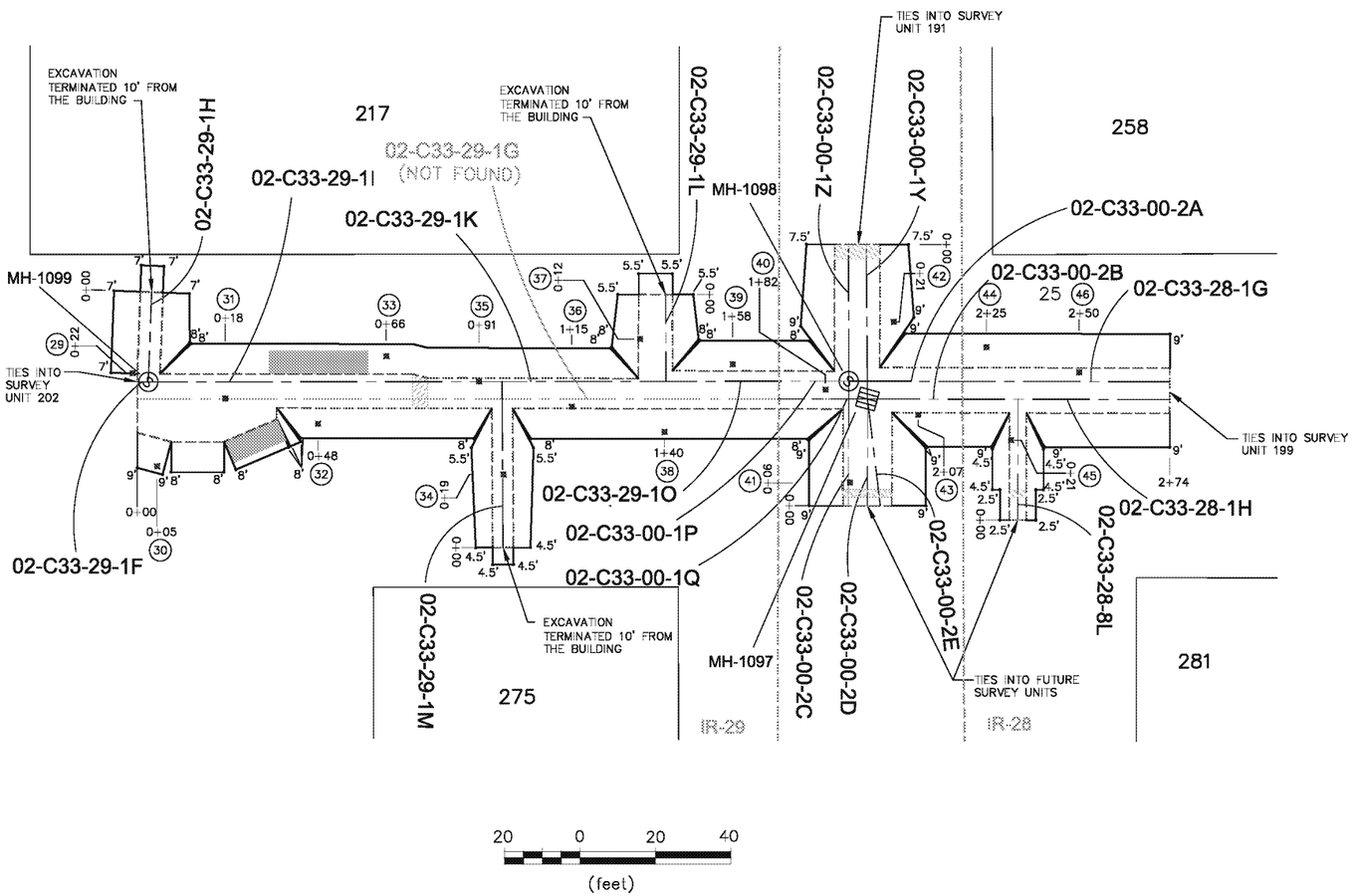
PARCEL C SURVEY UNIT KEY PLAN

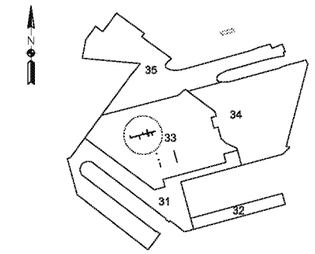
HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CA

REVISION: A
AUTHOR: A.CRABTREE
PROJECT NO:
FILE: SEE BELOW

TETRA TECH EC, INC.

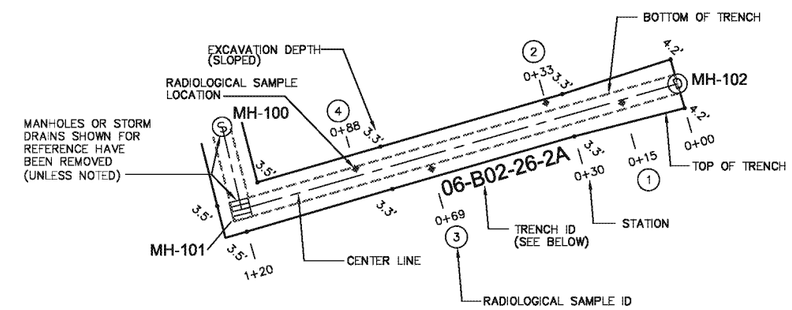
\\ecis143fs2\Projects\CTO-02 CAD Files (Rad EMAC)\DWG Files\Survey Units\Figure 1-1 and 3-1\SU200_Figure 1-1_05-10-11.dwg





KEY PLAN

LEGEND



TRENCH ID

XX-XXX-XX-XX

SEGMENT NO.
IR SITE ID, 00 IF NON-IR SITE
PIPE LENGTH REMOVED
WORK/BLDG AREA
CTO OR TO NUMBER

IR BOUNDARY
PARCEL BOUNDARY
WORK AREA BOUNDARY
EP EXTRANEOUS PIPE
140 IMPACTED BUILDING
140 NON-IMPACTED BUILDING
CONCRETE
ROCK

SURFACE AREA = 917 SQUARE METERS
TOTAL LENGTH OF TRENCH = 445 LINEAR FEET

BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
SAN DIEGO, CALIFORNIA

SURVEY UNIT 200 PROJECT REPORT

FIGURE 3-1
PARCEL C SURVEY UNIT 200, AREA 33

HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CA

REVISION: –
AUTHOR: A.CRABTREE
PROJECT NO:
FILE: SEE BELOW

TETRA TECH EC, INC.

\\ecis143fs2\Projects\CTO-02 CAD Files (Rad EMAC)\DWG Files\Survey Units\Figure 1-1 and 3-1\SU200_Figure 3-1_05-10-11.dwg 1/19/12

ATTACHMENT 1

TRENCH UNIT 200
RADIATION/CONTAMINATION SURVEY FORM
(on CD only)

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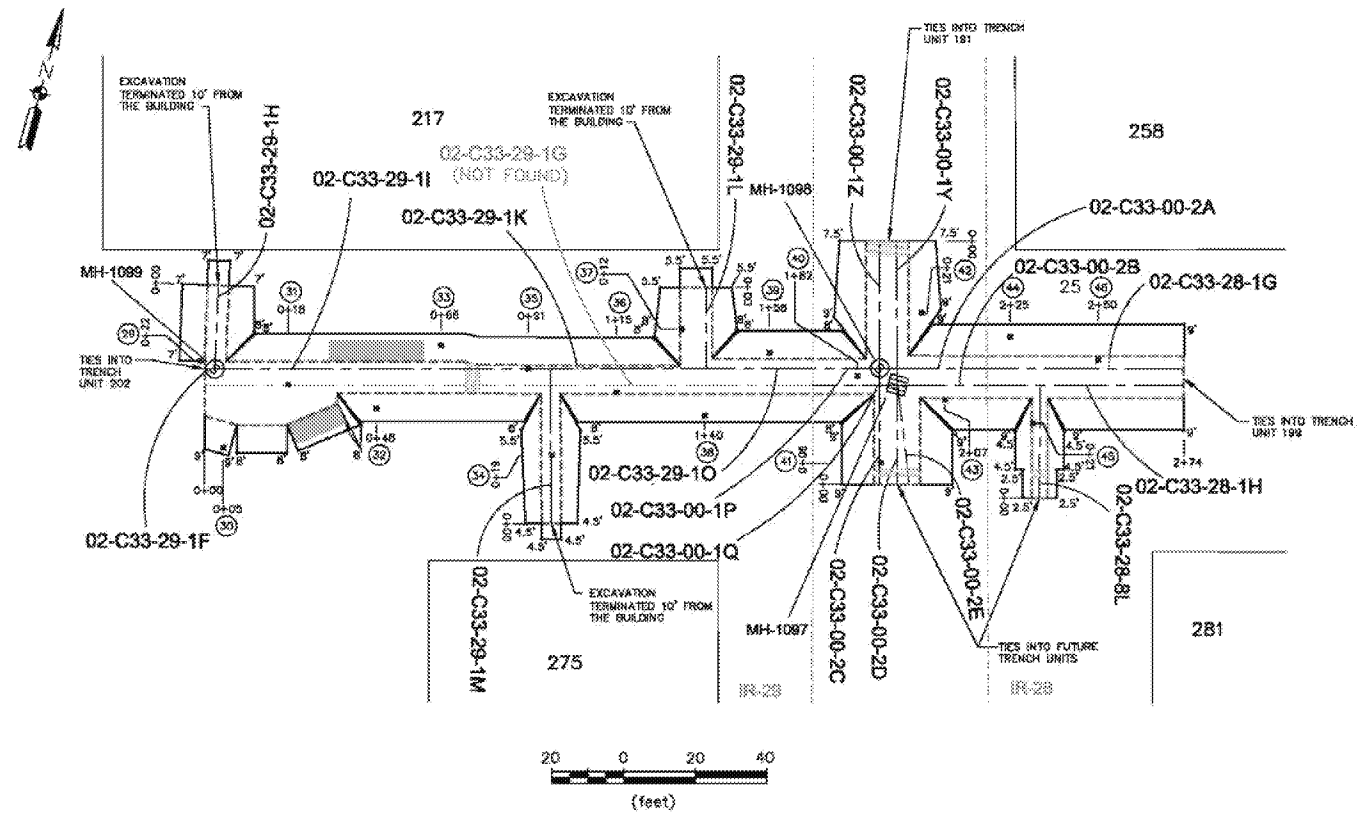
RADIATION/CONTAMINATION SURVEY SUPPLEMENT

Date:	Time:	INSTRUMENTATION USED						
5/4/2011	10:00	Model Inst/Det.	Serial Number	Calibration Due Date	Instrument % Efficiency	Total % Efficiency	MDC/MDA + (dpm/100cm2)	Background + (dpm/100cm2)
Survey Number: HPS-SU-200								
Location:	Parcel C							
Surveyor:	J. Cunningham							
Reviewed By: (Print & Sign)		2350-1 44-10	82958 206283	11/18/2011				

Isotopes of Concern: ^{226}Ra ^{90}Sr ^{137}Cs

Description of drawing: Trench Scan Survey



Comments:

Scan range for 2350-1 Instrument is 3.64 - 7.92 Kcpm

3 sigma investigation level for 2350-1 Instrument is 8905 cpm

Picture is representative of material surveyed.

denotes swipe location or fixed α/β readings

# denotes G/A radiation readings

/ # denotes contact / 1 meter radiation readings.

* denotes highest radiation reading on contact

LAW denotes large area masslinn wipe

Δ denotes static location.

\+ Unless Otherwise Noted

All readings in μR/hr unless otherwise noted

K = 1000

RADIATION/CONTAMINATION SURVEY SUPPLEMENT

SURVEY NUMBER: HPS-SU-200

SURVEYOR: J. Cunningham | LOCATION: Parcel C

Location	Exposure Rate (µR/hr)		Fixed + Removable (NET)			Removable (NET)		Comments
	Contact	1 Meter	Gamma (cpm)	Alpha dpm/100cm2	Beta/Gamma dpm/100cm2	Alpha dpm/100cm2	Beta/Gamma dpm/100cm2	
29			5231					
30			5562					
31			5314					
32			5455					
33			5251					
34			5478					
35			5012					
36			5470					
37			5630					
38			5430					
39			5493					
40			5817					
41			5233					
42			5619					
43			5315					
44			5237					
45			5136					
46			5270					

Reviewer: | Date:

ATTACHMENT 2

LABORATORY ANALYSIS REPORTS FOR TRENCH UNIT 200 (on CD only)

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TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-001
Sample Description: Parcel C

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:00
Acquisition Time: 4/29/2011 11:18:01
Analysis Time: 4/29/2011 12:03
Analysis Quantity: 3.310E+02 g

Spectrum ID: 8_20110429_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.388E-01	20.07	1.282E-01	1.357E-01	1.486E-02
Am-241	#AB	2.142E-02	750.80	1.608E-01	1.609E-01	1.311E-01
Bi-212	#	2.511E-01	96.69	2.428E-01	2.434E-01	1.757E-01
Bi-214	#	3.266E-01	24.96	8.154E-02	8.441E-02	4.285E-02
Co-60	#AB	-1.507E-02	237.20	3.574E-02	3.576E-02	2.786E-02
Cs-137	#	2.585E-02	115.90	2.997E-02	3.002E-02	2.207E-02
Eu-152	#AB	0.000E+00	2000.00	2.377E-02	2.377E-02	4.543E-02
Eu-154	#AB	-2.193E-02	374.00	8.200E-02	8.202E-02	6.457E-02
K-40		9.935E+00	9.90	9.837E-01	1.205E+00	5.674E-02
Pa-234	#AB	6.931E-02	202.90	1.406E-01	1.407E-01	1.056E-01
Pb-210	#AB	2.560E-01	2044.00	5.234E+00	5.234E+00	4.379E+00
Pb-212		4.026E-01	17.16	6.910E-02	7.564E-02	3.836E-02
Pb-214		4.321E-01	19.99	8.637E-02	9.182E-02	3.094E-02
Ra-226		5.553E-01	89.00	4.942E-01	4.960E-01	3.812E-01
Th-230	#AB	6.284E+00	178.10	1.119E+01	1.124E+01	8.857E+00
Th-234	#AB	-1.709E-01	213.10	3.642E-01	3.646E-01	2.885E-01
Tl-208	#	1.167E-01	31.19	3.639E-02	3.721E-02	2.178E-02
U-235	AB	2.530E-02	142.00	3.592E-02	3.597E-02	2.811E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.934E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-002
Sample Description: Parcel C

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:02
Acquisition Time: 4/29/2011 11:20:19
Analysis Time: 4/29/2011 12:05
Analysis Quantity: 3.300E+02 g

Spectrum ID: 9_20110429_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.292E-01	36.36	1.197E-01	1.219E-01	6.433E-02
Am-241	#AB	1.931E-02	753.20	1.454E-01	1.454E-01	1.185E-01
Bi-212	#AB	1.446E-01	137.50	1.988E-01	1.990E-01	1.474E-01
Bi-214	#	2.820E-01	25.84	7.286E-02	7.526E-02	3.703E-02
Co-60	#AB	-3.302E-03	799.80	2.641E-02	2.641E-02	2.130E-02
Cs-137	#AB	3.320E-03	788.10	2.616E-02	2.616E-02	2.120E-02
Eu-152	#AB	-1.056E-03	5116.00	5.404E-02	5.404E-02	4.441E-02
Eu-154	#AB	-1.711E-02	495.40	8.476E-02	8.476E-02	6.757E-02
K-40		6.701E+00	12.17	8.156E-01	9.410E-01	5.782E-02
Pa-234	#AB	-7.166E-03	2006.00	1.437E-01	1.437E-01	1.174E-01
Pb-210	#AB	1.128E+00	370.90	4.183E+00	4.184E+00	3.356E+00
Pb-212		3.928E-01	19.18	7.535E-02	8.111E-02	3.332E-02
Pb-214		5.214E-01	17.89	9.330E-02	1.006E-01	3.184E-02
Ra-226	AB	3.709E-01	130.90	4.853E-01	4.861E-01	3.857E-01
Th-230	#AB	-2.802E+00	365.30	1.024E+01	1.025E+01	8.264E+00
Th-234	#AB	3.013E-01	156.70	4.722E-01	4.730E-01	3.736E-01
Tl-208		1.797E-01	21.63	3.886E-02	4.066E-02	1.037E-02
U-235	AB	6.908E-03	469.00	3.239E-02	3.240E-02	2.625E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.038E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-003
Sample Description: Parcel C

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:04
Acquisition Time: 4/29/2011 11:25:55
Analysis Time: 4/29/2011 12:11
Analysis Quantity: 3.440E+02 g

Spectrum ID: 11_20110429_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.929E-01	56.60	1.092E-01	1.100E-01	7.029E-02
Am-241	#AB	4.712E-02	317.00	1.494E-01	1.494E-01	1.195E-01
Bi-212	#AB	1.064E-01	182.90	1.947E-01	1.948E-01	1.486E-01
Bi-214		3.599E-01	23.78	8.558E-02	8.889E-02	2.979E-02
Co-60	#AB	-8.819E-03	388.30	3.424E-02	3.425E-02	2.730E-02
Cs-137	#AB	-8.370E-04	3127.00	2.617E-02	2.617E-02	2.147E-02
Eu-152	#AB	-1.072E-04	53530.00	5.736E-02	5.736E-02	4.724E-02
Eu-154	#AB	-1.709E-02	523.20	8.939E-02	8.940E-02	7.163E-02
K-40		1.220E+01	9.22	1.124E+00	1.412E+00	2.051E-01
Pa-234	#AB	4.318E-03	3219.00	1.390E-01	1.390E-01	1.139E-01
Pb-210	#AB	6.188E-01	942.30	5.831E+00	5.831E+00	4.753E+00
Pb-212		2.546E-01	20.17	5.136E-02	5.492E-02	2.419E-02
Pb-214		4.158E-01	17.97	7.473E-02	8.052E-02	2.440E-02
Ra-226	#AB	3.427E-01	138.50	4.748E-01	4.755E-01	3.786E-01
Th-230	#AB	-9.679E-02	9338.00	9.038E+00	9.038E+00	7.438E+00
Th-234	AB	2.598E-01	162.60	4.224E-01	4.231E-01	3.328E-01
Tl-208		1.309E-01	25.74	3.370E-02	3.480E-02	9.836E-03
U-235	#AB	2.448E-02	140.90	3.449E-02	3.454E-02	2.698E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.495E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:44

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-004
Sample Description: Parcel C

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:06
Acquisition Time: 4/29/2011 11:27:26
Analysis Time: 4/29/2011 12:12
Analysis Quantity: 3.730E+02 g

Spectrum ID: 12_20110429_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2701 sec
Dead Time: 0.05 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.074E-01	23.57	9.603E-02	1.001E-01	1.318E-02
Am-241	#AB	8.600E-02	188.30	1.620E-01	1.622E-01	1.265E-01
Bi-212	#AB	1.312E-02	1322.00	1.735E-01	1.735E-01	1.414E-01
Bi-214		3.859E-01	18.90	7.296E-02	7.737E-02	1.811E-02
Co-60	#AB	6.294E-04	4123.00	2.595E-02	2.595E-02	2.130E-02
Cs-137	#AB	0.000E+00	2000.00	2.048E-02	2.048E-02	7.354E-03
Eu-152	AB	-2.694E-02	225.40	6.073E-02	6.076E-02	4.778E-02
Eu-154	#AB	-9.601E-03	777.30	7.462E-02	7.463E-02	6.022E-02
K-40		1.140E+01	9.09	1.036E+00	1.308E+00	1.320E-01
Pa-234	#AB	-6.969E-04	22500.00	1.568E-01	1.568E-01	1.291E-01
Pb-210	#	0.000E+00	882.50	1.702E+00	1.702E+00	0.000E+00
Pb-212		3.663E-01	19.09	6.995E-02	7.534E-02	3.120E-02
Pb-214		3.830E-01	18.30	7.009E-02	7.533E-02	2.044E-02
Ra-226		6.499E-01	71.73	4.661E-01	4.687E-01	3.522E-01
Th-230	#AB	5.512E+00	179.60	9.897E+00	9.942E+00	7.778E+00
Th-234	#AB	7.339E-02	469.20	3.443E-01	3.444E-01	2.786E-01
Tl-208		7.772E-02	38.15	2.965E-02	3.010E-02	1.577E-02
U-235	AB	2.416E-02	137.30	3.318E-02	3.323E-02	2.596E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.938E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:45

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-005
Sample Description: Parcel C

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:08
Acquisition Time: 4/29/2011 12:57:35
Analysis Time: 4/29/2011 13:42
Analysis Quantity: 3.830E+02 g

Spectrum ID: 11_20110429_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.136E-01	44.32	9.466E-02	9.581E-02	5.428E-02
Am-241	#	1.065E-01	122.20	1.301E-01	1.305E-01	9.882E-02
Bi-212	#AB	7.609E-02	232.10	1.766E-01	1.767E-01	1.372E-01
Bi-214	#	3.155E-01	21.80	6.877E-02	7.193E-02	3.209E-02
Co-60	#AB	8.546E-03	249.20	2.129E-02	2.130E-02	1.625E-02
Cs-137	#AB	0.000E+00	2000.00	5.893E-03	5.893E-03	2.464E-02
Eu-152	#AB	0.000E+00	2000.00	4.277E-02	4.277E-02	2.700E-02
Eu-154	#AB	2.667E-04	31370.00	8.366E-02	8.366E-02	6.889E-02
K-40		6.764E+00	11.77	7.961E-01	9.265E-01	1.737E-01
Pa-234	#AB	-1.932E-02	657.70	1.271E-01	1.271E-01	1.021E-01
Pb-210	#AB	-2.723E-01	2095.00	5.704E+00	5.704E+00	4.678E+00
Pb-212		3.816E-01	16.08	6.136E-02	6.793E-02	2.784E-02
Pb-214		3.756E-01	19.46	7.311E-02	7.796E-02	2.657E-02
Ra-226		5.701E-01	71.35	4.068E-01	4.091E-01	3.052E-01
Th-230	#AB	-2.066E+00	410.90	8.488E+00	8.495E+00	6.850E+00
Th-234		7.992E-01	58.89	4.707E-01	4.768E-01	2.566E-01
Tl-208		1.784E-01	18.63	3.323E-02	3.529E-02	6.398E-03
U-235	AB	1.607E-02	180.20	2.895E-02	2.897E-02	2.285E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 9.806E+00

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:44

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-006
Sample Description: Parcel C

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:10
Acquisition Time: 4/29/2011 12:59:12
Analysis Time: 4/29/2011 13:44
Analysis Quantity: 3.470E+02 g

Spectrum ID: 12_20110429_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2701 sec
Dead Time: 0.05 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.965E-01	40.17	1.191E-01	1.209E-01	6.880E-02
Am-241	#AB	1.193E-02	1673.00	1.996E-01	1.996E-01	1.636E-01
Bi-212	#	2.032E-01	100.00	2.033E-01	2.038E-01	1.450E-01
Bi-214		4.510E-01	19.46	8.775E-02	9.277E-02	2.905E-02
Co-60	#AB	0.000E+00	1414.00	5.953E-03	5.953E-03	4.904E-03
Cs-137	#AB	2.691E-03	860.80	2.317E-02	2.317E-02	1.876E-02
Eu-152	#AB	-8.318E-03	743.30	6.183E-02	6.183E-02	5.021E-02
Eu-154	#AB	4.688E-03	1596.00	7.480E-02	7.480E-02	6.097E-02
K-40		6.881E+00	11.53	7.932E-01	9.283E-01	5.326E-02
Pa-234	#AB	4.932E-02	297.10	1.465E-01	1.466E-01	1.142E-01
Pb-210	#	0.000E+00	348.90	1.692E+00	1.693E+00	0.000E+00
Pb-212		4.183E-01	14.46	6.048E-02	6.841E-02	2.210E-02
Pb-214		4.131E-01	21.10	8.715E-02	9.210E-02	3.147E-02
Ra-226		4.599E-01	107.00	4.922E-01	4.934E-01	3.861E-01
Th-230	#AB	-8.455E-01	1300.00	1.099E+01	1.099E+01	8.998E+00
Th-234	#	3.941E-01	107.00	4.218E-01	4.235E-01	3.230E-01
Tl-208		1.654E-01	23.83	3.943E-02	4.093E-02	1.585E-02
U-235	AB	9.222E-03	359.40	3.314E-02	3.315E-02	2.675E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 9.760E+00

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:45

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-007
Sample Description: Parcel C

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:12
Acquisition Time: 4/29/2011 12:51:22
Analysis Time: 4/29/2011 13:36
Analysis Quantity: 3.800E+02 g

Spectrum ID: 8_20110429_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.509E-01	17.80	1.693E-01	1.817E-01	4.643E-02
Am-241	#AB	8.235E-02	212.10	1.747E-01	1.749E-01	1.395E-01
Bi-212		7.870E-01	30.32	2.386E-01	2.446E-01	8.748E-02
Bi-214		6.546E-01	15.43	1.010E-01	1.101E-01	2.739E-02
Co-60	#AB	6.254E-03	429.30	2.685E-02	2.685E-02	2.136E-02
Cs-137	#AB	9.320E-03	286.70	2.672E-02	2.673E-02	2.112E-02
Eu-152	#AB	1.639E-02	393.20	6.446E-02	6.447E-02	5.183E-02
Eu-154	#AB	4.090E-03	1427.00	5.835E-02	5.835E-02	4.739E-02
K-40		1.031E+01	9.07	9.352E-01	1.182E+00	4.942E-02
Pa-234	#AB	-1.395E-02	1345.00	1.877E-01	1.877E-01	1.533E-01
Pb-210	#AB	-1.582E+00	1816.00	2.872E+01	2.872E+01	5.486E+00
Pb-212		9.479E-01	11.14	1.056E-01	1.281E-01	4.221E-02
Pb-214		7.812E-01	13.31	1.040E-01	1.182E-01	3.335E-02
Ra-226	AB	5.074E-01	126.70	6.428E-01	6.440E-01	5.137E-01
Th-230	#AB	3.458E+00	389.10	1.345E+01	1.347E+01	1.094E+01
Th-234	AB	6.194E-02	840.60	5.206E-01	5.207E-01	4.264E-01
Tl-208		2.801E-01	16.19	4.535E-02	4.902E-02	1.517E-02
U-235		8.620E-02	44.72	3.855E-02	3.910E-02	2.749E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.894E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-008
Sample Description: Parcel C

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:14
Acquisition Time: 4/29/2011 12:53:13
Analysis Time: 4/29/2011 13:38
Analysis Quantity: 3.620E+02 g

Spectrum ID: 9_20110429_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.13 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.913E-01	22.47	1.329E-01	1.391E-01	3.027E-02
Am-241	#AB	1.232E-02	1082.00	1.332E-01	1.332E-01	1.089E-01
Bi-212	AB	6.001E-02	298.40	1.791E-01	1.791E-01	1.409E-01
Bi-214		4.252E-01	19.06	8.104E-02	8.587E-02	2.279E-02
Co-60	#AB	-2.304E-03	998.70	2.301E-02	2.301E-02	1.862E-02
Cs-137	#AB	-9.886E-03	306.00	3.025E-02	3.026E-02	2.407E-02
Eu-152	#AB	-1.252E-04	48110.00	6.025E-02	6.025E-02	4.962E-02
Eu-154	#AB	-1.093E-02	688.20	7.520E-02	7.521E-02	6.048E-02
K-40		1.000E+01	9.94	9.942E-01	1.216E+00	1.280E-01
Pa-234	#AB	9.333E-04	15340.00	1.432E-01	1.432E-01	1.178E-01
Pb-210	#AB	6.867E-01	611.20	4.197E+00	4.198E+00	3.408E+00
Pb-212		5.401E-01	15.69	8.473E-02	9.424E-02	3.536E-02
Pb-214		4.006E-01	23.87	9.562E-02	9.989E-02	3.774E-02
Ra-226		5.889E-01	85.34	5.025E-01	5.045E-01	3.884E-01
Th-230	#AB	1.818E-02	33390.00	6.070E+00	6.070E+00	4.999E+00
Th-234	#	5.662E-01	72.59	4.110E-01	4.146E-01	3.076E-01
Tl-208		1.682E-01	20.57	3.460E-02	3.636E-02	8.768E-03
U-235		3.852E-02	83.55	3.218E-02	3.231E-02	2.422E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.410E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-009
Sample Description: Parcel C

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:16
Acquisition Time: 4/29/2011 12:55:39
Analysis Time: 4/29/2011 13:40
Analysis Quantity: 3.580E+02 g

Spectrum ID: 10_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.418E-01	68.74	9.746E-02	9.796E-02	6.263E-02
Am-241	#AB	0.000E+00	2000.00	9.972E-02	9.972E-02	3.607E-01
Bi-212	#AB	1.313E-01	144.60	1.899E-01	1.901E-01	1.400E-01
Bi-214		2.792E-01	27.12	7.572E-02	7.798E-02	2.654E-02
Co-60	#AB	0.000E+00	2000.00	2.174E-02	2.174E-02	5.400E-03
Cs-137	#AB	1.260E-02	194.20	2.446E-02	2.448E-02	1.858E-02
Eu-152	#AB	-1.430E-02	454.70	6.500E-02	6.501E-02	5.223E-02
Eu-154	#AB	1.934E-02	434.90	8.409E-02	8.410E-02	6.657E-02
K-40	#	5.968E+00	13.70	8.179E-01	9.186E-01	1.776E-01
Pa-234	#AB	2.007E-03	7019.00	1.408E-01	1.408E-01	1.157E-01
Pb-210	#	0.000E+00	2000.00	1.569E+00	1.569E+00	0.000E+00
Pb-212		2.788E-01	28.73	8.010E-02	8.289E-02	3.795E-02
Pb-214		2.599E-01	26.79	6.964E-02	7.212E-02	2.813E-02
Ra-226	#AB	3.171E-01	144.00	4.567E-01	4.574E-01	3.649E-01
Th-230	#AB	-3.774E+00	495.30	1.869E+01	1.870E+01	1.512E+01
Th-234	#	4.258E-01	104.00	4.428E-01	4.447E-01	3.307E-01
Tl-208		1.277E-01	26.87	3.432E-02	3.536E-02	1.017E-02
U-235	#AB	1.262E-02	253.60	3.200E-02	3.202E-02	2.658E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 7.976E+00

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-010
Sample Description: Parcel C

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:18
Acquisition Time: 4/29/2011 14:07:28
Analysis Time: 4/29/2011 14:52
Analysis Quantity: 3.250E+02 g

Spectrum ID: 8_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.09 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.148E-01	47.72	1.025E-01	1.036E-01	5.865E-02
Am-241	#AB	6.876E-02	205.50	1.413E-01	1.414E-01	1.110E-01
Bi-212	#	2.578E-01	81.54	2.102E-01	2.109E-01	1.430E-01
Bi-214		3.861E-01	19.21	7.418E-02	7.853E-02	1.664E-02
Co-60	#AB	0.000E+00	2000.00	4.519E-03	4.519E-03	5.265E-03
Cs-137	#AB	5.851E-03	464.80	2.720E-02	2.720E-02	2.177E-02
Eu-152	#AB	-4.396E-03	1306.00	5.741E-02	5.741E-02	4.685E-02
Eu-154	#AB	0.000E+00	2000.00	1.350E-02	1.350E-02	1.573E-02
K-40		8.457E+00	10.83	9.159E-01	1.091E+00	5.779E-02
Pa-234	#AB	-5.610E-02	343.70	1.928E-01	1.929E-01	1.528E-01
Pb-210	#AB	-1.086E+00	13960.00	1.516E+02	1.516E+02	4.349E+00
Pb-212		3.561E-01	21.04	7.494E-02	7.972E-02	3.471E-02
Pb-214		3.541E-01	22.94	8.124E-02	8.515E-02	2.993E-02
Ra-226		6.399E-01	78.68	5.034E-01	5.058E-01	3.834E-01
Th-230	#AB	-2.039E+00	506.60	1.033E+01	1.033E+01	8.380E+00
Th-234	#AB	2.894E-02	1505.00	4.354E-01	4.354E-01	3.571E-01
Tl-208		1.185E-01	32.77	3.883E-02	3.962E-02	1.850E-02
U-235	AB	2.470E-02	138.90	3.432E-02	3.437E-02	2.673E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.091E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-011
Sample Description: Parcel C

Detector: HPGe #3 51-TP32733A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:20
Acquisition Time: 4/29/2011 15:13:45
Analysis Time: 4/29/2011 15:58
Analysis Quantity: 3.170E+02 g

Spectrum ID: 3_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.17 %

Efficiency: HPGe #3 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/21/2011 13:54
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.427E-01	76.77	1.096E-01	1.100E-01	7.502E-02
Am-241	#AB	-4.138E-02	355.30	1.470E-01	1.471E-01	1.182E-01
Bi-212		1.494E-01	121.70	1.818E-01	1.821E-01	1.301E-01
Bi-214		2.470E-01	35.24	8.705E-02	8.860E-02	3.643E-02
Co-60	#AB	0.000E+00	2000.00	1.060E-02	1.060E-02	4.505E-02
Cs-137	#AB	1.379E-04	12990.00	1.791E-02	1.791E-02	1.473E-02
Eu-152	#AB	1.154E-02	480.20	5.543E-02	5.544E-02	4.446E-02
Eu-154	#AB	6.586E-04	11660.00	7.681E-02	7.681E-02	6.318E-02
K-40	#	5.304E+00	15.55	8.248E-01	9.046E-01	3.171E-01
Pa-234	#AB	-2.171E-03	7320.00	1.589E-01	1.589E-01	1.306E-01
Pb-210	#AB	-1.503E+00	2290.00	3.441E+01	3.441E+01	3.296E+00
Pb-212		3.239E-01	19.10	6.186E-02	6.663E-02	2.731E-02
Pb-214		3.238E-01	20.54	6.651E-02	7.049E-02	1.897E-02
Ra-226	AB	1.770E-01	238.50	4.223E-01	4.225E-01	3.460E-01
Th-230	#AB	-1.448E+00	629.50	9.117E+00	9.121E+00	7.415E+00
Th-234	#AB	-1.786E-01	196.20	3.505E-01	3.509E-01	2.763E-01
Tl-208	#	7.310E-02	43.20	3.158E-02	3.195E-02	1.903E-02
U-235		4.646E-02	54.60	2.537E-02	2.561E-02	1.670E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 6.800E+00

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:40

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-012
Sample Description: Parcel C

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:22
Acquisition Time: 4/29/2011 14:09:19
Analysis Time: 4/29/2011 14:54
Analysis Quantity: 3.440E+02 g

Spectrum ID: 9_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.12 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.006E-01	100.70	1.012E-01	1.015E-01	7.291E-02
Am-241	#AB	4.325E-02	242.60	1.049E-01	1.050E-01	8.236E-02
Bi-212	#	1.378E-01	124.70	1.719E-01	1.721E-01	1.241E-01
Bi-214		2.792E-01	24.72	6.901E-02	7.148E-02	2.011E-02
Co-60	#AB	-5.211E-04	112.50	5.863E-04	5.874E-04	2.628E-02
Cs-137	#AB	3.209E-03	717.30	2.302E-02	2.302E-02	1.859E-02
Eu-152	#AB	7.024E-03	682.90	4.797E-02	4.797E-02	3.873E-02
Eu-154	#AB	-2.116E-02	355.50	7.521E-02	7.522E-02	5.892E-02
K-40		7.547E+00	11.23	8.477E-01	9.991E-01	5.547E-02
Pa-234	#AB	1.862E-02	706.50	1.315E-01	1.315E-01	1.057E-01
Pb-210	#AB	2.846E-01	1225.00	3.485E+00	3.485E+00	2.845E+00
Pb-212		2.331E-01	22.42	5.225E-02	5.520E-02	3.014E-02
Pb-214	#	1.879E-01	31.54	5.925E-02	6.078E-02	3.434E-02
Ra-226		7.559E-01	57.83	4.372E-01	4.409E-01	3.169E-01
Th-230	#AB	-3.524E+00	246.60	8.690E+00	8.711E+00	6.918E+00
Th-234	AB	9.511E-02	376.70	3.583E-01	3.584E-01	2.891E-01
Tl-208	#	7.593E-02	35.33	2.682E-02	2.730E-02	1.372E-02
U-235	AB	1.076E-02	290.80	3.129E-02	3.130E-02	2.511E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 9.780E+00

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-013
Sample Description: Parcel C

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:24
Acquisition Time: 4/29/2011 14:11:30
Analysis Time: 4/29/2011 14:56
Analysis Quantity: 3.290E+02 g

Spectrum ID: 10_20110429_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	1.944E-01	58.86	1.144E-01	1.152E-01	7.155E-02
Am-241	#AB	9.021E-02	368.10	3.320E-01	3.321E-01	2.648E-01
Bi-212	#AB	0.000E+00	2000.00	1.973E-01	1.973E-01	2.127E-01
Bi-214	#	1.607E-01	40.52	6.510E-02	6.598E-02	3.755E-02
Co-60	#AB	4.697E-04	714.30	3.355E-03	3.355E-03	2.384E-02
Cs-137	#AB	1.377E-02	248.10	3.417E-02	3.418E-02	2.683E-02
Eu-152	#AB	-1.600E-02	430.80	6.892E-02	6.893E-02	5.526E-02
Eu-154	#AB	-1.366E-02	655.80	8.957E-02	8.957E-02	7.185E-02
K-40		7.149E+00	12.60	9.007E-01	1.031E+00	6.610E-02
Pa-234	#AB	2.107E-02	629.80	1.327E-01	1.327E-01	1.057E-01
Pb-210	#	0.000E+00	220.30	1.930E+00	1.932E+00	0.000E+00
Pb-212		3.026E-01	19.53	5.909E-02	6.345E-02	2.430E-02
Pb-214		2.523E-01	25.53	6.441E-02	6.693E-02	2.164E-02
Ra-226	#AB	1.501E-01	325.40	4.884E-01	4.885E-01	4.044E-01
Th-230	#AB	6.448E+00	268.00	1.728E+01	1.732E+01	1.367E+01
Th-234	#	4.641E-01	112.20	5.205E-01	5.224E-01	3.946E-01
Tl-208	#	5.520E-02	54.50	3.009E-02	3.031E-02	1.878E-02
U-235	#AB	-1.660E-02	13110.00	2.176E+00	2.176E+00	2.665E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.530E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-014
Sample Description: Parcel C

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:26
Acquisition Time: 4/29/2011 14:13:35
Analysis Time: 4/29/2011 14:58
Analysis Quantity: 3.600E+02 g

Spectrum ID: 11_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.760E-01	35.80	9.880E-02	1.006E-01	4.814E-02
Am-241	#AB	8.859E-02	161.80	1.433E-01	1.435E-01	1.114E-01
Bi-212	#AB	1.288E-01	145.70	1.877E-01	1.879E-01	1.403E-01
Bi-214	#	3.374E-01	23.21	7.832E-02	8.150E-02	2.582E-02
Co-60	#AB	0.000E+00	2000.00	5.677E-03	5.677E-03	4.913E-02
Cs-137	#AB	-3.079E-03	766.20	2.359E-02	2.360E-02	1.910E-02
Eu-152	#AB	-1.532E-03	3282.00	5.029E-02	5.030E-02	4.128E-02
Eu-154	#AB	2.169E-03	2714.00	5.886E-02	5.886E-02	4.812E-02
K-40		7.413E+00	11.81	8.755E-01	1.018E+00	1.932E-01
Pa-234	#AB	0.000E+00	2000.00	9.225E-02	9.225E-02	1.768E-01
Pb-210	#	5.033E+00	115.00	5.789E+00	5.809E+00	4.356E+00
Pb-212		4.027E-01	16.31	6.568E-02	7.253E-02	2.658E-02
Pb-214	#	2.235E-01	27.05	6.045E-02	6.256E-02	3.312E-02
Ra-226	AB	2.831E-01	161.60	4.576E-01	4.581E-01	3.680E-01
Th-230	#AB	-4.027E-01	2366.00	9.527E+00	9.527E+00	7.822E+00
Th-234	AB	7.446E-02	577.90	4.303E-01	4.304E-01	3.505E-01
Tl-208	#	6.717E-02	43.14	2.898E-02	2.932E-02	1.769E-02
U-235		4.828E-02	60.68	2.930E-02	2.952E-02	2.082E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.438E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:44

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-015
Sample Description: Parcel C

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:28
Acquisition Time: 4/29/2011 14:15:09
Analysis Time: 4/29/2011 15:00
Analysis Quantity: 3.430E+02 g

Spectrum ID: 12_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	4.931E-01	28.87	1.424E-01	1.464E-01	7.429E-02
Am-241	#AB	2.243E-02	1027.00	2.305E-01	2.305E-01	1.885E-01
Bi-212	#	3.404E-01	77.44	2.636E-01	2.646E-01	1.877E-01
Bi-214	#	4.705E-01	18.85	8.871E-02	9.411E-02	4.047E-02
Co-60	#AB	4.386E-03	345.50	1.515E-02	1.515E-02	5.006E-02
Cs-137	#AB	9.670E-03	296.50	2.867E-02	2.868E-02	2.267E-02
Eu-152	#AB	2.157E-02	311.90	6.729E-02	6.730E-02	5.367E-02
Eu-154	#AB	2.411E-02	431.50	1.040E-01	1.041E-01	8.325E-02
K-40		1.922E+01	7.12	1.368E+00	1.919E+00	1.331E-01
Pa-234	#AB	-4.419E-02	402.70	1.780E-01	1.780E-01	1.418E-01
Pb-210	#	0.000E+00	448.60	7.720E-01	7.722E-01	0.000E+00
Pb-212		5.145E-01	15.18	7.807E-02	8.741E-02	4.360E-02
Pb-214		4.682E-01	17.81	8.336E-02	8.994E-02	4.057E-02
Ra-226		6.112E-01	95.18	5.817E-01	5.836E-01	4.546E-01
Th-230	#AB	6.155E-02	12700.00	7.815E+00	7.815E+00	6.432E+00
Th-234		1.306E+00	55.33	7.225E-01	7.332E-01	3.867E-01
Tl-208	#	1.698E-01	23.91	4.059E-02	4.213E-02	2.197E-02
U-235		4.575E-02	84.73	3.876E-02	3.892E-02	2.947E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.378E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/2/2011 09:45

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-016
Sample Description: Parcel C

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:30
Acquisition Time: 4/29/2011 15:14:27
Analysis Time: 4/29/2011 15:59
Analysis Quantity: 3.380E+02 g

Spectrum ID: 4_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2701 sec
Dead Time: 0.05 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/2011 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.549E-01	49.15	1.253E-01	1.265E-01	8.671E-02
Am-241	#AB	8.871E-02	163.10	1.447E-01	1.449E-01	1.132E-01
Bi-212	#	2.394E-01	89.25	2.136E-01	2.142E-01	1.515E-01
Bi-214		3.788E-01	18.61	7.048E-02	7.488E-02	1.372E-02
Co-60	#AB	0.000E+00	1414.00	5.996E-03	5.996E-03	4.178E-02
Cs-137	#AB	3.716E-03	656.10	2.438E-02	2.438E-02	1.968E-02
Eu-152	#AB	0.000E+00	2000.00	1.278E-02	1.278E-02	4.881E-02
Eu-154	#AB	0.000E+00	2000.00	4.051E-02	4.051E-02	9.598E-02
K-40	#	8.851E+00	10.56	9.350E-01	1.122E+00	1.766E-01
Pa-234	#AB	4.343E-02	286.30	1.244E-01	1.244E-01	9.576E-02
Pb-210	#AB	-2.040E-01	2113.00	4.309E+00	4.309E+00	3.535E+00
Pb-212		5.404E-01	13.91	7.518E-02	8.577E-02	2.770E-02
Pb-214		3.612E-01	20.15	7.280E-02	7.731E-02	2.444E-02
Ra-226		5.533E-01	82.83	4.583E-01	4.602E-01	3.505E-01
Th-230	#AB	1.108E+00	865.90	9.596E+00	9.598E+00	7.838E+00
Th-234	#AB	0.000E+00	2000.00	4.372E-01	4.372E-01	3.958E-01
Tl-208		1.870E-01	21.85	4.085E-02	4.270E-02	1.219E-02
U-235	AB	1.418E-02	227.40	3.224E-02	3.226E-02	2.569E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.262E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-017
Sample Description: Parcel C

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:32
Acquisition Time: 4/29/2011 15:15:48
Analysis Time: 4/29/2011 16:01
Analysis Quantity: 3.490E+02 g

Spectrum ID: 5_20110429_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/2011 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	3.771E-01	33.48	1.262E-01	1.289E-01	6.944E-02
Am-241	#AB	-1.029E-03	12410.00	1.276E-01	1.276E-01	1.051E-01
Bi-212	#	2.041E-01	99.91	2.039E-01	2.044E-01	1.464E-01
Bi-214		4.695E-01	19.12	8.978E-02	9.510E-02	2.693E-02
Co-60	#AB	-3.493E-03	820.70	2.867E-02	2.867E-02	2.321E-02
Cs-137	#	1.743E-02	131.80	2.298E-02	2.301E-02	1.682E-02
Eu-152	#AB	4.623E-03	1182.00	5.465E-02	5.465E-02	4.459E-02
Eu-154	#AB	0.000E+00	2000.00	1.210E-02	1.210E-02	1.270E-01
K-40		1.478E+01	8.04	1.188E+00	1.576E+00	2.208E-01
Pa-234	#AB	2.054E-03	7734.00	1.589E-01	1.589E-01	1.306E-01
Pb-210	#AB	-9.981E-02	3580.00	3.573E+00	3.573E+00	2.508E+00
Pb-212		4.979E-01	14.66	7.301E-02	8.233E-02	2.925E-02
Pb-214		4.388E-01	17.51	7.683E-02	8.309E-02	2.622E-02
Ra-226	AB	2.925E-01	155.70	4.555E-01	4.560E-01	3.656E-01
Th-230	#AB	-2.218E+00	391.40	8.681E+00	8.689E+00	7.018E+00
Th-234	#	1.067E+00	50.62	5.400E-01	5.496E-01	2.862E-01
Tl-208		1.757E-01	23.33	4.099E-02	4.262E-02	1.412E-02
U-235		3.020E-02	94.97	2.869E-02	2.878E-02	2.159E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.836E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-018
Sample Description: Parcel C

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:34
Acquisition Time: 4/29/2011 15:24:58
Analysis Time: 4/29/2011 16:10
Analysis Quantity: 3.530E+02 g

Spectrum ID: 6_20110429_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 3/8/2011 12:39
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.891E-01	53.47	1.546E-01	1.558E-01	9.931E-02
Am-241	#AB	7.940E-03	1023.00	8.119E-02	8.119E-02	6.648E-02
Bi-212	#AB	-6.613E-02	800.10	5.291E-01	5.291E-01	2.879E-01
Bi-214		3.947E-01	25.98	1.025E-01	1.059E-01	3.720E-02
Co-60	#AB	-2.058E-03	2373.00	4.883E-02	4.883E-02	4.003E-02
Cs-137	#AB	1.639E-02	236.00	3.868E-02	3.869E-02	3.029E-02
Eu-152	#AB	-1.189E-02	720.10	8.565E-02	8.565E-02	6.960E-02
Eu-154	#AB	-5.603E-03	2106.00	1.180E-01	1.180E-01	9.652E-02
K-40		1.403E+01	10.50	1.473E+00	1.771E+00	3.751E-01
Pa-234	#AB	-6.673E-02	343.80	2.294E-01	2.295E-01	1.815E-01
Pb-210	#AB	1.135E-04	799400.00	9.073E-01	9.073E-01	8.228E-01
Pb-212		4.925E-01	16.56	8.155E-02	8.982E-02	4.713E-02
Pb-214		4.160E-01	27.03	1.124E-01	1.164E-01	4.307E-02
Ra-226	AB	9.173E-02	855.00	7.843E-01	7.843E-01	6.521E-01
Th-230	#AB	-1.158E+00	609.60	7.058E+00	7.061E+00	5.761E+00
Th-234		9.111E-01	73.13	6.663E-01	6.720E-01	4.718E-01
Tl-208	#	9.359E-02	49.43	4.626E-02	4.668E-02	3.428E-02
U-235	AB	0.000E+00	0.00	4.663E-01	4.663E-01	5.264E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.674E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-019
Sample Description: Parcel C

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:36
Acquisition Time: 4/29/2011 16:15:14
Analysis Time: 4/29/2011 17:00
Analysis Quantity: 3.550E+02 g

Spectrum ID: 1_20110429_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #1 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/20/2011 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.933E-01	33.57	1.320E-01	1.348E-01	7.183E-02
Am-241	#AB	-1.258E-02	2298.00	2.890E-01	2.890E-01	2.373E-01
Bi-212	#	3.312E-01	64.24	2.128E-01	2.140E-01	1.377E-01
Bi-214	#	3.297E-01	24.57	8.099E-02	8.393E-02	4.261E-02
Co-60	#AB	1.581E-03	1975.00	3.123E-02	3.123E-02	2.554E-02
Cs-137	#AB	6.719E-03	417.20	2.803E-02	2.803E-02	2.241E-02
Eu-152	#AB	6.566E-03	975.80	6.407E-02	6.407E-02	5.220E-02
Eu-154	#AB	0.000E+00	2000.00	5.214E-02	5.214E-02	8.605E-02
K-40		9.450E+00	10.69	1.010E+00	1.207E+00	2.329E-01
Pa-234	#AB	-2.978E-02	590.40	1.758E-01	1.758E-01	1.415E-01
Pb-210	#	0.000E+00	2712.00	1.310E+00	1.310E+00	0.000E+00
Pb-212		6.457E-01	13.16	8.499E-02	9.827E-02	3.424E-02
Pb-214		5.312E-01	16.65	8.845E-02	9.638E-02	2.807E-02
Ra-226	AB	3.751E-01	146.40	5.491E-01	5.498E-01	4.395E-01
Th-230	#AB	-1.105E+00	1336.00	1.476E+01	1.476E+01	1.209E+01
Th-234	#AB	-6.568E-02	764.80	5.023E-01	5.024E-01	4.101E-01
Tl-208	#	1.504E-01	26.66	4.009E-02	4.132E-02	2.254E-02
U-235		3.367E-02	113.70	3.828E-02	3.836E-02	2.962E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.225E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:40

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-020
Sample Description: Parcel C

Detector: HPGe #2 50-TP42229A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:38
Acquisition Time: 4/29/2011 16:16:01
Analysis Time: 4/29/2011 17:01
Analysis Quantity: 3.350E+02 g

Spectrum ID: 2_20110429_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.13 %

Efficiency: HPGe #2 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/19/2011 21:26
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.853E-01	19.80	1.357E-01	1.438E-01	1.565E-02
Am-241	#AB	-5.988E-02	492.40	2.948E-01	2.949E-01	2.393E-01
Bi-212	#	2.495E-01	105.10	2.622E-01	2.627E-01	1.926E-01
Bi-214		5.553E-01	19.43	1.079E-01	1.141E-01	3.262E-02
Co-60	#AB	0.000E+00	2000.00	2.097E-02	2.097E-02	4.404E-02
Cs-137	#AB	1.555E-02	170.10	2.645E-02	2.647E-02	1.993E-02
Eu-152	#AB	-1.254E-02	607.20	7.613E-02	7.614E-02	6.170E-02
Eu-154	#AB	-1.733E-02	508.40	8.809E-02	8.810E-02	7.026E-02
K-40		1.006E+01	10.15	1.022E+00	1.241E+00	6.042E-02
Pa-234	#AB	4.461E-02	425.50	1.898E-01	1.898E-01	1.513E-01
Pb-210	#	0.000E+00	114.70	2.128E+00	2.136E+00	0.000E+00
Pb-212		7.030E-01	14.40	1.012E-01	1.146E-01	4.120E-02
Pb-214		7.108E-01	14.08	1.000E-01	1.124E-01	2.626E-02
Ra-226	#	7.565E-01	81.88	6.195E-01	6.221E-01	4.769E-01
Th-230	#AB	0.000E+00	2000.00	1.684E+01	1.684E+01	1.351E+01
Th-234	#	6.003E-01	105.40	6.327E-01	6.353E-01	4.922E-01
Tl-208	#	1.674E-01	25.40	4.252E-02	4.395E-02	2.174E-02
U-235	#AB	3.599E-03	1018.00	3.665E-02	3.665E-02	2.997E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.455E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:40

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-021
Sample Description: Parcel C

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:40
Acquisition Time: 4/29/2011 15:26:55
Analysis Time: 4/29/2011 16:12
Analysis Quantity: 3.500E+02 g

Spectrum ID: 8_20110429_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.763E-01	53.94	9.510E-02	9.589E-02	5.775E-02
Am-241	#AB	-4.790E-02	306.10	1.466E-01	1.467E-01	1.174E-01
Bi-212	#AB	3.179E-03	3955.00	1.257E-01	1.257E-01	1.030E-01
Bi-214	#	1.669E-01	36.65	6.117E-02	6.217E-02	3.530E-02
Co-60	#AB	-1.319E-03	2194.00	2.894E-02	2.894E-02	2.369E-02
Cs-137	#AB	6.855E-03	344.00	2.358E-02	2.358E-02	1.862E-02
Eu-152	#AB	-2.942E-03	1819.00	5.354E-02	5.354E-02	4.381E-02
Eu-154	#AB	-4.500E-03	1601.00	7.205E-02	7.205E-02	5.871E-02
K-40		7.876E+00	10.81	8.518E-01	1.015E+00	5.366E-02
Pa-234	#AB	2.811E-02	421.00	1.183E-01	1.183E-01	9.290E-02
Pb-210	#AB	-1.408E+00	2381.00	3.353E+01	3.353E+01	3.823E+00
Pb-212		2.662E-01	20.44	5.441E-02	5.808E-02	2.458E-02
Pb-214		1.424E-01	37.73	5.374E-02	5.472E-02	3.221E-02
Ra-226	AB	2.872E-01	137.40	3.947E-01	3.953E-01	3.144E-01
Th-230	#AB	-4.325E+00	201.20	8.704E+00	8.735E+00	6.867E+00
Th-234	#	3.340E-01	101.10	3.379E-01	3.394E-01	2.547E-01
Tl-208	#	3.603E-02	68.28	2.460E-02	2.472E-02	1.816E-02
U-235	AB	1.917E-02	131.60	2.523E-02	2.528E-02	1.926E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 9.342E+00

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-022
Sample Description: Parcel E

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 3/28/2011 10:42
Acquisition Time: 4/29/2011 15:28:01
Analysis Time: 4/29/2011 16:13
Analysis Quantity: 3.130E+02 g

Spectrum ID: 9_20110429_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.318E+00	14.14	1.864E-01	2.076E-01	1.535E-02
Am-241	#AB	3.772E-02	581.70	2.194E-01	2.194E-01	1.789E-01
Bi-212	#	3.518E-01	75.67	2.662E-01	2.673E-01	1.871E-01
Bi-214		6.620E-01	15.45	1.022E-01	1.114E-01	2.807E-02
Co-60	#AB	8.946E-03	328.40	2.938E-02	2.939E-02	2.301E-02
Cs-137	#AB	1.456E-02	224.60	3.271E-02	3.272E-02	2.560E-02
Eu-152	#AB	-4.528E-04	16240.00	7.353E-02	7.353E-02	6.054E-02
Eu-154	#AB	-2.644E-02	390.60	1.033E-01	1.033E-01	8.207E-02
K-40		1.075E+01	9.87	1.061E+00	1.301E+00	6.096E-02
Pa-234	#AB	-5.995E-02	324.50	1.945E-01	1.946E-01	1.538E-01
Pb-210	#AB	-1.420E+00	449.30	6.381E+00	6.383E+00	5.179E+00
Pb-212		1.093E+00	10.42	1.138E-01	1.412E-01	4.520E-02
Pb-214		8.499E-01	13.93	1.184E-01	1.333E-01	3.798E-02
Ra-226		1.262E+00	55.60	7.019E-01	7.084E-01	5.257E-01
Th-230	#AB	-9.819E-01	1569.00	1.540E+01	1.540E+01	1.265E+01
Th-234	#AB	-1.094E-01	725.00	7.928E-01	7.928E-01	6.496E-01
Tl-208		3.760E-01	14.62	5.496E-02	6.037E-02	1.291E-02
U-235	AB	1.398E-02	366.70	5.125E-02	5.127E-02	4.164E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.674E+01

Analyst: Philip Smith

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-023
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 3/28/2011 10:44
Acquisition Time: 4/29/2011 15:28:39
Analysis Time: 4/29/2011 16:13
Analysis Quantity: 3.130E+02 g

Spectrum ID: 10_20110429_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.066E-01	20.40	1.849E-01	1.953E-01	3.946E-02
Am-241	#AB	1.375E-02	3440.00	4.730E-01	4.730E-01	3.887E-01
Bi-212	#	2.575E-01	112.70	2.902E-01	2.907E-01	2.150E-01
Bi-214		5.815E-01	18.46	1.074E-01	1.142E-01	3.124E-02
Co-60	#AB	-8.801E-03	415.80	3.660E-02	3.660E-02	2.908E-02
Cs-137	#AB	1.584E-02	182.30	2.887E-02	2.889E-02	2.186E-02
Eu-152	#AB	0.000E+00	2000.00	2.843E-02	2.843E-02	8.387E-02
Eu-154	#AB	1.324E-02	690.20	9.135E-02	9.135E-02	7.332E-02
K-40		9.811E+00	11.03	1.082E+00	1.282E+00	6.948E-02
Pa-234	#AB	1.896E-02	1077.00	2.043E-01	2.043E-01	1.661E-01
Pb-210	#	0.000E+00	708.80	5.982E-01	5.983E-01	0.000E+00
Pb-212		7.676E-01	13.71	1.052E-01	1.205E-01	4.503E-02
Pb-214		6.993E-01	17.55	1.227E-01	1.327E-01	4.232E-02
Ra-226	AB	2.697E-01	254.60	6.866E-01	6.869E-01	5.610E-01
Th-230	#AB	1.269E+01	191.90	2.435E+01	2.445E+01	1.923E+01
Th-234	#	7.224E-01	98.90	7.144E-01	7.178E-01	5.481E-01
Tl-208		2.757E-01	20.52	5.658E-02	5.947E-02	1.753E-02
U-235		3.843E-02	117.20	4.504E-02	4.514E-02	3.593E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.708E+01

Analyst: Philip Smith

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-024
Sample Description: Parcel C

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:46
Acquisition Time: 4/29/2011 16:25:57
Analysis Time: 4/29/2011 17:56
Analysis Quantity: 3.410E+02 g

Spectrum ID: 11_20110429_008
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5405 sec
Dead Time: 0.09 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.305E+00	9.65	1.259E-01	1.551E-01	7.072E-03
Am-241	#AB	-4.796E-02	368.40	1.767E-01	1.767E-01	1.440E-01
Bi-212		9.077E-01	29.07	2.639E-01	2.711E-01	1.035E-01
Bi-214		6.969E-01	10.93	7.618E-02	8.927E-02	2.228E-02
Co-60	#AB	4.761E-03	415.30	1.977E-02	1.978E-02	1.586E-02
Cs-137	#AB	1.067E-03	1390.00	1.482E-02	1.482E-02	1.211E-02
Eu-152	#AB	-7.777E-03	649.40	5.050E-02	5.051E-02	4.119E-02
Eu-154	#AB	-1.234E-03	4653.00	5.741E-02	5.741E-02	4.718E-02
K-40		9.004E+00	7.54	6.791E-01	9.270E-01	1.285E-01
Pa-234	#AB	-4.498E-02	276.60	1.244E-01	1.245E-01	9.902E-02
Pb-210	#AB	3.869E+00	165.30	6.395E+00	6.406E+00	5.121E+00
Pb-212		9.417E-01	7.07	6.654E-02	9.800E-02	2.509E-02
Pb-214		7.275E-01	9.69	7.049E-02	8.786E-02	2.319E-02
Ra-226		6.959E-01	66.82	4.650E-01	4.680E-01	3.651E-01
Th-230	#AB	2.047E+00	496.50	1.017E+01	1.017E+01	8.309E+00
Th-234		5.618E-01	71.67	4.027E-01	4.062E-01	3.143E-01
Tl-208		3.603E-01	10.59	3.814E-02	4.504E-02	9.724E-03
U-235		4.870E-02	62.38	3.038E-02	3.060E-02	2.338E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.117E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:44

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-025
Sample Description: Parcel C

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:48
Acquisition Time: 4/29/2011 15:30:42
Analysis Time: 4/29/2011 16:15
Analysis Quantity: 3.200E+02 g

Spectrum ID: 12_20110429_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.730E-01	19.86	1.535E-01	1.626E-01	2.996E-02
Am-241	#AB	-7.227E-02	325.90	2.356E-01	2.356E-01	1.894E-01
Bi-212	#AB	1.450E-01	149.80	2.172E-01	2.174E-01	1.630E-01
Bi-214	#	3.065E-01	25.09	7.690E-02	7.957E-02	3.782E-02
Co-60	#AB	3.355E-03	803.30	2.695E-02	2.695E-02	2.173E-02
Cs-137	#AB	0.000E+00	2000.00	3.599E-03	3.599E-03	2.441E-02
Eu-152	#AB	-1.151E-02	599.00	6.895E-02	6.896E-02	5.583E-02
Eu-154	#AB	3.428E-03	2346.00	8.040E-02	8.040E-02	6.575E-02
K-40	#	7.351E+00	12.21	8.973E-01	1.035E+00	2.276E-01
Pa-234	#AB	6.110E-03	2435.00	1.488E-01	1.488E-01	1.217E-01
Pb-210	#	0.000E+00	166.10	1.755E+00	1.758E+00	0.000E+00
Pb-212		5.760E-01	14.56	8.386E-02	9.471E-02	3.390E-02
Pb-214		4.687E-01	19.17	8.985E-02	9.599E-02	3.305E-02
Ra-226	#	6.075E-01	98.81	6.002E-01	6.020E-01	4.697E-01
Th-230	#AB	-1.785E-01	6420.00	1.146E+01	1.146E+01	9.428E+00
Th-234	#	1.670E+00	41.36	6.905E-01	7.087E-01	3.358E-01
Tl-208		2.091E-01	18.21	3.807E-02	4.053E-02	1.159E-02
U-235	#	4.927E-02	80.17	3.950E-02	3.967E-02	2.974E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.217E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:45

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-026
Sample Description: Parcel C

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:50
Acquisition Time: 4/29/2011 16:22:23
Analysis Time: 4/29/2011 17:07
Analysis Quantity: 3.270E+02 g

Spectrum ID: 8_20110429_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.410E-01	45.44	1.095E-01	1.108E-01	6.334E-02
Am-241	#AB	7.158E-03	2102.00	1.504E-01	1.504E-01	1.234E-01
Bi-212	#AB	0.000E+00	2000.00	3.827E-02	3.827E-02	2.338E-01
Bi-214		2.970E-01	23.20	6.889E-02	7.169E-02	1.856E-02
Co-60	#AB	-1.546E-03	824.70	1.275E-02	1.275E-02	1.004E-02
Cs-137	#	1.733E-02	127.50	2.209E-02	2.212E-02	1.575E-02
Eu-152	#AB	-2.535E-02	254.40	6.450E-02	6.453E-02	5.084E-02
Eu-154	#AB	-5.907E-03	1066.00	6.296E-02	6.296E-02	5.082E-02
K-40		5.571E+00	13.30	7.411E-01	8.376E-01	5.743E-02
Pa-234	#AB	-5.169E-02	339.70	1.756E-01	1.756E-01	1.386E-01
Pb-210	#AB	-1.871E+00	1117.00	2.089E+01	2.089E+01	4.207E+00
Pb-212	#	2.645E-01	22.14	5.856E-02	6.195E-02	3.449E-02
Pb-214		3.327E-01	20.87	6.943E-02	7.346E-02	2.257E-02
Ra-226	#	5.188E-01	89.22	4.629E-01	4.645E-01	3.559E-01
Th-230	#AB	-7.349E-02	11320.00	8.320E+00	8.320E+00	6.848E+00
Th-234	#AB	-3.166E-03	12070.00	3.821E-01	3.821E-01	3.145E-01
Tl-208		7.587E-02	43.36	3.290E-02	3.328E-02	1.854E-02
U-235	#	4.586E-02	66.18	3.035E-02	3.055E-02	2.165E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 7.371E+00

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:41

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-027
Sample Description: Parcel C

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:52
Acquisition Time: 4/29/2011 16:23:54
Analysis Time: 4/29/2011 17:09
Analysis Quantity: 3.230E+02 g

Spectrum ID: 9_20110429_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.831E-01	41.54	1.176E-01	1.192E-01	6.694E-02
Am-241		1.541E-01	89.58	1.380E-01	1.387E-01	1.015E-01
Bi-212	#	1.480E-01	130.80	1.936E-01	1.938E-01	1.418E-01
Bi-214		4.088E-01	22.51	9.203E-02	9.600E-02	2.799E-02
Co-60	#AB	-5.596E-03	559.80	3.133E-02	3.133E-02	2.513E-02
Cs-137	#AB	7.266E-03	321.00	2.332E-02	2.333E-02	1.831E-02
Eu-152	#AB	0.000E+00	2000.00	3.740E-02	3.740E-02	4.636E-02
Eu-154	#AB	0.000E+00	2000.00	6.380E-02	6.380E-02	1.013E-01
K-40		9.508E+00	10.33	9.820E-01	1.187E+00	5.908E-02
Pa-234	#AB	-3.383E-02	451.10	1.526E-01	1.526E-01	1.212E-01
Pb-210	#AB	1.782E+00	267.10	4.760E+00	4.763E+00	3.794E+00
Pb-212		4.699E-01	14.78	6.945E-02	7.818E-02	2.726E-02
Pb-214		4.092E-01	21.88	8.954E-02	9.428E-02	3.199E-02
Ra-226	#	5.148E-01	94.92	4.886E-01	4.902E-01	3.789E-01
Th-230	#AB	2.860E-01	3020.00	8.639E+00	8.639E+00	7.096E+00
Th-234	#	4.812E-01	87.89	4.229E-01	4.254E-01	3.199E-01
Tl-208	#	9.520E-02	30.69	2.922E-02	2.990E-02	1.337E-02
U-235		4.060E-02	82.15	3.335E-02	3.349E-02	2.485E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.459E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:42

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-028
Sample Description: Parcel C

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 4/28/2011 10:54
Acquisition Time: 4/29/2011 16:24:33
Analysis Time: 4/29/2011 17:09
Analysis Quantity: 3.080E+02 g

Spectrum ID: 10_20110429_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.716E-01	23.09	1.320E-01	1.378E-01	1.776E-02
Am-241	#AB	1.137E-01	382.50	4.350E-01	4.351E-01	3.494E-01
Bi-212		1.681E-01	124.60	2.095E-01	2.098E-01	1.501E-01
Bi-214		3.547E-01	23.25	8.247E-02	8.580E-02	2.245E-02
Co-60	#AB	8.683E-03	147.90	1.284E-02	1.286E-02	2.802E-02
Cs-137	#AB	8.406E-03	293.10	2.464E-02	2.464E-02	1.910E-02
Eu-152	#AB	-1.388E-02	551.90	7.660E-02	7.660E-02	6.184E-02
Eu-154	#AB	-4.263E-04	19020.00	8.108E-02	8.108E-02	6.672E-02
K-40		7.728E+00	12.52	9.679E-01	1.109E+00	7.061E-02
Pa-234	#AB	2.791E-02	599.80	1.674E-01	1.674E-01	1.339E-01
Pb-210	#	0.000E+00	573.30	1.530E+00	1.530E+00	0.000E+00
Pb-212		3.744E-01	20.68	7.742E-02	8.254E-02	4.508E-02
Pb-214	#	2.512E-01	29.22	7.341E-02	7.561E-02	3.949E-02
Ra-226	AB	2.474E-01	208.80	5.166E-01	5.169E-01	4.212E-01
Th-230	#AB	-5.315E+00	411.60	2.188E+01	2.190E+01	1.763E+01
Th-234	#AB	3.580E-01	181.10	6.482E-01	6.491E-01	5.118E-01
Tl-208		1.466E-01	27.09	3.972E-02	4.090E-02	1.182E-02
U-235	#AB	6.290E-03	579.20	3.643E-02	3.643E-02	3.084E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.036E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 5/2/2011 09:43

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-029
Sample Description: Parcel C

Detector: HPGe #7 50-TP32731A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:00
Acquisition Time: 5/5/2011 11:03:13
Analysis Time: 5/5/2011 11:48
Analysis Quantity: 3.190E+02 g

Spectrum ID: 7_20110505_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #7 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 5/3/2011 14:19
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.226E-01	32.33	1.690E-01	1.728E-01	8.855E-02
Am-241	#AB	0.000E+00	2000.00	1.544E-01	1.544E-01	4.911E-01
Bi-212	#	3.289E-01	76.02	2.500E-01	2.510E-01	1.652E-01
Bi-214	#	4.558E-01	22.60	1.030E-01	1.074E-01	4.972E-02
Co-60	#AB	-6.188E-03	650.70	4.027E-02	4.027E-02	3.244E-02
Cs-137	#AB	0.000E+00	2000.00	2.337E-02	2.337E-02	5.146E-03
Eu-152	#AB	9.541E-03	878.90	8.386E-02	8.386E-02	6.825E-02
Eu-154	#AB	-8.572E-03	1033.00	8.856E-02	8.856E-02	7.157E-02
K-40		1.104E+01	10.72	1.184E+00	1.414E+00	7.392E-02
Pa-234	#AB	-6.940E-03	2708.00	1.880E-01	1.880E-01	1.539E-01
Pb-210	#	0.000E+00	755.50	1.377E+00	1.377E+00	0.000E+00
Pb-212		6.948E-01	15.22	1.057E-01	1.183E-01	4.072E-02
Pb-214		5.578E-01	17.65	9.843E-02	1.063E-01	2.910E-02
Ra-226	AB	5.381E-01	142.70	7.676E-01	7.687E-01	6.033E-01
Th-230	#AB	-3.770E+00	638.20	2.406E+01	2.407E+01	1.959E+01
Th-234	#AB	5.038E-01	144.50	7.278E-01	7.294E-01	5.710E-01
Tl-208	#	1.081E-01	38.09	4.117E-02	4.179E-02	2.384E-02
U-235		7.161E-02	68.47	4.903E-02	4.933E-02	3.624E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.483E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:33

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-030
Sample Description: Parcel C

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:02
Acquisition Time: 5/5/2011 11:04:29
Analysis Time: 5/5/2011 11:49
Analysis Quantity: 3.480E+02 g

Spectrum ID: 8_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.197E-01	23.58	1.461E-01	1.523E-01	3.703E-02
Am-241	#AB	-8.988E-04	18230.00	1.638E-01	1.638E-01	1.349E-01
Bi-212	#	3.846E-01	61.62	2.370E-01	2.385E-01	1.576E-01
Bi-214		4.766E-01	17.62	8.399E-02	8.982E-02	2.317E-02
Co-60	#AB	7.396E-03	227.30	1.681E-02	1.682E-02	2.640E-02
Cs-137	#	2.060E-02	133.50	2.749E-02	2.752E-02	2.050E-02
Eu-152	#AB	-2.828E-02	232.80	6.582E-02	6.585E-02	5.186E-02
Eu-154	#AB	8.122E-03	1107.00	8.990E-02	8.990E-02	7.311E-02
K-40		1.149E+01	8.98	1.032E+00	1.309E+00	5.397E-02
Pa-234	#AB	-5.029E-02	353.60	1.778E-01	1.779E-01	1.411E-01
Pb-210	#AB	-6.975E-02	10460.00	7.294E+00	7.294E+00	5.351E+00
Pb-212		6.399E-01	13.78	8.816E-02	1.008E-01	3.619E-02
Pb-214		5.455E-01	17.77	9.695E-02	1.046E-01	3.711E-02
Ra-226		7.207E-01	77.90	5.615E-01	5.641E-01	4.315E-01
Th-230	#AB	6.823E-01	1548.00	1.056E+01	1.056E+01	8.663E+00
Th-234	#	4.939E-01	91.93	4.541E-01	4.565E-01	3.482E-01
Tl-208		1.744E-01	29.03	5.063E-02	5.194E-02	2.167E-02
U-235	AB	2.889E-02	139.00	4.015E-02	4.021E-02	3.165E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.629E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:33

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-031
Sample Description: Parcel C

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:04
Acquisition Time: 5/5/2011 11:05:27
Analysis Time: 5/5/2011 11:50
Analysis Quantity: 3.550E+02 g

Spectrum ID: 9_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.15 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.597E-01	43.83	1.138E-01	1.153E-01	6.855E-02
Am-241	#AB	3.952E-02	322.40	1.274E-01	1.275E-01	1.020E-01
Bi-212	#	1.874E-01	97.60	1.829E-01	1.833E-01	1.287E-01
Bi-214	#	3.171E-01	23.63	7.493E-02	7.786E-02	3.842E-02
Co-60	#AB	6.054E-03	213.80	1.294E-02	1.295E-02	2.657E-02
Cs-137	#AB	4.295E-03	639.60	2.747E-02	2.747E-02	2.222E-02
Eu-152	#AB	-1.786E-02	384.80	6.872E-02	6.874E-02	5.527E-02
Eu-154	#AB	-3.434E-03	2432.00	8.352E-02	8.352E-02	6.838E-02
K-40		9.020E+00	10.11	9.123E-01	1.110E+00	5.375E-02
Pa-234	#AB	2.806E-02	501.40	1.407E-01	1.407E-01	1.122E-01
Pb-210	#AB	6.504E-01	724.30	4.711E+00	4.711E+00	3.838E+00
Pb-212		4.992E-01	13.27	6.624E-02	7.644E-02	3.047E-02
Pb-214		3.567E-01	22.41	7.993E-02	8.396E-02	3.183E-02
Ra-226	#	5.659E-01	92.85	5.254E-01	5.271E-01	4.093E-01
Th-230	#AB	3.319E+00	304.00	1.009E+01	1.010E+01	8.123E+00
Th-234	#	6.106E-01	72.62	4.434E-01	4.472E-01	3.338E-01
Tl-208		2.282E-01	18.50	4.223E-02	4.487E-02	1.050E-02
U-235	#	4.668E-02	74.69	3.486E-02	3.504E-02	2.610E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.614E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:34

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-032
Sample Description: Parcel C

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:06
Acquisition Time: 5/5/2011 11:06:19
Analysis Time: 5/5/2011 11:51
Analysis Quantity: 3.050E+02 g

Spectrum ID: 10_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.115E-01	84.34	9.402E-02	9.434E-02	6.058E-02
Am-241	#AB	-5.242E-03	6552.00	3.434E-01	3.434E-01	2.824E-01
Bi-212	#AB	1.305E-01	156.90	2.047E-01	2.049E-01	1.509E-01
Bi-214		2.073E-01	35.07	7.271E-02	7.402E-02	3.934E-02
Co-60	#AB	0.000E+00	1414.00	7.694E-03	7.694E-03	3.774E-02
Cs-137	#AB	-4.814E-04	5531.00	2.662E-02	2.662E-02	2.187E-02
Eu-152	#AB	1.020E-02	605.70	6.178E-02	6.179E-02	4.974E-02
Eu-154	#AB	1.274E-03	5159.00	6.569E-02	6.569E-02	5.386E-02
K-40	#	3.188E+00	20.65	6.581E-01	6.950E-01	1.707E-01
Pa-234	#AB	0.000E+00	2000.00	2.908E-02	2.908E-02	3.387E-02
Pb-210	#	0.000E+00	332.10	1.092E+00	1.093E+00	0.000E+00
Pb-212		2.620E-01	27.45	7.193E-02	7.467E-02	3.482E-02
Pb-214		3.038E-01	24.23	7.361E-02	7.680E-02	2.423E-02
Ra-226	#AB	-6.286E-02	1544.00	9.704E-01	9.704E-01	4.253E-01
Th-230	#AB	4.870E+00	357.30	1.740E+01	1.742E+01	1.388E+01
Th-234	#AB	2.026E-01	241.00	4.883E-01	4.887E-01	3.854E-01
Tl-208	#	6.170E-02	51.93	3.204E-02	3.231E-02	1.953E-02
U-235	#AB	-1.862E-02	25760.00	4.796E+00	4.796E+00	2.789E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 9.348E+00

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:34

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-033
Sample Description: Parcel C

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:08
Acquisition Time: 5/5/2011 11:07:25
Analysis Time: 5/5/2011 11:52
Analysis Quantity: 3.180E+02 g

Spectrum ID: 11_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.733E-01	38.37	1.049E-01	1.066E-01	5.133E-02
Am-241	#AB	2.221E-02	704.20	1.564E-01	1.564E-01	1.272E-01
Bi-212	#	2.205E-01	100.10	2.207E-01	2.212E-01	1.578E-01
Bi-214		3.387E-01	21.10	7.146E-02	7.495E-02	1.563E-02
Co-60	#AB	0.000E+00	1414.00	1.574E-02	1.574E-02	3.173E-02
Cs-137	#AB	4.086E-03	609.80	2.491E-02	2.491E-02	2.004E-02
Eu-152	#AB	-9.301E-03	646.00	6.008E-02	6.009E-02	4.859E-02
Eu-154	#AB	0.000E+00	2000.00	1.360E-02	1.360E-02	1.013E-01
K-40		5.975E+00	13.15	7.860E-01	8.905E-01	1.603E-01
Pa-234	#AB	0.000E+00	2000.00	3.481E-02	3.481E-02	2.868E-02
Pb-210	#AB	4.507E-02	14130.00	6.367E+00	6.367E+00	5.241E+00
Pb-212		3.632E-01	17.55	6.374E-02	6.952E-02	2.816E-02
Pb-214		4.097E-01	17.57	7.197E-02	7.779E-02	1.670E-02
Ra-226	AB	1.623E-01	315.80	5.125E-01	5.127E-01	4.218E-01
Th-230	#AB	0.000E+00	2000.00	8.510E+00	8.511E+00	1.004E+01
Th-234	#AB	2.824E-01	143.50	4.051E-01	4.060E-01	3.150E-01
Tl-208		1.383E-01	24.14	3.337E-02	3.462E-02	7.705E-03
U-235		3.706E-02	84.97	3.149E-02	3.161E-02	2.331E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 8.271E+00

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:34

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-034
Sample Description: Parcel C

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:10
Acquisition Time: 5/5/2011 11:08:21
Analysis Time: 5/5/2011 11:53
Analysis Quantity: 3.240E+02 g

Spectrum ID: 12_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.202E-01	48.84	1.075E-01	1.086E-01	6.289E-02
Am-241	#AB	-5.147E-02	425.00	2.187E-01	2.188E-01	1.767E-01
Bi-212	#	1.727E-01	119.90	2.070E-01	2.073E-01	1.506E-01
Bi-214		3.742E-01	21.52	8.051E-02	8.430E-02	2.181E-02
Co-60	#AB	4.623E-03	178.50	8.251E-03	8.257E-03	2.502E-02
Cs-137	#AB	1.153E-02	214.90	2.477E-02	2.478E-02	1.899E-02
Eu-152	#AB	9.992E-05	60150.00	6.010E-02	6.010E-02	4.950E-02
Eu-154	#AB	0.000E+00	2000.00	1.899E-02	1.899E-02	1.427E-01
K-40		5.656E+00	13.16	7.442E-01	8.432E-01	5.705E-02
Pa-234	#AB	-3.131E-02	538.10	1.685E-01	1.685E-01	1.350E-01
Pb-210	#	0.000E+00	7995.00	1.583E+00	1.583E+00	0.000E+00
Pb-212		3.967E-01	17.30	6.863E-02	7.502E-02	2.939E-02
Pb-214		3.831E-01	19.34	7.408E-02	7.906E-02	2.398E-02
Ra-226	AB	1.933E-01	267.90	5.179E-01	5.181E-01	4.243E-01
Th-230	#AB	-1.109E+00	924.60	1.025E+01	1.025E+01	8.362E+00
Th-234	#	5.772E-01	82.92	4.786E-01	4.818E-01	3.601E-01
Tl-208	#	8.366E-02	40.07	3.352E-02	3.398E-02	2.158E-02
U-235		3.615E-02	87.72	3.171E-02	3.183E-02	2.358E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 8.109E+00

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:34

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-035
Sample Description: Parcel C

Detector: HPGe #7 50-TP32731A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:12
Acquisition Time: 5/5/2011 12:11:04
Analysis Time: 5/5/2011 12:56
Analysis Quantity: 3.170E+02 g

Spectrum ID: 7_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #7 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 5/3/2011 14:19
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.711E-01	47.02	1.275E-01	1.289E-01	7.077E-02
Am-241	#AB	-8.299E-02	444.00	3.685E-01	3.685E-01	2.970E-01
Bi-212	#	2.186E-01	109.20	2.388E-01	2.392E-01	1.690E-01
Bi-214	#	2.509E-01	28.94	7.260E-02	7.451E-02	3.094E-02
Co-60	#AB	-1.649E-02	232.10	3.827E-02	3.829E-02	2.942E-02
Cs-137	#AB	-1.678E-02	215.40	3.614E-02	3.615E-02	2.802E-02
Eu-152	#AB	-1.078E-02	683.50	7.367E-02	7.367E-02	5.962E-02
Eu-154	#AB	-3.063E-02	318.40	9.752E-02	9.754E-02	7.574E-02
K-40	#	5.033E+00	16.74	8.423E-01	9.132E-01	2.131E-01
Pa-234	#AB	-1.276E-03	12410.00	1.583E-01	1.583E-01	1.302E-01
Pb-210	#	0.000E+00	753.30	4.823E-01	4.823E-01	0.000E+00
Pb-212		4.061E-01	18.67	7.582E-02	8.192E-02	2.953E-02
Pb-214		3.361E-01	22.93	7.707E-02	8.079E-02	2.438E-02
Ra-226	#	5.064E-01	124.10	6.282E-01	6.294E-01	4.836E-01
Th-230	#AB	0.000E+00	2000.00	1.636E+01	1.637E+01	2.285E+01
Th-234	#AB	1.547E-01	451.00	6.977E-01	6.979E-01	5.657E-01
Tl-208		1.272E-01	31.68	4.029E-02	4.117E-02	1.418E-02
U-235	#	3.670E-02	110.70	4.064E-02	4.074E-02	3.093E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 7.340E+00

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:33

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-036
Sample Description: Parcel C

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:14
Acquisition Time: 5/5/2011 12:13:42
Analysis Time: 5/5/2011 12:58
Analysis Quantity: 3.130E+02 g

Spectrum ID: 9_20110505_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.13 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.262E-01	52.34	1.184E-01	1.195E-01	7.396E-02
Am-241	#AB	8.665E-03	1332.00	1.154E-01	1.154E-01	9.430E-02
Bi-212	#	1.697E-01	120.30	2.041E-01	2.044E-01	1.482E-01
Bi-214	#	2.257E-01	32.53	7.340E-02	7.493E-02	4.213E-02
Co-60	#AB	0.000E+00	2000.00	1.318E-02	1.318E-02	4.616E-02
Cs-137	#	2.060E-02	134.20	2.765E-02	2.768E-02	2.047E-02
Eu-152	#AB	0.000E+00	2000.00	4.567E-02	4.567E-02	2.470E-02
Eu-154	#AB	2.262E-02	401.10	9.074E-02	9.076E-02	7.181E-02
K-40		7.075E+00	13.58	9.609E-01	1.081E+00	1.985E-01
Pa-234	#AB	0.000E+00	2000.00	2.489E-02	2.489E-02	1.428E-01
Pb-210	#AB	8.274E-01	531.70	4.399E+00	4.400E+00	3.558E+00
Pb-212		3.623E-01	21.91	7.936E-02	8.405E-02	3.566E-02
Pb-214		4.176E-01	17.87	7.461E-02	8.046E-02	1.961E-02
Ra-226	AB	2.349E-01	205.10	4.818E-01	4.821E-01	3.917E-01
Th-230	#AB	5.259E+00	174.50	9.176E+00	9.220E+00	7.181E+00
Th-234	#AB	2.111E-01	182.90	3.862E-01	3.867E-01	3.042E-01
Tl-208	#	6.753E-02	45.08	3.044E-02	3.077E-02	1.832E-02
U-235		4.269E-02	69.94	2.986E-02	3.004E-02	2.136E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.517E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:34

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-036DUP
Sample Description: Parcel C

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:14
Acquisition Time: 5/6/2011 11:47:28
Analysis Time: 5/6/2011 12:32
Analysis Quantity: 3.130E+02 g

Spectrum ID: 9_20110506_006
Sample Type: DUP
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.16 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.797E-01	25.51	1.224E-01	1.268E-01	2.746E-02
Am-241	#AB	-6.329E-03	2285.00	1.446E-01	1.446E-01	1.187E-01
Bi-212	#AB	1.496E-01	144.60	2.163E-01	2.165E-01	1.618E-01
Bi-214		2.951E-01	23.59	6.962E-02	7.236E-02	1.937E-02
Co-60	#AB	-5.899E-03	574.20	3.387E-02	3.387E-02	2.723E-02
Cs-137	#	2.690E-02	101.30	2.725E-02	2.731E-02	1.934E-02
Eu-152	#AB	-1.081E-02	584.20	6.316E-02	6.317E-02	5.103E-02
Eu-154	#AB	0.000E+00	2000.00	1.404E-02	1.404E-02	1.796E-01
K-40		7.143E+00	12.10	8.646E-01	9.990E-01	6.096E-02
Pa-234	#AB	0.000E+00	2000.00	2.489E-02	2.489E-02	1.416E-01
Pb-210	#AB	5.109E-01	925.10	4.726E+00	4.727E+00	3.856E+00
Pb-212		3.107E-01	21.73	6.754E-02	7.159E-02	3.238E-02
Pb-214		3.271E-01	22.54	7.372E-02	7.740E-02	2.519E-02
Ra-226	#AB	3.148E-01	157.90	4.971E-01	4.976E-01	3.992E-01
Th-230	#AB	1.681E+00	523.40	8.798E+00	8.802E+00	7.124E+00
Th-234		7.347E-01	65.41	4.805E-01	4.856E-01	2.653E-01
Tl-208	#	1.288E-01	27.93	3.597E-02	3.698E-02	1.785E-02
U-235	#	3.134E-02	105.90	3.317E-02	3.326E-02	2.525E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.213E+01

Analyst: Philip Smith

Reviewer: Philip Smith
Review Date: 5/6/2011 15:14

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-037
Sample Description: Parcel C

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:16
Acquisition Time: 5/5/2011 12:14:45
Analysis Time: 5/5/2011 13:00
Analysis Quantity: 3.370E+02 g

Spectrum ID: 10_20110505_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	3.810E-01	29.93	1.140E-01	1.171E-01	4.029E-02
Am-241	#AB	-3.539E-02	1198.00	4.239E-01	4.239E-01	3.466E-01
Bi-212	#	1.842E-01	124.60	2.295E-01	2.299E-01	1.688E-01
Bi-214		3.039E-01	24.69	7.503E-02	7.772E-02	3.337E-02
Co-60	#AB	0.000E+00	2000.00	1.393E-02	1.393E-02	3.222E-02
Cs-137	#AB	-1.765E-02	180.00	3.177E-02	3.179E-02	2.437E-02
Eu-152	#AB	3.469E-02	188.10	6.525E-02	6.530E-02	5.030E-02
Eu-154	#AB	1.735E-02	416.50	7.227E-02	7.228E-02	5.653E-02
K-40		8.835E+00	11.20	9.894E-01	1.167E+00	6.453E-02
Pa-234	#AB	5.342E-03	2952.00	1.577E-01	1.577E-01	1.292E-01
Pb-210	#	0.000E+00	2000.00	1.435E+00	1.435E+00	0.000E+00
Pb-212		4.785E-01	16.18	7.741E-02	8.561E-02	3.251E-02
Pb-214		4.206E-01	22.98	9.667E-02	1.013E-01	3.612E-02
Ra-226	#	4.923E-01	124.60	6.132E-01	6.143E-01	4.864E-01
Th-230	#AB	-7.940E+00	282.10	2.240E+01	2.244E+01	1.793E+01
Th-234	#	5.440E-01	104.60	5.687E-01	5.711E-01	4.328E-01
Tl-208		1.942E-01	24.47	4.752E-02	4.924E-02	1.491E-02
U-235	#AB	2.966E-02	134.60	3.991E-02	3.998E-02	3.210E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.192E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:34

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-038
Sample Description: Parcel C

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:18
Acquisition Time: 5/5/2011 12:15:29
Analysis Time: 5/5/2011 13:00
Analysis Quantity: 3.310E+02 g

Spectrum ID: 11_20110505_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.303E-01	26.54	1.407E-01	1.455E-01	4.173E-02
Am-241	#AB	4.397E-03	3497.00	1.537E-01	1.537E-01	1.263E-01
Bi-212	#AB	1.476E-01	140.80	2.078E-01	2.081E-01	1.551E-01
Bi-214		3.257E-01	24.72	8.052E-02	8.341E-02	4.239E-02
Co-60	#AB	-4.048E-03	750.20	3.037E-02	3.037E-02	2.454E-02
Cs-137	#AB	-8.105E-03	356.90	2.892E-02	2.893E-02	2.303E-02
Eu-152	#AB	8.352E-03	625.00	5.221E-02	5.221E-02	4.211E-02
Eu-154	#AB	0.000E+00	2000.00	1.307E-02	1.307E-02	1.376E-01
K-40		7.220E+00	12.35	8.919E-01	1.025E+00	2.025E-01
Pa-234	#AB	8.388E-02	166.00	1.393E-01	1.394E-01	1.023E-01
Pb-210	#AB	1.622E+00	358.00	5.807E+00	5.809E+00	4.643E+00
Pb-212		4.960E-01	15.43	7.652E-02	8.539E-02	3.341E-02
Pb-214		4.980E-01	17.01	8.472E-02	9.201E-02	2.633E-02
Ra-226		4.972E-01	107.10	5.323E-01	5.337E-01	4.181E-01
Th-230	#AB	-1.673E+00	708.20	1.184E+01	1.185E+01	9.663E+00
Th-234		8.487E-01	71.87	6.100E-01	6.154E-01	3.476E-01
Tl-208		1.854E-01	18.18	3.371E-02	3.589E-02	3.570E-03
U-235		4.743E-02	70.76	3.356E-02	3.375E-02	2.460E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.252E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 5/5/2011 18:34

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-039
Sample Description: Parcel C

Detector: HPGe #3 51-TP32733A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:20
Acquisition Time: 5/5/2011 11:14:17
Analysis Time: 5/5/2011 11:59
Analysis Quantity: 3.500E+02 g

Spectrum ID: 3_20110505_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.18 %

Efficiency: HPGe #3 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/21/2011 13:54
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.832E-01	42.35	1.199E-01	1.215E-01	7.236E-02
Am-241	#AB	2.947E-02	451.40	1.330E-01	1.331E-01	1.076E-01
Bi-212	#	3.229E-01	64.63	2.087E-01	2.099E-01	1.371E-01
Bi-214		4.087E-01	20.47	8.364E-02	8.798E-02	2.445E-02
Co-60	#AB	7.613E-03	385.00	2.931E-02	2.931E-02	2.324E-02
Cs-137	#AB	-8.800E-03	301.40	2.653E-02	2.653E-02	2.096E-02
Eu-152	#AB	1.496E-03	4198.00	6.280E-02	6.280E-02	5.161E-02
Eu-154	#AB	-8.126E-03	999.40	8.121E-02	8.121E-02	6.588E-02
K-40	#	7.000E+00	12.29	8.600E-01	9.900E-01	2.650E-01
Pa-234	#AB	4.169E-02	322.60	1.345E-01	1.345E-01	1.050E-01
Pb-210	#AB	9.954E-01	376.30	3.745E+00	3.747E+00	3.092E+00
Pb-212		4.703E-01	15.65	7.360E-02	8.190E-02	2.966E-02
Pb-214		4.461E-01	18.03	8.045E-02	8.664E-02	2.588E-02
Ra-226		7.515E-01	63.63	4.782E-01	4.816E-01	3.562E-01
Th-230	#AB	-7.586E-01	1201.00	9.113E+00	9.114E+00	7.462E+00
Th-234		7.939E-01	62.13	4.932E-01	4.990E-01	2.837E-01
Tl-208		1.637E-01	22.43	3.673E-02	3.830E-02	1.004E-02
U-235	AB	5.620E-03	628.50	3.532E-02	3.532E-02	2.880E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.172E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:31

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-040
Sample Description: Parcel C

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:22
Acquisition Time: 5/5/2011 11:17:32
Analysis Time: 5/5/2011 12:02
Analysis Quantity: 3.360E+02 g

Spectrum ID: 4_20110505_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/2011 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.365E-01	17.53	1.466E-01	1.577E-01	4.462E-02
Am-241	#AB	-9.830E-02	192.40	1.891E-01	1.893E-01	1.507E-01
Bi-212	#	2.103E-01	118.90	2.500E-01	2.504E-01	1.879E-01
Bi-214	#	3.922E-01	20.44	8.015E-02	8.432E-02	3.725E-02
Co-60	#AB	-8.498E-04	787.40	6.691E-03	6.692E-03	2.527E-02
Cs-137	#AB	-1.044E-03	2405.00	2.510E-02	2.510E-02	2.057E-02
Eu-152	#AB	6.434E-04	9801.00	6.306E-02	6.306E-02	5.189E-02
Eu-154	#AB	0.000E+00	2000.00	1.289E-02	1.289E-02	9.513E-02
K-40		1.319E+01	8.94	1.180E+00	1.499E+00	2.236E-01
Pa-234	#AB	-1.322E-03	10490.00	1.386E-01	1.386E-01	1.140E-01
Pb-210	#AB	3.815E+00	129.60	4.944E+00	4.957E+00	3.832E+00
Pb-212		6.171E-01	12.68	7.827E-02	9.137E-02	3.058E-02
Pb-214		5.170E-01	16.69	8.631E-02	9.402E-02	2.976E-02
Ra-226		9.716E-01	55.57	5.399E-01	5.449E-01	3.974E-01
Th-230	#AB	5.344E+00	209.10	1.118E+01	1.121E+01	8.923E+00
Th-234	#	7.839E-01	61.85	4.848E-01	4.905E-01	3.611E-01
Tl-208		2.221E-01	20.21	4.490E-02	4.726E-02	1.294E-02
U-235		2.985E-02	126.50	3.776E-02	3.783E-02	2.952E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.693E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:32

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-041
Sample Description: Parcel C

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:24
Acquisition Time: 5/5/2011 11:19:40
Analysis Time: 5/5/2011 12:05
Analysis Quantity: 3.500E+02 g

Spectrum ID: 5_20110505_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.13 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/2011 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.467E-01	26.16	1.430E-01	1.480E-01	7.225E-02
Am-241	#AB	-1.020E-03	14120.00	1.439E-01	1.439E-01	1.185E-01
Bi-212		8.547E-01	23.90	2.043E-01	2.125E-01	2.845E-02
Bi-214	#	3.705E-01	21.66	8.026E-02	8.398E-02	4.010E-02
Co-60	#AB	0.000E+00	1414.00	1.145E-02	1.145E-02	3.969E-02
Cs-137	#AB	5.979E-03	463.90	2.773E-02	2.774E-02	2.228E-02
Eu-152	#AB	-9.567E-03	690.70	6.608E-02	6.608E-02	5.370E-02
Eu-154	#AB	-2.731E-02	323.90	8.845E-02	8.847E-02	6.973E-02
K-40		1.005E+01	9.49	9.535E-01	1.185E+00	1.809E-01
Pa-234	#AB	-4.949E-02	322.30	1.595E-01	1.595E-01	1.256E-01
Pb-210	#AB	5.629E-01	621.70	3.500E+00	3.500E+00	2.913E+00
Pb-212		6.193E-01	13.41	8.304E-02	9.557E-02	3.408E-02
Pb-214		6.268E-01	13.99	8.772E-02	9.867E-02	2.652E-02
Ra-226	AB	3.430E-01	151.70	5.202E-01	5.209E-01	4.174E-01
Th-230	#AB	4.193E-01	2561.00	1.074E+01	1.074E+01	8.827E+00
Th-234	#	3.738E-01	125.90	4.705E-01	4.719E-01	3.700E-01
Tl-208		2.502E-01	18.55	4.641E-02	4.930E-02	1.499E-02
U-235		2.988E-02	103.70	3.098E-02	3.106E-02	2.367E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.505E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:32

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-042
Sample Description: Parcel C

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:26
Acquisition Time: 5/5/2011 12:18:36
Analysis Time: 5/5/2011 13:03
Analysis Quantity: 3.100E+02 g

Spectrum ID: 1_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #1 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/20/2011 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	3.703E-01	37.11	1.374E-01	1.398E-01	7.502E-02
Am-241	#AB	8.316E-02	231.30	1.923E-01	1.924E-01	1.489E-01
Bi-212	#	2.940E-01	75.46	2.218E-01	2.227E-01	1.465E-01
Bi-214	#	2.805E-01	26.96	7.560E-02	7.789E-02	3.623E-02
Co-60	#AB	-2.868E-03	231.00	6.624E-03	6.627E-03	3.165E-02
Cs-137	#AB	-8.779E-03	365.20	3.206E-02	3.206E-02	2.551E-02
Eu-152	#AB	0.000E+00	2000.00	2.200E-02	2.200E-02	4.797E-02
Eu-154	#AB	-2.410E-02	390.80	9.418E-02	9.419E-02	7.437E-02
K-40		7.949E+00	12.83	1.020E+00	1.162E+00	2.705E-01
Pa-234	#AB	6.091E-03	2091.00	1.273E-01	1.273E-01	1.038E-01
Pb-210	#	0.000E+00	175.40	1.926E+00	1.929E+00	0.000E+00
Pb-212		4.454E-01	17.83	7.943E-02	8.641E-02	3.487E-02
Pb-214		3.192E-01	28.08	8.962E-02	9.253E-02	3.589E-02
Ra-226	#AB	3.435E-01	174.90	6.007E-01	6.012E-01	4.847E-01
Th-230	#AB	0.000E+00	2000.00	6.447E+00	6.447E+00	1.500E+01
Th-234	#AB	3.270E-02	1561.00	5.103E-01	5.104E-01	4.183E-01
Tl-208		1.790E-01	25.69	4.598E-02	4.750E-02	1.786E-02
U-235	#	4.482E-02	88.63	3.972E-02	3.987E-02	2.988E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.035E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:30

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-043
Sample Description: Parcel C

Detector: HPGe #3 51-TP32733A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:28
Acquisition Time: 5/5/2011 12:22:39
Analysis Time: 5/5/2011 13:07
Analysis Quantity: 3.400E+02 g

Spectrum ID: 3_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.18 %

Efficiency: HPGe #3 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/21/2011 13:54
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.044E-01	30.85	1.248E-01	1.279E-01	6.253E-02
Am-241	#AB	-5.525E-02	288.70	1.595E-01	1.595E-01	1.281E-01
Bi-212	#	3.005E-01	69.55	2.090E-01	2.100E-01	1.390E-01
Bi-214		4.141E-01	18.48	7.654E-02	8.138E-02	1.839E-02
Co-60	#AB	2.082E-03	528.50	1.100E-02	1.101E-02	2.783E-02
Cs-137	#AB	-5.933E-04	3631.00	2.154E-02	2.154E-02	1.767E-02
Eu-152	#AB	5.971E-03	950.30	5.674E-02	5.675E-02	4.618E-02
Eu-154	#AB	-1.229E-02	721.20	8.864E-02	8.865E-02	7.156E-02
K-40		1.115E+01	9.45	1.054E+00	1.312E+00	1.230E-01
Pa-234	#AB	0.000E+00	2000.00	7.246E-02	7.247E-02	1.864E-01
Pb-210	#AB	9.331E-03	42640.00	3.979E+00	3.979E+00	3.357E+00
Pb-212		5.206E-01	14.32	7.456E-02	8.451E-02	3.086E-02
Pb-214		4.566E-01	20.91	9.549E-02	1.010E-01	3.644E-02
Ra-226		5.243E-01	98.12	5.145E-01	5.160E-01	4.018E-01
Th-230	#AB	7.661E+00	133.90	1.026E+01	1.034E+01	8.023E+00
Th-234	#	1.082E+00	52.06	5.631E-01	5.725E-01	3.123E-01
Tl-208		1.768E-01	22.01	3.891E-02	4.065E-02	1.056E-02
U-235		3.548E-02	101.30	3.595E-02	3.605E-02	2.765E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.274E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:31

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-044
Sample Description: Parcel C

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:30
Acquisition Time: 5/5/2011 12:25:24
Analysis Time: 5/5/2011 13:10
Analysis Quantity: 3.220E+02 g

Spectrum ID: 4_20110505_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/2011 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.488E-01	36.73	1.281E-01	1.304E-01	7.942E-02
Am-241	#AB	-3.122E-02	494.60	1.544E-01	1.544E-01	1.252E-01
Bi-212	#	2.796E-01	85.02	2.377E-01	2.385E-01	1.689E-01
Bi-214		5.593E-01	14.43	8.073E-02	8.895E-02	6.787E-03
Co-60	#AB	-9.342E-03	401.10	3.747E-02	3.748E-02	2.994E-02
Cs-137	#AB	0.000E+00	2000.00	1.844E-02	1.844E-02	1.859E-02
Eu-152	#AB	-7.860E-03	791.60	6.222E-02	6.223E-02	5.056E-02
Eu-154	#AB	8.786E-03	1065.00	9.361E-02	9.361E-02	7.607E-02
K-40	#	8.540E+00	11.91	1.017E+00	1.180E+00	3.657E-01
Pa-234	#AB	1.011E-02	1687.00	1.707E-01	1.707E-01	1.394E-01
Pb-210	#AB	-9.069E-01	540.50	4.902E+00	4.903E+00	3.979E+00
Pb-212		6.774E-01	12.58	8.520E-02	9.969E-02	3.367E-02
Pb-214		5.771E-01	16.40	9.465E-02	1.034E-01	3.095E-02
Ra-226	AB	4.041E-01	143.20	5.789E-01	5.797E-01	4.633E-01
Th-230	#AB	8.042E-01	1855.00	1.492E+01	1.492E+01	1.226E+01
Th-234	#	1.221E+00	43.83	5.354E-01	5.479E-01	2.986E-01
Tl-208		2.722E-01	18.05	4.913E-02	5.236E-02	1.220E-02
U-235		3.804E-02	99.50	3.785E-02	3.796E-02	2.907E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.374E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:32

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-045
Sample Description: Parcel C

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:32
Acquisition Time: 5/5/2011 12:27:21
Analysis Time: 5/5/2011 13:12
Analysis Quantity: 3.210E+02 g

Spectrum ID: 5_20110505_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/2011 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.280E-01	26.07	1.377E-01	1.425E-01	6.112E-02
Am-241	#AB	-5.289E-02	276.70	1.463E-01	1.464E-01	1.171E-01
Bi-212	#	1.959E-01	104.00	2.038E-01	2.042E-01	1.453E-01
Bi-214		4.787E-01	19.03	9.107E-02	9.652E-02	2.536E-02
Co-60	#AB	-5.117E-03	648.70	3.319E-02	3.319E-02	2.678E-02
Cs-137	#AB	8.979E-03	277.60	2.492E-02	2.493E-02	1.948E-02
Eu-152	#AB	-1.218E-02	559.90	6.821E-02	6.821E-02	5.519E-02
Eu-154	#AB	0.000E+00	2000.00	1.315E-02	1.315E-02	9.648E-02
K-40	#	7.319E+00	12.53	9.172E-01	1.051E+00	3.368E-01
Pa-234	#AB	0.000E+00	2000.00	5.897E-02	5.897E-02	1.663E-01
Pb-210	#AB	-9.284E-01	3317.00	3.079E+01	3.079E+01	2.536E+00
Pb-212		6.101E-01	14.25	8.697E-02	9.868E-02	3.434E-02
Pb-214		3.291E-01	21.11	6.947E-02	7.341E-02	3.328E-02
Ra-226		8.125E-01	58.74	4.773E-01	4.812E-01	3.486E-01
Th-230	#AB	3.173E+00	281.00	8.918E+00	8.934E+00	7.143E+00
Th-234	#AB	-2.447E-01	168.90	4.133E-01	4.140E-01	3.262E-01
Tl-208		2.120E-01	21.90	4.644E-02	4.853E-02	1.557E-02
U-235	AB	6.624E-03	492.70	3.263E-02	3.264E-02	2.647E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.367E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:32

TetraTech Hunter's Point Lab

Sample ID: 02-PCT-200-046
Sample Description: Parcel C

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: 200
Sample Time: 5/4/2011 13:34
Acquisition Time: 5/5/2011 13:12:10
Analysis Time: 5/5/2011 13:57
Analysis Quantity: 3.020E+02 g

Spectrum ID: 1_20110505_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #1 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/20/2011 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.929E-01	34.71	1.364E-01	1.391E-01	6.924E-02
Am-241	#AB	7.309E-03	3690.00	2.697E-01	2.697E-01	2.216E-01
Bi-212	#	1.833E-01	119.50	2.191E-01	2.194E-01	1.579E-01
Bi-214		3.583E-01	23.79	8.524E-02	8.853E-02	2.654E-02
Co-60	#AB	8.088E-03	435.00	3.518E-02	3.519E-02	2.800E-02
Cs-137	#AB	-3.954E-03	804.60	3.181E-02	3.181E-02	2.579E-02
Eu-152	#AB	1.299E-02	563.00	7.314E-02	7.315E-02	5.907E-02
Eu-154	#AB	0.000E+00	2000.00	5.733E-02	5.733E-02	1.785E-02
K-40		1.132E+01	10.63	1.204E+00	1.442E+00	2.769E-01
Pa-234	#AB	1.011E-01	144.90	1.466E-01	1.467E-01	1.038E-01
Pb-210	#	0.000E+00	217.40	1.717E+00	1.718E+00	0.000E+00
Pb-212		4.474E-01	18.70	8.367E-02	9.038E-02	3.635E-02
Pb-214		4.237E-01	22.41	9.497E-02	9.977E-02	3.447E-02
Ra-226		7.096E-01	73.23	5.196E-01	5.224E-01	3.885E-01
Th-230	#AB	1.048E+01	140.80	1.475E+01	1.486E+01	1.137E+01
Th-234	#AB	4.401E-01	134.90	5.936E-01	5.951E-01	4.635E-01
Tl-208		1.674E-01	24.97	4.179E-02	4.325E-02	1.580E-02
U-235	AB	1.009E-02	412.60	4.161E-02	4.162E-02	3.367E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.506E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 5/5/2011 18:30

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-029

Radiochemistry

Lab Sample ID: F1E180471-001
Work Order: MJJ1C
Matrix: SOLID

Date Collected: 05/04/11 1300
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.622**		**0.249**		**0.168**	30	**05/20/11**	**06/16/11**
Americium 241	-0.00745	U	0.173		0.142	30	05/20/11	06/16/11
Bismuth 212	0.187	U	0.496		0.382	30	05/20/11	06/16/11
Bismuth 214	**0.750**		**0.216**		**0.064**	30	**05/20/11**	**06/16/11**
Cesium 137	0.0190	U	0.0550	0.0700	0.042	30	05/20/11	06/16/11
Cobalt 60	-0.00919	U	0.0668		0.053	30	05/20/11	06/16/11
Europium 152	0.0261	U	0.146		0.117	30	05/20/11	06/16/11
Europium 154	-0.0952	U	0.499		0.396	30	05/20/11	06/16/11
Lead 210	0.155	U	1.37	1.50	1.12	30	05/20/11	06/16/11
Lead 212	**0.779**		**0.189**		**0.078**	30	**05/20/11**	**06/16/11**
Lead 214	**0.769**		**0.159**		**0.052**	30	**05/20/11**	**06/16/11**
Potassium 40	**11.3**		**2.03**		**0.321**	30	**05/20/11**	**06/16/11**
Protactinium 234	-0.0927	U	0.221		0.176	30	05/20/11	06/16/11
Radium (226)	**0.750**		**0.216**	0.700	**0.064**	30	**05/20/11**	**06/16/11**
Thallium 208	**0.246**		**0.0988**		**0.041**	30	**05/20/11**	**06/16/11**
Thorium 232	**0.622**		**0.249**		**0.168**	30	**05/20/11**	**06/16/11**
Thorium 234	**1.02**		**1.07**		**0.769**	30	**05/20/11**	**06/16/11**
Uranium 235	**0.233**		**0.294**		**0.230**	30	**05/20/11**	**06/16/11**

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-029 DUP

Radiochemistry

Lab Sample ID: F1E180471-001X
Work Order: MJJ1C
Matrix: SOLID

Date Collected: 05/04/11 1300
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	0.562		0.225		0.119	30	05/20/11	06/16/11
Americium 241	-0.0487	U	0.113		0.090	30	05/20/11	06/16/11
Bismuth 212	0.377		0.365		0.251	30	05/20/11	06/16/11
Bismuth 214	0.741		0.178		0.061	30	05/20/11	06/16/11
Cesium 137	0.00180	U	0.0416	0.0700	0.034	30	05/20/11	06/16/11
Cobalt 60	0.0	U	0.0782		0.064	30	05/20/11	06/16/11
Europium 152	-0.0479	U	0.131		0.103	30	05/20/11	06/16/11
Europium 154	0.0	U	0.342		0.281	30	05/20/11	06/16/11
Lead 210	0.955	J	1.12	1.50	0.843	30	05/20/11	06/16/11
Lead 212	0.648		0.140		0.063	30	05/20/11	06/16/11
Lead 214	0.719		0.141		0.044	30	05/20/11	06/16/11
Potassium 40	11.5		1.68		0.270	30	05/20/11	06/16/11
Protactinium 234	0.0537	U	0.147		0.118	30	05/20/11	06/16/11
Radium (226)	0.741		0.178	0.700	0.061	30	05/20/11	06/16/11
Thallium 208	0.281		0.0788		0.026	30	05/20/11	06/16/11
Thorium 232	0.562		0.225		0.119	30	05/20/11	06/16/11
Thorium 234	0.372	U	0.940		0.751	30	05/20/11	06/16/11
Uranium 235	-0.0913	U	0.263		0.211	30	05/20/11	06/16/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-030

Radiochemistry

Lab Sample ID: F1E180471-002
Work Order: MJJ1J
Matrix: SOLID

Date Collected: 05/04/11 1302
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.561**		**0.177**		**0.134**	30	**05/20/11**	**06/13/11**
Americium 241	0.0460	U	0.0664		0.050	30	05/20/11	06/13/11
Bismuth 212	**0.591**		**0.322**		**0.129**	30	**05/20/11**	**06/13/11**
Bismuth 214	**0.523**		**0.129**		**0.049**	30	**05/20/11**	**06/13/11**
Cesium 137	0.0184	U	0.0434	0.0700	0.033	30	05/20/11	06/13/11
Cobalt 60	-0.00908	U	0.0505		0.040	30	05/20/11	06/13/11
Europium 152	-0.0242	U	0.109		0.087	30	05/20/11	06/13/11
Europium 154	-0.000101	U	0.231		0.191	30	05/20/11	06/13/11
Lead 210	0.0485	U	0.962	1.50	0.789	30	05/20/11	06/13/11
Lead 212	**0.512**		**0.126**		**0.054**	30	**05/20/11**	**06/13/11**
Lead 214	**0.687**		**0.167**		**0.064**	30	**05/20/11**	**06/13/11**
Potassium 40	**8.11**		**1.34**		**0.333**	30	**05/20/11**	**06/13/11**
Protactinium 234	-0.00162	U	0.121		0.099	30	05/20/11	06/13/11
Radium (226)	**0.523**	J	**0.129**	0.700	**0.049**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.214**		**0.0622**		**0.022**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.561**		**0.177**		**0.134**	30	**05/20/11**	**06/13/11**
Thorium 234	**1.18**		**1.04**		**0.793**	30	**05/20/11**	**06/13/11**
Uranium 235	0.0	U	0.224		0.184	30	05/20/11	06/13/11

NOTE (S)

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U Result is less than the sample detection limit.

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Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-031

Radiochemistry

Lab Sample ID: F1E180471-003
Work Order: MJJ1M
Matrix: SOLID

Date Collected: 05/04/11 1304
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.436**		**0.166**		**0.073**	30	**05/20/11**	**06/13/11**
Americium 241	-0.0369	U	0.0932		0.074	30	05/20/11	06/13/11
Bismuth 212	0.222	U	0.385		0.290	30	05/20/11	06/13/11
Bismuth 214	**0.565**		**0.149**		**0.060**	30	**05/20/11**	**06/13/11**
Cesium 137	0.00340	U	0.0529	0.0700	0.043	30	05/20/11	06/13/11
Cobalt 60	0.0140	U	0.0510		0.039	30	05/20/11	06/13/11
Europium 152	0.00116	U	0.118		0.097	30	05/20/11	06/13/11
Europium 154	0.0226	U	0.377		0.308	30	05/20/11	06/13/11
Lead 210	0.0782	U	1.20	1.50	1.07	30	05/20/11	06/13/11
Lead 212	**0.610**		**0.123**		**0.055**	30	**05/20/11**	**06/13/11**
Lead 214	**0.730**		**0.179**		**0.071**	30	**05/20/11**	**06/13/11**
Potassium 40	**8.33**		**1.44**		**0.461**	30	**05/20/11**	**06/13/11**
Protactinium 234	-0.0860	U	0.170		0.135	30	05/20/11	06/13/11
Radium (226)	**0.565**	J	**0.149**	0.700	**0.060**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.150**		**0.0604**		**0.030**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.436**		**0.166**		**0.073**	30	**05/20/11**	**06/13/11**
Thorium 234	**1.01**		**1.17**		**0.809**	30	**05/20/11**	**06/13/11**
Uranium 235	0.0564	U	0.222		0.182	30	05/20/11	06/13/11

NOTE(S)

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U Result is less than the sample detection limit.

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Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-032

Radiochemistry

Lab Sample ID: F1E180471-004
Work Order: MJJ1N
Matrix: SOLID

Date Collected: 05/04/11 1306
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.204**		**0.189**		**0.124**	30	**05/20/11**	**06/13/11**
Americium 241	0.0490	U	0.0869		0.067	30	05/20/11	06/13/11
Bismuth 212	0.0298	U	0.287		0.231	30	05/20/11	06/13/11
Bismuth 214	**0.230**		**0.120**		**0.068**	30	**05/20/11**	**06/13/11**
Cesium 137	-0.00705	U	0.0443	0.0700	0.035	30	05/20/11	06/13/11
Cobalt 60	0.0179	U	0.0539		0.040	30	05/20/11	06/13/11
Europium 152	0.0112	U	0.102		0.082	30	05/20/11	06/13/11
Europium 154	0.0	U	0.423		0.349	30	05/20/11	06/13/11
Lead 210	-0.437	U	2.33	1.50	1.01	30	05/20/11	06/13/11
Lead 212	**0.271**		**0.125**		**0.068**	30	**05/20/11**	**06/13/11**
Lead 214	**0.265**		**0.0975**		**0.047**	30	**05/20/11**	**06/13/11**
Potassium 40	**1.74**		**0.892**		**0.554**	30	**05/20/11**	**06/13/11**
Protactinium 234	0.00397	U	0.128		0.105	30	05/20/11	06/13/11
Radium (226)	**0.230**	J	**0.120**	0.700	**0.068**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.119**		**0.0590**		**0.029**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.204**		**0.189**		**0.124**	30	**05/20/11**	**06/13/11**
Thorium 234	0.356	U	0.964		0.814	30	05/20/11	06/13/11
Uranium 235	0.120	U	0.215		0.170	30	05/20/11	06/13/11

NOTE(S)

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U Result is less than the sample detection limit.

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Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-033

Radiochemistry

Lab Sample ID: F1E180471-005
Work Order: MJJ1Q
Matrix: SOLID

Date Collected: 05/04/11 1308
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.416**		**0.184**		**0.173**	30	**05/20/11**	**06/13/11**
Americium 241	0.0216	U	0.0913		0.075	30	05/20/11	06/13/11
Bismuth 212	0.267	U	0.479		0.347	30	05/20/11	06/13/11
Bismuth 214	**0.496**		**0.154**		**0.051**	30	**05/20/11**	**06/13/11**
Cesium 137	0.00253	U	0.0631	0.0700	0.056	30	05/20/11	06/13/11
Cobalt 60	-0.00824	U	0.135		0.059	30	05/20/11	06/13/11
Europium 152	0.0328	U	0.149		0.118	30	05/20/11	06/13/11
Europium 154	0.0	U	0.448		0.369	30	05/20/11	06/13/11
Lead 210	-0.0808	U	1.47	1.50	1.14	30	05/20/11	06/13/11
Lead 212	**0.595**		**0.132**		**0.036**	30	**05/20/11**	**06/13/11**
Lead 214	**0.567**		**0.140**		**0.086**	30	**05/20/11**	**06/13/11**
Potassium 40	**4.38**		**1.49**		**0.562**	30	**05/20/11**	**06/13/11**
Protactinium 234	0.0236	U	0.122		0.097	30	05/20/11	06/13/11
Radium (226)	**0.496**	J	**0.154**	0.700	**0.051**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.135**		**0.0728**		**0.036**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.416**		**0.184**		**0.173**	30	**05/20/11**	**06/13/11**
Thorium 234	0.347	U	1.02		0.866	30	05/20/11	06/13/11
Uranium 235	-0.0734	U	0.257		0.205	30	05/20/11	06/13/11

NOTE(S)

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Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-034

Radiochemistry

Lab Sample ID: F1E180471-006
Work Order: MJJ1R
Matrix: SOLID

Date Collected: 05/04/11 1310
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.416**		**0.174**		**0.052**	30	**05/20/11**	**06/13/11**
Americium 241	0.0621	U	0.0883		0.068	30	05/20/11	06/13/11
Bismuth 212	0.00571	U	0.274		0.225	30	05/20/11	06/13/11
Bismuth 214	**0.469**		**0.140**		**0.058**	30	**05/20/11**	**06/13/11**
Cesium 137	0.0	U	0.0593	0.0700	0.048	30	05/20/11	06/13/11
Cobalt 60	-0.00136	U	0.0331		0.026	30	05/20/11	06/13/11
Europium 152	0.0515	U	0.0893		0.066	30	05/20/11	06/13/11
Europium 154	0.111	U	0.309		0.236	30	05/20/11	06/13/11
Lead 210	0.0709	U	0.953	1.50	0.779	30	05/20/11	06/13/11
Lead 212	**0.480**		**0.113**		**0.049**	30	**05/20/11**	**06/13/11**
Lead 214	**0.553**		**0.123**		**0.045**	30	**05/20/11**	**06/13/11**
Potassium 40	**4.93**		**1.06**		**0.266**	30	**05/20/11**	**06/13/11**
Protactinium 234	0.0337	U	0.126		0.101	30	05/20/11	06/13/11
Radium (226)	**0.469**	J	**0.140**	0.700	**0.058**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.0776**		**0.0502**		**0.033**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.416**		**0.174**		**0.052**	30	**05/20/11**	**06/13/11**
Thorium 234	**0.807**		**0.803**		**0.601**	30	**05/20/11**	**06/13/11**
Uranium 235	0.0	U	0.258		0.213	30	05/20/11	06/13/11

NOTE(S)

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U Result is less than the sample detection limit.

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Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-035

Radiochemistry

Lab Sample ID: F1E180471-007
Work Order: MJJ1W
Matrix: SOLID

Date Collected: 05/04/11 1312
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.511**		**0.192**		**0.146**	30	**05/20/11**	**06/13/11**
Americium 241	-0.0125	U	0.119		0.097	30	05/20/11	06/13/11
Bismuth 212	0.305	U	0.430		0.316	30	05/20/11	06/13/11
Bismuth 214	**0.528**		**0.147**		**0.063**	30	**05/20/11**	**06/13/11**
Cesium 137	0.0224	U	0.0528	0.0700	0.040	30	05/20/11	06/13/11
Cobalt 60	0.00370	U	0.0475		0.038	30	05/20/11	06/13/11
Europium 152	0.0246	U	0.106		0.084	30	05/20/11	06/13/11
Europium 154	0.0254	U	0.307		0.248	30	05/20/11	06/13/11
Lead 210	0.328	U	1.30	1.50	1.14	30	05/20/11	06/13/11
Lead 212	**0.481**		**0.119**		**0.060**	30	**05/20/11**	**06/13/11**
Lead 214	**0.415**		**0.139**		**0.069**	30	**05/20/11**	**06/13/11**
Potassium 40	**5.38**		**1.21**		**0.473**	30	**05/20/11**	**06/13/11**
Protactinium 234	-0.0377	U	0.154		0.124	30	05/20/11	06/13/11
Radium (226)	**0.528**	**J**	**0.147**	0.700	**0.063**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.127**		**0.0634**		**0.041**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.511**		**0.192**		**0.146**	30	**05/20/11**	**06/13/11**
Thorium 234	0.335	U	1.10		0.966	30	05/20/11	06/13/11
Uranium 235	0.0454	U	0.252		0.207	30	05/20/11	06/13/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-036

Radiochemistry

Lab Sample ID: F1E180471-008
Work Order: MJJ1X
Matrix: SOLID

Date Collected: 05/04/11 1314
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.457**		**0.169**		**0.035**	30	**05/20/11**	**06/13/11**
Americium 241	0.0685	U	0.0921		0.070	30	05/20/11	06/13/11
Bismuth 212	0.0	U	0.555		0.457	30	05/20/11	06/13/11
Bismuth 214	**0.408**		**0.177**		**0.083**	30	**05/20/11**	**06/13/11**
Cesium 137	0.0178	U	0.0483	0.0700	0.037	30	05/20/11	06/13/11
Cobalt 60	0.00862	U	0.0471		0.036	30	05/20/11	06/13/11
Europium 152	-0.0233	U	0.123		0.098	30	05/20/11	06/13/11
Europium 154	-0.0580	U	0.356		0.284	30	05/20/11	06/13/11
Lead 210	0.406	U	1.14	1.50	0.995	30	05/20/11	06/13/11
Lead 212	**0.362**		**0.148**		**0.077**	30	**05/20/11**	**06/13/11**
Lead 214	**0.613**		**0.145**		**0.064**	30	**05/20/11**	**06/13/11**
Potassium 40	**7.39**		**1.49**		**0.494**	30	**05/20/11**	**06/13/11**
Protactinium 234	0.0	U	0.124		0.102	30	05/20/11	06/13/11
Radium (226)	**0.408**	J	**0.177**	0.700	**0.083**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.105**		**0.0623**		**0.042**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.457**		**0.169**		**0.035**	30	**05/20/11**	**06/13/11**
Thorium 234	0.479	U	1.00		0.836	30	05/20/11	06/13/11
Uranium 235	-0.0876	U	0.630		0.167	30	05/20/11	06/13/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-037

Radiochemistry

Lab Sample ID: F1E180471-009
Work Order: MJJ10
Matrix: SOLID

Date Collected: 05/04/11 1316
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	0.695		0.240		0.095	30	05/20/11	06/13/11
Americium 241	-0.0260	U	0.776		0.092	30	05/20/11	06/13/11
Bismuth 212	0.467		0.487		0.321	30	05/20/11	06/13/11
Bismuth 214	0.564		0.198		0.079	30	05/20/11	06/13/11
Cesium 137	-0.0251	U	1.17	0.0700	0.070	30	05/20/11	06/13/11
Cobalt 60	-0.0215	U	0.858		0.032	30	05/20/11	06/13/11
Europium 152	-0.0117	U	0.129		0.105	30	05/20/11	06/13/11
Europium 154	-0.104	U	0.518		0.409	30	05/20/11	06/13/11
Lead 210	0.731	U	1.07	1.50	0.908	30	05/20/11	06/13/11
Lead 212	0.593		0.149		0.060	30	05/20/11	06/13/11
Lead 214	0.541		0.153		0.073	30	05/20/11	06/13/11
Potassium 40	5.70		1.66		0.615	30	05/20/11	06/13/11
Protactinium 234	-0.0683	U	0.158		0.124	30	05/20/11	06/13/11
Radium (226)	0.564	J	0.198	0.700	0.079	30	05/20/11	06/13/11
Thallium 208	0.140		0.0783		0.047	30	05/20/11	06/13/11
Thorium 232	0.695		0.240		0.095	30	05/20/11	06/13/11
Thorium 234	1.06		1.05		0.832	30	05/20/11	06/13/11
Uranium 235	0.141	U	0.219		0.165	30	05/20/11	06/13/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-038

Radiochemistry

Lab Sample ID: F1E180471-010
Work Order: MJJ12
Matrix: SOLID

Date Collected: 05/04/11 1318
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD			pCi/g			Batch # 1139258		Yld %
Actinium 228	0.798		0.219		0.057	30	05/20/11	06/13/11
Americium 241	0.0977		0.0941		0.070	30	05/20/11	06/13/11
Bismuth 212	0.237		0.306		0.224	30	05/20/11	06/13/11
Bismuth 214	0.545		0.153		0.060	30	05/20/11	06/13/11
Cesium 137	0.00561	U	0.0452	0.0700	0.036	30	05/20/11	06/13/11
Cobalt 60	0.00807	U	0.0489		0.038	30	05/20/11	06/13/11
Europium 152	0.0156	U	0.0963		0.077	30	05/20/11	06/13/11
Europium 154	0.194	U	0.291		0.203	30	05/20/11	06/13/11
Lead 210	0.918	U	1.47	1.50	1.09	30	05/20/11	06/13/11
Lead 212	0.522		0.135		0.066	30	05/20/11	06/13/11
Lead 214	0.496		0.133		0.054	30	05/20/11	06/13/11
Potassium 40	6.09		1.25		0.382	30	05/20/11	06/13/11
Protactinium 234	-0.00767	U	0.157		0.129	30	05/20/11	06/13/11
Radium (226)	0.545	J	0.153	0.700	0.060	30	05/20/11	06/13/11
Thallium 208	0.172		0.0576		0.027	30	05/20/11	06/13/11
Thorium 232	0.798		0.219		0.057	30	05/20/11	06/13/11
Thorium 234	0.516	U	0.997		0.832	30	05/20/11	06/13/11
Uranium 235	-0.108	U	0.586		0.189	30	05/20/11	06/13/11

NOTE(S)

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Bold results are greater than the MDL.

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-039

Radiochemistry

Lab Sample ID: F1E180471-011
Work Order: MJJ13
Matrix: SOLID

Date Collected: 05/04/11 1320
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.775**		**0.192**		**0.026**	30	**05/20/11**	**06/13/11**
Americium 241	0.00106	U	0.0815		0.067	30	05/20/11	06/13/11
Bismuth 212	0.136	U	0.265		0.198	30	05/20/11	06/13/11
Bismuth 214	**0.494**		**0.140**		**0.054**	30	**05/20/11**	**06/13/11**
Cesium 137	-0.0132	U	0.0459	0.0700	0.036	30	05/20/11	06/13/11
Cobalt 60	0.0	U	0.00879		0.010	30	05/20/11	06/13/11
Europium 152	-0.0197	U	0.0888		0.070	30	05/20/11	06/13/11
Europium 154	-0.00414	U	0.220		0.181	30	05/20/11	06/13/11
Lead 210	**0.877**	**J**	**0.819**	1.50	**0.594**	30	**05/20/11**	**06/13/11**
Lead 212	**0.447**		**0.116**		**0.051**	30	**05/20/11**	**06/13/11**
Lead 214	**0.467**		**0.116**		**0.060**	30	**05/20/11**	**06/13/11**
Potassium 40	**7.58**		**1.33**		**0.428**	30	**05/20/11**	**06/13/11**
Protactinium 234	-0.0500	U	0.140		0.113	30	05/20/11	06/13/11
Radium (226)	**0.494**	**J**	**0.140**	0.700	**0.054**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.142**		**0.0471**		**0.018**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.775**		**0.192**		**0.026**	30	**05/20/11**	**06/13/11**
Thorium 234	0.638	U	0.852		0.663	30	05/20/11	06/13/11
Uranium 235	**0.141**		**0.180**		**0.137**	30	**05/20/11**	**06/13/11**

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-040

Radiochemistry

Lab Sample ID: F1E180471-012
Work Order: MJJ14
Matrix: SOLID

Date Collected: 05/04/11 1322
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.466**		**0.205**		**0.116**	30	**05/20/11**	**06/13/11**
Americium 241	0.0346	U	0.106		0.085	30	05/20/11	06/13/11
Bismuth 212	**0.331**		**0.436**		**0.320**	30	**05/20/11**	**06/13/11**
Bismuth 214	**0.763**		**0.211**		**0.082**	30	**05/20/11**	**06/13/11**
Cesium 137	0.0	U	0.0576	0.0700	0.047	30	05/20/11	06/13/11
Cobalt 60	0.0	U	0.0455		0.037	30	05/20/11	06/13/11
Europium 152	-0.00311	U	0.110		0.090	30	05/20/11	06/13/11
Europium 154	0.0536	U	0.353		0.282	30	05/20/11	06/13/11
Lead 210	**2.72**		**1.70**	1.50	**1.03**	30	**05/20/11**	**06/13/11**
Lead 212	**0.651**		**0.142**		**0.065**	30	**05/20/11**	**06/13/11**
Lead 214	**0.849**		**0.176**		**0.067**	30	**05/20/11**	**06/13/11**
Potassium 40	**12.9**		**1.85**		**0.446**	30	**05/20/11**	**06/13/11**
Protactinium 234	0.0220	U	0.174		0.142	30	05/20/11	06/13/11
Radium (226)	**0.763**		**0.211**	0.700	**0.082**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.232**		**0.0728**		**0.030**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.466**		**0.205**		**0.116**	30	**05/20/11**	**06/13/11**
Thorium 234	**1.04**		**1.12**		**0.833**	30	**05/20/11**	**06/13/11**
Uranium 235	0.0400	U	0.276		0.228	30	05/20/11	06/13/11

NOTE(S)

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Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-041

Radiochemistry

Lab Sample ID: F1E180471-013
Work Order: MJJ15
Matrix: SOLID

Date Collected: 05/04/11 1324
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	1.03		0.289		0.072	30	05/20/11	06/13/11
Americium 241	0.0531	U	0.109		0.086	30	05/20/11	06/13/11
Bismuth 212	1.33		0.495		0.144	30	05/20/11	06/13/11
Bismuth 214	0.663		0.156		0.058	30	05/20/11	06/13/11
Cesium 137	-0.00289	U	0.0485	0.0700	0.039	30	05/20/11	06/13/11
Cobalt 60	0.0	U	0.0107		0.012	30	05/20/11	06/13/11
Europium 152	-0.00787	U	0.139		0.114	30	05/20/11	06/13/11
Europium 154	-0.0326	U	0.386		0.313	30	05/20/11	06/13/11
Lead 210	0.383	U	1.26	1.50	1.08	30	05/20/11	06/13/11
Lead 212	0.794		0.146		0.058	30	05/20/11	06/13/11
Lead 214	0.664		0.138		0.052	30	05/20/11	06/13/11
Potassium 40	9.50		1.62		0.483	30	05/20/11	06/13/11
Protactinium 234	0.0426	U	0.170		0.137	30	05/20/11	06/13/11
Radium (226)	0.663	J	0.156	0.700	0.058	30	05/20/11	06/13/11
Thallium 208	0.284		0.0710		0.025	30	05/20/11	06/13/11
Thorium 232	1.03		0.289		0.072	30	05/20/11	06/13/11
Thorium 234	1.07		1.08		0.863	30	05/20/11	06/13/11
Uranium 235	0.0236	U	0.249		0.207	30	05/20/11	06/13/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-042

Radiochemistry

Lab Sample ID: F1E180471-014
Work Order: MJJ17
Matrix: SOLID

Date Collected: 05/04/11 1326
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.788**		**0.183**		**0.048**	30	**05/20/11**	**06/17/11**
Americium 241	-0.00467	U	0.0994		0.081	30	05/20/11	06/17/11
Bismuth 212	0.230	U	0.498		0.376	30	05/20/11	06/17/11
Bismuth 214	**0.641**		**0.179**		**0.042**	30	**05/20/11**	**06/17/11**
Cesium 137	0.00862	U	0.0618	0.0700	0.049	30	05/20/11	06/17/11
Cobalt 60	0.0159	U	0.0438		0.030	30	05/20/11	06/17/11
Europium 152	0.00421	U	0.129		0.106	30	05/20/11	06/17/11
Europium 154	-0.0527	U	0.514		0.415	30	05/20/11	06/17/11
Lead 210	**1.05**	**J**	**1.29**	1.50	**0.968**	30	**05/20/11**	**06/17/11**
Lead 212	**0.508**		**0.146**		**0.069**	30	**05/20/11**	**06/17/11**
Lead 214	**0.498**		**0.163**		**0.068**	30	**05/20/11**	**06/17/11**
Potassium 40	**8.38**		**1.76**		**0.331**	30	**05/20/11**	**06/17/11**
Protactinium 234	0.114	U	0.151		0.114	30	05/20/11	06/17/11
Radium (226)	**0.641**	**J**	**0.179**	0.700	**0.042**	30	**05/20/11**	**06/17/11**
Thallium 208	-0.0153	U	0.613		0.066	30	05/20/11	06/17/11
Thorium 232	**0.788**		**0.183**		**0.048**	30	**05/20/11**	**06/17/11**
Thorium 234	**2.38**		**1.84**		**1.01**	30	**05/20/11**	**06/17/11**
Uranium 235	-0.0865	U	4.64		0.254	30	05/20/11	06/17/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-043

Radiochemistry

Lab Sample ID: F1E180471-015
Work Order: MJJ19
Matrix: SOLID

Date Collected: 05/04/11 1328
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.435**		**0.203**		**0.116**	30	**05/20/11**	**06/13/11**
Americium 241	-0.0323	U	0.0988		0.079	30	05/20/11	06/13/11
Bismuth 212	**0.247**		**0.283**		**0.201**	30	**05/20/11**	**06/13/11**
Bismuth 214	**0.532**		**0.150**		**0.062**	30	**05/20/11**	**06/13/11**
Cesium 137	-0.00930	U	0.0522	0.0700	0.041	30	05/20/11	06/13/11
Cobalt 60	-0.00398	U	0.0454		0.036	30	05/20/11	06/13/11
Europium 152	-0.0292	U	0.108		0.086	30	05/20/11	06/13/11
Europium 154	0.0	U	0.439		0.362	30	05/20/11	06/13/11
Lead 210	0.689	U	1.09	1.50	0.915	30	05/20/11	06/13/11
Lead 212	**0.480**		**0.139**		**0.074**	30	**05/20/11**	**06/13/11**
Lead 214	**0.625**		**0.137**		**0.061**	30	**05/20/11**	**06/13/11**
Potassium 40	**12.1**		**1.74**		**0.291**	30	**05/20/11**	**06/13/11**
Protactinium 234	0.0199	U	0.132		0.107	30	05/20/11	06/13/11
Radium (226)	**0.532**	**J**	**0.150**	0.700	**0.062**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.214**		**0.0755**		**0.034**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.435**		**0.203**		**0.116**	30	**05/20/11**	**06/13/11**
Thorium 234	0.857	U	1.16		0.949	30	05/20/11	06/13/11
Uranium 235	0.0509	U	0.225		0.185	30	05/20/11	06/13/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-044

Radiochemistry

Lab Sample ID: F1E180471-016
Work Order: MJJ2A
Matrix: SOLID

Date Collected: 05/04/11 1330
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	0.573		0.152		0.114	30	05/20/11	06/13/11
Americium 241	-0.0845	U	0.131		0.103	30	05/20/11	06/13/11
Bismuth 212	0.404		0.396		0.280	30	05/20/11	06/13/11
Bismuth 214	0.506		0.129		0.048	30	05/20/11	06/13/11
Cesium 137	0.0248	U	0.0473	0.0700	0.036	30	05/20/11	06/13/11
Cobalt 60	0.0205	U	0.0433		0.031	30	05/20/11	06/13/11
Europium 152	-0.0473	U	0.117		0.091	30	05/20/11	06/13/11
Europium 154	0.157	U	0.311		0.232	30	05/20/11	06/13/11
Lead 210	0.394	U	1.03	1.50	0.817	30	05/20/11	06/13/11
Lead 212	0.683		0.165		0.071	30	05/20/11	06/13/11
Lead 214	0.710		0.145		0.060	30	05/20/11	06/13/11
Potassium 40	10.8		1.65		0.326	30	05/20/11	06/13/11
Protactinium 234	0.101		0.106		0.078	30	05/20/11	06/13/11
Radium (226)	0.506	J	0.129	0.700	0.048	30	05/20/11	06/13/11
Thallium 208	0.222		0.0714		0.025	30	05/20/11	06/13/11
Thorium 232	0.573		0.152		0.114	30	05/20/11	06/13/11
Thorium 234	0.525	U	1.14		0.917	30	05/20/11	06/13/11
Uranium 235	0.0	U	0.253		0.208	30	05/20/11	06/13/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-045

Radiochemistry

Lab Sample ID: F1E180471-017
Work Order: MJJ2E
Matrix: SOLID

Date Collected: 05/04/11 1332
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.799**		**0.199**		**0.081**	30	**05/20/11**	**06/13/11**
Americium 241	-0.00246	U	0.117		0.096	30	05/20/11	06/13/11
Bismuth 212	0.240	U	0.416		0.312	30	05/20/11	06/13/11
Bismuth 214	**0.717**		**0.153**		**0.051**	30	**05/20/11**	**06/13/11**
Cesium 137	-0.00224	U	0.0492	0.0700	0.040	30	05/20/11	06/13/11
Cobalt 60	0.0	U	0.0110		0.012	30	05/20/11	06/13/11
Europium 152	0.0223	U	0.0896		0.070	30	05/20/11	06/13/11
Europium 154	0.00347	U	0.349		0.287	30	05/20/11	06/13/11
Lead 210	**1.38**	**J**	**1.21**	1.50	**0.894**	30	**05/20/11**	**06/13/11**
Lead 212	**0.559**		**0.132**		**0.065**	30	**05/20/11**	**06/13/11**
Lead 214	**0.560**		**0.144**		**0.059**	30	**05/20/11**	**06/13/11**
Potassium 40	**9.46**		**1.60**		**0.467**	30	**05/20/11**	**06/13/11**
Protactinium 234	0.0562	U	0.155		0.123	30	05/20/11	06/13/11
Radium (226)	**0.717**		**0.153**	0.700	**0.051**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.185**		**0.0819**		**0.041**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.799**		**0.199**		**0.081**	30	**05/20/11**	**06/13/11**
Thorium 234	0.209	U	1.20		1.04	30	05/20/11	06/13/11
Uranium 235	0.127	U	0.271		0.218	30	05/20/11	06/13/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-046

Radiochemistry

Lab Sample ID: F1E180471-018
Work Order: MJJ2F
Matrix: SOLID

Date Collected: 05/04/11 1334
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1139258		Yld %
Actinium 228	**0.553**		**0.189**		**0.036**	30	**05/20/11**	**06/13/11**
Americium 241	-0.00242	U	0.0982		0.080	30	05/20/11	06/13/11
Bismuth 212	0.202	U	0.384		0.287	30	05/20/11	06/13/11
Bismuth 214	**0.370**		**0.161**		**0.106**	30	**05/20/11**	**06/13/11**
Cesium 137	-0.0268	U	0.0661	0.0700	0.051	30	05/20/11	06/13/11
Cobalt 60	0.0125	U	0.0644		0.051	30	05/20/11	06/13/11
Europium 152	0.00458	U	0.106		0.086	30	05/20/11	06/13/11
Europium 154	0.0	U	0.427		0.352	30	05/20/11	06/13/11
Lead 210	**1.77**		**1.36**	1.50	**0.948**	30	**05/20/11**	**06/13/11**
Lead 212	**0.458**		**0.154**		**0.078**	30	**05/20/11**	**06/13/11**
Lead 214	**0.485**		**0.134**		**0.055**	30	**05/20/11**	**06/13/11**
Potassium 40	**11.0**		**1.90**		**0.613**	30	**05/20/11**	**06/13/11**
Protactinium 234	-0.0239	U	0.136		0.110	30	05/20/11	06/13/11
Radium (226)	**0.370**	J	**0.161**	0.700	**0.106**	30	**05/20/11**	**06/13/11**
Thallium 208	**0.222**		**0.0689**		**0.028**	30	**05/20/11**	**06/13/11**
Thorium 232	**0.553**		**0.189**		**0.036**	30	**05/20/11**	**06/13/11**
Thorium 234	**0.953**		**1.14**		**0.922**	30	**05/20/11**	**06/13/11**
Uranium 235	0.0718	U	0.194		0.158	30	05/20/11	06/13/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-030

Radiochemistry

Lab Sample ID: F1E180451-003
Work Order: MJJW8
Matrix: SOLID

Date Collected: 05/04/11 1302
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	**EPA-905 MOD**			**pCi/g**		**Batch # 1139074**		**Yld % 84.**
Strontium Total	0.145	U	0.188	0.320	0.175	400	05/19/11	06/02/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 02-PCT-200-034

Radiochemistry

Lab Sample ID: F1E180451-004
Work Order: MJJXK
Matrix: SOLID

Date Collected: 05/04/11 1310
Date Received: 05/18/11 0855

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	**EPA-905 MOD**			**pCi/g**		**Batch # 1139074**		**Yld % 82.**
Strontium Total	0.0419	U	0.185	0.320	0.178	400	05/19/11	06/02/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

ATTACHMENT 3

EXCAVATED SOIL UNIT SCAN DATA
(on CD only)

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EXCAVATED SOIL UNIT 334

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1	1251	37.71724273	-122.3643657
2	1243	37.71724276	-122.3643654
3	1250	37.71724269	-122.3643653
4	1250	37.71724263	-122.3643653
5	1251	37.71724258	-122.3643654
6	1243	37.71724252	-122.3643655
7	1256	37.71724236	-122.3643653
8	1249	37.71724244	-122.3643653
9	1252	37.71724243	-122.3643652
10	1247	37.71724244	-122.3643651
11	1251	37.71724232	-122.3643651
12	1259	37.71724219	-122.364365
13	1240	37.71724205	-122.3643649
14	1250	37.71724211	-122.3643649
15	1255	37.71724215	-122.3643648
16	1257	37.71724221	-122.3643647
17	1246	37.71724226	-122.3643648
18	1215	37.71724223	-122.3643647
19	1255	37.717242	-122.3643648
20	1206	37.71724237	-122.3643652
21	1246	37.71724242	-122.3643652
22	1243	37.71724243	-122.3643652
23	1247	37.71724194	-122.3643647
24	1250	37.71724195	-122.3643649
25	1241	37.7172415	-122.3643643
26	1313	37.71723712	-122.3643582
27	1373	37.71723207	-122.3643514
28	1358	37.71722736	-122.3643446
29	1327	37.71722265	-122.3643377
30	**1327**	**37.71721847**	**-122.3643312**
31	1243	37.7172145	-122.364325
32	1246	37.71721015	-122.3643185
33	1256	37.71720689	-122.364312
34	1235	37.71720349	-122.3643057
35	1235	37.71720019	-122.3642992
36	1254	37.71719632	-122.3642918
37	1229	37.71719268	-122.3642844
38	1273	37.71719068	-122.3642778
39	1333	37.71718992	-122.3642718
40	1311	37.71719006	-122.3642663
41	1297	37.71719117	-122.36426
42	1329	37.71719348	-122.3642534
43	1397	37.71719679	-122.3642471
44	1416	37.71720123	-122.3642399
45	1359	37.71720575	-122.364234
46	1357	37.71721103	-122.3642283
47	1348	37.71721627	-122.364223
48	1338	37.71722191	-122.3642171
49	1346	37.717227	-122.3642116
50	1429	37.71723239	-122.3642064
51	1485	37.71723717	-122.3642023
52	1417	37.71724277	-122.3641972
53	1416	37.71724853	-122.3641924
54	1381	37.71725393	-122.3641875
55	1246	37.71725942	-122.3641826
56	1206	37.71726514	-122.3641774

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
57	1206	37.71727092	-122.3641722
58	1117	37.71727668	-122.364167
59	1017	37.71728207	-122.3641626
60	1004	37.71728779	-122.3641581
61	1031	37.71729348	-122.3641532
62	969	37.71729876	-122.3641478
63	1041	37.71730431	-122.3641427
64	1129	37.71730939	-122.3641383
65	1156	37.71731481	-122.3641334
66	1248	37.71731981	-122.3641277
67	1273	37.71732626	-122.3641224
68	1276	37.7173317	-122.364117
69	1186	37.71733769	-122.3641119
70	1166	37.71734295	-122.3641071
71	1115	37.71734903	-122.3641019
72	1170	37.71735477	-122.3640967
73	1210	37.71735769	-122.3640936
74	1292	37.71736144	-122.3640899
75	1223	37.71736673	-122.3640856
76	1136	37.71737269	-122.3640804
77	1075	37.71737814	-122.3640751
78	1052	37.71738319	-122.3640697
79	1065	37.71738833	-122.3640647
80	1105	37.71739293	-122.3640615
81	1089	37.71739787	-122.3640599
82	1062	37.71740235	-122.3640601
83	1073	37.71740698	-122.3640618
84	1050	37.71741167	-122.3640645
85	1080	37.71741719	-122.3640682
86	1083	37.71742355	-122.3640744
87	1059	37.71742855	-122.364081
88	1088	37.7174333	-122.3640872
89	1152	37.71743826	-122.3640945
90	983	37.71744252	-122.3641014
91	948	37.71744617	-122.3641081
92	1002	37.71745012	-122.3641149
93	974	37.71745429	-122.364122
94	1000	37.71745841	-122.3641285
95	906	37.71746203	-122.3641354
96	944	37.71746543	-122.3641423
97	992	37.71746866	-122.36415
98	1101	37.71747345	-122.3641546
99	1193	37.71747665	-122.3641619
100	1137	37.71748058	-122.364169
101	1202	37.71748534	-122.3641765
102	1188	37.71748997	-122.3641834
103	1203	37.71749408	-122.3641911
104	1249	37.71749852	-122.3641981
105	1318	37.71750311	-122.3642051
106	1293	37.71750751	-122.3642123
107	1273	37.71751091	-122.3642189
108	1363	37.71751462	-122.3642255
109	1341	37.71751886	-122.3642325
110	1373	37.71752309	-122.3642391
111	1396	37.71752649	-122.3642458
112	1399	37.71753053	-122.3642527
113	1356	37.7175344	-122.3642594

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
114	1251	37.71753808	-122.3642656
115	1216	37.71754026	-122.364272
116	1265	37.71754116	-122.3642785
117	1261	37.71754121	-122.3642843
118	1196	37.71754008	-122.3642899
119	1137	37.71753808	-122.3642957
120	1153	37.71753464	-122.3643025
121	1271	37.71753065	-122.364309
122	1217	37.71752658	-122.3643151
123	1275	37.71752175	-122.3643207
124	1239	37.71751661	-122.3643266
125	1227	37.7175113	-122.3643323
126	1215	37.71750624	-122.3643378
127	1259	37.71750058	-122.3643433
128	1115	37.71749543	-122.3643488
129	1182	37.71749063	-122.3643545
130	1254	37.71748601	-122.3643596
131	1192	37.7174803	-122.3643647
132	1237	37.71747525	-122.3643698
133	1213	37.71747012	-122.3643748
134	1169	37.71746442	-122.3643787
135	1180	37.71745821	-122.3643836
136	1114	37.71745249	-122.3643891
137	1228	37.71744743	-122.3643933
138	1208	37.71744216	-122.3643982
139	1182	37.71743613	-122.3644033
140	1166	37.71743048	-122.3644087
141	1219	37.71742483	-122.3644139
142	1178	37.71741939	-122.364419
143	1151	37.7174135	-122.3644246
144	1188	37.71740753	-122.3644302
145	1235	37.71740182	-122.3644359
146	1214	37.71739653	-122.3644412
147	1257	37.71739085	-122.3644467
148	1225	37.71738555	-122.3644518
149	1279	37.71738011	-122.3644571
150	1256	37.71737508	-122.3644617
151	1250	37.71736912	-122.364467
152	1251	37.71736333	-122.364472
153	1282	37.71735793	-122.364477
154	1249	37.7173532	-122.3644812
155	1276	37.71734771	-122.3644861
156	1221	37.71734313	-122.3644909
157	1292	37.71733927	-122.3644938
158	1264	37.71733459	-122.3644963
159	1241	37.71733068	-122.3644972
160	1275	37.7173263	-122.364497
161	1185	37.71732127	-122.3644944
162	1203	37.71731634	-122.3644911
163	1243	37.71731132	-122.3644867
164	1238	37.71730633	-122.3644811
165	1249	37.7173018	-122.3644753
166	1167	37.71729769	-122.3644684
167	1139	37.71729344	-122.3644616
168	1231	37.71728899	-122.3644547
169	1214	37.71728484	-122.3644479
170	1185	37.71728078	-122.364441

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
171	1327	37.71727712	-122.3644348
172	1371	37.71727279	-122.3644278
173	1445	37.71726926	-122.3644214
174	1375	37.71726514	-122.3644139
175	1351	37.71726178	-122.364407
176	1311	37.71725772	-122.3643996
177	1317	37.71725485	-122.364395
178	1341	37.71725192	-122.3643905
179	1297	37.71724904	-122.3643848
180	1278	37.71724497	-122.3643779
181	1239	37.7172405	-122.3643687
182	1250	37.71723624	-122.3643608
183	1195	37.71723143	-122.3643521
184	1251	37.71722747	-122.3643441
185	1175	37.71722262	-122.3643352
186	1174	37.71721861	-122.3643279
187	1219	37.71721368	-122.3643199
188	1265	37.71720959	-122.3643122
189	1293	37.71720504	-122.3643045
190	1316	37.71720042	-122.3642967
191	**1484**	**37.71719563**	**-122.3642885**
192	1369	37.71719372	-122.3642817
193	1431	37.71719356	-122.3642761
194	1445	37.71719482	-122.3642687
195	1377	37.71719709	-122.3642614
196	1357	37.71720132	-122.3642549
197	1363	37.71720608	-122.3642483
198	1379	37.71721239	-122.364241
199	1399	37.71721841	-122.3642346
200	1347	37.71722397	-122.3642281
201	1369	37.71723003	-122.3642221
202	1394	37.71723597	-122.3642165
203	1416	37.71724215	-122.3642109
204	1439	37.71724841	-122.364205
205	1324	37.71725485	-122.3641994
206	1278	37.71726116	-122.3641937
207	1201	37.71726764	-122.3641882
208	1151	37.71727382	-122.3641824
209	1093	37.71728073	-122.3641759
210	966	37.71728728	-122.36417
211	978	37.71729384	-122.3641638
212	991	37.7172999	-122.364158
213	990	37.7173069	-122.3641518
214	1027	37.7173135	-122.3641458
215	1041	37.71731964	-122.3641402
216	1188	37.7173266	-122.364134
217	1353	37.71733382	-122.364128
218	1401	37.71734028	-122.3641221
219	1364	37.71734669	-122.3641158
220	1313	37.71735285	-122.3641099
221	1210	37.71735891	-122.3641041
222	1137	37.71736511	-122.3640982
223	1120	37.71737189	-122.3640915
224	1034	37.71737836	-122.3640851
225	1034	37.71738487	-122.3640792
226	992	37.71739096	-122.3640748
227	997	37.71739683	-122.3640726

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
228	1073	37.7174018	-122.3640725
229	1126	37.71740657	-122.3640743
230	1118	37.71741251	-122.3640783
231	1111	37.71741814	-122.3640842
232	1087	37.71742364	-122.3640912
233	1044	37.71742837	-122.3640987
234	974	37.71743369	-122.3641068
235	921	37.71743841	-122.3641144
236	878	37.71744318	-122.3641226
237	903	37.71744771	-122.3641301
238	866	37.71745252	-122.3641384
239	901	37.71745726	-122.3641467
240	902	37.71746186	-122.3641547
241	996	37.71746626	-122.3641623
242	1164	37.71747053	-122.3641704
243	1272	37.7174755	-122.3641793
244	1296	37.71748021	-122.3641876
245	1298	37.7174851	-122.3641961
246	1293	37.71749	-122.3642042
247	1277	37.71749485	-122.3642124
248	1251	37.7174993	-122.3642205
249	1230	37.71750426	-122.3642293
250	1230	37.71750875	-122.3642371
251	1235	37.7175134	-122.3642453
252	1275	37.71751788	-122.3642532
253	1287	37.71752243	-122.3642612
254	1092	37.71752661	-122.3642692
255	1074	37.71752909	-122.3642761
256	1049	37.71752945	-122.3642828
257	1126	37.7175286	-122.3642901
258	1171	37.71752569	-122.3642972
259	1246	37.71752196	-122.3643046
260	1279	37.71751734	-122.3643113
261	1291	37.7175117	-122.3643182
262	1291	37.71750615	-122.3643247
263	1289	37.71750044	-122.3643309
264	1270	37.71749432	-122.3643369
265	1257	37.71748797	-122.364343
266	1265	37.71748152	-122.364349
267	1314	37.71747573	-122.3643548
268	1341	37.71746904	-122.3643609
269	1317	37.71746287	-122.3643664
270	1262	37.71745645	-122.3643723
271	1201	37.71745068	-122.3643784
272	1172	37.71744375	-122.3643845
273	1060	37.71743785	-122.3643907
274	1090	37.71743125	-122.3643969
275	1085	37.71742508	-122.3644029
276	1160	37.71741832	-122.3644094
277	1186	37.71741174	-122.3644158
278	1212	37.71740496	-122.3644219
279	1267	37.71739931	-122.3644272
280	1267	37.71739334	-122.364433
281	1279	37.71738731	-122.3644388
282	1277	37.71738103	-122.3644448
283	1338	37.7173746	-122.3644504
284	1321	37.71736797	-122.3644561

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
285	1257	37.71736161	-122.3644621
286	1313	37.71735458	-122.3644682
287	1275	37.71734806	-122.3644743
288	1264	37.71734193	-122.3644801
289	1259	37.71733642	-122.3644832
290	1251	37.71733116	-122.3644839
291	1310	37.71732583	-122.3644829
292	1241	37.71731993	-122.36448
293	1298	37.71731365	-122.3644748
294	1268	37.71730779	-122.3644687
295	1212	37.71730218	-122.3644619
296	1251	37.71729688	-122.3644551
297	1301	37.71729128	-122.3644473
298	1258	37.71728638	-122.3644399
299	1460	37.7172818	-122.3644324
300	1273	37.71727711	-122.3644248
301	1353	37.71727215	-122.3644163
302	1261	37.71726755	-122.364408
303	1247	37.7172629	-122.3643996
304	1247	37.71725832	-122.3643915
305	1237	37.71725388	-122.3643835
306	1167	37.71724906	-122.3643753
307	1110	37.71724461	-122.3643672
308	1141	37.71723977	-122.364358
309	1116	37.7172352	-122.3643495
310	1072	37.71723067	-122.3643408
311	1266	37.7172262	-122.3643326
312	1246	37.71722117	-122.364324
313	1274	37.71721674	-122.3643154
314	1261	37.71721229	-122.364308
315	1237	37.71720802	-122.3643002
316	1255	37.71720401	-122.364292
317	1315	37.7172027	-122.3642846
318	1351	37.71720235	-122.3642781
319	1360	37.71720379	-122.3642722
320	1341	37.71720676	-122.364265
321	1339	37.7172109	-122.3642575
322	1305	37.71721587	-122.3642511
323	1331	37.71722129	-122.3642438
324	1333	37.71722747	-122.364237
325	1339	37.71723357	-122.3642311
326	**1341**	**37.71723956**	**-122.3642252**
327	1338	37.71724607	-122.3642193
328	1337	37.71725252	-122.3642134
329	1295	37.71725904	-122.3642078
330	1196	37.71726525	-122.3642024
331	1122	37.71727215	-122.3641961
332	1081	37.71727854	-122.3641905
333	1085	37.71728494	-122.3641845
334	932	37.71729108	-122.3641786
335	936	37.71729795	-122.3641724
336	990	37.7173045	-122.364166
337	999	37.71731122	-122.3641601
338	1089	37.71731696	-122.3641543
339	1011	37.71732332	-122.3641482
340	1123	37.71732979	-122.3641419
341	1130	37.71733633	-122.3641355

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
342	[illegible]	37.71734286	-122.3641293
343	[illegible]	37.71734936	-122.3641234
344	**1465**	**37.71735548**	**-122.3641176**
345	[illegible]	37.71736153	-122.3641116
346	[illegible]	37.71736815	-122.3641053
347	1047	37.71737512	-122.3640992
348	1004	37.71738161	-122.3640928
349	991	37.71738755	-122.3640884
350	997	37.71739315	-122.3640862
351	1028	37.71739857	-122.3640859
352	1058	37.71740413	-122.3640876
353	1120	37.71740975	-122.3640917
354	1074	37.71741553	-122.3640977
355	1048	37.71742125	-122.3641043
356	942	37.71742677	-122.3641112
357	866	37.7174315	-122.3641179
358	866	37.71743679	-122.3641257
359	877	37.71744155	-122.3641334
360	847	37.71744611	-122.3641414
361	857	37.71745088	-122.3641494
362	912	37.71745556	-122.3641573
363	1024	37.71746004	-122.3641655
364	1161	37.71746446	-122.3641731
365	[illegible]	37.71746936	-122.3641815
366	[illegible]	37.71747387	-122.36419
367	[illegible]	37.7174784	-122.3641983
368	[illegible]	37.71748275	-122.3642063
369	[illegible]	37.71748746	-122.364215
370	[illegible]	37.71749211	-122.3642232
371	[illegible]	37.71749671	-122.3642318
372	[illegible]	37.71750096	-122.3642399
373	[illegible]	37.71750564	-122.3642483
374	[illegible]	37.71751014	-122.3642559
375	[illegible]	37.71751457	-122.3642639
376	1066	37.71751774	-122.3642717
377	1014	37.71751886	-122.3642789
378	1056	37.7175184	-122.3642854
379	[illegible]	37.71751652	-122.3642923
380	[illegible]	37.71751357	-122.3642995
381	[illegible]	37.71750925	-122.3643068
382	[illegible]	37.71750397	-122.3643136
383	[illegible]	37.71749806	-122.3643203
384	**1649**	**37.71749221**	**-122.3643264**
385	[illegible]	37.71748611	-122.3643323
386	[illegible]	37.71747995	-122.3643384
387	[illegible]	37.7174742	-122.3643438
388	[illegible]	37.71746821	-122.36435
389	[illegible]	37.71746231	-122.3643557
390	1207	37.71745604	-122.3643615
391	1144	37.71745058	-122.3643669
392	1170	37.71744429	-122.3643727
393	1129	37.71743817	-122.364378
394	1091	37.71743204	-122.3643837
395	1057	37.71742585	-122.3643893
396	1124	37.71741934	-122.3643954
397	1176	37.71741326	-122.3644012
398	1143	37.71740717	-122.3644069

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
399	1165	37.71740113	-122.3644124
400	1263	37.71739501	-122.3644179
401	1256	37.71738942	-122.364423
402	1241	37.71738469	-122.3644275
403	1197	37.71737958	-122.3644324
404	1174	37.71737469	-122.3644374
405	1214	37.71736935	-122.3644426
406	1175	37.71736398	-122.3644477
407	1237	37.71735804	-122.3644532
408	1260	37.71735232	-122.3644585
409	1275	37.71734639	-122.3644636
410	1210	37.71734127	-122.3644676
411	1275	37.71733581	-122.3644702
412	1315	37.71733093	-122.364471
413	1440	37.71732628	-122.3644703
414	1314	37.71732117	-122.364468
415	1275	37.71731519	-122.3644641
416	1305	37.71730972	-122.3644588
417	1336	37.7173048	-122.364453
418	1291	37.71729988	-122.364446
419	1351	37.71729529	-122.3644399
420	1345	37.71729131	-122.3644334
421	1314	37.71728825	-122.3644279
422	1314	37.71728471	-122.3644222
423	1320	37.71728152	-122.3644167
424	1307	37.71727819	-122.3644109
425	1325	37.71727498	-122.3644052
426	1315	37.71727145	-122.364399
427	1306	37.7172684	-122.3643929
428	1344	37.71726598	-122.3643883
429	1337	37.7172629	-122.3643832
430	1240	37.71725888	-122.3643761
431	1314	37.71725493	-122.364369
432	1336	37.7172526	-122.3643649
433	1236	37.71725244	-122.3643647
434	1292	37.71725246	-122.3643647
435	1305	37.71725279	-122.3643646
436	1271	37.7172522	-122.364364
437	1287	37.71724828	-122.364357
438	1343	37.71724372	-122.3643484
439	1335	37.71723983	-122.3643415
440	1341	37.71723589	-122.3643343
441	1360	37.71723235	-122.3643285
442	1358	37.71722836	-122.3643212
443	1351	37.71722485	-122.3643149
444	1183	37.71722097	-122.3643081
445	1205	37.71721763	-122.3643021
446	1240	37.71721462	-122.3642965
447	1237	37.71721212	-122.3642902
448	1230	37.71721138	-122.3642852
449	1245	37.71721208	-122.3642807
450	1267	37.71721324	-122.3642748
451	1345	37.71721598	-122.364267
452	1375	37.71722124	-122.3642587
453	1370	37.71722661	-122.3642508
454	1367	37.71723229	-122.3642436
455	1351	37.71723893	-122.3642363

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
456	[illegible]	37.71724624	-122.3642294
457	[illegible]	37.71725284	-122.3642234
458	[illegible]	37.71725956	-122.3642165
459	[illegible]	37.717267	-122.36421
460	1189	37.71727471	-122.3642037
461	1137	37.71728216	-122.364197
462	1026	37.71728912	-122.3641909
463	889	37.71729608	-122.3641843
464	903	37.71730354	-122.3641772
465	906	37.71731123	-122.3641702
466	1055	37.71731791	-122.3641636
467	1123	37.71732563	-122.3641567
468	1039	37.71733234	-122.3641506
469	[illegible]	37.71733955	-122.3641433
470	[illegible]	37.71734688	-122.3641366
471	[illegible]	37.717354	-122.3641297
472	[illegible]	37.71736122	-122.3641231
473	[illegible]	37.71736811	-122.3641165
474	1189	37.71737553	-122.3641094
475	1032	37.71738261	-122.3641028
476	1045	37.71738989	-122.3640979
477	1067	37.71739671	-122.3640962
478	1099	37.71740289	-122.3640972
479	1097	37.7174082	-122.3641003
480	1087	37.71741483	-122.3641058
481	987	37.71742108	-122.3641132
482	895	37.71742662	-122.3641214
483	844	37.7174317	-122.3641298
484	844	37.71743721	-122.3641395
485	828	37.71744234	-122.364149
486	845	37.71744755	-122.3641576
487	991	37.71745281	-122.3641673
488	1135	37.71745782	-122.3641763
489	[illegible]	37.71746271	-122.3641856
490	[illegible]	37.71746759	-122.364195
491	[illegible]	37.71747307	-122.3642048
492	[illegible]	37.71747854	-122.3642145
493	[illegible]	37.71748374	-122.3642235
494	[illegible]	37.71748918	-122.3642323
495	[illegible]	37.7174942	-122.3642417
496	[illegible]	37.71749973	-122.364251
497	[illegible]	37.71750447	-122.3642598
498	[illegible]	37.71750805	-122.3642684
499	1192	37.71750928	-122.3642761
500	1192	37.71750796	-122.364284
501	[illegible]	37.71750512	-122.3642921
502	[illegible]	37.71750097	-122.3643001
503	[illegible]	37.71749543	-122.364308
504	[illegible]	37.71748899	-122.3643158
505	[illegible]	37.7174824	-122.3643227
506	[illegible]	37.7174758	-122.3643295
507	[illegible]	37.71746946	-122.3643356
508	[illegible]	37.71746243	-122.3643425
509	1204	37.71745558	-122.3643494
510	1086	37.7174487	-122.3643558
511	1096	37.71744181	-122.3643619
512	1131	37.7174345	-122.3643687

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
513	1037	37.71742718	-122.3643751
514	1073	37.71741982	-122.3643816
515	1064	37.71741222	-122.3643888
516	1173	37.71740481	-122.3643956
517	1107	37.7173975	-122.3644022
518	1135	37.71739049	-122.3644093
519	1135	37.71738355	-122.3644159
520	1140	37.71737666	-122.3644226
521	1135	37.71737012	-122.3644291
522	1171	37.71736307	-122.3644358
523	1219	37.71735585	-122.3644425
524	1241	37.71734856	-122.364449
525	1511	37.71734152	-122.3644538
526	1416	37.7173352	-122.3644559
527	1460	37.71732968	-122.3644558
528	**1571**	**37.71732326**	**-122.3644534**
529	1477	37.71731714	-122.3644492
530	1435	37.71731136	-122.3644432
531	1344	37.71730544	-122.3644364
532	1337	37.71729985	-122.3644287
533	1387	37.71729459	-122.3644207
534	1446	37.71728926	-122.3644131
535	1335	37.7172842	-122.3644053
536	1337	37.71727915	-122.3643963
537	1307	37.71727441	-122.3643876
538	1354	37.7172697	-122.3643789
539	1300	37.71726478	-122.3643707
540	1319	37.71725958	-122.3643618
541	1241	37.71725457	-122.3643531
542	1259	37.71724921	-122.3643442
543	1241	37.71724455	-122.364336
544	1230	37.71723927	-122.3643273
545	1146	37.71723437	-122.3643185
546	1150	37.71722894	-122.3643098
547	1159	37.71722428	-122.3643013
548	1128	37.71722141	-122.3642939
549	1211	37.71722044	-122.3642872
550	1221	37.71722114	-122.3642805
551	1295	37.71722381	-122.3642729
552	1318	37.71722745	-122.3642649
553	1379	37.7172324	-122.364257
554	1301	37.71723795	-122.3642497
555	1325	37.7172443	-122.3642421
556	1278	37.71725094	-122.3642357
557	1259	37.71725777	-122.3642292
558	1216	37.71726454	-122.3642234
559	1253	37.71727182	-122.3642169
560	1204	37.71727885	-122.3642111
561	1125	37.71728585	-122.3642046
562	1121	37.71729263	-122.3641985
563	1019	37.71730001	-122.3641919
564	951	37.71730689	-122.3641855
565	876	37.71731416	-122.3641784
566	912	37.71732133	-122.3641722
567	995	37.71732791	-122.3641659
568	986	37.71733376	-122.3641608
569	1209	37.7173396	-122.3641554

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
570	1257	37.71734468	-122.3641507
571	1263	37.71734971	-122.3641461
572	1237	37.71735489	-122.3641414
573	1244	37.71735994	-122.3641369
574	1139	37.71736469	-122.364132
575	1172	37.71736997	-122.3641268
576	1251	37.71737504	-122.3641221
577	1244	37.71738014	-122.3641175
578	1151	37.71738552	-122.3641132
579	1012	37.71739048	-122.3641105
580	1058	37.71739473	-122.3641093
581	1070	37.717399	-122.3641094
582	1028	37.71740233	-122.3641106
583	1036	37.71740717	-122.3641134
584	944	37.71741211	-122.3641178
585	910	37.71741707	-122.3641237
586	865	37.71742194	-122.3641298
587	792	37.71742656	-122.3641368
588	836	37.7174313	-122.3641437
589	810	37.71743582	-122.364151
590	850	37.71743984	-122.364158
591	866	37.71744438	-122.3641656
592	1029	37.71744877	-122.3641731
593	1166	37.71745295	-122.3641803
594	1231	37.71745728	-122.3641879
595	1256	37.7174615	-122.3641953
596	1237	37.71746586	-122.3642032
597	1219	37.71747008	-122.3642106
598	1441	37.71747426	-122.364218
599	1641	37.71747858	-122.3642256
600	**1709**	**37.71748296**	**-122.3642332**
601	1656	37.71748704	-122.3642409
602	1625	37.71749126	-122.364248
603	1538	37.71749537	-122.3642553
604	1347	37.71749839	-122.364262
605	1273	37.71749978	-122.3642682
606	1214	37.71749954	-122.3642747
607	1184	37.71749841	-122.3642814
608	1264	37.71749596	-122.3642881
609	1335	37.71749227	-122.3642948
610	1417	37.71748819	-122.3643014
611	1430	37.71748295	-122.364308
612	1424	37.71747804	-122.3643143
613	1391	37.71747299	-122.36432
614	1338	37.71746808	-122.3643258
615	1315	37.71746272	-122.3643313
616	1246	37.71745731	-122.3643371
617	1126	37.7174518	-122.3643426
618	1088	37.71744643	-122.3643479
619	1091	37.71744019	-122.3643531
620	1066	37.7174344	-122.3643582
621	983	37.71742888	-122.3643636
622	1015	37.71742251	-122.3643689
623	1054	37.71741683	-122.364374
624	1052	37.71741056	-122.3643798
625	1087	37.71740478	-122.3643854
626	1110	37.71739866	-122.3643917

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
627	1215	37.71739282	-122.3643972
628	1263	37.71738721	-122.364403
629	1273	37.71738161	-122.3644081
630	1325	37.71737572	-122.3644139
631	1319	37.71736993	-122.3644194
632	1351	37.71736424	-122.3644248
633	1375	37.71735858	-122.3644302
634	1394	37.71735261	-122.3644355
635	1368	37.71734681	-122.3644405
636	1348	37.71734137	-122.3644436
637	1375	37.71733681	-122.3644448
638	1390	37.71733174	-122.3644442
639	1397	37.71732688	-122.3644425
640	1416	37.71732115	-122.3644392
641	1394	37.71731534	-122.3644347
642	1379	37.71731039	-122.3644288
643	1356	37.71730576	-122.3644226
644	1367	37.71730111	-122.3644164
645	1397	37.71729689	-122.3644098
646	1426	37.71729246	-122.3644033
647	1424	37.71728821	-122.3643964
648	**1439**	**37.71728419**	**-122.3643897**
649	1421	37.71727986	-122.3643823
650	1417	37.71727585	-122.3643756
651	1376	37.71727192	-122.364368
652	1351	37.71726815	-122.3643614
653	1326	37.7172639	-122.3643538
654	1316	37.71725988	-122.3643464
655	1297	37.71725566	-122.3643397
656	1279	37.71725188	-122.3643328
657	1261	37.71724789	-122.3643254
658	1240	37.71724377	-122.364318
659	1245	37.71724001	-122.3643112
660	1256	37.71723656	-122.3643046
661	1261	37.71723378	-122.3642978
662	1278	37.71723214	-122.3642915
663	1287	37.71723154	-122.364286
664	1291	37.71723217	-122.3642809
665	1267	37.71723392	-122.3642748
666	1267	37.71723701	-122.3642686
667	1196	37.71724111	-122.3642621
668	1131	37.71724539	-122.3642562
669	1197	37.71725074	-122.3642499
670	1123	37.71725572	-122.3642444
671	1153	37.71726148	-122.3642384
672	1132	37.71726687	-122.3642331
673	1124	37.71727262	-122.3642275
674	1076	37.71727875	-122.364222
675	1066	37.71728383	-122.3642166
676	1052	37.71728954	-122.3642114
677	1085	37.71729539	-122.3642062
678	1101	37.7173013	-122.3642007
679	1113	37.71730709	-122.3641955
680	994	37.71731298	-122.3641905
681	879	37.71731957	-122.3641845
682	834	37.71732552	-122.3641795
683	833	37.7173313	-122.3641741

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
684	906	37.7173369	-122.3641687
685	1213	37.71734296	-122.3641636
686	1403	37.71734889	-122.3641585
687	1426	37.71735488	-122.3641532
688	1443	37.71736054	-122.3641483
689	1436	37.71736679	-122.3641427
690	1410	37.71737272	-122.3641375
691	1411	37.71737879	-122.364132
692	1447	37.7173844	-122.3641277
693	1318	37.71739031	-122.3641251
694	1022	37.71739547	-122.3641244
695	961	37.71740042	-122.3641251
696	924	37.71740521	-122.3641274
697	916	37.71741047	-122.3641318
698	923	37.71741542	-122.3641373
699	846	37.71742013	-122.3641435
700	831	37.71742478	-122.3641505
701	831	37.71742931	-122.3641574
702	874	37.71743357	-122.3641648
703	882	37.71743757	-122.3641721
704	1015	37.71744213	-122.3641796
705	1147	37.71744635	-122.3641869
706	1097	37.7174506	-122.3641941
707	1168	37.71745491	-122.3642012
708	1176	37.71745904	-122.3642083
709	1177	37.71746302	-122.3642155
710	1166	37.71746658	-122.3642217
711	1143	37.71747049	-122.3642284
712	1139	37.7174743	-122.3642345
713	1127	37.71747817	-122.3642411
714	1171	37.71748214	-122.3642475
715	1185	37.7174856	-122.3642538
716	1191	37.71748839	-122.3642606
717	1185	37.71748991	-122.3642665
718	1187	37.71749025	-122.3642717
719	1217	37.71748972	-122.364277
720	1191	37.71748769	-122.3642832
721	1175	37.71748533	-122.3642891
722	1181	37.71748187	-122.3642951
723	1183	37.71747815	-122.3643006
724	1197	37.71747377	-122.3643067
725	1291	37.71746928	-122.3643119
726	1314	37.71746483	-122.3643172
727	**1367**	**37.71746022**	**-122.3643219**
728	1413	37.71745534	-122.3643269
729	1409	37.71745047	-122.3643314
730	1101	37.71744548	-122.3643358
731	1093	37.71744028	-122.3643402
732	1100	37.7174351	-122.3643448
733	1030	37.71743002	-122.3643497
734	1001	37.71742494	-122.3643545
735	1065	37.71741959	-122.3643595
736	1089	37.71741461	-122.3643644
737	1114	37.7174093	-122.3643692
738	1087	37.71740394	-122.364374
739	1134	37.71739839	-122.3643794
740	1173	37.71739369	-122.364384

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
741	1267	37.71738864	-122.364389
742	1261	37.71738386	-122.3643937
743	1231	37.71737888	-122.3643988
744	1256	37.71737382	-122.3644035
745	1147	37.71736903	-122.3644079
746	1140	37.71736409	-122.3644126
747	1187	37.71735863	-122.3644172
748	1174	37.71735344	-122.3644218
749	1165	37.71734807	-122.3644259
750	**1055**	**37.71734326**	**-122.3644284**
751	1073	37.71733892	-122.3644295
752	1045	37.71733456	-122.3644291
753	1083	37.71732955	-122.3644276
754	1236	37.71732453	-122.3644247
755	1224	37.71731983	-122.3644207
756	1251	37.71731549	-122.3644166
757	1175	37.71731105	-122.3644121
758	1145	37.7173064	-122.3644066
759	1139	37.71730215	-122.3644011
760	1153	37.71729791	-122.3643951
761	1135	37.71729458	-122.3643895
762	1169	37.71729045	-122.364383
763	1159	37.71728645	-122.3643765
764	1197	37.71728278	-122.3643702
765	1111	37.71727921	-122.3643641
766	1111	37.7172755	-122.3643575
767	1144	37.71727159	-122.3643508
768	1177	37.71726774	-122.3643441
769	1246	37.71726417	-122.3643379
770	1225	37.71726039	-122.3643307
771	1226	37.7172565	-122.3643244
772	1145	37.71725291	-122.3643182
773	1136	37.71724937	-122.3643117
774	1156	37.71724563	-122.3643049
775	1124	37.71724306	-122.3642985
776	1147	37.71724225	-122.3642931
777	1194	37.71724174	-122.3642883
778	1210	37.7172425	-122.3642829
779	1162	37.71724456	-122.3642764
780	1131	37.71724798	-122.3642701
781	1134	37.71725217	-122.3642641
782	1079	37.71725727	-122.3642579
783	1008	37.7172621	-122.3642519
784	1064	37.71726756	-122.3642462
785	1056	37.71727336	-122.3642405
786	920	37.7172793	-122.3642349
787	1001	37.71728478	-122.3642293
788	1006	37.71729052	-122.3642238
789	1027	37.71729647	-122.3642184
790	1107	37.71730211	-122.364213
791	1117	37.71730788	-122.3642075
792	1176	37.71731351	-122.3642022
793	1113	37.71731932	-122.3641968
794	988	37.71732541	-122.364191
795	926	37.71733106	-122.3641856
796	890	37.71733675	-122.3641802
797	1017	37.71734267	-122.3641743

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
798	1261	37.71734868	-122.3641686
799	1335	37.71735463	-122.3641631
800	1341	37.7173605	-122.3641578
801	**1374**	**37.71736678**	**-122.3641522**
802	1345	37.71737285	-122.3641468
803	1397	37.71737913	-122.3641418
804	1276	37.71738513	-122.3641381
805	1291	37.71739042	-122.3641362
806	1246	37.71739542	-122.3641363
807	1027	37.71739993	-122.3641382
808	957	37.71740536	-122.3641419
809	985	37.71741071	-122.3641469
810	882	37.71741577	-122.3641527
811	904	37.71742057	-122.3641592
812	850	37.71742537	-122.3641662
813	833	37.71742999	-122.3641734
814	889	37.71743451	-122.3641812
815	998	37.71743887	-122.3641885
816	965	37.71744292	-122.3641962
817	1112	37.71744701	-122.3642037
818	1265	37.71745133	-122.3642111
819	1363	37.71745515	-122.364218
820	1419	37.71745959	-122.3642257
821	1434	37.71746361	-122.3642331
822	1401	37.71746776	-122.3642403
823	1317	37.71747175	-122.3642473
824	1249	37.71747591	-122.3642548
825	1214	37.71747831	-122.3642617
826	1216	37.71747925	-122.3642679
827	1249	37.71747892	-122.3642743
828	1309	37.71747755	-122.3642814
829	1371	37.71747476	-122.3642882
830	1431	37.7174711	-122.364295
831	1461	37.71746653	-122.3643019
832	1438	37.71746187	-122.3643081
833	1375	37.71745669	-122.3643143
834	1295	37.71745168	-122.3643199
835	1245	37.71744585	-122.3643254
836	1217	37.71744042	-122.3643308
837	1144	37.71743464	-122.364336
838	1064	37.71742924	-122.3643413
839	1074	37.71742314	-122.3643468
840	1082	37.71741718	-122.3643518
841	1114	37.71741155	-122.3643571
842	1058	37.71740543	-122.3643623
843	1061	37.71739947	-122.364368
844	1086	37.71739356	-122.3643735
845	1148	37.71738774	-122.3643787
846	1205	37.71738204	-122.3643841
847	1270	37.71737623	-122.3643892
848	1291	37.71737091	-122.3643942
849	1315	37.71736525	-122.364399
850	1336	37.71735931	-122.3644041
851	1299	37.71735349	-122.3644089
852	1291	37.71734749	-122.3644129
853	1345	37.71734222	-122.3644149
854	1365	37.7173363	-122.3644156

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
855	1197	37.71733079	-122.3644145
856	1242	37.71732578	-122.3644121
857	1271	37.7173205	-122.3644083
858	1246	37.7173154	-122.3644035
859	1227	37.71731039	-122.3643973
860	1210	37.71730571	-122.3643913
861	1233	37.71730109	-122.3643841
862	1216	37.71729667	-122.3643771
863	1243	37.71729219	-122.3643696
864	1277	37.71728824	-122.3643624
865	1249	37.71728398	-122.3643552
866	1246	37.71728008	-122.3643487
867	1195	37.71727605	-122.3643415
868	1267	37.71727167	-122.3643346
869	1265	37.71726754	-122.3643272
870	1212	37.71726349	-122.3643201
871	1196	37.71725945	-122.3643132
872	1263	37.71725586	-122.3643065
873	1245	37.71725352	-122.3642997
874	1231	37.71725279	-122.3642938
875	1170	37.71725328	-122.3642884
876	1213	37.71725501	-122.3642828
877	1156	37.71725735	-122.3642764
878	1129	37.71726097	-122.3642701
879	1008	37.71726533	-122.3642639
880	995	37.71727011	-122.3642582
881	1005	37.71727568	-122.3642523
882	1105	37.7172811	-122.3642462
883	998	37.71728651	-122.3642404
884	933	37.71729194	-122.3642349
885	1041	37.71729768	-122.3642291
886	1121	37.71730325	-122.3642235
887	1189	37.71730867	-122.3642184
888	1153	37.71731426	-122.3642133
889	1282	37.71731998	-122.3642081
890	1141	37.71732562	-122.364203
891	1105	37.71733137	-122.3641975
892	1109	37.71733671	-122.3641927
893	1052	37.71734203	-122.3641876
894	1121	37.71734762	-122.3641823
895	1239	37.71735325	-122.3641772
896	1270	37.71735883	-122.364172
897	1198	37.7173651	-122.3641668
898	1161	37.71737111	-122.3641616
899	1216	37.71737715	-122.3641568
900	1251	37.71738266	-122.3641532
901	1261	37.71738794	-122.3641516
902	1214	37.71739297	-122.3641517
903	1170	37.71739797	-122.3641531
904	1040	37.717403	-122.3641562
905	1077	37.717408	-122.3641607
906	995	37.71741303	-122.3641665
907	843	37.71741769	-122.3641726
908	823	37.7174227	-122.36418
909	882	37.71742734	-122.3641873
910	875	37.71743169	-122.3641948
911	917	37.71743603	-122.3642018

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
912	1091	37.71744067	-122.3642092
913	1093	37.71744513	-122.3642164
914	1096	37.71744932	-122.3642234
915	1096	37.7174536	-122.3642302
916	1105	37.71745756	-122.3642371
917	1119	37.71746166	-122.3642436
918	1127	37.71746531	-122.3642501
919	1127	37.71746806	-122.3642558
920	1127	37.71746918	-122.3642618
921	1129	37.71746929	-122.3642674
922	1126	37.71746821	-122.3642735
923	1126	37.71746641	-122.3642799
924	1127	37.71746344	-122.3642866
925	1128	37.71745992	-122.3642931
926	1129	37.71745562	-122.3642994
927	1129	37.71745132	-122.3643054
928	1129	37.71744631	-122.3643112
929	1129	37.71744157	-122.3643168
930	1129	37.71743653	-122.3643221
931	1132	37.71743128	-122.3643274
932	1041	37.71742609	-122.3643329
933	1015	37.71742069	-122.364338
934	1047	37.71741551	-122.364343
935	1047	37.71740999	-122.3643481
936	1127	37.71740443	-122.3643525
937	1108	37.71739907	-122.3643578
938	1105	37.71739385	-122.3643627
939	1113	37.71738815	-122.3643678
940	1113	37.71738307	-122.3643727
941	1180	37.71737781	-122.3643775
942	1181	37.71737286	-122.3643821
943	1186	37.71736768	-122.3643871
944	1187	37.71736245	-122.3643918
945	1175	37.71735718	-122.364397
946	1240	37.71735186	-122.3644008
947	1273	37.71734624	-122.3644041
948	1295	37.71734127	-122.3644057
949	1314	37.71733614	-122.3644058
950	1315	37.71733106	-122.3644047
951	1323	37.71732646	-122.3644029
952	1319	37.71732176	-122.3643996
953	1293	37.71731723	-122.3643947
954	1292	37.71731259	-122.3643891
955	1312	37.71730812	-122.3643826
956	1316	37.717304	-122.3643762
957	1316	37.71729978	-122.3643696
958	1316	37.71729524	-122.3643626
959	1329	37.71729123	-122.3643557
960	**1355**	**37.71728723**	**-122.3643491**
961	1318	37.71728334	-122.3643427
962	1302	37.71727902	-122.3643356
963	1293	37.71727496	-122.3643286
964	1198	37.71727096	-122.364322
965	1158	37.71726746	-122.364315
966	1221	37.71726413	-122.3643084
967	1211	37.71726266	-122.3643023
968	1197	37.71726226	-122.3642964

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
969	1251	37.71726247	-122.3642907
970	1216	37.71726386	-122.3642843
971	1145	37.71726682	-122.3642778
972	1134	37.71727045	-122.3642717
973	1103	37.71727445	-122.3642658
974	1095	37.71727938	-122.36426
975	1198	37.71728428	-122.3642541
976	1096	37.71728953	-122.3642485
977	1020	37.71729482	-122.3642434
978	1018	37.71730024	-122.364238
979	1150	37.71730565	-122.3642328
980	1175	37.71731096	-122.364228
981	1207	37.71731677	-122.3642226
982	1248	37.71732214	-122.3642176
983	1145	37.7173277	-122.3642126
984	1128	37.71733342	-122.3642079
985	1134	37.71733915	-122.3642023
986	1103	37.71734453	-122.3641977
987	1115	37.7173503	-122.3641925
988	1214	37.71735572	-122.3641874
989	1140	37.71736146	-122.364182
990	1167	37.71736707	-122.3641771
991	1148	37.71737259	-122.3641719
992	1145	37.71737799	-122.3641674
993	1115	37.71738315	-122.3641649
994	1261	37.71738761	-122.3641641
995	1184	37.71739158	-122.3641648
996	1032	37.7173963	-122.3641672
997	945	37.71740122	-122.3641711
998	1045	37.71740643	-122.3641758
999	939	37.71741143	-122.3641813
1000	836	37.71741632	-122.3641871
1001	772	37.71742126	-122.3641937
1002	828	37.71742567	-122.3642006
1003	951	37.71742974	-122.3642073
1004	995	37.71743363	-122.3642142
1005	1430	37.71743779	-122.364221
1006	1431	37.7174418	-122.3642278
1007	1545	37.71744558	-122.3642342
1008	1152	37.71744867	-122.3642394
1009	1175	37.71745253	-122.364246
1010	1145	37.71745585	-122.3642528
1011	1143	37.71745751	-122.3642584
1012	1150	37.71745814	-122.3642649
1013	**1797**	**37.71745797**	**-122.3642709**
1014	1792	37.71745659	-122.3642772
1015	1596	37.71745399	-122.3642837
1016	1467	37.7174503	-122.3642906
1017	1431	37.71744625	-122.3642969
1018	1216	37.7174419	-122.3643024
1019	1185	37.71743728	-122.3643078
1020	1085	37.71743236	-122.3643135
1021	1060	37.71742715	-122.3643186
1022	992	37.7174217	-122.364324
1023	926	37.71741646	-122.3643289
1024	960	37.71741098	-122.3643339
1025	1067	37.71740581	-122.3643384

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1026	1119	37.71740028	-122.3643433
1027	1160	37.71739534	-122.3643485
1028	1146	37.71739002	-122.3643534
1029	1141	37.71738448	-122.3643587
1030	1164	37.71737955	-122.3643635
1031	1139	37.71737437	-122.3643686
1032	1181	37.71736897	-122.3643731
1033	[illegible]	37.71736362	-122.3643777
1034	[illegible]	37.71735833	-122.3643824
1035	[illegible]	37.71735296	-122.3643869
1036	1197	37.71734712	-122.3643907
1037	[illegible]	37.71734194	-122.3643926
1038	[illegible]	37.71733733	-122.3643933
1039	[illegible]	37.71733322	-122.3643923
1040	[illegible]	37.71732892	-122.3643903
1041	[illegible]	37.71732392	-122.3643869
1042	[illegible]	37.71731936	-122.3643825
1043	[illegible]	37.71731428	-122.3643766
1044	[illegible]	37.71730967	-122.3643703
1045	[illegible]	37.71730504	-122.364364
1046	[illegible]	37.71730096	-122.3643577
1047	[illegible]	37.71729703	-122.3643512
1048	[illegible]	37.71729302	-122.364345
1049	[illegible]	37.71728929	-122.3643386
1050	[illegible]	37.71728542	-122.3643322
1051	[illegible]	37.71728154	-122.3643254
1052	1105	37.717278	-122.3643182
1053	1109	37.71727496	-122.3643117
1054	1136	37.7172732	-122.3643054
1055	1189	37.71727217	-122.3642993
1056	1179	37.71727202	-122.3642937
1057	1124	37.7172732	-122.3642879
1058	1156	37.71727585	-122.3642817
1059	1170	37.7172786	-122.3642754
1060	[illegible]	37.71728241	-122.3642696
1061	1179	37.71728653	-122.364264
1062	[illegible]	37.71729141	-122.3642585
1063	1195	37.71729624	-122.3642535
1064	1167	37.71730113	-122.3642481
1065	1201	37.71730602	-122.3642427
1066	1161	37.71731111	-122.3642377
1067	1170	37.71731639	-122.3642324
1068	1189	37.71732137	-122.3642275
1069	[illegible]	37.71732664	-122.3642226
1070	[illegible]	37.71733222	-122.3642179
1071	1169	37.71733783	-122.3642132
1072	1103	37.717343	-122.3642084
1073	1132	37.71734844	-122.3642042
1074	1115	37.71735412	-122.3641991
1075	1181	37.71735936	-122.364194
1076	[illegible]	37.71736456	-122.3641892
1077	[illegible]	37.71737008	-122.3641845
1078	[illegible]	37.71737535	-122.3641804
1079	[illegible]	37.71738023	-122.3641777
1080	[illegible]	37.71738492	-122.3641767
1081	1102	37.71738938	-122.3641771
1082	998	37.71739362	-122.3641788

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1083	984	37.71739826	-122.3641818
1084	892	37.71740327	-122.3641864
1085	858	37.71740794	-122.3641917
1086	878	37.71741227	-122.3641979
1087	857	37.71741649	-122.3642041
1088	932	37.71742091	-122.3642106
1089	963	37.71742521	-122.3642167
1090	1110	37.71742934	-122.3642232
1091	1127	37.71743348	-122.3642292
1092	1148	37.71743761	-122.3642357
1093	1195	37.71744123	-122.3642413
1094	1291	37.71744457	-122.3642469
1095	1334	37.71744706	-122.3642524
1096	1316	37.71744838	-122.3642576
1097	1265	37.71744893	-122.3642626
1098	1247	37.71744861	-122.3642684
1099	1259	37.71744759	-122.3642741
1100	1279	37.71744536	-122.3642802
1101	1247	37.71744222	-122.3642857
1102	1219	37.71743849	-122.364291
1103	1135	37.71743454	-122.3642966
1104	1132	37.71743013	-122.3643018
1105	987	37.71742557	-122.3643069
1106	971	37.71742072	-122.364312
1107	948	37.71741603	-122.3643165
1108	986	37.71741099	-122.3643213
1109	1017	37.71740612	-122.3643261
1110	1066	37.7174012	-122.3643305
1111	1138	37.71739643	-122.3643353
1112	1165	37.71739162	-122.3643399
1113	1195	37.71738655	-122.3643445
1114	1234	37.71738137	-122.3643491
1115	1246	37.71737641	-122.3643537
1116	1257	37.71737164	-122.364358
1117	1245	37.71736691	-122.3643627
1118	1215	37.71736218	-122.3643672
1119	1234	37.71735737	-122.3643722
1120	1275	37.71735265	-122.3643767
1121	1294	37.71734799	-122.3643794
1122	1337	37.71734383	-122.3643811
1123	1338	37.71733973	-122.3643815
1124	1340	37.71733583	-122.3643809
1125	1325	37.71733133	-122.364379
1126	1321	37.71732711	-122.3643763
1127	1344	37.71732224	-122.3643725
1128	1351	37.71731794	-122.3643675
1129	1340	37.71731376	-122.3643622
1130	1324	37.71730975	-122.3643564
1131	1293	37.71730608	-122.3643505
1132	1272	37.71730212	-122.3643441
1133	1232	37.71729804	-122.3643383
1134	1264	37.7172942	-122.3643323
1135	1234	37.71729034	-122.3643264
1136	1175	37.71728676	-122.3643206
1137	1140	37.71728357	-122.3643152
1138	1129	37.71728106	-122.3643098
1139	1123	37.71727949	-122.3643044

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1140	1117	37.71727897	-122.3642989
1141	1147	37.71727915	-122.3642938
1142	1130	37.71728067	-122.3642883
1143	1099	37.71728327	-122.3642823
1144	1193	37.71728663	-122.3642764
1145	1217	37.71729029	-122.3642711
1146	1175	37.7172951	-122.3642654
1147	1242	37.71729978	-122.3642603
1148	1212	37.7173046	-122.3642552
1149	1186	37.71730975	-122.3642501
1150	1099	37.71731517	-122.3642452
1151	1147	37.71732077	-122.3642404
1152	1231	37.71732605	-122.3642356
1153	1200	37.71733173	-122.3642307
1154	1176	37.71733689	-122.3642258
1155	1175	37.71734231	-122.3642208
1156	1118	37.71734785	-122.364216
1157	1097	37.71735351	-122.3642112
1158	1126	37.7173591	-122.3642065
1159	1173	37.71736471	-122.3642018
1160	1197	37.7173701	-122.3641977
1161	1087	37.71737565	-122.3641938
1162	1086	37.71738055	-122.3641915
1163	992	37.7173846	-122.3641908
1164	1016	37.71738882	-122.3641913
1165	973	37.71739364	-122.3641933
1166	885	37.71739887	-122.3641967
1167	953	37.71740375	-122.3642011
1168	1012	37.71740873	-122.3642065
1169	1087	37.71741346	-122.3642123
1170	1117	37.71741778	-122.3642184
1171	1236	37.71742182	-122.3642245
1172	1219	37.717426	-122.3642313
1173	1196	37.71742997	-122.3642377
1174	1203	37.71743376	-122.3642439
1175	1172	37.71743692	-122.3642499
1176	1216	37.7174388	-122.364256
1177	1179	37.71743947	-122.3642619
1178	1247	37.71743899	-122.3642678
1179	1243	37.71743744	-122.3642735
1180	1215	37.71743482	-122.36428
1181	1296	37.71743144	-122.3642862
1182	1240	37.717428	-122.3642922
1183	1024	37.71742362	-122.3642975
1184	999	37.71741866	-122.3643031
1185	941	37.71741369	-122.3643084
1186	966	37.71740878	-122.3643137
1187	1005	37.71740349	-122.3643189
1188	1135	37.71739816	-122.3643242
1189	1135	37.71739318	-122.3643291
1190	1187	37.71738783	-122.364334
1191	1241	37.71738248	-122.3643389
1192	1199	37.71737708	-122.3643437
1193	1176	37.71737203	-122.3643482
1194	1231	37.7173667	-122.3643526
1195	1245	37.71736149	-122.3643572
1196	1228	37.71735631	-122.3643615

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1197	1216	37.71735121	-122.3643645
1198	1262	37.71734601	-122.3643665
1199	1450	37.71734116	-122.364367
1200	**1504**	**37.7173363**	**-122.3643663**
1201	1291	37.71733148	-122.3643641
1202	1159	37.71732615	-122.3643603
1203	1221	37.71732157	-122.3643557
1204	1265	37.71731714	-122.3643503
1205	1167	37.71731293	-122.3643452
1206	1174	37.7173086	-122.3643391
1207	1158	37.71730455	-122.3643329
1208	1157	37.71730062	-122.3643268
1209	1192	37.71729684	-122.3643208
1210	1221	37.71729339	-122.364314
1211	1089	37.71729155	-122.3643083
1212	1130	37.717291	-122.3643028
1213	1093	37.71729118	-122.3642974
1214	1106	37.71729249	-122.3642918
1215	1101	37.71729485	-122.3642858
1216	1183	37.71729782	-122.3642799
1217	1185	37.71730182	-122.3642739
1218	1209	37.71730587	-122.3642683
1219	1187	37.71731056	-122.3642627
1220	1162	37.7173156	-122.3642575
1221	1116	37.71732094	-122.3642524
1222	1098	37.71732642	-122.3642475
1223	1154	37.71733191	-122.3642425
1224	1206	37.71733746	-122.3642375
1225	1240	37.71734277	-122.3642323
1226	1267	37.71734822	-122.3642275
1227	1214	37.71735362	-122.364223
1228	1186	37.71735893	-122.364218
1229	1180	37.71736423	-122.3642134
1230	1189	37.71736937	-122.3642089
1231	1127	37.71737456	-122.3642057
1232	1014	37.71737884	-122.3642035
1233	1013	37.71738277	-122.3642032
1234	943	37.71738706	-122.3642042
1235	991	37.71739244	-122.3642065
1236	930	37.71739742	-122.3642103
1237	992	37.71740273	-122.3642149
1238	1132	37.71740723	-122.36422
1239	1059	37.71741173	-122.3642257
1240	1140	37.71741588	-122.3642317
1241	1293	37.71742009	-122.3642375
1242	1319	37.71742402	-122.3642434
1243	1346	37.71742699	-122.3642497
1244	1367	37.71742869	-122.3642556
1245	1410	37.71742915	-122.3642612
1246	1405	37.71742863	-122.364267
1247	1374	37.71742709	-122.3642724
1248	1348	37.71742478	-122.3642783
1249	1310	37.71742159	-122.364284
1250	1038	37.71741742	-122.36429
1251	996	37.7174129	-122.3642956
1252	925	37.71740817	-122.3643013
1253	995	37.71740341	-122.3643063

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1254	1069	37.71739789	-122.3643118
1255	1082	37.71739285	-122.364317
1256	1111	37.71738762	-122.3643221
1257	1173	37.71738233	-122.3643271
1258	1241	37.71737716	-122.364332
1259	1315	37.71737198	-122.364337
1260	1383	37.71736671	-122.3643417
1261	1424	37.71736158	-122.3643465
1262	1393	37.71735666	-122.364351
1263	1297	37.71735176	-122.3643547
1264	1222	37.71734703	-122.3643567
1265	1176	37.71734275	-122.3643573
1266	1164	37.7173383	-122.3643565
1267	1181	37.71733324	-122.3643542
1268	1216	37.71732875	-122.3643508
1269	1241	37.71732393	-122.3643462
1270	1253	37.71731967	-122.3643412
1271	1247	37.71731524	-122.364336
1272	1222	37.71731097	-122.3643296
1273	1190	37.71730696	-122.3643236
1274	1157	37.71730343	-122.3643173
1275	1136	37.71730125	-122.3643116
1276	1116	37.71729981	-122.3643053
1277	1169	37.71729995	-122.3642998
1278	1154	37.71730045	-122.3642946
1279	1162	37.71730244	-122.3642889
1280	1168	37.71730542	-122.3642829
1281	1162	37.71730932	-122.3642771
1282	1167	37.71731381	-122.3642716
1283	1106	37.71731885	-122.364266
1284	1108	37.71732404	-122.3642606
1285	1135	37.71732918	-122.3642556
1286	1094	37.71733449	-122.3642509
1287	1132	37.71734035	-122.3642457
1288	1094	37.7173457	-122.3642409
1289	1163	37.7173512	-122.3642357
1290	1142	37.71735648	-122.364231
1291	1148	37.71736185	-122.3642263
1292	1163	37.71736674	-122.3642217
1293	1134	37.71737169	-122.3642179
1294	1064	37.71737596	-122.3642159
1295	992	37.71738016	-122.3642146
1296	978	37.71738451	-122.3642156
1297	954	37.71738931	-122.3642176
1298	887	37.71739415	-122.3642211
1299	951	37.71739935	-122.3642258
1300	1011	37.71740394	-122.3642309
1301	1055	37.71740844	-122.3642364
1302	1155	37.71741237	-122.3642422
1303	1245	37.71741554	-122.364248
1304	1302	37.71741722	-122.3642534
1305	1294	37.71741763	-122.3642588
1306	1248	37.71741697	-122.3642641
1307	1175	37.71741545	-122.3642698
1308	1160	37.71741283	-122.3642759
1309	1040	37.71740983	-122.3642821
1310	1001	37.71740619	-122.3642881

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1311	894	37.71740176	-122.3642939
1312	933	37.71739723	-122.3642995
1313	993	37.71739244	-122.3643049
1314	1024	37.71738744	-122.3643099
1315	1074	37.71738227	-122.3643152
1316	1138	37.71737715	-122.3643203
1317	1192	37.71737193	-122.3643253
1318	1181	37.71736718	-122.36433
1319	1148	37.71736191	-122.3643353
1320	1210	37.71735683	-122.3643393
1321	1217	37.71735215	-122.3643419
1322	1216	37.71734682	-122.3643428
1323	1261	37.71734258	-122.3643426
1324	1254	37.71733824	-122.3643409
1325	1246	37.71733345	-122.3643384
1326	1214	37.71732936	-122.3643354
1327	1196	37.71732505	-122.3643311
1328	1197	37.71732031	-122.3643261
1329	1253	37.71731612	-122.3643208
1330	1242	37.71731307	-122.3643153
1331	1164	37.71731108	-122.3643092
1332	1091	37.71731016	-122.3643041
1333	1118	37.71731036	-122.3642989
1334	1162	37.71731118	-122.364294
1335	1198	37.71731325	-122.3642883
1336	1146	37.71731649	-122.3642825
1337	1068	37.71732073	-122.3642769
1338	1059	37.71732547	-122.3642714
1339	1093	37.71733015	-122.3642659
1340	1091	37.71733509	-122.3642608
1341	1081	37.71734041	-122.364256
1342	1031	37.71734571	-122.364251
1343	1047	37.7173508	-122.3642465
1344	1058	37.71735629	-122.3642418
1345	1081	37.71736136	-122.3642375
1346	1068	37.71736676	-122.3642332
1347	1104	37.71737165	-122.3642303
1348	1092	37.71737629	-122.3642291
1349	1091	37.71738055	-122.3642289
1350	1003	37.7173857	-122.3642305
1351	1011	37.71739032	-122.3642334
1352	1038	37.71739491	-122.3642371
1353	1035	37.71739934	-122.3642417
1354	1164	37.71740268	-122.3642467
1355	1246	37.71740462	-122.3642517
1356	1219	37.71740541	-122.3642567
1357	1195	37.71740511	-122.3642623
1358	1100	37.71740418	-122.3642676
1359	990	37.71740214	-122.3642738
1360	970	37.71739932	-122.3642795
1361	949	37.71739561	-122.3642855
1362	960	37.71739143	-122.3642909
1363	979	37.71738698	-122.3642961
1364	995	37.71738228	-122.3643012
1365	969	37.71737759	-122.3643062
1366	1042	37.71737265	-122.3643111
1367	1112	37.71736745	-122.364316

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1368	1129	37.71736273	-122.3643205
1369	1172	37.71735757	-122.3643252
1370	1194	37.71735286	-122.3643278
1371	1141	37.71734834	-122.3643291
1372	1120	37.71734434	-122.3643289
1373	1165	37.71733976	-122.3643277
1374	1141	37.7173352	-122.3643251
1375	1113	37.71733046	-122.3643218
1376	1205	37.71732616	-122.3643173
1377	1148	37.71732268	-122.3643122
1378	1104	37.71732109	-122.3643074
1379	1097	37.71732076	-122.3643037
1380	1079	37.71732091	-122.3643004
1381	1096	37.71732205	-122.3642954
1382	1098	37.71732447	-122.3642897
1383	1065	37.71732787	-122.3642837
1384	1075	37.71733219	-122.3642777
1385	989	37.71733686	-122.3642722
1386	1035	37.71734183	-122.364267
1387	1051	37.71734677	-122.3642619
1388	1039	37.71735185	-122.3642567
1389	1042	37.71735714	-122.3642517
1390	1047	37.71736237	-122.3642471
1391	1087	37.71736724	-122.3642431
1392	1097	37.71737191	-122.3642411
1393	1140	37.71737662	-122.3642406
1394	1128	37.71738133	-122.3642415
1395	1114	37.71738616	-122.364244
1396	1119	37.71738995	-122.3642471
1397	1138	37.71739204	-122.3642502
1398	1147	37.71739349	-122.3642535
1399	1128	37.7173944	-122.3642584
1400	1072	37.7173943	-122.3642633
1401	990	37.71739301	-122.3642685
1402	1063	37.71739098	-122.3642749
1403	999	37.71738789	-122.3642808
1404	949	37.71738422	-122.3642861
1405	968	37.71738004	-122.3642913
1406	922	37.71737618	-122.3642965
1407	1002	37.71737074	-122.3643026
1408	975	37.71736516	-122.3643082
1409	1006	37.71735967	-122.3643133
1410	1033	37.7173542	-122.3643166
1411	1054	37.71735009	-122.3643177
1412	1090	37.71734565	-122.3643175
1413	1092	37.71734104	-122.3643161
1414	1057	37.71733807	-122.3643133
1415	1104	37.71733656	-122.3643101
1416	1125	37.71733594	-122.3643069
1417	1089	37.7173356	-122.3643028
1418	973	37.71733674	-122.3642965
1419	972	37.71733899	-122.3642908
1420	1012	37.71734195	-122.3642848
1421	977	37.71734562	-122.364279
1422	1057	37.71735024	-122.3642727
1423	1032	37.71735502	-122.364267
1424	1001	37.71736014	-122.3642614

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1425	1052	37.71736527	-122.364256
1426	1052	37.71737055	-122.3642513
1427	1103	37.71737548	-122.3642489
1428	1107	37.71737949	-122.3642487
1429	1181	37.71738239	-122.3642495
1430	1163	37.71738341	-122.3642506
1431	1147	37.71738383	-122.3642521
1432	1175	37.71738434	-122.3642545
1433	1134	37.71738458	-122.3642583
1434	1106	37.71738427	-122.3642633
1435	1079	37.717383	-122.3642688
1436	1065	37.71738039	-122.3642751
1437	1024	37.7173764	-122.3642817
1438	993	37.71737202	-122.3642876
1439	950	37.71736718	-122.3642933
1440	1001	37.71736254	-122.3642988
1441	985	37.71735813	-122.3643028
1442	1035	37.71735421	-122.3643046
1443	1061	37.71735145	-122.3643048
1444	1104	37.71735022	-122.364304
1445	1059	37.71735053	-122.3643037
1446	1074	37.71735119	-122.3643034
1447	1069	37.71735136	-122.364302
1448	1005	37.71735141	-122.3642989
1449	1021	37.717352	-122.3642947
1450	1049	37.71735356	-122.364289
1451	1043	37.71735635	-122.3642828
1452	1090	37.71736011	-122.3642767
1453	1074	37.71736455	-122.3642705
1454	1050	37.71736916	-122.3642655
1455	1056	37.71737322	-122.3642632
1456	1025	37.71737633	-122.3642629
1457	1015	37.7173775	-122.3642637
1458	1091	37.71737747	-122.3642642
1459	1086	37.71737717	-122.3642649
1460	1047	37.717377	-122.3642663
1461	1082	37.71737666	-122.364268
1462	1067	37.71737582	-122.3642714
1463	1011	37.71737428	-122.3642767
1464	1043	37.71737078	-122.3642826
1465	1057	37.71736662	-122.3642873
1466	1022	37.71736249	-122.3642906
1467	1051	37.71735728	-122.3642935
1468	1047	37.71735121	-122.3642957
1469	1056	37.7173454	-122.3642965
1470	1070	37.71733942	-122.3642968
1471	1149	37.71733272	-122.3642966
1472	1121	37.71732589	-122.3642959
1473	1094	37.71731972	-122.3642946
1474	1131	37.7173134	-122.3642934
1475	1170	37.71730758	-122.3642925
1476	1141	37.71730173	-122.364291
1477	1144	37.71729637	-122.3642903
1478	1066	37.7172905	-122.3642895
1479	1038	37.71728516	-122.3642888
1480	1152	37.71727976	-122.3642879
1481	1187	37.7172751	-122.3642874

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1482	1267	37.71726994	-122.3642874
1483	1263	37.71726509	-122.3642872
1484	1209	37.71726011	-122.3642866
1485	1246	37.7172554	-122.3642863
1486	1184	37.7172496	-122.364286
1487	1200	37.71724494	-122.3642858
1488	1177	37.71723993	-122.3642854
1489	1176	37.71723486	-122.364285
1490	1193	37.71722996	-122.3642851
1491	1216	37.71722542	-122.3642849
1492	1243	37.71722137	-122.3642851
1493	1270	37.71721707	-122.364285
1494	1317	37.71721279	-122.3642847
1495	1341	37.71720862	-122.364284
1496	1400	37.71720466	-122.3642831
1497	1414	37.71720068	-122.3642812
1498	1419	37.71719762	-122.364279
1499	1457	37.7171946	-122.3642756
1500	1447	37.71719254	-122.3642716
1501	1441	37.71719197	-122.3642709
1502	1457	37.71719175	-122.3642678
1503	1444	37.71719211	-122.3642624
1504	1475	37.71719404	-122.3642557
1505	1454	37.7171988	-122.3642474
1506	1393	37.71720377	-122.3642387
1507	1403	37.717209	-122.3642314
1508	1362	37.71721202	-122.3642278
1509	1413	37.71720613	-122.3642351
1510	1434	37.71719858	-122.3642433
1511	1444	37.71719146	-122.3642503
1512	1451	37.71718272	-122.3642591
1513	1439	37.71717633	-122.3642667
1514	1416	37.71718286	-122.3642588
1515	1393	37.71719021	-122.3642518
1516	1360	37.71719881	-122.3642452
1517	1329	37.71720728	-122.364239
1518	1430	37.71721304	-122.3642343
1519	1375	37.71720405	-122.3642427
1520	1331	37.71719551	-122.3642545
1521	1328	37.71718684	-122.3642654
1522	1411	37.7171797	-122.3642728
1523	1347	37.71718515	-122.3642673
1524	1322	37.71719178	-122.3642618
1525	1367	37.7171976	-122.3642593
1526	1363	37.71720322	-122.3642593
1527	1335	37.71720956	-122.3642606
1528	1187	37.7172172	-122.3642637
1529	1224	37.71722403	-122.3642662
1530	1228	37.71723119	-122.3642694
1531	1200	37.71723839	-122.3642722
1532	1149	37.71724545	-122.3642761
1533	1187	37.71725093	-122.3642815
1534	1229	37.71725625	-122.3642879
1535	1184	37.717262	-122.3642949
1536	1195	37.71726703	-122.3643029
1537	1148	37.71727185	-122.3643106
1538	1144	37.71727652	-122.3643174

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1539	1267	37.71728206	-122.3643241
1540	1273	37.71728763	-122.3643279
1541	1210	37.71729332	-122.3643293
1542	1297	37.71729909	-122.3643295
1543	1267	37.71730634	-122.3643277
1544	1175	37.7173135	-122.3643246
1545	1142	37.71732056	-122.3643206
1546	1042	37.71732722	-122.3643158
1547	1118	37.71733406	-122.36431
1548	1037	37.71734091	-122.3643044
1549	1013	37.71734715	-122.3642987
1550	1048	37.71735315	-122.3642931
1551	1088	37.7173597	-122.3642865
1552	1020	37.71736612	-122.36428
1553	1061	37.71737279	-122.3642734
1554	1015	37.7173793	-122.3642671
1555	1094	37.71738579	-122.3642609
1556	1148	37.71739228	-122.3642545
1557	1070	37.7173986	-122.3642484
1558	1014	37.71740543	-122.3642417
1559	1024	37.71741166	-122.3642352
1560	1183	37.71741803	-122.3642286
1561	1145	37.71742389	-122.3642219
1562	922	37.71743036	-122.3642147
1563	958	37.71743656	-122.3642081
1564	966	37.71744324	-122.3642023
1565	1054	37.71744969	-122.3641977
1566	1197	37.71745707	-122.3641937
1567	1211	37.71746367	-122.364192
1568	1174	37.71747074	-122.3641917
1569	1135	37.71747747	-122.3641935
1570	1227	37.71748427	-122.3641973
1571	1216	37.71749072	-122.3642021
1572	1191	37.71749681	-122.364208
1573	1192	37.71750275	-122.3642151
1574	1179	37.71750845	-122.364222
1575	1242	37.71751366	-122.3642298
1576	**1557**	**37.71751892**	**-122.3642373**
1577	1213	37.71752401	-122.3642448
1578	1179	37.71752879	-122.364252
1579	1175	37.71753272	-122.3642595
1580	1181	37.71753498	-122.3642671
1581	1116	37.71753565	-122.3642755
1582	1128	37.71753489	-122.3642832
1583	1168	37.71753249	-122.364291
1584	1121	37.7175292	-122.364299
1585	1219	37.71752537	-122.3643076
1586	1184	37.71752091	-122.364315
1587	1175	37.71751606	-122.3643216
1588	1215	37.71751104	-122.3643285
1589	1144	37.7175097	-122.3643304
1590	1182	37.71751526	-122.3643242
1591	1194	37.71752388	-122.3643168
1592	1206	37.7175331	-122.3643089
1593	1251	37.71754255	-122.3643005
1594	1168	37.71755135	-122.3642918
1595	1164	37.71755161	-122.3642915

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1596	1170	37.71754245	-122.3642999
1597	1175	37.71753244	-122.3643069
1598	1235	37.7175225	-122.3643133
1599	1240	37.71751372	-122.3643201
1600	1245	37.71751457	-122.3643192
1601	1119	37.71752065	-122.3643134
1602	1176	37.71752608	-122.3643048
1603	1174	37.71752988	-122.3642961
1604	1113	37.71753377	-122.364287
1605	1157	37.71753874	-122.3642783
1606	1134	37.71754376	-122.3642715
1607	1150	37.7175391	-122.364278
1608	1107	37.71753141	-122.3642863
1609	1125	37.71752516	-122.3642894
1610	1210	37.71751768	-122.3642893
1611	1175	37.71750769	-122.3642865
1612	1175	37.71749725	-122.3642832
1613	1251	37.71748741	-122.3642796
1614	1195	37.71747772	-122.3642767
1615	1196	37.71746672	-122.3642742
1616	1194	37.71745617	-122.3642725
1617	1167	37.71744549	-122.3642716
1618	1145	37.71743525	-122.3642718
1619	**1070**	**37.71742435**	**-122.3642728**
1620	1105	37.71741375	-122.3642735
1621	1040	37.71740584	-122.3642712
1622	1030	37.71739948	-122.3642664
1623	1160	37.71739411	-122.3642576
1624	1129	37.71739087	-122.3642471
1625	1085	37.71738907	-122.3642343
1626	958	37.71738885	-122.3642217
1627	993	37.71739	-122.3642082
1628	984	37.71739184	-122.364195
1629	996	37.71739377	-122.3641819
1630	1155	37.7173956	-122.3641677
1631	1197	37.71739669	-122.3641588
1632	1248	37.71739785	-122.3641489
1633	1221	37.71739887	-122.3641391
1634	1121	37.71739962	-122.3641285
1635	1014	37.71740048	-122.3641188
1636	1076	37.71740125	-122.3641083
1637	1106	37.71740185	-122.3640989
1638	1015	37.71740266	-122.3640897
1639	1034	37.71740434	-122.3640834
1640	1123	37.7174065	-122.3640806
1641	1136	37.71740893	-122.3640793
1642	1089	37.71741157	-122.3640795
1643	1101	37.7174162	-122.3640802
1644	1127	37.71742147	-122.3640831
1645	1070	37.71742772	-122.3640876
1646	1069	37.71743319	-122.3640931
1647	1053	37.71743857	-122.3640987
1648	960	37.71744148	-122.3641024
1649	946	37.71743593	-122.3640955
1650	1050	37.71743108	-122.3640891
1651	1078	37.7174258	-122.3640799
1652	1090	37.71742075	-122.364069

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1653	1052	37.71741479	-122.3640559
1654	981	37.71740988	-122.3640453
1655	1020	37.7174099	-122.364045
1656	1008	37.71741505	-122.3640552
1657	1070	37.71742092	-122.3640659
1658	1111	37.7174269	-122.3640769
1659	1075	37.71742769	-122.3640782
1660	1104	37.71742106	-122.3640683
1661	1079	37.71741405	-122.3640621
1662	1039	37.71740537	-122.3640556
1663	1050	37.7174019	-122.3640525
1664	1009	37.71740823	-122.3640577
1665	1008	37.71741424	-122.364063
1666	1094	37.71741797	-122.3640688
1667	1104	37.71741928	-122.3640739
1668	1106	37.71741902	-122.3640815
1669	1072	37.71741728	-122.3640909
1670	1106	37.71741506	-122.3641006
1671	1049	37.71741166	-122.3641112
1672	926	37.71740887	-122.3641215
1673	959	37.7174061	-122.3641319
1674	1094	37.71740301	-122.3641421
1675	1126	37.71739995	-122.364153
1676	1124	37.71739687	-122.3641635
1677	1083	37.71739385	-122.3641742
1678	1026	37.71739106	-122.3641847
1679	1020	37.71738806	-122.3641951
1680	971	37.71738525	-122.3642054
1681	995	37.7173824	-122.3642149
1682	1136	37.71737962	-122.3642259
1683	1130	37.71737671	-122.3642363
1684	1070	37.71737339	-122.3642467
1685	1025	37.71737022	-122.364257
1686	1030	37.71736692	-122.3642682
1687	1043	37.71736369	-122.3642786
1688	1074	37.71736082	-122.3642881
1689	1032	37.71735762	-122.3642991
1690	982	37.7173546	-122.3643093
1691	1024	37.71735189	-122.3643188
1692	1139	37.71734938	-122.3643281
1693	[illegible]	37.71734689	-122.3643382
1694	[illegible]	37.71734461	-122.364348
1695	[illegible]	37.7173424	-122.3643579
1696	[illegible]	37.71734021	-122.3643678
1697	[illegible]	37.71733764	-122.3643784
1698	[illegible]	37.71733576	-122.364387
1699	[illegible]	37.71733364	-122.3643984
1700	[illegible]	37.71733104	-122.364408
1701	[illegible]	37.71732905	-122.3644182
1702	[illegible]	37.71732739	-122.364428
1703	[illegible]	37.71732559	-122.3644374
1704	[illegible]	37.71732323	-122.3644475
1705	[illegible]	37.71732076	-122.3644563
1706	[illegible]	37.71731802	-122.3644656
1707	[illegible]	37.71731672	-122.3644729
1708	[illegible]	37.71731758	-122.3644786
1709	[illegible]	37.71731877	-122.364481

Pile 334, Pad D04

Sample ID	Gamma Total cps	Latitude	Longitude
1710	1291	37.7173209	-122.3644831
1711	1273	37.71732411	-122.3644848
1712	1204	37.71732982	-122.3644856
1713	1245	37.71733605	-122.3644851
1714	1241	37.71734283	-122.3644832
1715	1165	37.71735062	-122.3644795
1716	1115	37.71735753	-122.3644753
1717	1191	37.71735769	-122.3644752
1718	1271	37.71735125	-122.3644791
1719	1293	37.71734407	-122.3644844
1720	1239	37.71733728	-122.3644903
1721	1211	37.71732877	-122.3644988
1722	1251	37.71732124	-122.3645072
1723	1231	37.71731872	-122.3645099
1724	1164	37.71732647	-122.3645016
1725	1242	37.71733251	-122.3644919
1726	1265	37.71733931	-122.3644794
1727	1273	37.71733938	-122.3644791
1728	1262	37.71733348	-122.3644874
1729	1216	37.71732656	-122.3644939
1730	1243	37.71731721	-122.3645015
1731	1248	37.71731541	-122.364503
1732	1275	37.71732352	-122.3644965
1733	1265	37.71732722	-122.3644888
1734	1275	37.71733016	-122.3644769
1735	1261	37.71733178	-122.3644638
1736	1242	37.71733321	-122.3644503
1737	1243	37.71733413	-122.3644377
1738	1305	37.71733521	-122.3644237
1739	1345	37.71733594	-122.3644106
1740	1375	37.71733677	-122.3643968
1741	1410	37.7173359	-122.3643872
1742	1435	37.71733291	-122.3643808
1743	1465	37.71732901	-122.3643781
1744	1561	37.71732208	-122.3643778
1745	**1672**	**37.71731326**	**-122.36438**
1746	1621	37.71730389	-122.3643855
1747	1549	37.71729538	-122.3643933
1748	1523	37.71728728	-122.3644018
1749	1454	37.71727915	-122.3644132
1750	1375	37.71727311	-122.3644225
1751	1347	37.71727119	-122.3644256
1752	**1603**	**37.71727122**	**-122.3644257**

2004	**Maximum**
190.12	**Std Dev**
1239.14	**Average**
1215	**3 σ Investigation Level**

Investigation Level Exceeded

Biased samples were collected at locations identified by **BOLD**

EXCAVATED SOIL UNIT 421

E11-0421

Sample ID	Gamma Total cps	Easting	Northing
1	589	6020458.90178	2091287.33868
2	612	6020458.76371	2091287.17300
3	578	6020457.34138	2091286.09395
4	593	6020454.02651	2091284.99411
5	627	6020451.23766	2091284.17995
6	651	6020448.55615	2091283.52192
7	633	6020446.02117	2091282.88429
8	663	6020443.52891	2091282.25819
9	668	6020441.07809	2091281.64875
10	644	6020438.64535	2091281.04149
11	713	6020436.23922	2091280.43719
12	705	6020433.94332	2091279.86435
13	735	6020431.70226	2091279.30168
14	736	6020429.52793	2091278.70383
15	653	6020427.48247	2091278.15500
16	676	6020425.45877	2091277.64652
17	685	6020423.46514	2091277.10150
18	717	6020421.41243	2091276.54061
19	734	6020419.29937	2091275.96848
20	725	6020416.86568	2091275.31264
21	713	6020414.30468	2091274.63773
22	737	6020411.46761	2091273.80840
23	*767*	*6020408.79832*	*2091273.03087*
24	725	6020406.29226	2091272.32093
25	712	6020403.11049	2091271.44178
26	736	6020400.43459	2091270.71597
27	774	6020398.40678	2091270.15167
28	766	6020395.97733	2091269.48137
29	839	6020393.31463	2091268.79561
30	816	6020391.57452	2091268.27320
31	800	6020389.67982	2091267.68402
32	838	6020386.95186	2091266.97652
33	809	6020384.92555	2091266.46678
34	818	6020383.03276	2091266.02421
35	[illegible]	6020380.67576	2091265.45975
36	788	6020378.20628	2091264.84940
37	767	6020375.61629	2091264.22417
38	795	6020372.82872	2091263.57285
39	746	6020369.82723	2091262.96933
40	723	6020366.93784	2091261.89494
41	786	6020364.04200	2091260.57447
42	782	6020362.42390	2091258.00651
43	740	6020361.09355	2091255.14985
44	732	6020361.11020	2091251.70135
45	769	6020361.42234	2091249.37901
46	767	6020362.49853	2091246.66833
47	759	6020360.79938	2091251.53185
48	720	6020358.86171	2091256.26050
49	721	6020356.00706	2091261.43812
50	713	6020356.82988	2091259.78979
51	755	6020357.84779	2091257.87606
52	760	6020358.97977	2091254.28708
53	729	6020359.77523	2091251.67854
54	763	6020360.47702	2091249.25812
55	734	6020361.43138	2091245.76575
56	739	6020362.19608	2091242.83801
57	778	6020362.67820	2091240.67994

Sample ID	Gamma Total cps	Easting	Northing
58	788	6020363.28556	2091238.00693
59	797	6020364.04754	2091234.82578
60	764	6020364.79254	2091231.84130
61	767	6020365.54532	2091228.88510
62	841	6020366.42105	2091225.89506
63	771	6020367.29831	2091222.92749
64	769	6020368.20373	2091219.99039
65	784	6020369.12186	2091216.90729
66	800	6020370.03243	2091213.80143
67	773	6020370.82691	2091210.71250
68	802	6020371.62155	2091207.65369
69	*750*	*6020372.44138*	*2091204.63162*
70	777	6020373.19569	2091201.50581
71	763	6020373.87858	2091198.32677
72	711	6020374.59233	2091195.06318
73	709	6020375.31828	2091191.75337
74	717	6020376.06174	2091188.39850
75	722	6020376.91259	2091185.07192
76	718	6020377.68816	2091181.67121
77	751	6020380.03814	2091179.13314
78	746	6020382.66631	2091176.95347
79	702	6020386.14960	2091176.11754
80	724	6020390.03057	2091176.72181
81	753	6020394.85031	2091178.68001
82	746	6020393.22188	2091178.11239
83	718	6020389.68954	2091176.76196
84	722	6020384.75117	2091174.78485
85	713	6020382.42647	2091173.45471
86	723	6020379.24469	2091171.64818
87	753	6020382.11075	2091173.18510
88	760	6020384.43303	2091174.25111
89	710	6020386.71954	2091175.05758
90	752	6020389.34257	2091175.94534
91	694	6020392.08644	2091176.85398
92	710	6020395.11694	2091177.70639
93	721	6020398.16350	2091178.54439
94	700	6020401.24144	2091179.31027
95	725	6020404.14069	2091180.02968
96	663	6020407.00489	2091180.72294
97	*696*	*6020409.82524*	*2091181.51182*
98	719	6020412.69645	2091182.31124
99	733	6020415.62198	2091183.10858
100	707	6020418.97967	2091184.10962
101	724	6020422.38951	2091185.19883
102	803	6020425.72661	2091186.19479
103	[illegible]	6020428.92566	2091187.13251
104	799	6020432.00109	2091187.96108
105	836	6020435.20292	2091188.85266
106	840	6020438.42995	2091189.78615
107	837	6020441.71798	2091190.64288
108	761	6020445.01322	2091191.50510
109	672	6020448.31322	2091192.38199
110	725	6020451.42735	2091193.19441
111	743	6020454.47191	2091193.98039
112	747	6020457.35687	2091194.68713
113	738	6020460.30051	2091195.41283
114	783	6020463.29906	2091196.17266

Sample ID	Gamma Total cps	Easting	Northing
115	768	6020467.25946	2091197.25266
116	780	6020471.38015	2091198.26261
117	756	6020474.19028	2091200.66652
118	*766*	*6020476.64634*	*2091203.70529*
119	761	6020477.96530	2091207.84643
120	749	6020476.66794	2091210.88727
121	791	6020475.07787	2091214.67193
122	760	6020476.31984	2091211.17590
123	768	6020477.92034	2091207.51325
124	772	6020479.72060	2091203.87146
125	735	6020480.42949	2091202.46232
126	763	6020481.16694	2091200.31602
127	743	6020479.96504	2091203.70408
128	764	6020478.72058	2091207.30740
129	765	6020477.49123	2091211.14543
130	780	6020476.42648	2091214.56686
131	773	6020475.41632	2091217.89055
132	785	6020474.44965	2091221.12168
133	780	6020473.50238	2091224.29922
134	757	6020472.58396	2091227.42595
135	801	6020471.73592	2091230.30730
136	725	6020470.89306	2091233.15756
137	691	6020470.03763	2091236.10713
138	737	6020469.18103	2091239.09312
139	727	6020468.35239	2091242.12373
140	737	6020467.27221	2091245.85653
141	665	6020466.26011	2091249.38828
142	728	6020465.51821	2091252.61929
143	747	6020464.67927	2091255.96761
144	729	6020463.81355	2091259.18196
145	743	6020463.17372	2091261.67520
146	723	6020462.52707	2091264.19173
147	673	6020461.85513	2091266.82697
148	647	6020461.21139	2091269.37555
149	*639*	*6020460.63569*	*2091271.84718*
150	606	6020459.36834	2091275.07365
151	567	6020457.52090	2091277.98704
152	572	6020454.78908	2091279.91799
153	588	6020451.77114	2091280.75647
154	625	6020448.56064	2091280.75894
155	623	6020445.88565	2091280.17948
156	678	6020443.22257	2091279.58783
157	623	6020440.58887	2091278.91030
158	676	6020437.62385	2091278.14438
159	734	6020434.32964	2091277.28194
160	722	6020431.43617	2091276.46356
161	650	6020428.62802	2091275.60989
162	599	6020425.79513	2091274.71828
163	588	6020423.09093	2091273.88360
164	678	6020420.39775	2091273.06613
165	711	6020417.63830	2091272.25564
166	719	6020414.74666	2091271.42108
167	714	6020411.71003	2091270.60812
168	754	6020409.17498	2091269.92808
169	737	6020406.74061	2091269.27327
170	766	6020404.07426	2091268.54818
171	724	6020401.37723	2091267.80487

Sample ID	Gamma Total cps	Easting	Northing
172	751	6020398.74552	2091267.08943
173	840	6020395.83459	2091266.30272
174	835	6020392.71082	2091265.47335
175	814	6020389.92855	2091264.75181
176	780	6020387.11562	2091264.02000
177	831	6020384.27433	2091263.26906
178	814	6020381.23979	2091262.46645
179	827	6020378.24551	2091261.68148
180	810	6020375.66616	2091260.96160
181	807	6020372.99616	2091260.25692
182	733	6020370.02939	2091259.14794
183	728	6020367.22156	2091257.88299
184	727	6020364.96020	2091255.82684
185	726	6020363.30866	2091252.74806
186	735	6020362.58145	2091249.37216
187	743	6020362.59062	2091246.18640
188	749	6020362.87821	2091243.07399
189	762	6020363.40624	2091239.96492
190	791	6020364.14771	2091236.77070
191	778	6020364.81206	2091233.97272
192	758	6020365.50877	2091231.59974
193	790	6020366.32218	2091228.82839
194	755	6020367.25158	2091225.65845
195	773	6020368.75928	2091222.15589
196	783	6020370.58426	2091218.47302
197	802	6020374.83153	2091216.35315
198	771	6020377.84639	2091215.61102
199	753	6020380.73170	2091215.64367
200	708	6020383.50019	2091216.12474
201	783	6020386.11808	2091216.59012
202	806	6020388.57104	2091217.11374
203	819	6020391.30938	2091217.72729
204	820	6020394.31016	2091218.52640
205	755	6020397.16375	2091219.31055
206	749	6020399.95808	2091220.09806
207	775	6020402.61364	2091220.87712
208	782	6020405.69987	2091221.78552
209	777	6020409.10664	2091222.79930
210	781	6020411.97810	2091223.64106
211	829	6020414.92023	2091224.51329
212	818	6020417.92397	2091225.44599
213	807	6020420.52082	2091226.24545
214	821	6020423.03819	2091227.01211
215	**880**	**6020425.82859**	**2091227.87173**
216	837	6020428.71243	2091228.77995
217	836	6020431.83844	2091229.67889
218	820	6020435.17592	2091230.63291
219	840	6020438.63746	2091231.59684
220	811	6020441.61917	2091232.48373
221	766	6020444.69955	2091233.40389
222	776	6020447.87545	2091234.36775
223	767	6020450.92354	2091235.34265
224	782	6020453.87567	2091236.33195
225	797	6020456.52758	2091237.22035
226	802	6020459.33951	2091237.99791
227	790	6020461.89349	2091240.12032
228	750	6020464.12669	2091242.45460

Sample ID	Gamma Total cps	Easting	Northing
229	743	6020465.10621	2091245.62351
230	713	6020465.02437	2091250.26864
231	742	6020464.24699	2091254.54526
232	764	6020463.13418	2091259.30842
233	735	6020462.08860	2091262.96214
234	706	6020461.00950	2091266.71685
235	641	6020459.88866	2091270.57019
236	612	6020458.02630	2091273.49708
237	585	6020455.49174	2091275.92077
238	611	6020452.61602	2091277.12752
239	597	6020449.33981	2091277.46117
240	662	6020446.09517	2091276.90767
241	650	6020442.51032	2091276.21684
242	674	6020438.74271	2091275.28404
243	701	6020435.64332	2091274.42827
244	704	6020432.62311	2091273.59145
245	667	6020429.68483	2091272.76377
246	600	6020426.68553	2091271.91047
247	568	6020423.73714	2091271.06976
248	664	6020421.11362	2091270.28672
249	707	6020418.35318	2091269.45441
250	732	6020414.87392	2091268.49516
251	711	6020411.58569	2091267.57876
252	722	6020408.49665	2091266.67654
253	738	6020404.93989	2091265.66862
254	752	6020401.57210	2091264.74518
255	765	6020398.48275	2091263.94348
256	811	6020395.83045	2091263.23347
257	**654**	**6020393.27080**	**2091262.52229**
258	747	6020390.46910	2091261.73839
259	792	6020387.60040	2091260.93006
260	806	6020383.64278	2091259.81759
261	837	6020379.96312	2091258.72575
262	803	6020376.29089	2091257.61663
263	794	6020372.74954	2091256.60545
264	739	6020369.26478	2091254.75062
265	732	6020365.83526	2091252.56895
266	724	6020364.89212	2091249.23798
267	747	6020364.21244	2091246.08809
268	773	6020364.55174	2091243.05700
269	791	6020365.02329	2091239.69379
270	756	6020365.83353	2091236.03276
271	762	6020366.77012	2091232.36621
272	784	6020367.85080	2091228.53096
273	768	6020369.10758	2091223.75085
274	813	6020370.66372	2091219.61548
275	799	6020372.20625	2091215.62738
276	800	6020375.23609	2091214.11396
277	765	6020378.31195	2091212.36140
278	753	6020382.16997	2091212.96308
279	776	6020385.94153	2091213.63300
280	801	6020389.59141	2091214.54513
281	780	6020393.23370	2091215.55795
282	725	6020396.83282	2091216.62651
283	739	6020400.25830	2091217.73106
284	795	6020403.20245	2091218.67298
285	779	6020405.67866	2091219.40901

Sample ID	Gamma Total cps	Easting	Northing
286	813	6020409.08492	2091220.43369
287	779	6020411.92395	2091221.29409
288	805	6020414.01350	2091221.91999
289	793	6020416.22310	2091222.58172
290	794	6020419.30607	2091223.50250
291	778	6020421.49143	2091224.16022
292	809	6020423.74828	2091224.83995
293	837	6020426.07548	2091225.54546
294	[illegible]	6020428.49994	2091226.26440
295	[illegible]	6020431.04521	2091226.99347
296	[illegible]	6020434.05648	2091227.89798
297	828	6020436.79919	2091228.72157
298	783	6020439.27376	2091229.46274
299	829	6020442.31932	2091230.39718
300	761	6020444.63840	2091231.12484
301	755	6020447.01717	2091231.89232
302	772	6020449.56065	2091232.70064
303	840	6020452.17523	2091233.52373
304	799	6020454.98449	2091234.36528
305	760	6020457.87412	2091235.30149
306	803	6020460.76691	2091236.54489
307	817	6020463.22543	2091238.37751
308	772	6020465.53710	2091240.70301
309	720	6020465.97065	2091244.17054
310	695	6020466.15254	2091247.78777
311	725	6020465.50238	2091251.54101
312	743	6020464.76201	2091255.37199
313	717	6020464.00769	2091259.09954
314	769	6020463.22323	2091262.21304
315	721	6020462.33274	2091265.48482
316	678	6020461.18518	2091268.87035
317	605	6020459.12691	2091271.77080
318	595	6020456.53492	2091274.46914
319	606	6020453.15293	2091274.68537
320	621	6020449.74643	2091274.73070
321	686	6020446.45514	2091274.20652
322	684	6020443.83020	2091273.55504
323	678	6020441.61167	2091273.00488
324	657	6020439.80376	2091272.53937
325	689	6020437.77652	2091272.01414
326	*683*	*6020435.53901*	*2091271.39534*
327	738	6020433.25691	2091270.72946
328	682	6020430.95278	2091269.99703
329	624	6020428.49290	2091269.28215
330	631	6020425.95719	2091268.55169
331	695	6020423.33677	2091267.83712
332	689	6020420.30861	2091266.95241
333	672	6020417.26175	2091265.98455
334	706	6020414.38926	2091265.26446
335	669	6020411.68867	2091264.58127
336	717	6020409.16928	2091263.89927
337	711	6020406.71807	2091263.23316
338	713	6020404.41194	2091262.61400
339	730	6020402.78285	2091262.14363
340	769	6020400.98958	2091261.62609
341	805	6020399.02877	2091261.07313
342	[illegible]	6020396.52431	2091260.33459

Sample ID	Gamma Total cps	Easting	Northing
343	817	6020393.90685	2091259.51757
344	759	6020391.19574	2091258.73780
345	767	6020388.29525	2091257.89484
346	776	6020385.21285	2091256.96334
347	817	6020382.32334	2091256.07268
348	803	6020379.48972	2091255.18101
349	792	6020376.72049	2091254.31536
350	778	6020373.47799	2091253.15311
351	700	6020369.86268	2091251.43761
352	701	6020367.22610	2091248.82232
353	766	6020365.05830	2091245.52281
354	785	6020365.19850	2091241.39628
355	740	6020365.53840	2091237.35672
356	751	6020366.46737	2091233.45659
357	750	6020367.26806	2091230.38397
358	762	6020368.08898	2091227.50024
359	740	6020368.90402	2091224.67239
360	765	6020369.79498	2091221.59462
361	772	6020370.77133	2091218.26969
362	841	6020372.74085	2091214.84658
363	806	6020375.09474	2091211.45369
364	802	6020378.50250	2091210.83341
365	752	6020381.84118	2091210.47942
366	774	6020385.10480	2091211.12832
367	799	6020388.14691	2091211.81674
368	753	6020391.12329	2091212.56900
369	770	6020394.05461	2091213.32324
370	752	6020396.88096	2091214.06536
371	759	6020399.58456	2091214.85985
372	772	6020402.17217	2091215.64089
373	786	6020404.78325	2091216.45044
374	801	6020407.64448	2091217.35905
375	779	6020410.62987	2091218.30501
376	760	6020413.74125	2091219.28254
377	812	6020416.92677	2091220.24289
378	783	6020420.12869	2091221.17088
379	765	6020423.29085	2091222.11280
380	831	6020426.27652	2091223.00680
381	812	6020429.08043	2091223.87031
382	857	6020432.05760	2091224.78751
383	*747*	*6020435.02446*	*2091225.71091*
384	814	6020437.79590	2091226.51315
385	757	6020440.65338	2091227.36464
386	780	6020443.57215	2091228.34457
387	777	6020446.54738	2091229.32351
388	808	6020449.51514	2091230.28515
389	818	6020452.37945	2091231.18933
390	790	6020455.32055	2091232.12660
391	831	6020458.32991	2091233.12330
392	831	6020460.98507	2091234.47272
393	804	6020463.65702	2091236.11676
394	747	6020464.92465	2091239.35675
395	761	6020465.88032	2091242.51821
396	742	6020465.69062	2091245.73307
397	703	6020465.26211	2091249.17727
398	732	6020464.68247	2091252.64717
399	717	6020463.82792	2091256.00207

Sample ID	Gamma Total cps	Easting	Northing
400	748	6020462.94496	2091259.35863
401	719	6020461.96542	2091262.69818
402	696	6020460.36941	2091266.20821
403	645	6020458.64528	2091269.71754
404	642	6020455.83947	2091271.11643
405	653	6020453.08670	2091272.20469
406	679	6020450.19143	2091271.89294
407	714	6020447.36312	2091271.45344
408	732	6020444.56174	2091270.90063
409	725	6020441.80515	2091270.18987
410	688	6020439.07587	2091269.47426
411	758	6020436.38832	2091268.70093
412	786	6020433.77999	2091267.96429
413	773	6020431.16942	2091267.25529
414	700	6020428.52249	2091266.45894
415	689	6020425.93365	2091265.68666
416	719	6020423.39254	2091264.97414
417	711	6020420.94645	2091264.27837
418	673	6020418.51232	2091263.56772
419	706	6020416.01318	2091262.87074
420	724	6020413.46293	2091262.15574
421	768	6020410.86694	2091261.40389
422	801	6020408.45179	2091260.71473
423	718	6020406.10790	2091260.06632
424	742	6020403.97241	2091259.44329
425	791	6020401.83384	2091258.81949
426	[illegible]	6020399.69170	2091258.19659
427	833	6020397.49490	2091257.54791
428	841	6020395.26965	2091256.88183
429	[illegible]	6020392.95573	2091256.16004
430	803	6020390.49789	2091255.39941
431	805	6020387.88734	2091254.62892
432	[illegible]	6020385.32575	2091253.84472
433	[illegible]	6020382.80288	2091253.02332
434	[illegible]	6020380.33791	2091252.31402
435	826	6020377.83648	2091251.60126
436	784	6020375.28796	2091250.92349
437	759	6020372.73946	2091249.99868
438	*703*	*6020370.13069*	*2091248.96968*
439	736	6020368.21463	2091246.85054
440	781	6020366.42838	2091244.40848
441	781	6020365.60161	2091241.19720
442	795	6020365.26025	2091238.06711
443	765	6020365.26147	2091234.89588
444	791	6020365.91525	2091231.74348
445	775	6020366.59508	2091228.59392
446	803	6020367.38068	2091225.46546
447	769	6020368.22980	2091222.45245
448	798	6020369.16999	2091219.48465
449	825	6020369.99573	2091216.48286
450	807	6020371.26193	2091213.21687
451	828	6020373.60308	2091209.99175
452	789	6020376.35913	2091208.14754
453	785	6020379.59558	2091207.01107
454	746	6020382.72706	2091207.61927
455	801	6020385.59885	2091208.20645
456	762	6020388.17374	2091208.92958

Sample ID	Gamma Total cps	Easting	Northing
457	751	6020391.02188	2091209.76829
458	798	6020393.92261	2091210.66408
459	775	6020396.86938	2091211.53966
460	738	6020399.84688	2091212.43848
461	776	6020402.84173	2091213.40377
462	797	6020405.99518	2091214.40436
463	783	6020409.20844	2091215.40640
464	773	6020412.53005	2091216.48134
465	821	6020415.63878	2091217.47806
466	777	6020418.54441	2091218.36538
467	776	6020421.37358	2091219.23992
468	776	6020424.20697	2091220.12326
469	[illegible]	6020427.13822	2091221.06179
470	814	6020429.97575	2091221.96587
471	[illegible]	6020432.72505	2091222.81809
472	[illegible]	6020435.11987	2091223.54240
473	[illegible]	6020437.45721	2091224.18958
474	773	6020439.72831	2091224.99746
475	782	6020441.98272	2091225.79345
476	823	6020444.23813	2091226.52552
477	801	6020446.50965	2091227.26537
478	795	6020448.84392	2091228.01976
479	823	6020451.44783	2091228.92149
480	807	6020454.41846	2091229.95051
481	839	6020457.75560	2091231.10746
482	815	6020461.18082	2091232.88827
483	834	6020464.68805	2091234.94042
484	767	6020465.78684	2091238.89432
485	743	6020466.31821	2091243.14793
486	711	6020465.34646	2091247.73031
487	785	6020464.26600	2091252.14771
488	718	6020463.11622	2091256.51828
489	718	6020461.77259	2091260.81784
490	704	6020460.03839	2091264.72795
491	693	6020457.15479	2091267.80622
492	665	6020453.70352	2091269.17536
493	737	6020449.81105	2091269.52492
494	720	6020446.31031	2091268.63420
495	773	6020442.93542	2091267.74881
496	779	6020439.70570	2091266.79840
497	791	6020436.67650	2091265.90941
498	792	6020433.67846	2091265.02394
499	802	6020430.61114	2091264.18137
500	755	6020427.87423	2091263.42719
501	786	6020425.47229	2091262.74503
502	745	6020422.98376	2091262.05162
503	740	6020420.47878	2091261.38834
504	766	6020418.04863	2091260.64119
505	814	6020415.56054	2091259.88110
506	[illegible]	6020413.00686	2091259.13350
507	[illegible]	6020410.25989	2091258.33922
508	732	6020407.45834	2091257.53167
509	757	6020404.56440	2091256.75191
510	812	6020401.56421	2091255.94041
511	[illegible]	6020398.46025	2091255.08801
512	[illegible]	6020395.38367	2091254.19430
513	822	6020392.32316	2091253.26565

Sample ID	Gamma Total cps	Easting	Northing
514	[illegible]	6020389.28679	2091252.30702
515	[illegible]	6020386.29418	2091251.35088
516	[illegible]	6020383.35700	2091250.36148
517	[illegible]	6020380.38851	2091249.39611
518	823	6020377.37891	2091248.47326
519	745	6020374.32980	2091247.34043
520	770	6020371.34917	2091245.94130
521	736	6020368.83276	2091243.62950
522	776	6020367.06419	2091240.60618
523	792	6020365.81360	2091237.08247
524	758	6020366.20256	2091233.15709
525	779	6020366.72112	2091229.22528
526	782	6020367.61542	2091225.32730
527	798	6020368.58943	2091221.81980
528	835	6020369.69053	2091218.35435
529	793	6020370.92492	2091214.59561
530	830	6020372.39712	2091211.09592
531	794	6020374.72263	2091208.18832
532	790	6020377.28010	2091206.53060
533	770	6020380.26171	2091205.56981
534	717	6020383.24718	2091205.95040
535	782	6020386.36477	2091206.39811
536	755	6020389.59017	2091207.05943
537	763	6020392.66053	2091207.80664
538	821	6020395.67418	2091208.64586
539	770	6020398.64181	2091209.50863
540	770	6020401.66889	2091210.40520
541	785	6020404.74095	2091211.38316
542	776	6020407.99353	2091212.41337
543	758	6020411.31323	2091213.46435
544	757	6020414.80008	2091214.52761
545	760	6020418.24600	2091215.58422
546	745	6020421.64693	2091216.64738
547	751	6020425.15344	2091217.71682
548	[illegible]	6020428.63834	2091218.74998
549	828	6020431.84988	2091219.78852
550	[illegible]	6020435.00420	2091220.81115
551	[illegible]	6020438.09895	2091221.82508
552	764	6020441.11560	2091222.81588
553	793	6020444.14863	2091223.81604
554	828	6020447.35124	2091224.85694
555	791	6020450.53248	2091225.90762
556	823	6020453.67763	2091227.01159
557	831	6020456.80162	2091228.13830
558	831	6020459.99223	2091229.22841
559	829	6020463.01168	2091231.14886
560	831	6020465.59976	2091233.12243
561	774	6020466.99042	2091235.84608
562	738	6020467.55049	2091239.11134
563	738	6020467.40859	2091242.60055
564	717	6020466.61907	2091245.88022
565	739	6020465.80772	2091249.15064
566	739	6020464.91076	2091252.39531
567	733	6020463.94425	2091255.93895
568	721	6020463.05306	2091259.60188
569	680	6020461.05361	2091262.90246
570	678	6020458.95069	2091265.67605

Sample ID	Gamma Total cps	Easting	Northing
571	704	6020455.98534	2091267.08214
572	696	6020452.96241	2091267.47503
573	711	6020449.87265	2091267.02112
574	784	6020447.09808	2091266.33731
575	754	6020444.40439	2091265.65787
576	754	6020441.81270	2091264.90411
577	730	6020439.27796	2091264.14090
578	768	6020436.74632	2091263.33446
579	767	6020434.09721	2091262.57384
580	792	6020431.32757	2091261.76081
581	765	6020428.45615	2091260.83383
582	754	6020425.70896	2091259.97799
583	754	6020422.99362	2091259.16692
584	804	6020420.35758	2091258.36562
585	829	6020417.96201	2091257.63870
586	829	6020415.80196	2091257.00269
587	[illegible]	6020413.13773	2091256.24825
588	[illegible]	**6020410.33878**	**2091255.49224**
589	679	6020407.42351	2091254.65828
590	742	6020404.75319	2091253.88739
591	777	6020402.34143	2091253.13405
592	786	6020399.96262	2091252.38514
593	832	6020397.51776	2091251.61124
594	825	6020394.71314	2091250.69786
595	812	6020391.99405	2091249.81706
596	[illegible]	6020389.35374	2091248.98999
597	[illegible]	**6020386.76746**	**2091248.15745**
598	834	6020384.14325	2091247.29025
599	812	6020381.25804	2091246.31038
600	830	6020378.57749	2091245.41458
601	759	6020376.07593	2091244.68415
602	778	6020373.33435	2091243.61709
603	781	6020370.49890	2091242.47200
604	785	6020368.64078	2091240.21258
605	766	6020367.02146	2091237.75130
606	765	6020366.66933	2091234.65253
607	769	6020366.78360	2091231.58901
608	784	6020367.30687	2091228.51376
609	762	6020368.11873	2091225.38223
610	785	6020368.97783	2091222.19886
611	793	6020369.97326	2091218.98900
612	818	6020370.95704	2091215.65186
613	800	6020371.87916	2091212.23480
614	777	6020373.28858	2091208.80943
615	780	6020375.00938	2091205.70923
616	784	6020377.87233	2091203.58008
617	716	6020380.83592	2091202.66522
618	706	6020384.05607	2091202.61100
619	780	6020387.10912	2091203.39085
620	774	6020389.93495	2091204.12633
621	740	6020392.51435	2091204.88725
622	750	6020395.55895	2091205.81673
623	742	6020398.61005	2091206.78084
624	750	6020401.27964	2091207.58184
625	764	6020403.93397	2091208.38521
626	775	6020406.56322	2091209.22271
627	778	6020409.48044	2091210.15542

Sample ID	Gamma Total cps	Easting	Northing
628	761	6020412.39656	2091211.09163
629	793	6020415.02526	2091211.93095
630	720	6020417.97648	2091212.88526
631	711	6020421.24071	2091213.98357
632	747	6020424.15585	2091214.93607
633	762	6020427.04004	2091215.85346
634	790	6020430.10009	2091216.79560
635	832	6020433.19782	2091217.74152
636	816	6020436.33975	2091218.66965
637	798	6020439.69138	2091219.68810
638	813	6020443.11367	2091220.75075
639	803	6020446.70391	2091221.86366
640	841	6020450.13521	2091222.93165
641	805	6020453.40422	2091223.96540
642	833	6020456.47166	2091224.92835
643	816	6020459.54853	2091225.80999
644	*840*	*6020462.48445*	*2091227.31475*
645	831	6020465.07902	2091228.83540
646	819	6020466.79539	2091231.02301
647	826	6020467.85918	2091233.53982
648	765	6020468.33813	2091236.47655
649	718	6020467.74586	2091239.92782
650	724	6020467.08775	2091243.28454
651	709	6020466.13830	2091246.49420
652	693	6020465.23732	2091249.61488
653	735	6020464.35398	2091252.81294
654	698	6020463.14311	2091256.37418
655	718	6020461.60318	2091259.77373
656	719	6020459.05150	2091262.61155
657	774	6020456.06266	2091264.15078
658	705	6020452.69771	2091264.92846
659	748	6020449.80169	2091264.30461
660	725	6020446.84152	2091263.64885
661	759	6020443.83107	2091262.90129
662	758	6020440.96423	2091262.08011
663	739	6020438.14923	2091261.16173
664	742	6020435.32931	2091260.24975
665	774	6020432.42451	2091259.30923
666	728	6020429.43589	2091258.33688
667	723	6020426.61245	2091257.41696
668	708	6020423.97074	2091256.53461
669	711	6020422.01850	2091255.96182
670	774	6020419.67081	2091255.27388
671	754	6020416.92662	2091254.47437
672	669	6020414.17703	2091253.66544
673	724	6020411.42012	2091252.83896
674	668	6020408.60022	2091252.04351
675	696	6020405.75245	2091251.22830
676	761	6020402.88926	2091250.35105
677	830	6020399.83447	2091249.37109
678	*788*	*6020396.75074*	*2091248.34280*
679	870	6020393.66794	2091247.31917
680	871	6020390.58168	2091246.30462
681	856	6020387.48274	2091245.32757
682	787	6020384.54797	2091244.40645
683	776	6020381.68721	2091243.52026
684	769	6020379.06212	2091242.65938

Sample ID	Gamma Total cps	Easting	Northing
685	806	6020376.36759	2091241.77107
686	821	6020373.60944	2091240.83782
687	770	6020370.94751	2091239.17989
688	734	6020368.35123	2091237.05535
689	736	6020367.45705	2091233.80098
690	774	6020366.82798	2091230.48175
691	771	6020367.19360	2091227.03829
692	779	6020367.89213	2091223.49164
693	807	6020368.79112	2091220.07568
694	798	6020369.62391	2091217.29627
695	780	6020370.44513	2091214.55505
696	[illegible]	6020371.25427	2091211.85187
697	771	6020372.37211	2091208.62331
698	784	6020373.48835	2091205.19402
699	778	6020376.25861	2091202.82745
700	724	6020379.06906	2091200.96768
701	716	6020382.38869	2091200.78620
702	763	6020385.53709	2091201.01991
703	756	6020388.59073	2091201.59211
704	750	6020391.36941	2091202.30753
705	768	6020394.25889	2091203.07353
706	*795*	*6020397.23946*	*2091203.96117*
707	764	6020400.28745	2091204.91302
708	692	6020403.30370	2091205.89763
709	711	6020406.15038	2091206.80179
710	832	6020409.02846	2091207.73002
711	785	6020411.92272	2091208.72829
712	728	6020414.80940	2091209.69218
713	714	6020417.68806	2091210.62509
714	673	6020420.50511	2091211.52365
715	697	6020423.33989	2091212.41840
716	754	6020426.20269	2091213.27599
717	792	6020429.26986	2091214.20833
718	806	6020432.35075	2091215.16477
719	780	6020435.33722	2091216.02935
720	762	6020438.47084	2091216.93985
721	785	6020441.74917	2091217.90458
722	820	6020445.18441	2091218.93200
723	[illegible]	**6020448.56852**	**2091219.95026**
724	837	6020451.53044	2091220.88927
725	825	6020454.57492	2091221.85958
726	834	6020457.69747	2091222.87514
727	814	6020461.00578	2091223.99040
728	815	6020464.38032	2091224.98706
729	805	6020466.83942	2091227.09498
730	804	6020468.99986	2091229.55124
731	760	6020469.82768	2091232.98867
732	693	6020469.58336	2091237.18770
733	709	6020468.60358	2091241.59169
734	722	6020466.85106	2091245.97154
735	703	6020465.12335	2091250.34165
736	729	6020463.44673	2091254.71233
737	733	6020460.76325	2091258.14730
738	747	6020457.55109	2091261.21347
739	737	6020453.59326	2091261.39205
740	754	6020449.85794	2091261.33369
741	747	6020446.40122	2091260.47487

Sample ID	Gamma Total cps	Easting	Northing
742	782	6020443.11104	2091259.53930
743	702	6020439.88515	2091258.52476
744	771	6020436.72887	2091257.50077
745	730	6020433.59950	2091256.48752
746	691	6020430.49526	2091255.49054
747	685	6020427.67744	2091254.58199
748	678	6020424.98147	2091253.69939
749	687	6020422.57498	2091252.96342
750	814	6020420.04453	2091252.19291
751	792	6020417.38558	2091251.40299
752	832	6020414.61962	2091250.57227
753	812	6020411.85565	2091249.72476
754	698	6020409.17280	2091248.95498
755	696	6020406.63187	2091248.21963
756	748	6020404.24576	2091247.47560
757	799	6020401.75652	2091246.68152
758	775	6020399.23038	2091245.85474
759	[illegible]	6020396.59803	2091244.99218
760	[illegible]	6020393.92076	2091244.11519
761	[illegible]	6020391.19818	2091243.22494
762	840	6020388.32837	2091242.31036
763	776	6020385.44944	2091241.42288
764	728	6020382.72397	2091240.53268
765	785	6020380.00159	2091239.64704
766	804	6020377.27775	2091238.78012
767	739	6020374.33824	2091237.52701
768	730	6020371.28096	2091236.17705
769	728	6020369.54528	2091233.41514
770	751	6020368.09717	2091230.53589
771	766	6020367.81785	2091227.24446
772	787	6020367.96879	2091223.95606
773	787	6020368.46536	2091220.61609
774	786	6020369.38598	2091217.07923
775	796	6020370.35932	2091213.49450
776	775	6020371.46709	2091209.88506
777	767	6020372.92849	2091205.88248
778	774	6020374.41485	2091201.74820
779	754	6020377.95797	2091199.44921
780	747	6020381.25654	2091197.86307
781	752	6020384.60839	2091198.33758
782	770	6020387.85401	2091198.99049
783	790	6020391.06066	2091199.79041
784	756	6020394.24557	2091200.72678
785	761	6020397.49746	2091201.69114
786	720	6020400.81031	2091202.70361
787	695	6020403.79233	2091203.59631
788	657	6020406.73851	2091204.44458
789	806	6020409.76051	2091205.43664
790	785	6020412.79538	2091206.43500
791	741	6020415.84118	2091207.44553
792	673	6020418.78215	2091208.40679
793	642	6020421.71694	2091209.34689
794	700	6020424.68978	2091210.33995
795	779	6020427.83825	2091211.38182
796	796	6020431.16985	2091212.44964
797	796	6020434.43888	2091213.45992
798	746	6020437.70478	2091214.44102

Sample ID	Gamma Total cps	Easting	Northing
799	774	6020440.99659	2091215.39965
800	784	6020444.37105	2091216.39022
801	824	6020447.82300	2091217.43014
802	815	6020451.56461	2091218.55785
803	817	6020455.39544	2091219.71767
804	811	6020459.40973	2091220.85779
805	798	6020463.24329	2091222.41786
806	817	6020466.52460	2091225.10844
807	816	6020468.26432	2091228.32037
808	771	6020469.14827	2091232.08107
809	731	6020468.34408	2091236.01621
810	709	6020467.55368	2091239.60308
811	743	6020466.61936	2091242.80261
812	721	6020465.49221	2091246.57565
813	739	6020464.33240	2091250.55706
814	732	6020462.16666	2091254.56859
815	744	6020459.60170	2091257.76925
816	744	6020455.69970	2091259.03310
817	734	6020451.66929	2091258.97828
818	717	6020447.68401	2091258.07705
819	722	6020444.28692	2091257.04659
820	663	6020441.43764	2091256.17858
821	711	6020439.14571	2091255.44250
822	785	6020436.70956	2091254.63531
823	735	6020434.19542	2091253.76794
824	703	6020431.38331	2091252.82703
825	670	6020428.87118	2091251.99057
826	679	6020426.64609	2091251.29868
827	714	6020424.27570	2091250.61286
828	*764*	*6020421.92195*	*2091250.01330*
829	776	6020419.91387	2091249.42524
830	761	6020417.86880	2091248.82518
831	839	6020415.79299	2091248.19221
832	840	6020413.41204	2091247.45404
833	769	6020411.00258	2091246.67776
834	735	6020408.69667	2091246.00970
835	730	6020406.66490	2091245.42183
836	773	6020404.91317	2091244.89420
837	775	6020403.06484	2091244.34090
838	786	6020401.15997	2091243.80108
839	84[illegible]	6020399.14059	2091243.12547
840	85[illegible]	6020397.06138	2091242.43531
841	9[illegible]	6020394.90075	2091241.79930
842	9[illegible]1	6020392.73368	2091241.13941
843	[illegible]	6020390.54925	2091240.44112
844	804	6020388.24540	2091239.70237
845	802	6020386.11815	2091239.02013
846	808	6020384.16936	2091238.38863
847	772	6020382.24602	2091237.74995
848	798	6020380.14848	2091237.03302
849	768	6020377.16386	2091235.91420
850	757	6020374.38318	2091234.66803
851	768	6020372.20896	2091232.64401
852	729	6020370.75878	2091230.47718
853	771	6020369.73519	2091227.83096
854	776	6020370.28775	2091224.33314
855	809	6020370.87822	2091220.82480

Sample ID	Gamma Total cps	Easting	Northing
856	787	6020371.59297	2091217.32155
857	822	6020372.14212	2091213.93467
858	805	6020372.53303	2091210.68276
859	799	6020372.96496	2091208.09528
860	782	6020373.54543	2091205.14723
861	748	6020374.50960	2091201.89284
862	747	6020376.19260	2091199.08045
863	753	6020378.36308	2091196.37921
864	720	6020381.69592	2091195.88900
865	775	6020384.88902	2091195.62339
866	781	6020387.91649	2091196.29595
867	736	6020390.80034	2091197.04688
868	759	6020393.65673	2091197.90762
869	827	6020396.64183	2091198.77587
870	777	6020399.59666	2091199.66053
871	742	6020402.49498	2091200.64487
872	674	6020405.39327	2091201.60825
873	698	6020408.34295	2091202.57364
874	801	6020411.54709	2091203.57481
875	769	6020414.57513	2091204.52099
876	726	6020417.42704	2091205.41231
877	699	6020420.25709	2091206.32969
878	683	6020423.05814	2091207.28744
879	713	6020425.83250	2091208.11985
880	767	6020428.65997	2091208.97339
881	797	6020431.53505	2091209.86606
882	784	6020434.44420	2091210.75946
883	741	6020437.34186	2091211.63876
884	758	6020440.13346	2091212.49413
885	767	6020443.04965	2091213.37632
886	784	6020446.10055	2091214.25128
887	815	6020449.15948	2091215.14902
888	773	6020452.20036	2091216.05361
889	796	6020455.14024	2091216.97558
890	811	6020458.02490	2091217.87205
891	806	6020460.86337	2091218.71338
892	802	6020463.73372	2091219.73703
893	785	6020466.71748	2091220.77442
894	772	6020468.93072	2091223.24526
895	753	6020470.75021	2091225.81988
896	760	6020471.04334	2091228.99232
897	738	6020470.82236	2091232.14038
898	749	6020470.17649	2091235.31365
899	698	6020469.03231	2091238.55016
900	692	6020467.88853	2091241.69660
901	726	6020466.66085	2091244.72099
902	713	6020465.19283	2091248.26928
903	753	6020463.79069	2091252.04016
904	725	6020460.47107	2091254.37728
905	713	6020457.14143	2091256.06446
906	740	6020453.44581	2091255.85867
907	736	6020449.92042	2091255.34351
908	703	6020446.47229	2091254.60194
909	707	6020443.18047	2091253.70012
910	714	6020439.93514	2091252.80444
911	772	6020436.74127	2091251.89702
912	754	6020433.56589	2091250.94381

Sample ID	Gamma Total cps	Easting	Northing
913	748	6020430.45040	2091249.96567
914	736	6020427.57181	2091249.05631
915	751	6020424.89777	2091248.21354
916	783	6020422.42475	2091247.44867
917	796	6020419.93201	2091246.70043
918	763	6020417.36016	2091245.96998
919	801	6020414.49040	2091245.05390
920	778	6020411.56004	2091244.10887
921	735	6020408.57861	2091243.10579
922	762	6020405.81908	2091242.20681
923	783	6020403.12249	2091241.36831
924	837	6020400.58426	2091240.52572
925	[illegible]	6020397.96886	2091239.66772
926	[illegible]	6020395.26279	2091238.83650
927	[illegible]	6020392.46213	2091237.95140
928	832	6020389.66330	2091237.03733
929	[illegible]	6020386.92279	2091236.17584
930	811	6020384.37360	2091235.37385
931	792	6020382.01722	2091234.62668
932	785	6020379.81545	2091233.96546
933	782	6020377.52674	2091233.41925
934	728	6020375.01565	2091232.29897
935	797	6020372.56689	2091231.01721
936	773	6020370.64733	2091228.92545
937	803	6020369.37919	2091226.55052
938	792	6020368.62160	2091223.75218
939	769	6020369.06282	2091220.45799
940	781	6020369.57724	2091217.13918
941	798	6020370.35287	2091213.83029
942	805	6020371.10502	2091210.88427
943	770	6020371.88079	2091208.01702
944	785	6020372.78313	2091205.18596
945	733	6020373.92166	2091201.98069
946	712	6020375.51541	2091198.48572
947	716	6020377.80254	2091195.88472
948	757	6020380.57396	2091193.63213
949	792	6020383.73447	2091193.66652
950	776	6020386.80478	2091193.81238
951	739	6020389.73354	2091194.49565
952	753	6020392.79066	2091195.32973
953	750	6020395.84355	2091196.27432
954	795	6020398.86621	2091197.18407
955	760	6020401.86385	2091198.10215
956	699	6020404.82074	2091199.07840
957	707	6020407.93088	2091200.06431
958	768	6020411.09564	2091201.03373
959	742	6020414.34683	2091202.01538
960	714	6020417.70492	2091203.02801
961	*664*	*6020421.17078*	*2091204.06875*
962	728	6020424.41203	2091205.01337
963	727	6020427.65020	2091205.92900
964	791	6020431.06100	2091206.92167
965	793	6020434.32637	2091207.87182
966	774	6020437.44647	2091208.77890
967	758	6020440.29406	2091209.65534
968	736	6020443.11244	2091210.57191
969	752	6020446.10601	2091211.56018

Sample ID	Gamma Total cps	Easting	Northing
970	786	6020449.02925	2091212.52869
971	744	6020451.87820	2091213.48926
972	786	6020454.97173	2091214.53803
973	782	6020458.14755	2091215.63394
974	816	6020461.55882	2091216.66484
975	817	6020464.83779	2091217.92670
976	762	6020467.68871	2091220.01258
977	776	6020469.57627	2091222.60664
978	767	6020470.93435	2091225.69872
979	783	6020470.49380	2091229.04097
980	779	6020470.01628	2091232.18205
981	713	6020469.26299	2091235.07531
982	740	6020468.16883	2091238.62293
983	711	6020466.91714	2091242.30872
984	732	6020465.54444	2091246.12412
985	741	6020463.90729	2091249.63306
986	743	6020461.34304	2091252.43545
987	759	6020458.25498	2091253.82246
988	749	6020454.57242	2091254.27329
989	719	6020450.47577	2091253.26738
990	715	6020446.58899	2091252.25170
991	721	6020442.94627	2091251.10415
992	772	6020439.25976	2091249.87634
993	770	6020435.59765	2091248.60487
994	788	6020432.02897	2091247.41287
995	771	6020428.48636	2091246.23881
996	733	6020424.96361	2091245.10161
997	730	6020421.55329	2091244.00678
998	755	6020418.14983	2091242.91890
999	800	6020414.67276	2091241.80920
1000	742	6020411.20978	2091240.69984
1001	731	6020407.76379	2091239.58186
1002	784	6020404.69857	2091238.62212
1003	825	6020401.65376	2091237.70714
1004	[illegible]	6020398.38574	2091236.67957
1005	**919**	**6020395.14536**	**2091235.65998**
1006	[illegible]	6020391.93317	2091234.64659
1007	[illegible]	6020387.68446	2091233.28372
1008	807	6020384.46591	2091232.26811
1009	790	6020381.19015	2091231.33065
1010	763	6020377.99642	2091229.91084
1011	790	6020374.76507	2091228.28911
1012	777	6020373.27817	2091225.12199
1013	806	6020372.12491	2091221.94361
1014	802	6020372.16615	2091218.56746
1015	788	6020372.40632	2091215.45742
1016	814	6020372.84140	2091212.22643
1017	783	6020373.74308	2091208.14766
1018	752	6020374.69505	2091204.04495
1019	777	6020375.77115	2091199.93611
1020	740	6020377.67976	2091196.61037
1021	754	6020379.98910	2091193.53454
1022	747	6020382.97211	2091192.93878
1023	785	6020385.74821	2091192.47743
1024	740	6020388.34726	2091192.71644
1025	741	6020391.41566	2091193.21283
1026	726	6020394.54679	2091193.89171

Sample ID	Gamma Total cps	Easting	Northing
1027	755	6020397.59537	2091194.66510
1028	749	6020400.73081	2091195.48351
1029	719	6020403.93633	2091196.40890
1030	706	6020407.19203	2091197.36816
1031	727	6020410.46248	2091198.35334
1032	711	6020413.79409	2091199.30608
1033	668	6020417.15390	2091200.28793
1034	678	6020420.52728	2091201.34763
1035	680	6020423.64178	2091202.28956
1036	711	6020426.67345	2091203.16289
1037	765	6020429.47944	2091204.04347
1038	830	6020432.35545	2091204.94474
1039	824	6020435.30277	2091205.86255
1040	778	6020438.37910	2091206.83518
1041	813	6020441.44637	2091207.83068
1042	758	6020444.39921	2091208.69157
1043	752	6020447.45145	2091209.59284
1044	744	6020450.59370	2091210.56576
1045	714	6020453.67334	2091211.54118
1046	782	6020456.75548	2091212.52542
1047	761	6020459.88527	2091213.62787
1048	811	6020463.01204	2091214.86588
1049	802	6020465.99075	2091216.55770
1050	791	6020468.11449	2091218.74125
1051	804	6020469.80217	2091221.40804
1052	779	6020469.96494	2091224.44104
1053	788	6020470.04174	2091227.46215
1054	787	6020469.71179	2091230.46240
1055	750	6020469.23135	2091233.35127
1056	733	6020468.62338	2091236.14382
1057	738	6020467.96624	2091238.62253
1058	733	6020467.06712	2091241.78065
1059	745	6020465.81512	2091245.58526
1060	717	6020463.81738	2091248.57619
1061	775	6020461.33407	2091251.34057
1062	744	6020457.94618	2091251.50775
1063	710	6020454.65572	2091251.48185
1064	712	6020451.52257	2091250.67446
1065	*727*	*6020448.59385*	*2091249.86845*
1066	720	6020445.69757	2091249.03122
1067	729	6020442.74779	2091248.09197
1068	[illegible]	6020439.94322	2091247.19544
1069	837	6020437.28876	2091246.32640
1070	840	6020434.75176	2091245.49855
1071	796	6020432.24996	2091244.68755
1072	794	6020429.81729	2091243.88691
1073	790	6020427.32946	2091243.07122
1074	754	6020424.78138	2091242.25614
1075	750	6020422.33322	2091241.46620
1076	722	6020419.95950	2091240.67794
1077	766	6020417.80901	2091240.02826
1078	792	6020415.69637	2091239.38843
1079	692	6020413.63046	2091238.72977
1080	636	6020411.52133	2091238.04247
1081	587	6020409.38051	2091237.32242
1082	722	6020407.09766	2091236.54938
1083	747	6020404.81913	2091235.78132

Sample ID	Gamma Total cps	Easting	Northing
1084	798	6020402.53533	2091235.04727
1085	823	6020400.11773	2091234.28793
1086	[illegible]	6020397.67297	2091233.54700
1087	[illegible]	6020395.26834	2091232.78842
1088	[illegible]	6020392.93801	2091232.05070
1089	[illegible]	6020390.68938	2091231.31085
1090	805	6020388.57276	2091230.60819
1091	784	6020386.50107	2091229.91032
1092	769	6020384.50840	2091229.24001
1093	766	6020382.09955	2091228.42633
1094	825	6020379.27849	2091227.45756
1095	782	6020376.61465	2091226.03695
1096	790	6020373.92375	2091224.31374
1097	788	6020372.70225	2091221.15332
1098	822	6020371.76215	2091217.92382
1099	782	6020371.88215	2091214.49402
1100	822	6020372.29425	2091210.85040
1101	794	6020372.90141	2091207.16423
1102	733	6020373.79360	2091203.47898
1103	746	6020374.95197	2091199.44822
1104	722	6020376.62919	2091195.15145
1105	755	6020379.19763	2091192.33797
1106	769	6020382.33007	2091190.11696
1107	749	6020385.36349	2091190.20488
1108	757	6020388.41593	2091190.38402
1109	741	6020391.45239	2091190.97118
1110	740	6020394.30982	2091191.56327
1111	736	6020397.18196	2091192.17670
1112	760	6020400.26543	2091193.03096
1113	689	6020403.42534	2091193.92269
1114	685	6020406.64943	2091194.89433
1115	687	6020409.83344	2091195.84430
1116	687	6020413.03170	2091196.79318
1117	616	6020416.34425	2091197.74739
1118	649	6020419.81632	2091198.75258
1119	670	6020423.44498	2091199.81883
1120	711	6020427.05911	2091200.90288
1121	[illegible]	6020430.66305	2091202.01058
1122	[illegible]	6020434.29208	2091203.00836
1123	778	6020437.66638	2091203.94551
1124	764	6020440.77831	2091204.84911
1125	751	6020443.65654	2091205.66420
1126	760	6020446.47310	2091206.43868
1127	758	6020449.18672	2091207.19911
1128	740	6020452.06855	2091208.01748
1129	744	6020455.10914	2091208.92651
1130	779	6020458.28723	2091209.89521
1131	774	6020461.47607	2091210.87280
1132	781	6020464.55897	2091211.90116
1133	772	6020467.46780	2091213.07587
1134	756	6020469.86844	2091215.00869
1135	778	6020471.60507	2091217.53330
1136	781	6020472.86881	2091220.64845
1137	772	6020472.52512	2091224.59587
1138	787	6020471.98350	2091228.66244
1139	719	6020470.92695	2091232.79419
1140	715	6020469.68299	2091237.10286

Sample ID	Gamma Total cps	Easting	Northing
1141	704	6020468.42447	2091241.42884
1142	734	6020466.04182	2091245.02370
1143	726	6020463.58993	2091247.85917
1144	746	6020460.27234	2091248.86549
1145	698	6020456.90717	2091248.99126
1146	703	6020453.60245	2091248.45895
1147	708	6020450.92585	2091247.74149
1148	716	6020447.91497	2091246.91040
1149	770	6020444.58641	2091245.90734
1150	[illegible]	6020440.85982	2091244.69882
1151	[illegible]	6020437.11577	2091243.42949
1152	[illegible]	6020433.63238	2091242.22049
1153	774	6020430.32275	2091241.08512
1154	811	6020427.17509	2091240.05841
1155	768	6020424.15017	2091239.06344
1156	764	6020421.16029	2091238.06370
1157	775	6020418.18208	2091237.13449
1158	711	6020415.22504	2091236.20891
1159	555	6020412.29219	2091235.27733
1160	574	6020409.65535	2091234.45788
1161	696	6020407.05512	2091233.68204
1162	772	6020404.40223	2091232.81916
1163	769	6020401.66439	2091231.93292
1164	814	6020398.83672	2091231.03857
1165	[illegible]	6020396.07244	2091230.15526
1166	[illegible]	6020393.32970	2091229.26430
1167	[illegible]	6020390.60299	2091228.41310
1168	813	6020387.86011	2091227.54770
1169	779	6020385.11244	2091226.63282
1170	*779*	*6020382.45156*	*2091225.77056*
1171	822	6020379.74982	2091225.01156
1172	809	6020377.17466	2091223.68170
1173	793	6020374.74237	2091222.23552
1174	802	6020372.95465	2091220.05336
1175	802	6020371.89263	2091217.50741
1176	819	6020371.47978	2091214.46766
1177	791	6020372.34544	2091210.75782
1178	773	6020373.24109	2091206.90291
1179	779	6020374.15993	2091202.90137
1180	742	6020375.02926	2091198.97020
1181	706	6020375.77660	2091195.00880
1182	731	6020377.86320	2091191.56734
1183	780	6020380.14737	2091188.74787
1184	740	6020383.46580	2091187.58091
1185	684	6020386.51747	2091187.28569
1186	732	6020389.56499	2091187.69528
1187	750	6020392.52375	2091188.30257
1188	702	6020395.45708	2091188.94133
1189	697	6020398.33216	2091189.74696
1190	689	6020401.08391	2091190.56178
1191	662	6020403.75031	2091191.40133
1192	602	6020406.17715	2091192.14199
1193	649	6020408.67011	2091192.90675
1194	697	6020411.22299	2091193.71555
1195	710	6020414.01190	2091194.57692
1196	645	6020416.85869	2091195.43350
1197	674	6020419.73074	2091196.30475

Sample ID	Gamma Total cps	Easting	Northing
1198	705	6020422.56812	2091197.15981
1199	704	6020425.37719	2091197.97733
1200	732	6020428.08502	2091198.78246
1201	813	6020430.79754	2091199.61032
1202	[illegible]	**6020433.66407**	**2091200.46602**
1203	801	6020436.53937	2091201.32766
1204	757	6020439.41996	2091202.20674
1205	739	6020442.37368	2091203.08090
1206	737	6020445.35459	2091203.94083
1207	*730*	*6020448.38180*	*2091204.78858*
1208	756	6020451.43081	2091205.66340
1209	731	6020454.48319	2091206.62719
1210	776	6020457.24644	2091207.48346
1211	773	6020459.98655	2091208.32549
1212	752	6020462.91574	2091209.14643
1213	755	6020465.76433	2091210.02499
1214	763	6020468.42233	2091211.25888
1215	752	6020470.83321	2091213.31143
1216	765	6020473.04131	2091215.98401
1217	758	6020473.59913	2091219.82163
1218	765	6020473.85668	2091223.72277
1219	744	6020473.21643	2091227.68267
1220	724	6020472.18793	2091231.74007
1221	669	6020470.90400	2091235.85468
1222	701	6020469.21713	2091240.23394
1223	736	6020467.18862	2091243.95641
1224	721	6020463.94255	2091246.35469
1225	711	6020460.69299	2091247.16738
1226	721	6020457.26867	2091246.94601
1227	733	6020454.30084	2091246.11637
1228	733	6020451.28518	2091245.25083
1229	750	6020448.24167	2091244.28249
1230	776	6020445.39143	2091243.34994
1231	797	6020442.64049	2091242.42734
1232	[illegible]	6020440.17223	2091241.58262
1233	[illegible]	6020437.74075	2091240.75281
1234	[illegible]	6020435.34107	2091239.95261
1235	[illegible]	6020432.66715	2091239.10620
1236	809	6020430.03162	2091238.33160
1237	792	6020427.95844	2091237.65670
1238	799	6020425.81436	2091236.95913
1239	788	6020423.59804	2091236.24303
1240	755	6020421.39756	2091235.54359
1241	768	6020419.27544	2091234.89697
1242	826	6020417.57926	2091234.34054
1243	757	6020415.90390	2091233.78835
1244	628	6020414.23647	2091233.28125
1245	622	6020412.48709	2091232.75597
1246	598	6020410.69818	2091232.25115
1247	654	6020408.85418	2091231.66599
1248	737	6020406.96536	2091231.06704
1249	744	6020405.02382	2091230.47983
1250	797	6020403.19936	2091229.92510
1251	741	6020401.40871	2091229.36833
1252	785	6020399.64775	2091228.84233
1253	792	6020397.90113	2091228.32408
1254	825	6020396.19334	2091227.73730

Sample ID	Gamma Total cps	Easting	Northing
1255	841	6020394.24752	2091227.10557
1256	[illegible]	6020392.24705	2091226.51382
1257	821	6020390.28033	2091225.95443
1258	783	6020387.94253	2091225.28217
1259	765	6020385.24283	2091224.46575
1260	787	6020382.81239	2091223.75671
1261	767	6020380.30555	2091223.16660
1262	808	6020377.64321	2091221.77401
1263	789	6020375.14002	2091220.22768
1264	818	6020373.34827	2091217.87334
1265	806	6020372.35409	2091215.35681
1266	821	6020372.04166	2091212.50297
1267	786	6020372.51289	2091209.36442
1268	776	6020373.02144	2091206.22890
1269	741	6020373.68676	2091203.11815
1270	773	6020374.41196	2091200.02064
1271	737	6020375.20706	2091196.80545
1272	730	6020376.37442	2091193.02183
1273	749	6020377.78911	2091189.66546
1274	730	6020380.28498	2091187.24794
1275	722	6020382.68388	2091185.91613
1276	662	6020385.40103	2091185.24682
1277	667	6020388.31518	2091185.57603
1278	725	6020391.13496	2091185.93110
1279	723	6020393.83157	2091186.49192
1280	726	6020396.68730	2091187.16617
1281	721	6020399.55079	2091187.92179
1282	652	6020402.36725	2091188.66085
1283	628	6020405.27265	2091189.41765
1284	634	6020408.27171	2091190.17382
1285	654	6020411.38448	2091191.05830
1286	747	6020414.47280	2091192.02378
1287	704	6020417.41885	2091192.93543
1288	698	6020420.18642	2091193.78568
1289	707	6020422.78459	2091194.54440
1290	710	6020425.29169	2091195.29335
1291	651	6020427.80377	2091196.06889
1292	723	6020430.46917	2091196.86269
1293	[illegible]	6020433.17944	2091197.66971
1294	826	6020435.93474	2091198.48939
1295	738	6020438.86907	2091199.33555
1296	676	6020441.83383	2091200.15688
1297	748	6020444.71639	2091201.01881
1298	764	6020447.48828	2091201.83944
1299	733	6020450.16017	2091202.58176
1300	757	6020453.06885	2091203.44821
1301	745	6020456.04778	2091204.39628
1302	771	6020459.22276	2091205.35688
1303	729	6020462.64877	2091206.47879
1304	789	6020466.27074	2091207.91956
1305	759	6020469.10190	2091210.07710
1306	773	6020471.61316	2091212.76067
1307	777	6020472.30074	2091216.31672
1308	797	6020472.76143	2091219.98436
1309	782	6020472.47254	2091223.79374
1310	775	6020471.88486	2091227.53051
1311	754	6020471.08338	2091231.27493

Sample ID	Gamma Total cps	Easting	Northing
1312	734	6020469.97271	2091235.16011
1313	738	6020468.25862	2091239.03300
1314	780	6020465.16275	2091242.46186
1315	761	6020462.21119	2091243.91886
1316	775	6020458.95857	2091244.36594
1317	810	6020456.13698	2091243.65976
1318	786	6020453.27836	2091242.90584
1319	765	6020450.42205	2091241.96799
1320	797	6020447.56286	2091240.98716
1321	809	6020444.71664	2091239.97374
1322	[illegible]	6020441.90306	2091238.94509
1323	[illegible]	**6020439.04442**	**2091237.91748**
1324	[illegible]	6020436.12148	2091236.94601
1325	[illegible]	6020433.11378	2091235.96727
1326	827	6020430.09925	2091235.00652
1327	820	6020427.16234	2091234.05973
1328	[illegible]	6020424.31372	2091233.14278
1329	763	6020421.55167	2091232.26096
1330	816	6020418.74770	2091231.37235
1331	756	6020415.90306	2091230.47574
1332	726	6020412.89815	2091229.54270
1333	712	6020409.75346	2091228.57090
1334	804	6020406.46547	2091227.57177
1335	764	6020403.34348	2091226.63120
1336	761	6020400.31060	2091225.72304
1337	780	6020397.55977	2091224.91019
1338	838	6020394.71695	2091224.07601
1339	824	6020391.77646	2091223.24001
1340	791	6020389.00289	2091222.45525
1341	802	6020386.27952	2091221.67529
1342	768	6020383.60681	2091220.99345
1343	762	6020380.90223	2091220.23571
1344	771	6020378.25746	2091219.12830
1345	798	6020375.63946	2091217.24536
1346	812	6020373.71583	2091215.03064
1347	841	6020373.11538	2091212.53823
1348	759	6020372.64199	2091209.77282
1349	760	6020372.95696	2091206.68984
1350	751	6020373.45305	2091203.57043
1351	732	6020374.07100	2091200.45449
1352	720	6020374.99130	2091197.42241
1353	691	6020375.98159	2091194.23478
1354	704	6020377.09504	2091190.90856
1355	709	6020378.71487	2091187.62590
1356	745	6020380.51619	2091184.32096
1357	*709*	*6020383.74262*	*2091182.90746*
1358	662	6020386.93616	2091181.94326
1359	715	6020390.22300	2091182.60991
1360	724	6020393.31779	2091183.34388
1361	701	6020396.35975	2091184.14258
1362	695	6020399.33707	2091185.09912
1363	695	6020402.33006	2091186.04405
1364	679	6020405.35422	2091186.92682
1365	646	6020408.46186	2091187.83439
1366	684	6020411.65304	2091188.76961
1367	730	6020415.19081	2091189.77503
1368	730	6020417.64359	2091190.45815

Sample ID	Gamma Total cps	Easting	Northing
1369	708	6020419.88383	2091191.06069
1370	760	6020422.30364	2091191.72595
1371	799	6020424.81557	2091192.43200
1372	670	6020427.61950	2091193.23833
1373	679	6020430.28352	2091194.00008
1374	756	6020432.81441	2091194.69314
1375	[illegible]	6020435.40573	2091195.42531
1376	824	6020438.05619	2091196.20561
1377	727	6020440.98743	2091197.02760
1378	666	6020444.29427	2091197.95813
1379	705	6020447.78251	2091198.94295
1380	726	6020450.29165	2091199.68367
1381	731	6020452.88528	2091200.44103
1382	741	6020455.87177	2091201.37882
1383	768	6020458.85186	2091202.30119
1384	732	6020461.83833	2091203.16578
1385	747	6020464.78909	2091204.07337
1386	759	6020467.80883	2091204.90150
1387	762	6020470.37415	2091206.82411
1388	786	6020472.78903	2091209.31523
1389	768	6020474.29215	2091212.95308
1390	769	6020474.06292	2091216.49141
1391	768	6020473.72258	2091219.76591
1392	778	6020472.81539	2091222.69242
1393	782	6020471.68945	2091226.07504
1394	777	6020470.21390	2091229.86810
1395	731	6020468.34092	2091233.74145
1396	794	6020466.53590	2091237.56588
1397	779	6020463.82645	2091239.06772
1398	771	6020461.15249	2091240.28205
1399	805	6020458.37269	2091240.31607
1400	790	6020456.25744	2091239.84001
1401	793	6020454.02849	2091239.36949
1402	771	6020451.31765	2091238.58862
1403	768	6020448.59060	2091237.79097
1404	766	6020445.86219	2091236.92741
1405	807	6020443.15319	2091236.07709
1406	[illegible]	6020440.43258	2091235.22605
1407	[illegible]	6020437.62788	2091234.38077
1408	839	6020434.86037	2091233.54618
1409	[illegible]	6020432.13069	2091232.72017
1410	817	6020429.20727	2091231.86244
1411	[illegible]	6020426.91969	2091231.21072
1412	[illegible]	6020425.31270	2091230.75090
1413	829	6020423.51487	2091230.23552
1414	779	6020421.53652	2091229.62974
1415	774	6020419.45702	2091229.01114
1416	822	6020417.33791	2091228.42024
1417	783	6020415.18366	2091227.77064
1418	746	6020412.98684	2091227.10670
1419	*792*	*6020410.75189*	*2091226.41392*
1420	833	6020408.49026	2091225.74020
1421	802	6020406.11087	2091225.08707
1422	764	6020403.26666	2091224.19024
1423	789	6020401.04233	2091223.51289
1424	762	6020398.93275	2091222.91016
1425	771	6020396.29254	2091222.13485

Sample ID	Gamma Total cps	Easting	Northing
1426	[redacted]	6020393.55581	2091221.31354
1427	809	6020390.85405	2091220.48077
1428	799	6020388.41640	2091219.72851
1429	792	6020386.24616	2091219.04608
1430	754	6020382.91584	2091218.00907
1431	726	6020379.75763	2091216.81338
1432	785	6020377.35671	2091214.86673
1433	799	6020375.65816	2091212.18395
1434	793	6020374.51912	2091209.07927
1435	761	6020374.66845	2091206.27626
1436	741	6020374.78522	2091203.43100
1437	758	6020375.16774	2091200.41294
1438	752	6020375.67108	2091196.90297
1439	693	6020376.40367	2091192.91791
1440	725	6020377.39748	2091188.82294
1441	737	6020378.41058	2091184.68664
1442	736	6020381.23324	2091181.77238
1443	683	6020384.14021	2091179.57776
1444	715	6020387.72924	2091179.44370
1445	731	6020391.23303	2091179.79832
1446	736	6020394.73962	2091180.52068
1447	711	6020398.33955	2091181.63995
1448	723	6020401.59995	2091182.64485
1449	671	6020404.52966	2091183.50620
1450	692	6020407.87550	2091184.49438
1451	745	6020411.35378	2091185.53173
1452	766	6020415.11233	2091186.56916
1453	767	6020418.71047	2091187.55253
1454	765	6020422.15427	2091188.45932
1455	776	6020425.48913	2091189.36042
1456	756	6020428.80916	2091190.27199
1457	772	6020432.16364	2091191.23993
1458	[redacted]	6020435.65209	2091192.28794
1459	831	6020439.24891	2091193.49795
1460	741	6020442.93045	2091194.69186
1461	686	6020446.54359	2091195.83653
1462	694	6020449.71177	2091196.80456
1463	777	6020452.94936	2091197.78020
1464	752	6020456.26616	2091198.73033
1465	755	6020459.51180	2091199.65234
1466	767	6020462.81213	2091200.57642
1467	741	6020466.42041	2091201.66530
1468	769	6020469.82342	2091202.94967
1469	771	6020472.75372	2091204.98335
1470	774	6020474.74034	2091207.90527
1471	768	6020476.11650	2091211.52225
1472	752	6020475.31659	2091215.71479
1473	771	6020474.27364	2091220.11545
1474	771	6020472.71808	2091224.65269
1475	788	6020471.12193	2091228.85618
1476	720	6020469.49379	2091232.98832
1477	760	6020467.18179	2091236.77443
1478	763	6020464.61136	2091239.81165
1479	778	6020460.94285	2091241.04861
1480	800	6020457.35868	2091241.04110
1481	776	6020453.71426	2091240.12252
1482	777	6020449.93526	2091238.82838

Sample ID	Gamma Total cps	Easting	Northing
1483	768	6020446.24158	2091237.56066
1484	[illegible]	6020441.36682	2091235.87184
1485	839	6020437.33904	2091234.53842
1486	828	6020434.20386	2091233.45402
1487	827	6020431.25770	2091232.38911
1488	[illegible]	6020426.86370	2091230.88036
1489	[illegible]	6020422.96463	2091229.58137
1490	784	6020419.85371	2091228.57135
1491	793	6020416.44663	2091227.47754
1492	801	6020412.73608	2091226.32298
1493	783	6020408.99803	2091225.23050
1494	790	6020405.32778	2091224.21076
1495	796	6020402.08601	2091223.28063
1496	733	6020398.23934	2091222.18402
1497	814	6020393.90843	2091220.96686
1498	821	6020390.20150	2091219.90655
1499	794	6020386.58615	2091218.87518
1500	755	6020383.06072	2091217.87861
1501	743	6020379.83391	2091217.37716
1502	809	6020376.62322	2091217.24896
1503	[illegible]	6020373.37347	2091218.20546
1504	807	6020370.07350	2091220.00842
1505	767	6020367.77959	2091223.78726
1506	767	6020365.63196	2091227.89529
1507	761	6020363.99253	2091232.50451
1508	786	6020362.31801	2091238.28171
1509	740	6020360.96675	2091243.73940
1510	714	6020359.94927	2091248.63772
1511	765	6020360.13169	2091252.41494
1512	725	6020361.10930	2091255.94989
1513	717	6020363.49752	2091258.92306
1514	782	6020366.60286	2091261.42046
1515	750	6020369.68560	2091262.10903
1516	732	6020370.67424	2091262.23091
1517	743	6020365.75526	2091260.81062
1518	718	6020360.72842	2091259.88773
1519	689	6020355.27630	2091259.18326
1520	721	6020359.65958	2091259.99467
1521	746	6020363.84813	2091260.99609
1522	768	6020367.91363	2091262.12174
1523	759	6020371.69033	2091263.11722
1524	775	6020375.60941	2091264.15120
1525	822	6020380.24797	2091265.34875
1526	838	6020384.82146	2091266.54407
1527	[illegible]	6020389.32465	2091267.75707
1528	836	6020393.62835	2091268.96795
1529	748	6020398.06692	2091270.25129
1530	733	6020403.40116	2091271.81988
1531	746	6020408.03835	2091273.15182
1532	739	6020412.55088	2091274.42850
1533	748	6020417.12563	2091275.70490
1534	703	6020421.34348	2091276.87355
1535	670	6020425.20845	2091277.91978
1536	704	6020429.14025	2091278.99583
1537	720	6020433.13342	2091280.12144
1538	657	6020437.33852	2091281.31501
1539	650	6020441.53224	2091282.53492

Sample ID	Gamma Total cps	Easting	Northing
1540	614	6020445.57210	2091283.34785
1541	599	6020449.54779	2091283.70423
1542	591	6020453.44701	2091282.93488
1543	576	6020456.06376	2091280.61655
1544	588	6020458.35533	2091277.93945
1545	589	6020459.38704	2091274.31551
1546	607	6020459.37449	2091274.10195
1547	613	6020458.00613	2091278.02007
1548	589	6020457.34250	2091282.71975
1549	568	6020456.87761	2091286.85764
1550	565	6020456.87568	2091286.51498
1551	589	6020457.46512	2091282.75252
1552	572	6020458.47192	2091278.13889
1553	597	6020460.14170	2091272.67404
1554	660	6020461.43124	2091268.21581
1555	689	6020462.61265	2091263.95036
1556	722	6020463.84452	2091259.70330
1557	730	6020464.94531	2091255.97689
1558	734	6020465.96728	2091252.78708
1559	659	6020467.14352	2091249.06127
1560	679	6020468.44899	2091244.79161
1561	690	6020469.81707	2091240.65597
1562	669	6020471.23285	2091236.61264
1563	728	6020472.43023	2091232.76760
1564	754	6020473.74451	2091228.48015
1565	774	6020475.13600	2091223.79757
1566	796	6020476.40777	2091219.37599
1567	763	6020477.56019	2091214.88710
1568	763	6020478.40429	2091210.28652
1569	776	6020477.98105	2091206.73949
1570	759	6020476.64359	2091203.47183
1571	771	6020473.86036	2091200.74080
1572	778	6020470.81879	2091198.53607
1573	799	6020470.00877	2091198.47651
1574	768	6020470.23528	2091198.76193
1575	749	6020475.37677	2091199.99642
1576	710	6020479.30164	2091200.19307
1577	751	6020481.10745	2091199.94370
1578	732	6020477.09144	2091200.22250
1579	727	6020473.95581	2091200.16575
1580	772	6020471.00121	2091199.82453
1581	774	6020467.71886	2091199.26441
1582	772	6020464.40769	2091198.55704
1583	781	6020461.20368	2091197.82244
1584	751	6020458.13305	2091197.10966
1585	761	6020455.20323	2091196.38743
1586	731	6020452.48140	2091195.73361
1587	732	6020449.69127	2091195.09556
1588	676	6020446.40981	2091194.23114
1589	759	6020443.59094	2091193.46741
1590	835	6020440.93034	2091192.71633
1591	[illegible]	6020438.55573	2091192.08491
1592	801	6020436.08189	2091191.44404
1593	786	6020433.16737	2091190.56090
1594	774	6020430.15486	2091189.66853
1595	792	6020427.02765	2091188.82533
1596	776	6020423.94148	2091187.98433

Sample ID	Gamma Total cps	Easting	Northing
1597	714	6020420.90620	2091187.15701
1598	760	6020418.10060	2091186.33943
1599	741	6020414.86042	2091185.41804
1600	735	6020411.29918	2091184.48581
1601	733	6020408.41440	2091183.62939
1602	735	6020405.68628	2091182.82308
1603	706	6020403.10946	2091182.08524
1604	704	6020400.25006	2091181.26708
1605	749	6020397.10759	2091180.37029
1606	743	6020393.50133	2091179.39590
1607	689	6020389.73533	2091178.29251
1608	733	6020385.59044	2091179.09870
1609	739	6020381.72703	2091180.73890
1610	723	6020378.88547	2091184.07287
1611	723	6020377.99621	2091186.82027
1612	721	6020377.76074	2091187.77832
1613	735	6020379.48302	2091183.23227
1614	733	6020380.25647	2091178.87277
1615	743	6020380.48215	2091174.47551
1616	707	6020380.56746	2091173.41932
1617	733	6020380.61559	2091175.74592
1618	715	6020379.83667	2091179.72900
	947	**Maximum**	
	57.45	**Std Dev**	
	759.57	**Average**	
	842	**3 σ Investigation Level**	

Investigation Level Exceeded

Biased samples were collected at locations identified by **BOLD**

Systematic samples were collected at locations identified by *Italic*

EXCAVATED SOIL UNIT 439

E25-0439

Sample ID	Gamma Total cps	Easting	Northing
1	674	6020369.51583	2090756.96849
2	674	6020369.97176	2090757.04573
3	683	6020370.88063	2090757.14494
4	655	6020373.89823	2090758.03038
5	710	6020376.79755	2090758.88159
6	653	6020379.57805	2090759.70040
7	681	6020382.29411	2090760.44987
8	644	6020385.05464	2090761.16781
9	645	6020388.07865	2090761.86702
10	647	6020391.11415	2090762.58303
11	645	6020394.15014	2090763.36104
12	664	6020397.22412	2090764.17572
13	*615*	*6020400.28825*	*2090764.99088*
14	665	6020403.21605	2090765.92802
15	644	6020405.99992	2090766.81670
16	601	6020408.64322	2090767.64627
17	630	6020410.87350	2090768.34854
18	667	6020413.11387	2090769.08505
19	636	6020415.90673	2090769.81293
20	629	6020418.64375	2090770.53512
21	635	6020421.31395	2090771.29204
22	604	6020424.21126	2090772.05256
23	639	6020427.21982	2090772.78675
24	726	6020430.50978	2090773.56368
25	776	6020433.89060	2090774.35436
26	786	6020437.36647	2090775.14069
27	768	6020440.84375	2090775.99137
28	761	6020444.34571	2090776.88317
29	788	6020447.94274	2090777.98575
30	782	6020451.62679	2090779.13235
31	833	6020455.38793	2090780.35438
32	838	6020459.18894	2090781.62465
33	808	6020463.02802	2090782.74628
34	793	6020465.52638	2090785.36948
35	808	6020467.64441	2090788.63252
36	805	6020468.32244	2090793.05590
37	812	6020467.94745	2090797.56251
38	774	6020466.77893	2090802.65695
39	802	6020467.63827	2090799.19379
40	800	6020469.00587	2090794.67804
41	799	6020471.11218	2090789.18216
42	773	6020471.91303	2090787.10639
43	799	6020472.87117	2090784.68554
44	760	6020471.69352	2090788.14450
45	757	6020470.57726	2090791.64993
46	799	6020469.68128	2090795.24857
47	804	6020468.78596	2090798.65307
48	796	6020467.87409	2090802.00586
49	806	6020466.89265	2090805.29483
50	790	6020465.91736	2090808.57288
51	812	6020464.95549	2090811.84215
52	790	6020463.90224	2090815.55587
53	725	6020462.82414	2090819.37327
54	725	6020462.02191	2090823.33423
55	717	6020461.22093	2090827.20529
56	730	6020460.38748	2090830.97932
57	729	6020459.45918	2090834.82032

Sample ID	Gamma Total cps	Easting	Northing
58	742	6020458.47805	2090838.60692
59	747	6020457.67008	2090842.13679
60	754	6020456.83424	2090845.54320
61	745	6020455.82471	2090848.78685
62	753	6020454.80085	2090852.07313
63	735	6020453.81089	2090855.33863
64	727	6020452.67188	2090858.34268
65	716	6020451.14104	2090861.23116
66	747	6020448.34940	2090863.35524
67	744	6020443.75375	2090865.03880
68	739	6020438.74829	2090866.25777
69	766	6020434.59577	2090865.25298
70	742	6020431.42387	2090864.48135
71	768	6020433.04661	2090864.92234
72	774	6020437.59930	2090866.29239
73	754	6020442.66192	2090867.85092
74	731	6020447.17388	2090869.83220
75	730	6020450.26328	2090871.19295
76	727	6020448.28552	2090870.44476
77	720	6020445.35687	2090869.51537
78	703	6020442.24962	2090868.68086
79	747	6020439.40833	2090867.84542
80	768	6020436.29665	2090866.94135
81	759	6020432.90725	2090865.99414
82	732	6020429.85442	2090865.13011
83	749	6020426.89079	2090864.27099
84	760	6020423.99502	2090863.50292
85	756	6020421.06723	2090862.73977
86	756	6020418.09591	2090862.02711
87	717	6020414.87574	2090861.20131
88	779	6020411.66062	2090860.34610
89	779	6020408.72156	2090859.46709
90	773	6020405.98149	2090858.63891
91	769	6020403.45463	2090857.81612
92	777	6020400.34666	2090856.83984
93	734	6020397.11386	2090855.84755
94	726	6020393.84936	2090854.89676
95	730	6020390.87928	2090854.03786
96	667	6020388.19584	2090853.29832
97	698	6020385.35648	2090852.53632
98	713	6020382.48791	2090851.79194
99	694	6020379.66559	2090851.02240
100	687	6020376.92729	2090850.28052
101	707	6020374.26708	2090849.58859
102	703	6020371.85847	2090848.95430
103	679	6020369.36790	2090848.29408
104	680	6020366.22840	2090847.40306
105	693	6020362.98661	2090846.39698
106	703	6020359.71012	2090845.07823
107	704	6020357.02687	2090843.11844
108	717	6020354.61208	2090840.71743
109	697	6020353.78349	2090837.66205
110	714	6020353.14614	2090834.86156
111	681	6020353.42560	2090832.25857
112	697	6020353.95563	2090829.26138
113	677	6020354.68344	2090826.29351
114	682	6020355.21062	2090823.69503

Sample ID	Gamma Total cps	Easting	Northing
115	733	6020355.74336	2090821.11199
116	728	6020356.33182	2090818.55525
117	738	6020356.70056	2090816.90387
118	707	6020356.40734	2090818.47854
119	676	6020355.32239	2090823.69251
120	719	6020353.84642	2090829.06149
121	712	6020351.63737	2090834.48114
122	691	6020350.48012	2090837.65903
123	704	6020349.38769	2090841.22010
124	696	6020350.55521	2090837.47289
125	742	6020351.61491	2090834.10795
126	701	6020352.60152	2090831.13645
127	709	6020353.49361	2090828.29670
128	667	6020354.34777	2090825.45246
129	700	6020355.14965	2090822.47190
130	721	6020355.98678	2090819.45278
131	700	6020356.93421	2090816.41687
132	728	6020357.84150	2090813.31789
133	693	6020358.70723	2090810.19587
134	702	6020359.53960	2090807.06248
135	719	6020360.39825	2090803.83837
136	706	6020361.28864	2090800.52499
137	698	6020362.18428	2090797.22365
138	703	6020363.11443	2090793.83795
139	712	6020364.11248	2090789.99180
140	718	6020365.08757	2090786.16507
141	731	6020366.00581	2090782.34928
142	687	6020366.95211	2090778.45254
143	621	6020367.87411	2090774.53551
144	619	6020369.23437	2090770.77680
145	639	6020370.87848	2090767.47235
146	*639*	*6020373.67856*	*2090765.24941*
147	664	6020376.54686	2090764.24721
148	645	6020379.67628	2090764.12576
149	654	6020382.68300	2090764.62648
150	664	6020385.97879	2090765.22487
151	623	6020389.54160	2090766.03313
152	612	6020392.57360	2090766.74032
153	652	6020395.39162	2090767.40952
154	640	6020397.67111	2090767.98415
155	621	6020399.45100	2090768.44030
156	664	6020400.74161	2090768.73498
157	623	6020401.28769	2090768.82913
158	661	6020402.16443	2090769.09015
159	636	6020405.56851	2090769.87391
160	606	6020408.87971	2090770.65091
161	637	6020412.08819	2090771.46189
162	621	6020415.22524	2090772.30863
163	616	6020418.32559	2090773.19324
164	596	6020421.35962	2090774.06125
165	590	6020424.51967	2090774.96071
166	638	6020427.80901	2090775.88006
167	745	6020430.88736	2090776.74263
168	774	6020433.84285	2090777.56905
169	798	6020436.38643	2090778.30156
170	747	6020438.98768	2090779.05014
171	777	6020441.64728	2090779.81237

Sample ID	Gamma Total cps	Easting	Northing
172	783	6020444.12762	2090780.52020
173	816	6020446.57196	2090781.20345
174	796	6020448.98157	2090781.93426
175	808	6020451.43374	2090782.68126
176	812	6020453.92276	2090783.46293
177	782	6020456.64294	2090784.29566
178	766	6020459.49385	2090785.02018
179	776	6020462.12173	2090786.62652
180	*799*	*6020464.51875*	*2090788.36439*
181	787	6020465.98894	2090790.91237
182	773	6020466.71819	2090793.69143
183	765	6020466.77841	2090796.68650
184	763	6020466.28855	2090799.66154
185	781	6020465.72998	2090802.68898
186	774	6020464.90870	2090805.72673
187	805	6020463.99395	2090808.94980
188	799	6020463.01693	2090812.25152
189	794	6020462.00013	2090815.81179
190	746	6020460.78290	2090819.28489
191	736	6020458.90849	2090822.47517
192	728	6020456.31669	2090824.68056
193	683	6020453.11395	2090826.35639
194	725	6020449.40663	2090826.11842
195	695	6020445.87592	2090825.79914
196	718	6020442.55511	2090825.14300
197	735	6020439.12118	2090824.35981
198	723	6020435.67081	2090823.50666
199	711	6020432.25130	2090822.48612
200	718	6020428.67599	2090821.42467
201	765	6020424.94176	2090820.33285
202	804	6020421.34437	2090819.29575
203	736	6020417.86049	2090818.30692
204	722	6020414.83404	2090817.41254
205	792	6020411.75589	2090816.51401
206	[illegible]	6020408.61708	2090815.64263
207	[illegible]	6020405.37357	2090814.70588
208	774	6020402.09969	2090813.72333
209	724	6020398.72182	2090812.77407
210	696	6020395.58343	2090811.88726
211	714	6020392.68937	2090811.04596
212	737	6020389.41921	2090810.14121
213	740	6020386.07508	2090809.25440
214	689	6020382.78108	2090808.36210
215	668	6020379.82663	2090807.56814
216	655	6020377.20342	2090806.90425
217	669	6020373.65905	2090806.03697
218	670	6020369.88440	2090805.26308
219	690	6020366.75867	2090803.13682
220	698	6020364.17498	2090800.81492
221	703	6020363.20728	2090797.51540
222	704	6020363.07103	2090793.81295
223	694	6020363.52911	2090790.02706
224	707	6020364.54861	2090786.60222
225	670	6020365.39686	2090783.77790
226	684	6020366.14985	2090781.57842
227	699	6020367.06403	2090778.78062
228	655	6020368.01820	2090775.65521

Sample ID	Gamma Total cps	Easting	Northing
229	596	6020369.64005	2090771.71246
230	622	6020371.76079	2090768.33338
231	614	6020375.37001	2090766.41474
232	648	6020378.93488	2090765.78475
233	634	6020382.50944	2090765.97319
234	629	6020385.37959	2090766.60229
235	641	6020388.24462	2090767.26195
236	609	6020391.07387	2090768.07360
237	615	6020393.98579	2090768.90041
238	625	6020397.00429	2090769.74042
239	653	6020400.42888	2090770.78308
240	639	6020403.83208	2090771.82143
241	623	6020407.21234	2090772.86060
242	632	6020410.55582	2090773.82405
243	596	6020413.91242	2090774.72583
244	609	6020417.26866	2090775.75019
245	589	6020420.64469	2090776.76466
246	582	6020424.05129	2090777.73265
247	621	6020427.21867	2090778.62506
248	738	6020430.40580	2090779.51577
249	794	6020433.92298	2090780.50158
250	791	6020437.39545	2090781.46467
251	774	6020440.82967	2090782.38148
252	767	6020444.09654	2090783.25871
253	778	6020447.34094	2090784.12786
254	791	6020450.62081	2090785.06598
255	780	6020453.96927	2090786.00955
256	771	6020457.39537	2090786.92580
257	763	6020460.73922	2090788.37365
258	752	6020464.10571	2090790.05145
259	799	6020465.69575	2090793.32686
260	782	6020466.87041	2090796.81333
261	773	6020466.66707	2090800.70587
262	771	6020466.07058	2090804.49476
263	774	6020465.19924	2090808.24641
264	832	6020464.10420	2090811.98816
265	803	6020462.97483	2090815.77141
266	737	6020461.77157	2090819.58415
267	735	6020460.38828	2090823.05308
268	701	6020459.00487	2090826.52561
269	758	6020455.98479	2090828.36508
270	724	6020453.03859	2090829.72560
271	709	6020449.89288	2090829.34857
272	715	6020446.94415	2090828.80777
273	701	6020444.03840	2090828.09899
274	689	6020441.06675	2090827.25414
275	761	6020437.93309	2090826.34442
276	682	6020434.65127	2090825.32331
277	652	6020431.21897	2090824.23618
278	707	6020427.77073	2090823.12768
279	742	6020424.37034	2090822.05068
280	745	6020420.95505	2090820.95351
281	788	6020417.53582	2090819.80259
282	767	6020414.07763	2090818.63084
283	823	6020410.64515	2090817.45277
284	**949**	**6020407.33413**	**2090816.40347**
285	[illegible]	6020404.19929	2090815.40646

Sample ID	Gamma Total cps	Easting	Northing
286	723	6020401.24422	2090814.45057
287	687	6020398.54620	2090813.60889
288	683	6020395.92237	2090812.81742
289	702	6020393.43155	2090812.10536
290	715	6020390.81155	2090811.37305
291	771	6020388.04389	2090810.68983
292	769	6020385.36573	2090810.00902
293	719	6020382.71341	2090809.30602
294	675	6020380.06104	2090808.64526
295	635	6020377.54637	2090808.01026
296	681	6020375.18678	2090807.33599
297	656	6020372.42674	2090806.57010
298	678	6020369.45306	2090805.90518
299	684	6020366.61772	2090804.02221
300	700	6020364.13695	2090801.86903
301	706	6020362.97715	2090798.68480
302	709	6020362.77154	2090794.60656
303	675	6020363.26863	2090790.26994
304	690	6020364.49382	2090786.03539
305	698	6020365.64776	2090782.08711
306	694	6020366.75320	2090778.43183
307	644	6020368.34081	2090774.88818
308	616	6020370.07794	2090771.31747
309	651	6020373.49020	2090769.95014
310	604	6020376.61973	2090768.94105
311	627	6020379.60154	2090769.17968
312	630	6020382.54860	2090769.60469
313	657	6020385.49927	2090770.20949
314	622	6020388.57752	2090770.93093
315	601	6020391.51860	2090771.63810
316	612	6020394.30410	2090772.40327
317	660	6020397.05343	2090773.28732
318	652	6020399.76956	2090774.37857
319	621	6020402.77669	2090774.95722
320	608	6020405.64442	2090775.53797
321	605	6020408.34243	2090776.25354
322	632	6020411.25224	2090777.04906
323	619	6020414.18943	2090777.87170
324	605	6020417.06608	2090778.69624
325	604	6020419.74815	2090779.47341
326	667	6020422.22091	2090780.25212
327	707	6020424.84759	2090781.06479
328	720	6020427.48235	2090781.86554
329	780	6020429.98850	2090782.62137
330	783	6020432.58762	2090783.39961
331	827	6020435.28685	2090784.17598
332	789	6020438.39246	2090785.05699
333	777	6020441.63582	2090785.95860
334	806	6020445.11703	2090787.01215
335	797	6020448.41965	2090788.02156
336	802	6020451.53515	2090789.01432
337	824	6020454.51763	2090789.93383
338	800	6020457.52364	2090790.72402
339	768	6020460.23812	2090792.24850
340	773	6020462.84284	2090794.10757
341	758	6020464.67402	2090797.00087
342	825	6020465.45012	2090800.45384

Sample ID	Gamma Total cps	Easting	Northing
343	791	6020465.40848	2090804.19290
344	773	6020464.76985	2090807.80060
345	786	6020464.12677	2090811.18259
346	771	6020463.34489	2090814.31024
347	769	6020462.38550	2090817.71126
348	744	6020461.31940	2090821.22862
349	708	6020459.97427	2090825.06460
350	726	6020458.18396	2090828.57818
351	708	6020455.09347	2090831.17912
352	736	6020451.87863	2090832.15766
353	731	6020448.44847	2090832.10483
354	704	6020445.63208	2090831.37123
355	729	6020442.85460	2090830.62898
356	729	6020440.13839	2090829.79905
357	800	6020437.33846	2090828.91853
358	688	6020434.50154	2090828.01103
359	662	6020431.57196	2090826.99890
360	653	6020428.62410	2090825.97780
361	696	6020425.66073	2090824.93976
362	732	6020422.62105	2090823.90731
363	790	6020419.52941	2090822.88119
364	817	6020416.26783	2090821.84475
365	715	6020413.05978	2090820.82404
366	716	6020409.90637	2090819.81566
367	823	6020406.93115	2090818.91432
368	809	6020403.96640	2090818.06285
369	776	6020400.92238	2090817.20124
370	693	6020397.88649	2090816.33549
371	736	6020394.86447	2090815.44576
372	739	6020391.96255	2090814.59283
373	769	6020389.05845	2090813.74816
374	781	6020386.05147	2090812.81479
375	766	6020383.06565	2090811.89818
376	726	6020380.09123	2090811.03081
377	683	6020376.94454	2090810.15830
378	*670*	*6020373.70762*	*2090809.30625*
379	689	6020370.25520	2090808.33262
380	693	6020367.03299	2090807.12433
381	703	6020364.41968	2090804.95977
382	699	6020362.78889	2090802.15282
383	692	6020361.83010	2090798.80122
384	707	6020362.40286	2090795.25639
385	714	6020363.12214	2090791.55881
386	*723*	*6020364.22124*	*2090787.76089*
387	713	6020365.28552	2090784.22815
388	689	6020366.38132	2090780.69783
389	659	6020367.58494	2090776.88945
390	599	6020369.08346	2090773.34324
391	623	6020371.56153	2090770.43878
392	645	6020374.54244	2090768.90467
393	617	6020378.06718	2090768.22958
394	651	6020381.76032	2090768.97296
395	638	6020385.52777	2090769.80173
396	618	6020389.33779	2090770.84941
397	636	6020392.89593	2090771.92993
398	634	6020396.39814	2090773.07552
399	651	6020399.95996	2090774.22468

Sample ID	Gamma Total cps	Easting	Northing
400	639	6020403.47508	2090775.35550
401	626	6020406.94576	2090776.46096
402	642	6020410.38150	2090777.55381
403	623	6020413.79997	2090778.65114
404	608	6020417.21209	2090779.63468
405	659	6020420.49772	2090780.57167
406	725	6020423.66471	2090781.43410
407	761	6020426.73026	2090782.24410
408	778	6020429.80492	2090783.04080
409	787	6020433.02821	2090783.81106
410	781	6020436.37984	2090784.62264
411	791	6020439.85377	2090785.50006
412	793	6020443.31865	2090786.42560
413	813	6020446.74913	2090787.38067
414	804	6020450.05019	2090788.30816
415	808	6020453.50090	2090789.28452
416	834	6020457.09725	2090790.32374
417	800	6020460.40741	2090792.04440
418	785	6020463.62512	2090794.04090
419	782	6020464.63469	2090797.06243
420	784	6020465.40304	2090800.15591
421	779	6020465.15960	2090803.41738
422	781	6020464.64880	2090806.74047
423	750	6020463.94547	2090810.07071
424	770	6020462.94252	2090813.38305
425	754	6020461.91175	2090816.71444
426	734	6020460.80191	2090820.04859
427	701	6020459.72662	2090823.43891
428	733	6020458.81014	2090826.91165
429	732	6020456.65317	2090829.74339
430	716	6020454.39174	2090832.12878
431	727	6020451.34238	2090833.09770
432	691	6020448.46755	2090833.47335
433	706	6020445.57747	2090833.36645
434	759	6020442.79095	2090832.85404
435	*744*	*6020439.90884*	*2090832.29559*
436	740	6020436.95242	2090831.59028
437	684	6020434.09839	2090830.84706
438	625	6020431.25504	2090830.04978
439	640	6020428.32529	2090829.17350
440	639	6020425.39769	2090828.28282
441	666	6020422.48777	2090827.32820
442	749	6020419.37802	2090826.27206
443	814	6020416.20688	2090825.15534
444	754	6020412.85246	2090824.06248
445	725	6020409.65406	2090823.02936
446	825	6020406.60340	2090822.08193
447	802	6020403.67740	2090821.20568
448	735	6020400.80468	2090820.37807
449	698	6020398.11222	2090819.59319
450	694	6020395.44337	2090818.81290
451	760	6020392.80123	2090818.02665
452	700	6020389.88123	2090817.14014
453	767	6020386.92381	2090816.19671
454	778	6020383.94520	2090815.46745
455	792	6020381.04681	2090814.75105
456	722	6020378.23539	2090814.02063

Sample ID	Gamma Total cps	Easting	Northing
457	727	6020375.36155	2090813.28595
458	693	6020372.39699	2090812.58424
459	704	6020369.22774	2090811.43524
460	707	6020366.30476	2090810.08744
461	675	6020364.12830	2090807.77940
462	730	6020362.68931	2090805.09340
463	697	6020361.76261	2090801.98716
464	699	6020362.15747	2090798.44297
465	683	6020362.60650	2090795.02895
466	696	6020363.30546	2090791.77695
467	737	6020364.20878	2090788.31362
468	686	6020365.21227	2090784.87627
469	678	6020366.25488	2090781.72483
470	685	6020367.51085	2090778.27666
471	614	6020369.17521	2090774.60802
472	625	6020371.49235	2090772.05667
473	619	6020374.34246	2090769.93120
474	636	6020377.58916	2090770.09278
475	616	6020380.97120	2090770.40129
476	642	6020384.44069	2090771.20121
477	639	6020387.85506	2090772.09337
478	608	6020391.17283	2090773.03538
479	625	6020394.11140	2090773.93225
480	670	6020397.12413	2090774.84953
481	637	6020400.21294	2090775.78090
482	653	6020402.88295	2090776.59483
483	601	6020405.42383	2090777.37722
484	618	6020407.74279	2090778.10293
485	608	6020410.10136	2090778.83948
486	658	6020412.50271	2090779.57665
487	614	6020415.13109	2090780.37738
488	647	6020417.76344	2090781.17120
489	670	6020420.17607	2090781.90814
490	734	6020422.65484	2090782.66320
491	773	6020425.20307	2090783.42548
492	789	6020427.69564	2090784.17963
493	812	6020430.21179	2090784.96005
494	785	6020432.94077	2090785.74893
495	796	6020435.63959	2090786.53539
496	*777*	*6020438.29990*	*2090787.34750*
497	791	6020440.89860	2090788.14081
498	810	6020443.47034	2090788.92825
499	803	6020445.97587	2090789.68191
500	830	6020448.54246	2090790.44985
501	787	6020451.17575	2090791.21298
502	798	6020453.95339	2090791.98711
503	821	6020456.89653	2090792.67923
504	803	6020459.98294	2090794.34413
505	792	6020462.67584	2090796.11313
506	791	6020464.25979	2090798.73713
507	798	6020465.03649	2090801.37199
508	768	6020465.17267	2090804.22853
509	747	6020464.38737	2090807.12717
510	763	6020463.71183	2090809.61368
511	803	6020463.10770	2090811.67725
512	792	6020462.57964	2090813.52446
513	745	6020462.03930	2090815.50892

Sample ID	Gamma Total cps	Easting	Northing
514	744	6020461.29300	2090818.37582
515	721	6020460.58021	2090821.14785
516	736	6020459.94198	2090823.83524
517	682	6020459.21980	2090826.55313
518	713	6020458.44873	2090829.25956
519	720	6020457.52123	2090831.86095
520	755	6020456.47844	2090834.35594
521	776	6020454.64020	2090836.33129
522	750	6020452.61697	2090837.79929
523	739	6020450.30516	2090839.05519
524	720	6020447.87924	2090838.59312
525	734	6020445.21571	2090838.02220
526	716	6020442.37457	2090837.10736
527	725	6020440.05260	2090836.34132
528	749	6020437.81297	2090835.59002
529	745	6020435.48143	2090834.72691
530	700	6020432.87377	2090833.76879
531	647	6020429.98172	2090832.73843
532	633	6020427.21688	2090831.78192
533	637	6020424.54163	2090830.88281
534	650	6020422.21629	2090830.11316
535	717	6020419.88646	2090829.34316
536	792	6020417.54942	2090828.58104
537	[illegible]	6020415.18298	2090827.80286
538	[illegible]	6020412.83680	2090827.01732
539	769	6020410.59371	2090826.29519
540	772	6020408.27999	2090825.54871
541	[illegible]	6020405.89916	2090824.76707
542	814	6020403.42661	2090823.96844
543	770	6020400.92740	2090823.17236
544	778	6020398.39209	2090822.39052
545	737	6020395.89597	2090821.62285
546	739	6020393.43524	2090820.88178
547	730	6020390.85481	2090820.11101
548	707	6020388.27332	2090819.36008
549	761	6020385.85326	2090818.58432
550	764	6020383.50581	2090817.83791
551	778	6020381.21497	2090817.17319
552	755	6020378.88272	2090816.49080
553	744	6020376.54164	2090815.78515
554	778	6020374.15362	2090815.13585
555	742	6020371.62178	2090814.41260
556	719	6020368.99458	2090813.46217
557	715	6020366.50320	2090811.98912
558	685	6020364.06143	2090810.20454
559	688	6020363.12294	2090807.55561
560	691	6020362.34134	2090804.56149
561	720	6020362.41781	2090801.10962
562	683	6020362.71472	2090797.94507
563	714	6020363.20397	2090794.79393
564	711	6020363.97594	2090791.41773
565	693	6020364.78666	2090787.99239
566	646	6020365.69989	2090784.53362
567	698	6020365.98736	2090783.93720
568	662	6020365.95182	2090783.44689
569	716	6020366.70455	2090780.98884
570	697	6020368.07480	2090778.06581

Sample ID	Gamma Total cps	Easting	Northing
571	646	6020370.83273	2090775.12407
572	602	6020374.23449	2090773.76511
573	603	6020378.11307	2090773.39862
574	634	6020381.72549	2090774.27181
575	617	6020385.08842	2090775.09306
576	663	6020388.19561	2090775.88749
577	627	6020391.08095	2090776.62697
578	623	6020393.95461	2090777.35485
579	684	6020396.96007	2090778.19720
580	671	6020399.87899	2090779.02570
581	627	6020402.70010	2090779.87902
582	582	6020405.54606	2090780.77122
583	596	6020408.42089	2090781.70447
584	629	6020411.45335	2090782.68249
585	633	6020414.50118	2090783.65461
586	712	6020417.57415	2090784.58957
587	740	6020420.55514	2090785.45594
588	767	6020423.52919	2090786.27879
589	784	6020426.51044	2090787.12600
590	776	6020429.57110	2090787.99831
591	784	6020432.70913	2090788.90284
592	781	6020435.98867	2090789.86876
593	753	6020439.25451	2090790.85111
594	766	6020442.34149	2090791.74865
595	794	6020445.53476	2090792.68263
596	768	6020448.83030	2090793.66668
597	771	6020452.08144	2090794.59536
598	752	6020455.45339	2090795.45269
599	791	6020458.99169	2090797.27754
600	794	6020462.06775	2090799.55006
601	794	6020463.77673	2090803.14614
602	778	6020464.22371	2090807.18632
603	791	6020463.83044	2090811.42702
604	796	6020462.80706	2090815.54062
605	740	6020461.76525	2090819.59628
606	721	6020460.64899	2090823.57918
607	705	6020459.47697	2090827.51692
608	713	6020457.96921	2090832.44113
609	719	6020458.36232	2090831.06537
610	717	6020458.43209	2090830.45073
611	728	6020456.92285	2090834.32531
612	763	6020454.36476	2090837.11135
613	726	6020451.19179	2090839.40751
614	704	6020447.96063	2090839.21246
615	759	6020444.81817	2090838.95994
616	736	6020441.79057	2090838.42759
617	739	6020438.76285	2090837.74150
618	750	6020435.78274	2090836.93070
619	749	6020432.94448	2090836.10212
620	643	6020429.97244	2090835.22014
621	642	6020426.87898	2090834.24406
622	605	6020423.90992	2090833.32093
623	672	6020420.95381	2090832.42010
624	808	6020417.97139	2090831.47094
625	[illegible]	6020414.96736	2090830.52093
626	**984**	**6020411.93609**	**2090829.58805**
627	819	6020409.04477	2090828.68598

Sample ID	Gamma Total cps	Easting	Northing
628	838	6020406.17153	2090827.78326
629	769	6020403.25658	2090826.82328
630	752	6020400.42430	2090825.90341
631	744	6020397.65892	2090825.07374
632	750	6020394.92121	2090824.26964
633	736	6020392.11682	2090823.46446
634	679	6020388.97074	2090822.56228
635	697	6020385.95947	2090821.70492
636	734	6020383.07684	2090820.91438
637	742	6020380.07920	2090820.10211
638	796	6020376.97267	2090819.27244
639	734	6020373.45698	2090818.30299
640	747	6020369.72637	2090817.08292
641	755	6020365.89199	2090815.30880
642	723	6020363.48250	2090812.86167
643	727	6020361.71110	2090809.87293
644	690	6020361.75364	2090807.00990
645	718	6020361.91230	2090803.94582
646	679	6020362.52432	2090800.71486
647	713	6020363.34836	2090797.08311
648	700	6020364.26484	2090793.42225
649	687	6020365.24122	2090789.98224
650	709	6020366.20640	2090786.57930
651	693	6020367.15880	2090783.21297
652	727	6020368.79606	2090779.95574
653	659	6020370.74356	2090776.70774
654	634	6020374.07986	2090775.66534
655	636	6020377.27381	2090774.91671
656	632	6020380.40256	2090775.27004
657	647	6020383.56428	2090775.85168
658	689	6020386.71698	2090776.60428
659	685	6020389.82371	2090777.59283
660	677	6020392.90761	2090778.59243
661	682	6020395.95132	2090779.65508
662	656	6020398.86855	2090780.65428
663	633	6020401.79183	2090781.63986
664	635	6020404.86166	2090782.64918
665	690	6020407.83894	2090783.64039
666	666	6020410.70983	2090784.65405
667	665	6020413.42934	2090785.55572
668	740	6020416.19317	2090786.41089
669	760	6020419.26487	2090787.34005
670	761	6020422.22236	2090788.21922
671	759	6020425.08178	2090788.99202
672	766	6020427.90733	2090789.75835
673	742	6020430.70390	2090790.51413
674	794	6020433.37640	2090791.27028
675	749	6020435.97174	2090792.00370
676	712	6020438.49135	2090792.70937
677	730	6020441.21028	2090793.49302
678	748	6020444.03148	2090794.31914
679	758	6020447.15033	2090795.32057
680	763	6020450.35981	2090796.32960
681	769	6020453.67579	2090797.29431
682	770	6020457.00720	2090798.61872
683	786	6020460.36872	2090800.00424
684	804	6020462.20643	2090802.73206

Sample ID	Gamma Total cps	Easting	Northing
685	760	6020463.68213	2090805.51736
686	776	6020463.71763	2090808.69604
687	808	6020463.46196	2090811.94246
688	789	6020462.98763	2090815.18486
689	755	6020462.23541	2090818.31956
690	744	6020461.49724	2090821.37141
691	724	6020460.75317	2090824.33551
692	722	6020459.92634	2090827.13129
693	725	6020458.94989	2090829.92647
694	731	6020457.97899	2090833.09140
695	778	6020456.88191	2090836.24462
696	734	6020455.33746	2090839.25568
697	702	6020453.08734	2090841.70446
698	730	6020450.36325	2090843.93695
699	801	6020447.10181	2090843.64564
700	778	6020444.08290	2090843.29551
701	723	6020441.37499	2090842.51895
702	722	6020438.87069	2090841.74730
703	763	6020436.37922	2090840.91854
704	740	6020433.69275	2090839.98421
705	690	6020430.67581	2090838.93975
706	661	6020427.32471	2090837.79583
707	635	6020424.14462	2090836.73678
708	619	6020421.03203	2090835.72285
709	720	6020418.11151	2090834.77318
710	802	6020415.25863	2090833.84939
711	*822*	*6020412.46874*	*2090832.96594*
712	[illegible]	6020409.96033	2090832.19467
713	788	6020407.47490	2090831.47703
714	748	6020404.91139	2090830.63020
715	785	6020402.46949	2090829.82100
716	759	6020400.15560	2090829.03037
717	730	6020397.41092	2090828.13560
718	722	6020394.55817	2090827.24229
719	760	6020391.62973	2090826.35979
720	677	6020388.59854	2090825.46099
721	658	6020385.45273	2090824.58685
722	704	6020382.69969	2090823.84619
723	713	6020380.01072	2090823.15697
724	705	6020377.29602	2090822.41697
725	718	6020374.43512	2090821.63971
726	696	6020371.42576	2090820.83349
727	735	6020368.22605	2090819.96994
728	757	6020364.89475	2090819.25158
729	784	6020362.31387	2090817.03065
730	720	6020360.13431	2090814.69104
731	723	6020359.38290	2090811.60389
732	679	6020359.45016	2090807.91565
733	717	6020360.15406	2090804.11224
734	733	6020361.11780	2090800.48857
735	721	6020362.09537	2090796.76829
736	704	6020363.06468	2090792.94566
737	697	6020364.15316	2090788.87424
738	684	6020365.17420	2090784.74974
739	728	6020367.56577	2090781.52689
740	709	6020370.25506	2090778.93868
741	648	6020373.99751	2090778.17040

Sample ID	Gamma Total cps	Easting	Northing
742	640	6020377.70244	2090778.21413
743	654	6020381.35779	2090778.81850
744	675	6020384.66851	2090779.67878
745	663	6020388.05780	2090780.57335
746	676	6020391.51719	2090781.53373
747	666	6020395.18715	2090782.62232
748	651	6020398.88224	2090783.76613
749	686	6020402.53155	2090784.92228
750	712	6020406.14505	2090786.05602
751	753	6020409.72967	2090787.14500
752	*711*	*6020412.90997*	*2090788.12499*
753	780	6020415.90928	2090789.07240
754	743	6020418.45420	2090789.81362
755	777	6020421.20220	2090790.60106
756	768	6020424.16525	2090791.39182
757	728	6020427.43288	2090792.28128
758	741	6020431.71946	2090793.47559
759	782	6020434.74139	2090794.36095
760	689	6020437.89029	2090795.26947
761	688	6020441.06003	2090796.17479
762	760	6020444.20439	2090797.04896
763	766	6020447.50183	2090797.97105
764	765	6020450.94892	2090798.95317
765	788	6020454.43095	2090799.96373
766	765	6020457.98795	2090800.83595
767	777	6020460.64143	2090803.20184
768	786	6020462.82716	2090805.73222
769	762	6020463.42300	2090809.05483
770	789	6020463.25718	2090812.73459
771	759	6020462.49099	2090816.60384
772	725	6020461.18110	2090820.95735
773	685	6020459.86839	2090825.33797
774	704	6020458.56020	2090829.74790
775	731	6020457.39901	2090833.99194
776	761	6020456.43686	2090838.18599
777	732	6020454.21709	2090841.36352
778	726	6020451.76391	2090843.94659
779	738	6020448.29038	2090844.78086
780	758	6020444.91981	2090844.85724
781	744	6020441.64810	2090844.36767
782	766	6020438.92535	2090843.76002
783	729	6020436.27568	2090843.15208
784	750	6020433.72177	2090842.45256
785	740	6020430.88688	2090841.68197
786	687	6020427.96277	2090840.89778
787	710	6020424.89589	2090840.03553
788	679	6020421.85382	2090839.16671
789	672	6020418.84890	2090838.24933
790	787	6020415.91846	2090837.36645
791	801	6020413.00882	2090836.50890
792	837	6020410.16726	2090835.61665
793	805	6020407.42019	2090834.75257
794	789	6020404.76969	2090833.91004
795	785	6020402.14233	2090833.03325
796	758	6020399.62045	2090832.14809
797	734	6020397.54845	2090831.41818
798	732	6020395.28985	2090830.62790

Sample ID	Gamma Total cps	Easting	Northing
799	692	6020392.83420	2090829.80769
800	688	6020390.24417	2090828.92907
801	688	6020387.61574	2090828.00952
802	649	6020384.86540	2090827.13621
803	700	6020382.07966	2090826.25579
804	705	6020379.25383	2090825.38326
805	712	6020376.29714	2090824.45913
806	702	6020373.35644	2090823.51656
807	655	6020370.57191	2090822.71313
808	690	6020367.75019	2090821.84728
809	707	6020364.95208	2090820.74075
810	759	6020362.46464	2090819.06436
811	753	6020360.06698	2090816.98247
812	736	6020359.49345	2090813.90815
813	681	6020359.12927	2090810.72585
814	712	6020359.63197	2090807.42460
815	715	6020360.30003	2090804.13803
816	700	6020361.06820	2090800.89566
817	673	6020362.05260	2090797.87139
818	704	6020363.01624	2090794.75819
819	726	6020363.82856	2090791.51849
820	709	6020365.02380	2090787.78285
821	669	6020366.26562	2090783.92043
822	706	6020369.14600	2090781.35864
823	686	6020371.94166	2090779.40978
824	683	6020375.14987	2090779.33905
825	640	6020378.48970	2090779.69397
826	675	6020381.82196	2090780.37682
827	720	6020385.02323	2090781.27571
828	676	6020388.20776	2090782.18313
829	632	6020391.36497	2090783.13534
830	689	6020394.76030	2090784.22722
831	653	6020398.16338	2090785.37609
832	663	6020401.43597	2090786.45601
833	707	6020404.39293	2090787.42924
834	750	6020407.03791	2090788.28463
835	732	6020409.55587	2090789.07803
836	776	6020412.09537	2090789.86201
837	782	6020414.86957	2090790.65509
838	807	6020416.75482	2090791.20060
839	771	6020417.75830	2090791.47279
840	766	6020418.33603	2090791.58187
841	752	6020418.39688	2090791.60097
842	760	6020418.45773	2090791.62007
843	738	6020418.51858	2090791.63917
844	765	6020418.57943	2090791.65826
845	795	6020418.64028	2090791.67736
846	741	6020418.70113	2090791.69646
847	754	6020418.76198	2090791.71556
848	779	6020418.82283	2090791.73466
849	779	6020418.88367	2090791.75375
850	771	6020418.94452	2090791.77285
851	749	6020419.00537	2090791.79195
852	750	6020419.06622	2090791.81105
853	794	6020419.12707	2090791.83015
854	727	6020419.18792	2090791.84924
855	758	6020419.24877	2090791.86834

Sample ID	Gamma Total cps	Easting	Northing
856	765	6020419.30962	2090791.88744
857	753	6020419.37047	2090791.90654
858	779	6020419.43132	2090791.92564
859	767	6020419.49217	2090791.94473
860	743	6020419.55302	2090791.96383
861	752	6020419.61387	2090791.98293
862	773	6020419.67472	2090792.00203
863	738	6020419.73557	2090792.02113
864	743	6020419.79642	2090792.04022
865	748	6020419.85726	2090792.05932
866	785	6020419.91811	2090792.07842
867	764	6020419.97896	2090792.09752
868	772	6020420.03981	2090792.11662
869	757	6020420.10066	2090792.13571
870	745	6020420.16151	2090792.15481
871	767	6020420.22236	2090792.17391
872	748	6020420.28321	2090792.19301
873	755	6020420.34406	2090792.21211
874	766	6020420.40491	2090792.23120
875	737	6020420.46576	2090792.25030
876	772	6020420.52661	2090792.26940
877	793	6020420.58746	2090792.28850
878	760	6020420.64831	2090792.30760
879	770	6020420.70916	2090792.32669
880	751	6020420.77001	2090792.34579
881	743	6020420.83085	2090792.36489
882	743	6020420.89170	2090792.38399
883	772	6020423.13240	2090793.04978
884	753	6020425.88556	2090793.81980
885	731	6020428.92472	2090794.78530
886	792	6020432.02049	2090795.77334
887	731	6020435.16898	2090796.79602
888	665	6020438.40301	2090797.84584
889	695	6020441.77517	2090798.93899
890	753	6020445.74619	2090800.24095
891	764	6020449.12634	2090801.34583
892	777	6020451.91965	2090802.24123
893	734	6020454.43615	2090803.10554
894	721	6020457.00883	2090803.86844
895	765	6020459.13300	2090805.73213
896	790	6020461.09360	2090807.77395
897	749	6020462.05097	2090810.55725
898	800	6020462.46485	2090813.50631
899	782	6020462.38592	2090816.60590
900	735	6020461.83593	2090819.90117
901	729	6020461.26978	2090823.03471
902	696	6020460.53275	2090825.97427
903	707	6020459.59746	2090829.22648
904	725	6020458.53956	2090832.58785
905	779	6020457.29290	2090836.24085
906	740	6020456.12888	2090839.65811
907	726	6020455.05305	2090842.84153
908	734	6020453.41105	2090845.55363
909	749	6020451.37127	2090848.15669
910	775	6020448.23892	2090848.83773
911	749	6020444.97717	2090849.16327
912	753	6020441.62703	2090848.13952

Sample ID	Gamma Total cps	Easting	Northing
913	733	6020438.22750	2090847.14240
914	778	6020434.83726	2090846.20180
915	755	6020431.65927	2090845.13564
916	728	6020428.71753	2090844.14143
917	722	6020426.02205	2090843.19017
918	724	6020423.61838	2090842.35946
919	704	6020421.29394	2090841.58243
920	699	6020419.11373	2090840.83683
921	778	6020416.90317	2090840.07757
922	806	6020414.67237	2090839.27581
923	809	6020412.62219	2090838.53008
924	839	6020410.63929	2090837.76431
925	64[illegible]	6020408.70770	2090837.14048
926	808	6020406.54697	2090836.43954
927	791	6020404.16379	2090835.64119
928	795	6020401.54795	2090834.78567
929	759	6020398.92085	2090833.94108
930	718	6020396.47590	2090833.19350
931	731	6020394.07503	2090832.45594
932	704	6020391.72603	2090831.70353
933	721	6020389.16833	2090830.88786
934	725	6020386.57270	2090830.05937
935	667	6020383.98617	2090829.26218
936	672	6020381.47339	2090828.49009
937	680	6020379.02991	2090827.75777
938	687	6020376.49585	2090826.98941
939	696	6020373.93686	2090826.20389
940	694	6020371.33401	2090825.40083
941	699	6020368.61056	2090824.55037
942	676	6020365.77800	2090823.61643
943	740	6020363.09544	2090822.12527
944	742	6020360.43372	2090820.29855
945	721	6020359.42520	2090817.31597
946	734	6020358.61396	2090814.38856
947	705	6020358.66350	2090811.41286
948	684	6020359.04753	2090808.21839
949	699	6020359.69216	2090804.99190
950	684	6020360.60584	2090801.80188
951	727	6020361.47492	2090798.83857
952	695	6020362.38198	2090796.12760
953	689	6020363.25780	2090793.31291
954	714	6020364.05228	2090790.40510
955	690	6020365.24404	2090787.39198
956	681	6020366.72550	2090784.53934
957	658	6020369.29319	2090782.42739
958	674	6020372.19206	2090781.45468
959	684	6020375.40685	2090781.35132
960	663	6020378.35663	2090782.07132
961	685	6020381.07102	2090782.74460
962	721	6020383.53226	2090783.43869
963	684	6020386.17294	2090784.22760
964	693	6020388.82874	2090785.06820
965	638	6020391.43462	2090785.89233
966	647	6020393.96311	2090786.69497
967	673	6020396.40851	2090787.49390
968	688	6020399.06236	2090788.36886
969	663	6020401.70451	2090789.25444

Sample ID	Gamma Total cps	Easting	Northing
970	670	6020404.10944	2090790.02613
971	705	6020406.38495	2090790.75663
972	717	6020408.52970	2090791.45013
973	715	6020410.76803	2090792.16926
974	786	6020413.03926	2090792.89388
975	756	6020415.37728	2090793.63267
976	765	6020417.76493	2090794.39176
977	763	6020420.19313	2090795.19904
978	740	6020422.70339	2090796.00850
979	745	6020425.26977	2090796.78879
980	739	6020427.93790	2090797.71729
981	797	6020430.63973	2090798.64323
982	760	6020433.39345	2090799.51175
983	682	6020435.95517	2090800.32114
984	658	6020438.42052	2090801.10210
985	689	6020440.59901	2090801.79055
986	716	6020442.82439	2090802.49675
987	811	6020445.08857	2090803.24576
988	779	6020447.37870	2090803.99733
989	740	6020449.75210	2090804.78764
990	752	6020452.57095	2090805.58566
991	741	6020455.38861	2090806.52826
992	738	6020458.00083	2090808.08902
993	741	6020460.10274	2090810.17176
994	760	6020461.94197	2090812.66284
995	750	6020462.08127	2090815.57795
996	743	6020462.15341	2090818.41657
997	724	6020461.84540	2090821.16873
998	728	6020461.33046	2090824.27193
999	690	6020460.70273	2090827.44753
1000	695	6020459.68691	2090830.56492
1001	701	6020458.61845	2090833.73810
1002	721	6020457.41334	2090836.93758
1003	777	6020456.22818	2090840.31773
1004	755	6020455.20647	2090843.80818
1005	708	6020452.27752	2090847.61501
1006	771	6020449.53299	2090849.36386
1007	743	6020446.46542	2090850.41051
1008	742	6020444.21270	2090850.30625
1009	740	6020441.90139	2090850.18057
1010	731	6020439.54817	2090849.85325
1011	728	6020437.02741	2090849.38543
1012	774	6020434.53765	2090848.80582
1013	743	6020432.30977	2090848.19374
1014	725	6020429.90023	2090847.52021
1015	730	6020427.32593	2090846.72714
1016	736	6020424.83807	2090845.96010
1017	711	6020422.38758	2090845.21564
1018	724	6020420.07161	2090844.45128
1019	763	6020417.72654	2090843.67396
1020	820	6020415.35985	2090842.86144
1021	781	6020413.15440	2090842.09722
1022	786	6020410.96049	2090841.31456
1023	759	6020408.61193	2090840.54065
1024	809	6020406.23437	2090839.75677
1025	797	6020403.82866	2090838.96033
1026	795	6020401.44554	2090838.17707

Sample ID	Gamma Total cps	Easting	Northing
1027	798	6020399.04341	2090837.39059
1028	771	6020396.51900	2090836.58961
1029	721	6020394.23027	2090835.86262
1030	688	6020392.18208	2090835.19450
1031	707	6020389.64255	2090834.36821
1032	*694*	*6020386.97756*	*2090833.48768*
1033	680	6020384.12654	2090832.65718
1034	691	6020381.34777	2090831.84101
1035	668	6020378.64978	2090831.01072
1036	661	6020376.44167	2090830.31028
1037	666	6020374.29565	2090829.57596
1038	671	6020371.87146	2090828.85346
1039	706	6020369.25274	2090828.07207
1040	695	6020366.44050	2090827.22841
1041	691	6020363.57187	2090826.03476
1042	717	6020360.63906	2090824.75397
1043	689	6020359.02020	2090822.25121
1044	751	6020357.63790	2090819.70172
1045	719	6020357.40274	2090816.79618
1046	731	6020357.49639	2090814.21546
1047	706	6020357.92236	2090811.76604
1048	704	6020358.46835	2090809.64573
1049	700	6020359.03121	2090807.48250
1050	683	6020359.67943	2090805.29531
1051	730	6020360.37896	2090802.92938
1052	721	6020361.07959	2090800.51319
1053	708	6020361.85617	2090798.06159
1054	699	6020362.62705	2090795.56333
1055	712	6020363.28485	2090792.98772
1056	693	6020364.20465	2090790.11912
1057	678	6020365.12089	2090787.19906
1058	667	6020366.88314	2090785.17059
1059	685	6020368.72342	2090783.30586
1060	699	6020371.21332	2090782.45374
1061	693	6020373.50335	2090782.13569
1062	709	6020375.89289	2090782.42897
1063	682	6020378.56447	2090783.19715
1064	694	6020381.08604	2090783.93785
1065	702	6020383.42202	2090784.76227
1066	703	6020386.07204	2090785.72073
1067	*664*	*6020388.80278*	*2090786.72889*
1068	644	6020391.64126	2090787.80002
1069	662	6020394.37466	2090788.83899
1070	688	6020396.99116	2090789.87632
1071	649	6020399.62016	2090790.87728
1072	611	6020402.19850	2090791.84013
1073	625	6020404.52654	2090792.58604
1074	643	6020406.62987	2090793.25996
1075	667	6020408.50729	2090793.86557
1076	765	6020410.64542	2090794.54437
1077	767	6020412.86470	2090795.22732
1078	773	6020415.19246	2090795.97361
1079	736	6020417.50798	2090796.70988
1080	744	6020419.82626	2090797.38716
1081	741	6020422.30042	2090798.11355
1082	752	6020424.82429	2090798.84946
1083	732	6020427.41663	2090799.66256

Sample ID	Gamma Total cps	Easting	Northing
1084	754	6020429.94598	2090800.44703
1085	776	6020432.42794	2090801.15054
1086	650	6020434.80799	2090801.84336
1087	646	6020437.17146	2090802.54622
1088	667	6020439.55385	2090803.30489
1089	698	6020442.14753	2090804.14001
1090	790	6020444.94154	2090805.08493
1091	791	6020447.67837	2090805.99397
1092	796	6020450.43039	2090806.87507
1093	756	6020453.23640	2090807.88494
1094	726	6020455.88426	2090808.99752
1095	743	6020458.01332	2090810.83088
1096	777	6020459.53285	2090812.87694
1097	805	6020460.66461	2090815.30867
1098	751	6020460.59844	2090818.17690
1099	709	6020460.51449	2090821.12207
1100	714	6020460.35300	2090824.14189
1101	690	6020460.08050	2090826.83135
1102	731	6020459.66410	2090829.47269
1103	726	6020459.17707	2090832.25610
1104	739	6020458.57451	2090835.22846
1105	757	6020457.61277	2090838.33093
1106	740	6020456.59636	2090841.42818
1107	704	6020455.54017	2090844.52466
1108	728	6020454.39203	2090847.63596
1109	760	6020452.77564	2090850.76700
1110	728	6020449.93017	2090853.41075
1111	716	6020447.01576	2090854.64184
1112	729	6020443.83101	2090855.02729
1113	735	6020441.09890	2090854.32769
1114	752	6020438.50894	2090853.64511
1115	722	6020436.09757	2090852.85460
1116	741	6020433.62361	2090852.04109
1117	736	6020431.14313	2090851.22334
1118	746	6020428.69167	2090850.41033
1119	748	6020426.29459	2090849.60972
1120	718	6020423.96549	2090848.78188
1121	727	6020421.81128	2090848.03023
1122	729	6020419.75857	2090847.34269
1123	750	6020418.08781	2090846.75698
1124	782	6020416.00833	2090846.02858
1125	785	6020413.51903	2090845.16060
1126	751	6020410.98834	2090844.31706
1127	710	6020408.43194	2090843.52041
1128	723	6020405.87913	2090842.65880
1129	774	6020403.30658	2090841.78892
1130	764	6020400.71684	2090840.90329
1131	731	6020398.28785	2090840.09969
1132	718	6020395.83571	2090839.33252
1133	692	6020393.18021	2090838.44238
1134	686	6020390.51530	2090837.54916
1135	655	6020387.84088	2090836.65321
1136	661	6020385.12183	2090835.77494
1137	667	6020382.41175	2090834.94507
1138	694	6020379.86989	2090834.09564
1139	679	6020377.38581	2090833.27121
1140	638	6020374.94833	2090832.50636

Sample ID	Gamma Total cps	Easting	Northing
1141	649	6020372.38981	2090831.70266
1142	665	6020369.66596	2090830.85129
1143	675	6020366.25892	2090829.73072
1144	675	6020363.10911	2090828.43109
1145	690	6020360.58291	2090826.29683
1146	685	6020359.00894	2090824.04407
1147	723	6020358.03248	2090821.40104
1148	726	6020357.91022	2090818.47066
1149	727	6020357.85799	2090815.63238
1150	713	6020358.20835	2090812.90050
1151	696	6020358.62649	2090810.11800
1152	680	6020359.08607	2090807.23006
1153	711	6020359.99515	2090803.95456
1154	707	6020360.92616	2090800.75127
1155	690	6020361.99565	2090797.65647
1156	743	6020363.68757	2090793.75299
1157	680	6020365.40488	2090789.70098
1158	670	6020368.62157	2090788.00033
1159	691	6020371.52378	2090786.71284
1160	685	6020374.33696	2090786.86562
1161	707	6020377.46190	2090787.33644
1162	731	6020380.60016	2090788.04405
1163	681	6020383.55387	2090788.91694
1164	674	6020386.42587	2090789.79306
1165	649	6020389.18273	2090790.77513
1166	666	6020391.92043	2090791.75431
1167	654	6020394.66383	2090792.74548
1168	658	6020397.48248	2090793.72158
1169	607	6020400.31127	2090794.69657
1170	591	6020403.15559	2090795.65468
1171	609	6020405.85489	2090796.55574
1172	683	6020408.53906	2090797.45540
1173	763	6020411.32447	2090798.30289
1174	792	6020414.16812	2090799.15236
1175	716	6020417.08560	2090799.94986
1176	754	6020420.13383	2090800.79423
1177	709	6020423.04555	2090801.59893
1178	676	6020425.12523	2090802.22125
1179	684	6020427.09616	2090802.81133
1180	733	6020428.97035	2090803.32741
1181	721	6020431.34330	2090803.98043
1182	704	6020433.88115	2090804.67443
1183	682	6020436.73201	2090805.48200
1184	679	6020439.32927	2090806.21925
1185	733	6020442.45633	2090807.12429
1186	800	6020444.83169	2090807.82082
1187	760	6020447.42252	2090808.59264
1188	752	6020450.21490	2090809.48514
1189	*728*	*6020453.61433*	*2090810.74379*
1190	715	6020457.19504	2090811.98467
1191	770	6020459.37344	2090814.79527
1192	742	6020461.09576	2090817.66586
1193	732	6020461.24156	2090821.00731
1194	733	6020460.91631	2090824.62798
1195	717	6020460.25518	2090828.28722
1196	694	6020459.28913	2090831.85376
1197	735	6020458.20576	2090835.60067

Sample ID	Gamma Total cps	Easting	Northing
1198	716	6020456.88866	2090839.49253
1199	752	6020455.76127	2090842.93201
1200	731	6020454.70511	2090846.36149
1201	745	6020453.13152	2090849.93982
1202	739	6020451.18367	2090853.13072
1203	717	6020448.00668	2090855.21006
1204	715	6020445.18096	2090856.17509
1205	723	6020442.31391	2090856.42773
1206	744	6020439.87701	2090856.14031
1207	733	6020437.27753	2090855.79251
1208	719	6020434.54798	2090855.19155
1209	726	6020431.09856	2090854.31105
1210	745	6020427.56311	2090853.33497
1211	739	6020424.28733	2090852.31192
1212	731	6020421.17750	2090851.32603
1213	765	6020418.24883	2090850.33063
1214	805	6020415.16479	2090849.27032
1215	830	6020412.06570	2090848.19932
1216	709	6020409.05434	2090847.11927
1217	659	6020406.08354	2090846.06146
1218	721	6020403.14500	2090845.04951
1219	788	6020400.46820	2090844.13168
1220	683	6020397.96287	2090843.29050
1221	668	6020396.09731	2090842.61254
1222	704	6020394.25818	2090841.94359
1223	684	6020392.42729	2090841.33595
1224	707	6020390.21417	2090840.60590
1225	635	6020387.90829	2090839.83633
1226	662	6020385.48430	2090839.10945
1227	627	6020383.06625	2090838.37905
1228	675	6020380.66486	2090837.61057
1229	661	6020378.29484	2090836.86375
1230	651	6020375.88494	2090836.12470
1231	693	6020373.27836	2090835.29404
1232	698	6020370.61220	2090834.45627
1233	686	6020367.87178	2090833.65961
1234	705	6020364.62679	2090832.54554
1235	*630*	*6020361.25063*	*2090831.46834*
1236	672	6020359.09750	2090829.11212
1237	686	6020357.26713	2090826.55120
1238	683	6020356.82117	2090823.28823
1239	725	6020356.90269	2090819.69214
1240	731	6020357.36893	2090816.04301
1241	718	6020358.23491	2090812.57971
1242	676	6020359.11219	2090809.12980
1243	691	6020360.03500	2090805.70215
1244	716	6020361.25387	2090801.65547
1245	679	6020362.56483	2090797.44902
1246	708	6020364.66409	2090793.35213
1247	716	6020367.07677	2090790.06254
1248	707	6020370.73364	2090788.60255
1249	698	6020374.10070	2090788.32671
1250	689	6020377.49346	2090788.89637
1251	724	6020380.83789	2090789.86523
1252	674	6020384.15879	2090790.85909
1253	665	6020387.43200	2090791.95539
1254	671	6020390.54594	2090793.02863

Sample ID	Gamma Total cps	Easting	Northing
1255	660	6020393.68635	2090794.14684
1256	636	6020397.19017	2090795.30336
1257	607	6020400.62370	2090796.42906
1258	600	6020403.99258	2090797.50670
1259	646	6020406.91514	2090798.41572
1260	749	6020409.77314	2090799.29834
1261	761	6020412.79199	2090800.07305
1262	705	6020415.75675	2090800.85921
1263	723	6020418.64245	2090801.74548
1264	758	6020421.45414	2090802.58349
1265	687	6020424.27285	2090803.39288
1266	731	6020427.15718	2090804.25405
1267	721	6020430.08252	2090805.13360
1268	694	6020433.04290	2090806.05115
1269	701	6020436.24177	2090807.05608
1270	745	6020439.45284	2090808.06040
1271	757	6020442.43825	2090809.11548
1272	758	6020445.19916	2090810.08567
1273	746	6020447.74496	2090810.94377
1274	698	6020450.55931	2090811.89395
1275	727	6020453.48569	2090812.68880
1276	747	6020455.65576	2090814.48930
1277	745	6020457.63585	2090816.32978
1278	733	6020458.70495	2090818.75467
1279	714	6020459.28188	2090821.61472
1280	729	6020459.35507	2090824.76925
1281	697	6020458.67930	2090828.35694
1282	696	6020457.89387	2090832.07790
1283	752	6020456.83853	2090835.89496
1284	723	6020455.72705	2090839.66880
1285	737	6020454.61240	2090843.34393
1286	747	6020453.49827	2090846.54996
1287	746	6020452.31758	2090849.84374
1288	713	6020450.99347	2090853.19674
1289	729	6020448.93040	2090856.25351
1290	672	6020446.50988	2090859.20483
1291	720	6020443.11964	2090859.77777
1292	779	6020440.01423	2090860.12891
1293	744	6020437.21460	2090859.49585
1294	765	6020434.48234	2090858.74162
1295	738	6020431.81462	2090857.86886
1296	714	6020429.28016	2090856.98468
1297	*745*	*6020426.78713*	*2090856.10212*
1298	731	6020424.36154	2090855.15093
1299	713	6020421.98351	2090854.24646
1300	734	6020419.56676	2090853.36538
1301	752	6020416.96649	2090852.40165
1302	822	6020414.47553	2090851.48235
1303	815	6020412.08522	2090850.63134
1304	739	6020409.57585	2090849.77815
1305	694	6020406.98258	2090848.95145
1306	696	6020404.17710	2090847.99694
1307	751	6020401.45110	2090847.06886
1308	753	6020398.80544	2090846.16469
1309	695	6020396.70125	2090845.44990
1310	683	6020394.68752	2090844.76005
1311	687	6020392.55635	2090844.09396

Sample ID	Gamma Total cps	Easting	Northing
1312	686	6020390.44312	2090843.43619
1313	683	6020388.33484	2090842.83010
1314	641	6020386.35499	2090842.26131
1315	654	6020384.38912	2090841.72533
1316	640	6020382.43908	2090841.07601
1317	644	6020380.25476	2090840.35161
1318	668	6020377.83025	2090839.57011
1319	698	6020374.87185	2090838.62693
1320	706	6020371.82292	2090837.65811
1321	682	6020368.84548	2090836.75547
1322	677	6020365.94447	2090835.88252
1323	705	6020363.11276	2090835.06328
1324	700	6020360.17151	2090833.68346
1325	709	6020357.11454	2090831.97157
1326	666	6020355.66122	2090828.38750
1327	693	6020354.74644	2090824.90879
1328	731	6020355.56031	2090821.44325
1329	704	6020356.50120	2090818.13701
1330	732	6020357.54166	2090814.99923
1331	706	6020358.34069	2090812.36836
1332	709	6020359.11163	2090809.79914
1333	694	6020359.80203	2090807.27642
1334	694	6020360.58736	2090804.08283
1335	716	6020361.31545	2090800.64191
1336	709	6020362.71410	2090796.93706
1337	714	6020364.52983	2090793.61977
1338	692	6020367.67470	2090791.39503
1339	710	6020371.00267	2090790.67260
1340	694	6020374.66289	2090791.00914
1341	718	6020378.51764	2090792.21108
1342	675	6020382.08729	2090793.33623
1343	643	6020385.36244	2090794.41392
1344	645	6020388.37579	2090795.41805
1345	636	6020391.31227	2090796.40858
1346	662	6020394.14058	2090797.36155
1347	624	6020396.96370	2090798.31464
1348	625	6020399.77942	2090799.27441
1349	587	6020402.33951	2090800.12238
1350	620	6020404.83897	2090800.93036
1351	693	6020407.28288	2090801.66922
1352	761	6020409.68746	2090802.39519
1353	771	6020412.05492	2090803.10099
1354	761	6020414.63855	2090803.87166
1355	714	6020417.28613	2090804.66876
1356	772	6020420.05936	2090805.45713
1357	739	6020422.81471	2090806.23797
1358	703	6020425.55504	2090807.00114
1359	760	6020428.14036	2090807.71268
1360	728	6020430.73822	2090808.42153
1361	702	6020433.55506	2090809.16277
1362	709	6020436.39560	2090809.92868
1363	756	6020439.24081	2090810.78662
1364	714	6020442.10333	2090811.63300
1365	709	6020444.95554	2090812.45911
1366	731	6020447.71842	2090813.26480
1367	710	6020450.79238	2090814.20158
1368	700	6020454.14814	2090815.36143

Sample ID	Gamma Total cps	Easting	Northing
1369	740	6020457.11339	2090817.51050
1370	732	6020459.88866	2090820.26373
1371	703	6020460.10987	2090824.10662
1372	740	6020460.07059	2090828.01461
1373	692	6020459.26091	2090831.95059
1374	734	6020457.92059	2090836.33004
1375	739	6020456.34868	2090840.63861
1376	743	6020454.97482	2090844.38265
1377	750	6020453.66032	2090848.07192
1378	742	6020452.47831	2090851.73164
1379	754	6020451.76150	2090853.62269
1380	737	6020452.73964	2090852.04174
1381	721	6020450.73609	2090855.64505
1382	658	6020448.21886	2090858.66243
1383	679	6020444.28206	2090860.01110
1384	779	6020440.49741	2090860.04601
1385	736	6020436.77508	2090859.22144
1386	757	6020433.51956	2090858.15537
1387	745	6020430.49192	2090857.16088
1388	773	6020427.69582	2090856.22693
1389	748	6020424.98723	2090855.25541
1390	722	6020422.36143	2090854.23391
1391	731	6020419.93542	2090853.34828
1392	785	6020417.49745	2090852.46717
1393	802	6020415.03037	2090851.63954
1394	818	6020412.58075	2090850.81856
1395	793	6020410.34633	2090850.07826
1396	686	6020409.18947	2090849.67894
1397	678	6020408.03261	2090849.27962
1398	705	6020407.80693	2090849.22930
1399	684	6020407.76164	2090849.21424
1400	701	6020407.71634	2090849.19918
1401	654	6020407.67104	2090849.18412
1402	680	6020407.62574	2090849.16906
1403	685	6020407.58045	2090849.15400
1404	670	6020407.53515	2090849.13894
1405	678	6020407.48985	2090849.12388
1406	705	6020407.44455	2090849.10882
1407	689	6020407.39926	2090849.09376
1408	671	6020407.35396	2090849.07870
1409	684	6020407.30866	2090849.06365
1410	692	6020407.26337	2090849.04859
1411	691	6020407.21807	2090849.03353
1412	667	6020407.17277	2090849.01847
1413	667	6020407.12747	2090849.00341
1414	663	6020407.08218	2090848.98835
1415	692	6020407.03688	2090848.97329
1416	673	6020406.99158	2090848.95823
1417	692	6020406.94628	2090848.94317
1418	673	6020406.90099	2090848.92811
1419	661	6020406.85569	2090848.91305
1420	654	6020406.81039	2090848.89800
1421	674	6020406.76510	2090848.88294
1422	672	6020406.71980	2090848.86788
1423	677	6020406.67450	2090848.85282
1424	676	6020406.62920	2090848.83776
1425	684	6020406.58391	2090848.82270

Sample ID	Gamma Total cps	Easting	Northing
1426	684	6020406.53861	2090848.80764
1427	650	6020406.49331	2090848.79258
1428	692	6020406.44801	2090848.77752
1429	673	6020406.40272	2090848.76246
1430	709	6020406.35742	2090848.74740
1431	682	6020406.31212	2090848.73234
1432	685	6020406.26683	2090848.71729
1433	663	6020406.22153	2090848.70223
1434	693	6020406.17623	2090848.68717
1435	671	6020406.13093	2090848.67211
1436	658	6020406.08564	2090848.65705
1437	682	6020406.04034	2090848.64199
1438	672	6020405.99504	2090848.62693
1439	690	6020405.94974	2090848.61187
1440	682	6020405.90445	2090848.59681
1441	688	6020403.36212	2090847.73097
1442	796	6020400.31668	2090846.68425
1443	692	6020397.25178	2090845.58889
1444	670	6020394.25189	2090844.52219
1445	673	6020391.31113	2090843.50082
1446	677	6020388.76302	2090842.65739
1447	657	6020386.26539	2090841.87991
1448	616	6020383.68245	2090841.08847
1449	618	6020381.11433	2090840.30461
1450	640	6020378.55630	2090839.54400
1451	650	6020375.98039	2090838.80112
1452	690	6020373.34998	2090838.05861
1453	683	6020370.46175	2090837.32026
1454	692	6020367.51326	2090836.57684
1455	692	6020364.49619	2090835.86219
1456	632	6020361.47640	2090834.71290
1457	681	6020358.38481	2090833.36599
1458	688	6020356.62323	2090830.46730
1459	669	6020355.24463	2090827.39242
1460	670	6020355.30551	2090823.85528
1461	723	6020355.87873	2090820.02866
1462	740	6020356.78840	2090816.18629
1463	677	6020357.93462	2090812.48758
1464	705	6020359.04279	2090808.92651
1465	693	6020360.12313	2090805.50628
1466	673	6020361.14634	2090802.15450
1467	679	6020362.01957	2090798.72295
1468	690	6020364.25257	2090795.85981
1469	697	6020366.59143	2090793.45542
1470	709	6020369.70139	2090792.46490
1471	721	6020372.90746	2090792.13984
1472	717	6020376.20045	2090792.34473
1473	697	6020379.45988	2090793.04142
1474	634	6020382.69977	2090793.76776
1475	593	6020385.89748	2090794.61828
1476	633	6020388.93669	2090795.50134
1477	669	6020391.93204	2090796.43521
1478	664	6020394.91425	2090797.41751
1479	612	6020397.89757	2090798.40476
1480	608	6020400.87737	2090799.41078
1481	598	6020403.19181	2090800.19327
1482	633	6020405.36022	2090800.92944

Sample ID	Gamma Total cps	Easting	Northing
1483	666	6020407.47000	2090801.63929
1484	766	6020409.55503	2090802.33878
1485	758	6020411.62694	2090802.99221
1486	767	6020413.71951	2090803.67544
1487	711	6020415.79017	2090804.41541
1488	718	6020417.85324	2090805.03151
1489	790	6020419.91104	2090805.64756
1490	738	6020421.95391	2090806.29503
1491	706	6020424.04725	2090806.94205
1492	749	6020426.15687	2090807.58063
1493	742	6020428.29723	2090808.17042
1494	749	6020430.59098	2090808.80214
1495	682	6020433.03874	2090809.47355
1496	665	6020435.33154	2090810.13338
1497	733	6020437.56122	2090810.79148
1498	735	6020439.60326	2090811.51362
1499	730	6020441.66374	2090812.24380
1500	748	6020443.73461	2090813.00433
1501	736	6020446.00193	2090813.84832
1502	732	6020448.45706	2090814.73177
1503	725	6020451.43777	2090816.21742
1504	710	6020453.99503	2090817.60726
1505	747	6020455.67874	2090819.49105
1506	701	6020456.83235	2090821.22690
1507	738	6020457.65515	2090823.20777
1508	680	6020457.59893	2090825.60418
1509	700	6020457.54025	2090827.83044
1510	729	6020457.19376	2090829.85900
1511	732	6020456.60257	2090832.62018
1512	728	6020455.92017	2090835.53019
1513	747	6020454.86583	2090838.35591
1514	743	6020453.83749	2090841.18494
1515	746	6020452.92682	2090844.04894
1516	749	6020451.95897	2090846.85949
1517	741	6020450.89945	2090849.70489
1518	718	6020449.74690	2090852.88511
1519	710	6020448.36837	2090856.08683
1520	649	6020446.32700	2090859.08671
1521	700	6020443.83719	2090861.06503
1522	797	6020440.97794	2090862.53546
1523	732	6020438.41930	2090862.30839
1524	728	6020435.72114	2090862.00668
1525	755	6020432.92619	2090861.36151
1526	709	6020430.01860	2090860.60092
1527	743	6020427.10610	2090859.75943
1528	706	6020424.21936	2090858.87828
1529	747	6020421.47317	2090858.03237
1530	724	6020418.87900	2090857.18543
1531	793	6020415.98493	2090856.21495
1532	794	6020413.09535	2090855.20661
1533	[illegible]	**6020410.44525**	**2090854.38410**
1534	810	6020407.94050	2090853.60811
1535	766	6020405.57799	2090852.88874
1536	764	6020402.65076	2090851.97880
1537	756	6020399.59168	2090851.02288
1538	703	6020396.46558	2090849.94804
1539	681	6020393.41200	2090848.90779

Sample ID	Gamma Total cps	Easting	Northing
1540	692	6020390.42122	2090847.93112
1541	692	6020387.62173	2090846.98799
1542	668	6020384.94959	2090846.05185
1543	632	6020382.66571	2090845.28611
1544	590	6020379.93124	2090844.37509
1545	675	6020376.74129	2090843.33358
1546	686	6020373.71480	2090842.32892
1547	695	6020370.75389	2090841.32729
1548	695	6020367.92688	2090840.39578
1549	726	6020365.20703	2090839.48074
1550	702	6020362.62403	2090838.49847
1551	725	6020360.37701	2090837.24759
1552	711	6020358.16092	2090835.74665
1553	704	6020357.11386	2090833.20843
1554	674	6020356.20337	2090830.49965
1555	687	6020356.13760	2090827.47199
1556	680	6020356.38750	2090824.25814
1557	723	6020356.86756	2090821.00875
1558	710	6020358.07836	2090816.78808
1559	678	6020359.03852	2090813.73529
1560	680	6020360.05704	2090810.72333
1561	703	6020361.11638	2090807.74309
1562	686	6020362.22095	2090804.58244
1563	675	6020363.32833	2090801.22685
1564	678	6020365.05377	2090797.90825
1565	693	6020366.99417	2090794.59199
1566	684	6020370.19669	2090793.45575
1567	720	6020373.14110	2090792.63990
1568	689	6020375.90391	2090793.18191
1569	718	6020379.17849	2090794.00628
1570	654	6020382.49672	2090794.96585
1571	604	6020385.58168	2090796.00838
1572	636	6020388.58274	2090797.02593
1573	633	6020391.49624	2090798.02927
1574	642	6020394.60068	2090799.08814
1575	605	6020397.73708	2090800.15041
1576	620	6020400.83674	2090801.19045
1577	588	6020403.81215	2090802.18124
1578	680	6020406.67182	2090803.09680
1579	769	6020409.53689	2090803.97950
1580	805	6020412.45137	2090804.83989
1581	713	6020416.59327	2090806.09873
1582	738	6020419.63383	2090806.99601
1583	727	6020422.64205	2090807.85103
1584	*770*	*6020425.50112*	*2090808.72180*
1585	703	6020428.43111	2090809.63411
1586	704	6020431.41252	2090810.64848
1587	676	6020434.24882	2090811.68403
1588	794	6020437.06390	2090812.78292
1589	745	6020440.00751	2090813.93207
1590	673	6020443.01868	2090815.09370
1591	697	6020446.11104	2090816.23187
1592	698	6020449.40370	2090817.56134
1593	730	6020452.85904	2090818.86372
1594	716	6020455.14405	2090821.94242
1595	738	6020457.00026	2090825.25566
1596	726	6020457.50621	2090829.17516

Sample ID	Gamma Total cps	Easting	Northing
1597	707	6020457.29436	2090833.43884
1598	729	6020456.65802	2090837.69768
1599	730	6020455.51798	2090841.43085
1600	731	6020454.34992	2090845.05064
1601	750	6020453.02539	2090848.51290
1602	737	6020451.56366	2090851.96276
1603	717	6020450.10283	2090855.46236
1604	642	6020447.40461	2090858.17819
1605	688	6020444.69238	2090860.38176
1606	743	6020441.43087	2090861.09925
1607	758	6020438.62037	2090861.34565
1608	755	6020435.75855	2090861.23139
1609	759	6020432.46516	2090860.44141
1610	749	6020429.13511	2090859.60571
1611	709	6020425.79237	2090858.63389
1612	736	6020422.45303	2090857.56471
1613	719	6020419.19035	2090856.44591
1614	757	6020416.23839	2090855.39963
1615	819	6020413.18755	2090854.30491
1616	821	6020410.05015	2090853.12796
1617	754	6020407.00606	2090852.03218
1618	728	6020403.99095	2090850.99294
1619	763	6020401.09740	2090849.95970
1620	753	6020398.14902	2090848.90940
1621	680	6020395.14327	2090847.84927
1622	677	6020392.34511	2090846.85553
1623	672	6020389.63191	2090845.87021
1624	678	6020387.07722	2090845.03086
1625	591	6020384.51868	2090844.18459
1626	591	6020381.96549	2090843.30406
1627	613	6020379.42779	2090842.43750
1628	645	6020376.95077	2090841.58335
1629	704	6020374.72236	2090840.90136
1630	703	6020372.51266	2090840.22229
1631	681	6020370.33148	2090839.51496
1632	691	6020368.03616	2090838.79474
1633	682	6020365.64057	2090838.07163
1634	681	6020362.88296	2090837.26876
1635	675	6020360.21387	2090836.35375
1636	707	6020357.90383	2090834.75782
1637	706	6020356.05515	2090832.70090
1638	675	6020354.45656	2090830.20061
1639	678	6020354.59862	2090827.12108
1640	673	6020354.82404	2090824.09323
1641	713	6020355.45790	2090821.15938
1642	707	6020356.18768	2090818.44362
1643	716	6020357.05914	2090815.77000
1644	693	6020358.03737	2090812.95782
1645	677	6020359.05614	2090810.03427
1646	685	6020360.12049	2090807.00112
1647	705	6020361.30248	2090803.68778
1648	685	6020362.41148	2090800.22721
1649	695	6020364.88946	2090797.41963
1650	693	6020367.28468	2090795.17733
1651	708	6020370.22543	2090794.59261
1652	714	6020373.07107	2090794.67707
1653	679	6020375.87494	2090795.41422

Sample ID	Gamma Total cps	Easting	Northing
1654	712	6020378.60155	2090796.24357
1655	655	6020381.07528	2090797.00039
1656	627	6020383.28206	2090797.72907
1657	593	6020385.60479	2090798.51430
1658	644	6020387.99883	2090799.35520
1659	635	6020390.69031	2090800.25044
1660	630	6020393.48783	2090801.19110
1661	592	6020396.38023	2090802.20979
1662	566	6020399.06471	2090803.17581
1663	575	6020401.67586	2090804.16122
1664	598	6020404.23662	2090804.98588
1665	684	6020406.82241	2090805.81788
1666	796	6020409.43431	2090806.65390
1667	786	6020412.36274	2090807.62188
1668	727	6020415.27018	2090808.62962
1669	708	6020417.85226	2090809.40687
1670	744	6020420.40006	2090810.18348
1671	751	6020422.89696	2090811.01197
1672	790	6020425.63395	2090811.89741
1673	718	6020428.44916	2090812.77301
1674	656	6020431.34248	2090813.76547
1675	693	6020434.13887	2090814.72085
1676	758	6020436.84352	2090815.62385
1677	689	6020439.42141	2090816.47522
1678	681	6020441.97589	2090817.29838
1679	720	6020444.49473	2090818.16795
1680	676	6020447.25111	2090819.23735
1681	706	6020450.10671	2090820.81728
1682	692	6020452.91989	2090822.76789
1683	691	6020455.77651	2090824.66008
1684	721	6020456.35708	2090826.98767
1685	704	6020456.96681	2090829.73872
1686	710	6020457.38003	2090832.95573
1687	744	6020457.28676	2090836.58623
1688	713	6020456.83228	2090840.27450
1689	708	6020455.94752	2090843.71085
1690	728	6020455.01249	2090847.07347
1691	718	6020453.85498	2090850.30951
1692	730	6020452.54281	2090853.83053
1693	739	6020451.24040	2090857.41955
1694	710	6020449.25074	2090860.60376
1695	731	6020447.05181	2090863.36587
1696	755	6020443.91953	2090864.90385
1697	747	6020440.65496	2090865.38113
1698	770	6020437.26575	2090865.06121
1699	749	6020434.12535	2090864.19679
1700	729	6020431.11363	2090863.33755
1701	743	6020428.26291	2090862.37774
1702	722	6020425.50270	2090861.40355
1703	757	6020422.76613	2090860.39066
1704	710	6020419.99637	2090859.37060
1705	717	6020417.14108	2090858.30343
1706	768	6020414.21780	2090857.14331
1707	772	6020411.30873	2090856.03044
1708	777	6020408.40564	2090854.94536
1709	755	6020405.51803	2090853.96335
1710	802	6020402.59253	2090852.97200

Sample ID	Gamma Total cps	Easting	Northing
1711	768	6020399.62550	2090851.98211
1712	721	6020396.73926	2090851.02879
1713	718	6020393.85908	2090850.08353
1714	690	6020390.92724	2090849.14648
1715	689	6020388.13993	2090848.25672
1716	702	6020385.49561	2090847.41916
1717	628	6020382.81717	2090846.56324
1718	628	6020380.12869	2090845.68405
1719	663	6020377.37507	2090844.86397
1720	689	6020374.54165	2090844.01743
1721	713	6020371.63116	2090843.13530
1722	666	6020368.81886	2090842.28715
1723	694	6020366.01431	2090841.42279
1724	694	6020363.08360	2090840.68711
1725	702	6020360.15845	2090839.80344
1726	681	6020357.42109	2090838.30638
1727	695	6020355.14167	2090836.02889
1728	655	6020353.11603	2090833.23172
1729	658	6020353.36247	2090829.94725
1730	650	6020353.72203	2090826.66096
1731	699	6020354.51704	2090823.42415
1732	678	6020355.43279	2090819.93184
1733	705	6020356.37837	2090816.40670
1734	712	6020357.51249	2090813.02873
1735	699	6020358.67038	2090809.54552
1736	706	6020359.82936	2090805.94963
1737	682	6020361.46825	2090802.35325
1738	734	6020363.25130	2090798.71395
1739	712	6020366.74053	2090797.14551
1740	664	6020369.76230	2090796.02890
1741	695	6020372.45584	2090796.53515
1742	699	6020375.30141	2090797.20326
1743	693	6020378.13908	2090797.98547
1744	636	6020380.85398	2090798.83691
1745	618	6020383.69470	2090799.75354
1746	626	6020386.63452	2090800.81463
1747	646	6020389.58788	2090801.88139
1748	659	6020392.60428	2090802.97303
1749	607	6020395.92969	2090804.16298
1750	578	6020398.94864	2090805.23981
1751	587	6020401.66581	2090806.19027
1752	600	6020404.28202	2090807.06864
1753	746	6020406.88397	2090807.89787
1754	827	6020409.45429	2090808.73764
1755	777	6020412.11079	2090809.59421
1756	740	6020414.86748	2090810.42296
1757	687	6020417.39703	2090811.23747
1758	700	6020419.89327	2090812.10118
1759	760	6020422.50619	2090813.04608
1760	773	6020424.95437	2090813.92985
1761	767	6020427.24205	2090814.74067
1762	733	6020429.38845	2090815.55129
1763	707	6020431.49151	2090816.45325
1764	721	6020433.73359	2090817.25478
1765	761	6020436.12812	2090818.11589
1766	719	6020438.66639	2090819.06046
1767	698	6020440.90255	2090819.89585

Sample ID	Gamma Total cps	Easting	Northing
1768	730	6020443.08574	2090820.72050
1769	674	6020445.32684	2090821.54536
1770	684	6020447.93553	2090822.55979
1771	707	6020450.84994	2090823.91274
1772	715	6020453.14805	2090825.54328
1773	720	6020455.28342	2090827.47493
1774	714	6020455.95378	2090830.19878
1775	712	6020456.51303	2090832.74350
1776	729	6020456.39336	2090835.16376
1777	762	6020456.05588	2090838.03996
1778	712	6020455.57550	2090840.87639
1779	702	6020455.05871	2090843.08316
1780	728	6020454.42946	2090845.62484
1781	748	6020453.56204	2090848.46758
1782	743	6020452.71414	2090850.99443
1783	726	6020451.76571	2090853.53768
1784	720	6020450.60058	2090856.58085
1785	685	6020449.50857	2090859.22055
1786	725	6020447.97078	2090861.16112
1787	734	6020446.02785	2090862.81077
1788	754	6020443.73356	2090864.28593
1789	771	6020441.01476	2090864.19427
1790	781	6020438.59916	2090864.10542
1791	751	6020436.50366	2090863.81992
1792	730	6020434.34896	2090863.44477
1793	757	6020432.23128	2090862.94994
1794	716	6020430.25969	2090862.48169
1795	744	6020428.17592	2090861.98438
1796	718	6020425.98761	2090861.42687
1797	720	6020423.98648	2090860.93374
1798	718	6020421.97565	2090860.49316
1799	726	6020419.81263	2090859.91257
1800	721	6020417.47772	2090859.27375
1801	732	6020414.99103	2090858.50697
1802	762	6020412.68363	2090857.78730
1803	799	6020410.37708	2090857.06527
1804	736	6020407.91006	2090856.24091
1805	744	6020405.39482	2090855.39829
1806	778	6020402.83487	2090854.52700
1807	782	6020400.17918	2090853.58808
1808	714	6020397.56144	2090852.60271
1809	720	6020395.10462	2090851.81057
1810	712	6020392.81362	2090851.07366
1811	685	6020390.68087	2090850.41597
1812	673	6020388.57215	2090849.77838
1813	711	6020386.46631	2090849.17099
1814	693	6020384.39907	2090848.53421
1815	634	6020382.18308	2090847.85672
1816	613	6020379.80744	2090847.17512
1817	627	6020377.76361	2090846.59326
1818	674	6020375.79631	2090846.05081
1819	682	6020373.91178	2090845.49451
1820	650	6020371.96215	2090844.92073
1821	677	6020369.93382	2090844.37787
1822	711	6020367.65953	2090843.79992
1823	676	6020365.16745	2090843.26977
1824	679	6020362.10286	2090842.10301

Sample ID	Gamma Total cps	Easting	Northing
1825	679	6020359.36673	2090840.87501
1826	688	6020357.43265	2090838.86877
1827	690	6020356.11678	2090836.47172
1828	691	6020355.37830	2090833.73160
1829	685	6020355.31981	2090831.02428
1830	646	6020355.35756	2090828.03876
1831	667	6020355.87637	2090823.78470
1832	726	6020356.56092	2090821.11424
1833	688	6020357.50303	2090817.78457
1834	705	6020358.85000	2090813.83966
1835	699	6020360.10658	2090809.99961
1836	687	6020361.23602	2090806.10735
1837	707	6020363.74241	2090802.82575
1838	669	6020366.53691	2090800.20774
1839	684	6020370.35273	2090799.42015
1840	680	6020373.75715	2090799.70417
1841	633	6020376.95917	2090800.76083
1842	637	6020379.62289	2090801.85948
1843	629	6020382.14187	2090802.88804
1844	621	6020384.53951	2090803.78698
1845	672	6020387.12566	2090804.72053
1846	686	6020389.76232	2090805.62783
1847	664	6020392.39083	2090806.57095
1848	612	6020394.78322	2090807.42882
1849	591	6020396.94158	2090808.19561
1850	607	6020399.68483	2090809.18865
1851	670	6020402.45458	2090810.21842
1852	747	6020404.82965	2090811.04497
1853	836	6020407.21381	2090811.86993
1854	841	6020409.61715	2090812.66351
1855	766	6020411.99630	2090813.44135
1856	665	6020414.32985	2090814.19494
1857	720	6020416.44833	2090814.87731
1858	735	6020418.81677	2090815.63561
1859	717	6020421.44181	2090816.44879
1860	726	6020424.16985	2090817.28293
1861	778	6020426.96464	2090818.11134
1862	765	6020429.92301	2090819.10250
1863	734	6020432.81477	2090820.05991
1864	713	6020435.65296	2090820.94312
1865	741	6020438.73016	2090821.89854
1866	726	6020441.85959	2090822.86673
1867	726	6020445.00301	2090823.85273
1868	709	6020448.19523	2090824.74532
1869	691	6020451.50356	2090825.25494
1870	679	6020454.55231	2090825.05702
1871	691	6020457.65794	2090824.41686
1872	708	6020459.84277	2090822.11008
1873	750	6020461.95835	2090819.47242
1874	754	6020463.45843	2090816.13776
1875	777	6020464.78154	2090812.80694
1876	770	6020466.02484	2090809.39223
1877	736	6020467.06649	2090805.59911
1878	790	6020468.12764	2090801.80728
1879	767	6020469.24506	2090798.02721
1880	757	6020469.71937	2090794.05643
1881	737	6020469.92585	2090790.00248

Sample ID	Gamma Total cps	Easting	Northing
1882	780	6020467.99073	2090786.82975
1883	**649**	**6020465.72823**	**2090784.07499**
1884	783	6020462.34766	2090782.65815
1885	770	6020461.50783	2090782.34480
1886	819	6020463.74354	2090783.46237
1887	820	6020468.48297	2090784.52208
1888	727	6020472.41616	2090785.30761
1889	758	6020471.65692	2090785.25614
1890	825	6020468.16956	2090784.60944
1891	822	6020464.04309	2090783.63855
1892	820	6020459.49274	2090781.98034
1893	827	6020454.77169	2090780.31886
1894	806	6020449.85770	2090778.71855
1895	745	6020445.08790	2090777.25435
1896	750	6020440.40345	2090775.86342
1897	757	6020436.02186	2090774.64470
1898	735	6020431.27665	2090773.35555
1899	635	6020426.15871	2090772.02992
1900	613	6020420.75065	2090770.54421
1901	631	6020415.29319	2090769.00226
1902	592	6020409.85687	2090767.42260
1903	628	6020404.46425	2090765.85836
1904	634	6020399.11452	2090764.31230
1905	626	6020393.73905	2090762.87213
1906	675	6020388.36830	2090761.48655
1907	680	6020383.00410	2090760.50418
1908	667	6020378.09594	2090760.44079
1909	627	6020373.80633	2090762.50488
1910	635	6020371.19681	2090765.99477
1911	636	6020369.20897	2090771.30522
1912	616	6020369.61413	2090770.28649
1913	598	6020370.40589	2090766.94236
1914	611	6020371.08608	2090761.14686
1915	668	6020371.32007	2090759.13139
1916	629	6020371.19223	2090760.88263
1917	606	6020370.23968	2090765.84667
1918	624	6020369.13506	2090770.94830
1919	611	6020367.73985	2090776.15573
1920	684	6020366.40783	2090781.12878
1921	685	6020365.07855	2090786.10328
1922	690	6020363.51293	2090791.26604
1923	706	6020361.92827	2090796.48106
1924	721	6020360.32133	2090801.74736
1925	690	6020358.73515	2090806.81401
1926	674	6020357.14324	2090811.80706
1927	708	6020355.82882	2090816.72844
1928	691	6020354.48582	2090821.75255
1929	680	6020353.11301	2090826.87904
1930	680	6020352.70561	2090831.87945
1931	688	6020352.70528	2090836.88375
1932	691	6020355.58248	2090840.59922
1933	696	6020358.72692	2090843.54929
1934	677	6020362.82685	2090844.71609
1935	693	6020362.19763	2090844.55104
1936	666	6020358.09139	2090843.40095
1937	654	6020352.54188	2090842.62661
1938	669	6020348.99380	2090842.13201

Sample ID	Gamma Total cps	Easting	Northing
1939	651	6020351.34686	2090842.46588
1940	675	6020355.37565	2090843.01053
1941	693	6020359.77900	2090843.56684
1942	684	6020364.25270	2090844.66171
1943	717	6020368.70592	2090845.85911
1944	678	6020373.09587	2090847.30819
1945	669	6020377.51389	2090848.73716
1946	678	6020381.92329	2090850.14550
1947	687	6020386.24333	2090851.52715
1948	682	6020390.65524	2090852.92176
1949	758	6020395.16572	2090854.30798
1950	*730*	*6020399.58058*	*2090855.64268*
1951	798	6020404.01829	2090856.96965
1952	775	6020408.64575	2090858.37611
1953	765	6020412.95639	2090859.70175
1954	742	6020416.94239	2090860.97172
1955	703	6020421.42391	2090862.37827
1956	693	6020426.02147	2090863.80506
1957	709	6020430.65076	2090865.36080
1958	777	6020435.02079	2090866.52131
1959	765	6020439.23042	2090866.78019
1960	728	6020442.69226	2090866.00541
1961	724	6020446.00353	2090864.50654
1962	733	6020448.61283	2090861.66938
1963	694	6020450.99557	2090858.25651
1964	759	6020452.42607	2090853.84413
1965	709	6020452.73896	2090853.01212
1966	*720*	*6020452.01070*	*2090855.65987*
1967	697	6020450.91827	2090860.89147
1968	711	6020449.86973	2090865.51684
1969	725	6020448.72284	2090869.50072
1970	735	6020448.97445	2090869.09862
1971	739	6020450.22120	2090865.60190
1972	725	6020451.37883	2090862.24203
1973	694	6020452.59683	2090858.38754
1974	739	6020453.72219	2090853.99255
1975	728	6020454.80376	2090849.43641
1976	741	6020455.81492	2090844.90253
1977	727	6020457.00035	2090840.76238
1978	712	6020457.83964	2090836.53240
1979	699	6020457.75116	2090832.13693
1980	713	6020455.95244	2090828.47513
1981	694	6020453.05595	2090825.13040
1982	694	6020448.55331	2090823.74547
1983	723	6020443.97588	2090822.36007
1984	725	6020439.31525	2090821.00235
1985	758	6020435.18154	2090819.70179
1986	747	6020431.13988	2090818.35459
1987	759	6020426.91150	2090817.10148
1988	749	6020422.82265	2090815.92103
1989	742	6020418.85832	2090814.86660
1990	705	6020415.11315	2090813.87442
1991	771	6020411.42298	2090812.90203
1992	789	6020407.80062	2090811.92160
1993	756	6020404.23009	2090810.95628
1994	*613*	*6020400.71079*	*2090810.00839*
1995	659	6020397.33875	2090809.11176

Sample ID	Gamma Total cps	Easting	Northing
1996	637	6020393.98219	2090808.22521
1997	700	6020390.55124	2090807.35604
1998	663	6020387.13363	2090806.48767
1999	617	6020383.73094	2090805.61393
2000	615	6020379.77885	2090804.56353
	884	**Maximum**	
	52.68	**Std Dev**	
	715.12	**Average**	
	842	**3 σ Investigation Level**	

Investigation Level Exceeded

Biased samples were collected at locations identified by **BOLD**

Systematic samples were collected at locations identified by *Italic*

ATTACHMENT 4

EXCAVATED SOIL UNIT
ON-SITE LABORATORY REPORTS
(on CD only)

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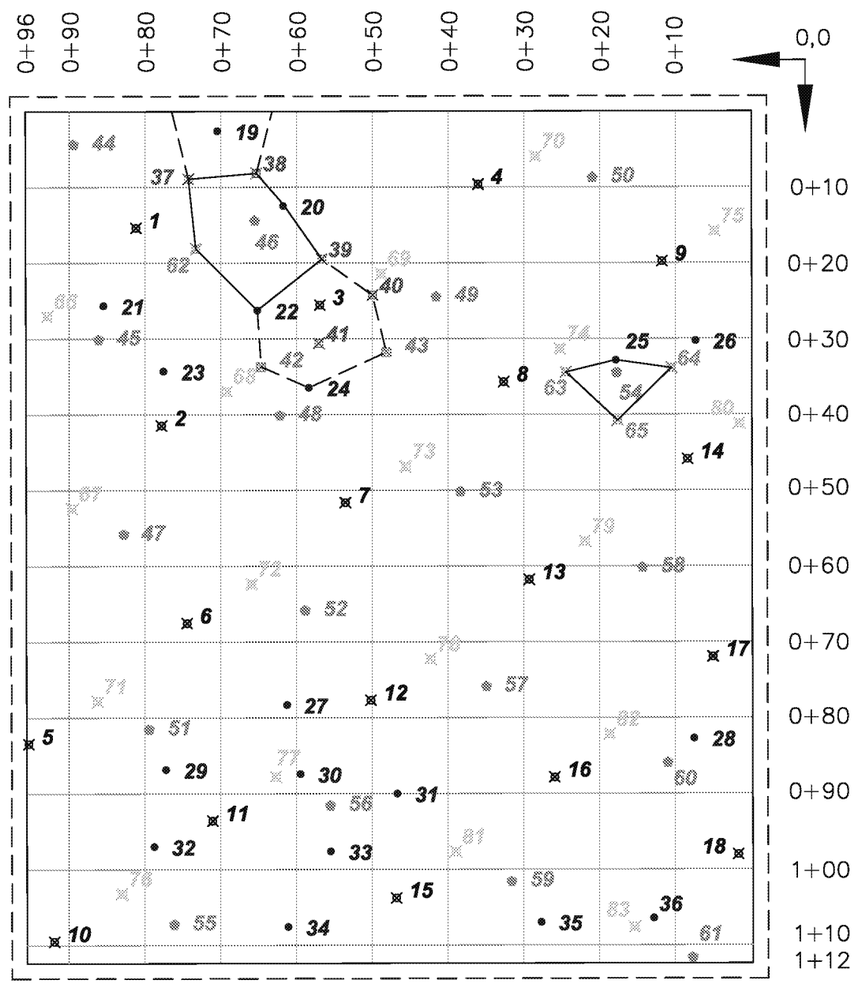
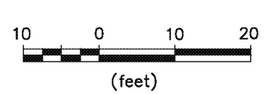
EXCAVATED SOIL UNIT 334

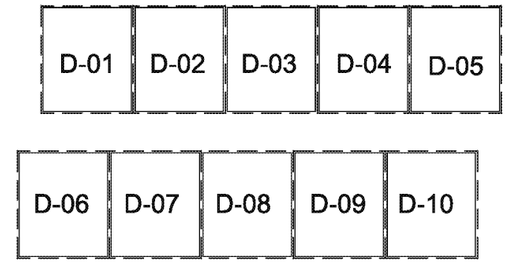
D04-334

(NON-IR , WORK AREA 16 SOIL)





SYSTEMATIC 1 SAMPLES 1–18
BIASED SAMPLES 19–36
CHARACTERIZATION 1 SAMPLES 37–41
CHARACTERIZATION 2 SAMPLES 42–43
SYSTEMATIC 2 SAMPLES 44–61
CHARACTERIZATION 3 SAMPLES 62–65
SYSTEMATIC 3 SAMPLES 66–83



KEY PLAN

LEGEND:

- 1 SYSTEMATIC 1
- 19 BIASED
- 37 CHARACTERIZATION 1
- 42 CHARACTERIZATION 2
- 44 SYSTEMATIC 2
- 62 CHARACTERIZATION 3
- 66 SYSTEMATIC 3
- AREAS PREVIOUSLY REMEDIATED
- REMEDIATION AREA

RECORD DRAWING

RADIOLOGICAL SCREENING YARD 3 (RSY3)
SOIL SAMPLING LOCATIONS AREA D04

HUNTERS POINT SHIPYARD-SAN FRANCISCO, CA

TETRA TECH EC, INC.

DRAWING NO: 18-PE-D04-334.DWG
DCN:
TASK: CTO 018
APPROVED BY: GC
CHECKED BY: SH / LP
REV:
DRAWN BY: DJM
DATE: 03-8-11

P:\CAD Project Files\CTO-RSY 3_Pad Surveys CAD Files\DWG Files\Active\18-PE-D04-334.dwg

3/8/11

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 23:15:25
New World Technology Spectrum name: 2N000907.An1

Sample description
Parcel E 18-PE-D0334-01 368g
10/13/10 12:48

Acquisition information
Start time: 14-Dec-2010 21:42:46
Live time: 5400
Real time: 5409

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	1.1237E+00	2.2616E-01	2.3913E-01	0.147E+00
AM-241 #	3.3056E-01	4.4378E-01	4.4476E-01	0.277E+00
Bi-212	9.6393E-01	3.4388E-01	3.5009E-01	0.233E+00
BI-214	1.0367E+00	1.1465E-01	1.3379E-01	0.489E-01
CO-60 #A	1.1786E-02	4.7851E-02	4.7858E-02	0.315E-01
CS-137	7.2273E-02	3.7985E-02	3.8295E-02	0.289E-01
EU-152 #A	-3.2466E-03	2.7614E-03	2.7714E-03	0.952E-01
EU-154 C	6.4489E-02	5.4284E-02	5.4558E-02	0.463E-01
K-40	5.8629E+00	9.3875E-01	1.0235E+00	0.732E+00
Pa-234 A	8.8813E-02	8.7714E-02	8.7928E-02	0.926E-01
Pb-210 #C	0.0000E+00	3.5873E+00	3.5873E+00	0.000E+00
Pb-212	1.0165E+00	9.9495E-02	1.2605E-01	0.595E-01
PB-214	1.1009E+00	1.4631E-01	1.6632E-01	0.622E-01
RA-226	8.2939E-01	8.5660E-01	8.5889E-01	0.691E+00
Th-230 #A	-7.3313E+00	3.6357E+01	3.6379E+01	0.123E+02
Th-234 #	1.5190E+00	1.7266E+00	1.7327E+00	0.119E+01
Tl-208	4.7106E-01	5.7992E-02	6.5853E-02	0.252E-01
U-235 C	8.4124E-02	7.8242E-02	7.8501E-02	0.500E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (32.4 to 2596.7 keV) 1.165E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 23:16:11
New World Technology Spectrum name: 3N001060.An1

Sample description
Parcel E 18-PE-D0334-02 361g
10/13/10 12:50

Acquisition information
Start time: 14-Dec-2010 21:42:49
Live time: 5400
Real time: 5406

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	6.9374E-01	1.9018E-01	1.9613E-01	0.803E-01
AM-241 #	6.5879E-02	8.6172E-02	8.6371E-02	0.599E-01
Bi-212 A	7.4149E-03	1.6370E-02	1.6378E-02	0.262E+00
BI-214	6.0170E-01	1.1982E-01	1.2632E-01	0.507E-01
CO-60 #A	-1.4957E-02	1.8655E-01	1.8655E-01	0.193E-01
CS-137 A	2.6943E-02	3.8115E-02	3.8158E-02	0.303E-01
EU-152 A	-5.5135E-01	1.4162E+00	1.4168E+00	0.111E+00
EU-154 C	1.0190E-01	8.6430E-02	8.6860E-02	0.379E-01
K-40	7.9920E+00	1.0770E+00	1.2120E+00	0.616E+00
Pa-234 #C	2.6156E-01	2.3140E-01	2.3210E-01	0.106E+00
Pb-210 #	1.3753E+00	8.4725E-01	8.5405E-01	0.533E+00
Pb-212	4.5334E-01	8.3210E-02	9.0085E-02	0.588E-01
PB-214	5.9467E-01	1.4481E-01	1.5098E-01	0.680E-01
RA-226	1.4738E+00	8.7779E-01	8.8483E-01	0.700E+00
Th-230 #A	-3.3089E+00	4.1520E+01	4.1524E+01	0.582E+01
Th-234 #	3.2250E+00	1.4005E+00	1.4343E+00	0.912E+00
Tl-208 #A	-2.7834E-01	1.8777E-01	1.8867E-01	0.690E-01
U-235 #A	3.4872E-02	3.4710E-02	3.4810E-02	0.512E-01

- All peaks for activity calculation had bad shape.
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< - MDA value printed.
A - Activity printed, but activity < MDA.
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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (43.6 to 2779.2 keV) 1.641E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 23:14:09
New World Technology Spectrum name: 6N001122.An1

Sample description
Parcel E 18-PE-D0334-03 372g
10/13/10 12:52

Acquisition information
Start time: 14-Dec-2010 21:41:00
Live time: 5400
Real time: 5411

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.8936E+00	2.6791E-01	2.9817E-01	0.116E+00
AM-241	#A	2.7318E-02	7.3270E-02	7.3311E-02	0.559E-01
Bi-212		1.0116E+00	3.6647E-01	3.7289E-01	0.256E+00
BI-214		1.2306E+00	1.2856E-01	1.5241E-01	0.624E-01
CO-60	#A	-1.3391E-02	8.8992E-02	8.8996E-02	0.301E-01
CS-137	A	1.6996E-02	4.1005E-02	4.1021E-02	0.336E-01
EU-152	#A	-4.7299E-01	2.0984E+00	2.0988E+00	0.909E-01
EU-154	A	3.3453E-02	2.9533E-02	2.9669E-02	0.528E-01
K-40		9.9531E+00	9.6453E-01	1.1874E+00	0.180E+00
Pa-234	C	8.3586E-02	1.0083E-01	1.0110E-01	0.427E-01
Pb-210	#A	2.4794E-01	8.4613E-01	8.4635E-01	0.609E+00
Pb-212		1.9278E+00	1.1385E-01	1.8576E-01	0.544E-01
PB-214		1.2518E+00	1.1934E-01	1.4943E-01	0.632E-01
RA-226		2.0366E+00	8.2739E-01	8.4159E-01	0.640E+00
Th-230		9.8208E+00	7.9446E+00	8.1170E+00	0.538E+01
Th-234		1.9656E+00	1.0023E+00	1.0196E+00	0.837E+00
Tl-208		6.9080E-01	8.3445E-02	9.5167E-02	0.344E-01
U-235	C	4.8829E-02	6.7908E-02	6.8008E-02	0.464E-01

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< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (33.3 to 2659.2 keV) 3.178E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 21:51:40
New World Technology Spectrum name: 5N001096.An1

Sample description
Parcel E 18-PE-D0334-04 396g
10/13/10 12:54

Acquisition information
Start time: 14-Dec-2010 21:04:29
Live time: 2700
Real time: 2702

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	C	4.0915E-01	1.7084E-01	1.7317E-01	0.222E+00
AM-241	#A	1.7201E-02	5.4226E-02	5.4247E-02	0.462E-01
Bi-212	#A	1.2149E-01	1.0398E-01	1.0431E-01	0.350E+00
BI-214		5.1823E-01	1.1575E-01	1.2078E-01	0.498E-01
CO-60	#A	1.2883E-02	4.0085E-02	4.0094E-02	0.321E-01
CS-137	A	3.4358E-02	4.7666E-02	4.7722E-02	0.374E-01
EU-152	A	3.8720E-02	5.0047E-02	5.0126E-02	0.104E+00
EU-154	A	3.8590E-02	6.2126E-02	6.2212E-02	0.451E-01
K-40		5.2846E+00	1.2932E+00	1.3445E+00	0.943E+00
Pa-234	A	5.7418E-02	8.1260E-02	8.1416E-02	0.985E-01
Pb-210	#A	5.3158E-01	9.2371E-01	9.2465E-01	0.646E+00
Pb-212		6.1790E-01	1.0865E-01	1.1840E-01	0.650E-01
Pb-214		5.1649E-01	1.3962E-01	1.4446E-01	0.681E-01
RA-226	#A	-2.0467E-01	1.0455E+00	1.0455E+00	0.168E+00
Th-230	#A	-1.6251E+00	3.2156E+01	3.2157E+01	0.616E+01
Th-234		1.6408E+00	1.4159E+00	1.4245E+00	0.100E+01
Tl-208		2.6715E-01	7.0900E-02	7.3075E-02	0.265E-01
U-235	#	1.2909E-01	7.5359E-02	7.5988E-02	0.499E-01

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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (37.9 to 3020.7 keV) 8.974E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 22:16:02
New World Technology Spectrum name: 1N001683.An1

Sample description
Parcel E 18-PE-D0334-05 378g
10/13/10 12:56

Acquisition information
Start time: 14-Dec-2010 21:29:58
Live time: 2700
Real time: 2705

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	6.7960E-01	1.6686E-01	1.7334E-01	0.766E-01
AM-241 #A	5.0496E-02	7.6689E-02	7.6821E-02	0.546E-01
Bi-212	6.4096E-01	2.9801E-01	3.0119E-01	0.158E+00
BI-214	5.6592E-01	1.3881E-01	1.4383E-01	0.490E-01
CO-60 #A	-7.6903E-03	1.1416E-02	1.1428E-02	0.259E-01
CS-137 #A	1.5303E-02	3.1892E-02	3.1908E-02	0.230E-01
EU-152 #A	-6.5685E-02	2.0630E-01	2.0638E-01	0.674E-01
EU-154 C	1.2920E-01	5.1395E-02	5.2547E-02	0.392E-01
K-40	8.7166E+00	1.3997E+00	1.5255E+00	0.381E+00
Pa-234 #A	4.0833E-02	4.9393E-02	4.9522E-02	0.487E-01
Pb-210	9.7354E-01	6.5740E-01	6.6192E-01	0.450E+00
Pb-212	5.8081E-01	9.8831E-02	1.0827E-01	0.529E-01
Pb-214	5.8291E-01	1.3580E-01	1.4211E-01	0.611E-01
RA-226 A	5.2205E-01	8.8095E-01	8.8183E-01	0.711E+00
Th-230 #A	-6.3566E-01	1.1127E+01	1.1127E+01	0.582E+01
Th-234 A	7.8466E-01	1.0912E+00	1.0938E+00	0.986E+00
Tl-208	2.3549E-01	5.0266E-02	5.2630E-02	0.190E-01
U-235 #A	2.7818E-02	5.4905E-02	5.4946E-02	0.491E-01

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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (36.6 to 2884.7 keV) 1.298E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 22:33:59
New World Technology Spectrum name: 7N001088.An1

Sample description
Parcel E 18-PE-D0334-06 384g
10/13/10 12:58

Acquisition information
Start time: 14-Dec-2010 21:47:45
Live time: 2700
Real time: 2702

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		7.1952E-01	2.2453E-01	2.2997E-01	0.109E+00
AM-241	#A	2.0468E-03	6.3179E-02	6.3179E-02	0.551E-01
Bi-212		6.1090E-01	3.8489E-01	3.8713E-01	0.264E+00
BI-214		4.1860E-01	1.2269E-01	1.2581E-01	0.588E-01
CO-60	#A	-1.3340E-02	2.4300E-02	2.4316E-02	0.301E-01
CS-137	A	4.7399E-03	3.6616E-02	3.6617E-02	0.306E-01
EU-152	A	3.7108E-02	2.9757E-02	2.9923E-02	0.113E+00
EU-154	A	4.8640E-02	5.4382E-02	5.4538E-02	0.586E-01
K-40		7.4053E+00	1.4693E+00	1.5570E+00	0.891E+00
Pa-234	C	1.1245E-01	7.7887E-02	7.8507E-02	0.591E-01
Pb-210		9.3145E-01	8.1989E-01	8.2312E-01	0.585E+00
Pb-212		6.6813E-01	1.0769E-01	1.1910E-01	0.662E-01
PB-214		6.5991E-01	1.3997E-01	1.4778E-01	0.632E-01
RA-226	A	7.3607E-01	9.2994E-01	9.3160E-01	0.742E+00
Th-230	#A	-5.8376E-01	5.5304E+00	5.5304E+00	0.756E+00
Th-234	#	1.8194E+00	1.3837E+00	1.3944E+00	0.961E+00
Tl-208		2.3463E-01	7.3034E-02	7.4669E-02	0.384E-01
U-235	C	5.6614E-02	9.1227E-02	9.1327E-02	0.547E-01

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F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (41.8 to 3329.1 keV) 1.347E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 21:45:06
New World Technology Spectrum name: 7N001087.An1

Sample description
Parcel E 18-PE-D0334-07 388g
10/13/10 13:00

Acquisition information
Start time: 14-Dec-2010 20:58:47
Live time: 2700
Real time: 2702

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		4.2425E-01	1.7607E-01	1.7850E-01	0.106E+00
AM-241	#A	2.5640E-02	7.0222E-02	7.0259E-02	0.568E-01
Bi-212		5.5057E-01	3.5983E-01	3.6177E-01	0.216E+00
BI-214		4.1216E-01	1.1544E-01	1.1865E-01	0.563E-01
CO-60	#A	3.9444E-05	3.3690E-05	3.3796E-05	0.282E-01
CS-137	#A	-7.1870E-03	4.6436E-01	4.6436E-01	0.284E-01
EU-152	A	-8.5434E-02	8.1931E-02	8.2250E-02	0.110E+00
EU-154	#C	1.2614E-01	5.7952E-02	5.8929E-02	0.630E-01
K-40		6.3213E+00	1.2129E+00	1.2902E+00	0.813E+00
Pa-234	#A	4.6504E-02	5.8261E-02	5.8403E-02	0.745E-01
Pb-210	#	1.0960E+00	7.6045E-01	7.6526E-01	0.533E+00
Pb-212		4.2853E-01	9.6954E-02	1.0230E-01	0.621E-01
PB-214		5.2583E-01	1.4823E-01	1.5297E-01	0.648E-01
RA-226	A	1.8958E-01	8.4818E-01	8.4830E-01	0.699E+00
Th-230	#A	-8.8088E-01	1.2376E+01	1.2377E+01	0.269E+01
Th-234		1.2386E+00	1.0636E+00	1.0701E+00	0.866E+00
Tl-208		1.8922E-01	6.7708E-02	6.8859E-02	0.360E-01
U-235	C	5.5191E-02	7.8039E-02	7.8151E-02	0.484E-01

- All peaks for activity calculation had bad shape.
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A - Activity printed, but activity < MDA.
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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (41.8 to 3329.1 keV) 1.119E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 23:22:14
New World Technology Spectrum name: 7N001089.An1

Sample description
Parcel E 18-PE-D0334-07DUP 388g
10/13/10 13:00

Acquisition information
Start time: 14-Dec-2010 22:35:14
Live time: 2700
Real time: 2702

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		7.3426E-01	2.5181E-01	2.5687E-01	0.115E+00
AM-241	#A	-2.1415E-03	6.9501E-02	6.9501E-02	0.362E-01
Bi-212	A	1.3065E-01	4.0038E-01	4.0048E-01	0.324E+00
BI-214	#	3.9092E-01	1.4984E-01	1.5208E-01	0.661E-01
CO-60	#	2.8845E-02	3.0666E-02	3.0728E-02	0.269E-01
CS-137	A	7.9358E-03	4.1750E-02	4.1754E-02	0.344E-01
EU-152	A	-1.6957E-02	1.2667E-02	1.2748E-02	0.107E+00
EU-154	C	1.1036E-01	9.3566E-02	9.4032E-02	0.589E-01
K-40		7.6830E+00	1.2973E+00	1.4031E+00	0.813E+00
Pa-234	C	7.1389E-02	9.8692E-02	9.8889E-02	0.613E-01
Pb-210	A	5.1759E-01	6.8463E-01	6.8583E-01	0.552E+00
Pb-212		4.3780E-01	1.0226E-01	1.0756E-01	0.674E-01
PB-214		5.0542E-01	1.3788E-01	1.4258E-01	0.693E-01
RA-226	A	3.6406E-01	8.6945E-01	8.6988E-01	0.709E+00
Th-230	#A	4.3866E-01	4.4999E+00	4.5006E+00	0.402E+01
Th-234		1.1949E+00	1.0520E+00	1.0582E+00	0.796E+00
Tl-208		2.1570E-01	8.0129E-02	8.1393E-02	0.396E-01
U-235	#A	1.3081E-02	2.3164E-02	2.3185E-02	0.514E-01

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A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (41.8 to 3329.1 keV) 1.116E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 22:51:15
New World Technology Spectrum name: 5N001097.An1

Sample description
Parcel E 18-PE-D0334-08 369g
10/13/10 13:02

Acquisition information
Start time: 14-Dec-2010 22:00:04
Live time: 2700
Real time: 2702

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	C	5.5675E-01	1.9874E-01	2.0243E-01	0.247E+00
AM-241	#A	1.7448E-02	7.2933E-02	7.2949E-02	0.610E-01
Bi-212		7.9253E-01	4.0647E-01	4.1003E-01	0.264E+00
BI-214		5.8557E-01	1.4283E-01	1.4804E-01	0.762E-01
CO-60	#A	-3.6804E-02	1.4722E+00	1.4722E+00	0.293E-01
CS-137	A	1.3177E-03	4.2597E-02	4.2597E-02	0.368E-01
EU-152	#A	-1.2194E-01	3.3320E-01	3.3332E-01	0.996E-01
EU-154	C	1.4630E-01	1.1486E-01	1.1552E-01	0.569E-01
K-40	#	6.5356E+00	1.2895E+00	1.3673E+00	0.863E+00
Pa-234	#A	6.0752E-02	7.7891E-02	7.8072E-02	0.707E-01
Pb-210		1.0901E+00	8.9802E-01	9.0209E-01	0.643E+00
Pb-212		7.5765E-01	1.1578E-01	1.2935E-01	0.768E-01
Pb-214		7.6476E-01	1.7588E-01	1.8426E-01	0.820E-01
RA-226	A	9.3118E-02	1.0007E+00	1.0007E+00	0.830E+00
Th-230	#A	1.0230E-01	6.2056E+00	6.2056E+00	0.525E+01
Th-234	#	1.9097E+00	1.4169E+00	1.4285E+00	0.102E+01
Tl-208		2.3952E-01	7.6272E-02	7.7904E-02	0.470E-01
U-235		7.7337E-02	8.0496E-02	8.0708E-02	0.497E-01

- All peaks for activity calculation had bad shape.
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& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (37.9 to 3020.7 keV) 1.268E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 23:05:01
New World Technology Spectrum name: 1N001684.An1

Sample description
Parcel E 18-PE-D0334-09 375g
10/13/10 13:04

Acquisition information
Start time: 14-Dec-2010 22:18:21
Live time: 2700
Real time: 2705

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		6.4786E-01	2.3597E-01	2.4018E-01	0.130E+00
AM-241	#	8.1587E-02	9.1758E-02	9.2046E-02	0.624E-01
Bi-212	#	8.8980E-01	3.9960E-01	4.0417E-01	0.214E+00
BI-214		9.3535E-01	1.4751E-01	1.6009E-01	0.330E-01
CO-60	#A	-1.1706E-02	3.6018E-02	3.6027E-02	0.274E-01
CS-137		4.1170E-02	3.0332E-02	3.0458E-02	0.190E-01
EU-152	A	-9.1900E-02	3.9146E-01	3.9153E-01	0.552E-01
EU-154	#A	-5.4371E-04	4.0275E-02	4.0275E-02	0.469E-02
K-40		6.3030E+00	1.1521E+00	1.2327E+00	0.307E+00
Pa-234	C	9.7958E-02	8.3147E-02	8.3589E-02	0.797E-01
Pb-210	#	1.4044E+00	7.9863E-01	8.0636E-01	0.499E+00
Pb-212		8.2657E-01	1.0860E-01	1.2552E-01	0.517E-01
Pb-214		7.1353E-01	1.3798E-01	1.4720E-01	0.547E-01
RA-226	A	2.1482E-01	9.3161E-01	9.3176E-01	0.767E+00
Th-230	A	1.9931E+00	6.6509E+00	6.6594E+00	0.551E+01
Th-234	A	3.7623E-01	1.1121E+00	1.1127E+00	0.102E+01
Tl-208		3.3389E-01	8.0648E-02	8.3626E-02	0.328E-01
U-235		1.1785E-01	8.2992E-02	8.3469E-02	0.481E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (36.6 to 2884.7 keV) 1.221E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 00:22:29
New World Technology Spectrum name: 4N000929.An1

Sample description
Parcel E 18-PE-D0334-10 374g
10/13/10 13:06

Acquisition information
Start time: 14-Dec-2010 23:35:27
Live time: 2700
Real time: 2703

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	C	3.6040E-01	2.1729E-01	2.1872E-01	0.235E+00
AM-241	A	1.9781E-01	6.3575E-01	6.3599E-01	0.511E+00
Bi-212		7.5131E-01	3.8903E-01	3.9238E-01	0.191E+00
BI-214		5.0636E-01	1.5267E-01	1.5634E-01	0.650E-01
CO-60	#A	-2.0609E-02	2.3282E-01	2.3283E-01	0.235E-01
CS-137	#A	-9.9142E-03	2.8411E-01	2.8411E-01	0.328E-01
EU-152	A	-9.2054E-02	6.6071E-02	6.6406E-02	0.137E+00
EU-154	C	9.8882E-02	9.1853E-02	9.2234E-02	0.351E-01
K-40		9.4946E+00	1.5767E+00	1.7095E+00	0.935E+00
Pa-234	C	2.6524E-01	1.5748E-01	1.5918E-01	0.148E+00
Pb-210	#C	0.0000E+00	4.3335E+00	4.3335E+00	0.000E+00
Pb-212		4.8445E-01	1.1972E-01	1.2527E-01	0.805E-01
Pb-214		5.0693E-01	1.5126E-01	1.5558E-01	0.779E-01
RA-226	#A	-3.4413E-01	1.1682E+00	1.1682E+00	0.244E+00
Th-230	#A	-2.2237E+01	7.6977E+02	7.6978E+02	0.396E+02
Th-234	#A	1.3959E+00	1.9716E+00	1.9761E+00	0.150E+01
Tl-208		2.7063E-01	6.0136E-02	6.2750E-02	0.312E-01
U-235	A	3.0975E-02	4.8504E-02	4.8560E-02	0.614E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
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< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (40.8 to 3247.5 keV) 1.201E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 00:26:45
New World Technology Spectrum name: 5N001098.An1

Sample description
Parcel E 18-PE-D0334-11 364g
10/13/10 13:08

Acquisition information
Start time: 14-Dec-2010 23:40:39
Live time: 2700
Real time: 2702

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	C	4.3392E-01	2.0030E-01	2.0253E-01	0.250E+00
AM-241	#A	1.7432E-02	8.1395E-02	8.1410E-02	0.649E-01
Bi-212		7.1134E-01	3.8407E-01	3.8712E-01	0.249E+00
BI-214		7.4368E-01	1.8152E-01	1.8814E-01	0.710E-01
CO-60	#A	-1.0818E-02	1.8491E-02	1.8505E-02	0.283E-01
CS-137	A	3.0750E-03	4.3793E-02	4.3794E-02	0.376E-01
EU-152	#A	-7.4518E-02	1.5559E-01	1.5568E-01	0.115E+00
EU-154	C	1.4188E-01	9.3712E-02	9.4479E-02	0.261E-01
K-40		9.8647E+00	1.5061E+00	1.6551E+00	0.875E+00
Pa-234	A	6.6478E-02	6.4604E-02	6.4866E-02	0.103E+00
Pb-210	#A	4.3037E-01	9.7005E-01	9.7064E-01	0.723E+00
Pb-212		7.4945E-01	1.1151E-01	1.2526E-01	0.721E-01
Pb-214		9.0501E-01	1.8560E-01	1.9666E-01	0.790E-01
RA-226	A	1.0028E-01	1.1136E+00	1.1136E+00	0.922E+00
Th-230	A	3.1943E+00	8.2451E+00	8.2628E+00	0.678E+01
Th-234		1.6285E+00	1.2479E+00	1.2574E+00	0.103E+01
Tl-208		3.8437E-01	9.4471E-02	9.7841E-02	0.377E-01
U-235	C	7.6782E-02	9.5525E-02	9.5702E-02	0.553E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
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< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (37.9 to 3020.7 keV) 1.499E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 23:58:30
New World Technology Spectrum name: 8N000337.An1

Sample description
Parcel E 18-PE-D0334-12 378g
10/13/10 13:10

Acquisition information
Start time: 14-Dec-2010 23:07:58
Live time: 2700
Real time: 2703

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		7.2936E-01	1.6445E-01	1.7200E-01	0.352E-01
AM-241	#A	-1.1148E-02	7.5654E-02	7.5661E-02	0.260E-01
Bi-212		9.0893E-01	3.2227E-01	3.2816E-01	0.115E+00
BI-214		7.0734E-01	1.5139E-01	1.5854E-01	0.548E-01
CO-60	#A	-2.0064E-02	1.4011E-01	1.4012E-01	0.249E-01
CS-137		3.0494E-02	3.0341E-02	3.0410E-02	0.215E-01
EU-152	A	2.8301E-02	3.0791E-02	3.0885E-02	0.709E-01
EU-154	A	4.6367E-03	4.0295E-02	4.0297E-02	0.329E-01
K-40		7.7879E+00	1.0845E+00	1.2123E+00	0.198E+00
Pa-234	#C	7.4061E-02	1.1710E-01	1.1728E-01	0.513E-01
Pb-210	#A	2.0415E-01	6.1315E-01	6.1336E-01	0.533E+00
Pb-212		8.8847E-01	1.0157E-01	1.2203E-01	0.375E-01
Pb-214		5.5585E-01	1.1556E-01	1.2226E-01	0.534E-01
RA-226		8.5270E-01	8.4853E-01	8.5098E-01	0.662E+00
Th-230	#A	2.1731E+00	5.3449E+00	5.3576E+00	0.421E+01
Th-234	A	8.7527E-01	1.2411E+00	1.2440E+00	0.987E+00
Tl-208		2.9683E-01	5.6073E-02	5.9420E-02	0.314E-01
U-235	C	1.1481E-01	6.9377E-02	6.9918E-02	0.462E-01

- All peaks for activity calculation had bad shape.
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< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (38.2 to 3041.5 keV) 1.276E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 14-DEC-2010 23:57:12
New World Technology Spectrum name: 1N001685.An1

Sample description
Parcel E 18-PE-D0334-13 363g
10/13/10 13:12

Acquisition information
Start time: 14-Dec-2010 23:07:55
Live time: 2700
Real time: 2705

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		7.2383E-01	1.6180E-01	1.6935E-01	0.118E+00
AM-241	#A	4.7668E-02	7.0679E-02	7.0807E-02	0.511E-01
Bi-212		6.3661E-01	3.1491E-01	3.1788E-01	0.176E+00
BI-214		6.3078E-01	1.6346E-01	1.6876E-01	0.685E-01
CO-60	#A	-3.5252E-02	2.1414E-01	2.1416E-01	0.274E-01
CS-137	#A	-8.1179E-03	3.0662E-02	3.0662E-02	0.115E-01
EU-152	A	-7.3985E-02	2.2714E-01	2.2723E-01	0.547E-01
EU-154	C	3.4002E-02	4.9201E-02	4.9285E-02	0.333E-01
K-40		9.6393E+00	1.5328E+00	1.6731E+00	0.442E+00
Pa-234	#	1.3052E-01	9.8946E-02	9.9604E-02	0.722E-01
Pb-210	#A	9.9824E-02	8.1723E-01	8.1727E-01	0.595E+00
Pb-212		6.1537E-01	9.9262E-02	1.0976E-01	0.495E-01
Pb-214		4.8046E-01	1.1616E-01	1.2118E-01	0.676E-01
RA-226	A	4.3129E-03	8.7396E-01	8.7396E-01	0.730E+00
Th-230	#A	-2.7989E+00	4.8710E+00	4.8710E+00	0.177E+01
Th-234	#	1.6418E+00	1.2230E+00	1.2331E+00	0.948E+00
Tl-208		2.6313E-01	5.4762E-02	5.7469E-02	0.247E-01
U-235	A	2.7230E-02	7.2279E-02	7.2308E-02	0.473E-01

- All peaks for activity calculation had bad shape.
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< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (36.6 to 2884.7 keV) 1.463E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 00:10:55
New World Technology Spectrum name: 2N000908.An1

Sample description
Parcel E 18-PE-D0334-14 387g
10/13/10 13:14

Acquisition information
Start time: 14-Dec-2010 23:17:47
Live time: 2700
Real time: 2704

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	C	4.0618E-01	2.3113E-01	2.3283E-01	0.183E+00
AM-241	#A	-1.6952E-01	2.0378E+00	2.0378E+00	0.148E+00
Bi-212		5.5228E-01	3.2998E-01	3.3212E-01	0.217E+00
BI-214		5.9937E-01	1.3629E-01	1.4200E-01	0.507E-01
CO-60	#A	-3.1244E-02	1.0691E-01	1.0693E-01	0.308E-01
CS-137		7.0720E-02	4.4832E-02	4.5083E-02	0.330E-01
EU-152	A	-4.3182E-02	8.8241E-02	8.8296E-02	0.136E+00
EU-154	A	8.9658E-02	9.0802E-02	9.1119E-02	0.927E-01
K-40		7.0832E+00	1.2947E+00	1.3854E+00	0.935E+00
Pa-234	#	2.6050E-01	1.8890E-01	1.8976E-01	0.105E+00
Pb-210	#C	0.0000E+00	1.7007E+00	1.7007E+00	0.000E+00
Pb-212		4.2160E-01	1.0198E-01	1.0692E-01	0.706E-01
PB-214		6.8228E-01	1.5094E-01	1.5870E-01	0.649E-01
RA-226	A	1.0632E-01	9.9393E-01	9.9396E-01	0.827E+00
Th-230	#A	3.3462E+00	1.5944E+01	1.5954E+01	0.136E+02
Th-234	#A	-1.5588E+00	1.1027E+01	1.1028E+01	0.154E+01
Tl-208		2.5930E-01	6.7440E-02	6.9593E-02	0.242E-01
U-235	#C	8.4080E-02	8.1532E-02	8.1779E-02	0.607E-01

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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (32.4 to 2596.7 keV) 9.929E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 00:11:55
New World Technology Spectrum name: 3N001061.An1

Sample description
Parcel E 18-PE-D0334-15 371g
10/13/10 13:16

Acquisition information
Start time: 14-Dec-2010 23:18:43
Live time: 2700
Real time: 2703

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	1.0756E+00	2.9150E-01	3.0083E-01	0.105E+00
AM-241 #A	7.9966E-02	1.3927E-01	1.3945E-01	0.935E-01
Bi-212	8.1218E-01	4.5133E-01	4.5471E-01	0.303E+00
BI-214 #	8.5711E-01	1.6215E-01	1.7188E-01	0.535E-01
CO-60 #A	7.7321E-04	6.6989E-04	6.7193E-04	0.274E-01
CS-137	6.8302E-02	4.8553E-02	4.8770E-02	0.337E-01
EU-152 #A	-2.1458E-01	1.4133E-01	1.4217E-01	0.175E+00
EU-154	1.4724E-01	1.4015E-01	1.4070E-01	0.646E-01
K-40	7.0987E+00	1.3619E+00	1.4487E+00	0.835E+00
Pa-234 #C	8.3941E-02	1.3505E-01	1.3517E-01	0.705E-01
Pb-210	8.0020E-01	9.6071E-01	9.6275E-01	0.773E+00
Pb-212	9.1862E-01	1.4266E-01	1.5888E-01	0.896E-01
PB-214	7.2746E-01	1.8897E-01	1.9606E-01	0.889E-01
RA-226	1.1267E+00	1.2144E+00	1.2174E+00	0.980E+00
Th-230 A	3.4059E+00	1.1133E+01	1.1148E+01	0.787E+01
Th-234 #	4.0861E+00	1.9432E+00	1.9824E+00	0.129E+01
Tl-208 C	2.4254E-01	6.4409E-02	6.6382E-02	0.942E-01
U-235 C	1.0763E-01	1.1657E-01	1.1685E-01	0.697E-01

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< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (43.6 to 2779.2 keV) 1.579E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 00:03:18
New World Technology Spectrum name: 6N001123.An1

Sample description
Parcel E 18-PE-D0334-16 383g
10/13/10 13:18

Acquisition information
Start time: 14-Dec-2010 23:16:50
Live time: 2700
Real time: 2705

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		6.5299E-01	2.5391E-01	2.5789E-01	0.154E+00
AM-241	#A	-1.3162E-02	1.9930E-01	1.9930E-01	0.334E-01
Bi-212		5.7495E-01	3.5451E-01	3.5667E-01	0.304E+00
BI-214		7.2988E-01	1.5616E-01	1.6353E-01	0.555E-01
CO-60	#A	1.4346E-02	8.1236E-03	8.1813E-03	0.249E-01
CS-137	#A	-1.7756E-03	5.2369E-02	5.2369E-02	0.349E-01
EU-152	A	-1.6532E-01	1.5256E-01	1.5320E-01	0.123E+00
EU-154	A	1.8928E-02	1.3357E-02	1.3453E-02	0.624E-01
K-40		9.3303E+00	1.4054E+00	1.5480E+00	0.608E+00
Pa-234		2.7542E-01	1.1730E-01	1.1975E-01	0.924E-01
Pb-210	#A	-1.3045E-01	9.1547E-01	9.1552E-01	0.635E+00
Pb-212		6.6921E-01	1.1040E-01	1.2159E-01	0.684E-01
PB-214		6.5969E-01	1.7530E-01	1.8160E-01	0.799E-01
RA-226		1.1840E+00	1.0024E+00	1.0064E+00	0.792E+00
Th-230	#	9.1580E+00	1.1638E+01	1.1741E+01	0.709E+01
Th-234	A	9.3690E-01	1.2197E+00	1.2229E+00	0.105E+01
Tl-208		3.1062E-01	8.5513E-02	8.7953E-02	0.386E-01
U-235	C	9.1139E-02	8.8696E-02	8.8963E-02	0.581E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (33.3 to 2659.2 keV) 1.439E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 00:11:29
New World Technology Spectrum name: 7N001090.An1

Sample description
Parcel E 18-PE-D0334-17 396g
10/13/10 13:20

Acquisition information
Start time: 14-Dec-2010 23:25:08
Live time: 2700
Real time: 2703

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		7.8023E-01	1.7238E-01	1.8062E-01	0.107E+00
AM-241	#	6.5499E-02	8.5025E-02	8.5225E-02	0.643E-01
Bi-212		5.8286E-01	3.6379E-01	3.6595E-01	0.282E+00
BI-214		5.7066E-01	1.2633E-01	1.3191E-01	0.485E-01
CO-60	#A	-1.9565E-03	1.9463E-03	1.9508E-03	0.293E-01
CS-137		3.9448E-02	4.3551E-02	4.3632E-02	0.326E-01
EU-152	A	-3.8622E-02	4.5753E-02	4.5870E-02	0.942E-01
EU-154	A	3.0903E-03	7.3498E-03	7.3545E-03	0.612E-01
K-40		7.4527E+00	1.3292E+00	1.4267E+00	0.863E+00
Pa-234	C	1.5876E-01	1.0407E-01	1.0499E-01	0.107E+00
Pb-210		7.3261E-01	7.5901E-01	7.6117E-01	0.546E+00
Pb-212		6.6192E-01	1.0903E-01	1.2012E-01	0.654E-01
PB-214		6.6674E-01	1.4661E-01	1.5423E-01	0.679E-01
RA-226	#A	-1.9622E-01	9.9526E-01	9.9526E-01	0.161E+00
Th-230	#A	2.5508E-01	2.6997E+00	2.7000E+00	0.275E+01
Th-234		1.6298E+00	1.3809E+00	1.3896E+00	0.963E+00
Tl-208		2.2576E-01	6.3989E-02	6.5713E-02	0.337E-01
U-235	A	4.8465E-02	9.4176E-02	9.4247E-02	0.579E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (41.8 to 3329.1 keV) 1.257E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 00:47:14
New World Technology Spectrum name: 1N001686.An1

Sample description
Parcel E 18-PE-D0334-18 389g
10/13/10 13:22

Acquisition information
Start time: 15-Dec-2010 00:01:16
Live time: 2700
Real time: 2705

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		1.3534E+00	2.2423E-01	2.4296E-01	0.632E-01
AM-241	#A	-5.9691E-03	6.3219E-02	6.3219E-02	0.862E-02
Bi-212		6.2541E-01	4.0329E-01	4.0553E-01	0.277E+00
BI-214		7.6321E-01	1.7530E-01	1.8250E-01	0.707E-01
CO-60	#A	-6.1535E-03	2.1068E-02	2.1072E-02	0.281E-01
CS-137		5.4606E-02	4.3406E-02	4.3561E-02	0.303E-01
EU-152	A	4.4894E-02	4.8625E-02	4.8773E-02	0.707E-01
EU-154	C	7.5485E-02	5.2167E-02	5.2558E-02	0.391E-01
K-40		7.4083E+00	1.1614E+00	1.2706E+00	0.240E+00
Pa-234	#C	3.7580E-02	4.5050E-02	4.5170E-02	0.351E-01
Pb-210		9.0047E-01	6.6693E-01	6.7074E-01	0.469E+00
Pb-212		1.2087E+00	1.2766E-01	1.5738E-01	0.517E-01
Pb-214		8.2123E-01	1.4864E-01	1.5993E-01	0.619E-01
RA-226	A	6.9174E-01	9.5669E-01	9.5812E-01	0.767E+00
Th-230	A	7.5108E-01	7.8788E+00	7.8798E+00	0.657E+01
Th-234	#	3.4615E+00	1.5905E+00	1.6249E+00	0.107E+01
Tl-208		4.9919E-01	9.6049E-02	1.0158E-01	0.368E-01
U-235	C	7.8952E-02	8.0864E-02	8.1084E-02	0.493E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (36.6 to 2884.7 keV) 1.710E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 07:48:48
New World Technology Spectrum name: 1N001687.An1

Sample description
Parcel E 18-PE-D0334-19 367g
10/13/10 13:24

Acquisition information
Start time: 15-Dec-2010 06:14:28
Live time: 5400
Real time: 5409

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	1.6607E+00	2.6026E-01	2.8444E-01	0.940E-01
AM-241 #A	-4.3824E-03	1.1281E-01	1.1281E-01	0.217E-01
Bi-212	1.1576E+00	3.1674E-01	3.2640E-01	0.184E+00
BI-214	8.7500E-01	1.4253E-01	1.5396E-01	0.589E-01
CO-60 #A	-1.5884E-02	1.0165E-01	1.0165E-01	0.279E-01
CS-137 #A	-9.5008E-04	3.1838E-02	3.1838E-02	0.215E-01
EU-152 A	-2.8534E-02	3.8529E-02	3.8604E-02	0.620E-01
EU-154 C	6.5509E-02	4.8917E-02	4.9231E-02	0.306E-01
K-40	8.2950E+00	9.8037E-01	1.1376E+00	0.252E+00
Pa-234 #	9.3772E-02	1.0607E-01	1.0639E-01	0.693E-01
Pb-210	1.3077E+00	5.8030E-01	5.8949E-01	0.396E+00
Pb-212	1.5201E+00	1.0536E-01	1.5652E-01	0.480E-01
Pb-214	1.0399E+00	1.0841E-01	1.3166E-01	0.476E-01
RA-226	1.9835E+00	7.5924E-01	7.7390E-01	0.573E+00
Th-230 #A	-2.7684E+00	5.6383E+00	5.6383E+00	0.124E+01
Th-234	1.9779E+00	9.1063E-01	9.3021E-01	0.779E+00
Tl-208	5.4348E-01	6.3894E-02	7.3337E-02	0.288E-01
U-235 A	2.4267E-02	5.6138E-02	5.6168E-02	0.438E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (36.6 to 2884.7 keV) 2.036E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 10:53:57
New World Technology Spectrum name: 1N001688.An1

Sample description
Parcel E 18-PE-D0334-20 382g
10/13/10 13:26

Acquisition information
Start time: 15-Dec-2010 09:10:37
Live time: 5400
Real time: 5408

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.6421E+00	2.5662E-01	2.8060E-01	0.958E-01
AM-241	#A	3.1285E-02	5.7182E-02	5.7250E-02	0.441E-01
Bi-212		9.7492E-01	3.4342E-01	3.4978E-01	0.216E+00
BI-214		1.1410E+00	1.5423E-01	1.7190E-01	0.553E-01
CO-60	#A	-3.0149E-02	1.2059E+00	1.2059E+00	0.190E-01
CS-137	#A	-7.1738E-03	9.4332E-01	9.4332E-01	0.292E-01
EU-152	A	-3.3975E-03	4.5582E-03	4.5673E-03	0.604E-01
EU-154	A	8.9222E-03	5.2005E-02	5.2010E-02	0.356E-01
K-40		6.3628E+00	8.0923E-01	9.2239E-01	0.316E+00
Pa-234	A	3.0088E-02	7.6025E-02	7.6071E-02	0.624E-01
Pb-210		8.0525E-01	5.3675E-01	5.4054E-01	0.378E+00
Pb-212		1.5355E+00	1.0396E-01	1.5645E-01	0.470E-01
Pb-214		1.0654E+00	1.3347E-01	1.5386E-01	0.594E-01
RA-226		8.0885E-01	7.4196E-01	7.4448E-01	0.594E+00
Th-230	A	5.2251E-01	5.5782E+00	5.5789E+00	0.466E+01
Th-234		1.9948E+00	8.9629E-01	9.1652E-01	0.764E+00
Tl-208		5.6272E-01	6.2732E-02	7.2969E-02	0.271E-01
U-235		4.9235E-02	4.3015E-02	4.3175E-02	0.388E-01

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F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (36.6 to 2884.7 keV) 1.694E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 15:26:40
New World Technology Spectrum name: 1N001690.An1

Sample description
Parcel E 18-PE-D0334-21 378g
10/13/10 13:28

Acquisition information
Start time: 15-Dec-2010 13:48:59
Live time: 5400
Real time: 5412

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.2185E+00	1.9480E-01	2.1222E-01	0.821E-01
AM-241	A	4.1056E-02	5.9140E-02	5.9253E-02	0.435E-01
Bi-212		8.7735E-01	3.9555E-01	4.0003E-01	0.186E+00
BI-214		9.3451E-01	1.3808E-01	1.5142E-01	0.537E-01
CO-60	#A	-3.0091E-02	9.6515E-01	9.6515E-01	0.186E-01
CS-137	A	2.8155E-04	3.1418E-02	3.1418E-02	0.264E-01
EU-152	A	2.3593E-02	2.1111E-02	2.1205E-02	0.542E-01
EU-154	#A	-5.3939E-04	3.2826E-02	3.2826E-02	0.233E-02
K-40		6.3062E+00	8.3431E-01	9.4264E-01	0.228E+00
Pa-234	#A	1.3247E-02	6.2891E-02	6.2901E-02	0.610E-01
Pb-210	A	5.6620E-02	5.1643E-01	5.1645E-01	0.433E+00
Pb-212		1.1482E+00	9.2400E-02	1.2720E-01	0.466E-01
Pb-214		8.1178E-01	9.5957E-02	1.1229E-01	0.479E-01
RA-226		6.3038E-01	7.1563E-01	7.1721E-01	0.577E+00
Th-230	#A	8.4616E-01	5.8020E+00	5.8038E+00	0.435E+01
Th-234	#A	-1.2274E+00	2.0388E+00	2.0422E+00	0.830E+00
Tl-208		4.3744E-01	6.1195E-02	6.7707E-02	0.242E-01
U-235	C	5.2680E-02	4.7922E-02	4.8087E-02	0.391E-01

- All peaks for activity calculation had bad shape.
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F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (36.6 to 2884.7 keV) 1.173E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 15:24:45
New World Technology Spectrum name: 8N000340.An1

Sample description
Parcel E 18-PE-D0334-22 383g
10/13/10 13:30

Acquisition information
Start time: 15-Dec-2010 13:46:57
Live time: 5400
Real time: 5406

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		1.5501E+00	2.2043E-01	2.4508E-01	0.724E-01
AM-241	#A	-7.4634E-04	3.6088E-02	3.6088E-02	0.264E-01
Bi-212		9.8524E-01	2.9274E-01	3.0033E-01	0.182E+00
BI-214		1.0271E+00	1.2187E-01	1.3971E-01	0.441E-01
CO-60	#A	3.9992E-03	4.4151E-03	4.4233E-03	0.173E-01
CS-137		2.8852E-02	2.6844E-02	2.6914E-02	0.204E-01
EU-152	A	4.1217E-02	4.5666E-02	4.5799E-02	0.542E-01
EU-154	A	2.8515E-02	3.6467E-02	3.6547E-02	0.348E-01
K-40		6.8083E+00	7.6616E-01	9.0076E-01	0.197E+00
Pa-234	#A	3.1413E-02	5.5653E-02	5.5721E-02	0.452E-01
Pb-210		9.7448E-01	6.2936E-01	6.3404E-01	0.457E+00
Pb-212		1.5316E+00	9.7000E-02	1.5168E-01	0.396E-01
Pb-214		9.5703E-01	9.6174E-02	1.1823E-01	0.483E-01
RA-226		1.0945E+00	7.2280E-01	7.2752E-01	0.568E+00
Th-230	#A	1.5118E+00	5.6066E+00	5.6125E+00	0.420E+01
Th-234	A	6.0256E-01	7.9771E-01	7.9980E-01	0.731E+00
Tl-208		5.4203E-01	6.7021E-02	7.6032E-02	0.255E-01
U-235	A	3.7055E-02	5.4673E-02	5.4745E-02	0.397E-01

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< - MDA value printed.
A - Activity printed, but activity < MDA.
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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (38.2 to 3041.5 keV) 1.550E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 12:24:50
New World Technology Spectrum name: 8N000339.An1

Sample description
Parcel E 18-PE-D0334-23 382g
10/13/10 13:32

Acquisition information
Start time: 15-Dec-2010 10:51:30
Live time: 5400
Real time: 5407

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	1.5129E+00	1.9936E-01	2.2511E-01	0.651E-01
AM-241 #A	1.3457E-02	5.1082E-02	5.1096E-02	0.429E-01
Bi-212	9.3524E-01	2.7414E-01	2.8144E-01	0.169E+00
BI-214	1.0502E+00	1.3064E-01	1.4814E-01	0.494E-01
CO-60 #A	-2.4581E-02	3.2215E-01	3.2216E-01	0.158E-01
CS-137 A	4.7622E-03	2.5713E-02	2.5715E-02	0.213E-01
EU-152 A	2.3359E-02	2.6822E-02	2.6895E-02	0.528E-01
EU-154 C	5.2597E-02	3.4214E-02	3.4503E-02	0.371E-01
K-40	6.7885E+00	7.5617E-01	8.9155E-01	0.163E+00
Pa-234 #C	1.4485E-01	9.7931E-02	9.8749E-02	0.525E-01
Pb-210	1.5879E+00	8.9655E-01	9.0527E-01	0.639E+00
Pb-212	1.5964E+00	9.6169E-02	1.5499E-01	0.372E-01
Pb-214	9.7781E-01	1.0456E-01	1.2597E-01	0.538E-01
RA-226	1.3502E+00	7.3928E-01	7.4630E-01	0.575E+00
Th-230 #A	-4.7589E-01	5.6793E+00	5.6793E+00	0.477E+00
Th-234	7.5078E-01	8.0011E-01	8.0335E-01	0.730E+00
Tl-208	5.5633E-01	6.3717E-02	7.3605E-02	0.231E-01
U-235	8.4944E-02	6.2806E-02	6.3134E-02	0.393E-01

- All peaks for activity calculation had bad shape.
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< - MDA value printed.
A - Activity printed, but activity < MDA.
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F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (38.2 to 3041.5 keV) 1.644E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 09:42:56
New World Technology Spectrum name: 8N000338.An1

Sample description
Parcel E 18-PE-D0334-24 390g
10/13/10 13:34

Acquisition information
Start time: 15-Dec-2010 07:57:03
Live time: 5400
Real time: 5405

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.2317E+00	1.7169E-01	1.9163E-01	0.547E-01
AM-241	#A	2.3876E-02	4.9926E-02	4.9971E-02	0.395E-01
Bi-212		8.4433E-01	2.4413E-01	2.5081E-01	0.139E+00
BI-214		8.1403E-01	1.1028E-01	1.2285E-01	0.418E-01
CO-60	#A	-1.8711E-03	2.3092E-03	2.3126E-03	0.162E-01
CS-137	A	5.6389E-03	2.7951E-02	2.7954E-02	0.231E-01
EU-152	A	8.2634E-03	1.1905E-02	1.1925E-02	0.479E-01
EU-154	C	3.3486E-02	4.2482E-02	4.2577E-02	0.318E-01
K-40		6.1343E+00	7.0249E-01	8.2196E-01	0.163E+00
Pa-234	#C	7.6916E-02	4.7766E-02	4.8238E-02	0.461E-01
Pb-210	#	8.0859E-01	6.2727E-01	6.3051E-01	0.447E+00
Pb-212		1.2348E+00	8.6161E-02	1.2753E-01	0.363E-01
Pb-214		8.5259E-01	1.1096E-01	1.2675E-01	0.534E-01
RA-226		9.9189E-01	6.4465E-01	6.4900E-01	0.503E+00
Th-230	#A	1.4415E+00	4.3794E+00	4.3862E+00	0.349E+01
Th-234	A	4.3479E-01	7.2992E-01	7.3111E-01	0.682E+00
Tl-208		4.3331E-01	6.1664E-02	6.8017E-02	0.239E-01
U-235	C	3.8166E-02	4.7388E-02	4.7476E-02	0.369E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (38.2 to 3041.5 keV) 1.335E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 08:24:00
New World Technology Spectrum name: 3N001062.An1

Sample description
Parcel E 18-PE-D0334-25 387g
10/13/10 13:36

Acquisition information
Start time: 15-Dec-2010 06:21:06
Live time: 5400
Real time: 5406

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		1.4845E+00	2.0484E-01	2.2909E-01	0.888E-01
AM-241	#A	-6.7863E-03	7.3365E-02	7.3365E-02	0.680E-02
Bi-212		1.1453E+00	3.5455E-01	3.6303E-01	0.231E+00
BI-214		1.1639E+00	1.2627E-01	1.4812E-01	0.562E-01
CO-60	A	1.8675E-02	2.3401E-02	2.3435E-02	0.256E-01
CS-137		5.6136E-02	3.5330E-02	3.5530E-02	0.259E-01
EU-152	A	-5.6107E-01	9.4993E+00	9.4994E+00	0.117E+00
EU-154		1.3415E-01	8.1486E-02	8.2275E-02	0.429E-01
K-40		7.9833E+00	1.0107E+00	1.1533E+00	0.572E+00
Pa-234		2.4410E-01	1.8006E-01	1.8084E-01	0.123E+00
Pb-210		1.6658E+00	8.7891E-01	8.8851E-01	0.548E+00
Pb-212		1.3994E+00	1.1363E-01	1.5577E-01	0.656E-01
PB-214		9.8242E-01	1.1468E-01	1.3466E-01	0.609E-01
RA-226		1.4701E+00	9.1188E-01	9.1862E-01	0.729E+00
Th-230	#A	-4.1583E+00	3.5096E+02	3.5096E+02	0.509E+01
Th-234		4.3277E+00	1.1450E+00	1.2180E+00	0.914E+00
Tl-208	C	3.6285E-01	5.4803E-02	5.9841E-02	0.689E-01
U-235	C	6.6281E-02	9.4686E-02	9.4819E-02	0.541E-01

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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (43.6 to 2779.2 keV) 2.206E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 11:24:18
New World Technology Spectrum name: 3N001063.An1

Sample description
Parcel E 18-PE-D0334-26 378g
10/13/10 13:38

Acquisition information
Start time: 15-Dec-2010 09:15:16
Live time: 5400
Real time: 5407

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.4284E+00	2.6766E-01	2.8528E-01	0.968E-01
AM-241	A	3.6043E-02	6.4311E-02	6.4391E-02	0.520E-01
Bi-212		7.2732E-01	3.8463E-01	3.8781E-01	0.245E+00
BI-214		9.0850E-01	1.4813E-01	1.5998E-01	0.612E-01
CO-60	#A	-2.7576E-02	2.8537E-01	2.8537E-01	0.207E-01
CS-137	A	1.6967E-02	3.6864E-02	3.6882E-02	0.299E-01
EU-152	A	-3.4496E-01	5.8021E-01	5.8074E-01	0.100E+00
EU-154	C	1.0904E-01	8.3423E-02	8.3933E-02	0.430E-01
K-40		6.8734E+00	1.0452E+00	1.1494E+00	0.602E+00
Pa-234	A	1.6909E-01	1.4674E-01	1.4720E-01	0.180E+00
Pb-210		1.1825E+00	6.6130E-01	6.6774E-01	0.520E+00
Pb-212		1.0205E+00	1.0079E-01	1.2727E-01	0.607E-01
PB-214		8.7572E-01	1.5214E-01	1.6463E-01	0.701E-01
RA-226		1.2445E+00	9.2306E-01	9.2784E-01	0.744E+00
Th-230	#A	-3.2652E+00	4.3552E+01	4.3555E+01	0.552E+01
Th-234		1.9823E+00	1.1061E+00	1.1224E+00	0.928E+00
Tl-208	A	-1.3187E-01	9.1200E-02	9.1617E-02	0.660E-01
U-235	C	7.2003E-02	7.7906E-02	7.8096E-02	0.533E-01

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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (43.6 to 2779.2 keV) 1.624E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 08:23:11
New World Technology Spectrum name: 2N000909.An1

Sample description
Parcel E 18-PE-D0334-27 373g
10/13/10 13:40

Acquisition information
Start time: 15-Dec-2010 06:24:25
Live time: 2700
Real time: 2704

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		6.9356E-01	2.0668E-01	2.1216E-01	0.204E+00
AM-241	#A	1.0483E-02	4.7645E-01	4.7645E-01	0.347E+00
Bi-212		5.6461E-01	3.3767E-01	3.3985E-01	0.287E+00
BI-214		8.6690E-01	1.7693E-01	1.8609E-01	0.622E-01
CO-60	#A	-3.1359E-02	1.0786E-01	1.0788E-01	0.327E-01
CS-137		9.5105E-02	6.1038E-02	6.1372E-02	0.454E-01
EU-152	A	-1.0972E-01	1.5744E-01	1.5764E-01	0.113E+00
EU-154	#C	1.1272E-01	8.1340E-02	8.1899E-02	0.754E-01
K-40		1.1770E+01	1.5725E+00	1.7729E+00	0.970E+00
Pa-234	C	1.5802E-01	1.3976E-01	1.4019E-01	0.729E-01
Pb-210	#C	0.0000E+00	2.0609E+00	2.0609E+00	0.000E+00
Pb-212		7.0291E-01	1.2296E-01	1.3411E-01	0.786E-01
PB-214		8.5691E-01	2.0416E-01	2.1324E-01	0.958E-01
RA-226	A	6.7676E-01	1.1810E+00	1.1821E+00	0.958E+00
Th-230		1.9963E+01	2.6289E+01	2.6506E+01	0.184E+02
Th-234	#A	-2.5721E-01	2.3278E+00	2.3279E+00	0.161E+01
Tl-208		3.7762E-01	8.1009E-02	8.4782E-02	0.313E-01
U-235	C	1.5652E-01	1.4341E-01	1.4390E-01	0.687E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
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< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (32.4 to 2596.7 keV) 1.593E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 11:24:39
New World Technology Spectrum name: 2N000910.An1

Sample description
Parcel E 18-PE-D0334-28 367g
10/13/10 13:42

Acquisition information
Start time: 15-Dec-2010 09:19:16
Live time: 5400
Real time: 5408

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		6.4685E-01	1.6868E-01	1.7450E-01	0.140E+00
AM-241	A	5.2776E-02	3.0460E-01	3.0464E-01	0.254E+00
Bi-212		8.0893E-01	3.1650E-01	3.2126E-01	0.191E+00
BI-214		1.0354E+00	1.1855E-01	1.3710E-01	0.473E-01
CO-60	#A	2.9231E-03	3.3546E-03	3.3604E-03	0.300E-01
CS-137		6.6251E-02	3.8963E-02	3.9217E-02	0.301E-01
EU-152	A	-2.2599E-02	2.2226E-02	2.2286E-02	0.925E-01
EU-154	C	1.2070E-01	8.1842E-02	8.2478E-02	0.660E-01
K-40		9.2626E+00	1.0979E+00	1.2731E+00	0.715E+00
Pa-234	C	1.5925E-01	1.5055E-01	1.5095E-01	0.143E+00
Pb-210	#C	0.0000E+00	3.6545E+00	3.6545E+00	0.000E+00
Pb-212		8.7199E-01	9.4031E-02	1.1511E-01	0.577E-01
PB-214		8.2933E-01	1.3809E-01	1.5039E-01	0.653E-01
RA-226	A	5.7561E-01	8.6178E-01	8.6287E-01	0.703E+00
Th-230	#A	-1.3581E+01	1.2581E+02	1.2584E+02	0.139E+02
Th-234	#A	-6.7888E-01	2.6177E+00	2.6185E+00	0.123E+01
Tl-208		3.7761E-01	6.3375E-02	6.8132E-02	0.259E-01
U-235	A	4.7700E-02	6.9338E-02	6.9432E-02	0.481E-01

- All peaks for activity calculation had bad shape.
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< - MDA value printed.
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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (32.4 to 2596.7 keV) 1.390E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 08:13:29
New World Technology Spectrum name: 4N000930.An1

Sample description
Parcel E 18-PE-D0334-29 364g
10/13/10 13:44

Acquisition information
Start time: 15-Dec-2010 07:17:26
Live time: 2700
Real time: 2702

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	C	4.5659E-01	1.8246E-01	1.8517E-01	0.246E+00
AM-241		7.6561E-01	9.1625E-01	9.1879E-01	0.620E+00
Bi-212		8.4030E-01	3.6449E-01	3.6895E-01	0.180E+00
BI-214		7.8127E-01	1.8309E-01	1.9033E-01	0.732E-01
CO-60	#A	1.0973E-02	1.4182E-02	1.4201E-02	0.265E-01
CS-137	A	1.3665E-03	4.5040E-02	4.5040E-02	0.385E-01
EU-152	#A	-1.1265E-01	1.5931E-01	1.5952E-01	0.128E+00
EU-154	C	9.7097E-02	8.8775E-02	8.9155E-02	0.668E-01
K-40		9.0306E+00	1.5709E+00	1.6919E+00	0.959E+00
Pa-234		1.5972E-01	1.1904E-01	1.1985E-01	0.138E+00
Pb-210	#C	0.0000E+00	4.6646E+00	4.6646E+00	0.000E+00
Pb-212		6.8120E-01	1.3211E-01	1.4193E-01	0.831E-01
Pb-214		6.5377E-01	1.5463E-01	1.6161E-01	0.915E-01
RA-226	A	3.3554E-01	1.2019E+00	1.2022E+00	0.991E+00
Th-230	#A	1.3292E+01	3.8326E+01	3.8392E+01	0.284E+02
Th-234	#A	-1.7804E+00	1.6375E+00	1.6375E+00	0.729E+00
Tl-208		3.6947E-01	7.2527E-02	7.6544E-02	0.406E-01
U-235	A	2.9361E-02	5.0051E-02	5.0100E-02	0.682E-01

- All peaks for activity calculation had bad shape.
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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (40.8 to 3247.5 keV) 1.252E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 11:41:11
New World Technology Spectrum name: 4N000931.An1

Sample description
Parcel E 18-PE-D0334-30 397g
10/13/10 13:46

Acquisition information
Start time: 15-Dec-2010 09:24:25
Live time: 5400
Real time: 5405

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		6.8660E-01	2.2653E-01	2.3144E-01	0.162E+00
AM-241	#A	3.2880E-02	2.2439E-01	2.2441E-01	0.218E+00
Bi-212		1.0136E+00	3.9284E-01	3.9886E-01	0.195E+00
BI-214		8.8799E-01	1.4029E-01	1.5221E-01	0.600E-01
CO-60	#A	-3.9553E-04	3.9362E-04	3.9452E-04	0.179E-01
CS-137	A	8.3463E-03	3.4121E-02	3.4126E-02	0.284E-01
EU-152	#A	-2.3785E-02	1.4878E-02	1.4977E-02	0.106E+00
EU-154	#C	6.9336E-02	7.9019E-02	7.9237E-02	0.520E-01
K-40		6.9423E+00	9.7725E-01	1.0901E+00	0.632E+00
Pa-234	C	1.6909E-01	9.9083E-02	1.0018E-01	0.104E+00
Pb-210	#C	0.0000E+00	7.1582E+00	7.1582E+00	0.000E+00
Pb-212		1.2200E+00	1.1026E-01	1.4417E-01	0.595E-01
Pb-214		8.2617E-01	1.3821E-01	1.5042E-01	0.691E-01
RA-226		9.4526E-01	8.2614E-01	8.2922E-01	0.662E+00
Th-230	#A	-1.7741E+01	1.3183E+02	1.3187E+02	0.183E+02
Th-234		1.3561E+00	1.4787E+00	1.4843E+00	0.123E+01
Tl-208		4.9848E-01	5.5665E-02	6.4720E-02	0.279E-01
U-235	A	2.2423E-02	3.3544E-02	3.3586E-02	0.498E-01

- All peaks for activity calculation had bad shape.
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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (40.8 to 3247.5 keV) 1.302E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 16-DEC-2010 13:15:47
New World Technology Spectrum name: 5N001100.An1

Sample description
Parcel E 18-PE-D0334-31 392g
10/13/10 13:48

Acquisition information
Start time: 15-Dec-2010 12:14:24
Live time: 2700
Real time: 2702

- -

***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	C	5.7263E-01	1.7125E-01	1.7576E-01	0.237E+00
AM-241	#A	6.2365E-02	1.1944E-01	1.1957E-01	0.803E-01
Bi-212		7.3447E-01	3.7280E-01	3.7614E-01	0.283E+00
BI-214		8.6711E-01	1.5864E-01	1.6880E-01	0.580E-01
CO-60	#A	-6.7824E-03	4.4658E-02	4.4660E-02	0.306E-01
CS-137	A	2.2535E-02	5.5656E-02	5.5677E-02	0.452E-01
EU-152	C	1.3903E-01	7.2617E-02	7.3310E-02	0.991E-01
EU-154	C	1.6672E-01	7.9304E-02	8.0551E-02	0.501E-01
K-40		7.4115E+00	1.4031E+00	1.4948E+00	0.857E+00
Pa-234	#A	5.9999E-02	1.0903E-01	1.0915E-01	0.767E-01
Pb-210	A	1.5611E-01	7.6033E-01	7.6043E-01	0.612E+00
Pb-212		8.4956E-01	1.2220E-01	1.3827E-01	0.725E-01
Pb-214		6.5653E-01	1.5408E-01	1.6114E-01	0.754E-01
RA-226	A	4.5791E-01	9.3572E-01	9.3636E-01	0.759E+00
Th-230	#A	2.7155E+00	8.3305E+00	8.3432E+00	0.630E+01
Th-234		2.0535E+00	1.5483E+00	1.5606E+00	0.107E+01
Tl-208		3.4957E-01	7.9976E-02	8.3260E-02	0.330E-01
U-235	C	6.9648E-02	7.2348E-02	7.2540E-02	0.506E-01

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A - Activity printed, but activity < MDA.
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C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (37.9 to 3020.7 keV) 1.292E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 07:06:32
New World Technology Spectrum name: 5N001099.An1

Sample description
Parcel E 18-PE-D0334-32 389g
10/13/10 13:50

Acquisition information
Start time: 15-Dec-2010 06:15:15
Live time: 2700
Real time: 2702

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	6.3810E-01	2.4886E-01	2.5274E-01	0.216E+00
AM-241 #A	-6.4765E-03	8.2538E-02	8.2538E-02	0.918E-02
Bi-212	7.4672E-01	3.9151E-01	3.9480E-01	0.307E+00
BI-214	9.3415E-01	2.1031E-01	2.1930E-01	0.884E-01
CO-60 #A	-2.6527E-03	2.2050E-03	2.2123E-03	0.277E-01
CS-137 A	2.2046E-02	5.0668E-02	5.0690E-02	0.411E-01
EU-152 #A	7.3141E-02	6.3658E-02	6.3877E-02	0.108E+00
EU-154 C	9.1978E-02	9.7971E-02	9.8280E-02	0.499E-01
K-40	1.1227E+01	1.5739E+00	1.7571E+00	0.843E+00
Pa-234 #A	8.9431E-02	8.5857E-02	8.6213E-02	0.938E-01
Pb-210 #A	2.6218E-01	8.4474E-01	8.4499E-01	0.658E+00
Pb-212	9.5833E-01	1.1687E-01	1.3777E-01	0.634E-01
Pb-214	7.9731E-01	1.4157E-01	1.5272E-01	0.751E-01
RA-226	1.2743E+00	1.0722E+00	1.0765E+00	0.840E+00
Th-230 #A	8.7333E-01	8.5779E+00	8.5792E+00	0.655E+01
Th-234 #	3.0358E+00	1.4460E+00	1.4746E+00	0.993E+00
Tl-208	3.6457E-01	6.3876E-02	6.8288E-02	0.309E-01
U-235 A	4.8392E-02	9.4829E-02	9.4900E-02	0.597E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (37.9 to 3020.7 keV) 1.998E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 12:23:10
New World Technology Spectrum name: 7N001092.An1

Sample description
Parcel E 18-PE-D0334-33 397g
10/13/10 13:52

Acquisition information
Start time: 15-Dec-2010 10:37:29
Live time: 5400
Real time: 5405

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide	Time of Count Activity pCi/g	Uncertainty 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	1.5779E+00	2.2409E-01	2.4922E-01	0.105E+00
AM-241 #A	3.8572E-02	6.3943E-02	6.4035E-02	0.517E-01
Bi-212	1.2252E+00	3.3959E-01	3.4968E-01	0.219E+00
BI-214	1.1410E+00	1.2790E-01	1.4872E-01	0.462E-01
CO-60 #A	-7.6777E-03	8.0339E-03	8.0507E-03	0.221E-01
CS-137 A	1.3912E-02	3.0773E-02	3.0787E-02	0.249E-01
EU-152 A	-9.1806E-04	6.0845E-04	6.1341E-04	0.883E-01
EU-154 #A	2.4628E-02	3.1529E-02	3.1598E-02	0.545E-01
K-40	9.2206E+00	1.0607E+00	1.2396E+00	0.610E+00
Pa-234 C	7.4369E-02	5.1891E-02	5.2298E-02	0.375E-01
Pb-210 #	8.8647E-01	6.0721E-01	6.1115E-01	0.453E+00
Pb-212	1.5018E+00	1.0506E-01	1.5529E-01	0.533E-01
PB-214	1.2053E+00	1.1331E-01	1.4260E-01	0.516E-01
RA-226	7.9959E-01	8.3298E-01	8.3517E-01	0.671E+00
Th-230 #A	4.6710E+00	8.4850E+00	8.5218E+00	0.585E+01
Th-234	2.5570E+00	9.3094E-01	9.6221E-01	0.733E+00
Tl-208	5.9212E-01	7.5824E-02	8.5367E-02	0.332E-01
U-235	6.7485E-02	5.4779E-02	5.5016E-02	0.446E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (41.8 to 3329.1 keV) 1.997E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 12:22:10
New World Technology Spectrum name: 6N001125.An1

Sample description
Parcel E 18-PE-D0334-34 385g
10/13/10 13:54

Acquisition information
Start time: 15-Dec-2010 09:37:37
Live time: 5400
Real time: 5410

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.3568E+00	1.6580E-01	1.9048E-01	0.915E-01
AM-241	#	7.8340E-02	8.8297E-02	8.8572E-02	0.604E-01
Bi-212		1.1410E+00	3.6796E-01	3.7608E-01	0.175E+00
BI-214		1.0206E+00	1.3327E-01	1.4957E-01	0.513E-01
CO-60	#A	3.6364E-03	4.1265E-03	4.1338E-03	0.315E-01
CS-137	A	1.7740E-02	3.1538E-02	3.1560E-02	0.257E-01
EU-152	A	-8.5201E-02	8.8361E-02	8.8656E-02	0.788E-01
EU-154	#A	2.8489E-02	2.5181E-02	2.5296E-02	0.375E-01
K-40		1.0688E+01	1.0040E+00	1.2493E+00	0.214E+00
Pa-234	C	1.7342E-01	1.1376E-01	1.1477E-01	0.712E-01
Pb-210	A	1.8391E-01	6.3420E-01	6.3436E-01	0.552E+00
Pb-212		1.2418E+00	9.3898E-02	1.3325E-01	0.519E-01
PB-214		1.0029E+00	1.0718E-01	1.2915E-01	0.534E-01
RA-226		9.7163E-01	7.7989E-01	7.8334E-01	0.626E+00
Th-230	#	5.1519E+00	5.7712E+00	5.8368E+00	0.432E+01
Th-234		1.5626E+00	9.1896E-01	9.3091E-01	0.775E+00
Tl-208		5.1703E-01	7.9162E-02	8.6253E-02	0.323E-01
U-235		7.9828E-02	5.2320E-02	5.2667E-02	0.422E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (33.3 to 2659.2 keV) 1.958E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 11:49:56
New World Technology Spectrum name: 6N001124.An1

Sample description
Parcel E 18-PE-D0334-35 392g
10/13/10 13:56

Acquisition information
Start time: 15-Dec-2010 07:19:39
Live time: 2700
Real time: 2705

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		7.2188E-01	2.6195E-01	2.6665E-01	0.169E+00
AM-241	#A	7.6546E-02	1.1222E-01	1.1242E-01	0.778E-01
Bi-212		1.4366E+00	3.9502E-01	4.0695E-01	0.140E+00
BI-214		8.2936E-01	1.7421E-01	1.8274E-01	0.686E-01
CO-60	#A	-2.5755E-02	3.9609E-01	3.9609E-01	0.259E-01
CS-137	#A	-8.5573E-03	1.7135E-01	1.7135E-01	0.352E-01
EU-152	#A	-1.9951E-02	1.3564E-02	1.3669E-02	0.118E+00
EU-154	#A	4.3812E-05	4.6315E-05	4.6463E-05	0.602E-01
K-40		1.0091E+01	1.3567E+00	1.5276E+00	0.229E+00
Pa-234	C	8.6177E-02	8.0681E-02	8.1033E-02	0.786E-01
Pb-210	A	1.0837E-01	1.0353E+00	1.0353E+00	0.752E+00
Pb-212		7.7003E-01	1.1080E-01	1.2536E-01	0.638E-01
PB-214		7.4003E-01	1.4308E-01	1.5264E-01	0.625E-01
RA-226		9.9930E-01	9.9197E-01	9.9485E-01	0.791E+00
Th-230	#	7.0295E+00	8.8731E+00	8.9527E+00	0.611E+01
Th-234		1.4435E+00	1.1703E+00	1.1784E+00	0.997E+00
Tl-208		2.8865E-01	8.8972E-02	9.1004E-02	0.408E-01
U-235	C	6.7002E-02	7.3666E-02	7.3840E-02	0.563E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (33.3 to 2659.2 keV) 1.732E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 15-DEC-2010 06:56:55
New World Technology Spectrum name: 7N001091.An1

Sample description
Parcel E 18-PE-D0334-36 386g
10/13/10 13:58

Acquisition information
Start time: 15-Dec-2010 06:04:41
Live time: 2700
Real time: 2705

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***** S U M M A R Y O F N U C L I D E S I N S A M P L E *****

Nuclide		Time of Count Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.1879E+00	2.5198E-01	2.6502E-01	0.866E-01
AM-241	#A	5.9284E-02	8.6143E-02	8.6304E-02	0.670E-01
Bi-212		1.0715E+00	4.2228E-01	4.2854E-01	0.208E+00
BI-214		8.9561E-01	1.7241E-01	1.8241E-01	0.693E-01
CO-60	#A	-3.4652E-02	3.4165E-01	3.4165E-01	0.306E-01
CS-137	A	1.9103E-02	4.3307E-02	4.3326E-02	0.345E-01
EU-152	A	-8.1232E-02	8.6557E-02	8.6831E-02	0.992E-01
EU-154	C	1.0770E-01	7.9333E-02	7.9855E-02	0.586E-01
K-40		8.9312E+00	1.4422E+00	1.5703E+00	0.843E+00
Pa-234	#A	7.5435E-02	8.3124E-02	8.3386E-02	0.802E-01
Pb-210	#A	5.8274E-01	8.2847E-01	8.2972E-01	0.616E+00
Pb-212		9.0592E-01	1.2638E-01	1.4398E-01	0.711E-01
PB-214		8.8450E-01	1.8986E-01	2.0021E-01	0.875E-01
RA-226		8.6323E-01	1.0534E+00	1.0554E+00	0.842E+00
Th-230	A	5.3531E+00	7.5952E+00	7.6492E+00	0.607E+01
Th-234	#	1.2986E+00	1.2333E+00	1.2395E+00	0.946E+00
Tl-208		3.2833E-01	7.6823E-02	7.9842E-02	0.386E-01
U-235	C	9.6970E-02	7.3527E-02	7.3891E-02	0.597E-01

- All peaks for activity calculation had bad shape.
* - Activity omitted from total
& - Activity omitted from total and all peaks had bad shape.
< - MDA value printed.
A - Activity printed, but activity < MDA.
B - Activity < MDA and failed test.
C - Area < Critical level.
F - Failed fraction or key line test.
H - Halflife limit exceeded

---------- S U M M A R Y ----------

Total Activity (41.8 to 3329.1 keV) 1.550E+01 pCi/g

Laboratory: New World Technology

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-37
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 1/4/11 13:00
Acquisition Time: 1/27/11 18:08:10
Analysis Time: 1/27/11 19:38
Analysis Quantity: 3.350E+02 g

Spectrum ID: 5_20110127_012
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5409 sec
Dead Time: 0.16 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.504E+00	9.83	1.479E-01	1.810E-01	3.081E-02
AM-241	#AB	-8.368E-02	173.60	1.452E-01	1.454E-01	1.170E-01
Bi-212	#	1.156E+00	23.83	2.755E-01	2.866E-01	1.080E-01
BI-214		9.271E-01	10.90	1.011E-01	1.185E-01	3.507E-02
CO-60	#AB	-3.274E-03	656.70	2.150E-02	2.150E-02	1.745E-02
CS-137	#AB	9.945E-03	215.50	2.144E-02	2.145E-02	1.701E-02
EU-152	#AB	1.945E-02	335.80	6.530E-02	6.532E-02	5.323E-02
EU-154	#AB	0.000E+00	2000.00	8.013E-02	8.013E-02	6.601E-02
K-40		7.784E+00	8.56	6.660E-01	8.609E-01	1.760E-01
Pa-234	#AB	0.000E+00	2000.00	8.734E-02	8.735E-02	7.195E-02
Pb-210	#AB	1.891E+00	179.10	3.386E+00	3.391E+00	2.723E+00
Pb-212		1.480E+00	5.97	8.836E-02	1.435E-01	3.285E-02
Pb-214		1.176E+00	7.36	8.650E-02	1.211E-01	3.509E-02
RA-226		1.262E+00	39.18	4.943E-01	5.034E-01	3.684E-01
Th-230	#AB	3.863E+00	257.90	9.964E+00	9.986E+00	8.103E+00
Th-234		9.439E-01	79.11	7.467E-01	7.522E-01	5.878E-01
Tl-208		4.985E-01	9.01	4.490E-02	5.580E-02	1.179E-02
U-235		5.152E-02	64.14	3.304E-02	3.327E-02	2.568E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.257E+01

Analyst: Chanthachone Alexander

Reviewer: Philip Smith
Review Date: 1/28/11 09:16

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-38
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 1/4/11 13:02
Acquisition Time: 1/27/11 11:49:11
Analysis Time: 1/27/11 13:19
Analysis Quantity: 3.310E+02 g

Spectrum ID: 6_20110127_007
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5405 sec
Dead Time: 0.10 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/19/11 19:13
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.556E+00	13.80	2.148E-01	2.404E-01	8.277E-02
AM-241	#AB	-1.836E-03	4279.00	7.858E-02	7.858E-02	6.468E-02
Bi-212	#	6.067E-01	45.43	2.756E-01	2.788E-01	1.969E-01
BI-214		1.012E+00	13.26	1.342E-01	1.502E-01	5.125E-02
CO-60		2.088E-02	112.20	2.343E-02	2.348E-02	1.682E-02
CS-137	#AB	0.000E+00	2000.00	4.356E-02	4.356E-02	3.588E-02
EU-152	#	7.700E-02	118.00	9.084E-02	9.107E-02	6.582E-02
EU-154	#AB	5.593E-03	1766.00	9.877E-02	9.877E-02	8.092E-02
K-40		1.148E+01	8.92	1.024E+00	1.302E+00	3.048E-01
Pa-234		6.385E-02	122.30	7.812E-02	7.832E-02	6.233E-02
Pb-210		1.123E+00	90.84	1.020E+00	1.023E+00	6.461E-01
Pb-212		1.421E+00	8.31	1.182E-01	1.605E-01	5.132E-02
Pb-214		1.127E+00	10.51	1.185E-01	1.437E-01	5.387E-02
RA-226		1.370E+00	52.46	7.186E-01	7.261E-01	5.607E-01
Th-230	#AB	1.670E+00	523.80	8.748E+00	8.752E+00	7.170E+00
Th-234	#AB	-1.778E+00	168.20	2.991E+00	2.996E+00	9.173E-01
Tl-208		4.763E-01	14.91	7.101E-02	7.775E-02	3.070E-02
U-235	AB	1.396E-02	336.10	4.692E-02	4.693E-02	4.134E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.202E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 1/28/11 09:38

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-39
Sample Description: Parcel E

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 1/4/11 13:04
Acquisition Time: 1/27/11 09:07:02
Analysis Time: 1/27/11 09:52
Analysis Quantity: 3.090E+02 g

Spectrum ID: 4_20110127_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/11 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.207E+00	13.26	1.600E-01	1.806E-01	5.253E-02
AM-241	#AB	1.201E-01	179.80	2.160E-01	2.163E-01	1.721E-01
Bi-212		1.080E+00	28.21	3.046E-01	3.134E-01	9.426E-02
BI-214		8.821E-01	13.50	1.191E-01	1.328E-01	3.347E-02
CO-60	#AB	1.206E-03	2684.00	3.236E-02	3.236E-02	2.652E-02
CS-137	#AB	-1.013E-03	3065.00	3.104E-02	3.104E-02	2.548E-02
EU-152	#AB	1.169E-02	706.70	8.260E-02	8.261E-02	6.748E-02
EU-154	#AB	-3.985E-03	2730.00	1.088E-01	1.088E-01	8.920E-02
K-40	#	6.524E+00	15.14	9.875E-01	1.088E+00	3.063E-01
Pa-234	#AB	6.114E-02	170.80	1.044E-01	1.046E-01	8.293E-02
Pb-210	#AB	-2.043E+00	294.10	6.009E+00	6.012E+00	4.837E+00
Pb-212		1.288E+00	9.38	1.208E-01	1.558E-01	4.531E-02
Pb-214		9.368E-01	10.55	9.883E-02	1.197E-01	4.224E-02
RA-226		1.090E+00	61.78	6.734E-01	6.784E-01	5.060E-01
Th-230	#AB	-5.467E-01	2495.00	1.364E+01	1.364E+01	1.121E+01
Th-234		1.693E+00	66.56	1.127E+00	1.138E+00	8.564E-01
Tl-208		4.333E-01	13.10	5.676E-02	6.365E-02	1.101E-02
U-235		4.275E-02	111.40	4.762E-02	4.773E-02	3.728E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.537E+01

Analyst: Philip Smith

Reviewer: Philip Smith
Review Date: 1/27/11 10:27

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-40
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 1/4/11 13:06
Acquisition Time: 1/28/11 14:43:20
Analysis Time: 1/28/11 15:28
Analysis Quantity: 3.460E+02 g

Spectrum ID: 6_20110128_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/19/11 19:13
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.341E+00	21.33	2.860E-01	3.008E-01	9.263E-02
AM-241	AB	1.428E-02	805.20	1.150E-01	1.150E-01	9.422E-02
Bi-212	#	3.054E-01	114.50	3.496E-01	3.502E-01	2.705E-01
BI-214		9.450E-01	19.33	1.827E-01	1.933E-01	7.510E-02
CO-60	#AB	0.000E+00	2000.00	5.245E-02	5.245E-02	4.321E-02
CS-137	#AB	-1.875E-02	243.00	4.556E-02	4.557E-02	3.587E-02
EU-152	#AB	-7.380E-03	1309.00	9.659E-02	9.659E-02	7.925E-02
EU-154	#AB	1.295E-03	10590.00	1.372E-01	1.372E-01	1.129E-01
K-40	#	3.549E+00	24.13	8.563E-01	8.916E-01	4.863E-01
Pa-234	#AB	5.371E-02	235.30	1.264E-01	1.265E-01	1.021E-01
Pb-210		8.655E-01	108.30	9.377E-01	9.401E-01	7.270E-01
Pb-212		1.428E+00	11.25	1.606E-01	1.942E-01	6.607E-02
Pb-214		9.553E-01	16.82	1.607E-01	1.748E-01	7.139E-02
RA-226		1.184E+00	84.86	1.005E+00	1.009E+00	7.916E-01
Th-230	#AB	-9.177E+00	135.70	1.245E+01	1.255E+01	9.992E+00
Th-234	#AB	-1.878E+00	242.90	4.561E+00	4.565E+00	1.221E+00
Tl-208		4.285E-01	18.56	7.954E-02	8.448E-02	3.454E-02
U-235	AB	5.323E-02	121.10	6.448E-02	6.461E-02	5.523E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.112E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 2/2/11 09:47

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-41
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 1/4/11 13:08
Acquisition Time: 1/28/11 14:39:39
Analysis Time: 1/28/11 16:10
Analysis Quantity: 3.590E+02 g

Spectrum ID: 5_20110128_009
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5407 sec
Dead Time: 0.13 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.133E+00	8.33	1.777E-01	2.313E-01	4.000E-02
AM-241	#AB	-1.224E-02	1284.00	1.571E-01	1.571E-01	1.291E-01
Bi-212	#	1.839E+00	16.41	3.018E-01	3.270E-01	1.010E-01
BI-214		1.332E+00	7.89	1.052E-01	1.378E-01	3.170E-02
CO-60	#AB	0.000E+00	2000.00	3.310E-02	3.310E-02	2.727E-02
CS-137	#AB	1.665E-03	1370.00	2.281E-02	2.281E-02	1.870E-02
EU-152		6.982E-02	94.06	6.567E-02	6.594E-02	5.759E-02
EU-154	#AB	1.466E-02	126.40	1.853E-02	1.856E-02	4.796E-02
K-40		7.312E+00	8.76	6.406E-01	8.203E-01	1.762E-01
Pa-234	#AB	-3.045E-03	2358.00	7.178E-02	7.178E-02	5.904E-02
Pb-210		4.915E+00	77.42	3.805E+00	3.834E+00	2.293E+00
Pb-212		1.943E+00	5.24	1.019E-01	1.801E-01	3.689E-02
Pb-214		1.400E+00	6.89	9.649E-02	1.396E-01	3.725E-02
RA-226		2.237E+00	35.56	7.954E-01	8.132E-01	4.252E-01
Th-230	#AB	1.289E+00	818.00	1.054E+01	1.055E+01	8.655E+00
Th-234		1.292E+00	61.35	7.929E-01	8.025E-01	6.202E-01
Tl-208		6.336E-01	8.10	5.129E-02	6.637E-02	1.479E-02
U-235		1.370E-01	29.62	4.058E-02	4.188E-02	3.024E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.655E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 1/31/11 15:30

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-42
Sample Description: Parcel E

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/3/11 10:32
Acquisition Time: 2/4/11 18:06:34
Analysis Time: 2/4/11 18:51
Analysis Quantity: 3.230E+02 g

Spectrum ID: 1_20110204_013
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: Detector #1 Soil 250ml Tuna Can (83489-918)
Efficiency Cal Date: 1/20/11 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.528E-01	16.23	1.384E-01	1.505E-01	2.815E-02
AM-241	#AB	0.000E+00	2000.00	3.902E-01	3.902E-01	3.214E-01
Bi-212	#	4.485E-01	59.96	2.689E-01	2.707E-01	1.777E-01
BI-214	#	5.251E-01	18.65	9.792E-02	1.040E-01	4.261E-02
CO-60	#AB	-1.669E-03	1911.00	3.190E-02	3.190E-02	2.607E-02
CS-137	AB	1.928E-02	147.60	2.846E-02	2.849E-02	2.125E-02
EU-152	#AB	-3.030E-02	279.80	8.478E-02	8.482E-02	6.813E-02
EU-154	#AB	-2.524E-02	395.50	9.982E-02	9.984E-02	7.919E-02
K-40		4.858E+00	15.17	7.368E-01	8.116E-01	2.027E-01
Pa-234		8.352E-02	94.05	7.855E-02	7.889E-02	5.744E-02
Pb-210	#	0.000E+00	2000.00	2.282E+00	2.282E+00	0.000E+00
Pb-212		1.032E+00	11.05	1.141E-01	1.387E-01	4.205E-02
Pb-214		7.218E-01	14.06	1.015E-01	1.141E-01	5.221E-02
RA-226		1.076E+00	59.12	6.361E-01	6.412E-01	4.614E-01
Th-230	#AB	-2.457E+00	719.60	1.768E+01	1.769E+01	1.443E+01
Th-234	#AB	-8.219E-02	1850.00	1.520E+00	1.520E+00	1.249E+00
Tl-208		3.330E-01	15.32	5.100E-02	5.559E-02	1.405E-02
U-235		6.063E-02	88.78	5.383E-02	5.403E-02	3.162E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.001E+01

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 2/7/11 07:45

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-43
Sample Description: Parcel E

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/3/11 10:34
Acquisition Time: 2/4/11 18:54:17
Analysis Time: 2/4/11 19:39
Analysis Quantity: 3.320E+02 g

Spectrum ID: 1_20110204_014
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: Detector #1 Soil 250ml Tuna Can (83489-918)
Efficiency Cal Date: 1/20/11 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.097E+00	16.77	1.840E-01	1.991E-01	3.111E-02
AM-241	#AB	2.082E-01	147.60	3.073E-01	3.079E-01	2.394E-01
Bi-212		5.926E-01	47.24	2.799E-01	2.829E-01	1.752E-01
BI-214		8.352E-01	14.67	1.225E-01	1.346E-01	3.042E-02
CO-60	#AB	-9.982E-03	329.20	3.286E-02	3.287E-02	2.588E-02
CS-137	#AB	1.842E-03	1757.00	3.236E-02	3.236E-02	2.648E-02
EU-152	#AB	2.365E-02	348.90	8.254E-02	8.256E-02	6.667E-02
EU-154	#AB	0.000E+00	2000.00	1.256E-01	1.256E-01	1.035E-01
K-40	#	4.292E+00	17.93	7.695E-01	8.262E-01	3.496E-01
Pa-234		9.647E-02	112.20	1.082E-01	1.086E-01	8.338E-02
Pb-210	#	0.000E+00	1099.00	2.540E+00	2.540E+00	0.000E+00
Pb-212		1.281E+00	9.47	1.214E-01	1.559E-01	4.159E-02
Pb-214		8.137E-01	12.66	1.030E-01	1.186E-01	4.799E-02
RA-226		9.164E-01	74.37	6.815E-01	6.850E-01	5.139E-01
Th-230	#AB	-1.051E+01	210.20	2.209E+01	2.216E+01	1.773E+01
Th-234		1.624E+00	76.31	1.239E+00	1.249E+00	9.432E-01
Tl-208		4.109E-01	14.59	5.995E-02	6.588E-02	1.547E-02
U-235		6.562E-02	79.03	5.186E-02	5.210E-02	3.570E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.226E+01

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 2/7/11 07:45

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-44
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:10
Acquisition Time: 2/18/11 19:44:27
Analysis Time: 2/18/11 20:29
Analysis Quantity: 3.070E+02 g

Spectrum ID: 5_20110218_012
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.15 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.028E+00	14.65	1.506E-01	1.667E-01	3.178E-02
AM-241	#AB	5.030E-02	354.70	1.784E-01	1.785E-01	1.442E-01
Bi-212	#	5.248E-01	49.15	2.579E-01	2.604E-01	1.591E-01
BI-214		6.865E-01	14.80	1.016E-01	1.114E-01	2.811E-02
CO-60	#AB	-1.354E-03	2001.00	2.708E-02	2.708E-02	2.212E-02
CS-137	#AB	-5.791E-05	57200.00	3.312E-02	3.312E-02	2.728E-02
EU-152	#	7.475E-02	120.20	8.984E-02	9.007E-02	6.794E-02
EU-154	#AB	3.159E-02	239.10	7.553E-02	7.556E-02	5.728E-02
K-40	#	6.609E+00	12.99	8.589E-01	9.758E-01	2.243E-01
Pa-234	#AB	-5.175E-02	211.30	1.094E-01	1.095E-01	8.758E-02
Pb-210	#AB	1.200E-01	3053.00	3.663E+00	3.663E+00	3.009E+00
Pb-212		9.527E-01	12.32	1.174E-01	1.381E-01	4.828E-02
Pb-214		6.504E-01	13.99	9.098E-02	1.024E-01	3.824E-02
RA-226		9.220E-01	65.16	6.008E-01	6.049E-01	4.529E-01
Th-230	AB	1.294E+00	864.90	1.119E+01	1.120E+01	9.152E+00
Th-234	#AB	-6.891E-01	163.70	1.128E+00	1.130E+00	9.008E-01
Tl-208		3.405E-01	16.50	5.617E-02	6.056E-02	1.480E-02
U-235	#AB	-2.493E-02	367.80	9.170E-02	9.172E-02	3.974E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.329E+01

Analyst: Chanthachone Alexander

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:33

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-45
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:15
Acquisition Time: 2/18/11 19:52:33
Analysis Time: 2/18/11 20:37
Analysis Quantity: 3.090E+02 g

Spectrum ID: 10_20110218_013
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.15 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/11 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.894E-01	20.75	1.846E-01	1.946E-01	7.843E-02
AM-241	#AB	2.284E-01	252.40	5.766E-01	5.769E-01	4.614E-01
Bi-212	#	4.837E-01	65.05	3.147E-01	3.164E-01	2.154E-01
BI-214		7.082E-01	16.62	1.177E-01	1.268E-01	4.137E-02
CO-60	#AB	0.000E+00	2000.00	5.370E-03	5.370E-03	6.256E-03
CS-137	#AB	-1.139E-03	3259.00	3.711E-02	3.711E-02	3.047E-02
EU-152	#AB	-1.084E-02	952.80	1.033E-01	1.033E-01	8.453E-02
EU-154	#AB	2.606E-03	3509.00	9.145E-02	9.145E-02	7.496E-02
K-40		6.494E+00	13.64	8.858E-01	9.959E-01	7.038E-02
Pa-234	#AB	1.008E-01	137.80	1.389E-01	1.392E-01	1.086E-01
Pb-210	#	0.000E+00	140.10	2.358E+00	2.363E+00	0.000E+00
Pb-212		1.320E+00	9.79	1.292E-01	1.639E-01	4.501E-02
Pb-214		8.828E-01	12.57	1.110E-01	1.279E-01	3.713E-02
RA-226		1.045E+00	74.70	7.805E-01	7.844E-01	5.991E-01
Th-230	#AB	-1.023E+01	258.00	2.640E+01	2.646E+01	2.113E+01
Th-234		1.144E+00	120.20	1.376E+00	1.380E+00	1.071E+00
Tl-208	#	3.191E-01	17.80	5.680E-02	6.063E-02	2.300E-02
U-235		5.483E-02	92.34	5.063E-02	5.080E-02	3.882E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.367E+01

Analyst: Chanthachone Alexander

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:48

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-46
Sample Description: Parcel E

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:20
Acquisition Time: 2/21/11 13:38:40
Analysis Time: 2/21/11 15:08
Analysis Quantity: 3.330E+02 g

Spectrum ID: 9_20110221_004
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5407 sec
Dead Time: 0.13 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/11 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.741E+00	9.60	1.670E-01	2.062E-01	3.784E-02
AM-241	#AB	-3.398E-02	527.90	1.794E-01	1.794E-01	1.468E-01
Bi-212		1.301E+00	22.30	2.902E-01	3.035E-01	1.089E-01
BI-214		1.040E+00	9.58	9.966E-02	1.215E-01	2.958E-02
CO-60	#AB	-8.877E-04	2294.00	2.036E-02	2.036E-02	1.669E-02
CS-137	#AB	-5.040E-03	455.40	2.295E-02	2.296E-02	1.860E-02
EU-152	#AB	3.186E-02	124.40	3.963E-02	3.973E-02	4.446E-02
EU-154	#AB	1.551E-03	3053.00	4.733E-02	4.733E-02	3.881E-02
K-40		8.172E+00	8.72	7.121E-01	9.138E-01	1.800E-01
Pa-234	#AB	-1.467E-02	623.10	9.143E-02	9.144E-02	7.493E-02
Pb-210	#AB	-2.049E+00	261.20	5.354E+00	5.357E+00	4.347E+00
Pb-212		1.547E+00	5.70	8.818E-02	1.475E-01	3.168E-02
Pb-214		1.075E+00	8.34	8.969E-02	1.185E-01	3.292E-02
RA-226		1.727E+00	30.00	5.182E-01	5.344E-01	3.738E-01
Th-230	#AB	2.096E+00	572.00	1.199E+01	1.199E+01	9.822E+00
Th-234		1.168E+00	71.59	8.364E-01	8.439E-01	6.578E-01
Tl-208		5.310E-01	9.44	5.010E-02	6.129E-02	1.515E-02
U-235		4.414E-02	84.35	3.723E-02	3.738E-02	2.947E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.048E+01

Analyst: Eric Schrader

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:47

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-47
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:25
Acquisition Time: 2/21/11 15:35:55
Analysis Time: 2/21/11 16:21
Analysis Quantity: 3.430E+02 g

Spectrum ID: 8_20110221_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.17 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/11 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	3.931E-01	33.48	1.316E-01	1.344E-01	7.850E-02
AM-241	#AB	4.625E-04	38580.00	1.784E-01	1.784E-01	1.470E-01
Bi-212		3.085E-01	66.93	2.065E-01	2.076E-01	1.347E-01
BI-214		2.953E-01	28.87	8.523E-02	8.748E-02	4.896E-02
CO-60	#AB	-6.341E-03	318.00	2.016E-02	2.017E-02	1.546E-02
CS-137	#AB	5.874E-03	457.60	2.688E-02	2.689E-02	2.153E-02
EU-152	#AB	-2.992E-02	227.70	6.811E-02	6.815E-02	5.442E-02
EU-154	#AB	2.960E-02	257.00	7.607E-02	7.609E-02	5.842E-02
K-40		8.648E+00	10.43	9.016E-01	1.086E+00	5.475E-02
Pa-234	#AB	2.808E-02	267.80	7.520E-02	7.524E-02	6.008E-02
Pb-210	#AB	1.508E+00	364.50	5.498E+00	5.500E+00	4.421E+00
Pb-212		5.416E-01	13.93	7.543E-02	8.604E-02	3.595E-02
Pb-214		4.708E-01	17.22	8.106E-02	8.788E-02	3.197E-02
RA-226	#AB	0.000E+00	2000.00	6.710E-01	6.710E-01	5.528E-01
Th-230	#AB	2.957E-01	3921.00	1.160E+01	1.160E+01	9.537E+00
Th-234	#AB	-3.911E-02	2205.00	8.624E-01	8.624E-01	7.084E-01
Tl-208		2.023E-01	21.41	4.330E-02	4.534E-02	1.280E-02
U-235	#	5.405E-02	64.04	3.461E-02	3.485E-02	2.524E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.278E+01

Analyst: Chanthachone Alexander
Reviewer: Joan Cosgrove
Review Date: 2/22/11 14:13

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-48
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:30
Acquisition Time: 2/21/11 19:16:53
Analysis Time: 2/21/11 20:47
Analysis Quantity: 3.650E+02 g

Spectrum ID: 5_20110221_012
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5410 sec
Dead Time: 0.19 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.325E+00	10.09	1.337E-01	1.622E-01	5.329E-02
AM-241	#AB	-8.201E-02	194.20	1.593E-01	1.594E-01	1.291E-01
Bi-212		1.007E+00	21.65	2.180E-01	2.286E-01	1.218E-01
BI-214		1.051E+00	8.63	9.075E-02	1.147E-01	2.927E-02
CO-60	#AB	-1.076E-02	207.10	2.228E-02	2.229E-02	1.757E-02
CS-137	#AB	1.159E-03	1588.00	1.841E-02	1.841E-02	1.509E-02
EU-152	#AB	-8.370E-04	7380.00	6.177E-02	6.177E-02	5.086E-02
EU-154	#AB	2.315E-03	2189.00	5.068E-02	5.068E-02	4.153E-02
K-40		1.921E+00	37.89	7.276E-01	7.400E-01	5.516E-01
Pa-234	#AB	4.802E-02	165.10	7.929E-02	7.940E-02	6.397E-02
Pb-210	#AB	5.802E-01	556.30	3.228E+00	3.228E+00	2.639E+00
Pb-212		1.516E+00	5.42	8.214E-02	1.420E-01	3.046E-02
Pb-214		1.116E+00	7.22	8.059E-02	1.139E-01	2.976E-02
RA-226		1.272E+00	39.21	4.988E-01	5.080E-01	3.793E-01
Th-230	#AB	-2.023E+00	399.90	8.092E+00	8.099E+00	6.604E+00
Th-234		1.871E+00	39.76	7.438E-01	7.652E-01	5.618E-01
Tl-208		5.034E-01	9.37	4.718E-02	5.784E-02	1.551E-02
U-235	AB	1.327E-02	87.11	1.156E-02	1.160E-02	3.012E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.223E+01

Analyst: Philip Smith

Reviewer: Philip Smith
Review Date: 2/25/11 12:00

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-48DUP
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:30
Acquisition Time: 2/24/11 10:50:45
Analysis Time: 2/24/11 12:21
Analysis Quantity: 3.650E+02 g

Spectrum ID: 5_20110224_007
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5406 sec
Dead Time: 0.12 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.511E+00	9.38	1.417E-01	1.764E-01	4.938E-02
AM-241	#AB	-2.122E-02	703.00	1.492E-01	1.492E-01	1.223E-01
Bi-212		1.168E+00	19.36	2.261E-01	2.398E-01	8.464E-02
BI-214		1.077E+00	8.51	9.165E-02	1.165E-01	2.787E-02
CO-60	#AB	0.000E+00	2000.00	2.810E-02	2.810E-02	2.315E-02
CS-137	#AB	2.060E-03	812.80	1.674E-02	1.674E-02	1.364E-02
EU-152	#AB	2.134E-02	303.40	6.475E-02	6.478E-02	5.277E-02
EU-154	#AB	1.325E-02	390.60	5.176E-02	5.177E-02	4.140E-02
K-40		7.150E+00	8.12	5.805E-01	7.668E-01	8.376E-02
Pa-234	#AB	-1.714E-02	476.10	8.158E-02	8.159E-02	6.674E-02
Pb-210	#AB	8.321E-01	384.10	3.196E+00	3.197E+00	2.605E+00
Pb-212		1.504E+00	5.63	8.465E-02	1.427E-01	3.159E-02
Pb-214		1.146E+00	8.32	9.531E-02	1.261E-01	3.388E-02
RA-226		1.163E+00	43.36	5.044E-01	5.120E-01	3.874E-01
Th-230	#AB	-2.117E+00	464.70	9.838E+00	9.845E+00	8.051E+00
Th-234		1.244E+00	60.77	7.561E-01	7.655E-01	5.901E-01
Tl-208		4.755E-01	9.20	4.374E-02	5.397E-02	1.376E-02
U-235	AB	5.077E-03	661.50	3.359E-02	3.359E-02	2.903E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.731E+01

Analyst: Chris Fluty

Reviewer: Philip Smith
Review Date: 2/25/11 11:11

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-49
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:35
Acquisition Time: 2/21/11 20:48:56
Analysis Time: 2/21/11 22:19
Analysis Quantity: 3.150E+02 g

Spectrum ID: 5_20110221_013
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5410 sec
Dead Time: 0.19 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.546E-01	18.85	8.570E-02	9.133E-02	2.267E-02
AM-241	#	8.733E-02	95.29	8.322E-02	8.358E-02	6.331E-02
Bi-212		2.555E-01	63.57	1.624E-01	1.634E-01	1.002E-01
BI-214		3.480E-01	16.56	5.763E-02	6.214E-02	2.133E-02
CO-60	#AB	2.482E-05	68190.00	1.692E-02	1.692E-02	1.394E-02
CS-137	#AB	3.633E-03	459.80	1.670E-02	1.670E-02	1.344E-02
EU-152	#AB	-5.103E-03	737.30	3.763E-02	3.763E-02	3.072E-02
EU-154	#AB	0.000E+00	2000.00	5.988E-02	5.988E-02	4.933E-02
K-40	#	2.988E+00	14.13	4.223E-01	4.713E-01	1.477E-01
Pa-234	#AB	3.402E-02	146.60	4.988E-02	4.996E-02	3.930E-02
Pb-210		1.871E+00	113.10	2.116E+00	2.123E+00	1.629E+00
Pb-212		4.292E-01	13.52	5.804E-02	6.667E-02	2.363E-02
Pb-214		3.245E-01	16.44	5.334E-02	5.824E-02	2.351E-02
RA-226		2.860E-01	103.50	2.960E-01	2.968E-01	2.367E-01
Th-230	#AB	0.000E+00	2000.00	7.125E+00	7.125E+00	5.870E+00
Th-234		4.961E-01	96.19	4.772E-01	4.796E-01	3.690E-01
Tl-208		1.577E-01	17.00	2.679E-02	2.877E-02	7.558E-03
U-235	#AB	-5.051E-02	276.60	1.397E-01	1.398E-01	2.156E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 7.736E+00

Analyst: Chanthachone Alexander
Reviewer: Joan Cosgrove
Review Date: 2/22/11 14:07

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-50
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:40
Acquisition Time: 2/21/11 14:32:26
Analysis Time: 2/21/11 15:17
Analysis Quantity: 3.070E+02 g

Spectrum ID: 6_20110221_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/19/11 19:13
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	3.140E-01	51.62	1.621E-01	1.636E-01	1.021E-01
AM-241	#AB	5.322E-03	1608.00	8.560E-02	8.560E-02	7.022E-02
Bi-212	#	2.545E-01	131.10	3.337E-01	3.341E-01	2.476E-01
BI-214		1.447E-01	65.25	9.444E-02	9.493E-02	7.268E-02
CO-60	#AB	0.000E+00	2000.00	5.799E-02	5.799E-02	4.777E-02
CS-137	#AB	0.000E+00	2000.00	5.531E-02	5.531E-02	4.557E-02
EU-152	#AB	-3.331E-02	268.90	8.955E-02	8.960E-02	7.203E-02
EU-154	#AB	3.777E-02	328.70	1.242E-01	1.242E-01	9.703E-02
K-40		6.468E+00	16.86	1.091E+00	1.181E+00	3.623E-01
Pa-234	#AB	4.367E-02	206.90	9.036E-02	9.044E-02	7.186E-02
Pb-210		9.415E-01	119.50	1.125E+00	1.127E+00	8.040E-01
Pb-212		3.943E-01	28.15	1.110E-01	1.150E-01	5.791E-02
Pb-214		2.873E-01	35.20	1.011E-01	1.032E-01	6.099E-02
RA-226		8.234E-01	97.50	8.029E-01	8.053E-01	6.336E-01
Th-230	#AB	-6.394E-01	2036.00	1.302E+01	1.302E+01	6.934E+00
Th-234		1.434E+00	101.70	1.458E+00	1.464E+00	1.005E+00
Tl-208	#	8.965E-02	57.44	5.150E-02	5.184E-02	3.798E-02
U-235	#AB	-7.330E-03	872.50	6.396E-02	6.396E-02	4.969E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.124E+01

Analyst: Robin Fluty

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:43

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-51
Sample Description: Parcel E

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:45
Acquisition Time: 2/21/11 13:30:39
Analysis Time: 2/21/11 14:16
Analysis Quantity: 3.160E+02 g

Spectrum ID: 4_20110221_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/11 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.112E+00	16.06	1.786E-01	1.946E-01	3.249E-02
AM-241	#AB	-4.231E-03	4642.00	1.964E-01	1.964E-01	1.616E-01
Bi-212	#	4.693E-01	54.19	2.543E-01	2.563E-01	1.646E-01
BI-214		7.326E-01	16.75	1.227E-01	1.321E-01	3.925E-02
CO-60	#AB	-1.744E-03	2128.00	3.713E-02	3.713E-02	3.041E-02
CS-137	#AB	0.000E+00	2000.00	4.116E-02	4.116E-02	3.390E-02
EU-152	#AB	4.775E-02	147.60	7.048E-02	7.059E-02	7.300E-02
EU-154	#AB	1.543E-02	124.30	1.917E-02	1.920E-02	8.085E-02
K-40		1.096E+01	9.69	1.062E+00	1.310E+00	5.993E-02
Pa-234	#AB	-3.371E-02	315.70	1.064E-01	1.065E-01	8.604E-02
Pb-210	#AB	1.222E+00	457.70	5.591E+00	5.592E+00	4.535E+00
Pb-212		1.117E+00	9.85	1.100E-01	1.392E-01	4.049E-02
Pb-214		8.162E-01	13.55	1.106E-01	1.253E-01	4.085E-02
RA-226	#	9.685E-01	66.60	6.451E-01	6.492E-01	4.905E-01
Th-230	#AB	-2.932E+00	519.10	1.522E+01	1.523E+01	1.242E+01
Th-234		1.823E+00	60.19	1.097E+00	1.111E+00	8.259E-01
Tl-208		3.957E-01	15.99	6.325E-02	6.850E-02	1.886E-02
U-235	AB	9.496E-03	444.90	4.225E-02	4.225E-02	3.756E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.968E+01

Analyst: Chris Fluty

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:27

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-52
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:50
Acquisition Time: 2/21/11 18:20:13
Analysis Time: 2/21/11 19:05
Analysis Quantity: 3.150E+02 g

Spectrum ID: 5_20110221_011
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.17 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.820E-01	31.41	1.200E-01	1.229E-01	6.740E-02
AM-241	#AB	-3.009E-02	530.20	1.595E-01	1.596E-01	1.296E-01
Bi-212	#	2.393E-01	91.60	2.192E-01	2.198E-01	1.542E-01
BI-214		2.750E-01	26.29	7.229E-02	7.458E-02	4.205E-02
CO-60	#AB	-3.018E-03	1065.00	3.214E-02	3.214E-02	2.613E-02
CS-137	#AB	1.475E-02	190.80	2.813E-02	2.815E-02	2.160E-02
EU-152	#AB	1.230E-02	460.00	5.658E-02	5.659E-02	4.573E-02
EU-154	#AB	-9.620E-03	813.70	7.828E-02	7.828E-02	6.311E-02
K-40	#	6.179E+00	13.58	8.392E-01	9.443E-01	2.601E-01
Pa-234	#AB	6.096E-02	137.00	8.349E-02	8.366E-02	6.493E-02
Pb-210	#AB	1.602E+00	206.20	3.304E+00	3.308E+00	2.599E+00
Pb-212		5.803E-01	14.35	8.330E-02	9.436E-02	3.528E-02
Pb-214		4.312E-01	17.94	7.735E-02	8.337E-02	3.087E-02
RA-226		7.451E-01	71.59	5.335E-01	5.364E-01	3.373E-01
Th-230	#AB	3.609E+00	296.40	1.070E+01	1.072E+01	8.617E+00
Th-234	AB	3.354E-02	2843.00	9.536E-01	9.536E-01	7.840E-01
Tl-208		2.167E-01	17.87	3.872E-02	4.131E-02	6.493E-03
U-235	#AB	-6.853E-03	624.10	4.277E-02	4.277E-02	3.278E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.438E+01

Analyst: Chanthachone Alexander
Reviewer: Joan Cosgrove
Review Date: 2/22/11 14:07

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-53
Sample Description: Parcel E

Detector: HPGe #3 51-TP32733A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:55
Acquisition Time: 2/21/11 13:33:15
Analysis Time: 2/21/11 14:18
Analysis Quantity: 3.180E+02 g

Spectrum ID: 3_20110221_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.19 %

Efficiency: HPGe #3 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/21/11 13:54
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.001E+00	16.21	1.622E-01	1.764E-01	3.342E-02
AM-241	#AB	3.533E-02	558.80	1.974E-01	1.974E-01	1.608E-01
Bi-212		8.522E-01	33.67	2.869E-01	2.928E-01	9.455E-02
BI-214		4.664E-01	26.76	1.248E-01	1.286E-01	6.778E-02
CO-60	#AB	0.000E+00	2000.00	5.323E-02	5.323E-02	4.385E-02
CS-137	AB	8.273E-03	379.10	3.136E-02	3.137E-02	2.506E-02
EU-152	#AB	2.184E-02	346.90	7.575E-02	7.577E-02	6.126E-02
EU-154	#AB	7.616E-03	1061.00	8.079E-02	8.079E-02	6.549E-02
K-40	#	6.293E+00	13.89	8.739E-01	9.788E-01	3.354E-01
Pa-234	#AB	6.691E-02	129.60	8.674E-02	8.693E-02	6.746E-02
Pb-210		6.791E+00	69.87	4.744E+00	4.789E+00	3.446E+00
Pb-212		1.064E+00	9.90	1.054E-01	1.331E-01	3.849E-02
Pb-214		6.672E-01	13.84	9.233E-02	1.041E-01	4.459E-02
RA-226		8.770E-01	71.30	6.253E-01	6.288E-01	4.780E-01
Th-230	#AB	-5.930E+00	230.50	1.367E+01	1.371E+01	1.100E+01
Th-234	AB	6.746E-01	131.70	8.881E-01	8.904E-01	6.970E-01
Tl-208	#	3.945E-01	15.05	5.936E-02	6.490E-02	1.580E-02
U-235	#AB	-2.903E-02	375.10	1.089E-01	1.089E-01	3.996E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.922E+01

Analyst: Chris Fluty

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:26

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-54
Sample Description: Parcel E

Detector: HPGe #2 50-TP42229A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 13:57
Acquisition Time: 2/22/11 15:56:00
Analysis Time: 2/22/11 17:26
Analysis Quantity: 3.030E+02 g

Spectrum ID: 2_20110222_012
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5407 sec
Dead Time: 0.14 %

Efficiency: HPGe #2 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/19/11 21:26
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.520E+00	8.46	1.286E-01	1.664E-01	4.132E-02
AM-241	#AB	-2.316E-01	120.30	2.786E-01	2.793E-01	2.213E-01
Bi-212		1.196E+00	21.86	2.613E-01	2.738E-01	9.366E-02
BI-214		9.280E-01	10.27	9.535E-02	1.137E-01	3.119E-02
CO-60	#AB	1.295E-02	164.70	2.134E-02	2.135E-02	1.623E-02
CS-137	#AB	-3.483E-04	6841.00	2.383E-02	2.383E-02	1.961E-02
EU-152	#AB	2.560E-02	308.20	7.892E-02	7.895E-02	6.421E-02
EU-154	#AB	-2.886E-03	2076.00	5.992E-02	5.992E-02	4.905E-02
K-40		8.859E+00	8.05	7.127E-01	9.451E-01	3.340E-02
Pa-234	#AB	2.955E-02	377.40	1.115E-01	1.116E-01	9.098E-02
Pb-210	#	0.000E+00	1798.00	3.933E+00	3.933E+00	0.000E+00
Pb-212		1.564E+00	6.63	1.037E-01	1.583E-01	3.801E-02
Pb-214		1.048E+00	9.20	9.639E-02	1.225E-01	4.056E-02
RA-226		1.486E+00	39.20	5.826E-01	5.934E-01	4.383E-01
Th-230	#AB	-1.080E+01	166.10	1.794E+01	1.803E+01	1.446E+01
Th-234		1.116E+00	80.35	8.969E-01	9.033E-01	6.996E-01
Tl-208		5.076E-01	10.40	5.278E-02	6.264E-02	1.615E-02
U-235	#AB	-4.821E-02	329.20	1.587E-01	1.587E-01	3.757E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.829E+01

Analyst: Chanthachone Alexander

Reviewer: Philip Smith
Review Date: 2/23/11 14:31

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-55
Sample Description: Parcel E

Detector: HPGe #2 50-TP42229A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 14:00
Acquisition Time: 2/21/11 15:57:56
Analysis Time: 2/21/11 16:43
Analysis Quantity: 3.090E+02 g

Spectrum ID: 2_20110221_010
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #2 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/19/11 21:26
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.625E-01	30.80	1.425E-01	1.460E-01	6.809E-02
AM-241	#AB	8.912E-02	286.60	2.554E-01	2.556E-01	2.037E-01
Bi-212	#AB	1.601E-01	144.80	2.317E-01	2.320E-01	1.726E-01
BI-214		4.728E-01	21.13	9.990E-02	1.048E-01	3.374E-02
CO-60	#AB	-4.397E-03	858.30	3.774E-02	3.774E-02	3.059E-02
CS-137	#AB	2.160E-02	148.60	3.210E-02	3.213E-02	2.413E-02
EU-152	#AB	1.053E-02	713.20	7.507E-02	7.508E-02	6.116E-02
EU-154	#AB	0.000E+00	2000.00	1.523E-02	1.523E-02	1.774E-02
K-40		7.984E+00	11.87	9.475E-01	1.100E+00	6.550E-02
Pa-234	#AB	-5.538E-02	196.20	1.087E-01	1.088E-01	8.609E-02
Pb-210	#	0.000E+00	604.90	1.872E+00	1.872E+00	0.000E+00
Pb-212		6.157E-01	16.18	9.964E-02	1.102E-01	4.127E-02
Pb-214	#	4.917E-01	19.25	9.463E-02	1.010E-01	3.853E-02
RA-226		7.866E-01	64.17	5.047E-01	5.082E-01	3.739E-01
Th-230	#AB	2.985E+00	535.60	1.599E+01	1.599E+01	1.298E+01
Th-234	AB	8.665E-02	1558.00	1.350E+00	1.350E+00	1.108E+00
Tl-208		2.634E-01	18.57	4.890E-02	5.194E-02	1.001E-02
U-235	#AB	-2.462E-02	315.00	7.752E-02	7.755E-02	3.964E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.443E+01

Analyst: Chanthachone Alexander

Reviewer: Joan Cosgrove
Review Date: 2/22/11 13:58

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-56
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 14:10
Acquisition Time: 2/21/11 19:19:12
Analysis Time: 2/21/11 20:49
Analysis Quantity: 3.350E+02 g

Spectrum ID: 6_20110221_010
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5405 sec
Dead Time: 0.09 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/19/11 19:13
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.307E+00	11.02	1.441E-01	1.703E-01	3.868E-02
AM-241	#AB	-1.925E-02	453.80	8.736E-02	8.738E-02	7.149E-02
Bi-212		6.811E-01	43.66	2.974E-01	3.010E-01	1.899E-01
BI-214		7.735E-01	14.57	1.127E-01	1.240E-01	4.866E-02
CO-60	#AB	-4.249E-03	709.40	3.014E-02	3.015E-02	2.447E-02
CS-137	#AB	-1.388E-02	240.80	3.341E-02	3.343E-02	2.667E-02
EU-152	AB	3.056E-02	129.30	3.951E-02	3.960E-02	6.664E-02
EU-154	#AB	-8.298E-03	1082.00	8.982E-02	8.983E-02	7.328E-02
K-40		8.638E+00	10.10	8.725E-01	1.062E+00	2.512E-01
Pa-234	#AB	4.526E-04	18970.00	8.585E-02	8.585E-02	7.071E-02
Pb-210		7.468E-01	101.70	7.593E-01	7.615E-01	5.610E-01
Pb-212		1.290E+00	8.35	1.077E-01	1.460E-01	4.600E-02
Pb-214		8.648E-01	11.25	9.731E-02	1.156E-01	5.152E-02
RA-226	AB	3.302E-01	199.50	6.587E-01	6.592E-01	5.412E-01
Th-230	#AB	-3.508E+00	1480.00	5.191E+01	5.191E+01	6.534E+00
Th-234		1.012E+00	96.28	9.739E-01	9.787E-01	8.462E-01
Tl-208		3.839E-01	15.68	6.021E-02	6.539E-02	2.550E-02
U-235		4.733E-02	88.32	4.180E-02	4.195E-02	3.554E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.611E+01

Analyst: Chanthachone Alexander

Reviewer: Joan Cosgrove
Review Date: 2/22/11 14:10

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-57
Sample Description: Parcel E

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 14:15
Acquisition Time: 2/21/11 14:09:42
Analysis Time: 2/21/11 14:55
Analysis Quantity: 3.100E+02 g

Spectrum ID: 1_20110221_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: Detector #1 Soil 250ml Tuna Can (83489-918)
Efficiency Cal Date: 1/20/11 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.487E-01	21.72	1.409E-01	1.479E-01	8.214E-02
AM-241	#AB	-8.899E-03	2993.00	2.664E-01	2.664E-01	2.187E-01
Bi-212	#	3.102E-01	83.93	2.604E-01	2.613E-01	1.828E-01
BI-214		4.445E-01	22.80	1.013E-01	1.056E-01	4.283E-02
CO-60	#AB	1.160E-02	240.10	2.786E-02	2.787E-02	2.117E-02
CS-137	#AB	1.014E-02	308.70	3.130E-02	3.131E-02	2.472E-02
EU-152	#AB	3.279E-02	137.30	4.500E-02	4.509E-02	3.330E-02
EU-154	#AB	-1.611E-02	522.00	8.408E-02	8.409E-02	6.687E-02
K-40	#	6.389E+00	14.38	9.188E-01	1.022E+00	3.432E-01
Pa-234	#AB	-2.319E-02	428.10	9.928E-02	9.930E-02	8.020E-02
Pb-210	#	0.000E+00	338.00	2.107E+00	2.108E+00	0.000E+00
Pb-212		6.249E-01	15.32	9.576E-02	1.070E-01	4.288E-02
Pb-214		4.962E-01	21.24	1.054E-01	1.113E-01	4.462E-02
RA-226		7.935E-01	73.08	5.799E-01	5.830E-01	4.376E-01
Th-230	#AB	3.468E+00	497.10	1.724E+01	1.725E+01	1.399E+01
Th-234	#	1.127E+00	97.55	1.099E+00	1.104E+00	8.405E-01
Tl-208		1.610E-01	28.87	4.649E-02	4.770E-02	2.754E-02
U-235	#AB	-4.941E-02	376.80	1.862E-01	1.862E-01	4.206E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.452E+01

Analyst: Chris Fluty

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:14

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-58
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 14:20
Acquisition Time: 2/21/11 09:45:27
Analysis Time: 2/21/11 10:30
Analysis Quantity: 3.300E+02 g

Spectrum ID: 5_20110221_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.625E-01	14.78	1.423E-01	1.572E-01	4.230E-02
AM-241	#	1.173E-01	121.20	1.422E-01	1.426E-01	1.093E-01
Bi-212	#	2.931E-01	78.50	2.301E-01	2.309E-01	1.601E-01
BI-214		6.116E-01	16.17	9.890E-02	1.070E-01	3.273E-02
CO-60	#AB	-5.335E-03	557.50	2.974E-02	2.975E-02	2.386E-02
CS-137	#AB	-1.704E-03	1706.00	2.908E-02	2.908E-02	2.379E-02
EU-152	#AB	-1.113E-02	652.90	7.265E-02	7.266E-02	5.926E-02
EU-154	#AB	0.000E+00	2000.00	1.279E-02	1.279E-02	1.490E-02
K-40		7.869E+00	10.89	8.573E-01	1.019E+00	5.440E-02
Pa-234	#AB	-3.667E-02	237.60	8.711E-02	8.716E-02	6.967E-02
Pb-210	#AB	-4.148E+00	89.88	3.728E+00	3.749E+00	2.794E+00
Pb-212		7.632E-01	10.91	8.324E-02	1.016E-01	3.036E-02
Pb-214		6.087E-01	14.59	8.881E-02	9.906E-02	3.031E-02
RA-226		1.037E+00	58.73	6.090E-01	6.140E-01	4.566E-01
Th-230	#AB	-1.233E+00	877.20	1.082E+01	1.082E+01	8.849E+00
Th-234	#AB	-4.721E-02	1597.00	7.540E-01	7.540E-01	6.184E-01
Tl-208		2.617E-01	18.28	4.782E-02	5.089E-02	1.308E-02
U-235	#AB	-1.447E-02	428.60	6.202E-02	6.203E-02	3.599E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.252E+01

Analyst: Chris Fluty

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:33

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-59
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 14:25
Acquisition Time: 2/21/11 12:15:32
Analysis Time: 2/21/11 13:00
Analysis Quantity: 3.140E+02 g

Spectrum ID: 5_20110221_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.873E-01	18.48	1.639E-01	1.751E-01	2.955E-02
AM-241	#AB	-3.145E-02	488.40	1.536E-01	1.536E-01	1.245E-01
Bi-212		3.249E-01	72.05	2.341E-01	2.351E-01	1.587E-01
BI-214		4.093E-01	23.70	9.699E-02	1.008E-01	4.026E-02
CO-60	#AB	0.000E+00	2000.00	3.812E-02	3.812E-02	3.140E-02
CS-137	#AB	4.514E-03	609.10	2.750E-02	2.750E-02	2.217E-02
EU-152	#AB	-6.086E-03	1474.00	8.973E-02	8.974E-02	7.365E-02
EU-154	#	2.426E-02	99.62	2.416E-02	2.422E-02	1.566E-02
K-40		8.370E+00	11.46	9.590E-01	1.124E+00	1.389E-01
Pa-234	#AB	-4.150E-02	230.70	9.574E-02	9.581E-02	7.661E-02
Pb-210	#AB	-1.550E-01	2419.00	3.748E+00	3.748E+00	3.077E+00
Pb-212		6.411E-01	14.21	9.113E-02	1.035E-01	3.892E-02
Pb-214		5.102E-01	18.60	9.489E-02	1.018E-01	3.615E-02
RA-226		1.291E+00	44.31	5.719E-01	5.802E-01	3.384E-01
Th-230	#AB	0.000E+00	2000.00	1.133E+01	1.134E+01	9.337E+00
Th-234	#AB	-1.333E-01	950.40	1.267E+00	1.267E+00	1.039E+00
Tl-208		2.979E-01	17.56	5.230E-02	5.593E-02	1.498E-02
U-235	AB	1.227E-02	321.30	3.942E-02	3.943E-02	3.523E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.277E+01

Analyst: Chris Fluty

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:33

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-60
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 14:30
Acquisition Time: 2/21/11 10:38:15
Analysis Time: 2/21/11 12:08
Analysis Quantity: 3.210E+02 g

Spectrum ID: 5_20110221_005
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5405 sec
Dead Time: 0.09 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.543E-01	12.37	1.181E-01	1.354E-01	2.071E-02
AM-241	#AB	1.855E-02	683.70	1.268E-01	1.268E-01	1.038E-01
Bi-212		8.135E-01	29.39	2.391E-01	2.455E-01	8.747E-02
BI-214		5.940E-01	13.12	7.791E-02	8.742E-02	2.873E-02
CO-60	#AB	-4.502E-03	488.60	2.200E-02	2.200E-02	1.775E-02
CS-137	#AB	0.000E+00	2000.00	2.674E-02	2.674E-02	2.203E-02
EU-152	#	5.564E-02	105.30	5.860E-02	5.879E-02	4.972E-02
EU-154	#AB	1.230E-02	489.30	6.018E-02	6.019E-02	4.846E-02
K-40		7.150E+00	10.79	7.712E-01	9.196E-01	4.131E-01
Pa-234	#AB	3.577E-02	204.80	7.326E-02	7.333E-02	5.911E-02
Pb-210	#AB	3.176E-01	969.60	3.080E+00	3.080E+00	2.525E+00
Pb-212		9.647E-01	7.44	7.179E-02	1.029E-01	2.643E-02
Pb-214		6.166E-01	11.49	7.084E-02	8.363E-02	2.930E-02
RA-226		7.875E-01	54.37	4.282E-01	4.323E-01	3.294E-01
Th-230	#AB	1.937E+00	460.40	8.920E+00	8.926E+00	7.286E+00
Th-234		5.430E-01	124.90	6.784E-01	6.804E-01	5.409E-01
Tl-208		3.013E-01	12.04	3.628E-02	4.144E-02	1.071E-02
U-235	#AB	-4.114E-02	314.30	1.293E-01	1.294E-01	2.803E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.510E+01

Analyst: Chris Fluty

Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:33

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-61
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 2/10/11 14:35
Acquisition Time: 2/21/11 08:22:02
Analysis Time: 2/21/11 09:07
Analysis Quantity: 3.130E+02 g

Spectrum ID: 6_20110221_003
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/19/11 19:13
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.735E-01	24.54	2.389E-01	2.483E-01	7.679E-02
AM-241	#AB	4.086E-02	268.20	1.096E-01	1.097E-01	8.854E-02
Bi-212		6.270E-01	60.23	3.776E-01	3.801E-01	2.498E-01
BI-214		3.244E-01	38.07	1.235E-01	1.254E-01	8.583E-02
CO-60	#AB	-7.262E-03	804.90	5.845E-02	5.845E-02	4.746E-02
CS-137	#AB	4.472E-03	850.10	3.801E-02	3.801E-02	3.080E-02
EU-152	#AB	2.833E-02	219.60	6.221E-02	6.226E-02	4.914E-02
EU-154	#AB	3.952E-02	300.70	1.188E-01	1.189E-01	9.224E-02
K-40	#	5.752E+00	18.10	1.041E+00	1.116E+00	4.563E-01
Pa-234	#AB	1.499E-04	80120.00	1.201E-01	1.201E-01	9.893E-02
Pb-210	#AB	5.847E-01	176.60	1.033E+00	1.034E+00	9.176E-01
Pb-212		9.615E-01	13.77	1.324E-01	1.514E-01	6.187E-02
Pb-214	#	6.870E-01	20.83	1.431E-01	1.514E-01	6.573E-02
RA-226	AB	6.410E-01	150.80	9.665E-01	9.677E-01	7.815E-01
Th-230	#AB	-5.136E+00	558.80	2.870E+01	2.871E+01	7.208E+00
Th-234		3.413E+00	48.76	1.664E+00	1.696E+00	1.065E+00
Tl-208		2.234E-01	28.92	6.460E-02	6.628E-02	3.920E-02
U-235		8.126E-02	88.54	7.195E-02	7.221E-02	4.843E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.438E+01

Analyst: Joan Cosgrove
Reviewer: Joan Cosgrove
Review Date: 2/21/11 15:43

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-62
Sample Description: Parcel E

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/1/11 09:30
Acquisition Time: 3/4/11 16:25:34
Analysis Time: 3/4/11 17:55
Analysis Quantity: 3.160E+02 g

Spectrum ID: 4_20110304_009
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5404 sec
Dead Time: 0.08 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/11 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.155E+00	12.36	1.427E-01	1.637E-01	3.923E-02
Am-241	#AB	-1.663E-02	880.60	1.465E-01	1.465E-01	1.201E-01
Bi-212		5.693E-01	36.48	2.077E-01	2.113E-01	1.382E-01
Bi-214	#	8.656E-01	10.83	9.377E-02	1.101E-01	2.784E-02
Co-60	#AB	-6.466E-03	347.00	2.244E-02	2.244E-02	1.794E-02
Cs-137	#AB	6.035E-03	241.00	1.454E-02	1.455E-02	1.138E-02
Eu-152	#AB	-8.137E-03	581.40	4.731E-02	4.731E-02	3.848E-02
Eu-154	#AB	-4.763E-03	1197.00	5.700E-02	5.700E-02	4.648E-02
K-40	#	5.350E+00	10.53	5.635E-01	6.768E-01	1.695E-01
Pa-234	AB	3.283E-02	324.40	1.065E-01	1.065E-01	8.462E-02
Pb-210	#AB	2.630E+00	170.90	4.495E+00	4.502E+00	3.608E+00
Pb-212		1.221E+00	7.00	8.541E-02	1.265E-01	3.305E-02
Pb-214		7.960E-01	11.45	9.112E-02	1.077E-01	3.570E-02
Ra-226		1.236E+00	36.64	4.526E-01	4.622E-01	3.336E-01
Th-230	#AB	-1.360E-01	6674.00	9.075E+00	9.075E+00	7.471E+00
Th-234		3.437E-01	120.00	4.124E-01	4.137E-01	3.296E-01
Tl-208		4.050E-01	10.99	4.451E-02	5.202E-02	1.357E-02
U-235	AB	-3.629E-02	295.50	1.072E-01	1.073E-01	2.994E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.461E+01

Analyst: Chanthachone Alexander

Reviewer: Philip Smith
Review Date: 3/8/11 08:41

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-63
Sample Description: Parcel E

Detector: HPGe #3 51-TP32733A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/1/11 09:35
Acquisition Time: 3/4/11 15:35:24
Analysis Time: 3/4/11 16:20
Analysis Quantity: 3.340E+02 g

Spectrum ID: 3_20110304_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.19 %

Efficiency: HPGe #3 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/21/11 13:54
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.082E+00	17.48	1.890E-01	2.034E-01	7.832E-02
Am-241	#AB	6.946E-02	283.20	1.967E-01	1.968E-01	1.587E-01
Bi-212	#	5.143E-01	52.61	2.706E-01	2.729E-01	1.781E-01
Bi-214		7.643E-01	14.94	1.142E-01	1.251E-01	3.206E-02
Co-60	#AB	0.000E+00	1414.00	1.220E-02	1.220E-02	1.005E-02
Cs-137	#AB	-1.148E-02	278.00	3.191E-02	3.191E-02	2.527E-02
Eu-152	#AB	2.614E-03	2960.00	7.738E-02	7.738E-02	6.356E-02
Eu-154	#AB	-1.555E-02	607.10	9.437E-02	9.438E-02	7.597E-02
K-40	#	4.545E+00	16.85	7.659E-01	8.295E-01	3.518E-01
Pa-234	#AB	-3.144E-02	546.50	1.718E-01	1.718E-01	1.380E-01
Pb-210	#	4.754E+00	86.88	4.131E+00	4.156E+00	3.051E+00
Pb-212		1.278E+00	8.44	1.078E-01	1.455E-01	3.694E-02
Pb-214		7.900E-01	14.21	1.122E-01	1.259E-01	4.371E-02
Ra-226		8.346E-01	72.86	6.080E-01	6.113E-01	4.664E-01
Th-230	#AB	-4.248E+00	344.20	1.462E+01	1.464E+01	1.188E+01
Th-234		1.159E+00	53.91	6.249E-01	6.346E-01	4.710E-01
Tl-208		4.081E-01	15.18	6.197E-02	6.765E-02	1.674E-02
U-235	AB	3.855E-03	1113.00	4.292E-02	4.292E-02	3.800E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.620E+01

Analyst: Chanthachone Alexander
Reviewer: Philip Smith
Review Date: 3/8/11 08:39

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-64
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/1/11 09:40
Acquisition Time: 3/4/11 15:42:00
Analysis Time: 3/4/11 16:27
Analysis Quantity: 3.350E+02 g

Spectrum ID: 11_20110304_010
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.09 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/11 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.057E+00	17.07	1.804E-01	1.947E-01	3.527E-02
Am-241	#AB	-1.108E-01	213.50	2.365E-01	2.367E-01	1.895E-01
Bi-212		4.985E-01	52.04	2.594E-01	2.617E-01	1.679E-01
Bi-214		7.679E-01	16.66	1.279E-01	1.378E-01	4.060E-02
Co-60	#AB	-1.573E-03	2152.00	3.384E-02	3.384E-02	2.771E-02
Cs-137	#AB	-7.984E-04	2718.00	2.170E-02	2.170E-02	1.777E-02
Eu-152	AB	-7.052E-03	1060.00	7.477E-02	7.477E-02	6.108E-02
Eu-154	#AB	3.054E-03	2894.00	8.839E-02	8.839E-02	7.245E-02
K-40		6.305E+00	12.56	7.917E-01	9.066E-01	1.914E-01
Pa-234	#AB	-1.176E-03	14050.00	1.652E-01	1.652E-01	1.359E-01
Pb-210	#AB	1.294E+00	1001.00	1.295E+01	1.295E+01	1.072E+01
Pb-212		1.215E+00	9.42	1.144E-01	1.473E-01	4.024E-02
Pb-214		8.254E-01	12.92	1.066E-01	1.221E-01	3.838E-02
Ra-226		7.823E-01	78.07	6.107E-01	6.136E-01	4.733E-01
Th-230	#AB	1.563E+00	861.80	1.347E+01	1.347E+01	1.102E+01
Th-234	#	7.827E-01	75.79	5.932E-01	5.979E-01	4.548E-01
Tl-208		3.747E-01	14.47	5.424E-02	5.968E-02	1.596E-02
U-235	#AB	-4.149E-02	448.50	1.860E-01	1.861E-01	3.979E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.547E+01

Analyst: Chanthachone Alexander
Reviewer: Philip Smith
Review Date: 3/8/11 08:54

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-65
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/1/11 09:45
Acquisition Time: 3/4/11 16:26:48
Analysis Time: 3/4/11 17:57
Analysis Quantity: 3.320E+02 g

Spectrum ID: 5_20110304_009
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5409 sec
Dead Time: 0.16 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.332E+00	11.23	1.495E-01	1.758E-01	3.453E-02
Am-241	#AB	1.034E-02	1367.00	1.413E-01	1.413E-01	1.161E-01
Bi-212		1.098E+00	23.34	2.563E-01	2.670E-01	9.048E-02
Bi-214		8.883E-01	10.93	9.712E-02	1.138E-01	3.176E-02
Co-60	#AB	1.691E-03	459.70	7.772E-03	7.773E-03	1.444E-02
Cs-137	#AB	1.348E-02	161.30	2.174E-02	2.176E-02	1.703E-02
Eu-152	#AB	-1.219E-02	384.20	4.684E-02	4.684E-02	3.788E-02
Eu-154	#AB	-6.601E-04	7697.00	5.080E-02	5.080E-02	4.178E-02
K-40		7.134E+00	8.70	6.206E-01	7.969E-01	9.823E-02
Pa-234	#AB	3.742E-02	263.50	9.859E-02	9.862E-02	7.749E-02
Pb-210	#AB	-9.436E-01	336.60	3.176E+00	3.177E+00	2.581E+00
Pb-212		1.240E+00	6.69	8.298E-02	1.259E-01	3.174E-02
Pb-214		9.342E-01	8.71	8.140E-02	1.056E-01	2.871E-02
Ra-226		1.213E+00	37.79	4.583E-01	4.674E-01	3.418E-01
Th-230	#AB	4.859E+00	165.10	8.024E+00	8.067E+00	6.443E+00
Th-234		3.734E-01	109.00	4.070E-01	4.085E-01	3.246E-01
Tl-208		4.213E-01	9.97	4.198E-02	5.046E-02	1.225E-02
U-235	AB	-4.494E-02	405.60	1.823E-01	1.823E-01	2.915E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.956E+01

Analyst: Chanthachone Alexander

Reviewer: Philip Smith
Review Date: 3/8/11 08:42

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-66
Sample Description: Parcel E

Detector: HPGe #7 50-TP50818A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:05
Acquisition Time: 3/17/11 12:07:59
Analysis Time: 3/17/11 12:53
Analysis Quantity: 3.370E+02 g

Spectrum ID: 7_20110317_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2708 sec
Dead Time: 0.31 %

Efficiency: HPGe #7 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 3/4/11 11:46
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.506E+00	15.06	2.269E-01	2.499E-01	5.959E-02
Am-241	#AB	-2.488E-02	1698.00	4.224E-01	4.224E-01	3.470E-01
Bi-212		1.151E+00	30.00	3.453E-01	3.541E-01	1.188E-01
Bi-214		9.085E-01	15.96	1.450E-01	1.572E-01	4.550E-02
Co-60	#AB	4.709E-03	785.60	3.699E-02	3.699E-02	2.994E-02
Cs-137	#AB	-1.092E-02	349.10	3.810E-02	3.811E-02	3.042E-02
Eu-152	#AB	9.123E-04	9069.00	8.274E-02	8.274E-02	6.809E-02
Eu-154	#AB	0.000E+00	2000.00	1.507E-02	1.507E-02	1.139E-01
K-40		7.030E+00	14.00	9.841E-01	1.101E+00	2.561E-01
Pa-234	#AB	3.162E-02	612.40	1.936E-01	1.936E-01	1.557E-01
Pb-210	#AB	-3.293E+00	1133.00	3.732E+01	3.732E+01	3.057E+01
Pb-212		1.529E+00	9.70	1.483E-01	1.888E-01	5.476E-02
Pb-214		9.714E-01	16.13	1.567E-01	1.716E-01	6.713E-02
Ra-226	#	1.269E+00	73.66	9.344E-01	9.393E-01	7.164E-01
Th-230	#AB	6.920E-02	34040.00	2.356E+01	2.356E+01	1.940E+01
Th-234		1.858E+00	44.06	8.184E-01	8.374E-01	5.926E-01
Tl-208		5.257E-01	13.94	7.328E-02	8.118E-02	1.976E-02
U-235	#	8.458E-02	73.59	6.224E-02	6.257E-02	4.771E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.694E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-67
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:10
Acquisition Time: 3/17/11 12:09:58
Analysis Time: 3/17/11 12:55
Analysis Quantity: 3.370E+02 g

Spectrum ID: 8_20110317_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.13 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/11 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.365E-01	48.98	1.158E-01	1.170E-01	7.128E-02
Am-241	#AB	-6.400E-02	246.90	1.580E-01	1.581E-01	1.258E-01
Bi-212	#	2.025E-01	99.75	2.019E-01	2.024E-01	1.430E-01
Bi-214		3.295E-01	21.71	7.155E-02	7.486E-02	2.834E-02
Co-60	#AB	9.958E-04	1177.00	1.172E-02	1.172E-02	4.349E-02
Cs-137	#AB	8.013E-03	306.80	2.459E-02	2.459E-02	1.931E-02
Eu-152	#AB	-2.959E-03	1893.00	5.603E-02	5.603E-02	4.586E-02
Eu-154	#AB	-2.598E-02	332.20	8.632E-02	8.633E-02	6.780E-02
K-40		7.749E+00	11.11	8.610E-01	1.018E+00	5.573E-02
Pa-234	#AB	4.280E-02	359.20	1.537E-01	1.537E-01	1.211E-01
Pb-210	#AB	2.156E+00	235.00	5.066E+00	5.071E+00	4.001E+00
Pb-212		4.863E-01	14.29	6.948E-02	7.879E-02	2.319E-02
Pb-214		3.208E-01	22.38	7.178E-02	7.542E-02	3.128E-02
Ra-226		4.102E-01	118.80	4.875E-01	4.884E-01	3.753E-01
Th-230	#AB	-4.098E+00	259.00	1.061E+01	1.064E+01	8.500E+00
Th-234	#	3.733E-01	97.38	3.635E-01	3.653E-01	2.740E-01
Tl-208	#	9.741E-02	33.23	3.237E-02	3.301E-02	1.744E-02
U-235		4.191E-02	73.00	3.059E-02	3.076E-02	2.228E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.246E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-67DUP
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:10
Acquisition Time: 3/17/11 16:04:26
Analysis Time: 3/17/11 16:49
Analysis Quantity: 3.370E+02 g

Spectrum ID: 8_20110317_011
Sample Type: DUP
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.13 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/11 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.814E-01	37.79	1.063E-01	1.081E-01	5.374E-02
Am-241	#AB	0.000E+00	2000.00	1.112E-01	1.112E-01	1.507E-01
Bi-212	#	1.660E-01	118.50	1.966E-01	1.970E-01	1.426E-01
Bi-214		3.242E-01	23.28	7.546E-02	7.851E-02	3.138E-02
Co-60	#AB	2.030E-03	1151.00	2.336E-02	2.336E-02	1.893E-02
Cs-137	#AB	0.000E+00	2000.00	1.531E-02	1.531E-02	8.941E-03
Eu-152	#AB	-6.404E-03	901.90	5.776E-02	5.776E-02	4.696E-02
Eu-154	#AB	-1.483E-03	5166.00	7.663E-02	7.663E-02	6.292E-02
K-40		7.725E+00	11.13	8.597E-01	1.016E+00	5.573E-02
Pa-234	#AB	4.741E-02	324.20	1.537E-01	1.537E-01	1.205E-01
Pb-210	#AB	-1.637E+00	332.00	5.435E+00	5.437E+00	4.356E+00
Pb-212		4.910E-01	14.11	6.926E-02	7.877E-02	2.548E-02
Pb-214		2.785E-01	24.83	6.915E-02	7.200E-02	3.018E-02
Ra-226		4.637E-01	106.60	4.944E-01	4.956E-01	3.779E-01
Th-230	#AB	6.289E+00	148.90	9.363E+00	9.424E+00	7.285E+00
Th-234	#AB	5.012E-02	792.80	3.974E-01	3.974E-01	3.243E-01
Tl-208		1.499E-01	29.97	4.492E-02	4.601E-02	1.587E-02
U-235		4.003E-02	79.18	3.169E-02	3.184E-02	2.344E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.631E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-68
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:15
Acquisition Time: 3/17/11 13:56:57
Analysis Time: 3/17/11 15:27
Analysis Quantity: 3.610E+02 g

Spectrum ID: 8_20110317_010
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5410 sec
Dead Time: 0.19 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/11 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.560E+00	10.92	1.704E-01	2.020E-01	4.641E-02
Am-241	#AB	9.133E-02	191.00	1.745E-01	1.746E-01	1.411E-01
Bi-212	#	9.273E-01	21.98	2.038E-01	2.135E-01	1.130E-01
Bi-214		9.746E-01	9.08	8.849E-02	1.098E-01	2.931E-02
Co-60	#AB	-1.635E-04	11530.00	1.885E-02	1.885E-02	1.551E-02
Cs-137	#AB	4.934E-03	416.10	2.053E-02	2.053E-02	1.659E-02
Eu-152	#AB	1.884E-02	303.30	5.714E-02	5.715E-02	4.621E-02
Eu-154	#AB	-1.291E-02	502.40	6.488E-02	6.488E-02	5.244E-02
K-40		6.899E+00	8.05	5.550E-01	7.361E-01	2.601E-02
Pa-234	#AB	-7.236E-03	1665.00	1.205E-01	1.205E-01	9.873E-02
Pb-210	#AB	1.775E+00	340.50	6.044E+00	6.046E+00	4.924E+00
Pb-212		1.536E+00	5.50	8.450E-02	1.446E-01	2.987E-02
Pb-214		1.029E+00	8.33	8.574E-02	1.134E-01	3.083E-02
Ra-226		1.075E+00	45.37	4.878E-01	4.945E-01	3.695E-01
Th-230	#AB	-2.470E+00	479.90	1.185E+01	1.186E+01	9.702E+00
Th-234		6.013E-01	69.83	4.198E-01	4.238E-01	3.296E-01
Tl-208		4.744E-01	9.96	4.724E-02	5.680E-02	1.464E-02
U-235		6.653E-02	48.93	3.255E-02	3.294E-02	2.483E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.703E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-69
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:20
Acquisition Time: 3/17/11 12:13:25
Analysis Time: 3/17/11 12:58
Analysis Quantity: 3.480E+02 g

Spectrum ID: 10_20110317_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/11 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.683E-01	24.72	1.652E-01	1.716E-01	7.930E-02
Am-241	#AB	-1.564E-03	29640.00	4.635E-01	4.635E-01	3.817E-01
Bi-212		6.242E-01	41.46	2.588E-01	2.623E-01	1.015E-01
Bi-214		6.863E-01	15.04	1.032E-01	1.129E-01	3.229E-02
Co-60	#AB	-3.599E-03	905.00	3.257E-02	3.257E-02	2.639E-02
Cs-137	#AB	2.897E-03	945.80	2.740E-02	2.740E-02	2.225E-02
Eu-152	#AB	-1.342E-03	6144.00	8.247E-02	8.247E-02	6.784E-02
Eu-154	#AB	-7.361E-03	995.50	7.328E-02	7.328E-02	5.916E-02
K-40		6.531E+00	13.45	8.786E-01	9.906E-01	1.326E-01
Pa-234	#AB	-1.144E-02	1270.00	1.452E-01	1.452E-01	1.180E-01
Pb-210	#	0.000E+00	440.00	1.902E+00	1.903E+00	0.000E+00
Pb-212		9.966E-01	11.08	1.104E-01	1.341E-01	4.229E-02
Pb-214		8.087E-01	13.35	1.080E-01	1.227E-01	3.108E-02
Ra-226		9.968E-01	70.60	7.037E-01	7.078E-01	5.379E-01
Th-230	#AB	3.762E+00	663.70	2.497E+01	2.498E+01	2.036E+01
Th-234	AB	6.985E-02	1089.00	7.604E-01	7.604E-01	6.232E-01
Tl-208		3.326E-01	17.36	5.776E-02	6.185E-02	1.741E-02
U-235	AB	3.499E-02	142.40	4.982E-02	4.989E-02	3.940E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.551E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:35

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-70
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:25
Acquisition Time: 3/17/11 12:16:52
Analysis Time: 3/17/11 13:02
Analysis Quantity: 3.530E+02 g

Spectrum ID: 12_20110317_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/11 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.004E-01	48.69	9.758E-02	9.857E-02	5.665E-02
Am-241	#AB	3.907E-02	461.30	1.802E-01	1.803E-01	1.455E-01
Bi-212	#AB	0.000E+00	2000.00	1.662E-01	1.662E-01	2.918E-02
Bi-214		2.107E-01	29.40	6.195E-02	6.353E-02	3.107E-02
Co-60	#	6.141E-03	247.60	1.520E-02	1.521E-02	4.821E-03
Cs-137	#AB	1.956E-03	1175.00	2.298E-02	2.298E-02	1.870E-02
Eu-152	#AB	8.496E-03	603.90	5.131E-02	5.131E-02	4.139E-02
Eu-154	#AB	0.000E+00	2000.00	2.465E-02	2.465E-02	1.436E-02
K-40		6.854E+00	11.45	7.849E-01	9.202E-01	5.236E-02
Pa-234	#AB	0.000E+00	2000.00	3.199E-02	3.199E-02	2.636E-02
Pb-210	#	0.000E+00	1513.00	5.304E-01	5.305E-01	0.000E+00
Pb-212		2.773E-01	21.48	5.956E-02	6.322E-02	2.876E-02
Pb-214	#	1.574E-01	35.51	5.590E-02	5.704E-02	3.343E-02
Ra-226	#AB	2.462E-01	167.50	4.125E-01	4.129E-01	3.219E-01
Th-230	#AB	-4.507E+00	231.80	1.045E+01	1.048E+01	8.303E+00
Th-234	#	3.692E-01	97.77	3.609E-01	3.626E-01	2.707E-01
Tl-208	#	6.040E-02	43.80	2.646E-02	2.676E-02	1.533E-02
U-235	#AB	0.000E+00	2000.00	2.164E-02	2.164E-02	2.415E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 8.431E+00

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:37

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-71
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:30
Acquisition Time: 3/17/11 12:15:22
Analysis Time: 3/17/11 13:00
Analysis Quantity: 3.430E+02 g

Spectrum ID: 11_20110317_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.12 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/11 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.544E-01	19.92	1.503E-01	1.591E-01	3.144E-02
Am-241	#AB	5.934E-02	254.20	1.508E-01	1.509E-01	1.198E-01
Bi-212	#	1.881E-01	119.50	2.249E-01	2.252E-01	1.669E-01
Bi-214		5.039E-01	20.74	1.045E-01	1.098E-01	3.641E-02
Co-60	#AB	-5.133E-04	6133.00	3.148E-02	3.148E-02	2.587E-02
Cs-137	#AB	0.000E+00	2000.00	2.753E-02	2.753E-02	2.790E-02
Eu-152	#AB	-4.318E-04	14680.00	6.337E-02	6.337E-02	5.217E-02
Eu-154	#AB	1.159E-02	719.70	8.344E-02	8.344E-02	6.728E-02
K-40		1.003E+01	10.25	1.028E+00	1.245E+00	2.311E-01
Pa-234	#AB	1.118E-02	1398.00	1.562E-01	1.562E-01	1.273E-01
Pb-210	#AB	-1.195E+00	1835.00	2.192E+01	2.192E+01	6.629E+00
Pb-212		6.609E-01	12.34	8.157E-02	9.593E-02	3.311E-02
Pb-214		4.761E-01	18.06	8.595E-02	9.255E-02	3.560E-02
Ra-226	AB	1.749E-01	313.40	5.480E-01	5.482E-01	4.524E-01
Th-230	#AB	8.184E+00	153.00	1.252E+01	1.260E+01	9.883E+00
Th-234	#AB	2.042E-02	2242.00	4.578E-01	4.578E-01	3.760E-01
Tl-208		2.042E-01	23.62	4.823E-02	5.010E-02	1.945E-02
U-235	AB	-2.640E-02	292.90	7.732E-02	7.734E-02	3.175E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.128E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:36

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-72
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:35
Acquisition Time: 3/17/11 11:13:43
Analysis Time: 3/17/11 11:58
Analysis Quantity: 3.320E+02 g

Spectrum ID: 11_20110317_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/11 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	3.163E-01	39.72	1.256E-01	1.275E-01	7.321E-02
Am-241	#AB	1.720E-02	1039.00	1.788E-01	1.788E-01	1.462E-01
Bi-212	#	1.305E-01	123.00	1.605E-01	1.608E-01	1.134E-01
Bi-214		4.602E-01	18.62	8.571E-02	9.105E-02	2.124E-02
Co-60	#AB	-1.914E-03	1410.00	2.699E-02	2.699E-02	2.198E-02
Cs-137	#	3.472E-02	86.22	2.994E-02	3.003E-02	2.117E-02
Eu-152	#AB	-1.421E-03	2962.00	4.210E-02	4.210E-02	3.449E-02
Eu-154	#AB	-1.515E-02	589.00	8.925E-02	8.926E-02	7.168E-02
K-40		6.721E+00	12.20	8.202E-01	9.458E-01	1.931E-01
Pa-234	#AB	5.126E-02	276.40	1.417E-01	1.417E-01	1.095E-01
Pb-210	#AB	-7.049E+00	249.80	1.761E+01	1.762E+01	6.750E+00
Pb-212		4.854E-01	16.96	8.232E-02	9.029E-02	3.587E-02
Pb-214		3.580E-01	25.59	9.161E-02	9.518E-02	4.266E-02
Ra-226		6.415E-01	75.44	4.839E-01	4.864E-01	3.698E-01
Th-230	#AB	-3.026E+00	390.70	1.182E+01	1.183E+01	9.568E+00
Th-234	#	5.237E-01	95.11	4.981E-01	5.006E-01	3.832E-01
Tl-208	#	1.658E-01	23.45	3.888E-02	4.041E-02	1.445E-02
U-235	#AB	-6.012E-02	1082.00	6.502E-01	6.503E-01	3.448E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 9.906E+00

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:36

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-73
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:40
Acquisition Time: 3/17/11 11:15:18
Analysis Time: 3/17/11 12:00
Analysis Quantity: 3.370E+02 g

Spectrum ID: 12_20110317_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/11 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.423E-01	51.10	1.238E-01	1.249E-01	7.925E-02
Am-241	#AB	8.155E-02	253.30	2.066E-01	2.067E-01	1.645E-01
Bi-212	#	2.832E-01	75.51	2.139E-01	2.147E-01	1.447E-01
Bi-214		2.774E-01	28.65	7.947E-02	8.160E-02	3.717E-02
Co-60	#AB	0.000E+00	1414.00	4.334E-03	4.334E-03	4.297E-02
Cs-137	#AB	1.273E-02	215.10	2.738E-02	2.739E-02	2.120E-02
Eu-152	#AB	-1.094E-02	477.30	5.222E-02	5.223E-02	4.185E-02
Eu-154	#AB	-3.055E-02	255.90	7.818E-02	7.821E-02	6.011E-02
K-40		8.286E+00	10.66	8.832E-01	1.057E+00	5.484E-02
Pa-234	#AB	-8.399E-03	1234.00	1.037E-01	1.037E-01	8.382E-02
Pb-210	#	0.000E+00	449.50	5.556E-01	5.558E-01	0.000E+00
Pb-212		4.041E-01	17.57	7.100E-02	7.742E-02	3.147E-02
Pb-214		3.978E-01	20.60	8.195E-02	8.683E-02	2.876E-02
Ra-226	#	7.523E-01	67.43	5.073E-01	5.105E-01	3.698E-01
Th-230	#AB	4.210E+00	258.50	1.088E+01	1.091E+01	8.678E+00
Th-234	#	4.072E-01	108.00	4.397E-01	4.414E-01	3.372E-01
Tl-208		1.645E-01	20.81	3.424E-02	3.594E-02	6.871E-03
U-235	#	4.844E-02	71.00	3.439E-02	3.458E-02	2.530E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.557E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:37

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-74
Sample Description: Parcel E

Detector: HPGe #7 50-TP50818A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:45
Acquisition Time: 3/17/11 11:09:19
Analysis Time: 3/17/11 11:54
Analysis Quantity: 3.290E+02 g

Spectrum ID: 7_20110317_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2708 sec
Dead Time: 0.28 %

Efficiency: HPGe #7 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 3/4/11 11:46
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.626E-01	21.92	1.890E-01	1.983E-01	8.817E-02
Am-241	#AB	-5.322E-02	591.50	3.148E-01	3.148E-01	2.564E-01
Bi-212		1.138E+00	32.58	3.707E-01	3.788E-01	1.194E-01
Bi-214		8.477E-01	14.30	1.212E-01	1.338E-01	2.491E-02
Co-60	#AB	1.158E-02	319.40	3.698E-02	3.699E-02	2.910E-02
Cs-137	#AB	-5.369E-03	685.00	3.678E-02	3.678E-02	2.979E-02
Eu-152	#AB	-1.736E-02	495.20	8.598E-02	8.599E-02	6.943E-02
Eu-154	#AB	0.000E+00	2000.00	2.183E-02	2.183E-02	2.021E-01
K-40		6.836E+00	13.07	8.932E-01	1.013E+00	1.968E-01
Pa-234	#AB	0.000E+00	2000.00	2.852E-02	2.852E-02	1.663E-01
Pb-210	#AB	-2.804E+00	1447.00	4.057E+01	4.057E+01	3.329E+01
Pb-212		1.264E+00	9.84	1.245E-01	1.575E-01	4.345E-02
Pb-214		9.425E-01	13.04	1.229E-01	1.404E-01	4.195E-02
Ra-226		1.342E+00	63.21	8.484E-01	8.545E-01	6.344E-01
Th-230	#AB	9.632E+00	205.20	1.976E+01	1.983E+01	1.580E+01
Th-234	AB	5.094E-01	135.30	6.895E-01	6.912E-01	5.418E-01
Tl-208		4.132E-01	16.31	6.739E-02	7.278E-02	1.872E-02
U-235		7.977E-02	72.41	5.776E-02	5.807E-02	4.386E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.388E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-75
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:50
Acquisition Time: 3/17/11 11:10:36
Analysis Time: 3/17/11 11:55
Analysis Quantity: 3.410E+02 g

Spectrum ID: 8_20110317_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/11 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	AB	0.000E+00	2000.00	1.417E-01	1.417E-01	1.048E-01
Am-241	#AB	8.623E-02	184.60	1.591E-01	1.593E-01	1.253E-01
Bi-212	#	3.921E-01	56.82	2.228E-01	2.244E-01	1.410E-01
Bi-214		4.001E-01	19.60	7.842E-02	8.285E-02	3.010E-02
Co-60	#AB	2.199E-03	224.80	4.945E-03	4.947E-03	2.060E-02
Cs-137	#AB	1.056E-02	241.20	2.548E-02	2.549E-02	1.980E-02
Eu-152	#AB	-1.167E-03	5610.00	6.547E-02	6.547E-02	5.383E-02
Eu-154	#AB	-2.002E-02	409.70	8.203E-02	8.204E-02	6.494E-02
K-40	#	5.501E+00	14.40	7.923E-01	8.811E-01	2.703E-01
Pa-234	#AB	9.100E-03	1708.00	1.554E-01	1.554E-01	1.269E-01
Pb-210	#AB	3.243E+00	150.80	4.889E+00	4.899E+00	3.759E+00
Pb-212		6.080E-01	12.28	7.467E-02	8.794E-02	2.500E-02
Pb-214		4.725E-01	17.62	8.324E-02	8.994E-02	3.080E-02
Ra-226		1.091E+00	46.81	5.108E-01	5.174E-01	3.515E-01
Th-230	#AB	-5.547E+00	216.70	1.202E+01	1.206E+01	9.613E+00
Th-234	#	4.717E-01	100.20	4.726E-01	4.748E-01	3.652E-01
Tl-208		2.376E-01	17.37	4.126E-02	4.418E-02	7.764E-03
U-235	AB	1.145E-02	337.00	3.857E-02	3.858E-02	3.118E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.254E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-76
Sample Description: Parcel E

Detector: HPGe #2 50-TP42229A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 10:55
Acquisition Time: 3/17/11 12:00:16
Analysis Time: 3/17/11 12:45
Analysis Quantity: 3.520E+02 g

Spectrum ID: 2_20110317_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #2 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/19/11 21:26
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.125E+00	17.46	1.964E-01	2.114E-01	5.161E-02
Am-241	#AB	4.967E-02	697.10	3.463E-01	3.463E-01	2.829E-01
Bi-212		3.672E-01	71.27	2.617E-01	2.629E-01	1.819E-01
Bi-214		7.405E-01	15.22	1.127E-01	1.231E-01	3.645E-02
Co-60	#AB	-1.307E-02	275.70	3.603E-02	3.604E-02	2.832E-02
Cs-137	#AB	1.275E-02	221.10	2.819E-02	2.821E-02	2.188E-02
Eu-152	#AB	-2.972E-02	7728.00	2.297E+00	2.297E+00	6.811E-02
Eu-154	#AB	0.000E+00	2000.00	1.890E-02	1.890E-02	1.557E-02
K-40		9.748E+00	10.06	9.809E-01	1.195E+00	5.750E-02
Pa-234	#AB	0.000E+00	2000.00	2.419E-02	2.419E-02	2.405E-01
Pb-210	#	0.000E+00	4662.00	1.724E+00	1.724E+00	0.000E+00
Pb-212		1.270E+00	9.22	1.170E-01	1.520E-01	4.287E-02
Pb-214		9.260E-01	13.18	1.220E-01	1.391E-01	4.292E-02
Ra-226		1.099E+00	64.66	7.106E-01	7.154E-01	5.436E-01
Th-230	#AB	-5.695E+00	355.50	2.025E+01	2.027E+01	1.643E+01
Th-234	#	6.796E-01	114.00	7.747E-01	7.774E-01	6.129E-01
Tl-208		4.417E-01	14.07	6.215E-02	6.874E-02	1.496E-02
U-235	AB	-2.461E-02	403.60	9.930E-02	9.932E-02	4.352E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.646E+01

Analyst: Chris Fluty

Reviewer: Philip Smith
Review Date: 3/18/11 11:32

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-77
Sample Description: Parcel E

Detector: HPGe #3 51-TP32733A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 11:00
Acquisition Time: 3/17/11 15:41:15
Analysis Time: 3/17/11 16:26
Analysis Quantity: 3.370E+02 g

Spectrum ID: 3_20110317_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2706 sec
Dead Time: 0.22 %

Efficiency: HPGe #3 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/21/11 13:54
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	6.658E-01	23.40	1.558E-01	1.625E-01	7.359E-02
Am-241	#AB	-4.565E-02	378.80	1.729E-01	1.730E-01	1.399E-01
Bi-212	#AB	0.000E+00	2000.00	2.705E-01	2.705E-01	2.589E-01
Bi-214		4.176E-01	19.80	8.268E-02	8.726E-02	3.715E-02
Co-60	#AB	-6.160E-03	461.70	2.844E-02	2.844E-02	2.265E-02
Cs-137	#AB	1.666E-02	171.10	2.851E-02	2.853E-02	2.182E-02
Eu-152	#AB	-8.288E-03	837.60	6.942E-02	6.942E-02	5.654E-02
Eu-154	#AB	1.410E-02	510.30	7.195E-02	7.195E-02	5.717E-02
K-40		9.919E+00	9.90	9.818E-01	1.203E+00	1.948E-01
Pa-234	#AB	3.605E-02	463.90	1.673E-01	1.673E-01	1.336E-01
Pb-210	#AB	3.303E+00	140.80	4.651E+00	4.661E+00	3.622E+00
Pb-212		8.023E-01	11.17	8.960E-02	1.086E-01	3.459E-02
Pb-214		5.525E-01	16.45	9.089E-02	9.924E-02	3.834E-02
Ra-226		9.255E-01	62.89	5.820E-01	5.862E-01	4.386E-01
Th-230	#AB	1.084E+00	1131.00	1.226E+01	1.226E+01	1.005E+01
Th-234	AB	2.961E-01	155.50	4.604E-01	4.612E-01	3.645E-01
Tl-208		2.974E-01	16.15	4.803E-02	5.194E-02	1.282E-02
U-235	AB	-3.562E-02	408.00	1.453E-01	1.453E-01	3.811E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.833E+01

Analyst: Andrew Alexander

Reviewer: Philip Smith
Review Date: 3/18/11 11:33

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-78
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 11:05
Acquisition Time: 3/17/11 13:01:51
Analysis Time: 3/17/11 13:47
Analysis Quantity: 3.350E+02 g

Spectrum ID: 10_20110317_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/11 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.128E-01	18.57	1.509E-01	1.611E-01	1.633E-02
Am-241	#AB	1.816E-01	222.60	4.042E-01	4.045E-01	3.187E-01
Bi-212	#	2.147E-01	107.00	2.296E-01	2.300E-01	1.651E-01
Bi-214		3.809E-01	22.71	8.650E-02	9.016E-02	3.576E-02
Co-60	#AB	8.850E-03	312.90	2.770E-02	2.770E-02	2.147E-02
Cs-137	#AB	-4.404E-03	608.90	2.682E-02	2.682E-02	2.157E-02
Eu-152	#AB	-3.919E-03	1865.00	7.311E-02	7.311E-02	5.989E-02
Eu-154	#AB	-2.377E-02	399.20	9.488E-02	9.489E-02	7.501E-02
K-40		6.269E+00	13.33	8.359E-01	9.443E-01	6.492E-02
Pa-234	#AB	-1.817E-02	879.60	1.599E-01	1.599E-01	1.292E-01
Pb-210	#	0.000E+00	376.10	1.388E+00	1.388E+00	0.000E+00
Pb-212		5.466E-01	15.82	8.647E-02	9.603E-02	3.709E-02
Pb-214		4.435E-01	19.65	8.717E-02	9.285E-02	2.888E-02
Ra-226	#	5.632E-01	103.40	5.823E-01	5.839E-01	4.554E-01
Th-230	#	1.537E+01	126.40	1.943E+01	1.961E+01	1.482E+01
Th-234		1.118E+00	62.62	7.000E-01	7.081E-01	3.956E-01
Tl-208	#	1.592E-01	26.77	4.262E-02	4.391E-02	2.217E-02
U-235	#	4.511E-02	91.56	4.131E-02	4.145E-02	3.133E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.611E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:36

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-79
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 11:10
Acquisition Time: 3/17/11 13:12:04
Analysis Time: 3/17/11 13:57
Analysis Quantity: 3.190E+02 g

Spectrum ID: 5_20110317_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/11 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	3.099E-01	38.89	1.205E-01	1.224E-01	6.685E-02
Am-241	#AB	-2.707E-02	533.10	1.443E-01	1.443E-01	1.171E-01
Bi-212	#	1.599E-01	120.20	1.923E-01	1.926E-01	1.388E-01
Bi-214		3.890E-01	21.56	8.389E-02	8.782E-02	3.056E-02
Co-60	#AB	3.585E-03	603.30	2.163E-02	2.163E-02	1.720E-02
Cs-137	#AB	7.823E-04	3687.00	2.885E-02	2.885E-02	2.368E-02
Eu-152	#AB	-3.773E-03	1739.00	6.561E-02	6.561E-02	5.372E-02
Eu-154	#AB	0.000E+00	2000.00	9.542E-02	9.542E-02	1.398E-01
K-40		1.035E+01	10.49	1.086E+00	1.306E+00	1.900E-01
Pa-234	#AB	-7.008E-02	273.90	1.919E-01	1.920E-01	1.507E-01
Pb-210	#AB	-9.326E-01	343.10	3.200E+00	3.201E+00	2.563E+00
Pb-212		3.634E-01	18.71	6.799E-02	7.344E-02	3.138E-02
Pb-214		2.602E-01	25.56	6.652E-02	6.911E-02	3.746E-02
Ra-226	AB	3.537E-01	134.60	4.762E-01	4.770E-01	3.790E-01
Th-230	#AB	0.000E+00	2000.00	7.844E+00	7.845E+00	7.292E+00
Th-234	#AB	2.972E-01	139.00	4.131E-01	4.141E-01	3.228E-01
Tl-208		2.027E-01	19.04	3.860E-02	4.089E-02	7.552E-03
U-235	AB	-3.931E-02	303.10	1.191E-01	1.192E-01	3.136E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.269E+01

Analyst: Chris Fluty

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-80
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 11:15
Acquisition Time: 3/17/11 11:54:58
Analysis Time: 3/17/11 12:40
Analysis Quantity: 3.380E+02 g

Spectrum ID: 6_20110317_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 3/8/11 12:39
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.616E-01	19.80	1.706E-01	1.808E-01	1.968E-02
Am-241	#AB	1.177E-02	688.70	8.103E-02	8.103E-02	6.613E-02
Bi-212	#	2.959E-01	112.90	3.339E-01	3.345E-01	2.480E-01
Bi-214	#	6.676E-01	19.83	1.324E-01	1.397E-01	4.038E-02
Co-60	#AB	1.055E-02	236.60	2.496E-02	2.497E-02	3.297E-02
Cs-137	#AB	-5.009E-03	732.60	3.670E-02	3.670E-02	2.971E-02
Eu-152	#AB	-1.687E-02	566.30	9.552E-02	9.552E-02	7.741E-02
Eu-154	#AB	1.635E-02	658.00	1.076E-01	1.076E-01	8.638E-02
K-40		9.332E+00	12.27	1.145E+00	1.318E+00	1.624E-01
Pa-234	#AB	3.179E-02	794.90	2.527E-01	2.527E-01	2.048E-01
Pb-210		1.385E+00	95.66	1.325E+00	1.329E+00	8.196E-01
Pb-212		6.771E-01	16.22	1.098E-01	1.214E-01	5.337E-02
Pb-214		5.801E-01	20.52	1.190E-01	1.262E-01	5.069E-02
Ra-226	AB	4.912E-01	159.00	7.812E-01	7.821E-01	6.203E-01
Th-230	#AB	6.252E-01	1147.00	7.172E+00	7.173E+00	5.879E+00
Th-234		1.047E+00	57.06	5.972E-01	6.056E-01	4.601E-01
Tl-208	#	1.579E-01	31.89	5.036E-02	5.144E-02	3.263E-02
U-235	AB	0.000E+00	0.00	2.363E-01	2.363E-01	5.251E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.619E+01

Analyst: Chris Fluty

Reviewer: Philip Smith
Review Date: 3/18/11 11:34

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-81
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 11:20
Acquisition Time: 3/17/11 13:04:57
Analysis Time: 3/17/11 13:50
Analysis Quantity: 3.220E+02 g

Spectrum ID: 12_20110317_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/11 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.017E+00	17.92	1.823E-01	1.955E-01	4.265E-02
Am-241	#AB	-1.015E-01	297.20	3.016E-01	3.017E-01	2.434E-01
Bi-212	#AB	0.000E+00	2000.00	2.893E-01	2.893E-01	3.199E-02
Bi-214	#	5.913E-01	16.00	9.463E-02	1.025E-01	3.128E-02
Co-60	#AB	-5.154E-04	5610.00	2.892E-02	2.892E-02	2.375E-02
Cs-137	#AB	6.883E-03	412.40	2.838E-02	2.839E-02	2.266E-02
Eu-152	#AB	-1.592E-02	472.50	7.524E-02	7.524E-02	6.075E-02
Eu-154	#AB	-4.183E-02	223.20	9.336E-02	9.340E-02	7.175E-02
K-40		7.403E+00	12.00	8.886E-01	1.029E+00	1.218E-01
Pa-234	#AB	-2.295E-02	682.00	1.565E-01	1.565E-01	1.259E-01
Pb-210	#	0.000E+00	351.40	1.300E+00	1.301E+00	0.000E+00
Pb-212		8.972E-01	11.32	1.015E-01	1.225E-01	4.098E-02
Pb-214		6.444E-01	17.30	1.115E-01	1.208E-01	4.049E-02
Ra-226		7.754E-01	82.35	6.385E-01	6.412E-01	4.856E-01
Th-230	#AB	-1.420E+00	950.40	1.350E+01	1.350E+01	1.104E+01
Th-234		5.751E-01	67.47	3.880E-01	3.919E-01	2.763E-01
Tl-208		3.289E-01	17.56	5.774E-02	6.174E-02	1.753E-02
U-235		4.667E-02	90.81	4.238E-02	4.253E-02	3.248E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.229E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:37

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-82
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 11:25
Acquisition Time: 3/17/11 13:03:34
Analysis Time: 3/17/11 13:48
Analysis Quantity: 3.430E+02 g

Spectrum ID: 11_20110317_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.13 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/11 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.530E-01	22.37	1.461E-01	1.529E-01	3.927E-02
Am-241	#AB	-7.780E-02	249.80	1.943E-01	1.945E-01	1.556E-01
Bi-212	#	2.450E-01	88.38	2.165E-01	2.172E-01	1.530E-01
Bi-214		4.899E-01	17.71	8.677E-02	9.273E-02	2.099E-02
Co-60	#AB	5.074E-03	531.00	2.694E-02	2.694E-02	2.153E-02
Cs-137	#AB	1.075E-02	248.70	2.675E-02	2.676E-02	2.091E-02
Eu-152	AB	3.212E-05	149600.00	4.805E-02	4.805E-02	3.958E-02
Eu-154	#AB	0.000E+00	2000.00	1.261E-02	1.261E-02	1.884E-01
K-40		6.715E+00	12.00	8.060E-01	9.333E-01	1.869E-01
Pa-234	#AB	0.000E+00	2000.00	1.070E-01	1.070E-01	1.841E-01
Pb-210	#AB	1.814E+00	357.50	6.486E+00	6.488E+00	5.393E+00
Pb-212		5.095E-01	15.12	7.704E-02	8.632E-02	3.273E-02
Pb-214		4.329E-01	19.29	8.351E-02	8.915E-02	3.560E-02
Ra-226	#AB	2.161E-01	236.60	5.112E-01	5.115E-01	4.198E-01
Th-230	#AB	6.184E-01	1713.00	1.060E+01	1.060E+01	8.691E+00
Th-234	#AB	3.563E-02	1562.00	5.565E-01	5.565E-01	4.569E-01
Tl-208		2.047E-01	19.40	3.970E-02	4.196E-02	1.403E-02
U-235	AB	-6.389E-02	10570.00	6.756E+00	6.756E+00	3.417E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.195E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 3/18/11 11:36

TetraTech Hunter's Point Lab

Sample ID: 18-PE-D0334-83
Sample Description: Parcel E

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: D0334
Sample Time: 3/14/11 11:30
Acquisition Time: 3/17/11 13:10:28
Analysis Time: 3/17/11 13:55
Analysis Quantity: 3.190E+02 g

Spectrum ID: 4_20110317_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/11 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.889E-01	16.84	1.497E-01	1.619E-01	1.469E-02
Am-241	#AB	5.437E-03	3413.00	1.856E-01	1.856E-01	1.526E-01
Bi-212	#	2.905E-01	81.86	2.378E-01	2.386E-01	1.676E-01
Bi-214	#	5.201E-01	17.71	9.208E-02	9.841E-02	4.004E-02
Co-60	#AB	1.252E-02	219.90	2.753E-02	2.754E-02	2.093E-02
Cs-137	#	2.212E-02	131.60	2.911E-02	2.915E-02	2.175E-02
Eu-152	#AB	-5.700E-03	1150.00	6.555E-02	6.555E-02	5.351E-02
Eu-154	#AB	-4.249E-02	248.90	1.058E-01	1.058E-01	8.250E-02
K-40		9.820E+00	10.83	1.063E+00	1.267E+00	1.525E-01
Pa-234	#AB	5.381E-02	320.50	1.725E-01	1.725E-01	1.358E-01
Pb-210	#AB	9.070E-01	573.70	5.203E+00	5.204E+00	4.230E+00
Pb-212		7.827E-01	11.91	9.323E-02	1.108E-01	3.933E-02
Pb-214		5.507E-01	19.79	1.090E-01	1.160E-01	4.566E-02
Ra-226		9.980E-01	59.08	5.896E-01	5.945E-01	4.393E-01
Th-230	#AB	-5.354E+00	243.30	1.302E+01	1.306E+01	1.047E+01
Th-234		1.317E+00	43.11	5.675E-01	5.813E-01	3.182E-01
Tl-208	#	1.754E-01	23.24	4.077E-02	4.241E-02	2.004E-02
U-235	AB	-3.677E-02	373.70	1.374E-01	1.374E-01	3.813E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.634E+01

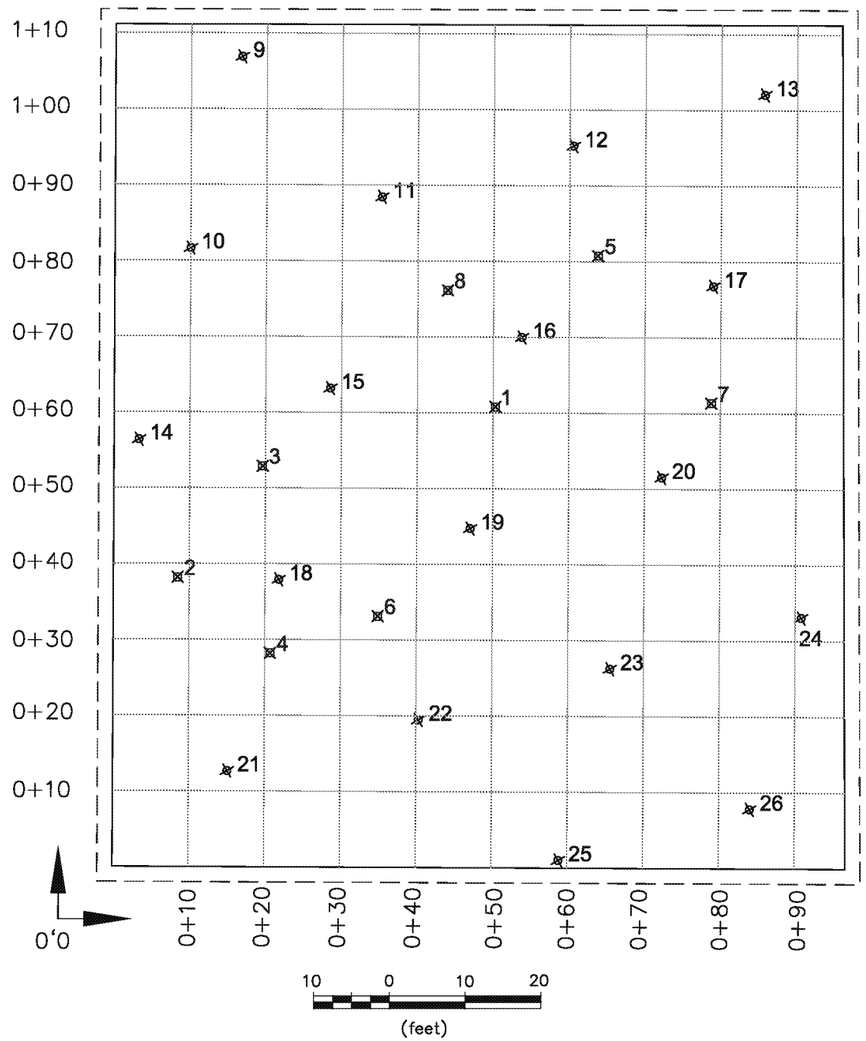
Analyst: Chris Fluty

Reviewer: Philip Smith
Review Date: 3/18/11 11:33

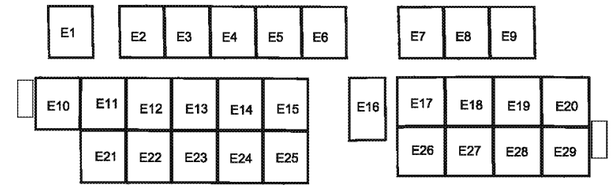
EXCAVATED SOIL UNIT 421

0421-E11

(NON-IR , WORK AREA 33 SOIL)



BIASED SAMPLES 1–8
SYSTEMATIC SAMPLES 9–26



KEY PLAN

LEGEND:

1 BIASED

9 SYSTEMATIC

RECORD DRAWING

RADIOLOGICAL SCREENING YARD 4 (RSY4)
SOIL SAMPLING LOCATIONS AREA E11

HUNTERS POINT SHIPYARD-SAN FRANCISCO, CA

TETRA TECH EC, INC.

DRAWING NO: 04-PE-0421-E11.DWG

DCN:

TASK: CTO 04

APPROVED BY: GC

CHECKED BY: SH/LP

REV:

DRAWN BY: DJM

P:\CAD PROJECT FILES\CTO-RSY 4_PAD SURVEYS CAD FILES\DWG FILES\ACTIVE\04-PE-0421-E11.DWG
PLOT/UPDATE: APR 11 2011 11:59:34

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-01
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:00
Acquisition Time: 4/12/2011 08:58:40
Analysis Time: 4/12/2011 10:29
Analysis Quantity: 3.520E+02 g

Spectrum ID: 11_20110412_005
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5416 sec
Dead Time: 0.29 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.268E-01	13.00	1.075E-01	1.219E-01	1.787E-02
Am-241	#AB	-8.630E-03	2020.00	1.743E-01	1.743E-01	1.434E-01
Bi-212	#	3.518E-01	45.15	1.588E-01	1.606E-01	1.060E-01
Bi-214		4.754E-01	16.38	7.788E-02	8.410E-02	3.092E-02
Co-60	#AB	-5.133E-03	445.00	2.284E-02	2.285E-02	1.843E-02
Cs-137	#	3.130E-02	60.09	1.881E-02	1.893E-02	1.312E-02
Eu-152	AB	1.488E-02	301.50	4.486E-02	4.487E-02	3.608E-02
Eu-154	#AB	-2.423E-02	289.70	7.017E-02	7.019E-02	5.603E-02
K-40		9.010E+00	7.90	7.121E-01	9.517E-01	1.665E-01
Pa-234	#AB	1.340E-03	6654.00	8.917E-02	8.917E-02	7.332E-02
Pb-210	#AB	1.658E+00	344.20	5.708E+00	5.710E+00	4.634E+00
Pb-212		6.748E-01	9.17	6.187E-02	8.054E-02	2.643E-02
Pb-214		5.950E-01	11.47	6.826E-02	8.061E-02	2.510E-02
Ra-226		8.596E-01	41.64	3.580E-01	3.638E-01	2.580E-01
Th-230	#AB	6.845E-02	13000.00	8.898E+00	8.898E+00	7.327E+00
Th-234	#AB	1.667E-02	2690.00	4.486E-01	4.486E-01	3.691E-01
Tl-208		2.150E-01	16.58	3.565E-02	3.840E-02	1.316E-02
U-235		2.010E-02	119.50	2.401E-02	2.406E-02	1.896E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.482E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/12/2011 10:40

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-02
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:05
Acquisition Time: 4/12/2011 08:07:37
Analysis Time: 4/12/2011 08:52
Analysis Quantity: 3.310E+02 g

Spectrum ID: 12_20110412_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.921E-01	36.93	1.448E-01	1.473E-01	8.628E-02
Am-241	#AB	-7.650E-02	346.40	2.650E-01	2.651E-01	2.141E-01
Bi-212	#	3.173E-01	75.75	2.404E-01	2.413E-01	1.664E-01
Bi-214	#	5.223E-01	17.73	9.260E-02	9.895E-02	3.605E-02
Co-60	#AB	7.605E-03	253.30	1.926E-02	1.927E-02	1.927E-02
Cs-137	#AB	1.237E-02	218.60	2.703E-02	2.704E-02	2.091E-02
Eu-152	#AB	0.000E+00	2000.00	3.179E-02	3.179E-02	6.655E-02
Eu-154	#AB	7.393E-03	941.00	6.956E-02	6.957E-02	5.614E-02
K-40		1.062E+01	9.50	1.009E+00	1.253E+00	5.584E-02
Pa-234	#AB	8.673E-02	186.60	1.618E-01	1.620E-01	1.222E-01
Pb-210	#	0.000E+00	3308.00	1.769E+00	1.769E+00	0.000E+00
Pb-212		6.033E-01	16.35	9.862E-02	1.089E-01	4.340E-02
Pb-214		5.775E-01	17.06	9.852E-02	1.070E-01	3.366E-02
Ra-226	AB	4.055E-01	137.10	5.562E-01	5.570E-01	4.349E-01
Th-230	#AB	-6.923E+00	187.10	1.295E+01	1.300E+01	1.026E+01
Th-234	#	5.077E-01	104.20	5.289E-01	5.311E-01	4.094E-01
Tl-208	#	2.259E-01	20.12	4.545E-02	4.787E-02	1.597E-02
U-235		4.883E-02	74.96	3.660E-02	3.679E-02	2.724E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.433E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/12/2011 10:40

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-03
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:10
Acquisition Time: 4/12/2011 09:38:55
Analysis Time: 4/12/2011 10:24
Analysis Quantity: 3.420E+02 g

Spectrum ID: 8_20110412_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.12 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.029E-01	20.89	1.468E-01	1.547E-01	5.419E-02
Am-241	#AB	-2.688E-02	803.20	2.159E-01	2.159E-01	1.766E-01
Bi-212	#	3.137E-01	69.98	2.195E-01	2.205E-01	1.472E-01
Bi-214		5.141E-01	18.88	9.706E-02	1.030E-01	3.044E-02
Co-60	#AB	0.000E+00	1414.00	6.073E-03	6.073E-03	5.003E-03
Cs-137	#AB	0.000E+00	2000.00	2.024E-02	2.024E-02	3.716E-02
Eu-152	#AB	-9.655E-03	678.50	6.550E-02	6.551E-02	5.315E-02
Eu-154	#AB	-3.782E-03	2590.00	9.794E-02	9.794E-02	8.027E-02
K-40		8.880E+00	11.12	9.876E-01	1.167E+00	1.754E-01
Pa-234	#AB	7.947E-02	211.20	1.679E-01	1.680E-01	1.289E-01
Pb-210	#AB	-5.822E-01	5026.00	2.926E+01	2.926E+01	7.524E+00
Pb-212		8.287E-01	11.17	9.255E-02	1.121E-01	3.646E-02
Pb-214		6.535E-01	14.87	9.717E-02	1.080E-01	3.307E-02
Ra-226		1.150E+00	53.23	6.119E-01	6.181E-01	4.448E-01
Th-230	#AB	-1.372E+00	972.30	1.334E+01	1.334E+01	1.093E+01
Th-234	AB	2.167E-01	237.60	5.148E-01	5.152E-01	4.141E-01
Tl-208	#	3.082E-01	14.40	4.437E-02	4.887E-02	1.159E-02
U-235	AB	2.853E-02	141.40	4.034E-02	4.040E-02	3.180E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.368E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/12/2011 10:39

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-04
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:15
Acquisition Time: 4/12/2011 08:57:20
Analysis Time: 4/12/2011 09:42
Analysis Quantity: 3.860E+02 g

Spectrum ID: 10_20110412_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.416E-01	20.64	1.737E-01	1.832E-01	5.029E-02
Am-241	#AB	6.092E-02	716.90	4.367E-01	4.367E-01	3.560E-01
Bi-212	#	3.704E-01	67.01	2.482E-01	2.495E-01	1.705E-01
Bi-214		6.420E-01	14.57	9.356E-02	1.029E-01	2.100E-02
Co-60	#AB	-5.017E-03	647.80	3.250E-02	3.250E-02	2.622E-02
Cs-137	#	2.606E-02	102.10	2.661E-02	2.667E-02	1.907E-02
Eu-152	#AB	1.711E-02	357.70	6.120E-02	6.121E-02	4.886E-02
Eu-154	#AB	-6.949E-03	1088.00	7.561E-02	7.561E-02	6.130E-02
K-40		7.972E+00	11.56	9.215E-01	1.078E+00	1.297E-01
Pa-234	#AB	3.957E-02	416.60	1.649E-01	1.649E-01	1.312E-01
Pb-210	#	0.000E+00	599.50	5.941E-01	5.942E-01	0.000E+00
Pb-212		9.086E-01	10.66	9.690E-02	1.192E-01	3.446E-02
Pb-214		7.991E-01	15.02	1.200E-01	1.331E-01	4.024E-02
Ra-226	#	6.607E-01	101.70	6.720E-01	6.739E-01	5.223E-01
Th-230	#AB	6.822E+00	390.90	2.667E+01	2.669E+01	2.164E+01
Th-234	#AB	-4.576E-02	1716.00	7.853E-01	7.853E-01	6.451E-01
Tl-208		2.917E-01	20.08	5.856E-02	6.169E-02	2.166E-02
U-235	#AB	2.674E-02	172.50	4.613E-02	4.618E-02	3.745E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.948E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/12/2011 10:40

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-05
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:20
Acquisition Time: 4/12/2011 08:59:49
Analysis Time: 4/12/2011 09:44
Analysis Quantity: 3.560E+02 g

Spectrum ID: 12_20110412_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2701 sec
Dead Time: 0.05 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.032E-01	20.88	1.469E-01	1.548E-01	3.758E-02
Am-241	#AB	0.000E+00	2000.00	7.951E-02	7.951E-02	1.778E-01
Bi-212	#	2.121E-01	102.50	2.175E-01	2.180E-01	1.580E-01
Bi-214		4.724E-01	22.02	1.040E-01	1.087E-01	4.331E-02
Co-60	#AB	0.000E+00	2000.00	1.535E-02	1.535E-02	1.265E-02
Cs-137	#AB	6.408E-03	390.80	2.504E-02	2.504E-02	1.993E-02
Eu-152	#AB	-6.496E-03	942.30	6.121E-02	6.122E-02	4.987E-02
Eu-154	#AB	-3.027E-02	291.50	8.823E-02	8.825E-02	6.914E-02
K-40		9.604E+00	9.63	9.252E-01	1.144E+00	5.192E-02
Pa-234	#AB	-3.983E-02	413.60	1.647E-01	1.648E-01	1.312E-01
Pb-210	#	0.000E+00	2797.00	1.252E+00	1.252E+00	0.000E+00
Pb-212		6.534E-01	11.44	7.475E-02	8.988E-02	3.218E-02
Pb-214		5.605E-01	17.24	9.663E-02	1.047E-01	3.218E-02
Ra-226		7.278E-01	75.21	5.473E-01	5.501E-01	4.106E-01
Th-230	#AB	-4.223E+00	304.10	1.284E+01	1.286E+01	1.035E+01
Th-234	#	4.552E-01	102.70	4.674E-01	4.694E-01	3.602E-01
Tl-208	#	2.295E-01	18.39	4.219E-02	4.486E-02	1.430E-02
U-235		4.034E-02	94.60	3.816E-02	3.828E-02	2.932E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.366E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/12/2011 10:40

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-06
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:25
Acquisition Time: 4/12/2011 09:47:24
Analysis Time: 4/12/2011 10:32
Analysis Quantity: 3.560E+02 g

Spectrum ID: 12_20110412_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.664E-01	15.67	1.514E-01	1.656E-01	1.381E-02
Am-241	#	1.744E-01	117.50	2.050E-01	2.056E-01	1.571E-01
Bi-212	#	3.339E-01	66.46	2.219E-01	2.231E-01	1.488E-01
Bi-214		6.884E-01	16.95	1.167E-01	1.254E-01	4.272E-02
Co-60	#AB	6.072E-03	553.50	3.361E-02	3.361E-02	2.707E-02
Cs-137	#AB	1.165E-02	260.10	3.030E-02	3.031E-02	2.392E-02
Eu-152	#AB	5.514E-03	1121.00	6.183E-02	6.183E-02	5.047E-02
Eu-154	#AB	-1.861E-02	524.40	9.760E-02	9.761E-02	7.846E-02
K-40		9.109E+00	10.62	9.672E-01	1.159E+00	1.658E-01
Pa-234	#AB	-7.029E-03	2111.00	1.484E-01	1.484E-01	1.213E-01
Pb-210	#	0.000E+00	3723.00	6.115E-01	6.115E-01	0.000E+00
Pb-212		8.820E-01	10.78	9.512E-02	1.166E-01	3.682E-02
Pb-214		7.891E-01	14.05	1.108E-01	1.246E-01	3.556E-02
Ra-226		7.378E-01	82.77	6.107E-01	6.132E-01	4.668E-01
Th-230	#AB	8.682E+00	159.80	1.387E+01	1.395E+01	1.099E+01
Th-234	#	1.830E+00	41.61	7.616E-01	7.814E-01	3.899E-01
Tl-208		3.374E-01	14.95	5.044E-02	5.520E-02	1.493E-02
U-235		5.451E-02	76.06	4.146E-02	4.166E-02	3.151E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.461E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/12/2011 10:40

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-07
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:30
Acquisition Time: 4/12/2011 10:32:40
Analysis Time: 4/12/2011 11:18
Analysis Quantity: 3.660E+02 g

Spectrum ID: 8_20110412_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.659E-01	16.28	1.572E-01	1.709E-01	2.870E-02
Am-241	#AB	1.151E-01	175.50	2.020E-01	2.022E-01	1.608E-01
Bi-212		7.374E-01	40.89	3.015E-01	3.057E-01	1.291E-01
Bi-214		7.119E-01	13.55	9.648E-02	1.076E-01	1.929E-02
Co-60	#AB	-1.318E-04	323.70	4.265E-04	4.265E-04	2.460E-02
Cs-137	#	3.456E-02	93.90	3.245E-02	3.253E-02	2.381E-02
Eu-152	#AB	-6.134E-04	11000.00	6.747E-02	6.747E-02	5.553E-02
Eu-154	#AB	-1.640E-02	526.40	8.630E-02	8.630E-02	6.919E-02
K-40		8.122E+00	11.03	8.956E-01	1.061E+00	1.278E-01
Pa-234	#AB	3.153E-02	426.70	1.345E-01	1.346E-01	1.065E-01
Pb-210	#AB	6.775E-01	991.00	6.715E+00	6.715E+00	5.551E+00
Pb-212		1.014E+00	9.51	9.639E-02	1.237E-01	3.679E-02
Pb-214		8.527E-01	13.14	1.120E-01	1.278E-01	3.846E-02
Ra-226		1.158E+00	52.45	6.074E-01	6.137E-01	4.444E-01
Th-230	#AB	3.827E+00	332.40	1.272E+01	1.274E+01	1.030E+01
Th-234		1.475E+00	49.27	7.268E-01	7.404E-01	4.063E-01
Tl-208		3.141E-01	16.44	5.162E-02	5.568E-02	1.878E-02
U-235		4.186E-02	98.65	4.129E-02	4.142E-02	3.209E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.008E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-08
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:35
Acquisition Time: 4/12/2011 09:46:00
Analysis Time: 4/12/2011 10:31
Analysis Quantity: 3.560E+02 g

Spectrum ID: 10_20110412_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.890E-01	19.84	1.963E-01	2.079E-01	5.095E-02
Am-241	#AB	1.163E-01	369.40	4.295E-01	4.296E-01	3.458E-01
Bi-212	#	2.265E-01	113.30	2.565E-01	2.570E-01	1.903E-01
Bi-214		5.386E-01	19.33	1.041E-01	1.102E-01	3.662E-02
Co-60	#AB	1.370E-02	160.00	2.193E-02	2.195E-02	2.168E-02
Cs-137	#AB	4.359E-03	578.40	2.521E-02	2.522E-02	2.025E-02
Eu-152	#AB	0.000E+00	2000.00	5.773E-02	5.773E-02	4.898E-02
Eu-154	#AB	-3.113E-03	1902.00	5.920E-02	5.920E-02	4.815E-02
K-40		1.051E+01	10.53	1.107E+00	1.329E+00	1.521E-01
Pa-234	#AB	0.000E+00	2000.00	2.491E-02	2.491E-02	2.004E-01
Pb-210	#	0.000E+00	158.80	5.260E-01	5.269E-01	0.000E+00
Pb-212		8.250E-01	12.03	9.922E-02	1.175E-01	3.855E-02
Pb-214		6.748E-01	16.30	1.100E-01	1.202E-01	3.848E-02
Ra-226		8.832E-01	76.88	6.790E-01	6.822E-01	5.139E-01
Th-230	AB	8.227E-01	1987.00	1.634E+01	1.634E+01	1.340E+01
Th-234		1.980E+00	38.46	7.615E-01	7.847E-01	4.078E-01
Tl-208		2.921E-01	20.06	5.858E-02	6.172E-02	1.954E-02
U-235	AB	3.460E-02	133.20	4.607E-02	4.614E-02	3.703E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.791E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/12/2011 10:40

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-09
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:40
Acquisition Time: 4/12/2011 10:35:20
Analysis Time: 4/12/2011 11:20
Analysis Quantity: 3.460E+02 g

Spectrum ID: 11_20110412_006
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.17 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	1.876E-01	57.09	1.071E-01	1.079E-01	6.883E-02
Am-241	#AB	-2.936E-02	565.60	1.661E-01	1.661E-01	1.349E-01
Bi-212	#	2.229E-01	102.20	2.277E-01	2.282E-01	1.662E-01
Bi-214	#	3.427E-01	25.35	8.689E-02	8.985E-02	3.265E-02
Co-60	#AB	7.523E-03	221.70	1.668E-02	1.668E-02	2.356E-02
Cs-137	#	2.108E-02	126.30	2.662E-02	2.666E-02	1.969E-02
Eu-152	#AB	1.179E-02	509.40	6.008E-02	6.009E-02	4.844E-02
Eu-154	#AB	0.000E+00	2000.00	1.250E-02	1.250E-02	9.369E-02
K-40		8.404E+00	11.25	9.453E-01	1.114E+00	2.011E-01
Pa-234	#AB	-5.171E-02	307.80	1.592E-01	1.592E-01	1.249E-01
Pb-210	#AB	-2.107E+00	310.60	6.544E+00	6.547E+00	5.236E+00
Pb-212		4.106E-01	20.50	8.418E-02	8.983E-02	3.891E-02
Pb-214		2.242E-01	28.34	6.352E-02	6.554E-02	3.787E-02
Ra-226		6.979E-01	71.82	5.012E-01	5.040E-01	3.699E-01
Th-230	#AB	-2.078E+00	519.80	1.080E+01	1.081E+01	8.774E+00
Th-234	#AB	3.437E-02	995.90	3.423E-01	3.424E-01	2.796E-01
Tl-208		1.612E-01	21.97	3.542E-02	3.701E-02	1.025E-02
U-235	AB	2.551E-02	133.40	3.404E-02	3.409E-02	2.654E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.075E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:18

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-10
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:40
Acquisition Time: 4/12/2011 10:36:25
Analysis Time: 4/12/2011 11:21
Analysis Quantity: 3.850E+02 g

Spectrum ID: 12_20110412_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.456E-01	17.15	1.279E-01	1.379E-01	1.277E-02
Am-241	#AB	-8.406E-02	271.30	2.280E-01	2.282E-01	1.832E-01
Bi-212	#	2.393E-01	84.24	2.016E-01	2.023E-01	1.419E-01
Bi-214		4.193E-01	21.30	8.932E-02	9.360E-02	3.613E-02
Co-60	#AB	0.000E+00	1414.00	5.365E-03	5.365E-03	4.420E-03
Cs-137	#AB	8.343E-03	269.60	2.249E-02	2.250E-02	1.759E-02
Eu-152	#AB	7.860E-04	7297.00	5.735E-02	5.735E-02	4.718E-02
Eu-154	#AB	0.000E+00	2000.00	1.130E-02	1.130E-02	8.469E-02
K-40		8.071E+00	10.68	8.621E-01	1.031E+00	1.205E-01
Pa-234	#AB	2.690E-02	560.00	1.507E-01	1.507E-01	1.210E-01
Pb-210	#	0.000E+00	4754.00	6.878E-01	6.878E-01	0.000E+00
Pb-212		5.443E-01	14.34	7.803E-02	8.842E-02	3.463E-02
Pb-214		4.457E-01	19.73	8.793E-02	9.362E-02	3.285E-02
Ra-226	#AB	3.143E-01	152.60	4.796E-01	4.802E-01	3.771E-01
Th-230	#AB	-5.651E+00	237.10	1.340E+01	1.343E+01	1.076E+01
Th-234	#AB	3.432E-02	1641.00	5.634E-01	5.634E-01	4.627E-01
Tl-208		1.657E-01	23.85	3.953E-02	4.104E-02	1.726E-02
U-235	#AB	1.815E-02	177.10	3.216E-02	3.219E-02	2.546E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.103E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:18

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-11
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:45
Acquisition Time: 4/12/2011 11:19:28
Analysis Time: 4/12/2011 12:04
Analysis Quantity: 3.490E+02 g

Spectrum ID: 8_20110412_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.365E-01	23.17	1.707E-01	1.782E-01	4.936E-02
Am-241	#AB	3.612E-02	494.30	1.785E-01	1.786E-01	1.450E-01
Bi-212	#	2.027E-01	117.20	2.375E-01	2.379E-01	1.769E-01
Bi-214		3.357E-01	23.06	7.741E-02	8.059E-02	3.818E-02
Co-60	#AB	8.874E-04	3328.00	2.953E-02	2.953E-02	2.423E-02
Cs-137	#AB	3.524E-03	808.10	2.847E-02	2.847E-02	2.312E-02
Eu-152	#AB	-1.937E-02	345.90	6.700E-02	6.702E-02	5.362E-02
Eu-154	#AB	-2.912E-02	296.50	8.634E-02	8.636E-02	6.754E-02
K-40		8.776E+00	10.26	9.004E-01	1.090E+00	5.381E-02
Pa-234	#AB	1.472E-02	983.90	1.448E-01	1.448E-01	1.174E-01
Pb-210	#AB	2.803E+00	218.80	6.133E+00	6.139E+00	4.943E+00
Pb-212		6.172E-01	13.31	8.214E-02	9.471E-02	3.545E-02
Pb-214		4.924E-01	18.29	9.005E-02	9.680E-02	3.718E-02
Ra-226		1.160E+00	44.78	5.195E-01	5.269E-01	3.571E-01
Th-230	#AB	-2.624E+00	485.90	1.275E+01	1.276E+01	1.038E+01
Th-234	#	4.099E-01	115.40	4.731E-01	4.747E-01	3.694E-01
Tl-208		1.981E-01	20.49	4.061E-02	4.269E-02	1.574E-02
U-235	AB	2.890E-03	1297.00	3.747E-02	3.747E-02	3.072E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.579E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-12
Sample Description: Parcel E

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:50
Acquisition Time: 4/12/2011 12:07:12
Analysis Time: 4/12/2011 12:52
Analysis Quantity: 3.490E+02 g

Spectrum ID: 9_20110412_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.15 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.941E-01	17.17	1.535E-01	1.656E-01	2.648E-02
Am-241	#AB	-7.287E-02	253.40	1.847E-01	1.848E-01	1.483E-01
Bi-212	#	2.795E-01	81.12	2.267E-01	2.275E-01	1.599E-01
Bi-214		5.080E-01	18.55	9.425E-02	1.002E-01	3.716E-02
Co-60	#AB	-2.476E-04	12210.00	3.023E-02	3.023E-02	2.488E-02
Cs-137	#AB	1.309E-02	202.40	2.649E-02	2.651E-02	2.048E-02
Eu-152	AB	-2.423E-03	2559.00	6.199E-02	6.199E-02	5.086E-02
Eu-154	#AB	-2.428E-03	2787.00	6.767E-02	6.767E-02	5.537E-02
K-40		1.120E+01	9.54	1.068E+00	1.325E+00	1.328E-01
Pa-234	#AB	0.000E+00	2000.00	5.467E-02	5.467E-02	2.031E-01
Pb-210	#AB	1.767E+00	276.50	4.887E+00	4.890E+00	3.912E+00
Pb-212		7.148E-01	14.73	1.053E-01	1.186E-01	4.720E-02
Pb-214		6.026E-01	16.22	9.772E-02	1.069E-01	3.832E-02
Ra-226		7.422E-01	76.82	5.701E-01	5.729E-01	4.309E-01
Th-230	#AB	6.967E+00	160.20	1.116E+01	1.123E+01	8.828E+00
Th-234	#	6.080E-01	84.12	5.114E-01	5.147E-01	3.940E-01
Tl-208		2.795E-01	15.79	4.414E-02	4.789E-02	9.573E-03
U-235		5.779E-02	62.59	3.617E-02	3.643E-02	2.659E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.463E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-13
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 13:55
Acquisition Time: 4/12/2011 11:20:39
Analysis Time: 4/12/2011 12:05
Analysis Quantity: 3.170E+02 g

Spectrum ID: 10_20110412_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.198E-01	26.79	1.393E-01	1.439E-01	3.363E-02
Am-241	#AB	-6.769E-02	679.20	4.598E-01	4.598E-01	3.739E-01
Bi-212	#AB	1.447E-01	177.90	2.575E-01	2.576E-01	1.973E-01
Bi-214		5.198E-01	19.09	9.920E-02	1.051E-01	3.041E-02
Co-60	#AB	1.569E-02	192.40	3.018E-02	3.019E-02	2.250E-02
Cs-137	#AB	0.000E+00	2000.00	2.730E-02	2.730E-02	2.095E-02
Eu-152	#AB	-1.161E-02	611.60	7.098E-02	7.099E-02	5.737E-02
Eu-154	#AB	-3.503E-02	328.30	1.150E-01	1.150E-01	9.070E-02
K-40		9.776E+00	10.98	1.073E+00	1.273E+00	6.861E-02
Pa-234	#AB	3.699E-02	371.90	1.376E-01	1.376E-01	1.070E-01
Pb-210	#	0.000E+00	3113.00	1.242E+00	1.242E+00	0.000E+00
Pb-212		6.664E-01	13.89	9.254E-02	1.056E-01	3.772E-02
Pb-214		5.614E-01	18.56	1.042E-01	1.118E-01	3.496E-02
Ra-226	#	5.394E-01	123.90	6.684E-01	6.697E-01	5.194E-01
Th-230	#AB	4.803E+00	480.50	2.308E+01	2.309E+01	1.869E+01
Th-234	#AB	5.082E-01	137.50	6.987E-01	7.004E-01	5.471E-01
Tl-208		1.751E-01	28.26	4.948E-02	5.083E-02	1.907E-02
U-235	#AB	2.376E-02	179.70	4.269E-02	4.273E-02	3.481E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.829E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-14
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:00
Acquisition Time: 4/12/2011 11:22:04
Analysis Time: 4/12/2011 12:07
Analysis Quantity: 3.640E+02 g

Spectrum ID: 11_20110412_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.846E-01	21.72	1.270E-01	1.333E-01	2.715E-02
Am-241	#AB	3.794E-03	4794.00	1.819E-01	1.819E-01	1.496E-01
Bi-212	#	1.953E-01	100.10	1.954E-01	1.958E-01	1.400E-01
Bi-214		3.513E-01	20.83	7.317E-02	7.684E-02	2.875E-02
Co-60	#AB	-4.911E-03	646.70	3.176E-02	3.176E-02	2.565E-02
Cs-137	#	3.189E-02	80.99	2.583E-02	2.592E-02	1.785E-02
Eu-152	#AB	-5.324E-03	1054.00	5.611E-02	5.612E-02	4.574E-02
Eu-154	#AB	3.442E-02	225.30	7.755E-02	7.759E-02	5.938E-02
K-40		8.328E+00	10.35	8.623E-01	1.041E+00	1.401E-01
Pa-234	#AB	-1.564E-02	1029.00	1.609E-01	1.609E-01	1.308E-01
Pb-210	#AB	3.448E-01	1972.00	6.798E+00	6.798E+00	5.577E+00
Pb-212		5.451E-01	13.45	7.329E-02	8.430E-02	3.040E-02
Pb-214		4.572E-01	16.53	7.558E-02	8.246E-02	2.724E-02
Ra-226		5.578E-01	90.07	5.024E-01	5.042E-01	3.817E-01
Th-230	#AB	5.110E+00	179.50	9.170E+00	9.211E+00	7.208E+00
Th-234	#	6.833E-01	66.89	4.570E-01	4.617E-01	3.407E-01
Tl-208		1.892E-01	18.49	3.498E-02	3.718E-02	6.653E-03
U-235	AB	2.521E-02	136.50	3.442E-02	3.447E-02	2.696E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.744E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:18

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-15
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:05
Acquisition Time: 4/12/2011 10:34:04
Analysis Time: 4/12/2011 11:19
Analysis Quantity: 3.790E+02 g

Spectrum ID: 10_20110412_007
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.10 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.131E+00	16.83	1.904E-01	2.059E-01	4.424E-02
Am-241	#AB	-5.052E-02	884.20	4.467E-01	4.467E-01	3.649E-01
Bi-212	#	3.390E-01	74.65	2.530E-01	2.541E-01	1.777E-01
Bi-214		5.923E-01	18.47	1.094E-01	1.163E-01	3.532E-02
Co-60	#AB	-3.441E-03	870.90	2.997E-02	2.997E-02	2.427E-02
Cs-137	#AB	1.148E-02	248.60	2.855E-02	2.856E-02	2.238E-02
Eu-152	#AB	0.000E+00	2000.00	2.536E-02	2.536E-02	8.057E-02
Eu-154	#AB	9.050E-03	968.50	8.765E-02	8.765E-02	7.107E-02
K-40		9.043E+00	10.98	9.932E-01	1.178E+00	1.382E-01
Pa-234	#AB	9.738E-03	1739.00	1.694E-01	1.694E-01	1.384E-01
Pb-210	#	0.000E+00	2000.00	1.956E+00	1.956E+00	0.000E+00
Pb-212		8.376E-01	12.25	1.026E-01	1.209E-01	4.258E-02
Pb-214		7.101E-01	15.82	1.123E-01	1.234E-01	4.078E-02
Ra-226		1.231E+00	54.46	6.701E-01	6.766E-01	4.909E-01
Th-230	#AB	1.193E+01	197.40	2.354E+01	2.362E+01	1.873E+01
Th-234	#	8.986E-01	75.50	6.785E-01	6.839E-01	5.149E-01
Tl-208		2.968E-01	17.70	5.252E-02	5.610E-02	1.664E-02
U-235	AB	3.469E-02	128.20	4.448E-02	4.455E-02	3.569E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.707E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-16
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:10
Acquisition Time: 4/13/2011 11:22:29
Analysis Time: 4/13/2011 12:07
Analysis Quantity: 3.510E+02 g

Spectrum ID: 12_20110413_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.811E-01	24.52	1.425E-01	1.481E-01	6.555E-02
Am-241	#AB	1.053E-01	215.30	2.268E-01	2.270E-01	1.805E-01
Bi-212	#AB	1.426E-01	143.50	2.046E-01	2.049E-01	1.534E-01
Bi-214		4.394E-01	18.44	8.104E-02	8.619E-02	3.180E-02
Co-60	#AB	-9.477E-03	371.60	3.521E-02	3.522E-02	2.807E-02
Cs-137	#	2.765E-02	105.90	2.928E-02	2.934E-02	2.142E-02
Eu-152	#AB	4.816E-03	1393.00	6.708E-02	6.708E-02	5.488E-02
Eu-154	#AB	6.576E-03	1281.00	8.422E-02	8.422E-02	6.857E-02
K-40		1.087E+01	9.40	1.022E+00	1.274E+00	1.177E-01
Pa-234	#AB	0.000E+00	2000.00	4.550E-02	4.550E-02	1.316E-01
Pb-210		0.000E+00	27080.00	1.996E+00	1.996E+00	0.000E+00
Pb-212		5.439E-01	14.53	7.903E-02	8.929E-02	3.445E-02
Pb-214		6.044E-01	15.53	9.386E-02	1.035E-01	2.695E-02
Ra-226		6.305E-01	80.07	5.048E-01	5.071E-01	3.774E-01
Th-230	#AB	2.327E+00	586.80	1.365E+01	1.366E+01	1.113E+01
Th-234		9.115E-01	52.92	4.823E-01	4.901E-01	2.832E-01
Tl-208		2.170E-01	20.90	4.534E-02	4.758E-02	1.666E-02
U-235		4.405E-02	76.03	3.350E-02	3.366E-02	2.489E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.746E+01

Analyst: Philip Smith

Reviewer: Philip Smith
Review Date: 4/14/2011 09:12

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-16DUP
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:10
Acquisition Time: 4/13/2011 13:30:28
Analysis Time: 4/13/2011 14:15
Analysis Quantity: 3.510E+02 g

Spectrum ID: 12_20110413_010
Sample Type: DUP
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.624E-01	37.09	1.344E-01	1.367E-01	7.965E-02
Am-241	#AB	8.993E-02	241.40	2.171E-01	2.172E-01	1.731E-01
Bi-212	#	2.023E-01	104.70	2.118E-01	2.123E-01	1.534E-01
Bi-214	#	3.317E-01	25.11	8.330E-02	8.619E-02	5.002E-02
Co-60	#AB	-4.023E-03	873.00	3.512E-02	3.512E-02	2.854E-02
Cs-137	#AB	1.536E-02	181.40	2.787E-02	2.789E-02	2.142E-02
Eu-152	#AB	-5.844E-03	1137.00	6.643E-02	6.643E-02	5.425E-02
Eu-154	#AB	0.000E+00	2000.00	1.753E-02	1.753E-02	1.444E-02
K-40		9.628E+00	9.69	9.329E-01	1.151E+00	5.266E-02
Pa-234	#AB	0.000E+00	2000.00	4.550E-02	4.550E-02	2.651E-02
Pb-210	#	0.000E+00	524.20	1.477E+00	1.477E+00	0.000E+00
Pb-212		6.075E-01	12.91	7.839E-02	9.110E-02	2.926E-02
Pb-214		5.092E-01	17.89	9.109E-02	9.821E-02	3.174E-02
Ra-226		7.093E-01	82.29	5.837E-01	5.862E-01	4.437E-01
Th-230	#AB	7.056E+00	175.60	1.239E+01	1.245E+01	9.803E+00
Th-234	#AB	2.606E-01	190.90	4.975E-01	4.981E-01	3.965E-01
Tl-208		2.448E-01	21.96	5.376E-02	5.617E-02	1.961E-02
U-235		3.703E-02	100.80	3.731E-02	3.742E-02	2.873E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.005E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/14/2011 09:12

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-17
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:15
Acquisition Time: 4/12/2011 12:06:10
Analysis Time: 4/12/2011 12:51
Analysis Quantity: 3.580E+02 g

Spectrum ID: 8_20110412_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		2.915E-01	38.91	1.134E-01	1.152E-01	6.438E-02
Am-241	#AB	-8.839E-02	212.40	1.877E-01	1.879E-01	1.499E-01
Bi-212	#	2.281E-01	94.19	2.148E-01	2.154E-01	1.539E-01
Bi-214		4.493E-01	20.82	9.356E-02	9.825E-02	2.908E-02
Co-60	#AB	6.302E-04	4485.00	2.826E-02	2.826E-02	2.321E-02
Cs-137	#AB	4.454E-04	6217.00	2.769E-02	2.769E-02	2.276E-02
Eu-152	#AB	-1.844E-02	361.90	6.675E-02	6.676E-02	5.352E-02
Eu-154	#AB	5.388E-03	1526.00	8.224E-02	8.224E-02	6.708E-02
K-40		1.240E+01	8.85	1.098E+00	1.400E+00	1.296E-01
Pa-234	#AB	3.409E-03	4270.00	1.456E-01	1.456E-01	1.195E-01
Pb-210	#AB	1.600E+00	345.60	5.529E+00	5.531E+00	4.518E+00
Pb-212		4.654E-01	15.55	7.236E-02	8.062E-02	3.226E-02
Pb-214		4.632E-01	17.48	8.095E-02	8.757E-02	2.852E-02
Ra-226	AB	3.579E-01	138.50	4.957E-01	4.964E-01	3.873E-01
Th-230	#AB	-4.907E+00	221.70	1.088E+01	1.091E+01	8.692E+00
Th-234	#	1.474E+00	37.44	5.519E-01	5.696E-01	2.796E-01
Tl-208		1.968E-01	21.39	4.209E-02	4.408E-02	1.553E-02
U-235		3.345E-02	96.71	3.235E-02	3.245E-02	2.462E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.797E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-18
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:20
Acquisition Time: 4/12/2011 12:07:29
Analysis Time: 4/12/2011 12:52
Analysis Quantity: 3.390E+02 g

Spectrum ID: 10_20110412_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.09 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.516E-01	18.03	1.536E-01	1.646E-01	1.613E-02
Am-241	#AB	2.240E-01	208.10	4.661E-01	4.665E-01	3.689E-01
Bi-212	#	3.446E-01	68.69	2.367E-01	2.378E-01	1.566E-01
Bi-214		6.462E-01	17.44	1.127E-01	1.206E-01	3.031E-02
Co-60	#AB	-1.064E-03	3409.00	3.627E-02	3.627E-02	2.976E-02
Cs-137	#AB	7.320E-03	390.10	2.856E-02	2.856E-02	2.271E-02
Eu-152	AB	4.705E-03	1568.00	7.377E-02	7.378E-02	6.037E-02
Eu-154	#AB	-9.204E-03	976.30	8.986E-02	8.986E-02	7.277E-02
K-40		8.990E+00	11.48	1.032E+00	1.209E+00	1.361E-01
Pa-234	#AB	-1.405E-02	1367.00	1.921E-01	1.921E-01	1.567E-01
Pb-210	#	0.000E+00	8477.00	1.687E+00	1.687E+00	0.000E+00
Pb-212		7.560E-01	13.37	1.011E-01	1.164E-01	4.245E-02
Pb-214		6.334E-01	17.11	1.083E-01	1.176E-01	3.707E-02
Ra-226		1.330E+00	49.94	6.642E-01	6.718E-01	4.714E-01
Th-230		2.954E+01	69.67	2.058E+01	2.118E+01	1.269E+01
Th-234	#	8.031E-01	83.67	6.720E-01	6.763E-01	5.091E-01
Tl-208		2.483E-01	19.79	4.912E-02	5.182E-02	1.554E-02
U-235	AB	1.731E-02	261.20	4.521E-02	4.523E-02	3.720E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 4.439E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-19
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:25
Acquisition Time: 4/12/2011 12:08:29
Analysis Time: 4/12/2011 12:53
Analysis Quantity: 3.560E+02 g

Spectrum ID: 11_20110412_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.009E-01	24.13	1.208E-01	1.258E-01	4.478E-02
Am-241	#AB	-9.758E-02	211.40	2.063E-01	2.065E-01	1.649E-01
Bi-212	#	2.019E-01	101.70	2.052E-01	2.057E-01	1.480E-01
Bi-214	#	4.289E-01	21.42	9.185E-02	9.621E-02	3.367E-02
Co-60	#AB	8.526E-03	361.70	3.084E-02	3.084E-02	2.446E-02
Cs-137	#AB	1.152E-02	236.70	2.728E-02	2.729E-02	2.134E-02
Eu-152	#AB	-6.184E-03	993.20	6.142E-02	6.142E-02	5.007E-02
Eu-154	#AB	0.000E+00	2000.00	2.976E-02	2.976E-02	9.106E-02
K-40		9.276E+00	9.91	9.195E-01	1.126E+00	1.432E-01
Pa-234	#AB	0.000E+00	2000.00	8.227E-02	8.227E-02	1.592E-01
Pb-210	#AB	3.849E+00	192.00	7.391E+00	7.400E+00	5.844E+00
Pb-212		5.814E-01	13.25	7.703E-02	8.892E-02	3.254E-02
Pb-214		6.104E-01	16.73	1.021E-01	1.112E-01	3.690E-02
Ra-226		8.286E-01	65.94	5.464E-01	5.500E-01	4.047E-01
Th-230	#AB	-6.518E-02	18870.00	1.230E+01	1.230E+01	1.013E+01
Th-234	#	1.035E+00	45.50	4.711E-01	4.813E-01	2.632E-01
Tl-208		2.225E-01	17.47	3.887E-02	4.159E-02	8.655E-03
U-235		4.646E-02	73.77	3.428E-02	3.446E-02	2.554E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.760E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:18

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-20
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:30
Acquisition Time: 4/12/2011 12:09:31
Analysis Time: 4/12/2011 12:54
Analysis Quantity: 3.700E+02 g

Spectrum ID: 12_20110412_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		8.329E-01	16.55	1.379E-01	1.495E-01	1.329E-02
Am-241	#AB	1.725E-01	129.40	2.232E-01	2.237E-01	1.736E-01
Bi-212	#	2.418E-01	85.51	2.067E-01	2.074E-01	1.455E-01
Bi-214		5.213E-01	16.14	8.416E-02	9.108E-02	3.030E-02
Co-60	#AB	4.077E-03	399.00	1.627E-02	1.627E-02	2.419E-02
Cs-137	#AB	3.964E-03	708.90	2.810E-02	2.810E-02	2.278E-02
Eu-152	#AB	-1.823E-03	3287.00	5.990E-02	5.990E-02	4.919E-02
Eu-154	#AB	1.220E-02	618.40	7.545E-02	7.545E-02	6.057E-02
K-40	#	6.669E+00	11.99	7.997E-01	9.262E-01	2.141E-01
Pa-234	#AB	1.738E-02	990.70	1.722E-01	1.722E-01	1.401E-01
Pb-210		0.000E+00	733.70	2.077E+00	2.077E+00	0.000E+00
Pb-212		6.857E-01	12.68	8.698E-02	1.015E-01	3.639E-02
Pb-214		5.751E-01	18.69	1.075E-01	1.152E-01	4.049E-02
Ra-226	AB	4.380E-01	130.60	5.719E-01	5.729E-01	4.493E-01
Th-230	#AB	5.359E-01	2049.00	1.098E+01	1.098E+01	9.012E+00
Th-234	#	6.732E-01	74.99	5.048E-01	5.089E-01	3.829E-01
Tl-208		2.976E-01	16.42	4.887E-02	5.272E-02	1.655E-02
U-235		5.512E-02	63.99	3.527E-02	3.552E-02	2.599E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.174E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:18

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-21
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:35
Acquisition Time: 4/12/2011 12:52:57
Analysis Time: 4/12/2011 13:38
Analysis Quantity: 3.780E+02 g

Spectrum ID: 8_20110412_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.12 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.671E-01	21.38	1.640E-01	1.724E-01	4.983E-02
Am-241	#AB	1.420E-02	1128.00	1.603E-01	1.603E-01	1.312E-01
Bi-212		3.400E-01	69.65	2.368E-01	2.379E-01	1.651E-01
Bi-214		5.175E-01	19.07	9.870E-02	1.046E-01	3.440E-02
Co-60	#AB	4.663E-03	415.60	1.938E-02	1.938E-02	2.187E-02
Cs-137	#AB	0.000E+00	2000.00	2.730E-02	2.730E-02	2.187E-02
Eu-152	AB	-5.317E-03	1125.00	5.983E-02	5.983E-02	4.885E-02
Eu-154	#AB	0.000E+00	2000.00	1.642E-02	1.642E-02	1.353E-02
K-40		1.041E+01	9.42	9.807E-01	1.222E+00	1.207E-01
Pa-234	#AB	6.844E-03	2275.00	1.557E-01	1.557E-01	1.275E-01
Pb-210	#AB	4.060E-01	1546.00	6.278E+00	6.279E+00	5.205E+00
Pb-212		6.713E-01	12.02	8.071E-02	9.563E-02	3.208E-02
Pb-214		5.043E-01	18.50	9.332E-02	1.002E-01	3.681E-02
Ra-226		7.898E-01	68.55	5.414E-01	5.447E-01	4.049E-01
Th-230	#AB	-3.505E-02	28800.00	1.010E+01	1.010E+01	8.316E+00
Th-234	#	4.550E-01	109.80	4.995E-01	5.014E-01	3.917E-01
Tl-208		2.443E-01	20.91	5.108E-02	5.360E-02	1.863E-02
U-235		3.110E-02	116.80	3.631E-02	3.639E-02	2.834E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.516E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-22
Sample Description: Parcel E

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:40
Acquisition Time: 4/12/2011 13:54:46
Analysis Time: 4/12/2011 15:25
Analysis Quantity: 3.460E+02 g

Spectrum ID: 9_20110412_006
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5412 sec
Dead Time: 0.23 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.257E-01	13.10	1.212E-01	1.372E-01	2.979E-02
Am-241	#AB	4.961E-02	274.30	1.361E-01	1.362E-01	1.103E-01
Bi-212		6.329E-01	32.12	2.033E-01	2.079E-01	8.264E-02
Bi-214		5.319E-01	14.20	7.554E-02	8.347E-02	3.040E-02
Co-60	#AB	-2.968E-03	659.20	1.956E-02	1.957E-02	1.585E-02
Cs-137	#	2.885E-02	68.62	1.980E-02	1.990E-02	1.425E-02
Eu-152	#AB	-2.410E-02	226.00	5.446E-02	5.449E-02	4.368E-02
Eu-154	#	2.698E-02	113.90	3.074E-02	3.080E-02	1.886E-02
K-40	#	9.716E+00	7.33	7.120E-01	9.851E-01	9.552E-02
Pa-234	#AB	-5.255E-03	2139.00	1.124E-01	1.124E-01	9.216E-02
Pb-210	#AB	1.234E+00	332.00	4.098E+00	4.099E+00	3.328E+00
Pb-212		8.007E-01	8.65	6.925E-02	9.241E-02	2.883E-02
Pb-214		7.172E-01	10.94	7.842E-02	9.393E-02	2.933E-02
Ra-226		9.284E-01	44.34	4.116E-01	4.176E-01	3.049E-01
Th-230	#AB	4.156E-01	2397.00	9.960E+00	9.960E+00	8.193E+00
Th-234		4.095E-01	86.72	3.551E-01	3.573E-01	2.793E-01
Tl-208		2.457E-01	15.71	3.858E-02	4.190E-02	1.385E-02
U-235		3.504E-02	81.84	2.868E-02	2.880E-02	2.242E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.670E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-23
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:45
Acquisition Time: 4/12/2011 13:55:44
Analysis Time: 4/12/2011 15:26
Analysis Quantity: 3.470E+02 g

Spectrum ID: 10_20110412_011
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5405 sec
Dead Time: 0.10 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.921E-01	14.59	1.156E-01	1.280E-01	2.467E-02
Am-241	#AB	0.000E+00	2000.00	2.399E-01	2.399E-01	3.553E-01
Bi-212		7.621E-01	24.58	1.873E-01	1.944E-01	5.900E-02
Bi-214		5.758E-01	13.77	7.930E-02	8.813E-02	2.394E-02
Co-60	#AB	-4.368E-03	523.30	2.286E-02	2.286E-02	1.845E-02
Cs-137	#AB	2.531E-03	778.70	1.971E-02	1.971E-02	1.604E-02
Eu-152	AB	1.845E-03	2928.00	5.402E-02	5.402E-02	4.439E-02
Eu-154	#AB	-9.665E-03	665.40	6.431E-02	6.431E-02	5.208E-02
K-40		9.355E+00	7.77	7.268E-01	9.788E-01	7.282E-02
Pa-234	#AB	-1.403E-02	754.00	1.058E-01	1.058E-01	8.575E-02
Pb-210	#	0.000E+00	15330.00	1.958E+00	1.958E+00	0.000E+00
Pb-212		8.383E-01	9.59	8.037E-02	1.028E-01	3.273E-02
Pb-214		6.278E-01	12.49	7.839E-02	9.052E-02	2.831E-02
Ra-226		7.927E-01	59.80	4.740E-01	4.778E-01	3.606E-01
Th-230	#AB	-4.561E-01	3982.00	1.816E+01	1.816E+01	1.494E+01
Th-234	#	6.767E-01	81.98	5.547E-01	5.584E-01	4.352E-01
Tl-208		2.773E-01	13.47	3.735E-02	4.165E-02	1.173E-02
U-235		3.443E-02	89.50	3.082E-02	3.093E-02	2.470E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.474E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:17

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-24
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:50
Acquisition Time: 4/12/2011 12:56:16
Analysis Time: 4/12/2011 13:41
Analysis Quantity: 3.600E+02 g

Spectrum ID: 11_20110412_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.112E-01	30.49	1.254E-01	1.286E-01	6.519E-02
Am-241	#AB	8.776E-02	187.80	1.648E-01	1.650E-01	1.301E-01
Bi-212	#	2.089E-01	103.50	2.162E-01	2.167E-01	1.578E-01
Bi-214		3.904E-01	18.83	7.352E-02	7.801E-02	2.459E-02
Co-60	#AB	3.572E-03	551.40	1.970E-02	1.970E-02	2.099E-02
Cs-137	#AB	-5.870E-04	4828.00	2.834E-02	2.834E-02	2.329E-02
Eu-152	#AB	-5.924E-05	97600.00	5.782E-02	5.782E-02	4.762E-02
Eu-154	#AB	-4.695E-03	1476.00	6.928E-02	6.928E-02	5.639E-02
K-40		7.911E+00	10.69	8.457E-01	1.011E+00	1.416E-01
Pa-234	#AB	-3.123E-02	552.90	1.727E-01	1.727E-01	1.390E-01
Pb-210	#	6.315E+00	86.69	5.475E+00	5.509E+00	3.951E+00
Pb-212		5.871E-01	12.89	7.569E-02	8.798E-02	3.159E-02
Pb-214		4.043E-01	19.69	7.961E-02	8.477E-02	3.374E-02
Ra-226		9.199E-01	50.41	4.637E-01	4.689E-01	3.214E-01
Th-230	#AB	7.146E-01	1450.00	1.036E+01	1.036E+01	8.493E+00
Th-234		9.272E-01	63.24	5.864E-01	5.930E-01	3.188E-01
Tl-208		2.076E-01	17.99	3.735E-02	3.982E-02	8.432E-03
U-235	AB	8.925E-03	353.60	3.156E-02	3.157E-02	2.546E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.910E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:18

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-25
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 14:55
Acquisition Time: 4/12/2011 12:57:48
Analysis Time: 4/12/2011 13:42
Analysis Quantity: 3.430E+02 g

Spectrum ID: 12_20110412_010
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.066E-01	26.67	1.351E-01	1.396E-01	6.266E-02
Am-241	#AB	-3.689E-02	603.40	2.226E-01	2.226E-01	1.810E-01
Bi-212	#	3.881E-01	58.87	2.285E-01	2.300E-01	1.478E-01
Bi-214		5.519E-01	18.14	1.001E-01	1.067E-01	3.999E-02
Co-60	#AB	1.035E-02	314.00	3.250E-02	3.251E-02	2.563E-02
Cs-137	#AB	1.196E-02	243.00	2.906E-02	2.907E-02	2.277E-02
Eu-152	#AB	5.707E-03	1126.00	6.427E-02	6.427E-02	5.247E-02
Eu-154	AB	0.000E+00	2000.00	1.268E-02	1.268E-02	1.344E-01
K-40		1.004E+01	9.60	9.636E-01	1.193E+00	5.389E-02
Pa-234	#AB	-3.417E-02	549.90	1.879E-01	1.879E-01	1.513E-01
Pb-210	#	0.000E+00	7089.00	1.783E+00	1.783E+00	0.000E+00
Pb-212		6.012E-01	14.24	8.558E-02	9.713E-02	3.609E-02
Pb-214		5.320E-01	15.31	8.143E-02	9.001E-02	2.307E-02
Ra-226		8.485E-01	63.39	5.379E-01	5.417E-01	3.928E-01
Th-230	#AB	-2.525E+00	522.50	1.319E+01	1.320E+01	1.073E+01
Th-234		7.291E-01	75.54	5.508E-01	5.552E-01	3.361E-01
Tl-208		2.171E-01	18.64	4.047E-02	4.296E-02	1.399E-02
U-235	AB	1.261E-02	314.30	3.961E-02	3.962E-02	3.199E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.445E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/13/2011 11:18

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0421-26
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: E0421
Sample Time: 4/11/2011 15:00
Acquisition Time: 4/12/2011 09:28:39
Analysis Time: 4/12/2011 10:13
Analysis Quantity: 3.440E+02 g

Spectrum ID: 6_20110412_005
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 3/8/2011 12:39
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.126E-01	35.22	1.805E-01	1.840E-01	1.028E-01
Am-241	#AB	-7.969E-03	1304.00	1.039E-01	1.039E-01	8.531E-02
Bi-212	#AB	5.226E-02	573.90	2.999E-01	3.000E-01	2.669E-01
Bi-214		4.461E-01	25.48	1.137E-01	1.175E-01	5.597E-02
Co-60	#AB	-8.904E-03	433.10	3.856E-02	3.857E-02	3.065E-02
Cs-137	#AB	1.654E-02	237.20	3.923E-02	3.925E-02	3.071E-02
Eu-152	#AB	-2.420E-02	397.00	9.608E-02	9.609E-02	7.735E-02
Eu-154	#AB	0.000E+00	2000.00	5.454E-02	5.454E-02	1.309E-01
K-40		8.340E+00	12.63	1.053E+00	1.205E+00	2.749E-01
Pa-234	#AB	-5.637E-02	396.90	2.237E-01	2.238E-01	1.777E-01
Pb-210		1.233E+00	121.90	1.503E+00	1.506E+00	8.764E-01
Pb-212		6.130E-01	16.37	1.003E-01	1.107E-01	4.907E-02
Pb-214		6.004E-01	21.58	1.296E-01	1.366E-01	4.947E-02
Ra-226	AB	3.799E-01	196.40	7.462E-01	7.467E-01	5.962E-01
Th-230	#AB	-2.767E+00	316.90	8.768E+00	8.781E+00	7.118E+00
Th-234		1.037E+00	65.80	6.823E-01	6.895E-01	4.847E-01
Tl-208		2.326E-01	22.58	5.252E-02	5.475E-02	2.416E-02
U-235	#AB	0.000E+00	0.00	5.088E-02	5.088E-02	5.045E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.346E+01

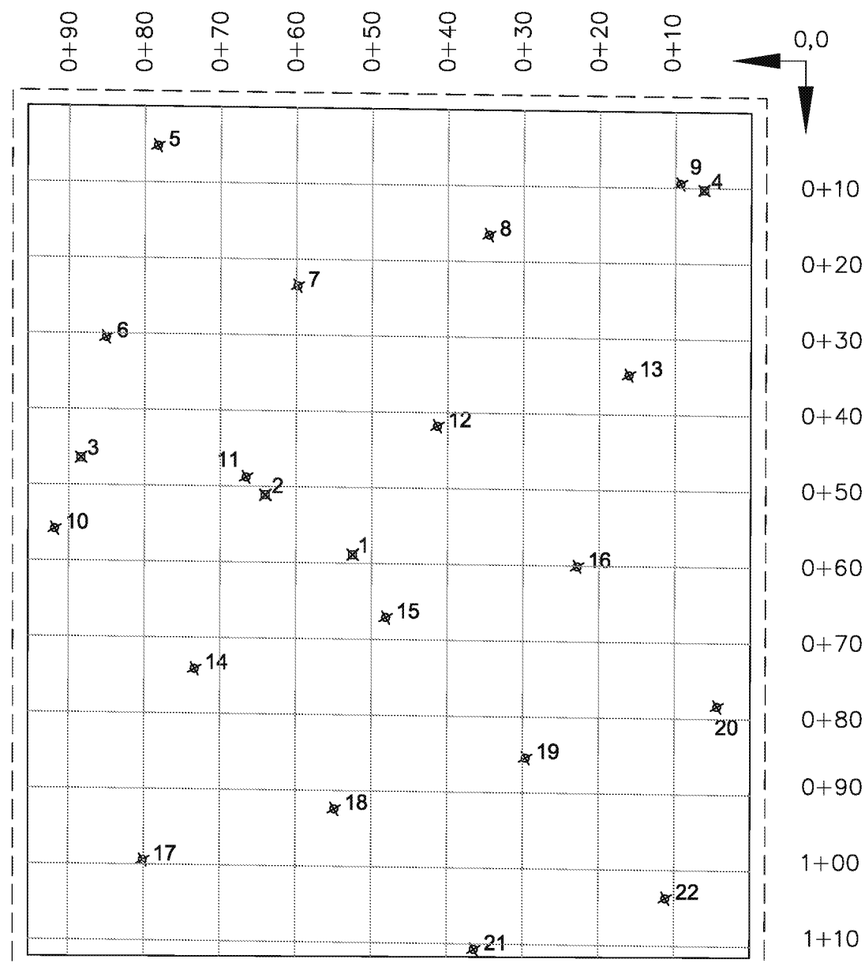
Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/12/2011 10:39

EXCAVATED SOIL UNIT 439

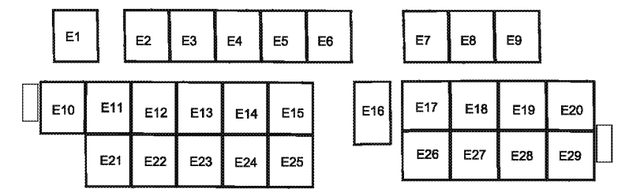
0439-E25

(NON-IR , WORK AREA 33 SOIL)



10 0 10 20
(feet)

BIASED SAMPLES 1–4
SYSTEMATIC SAMPLES 5–22



KEY PLAN

LEGEND:

1 BIASED

5 SYSTEMATIC

RECORD DRAWING

RADIOLOGICAL SCREENING YARD 4 (RSY4)
SOIL SAMPLING LOCATIONS AREA E25

HUNTERS POINT SHIPYARD-SAN FRANCISCO, CA

TETRA TECH EC, INC.

DRAWING NO: 04-PE-0439-E25.DWG

DCN:

TASK: CTO 04

APPROVED BY: GC

CHECKED BY: SH/LP

REV:

DRAWN BY: DJM

P:\CAD PROJECT FILES\CTO-RSY 4_PAD SURVEYS CAD FILES\DWG FILES\ACTIVE\04-PE-0439-E25.DWG
PLOT/UPDATE: APR 12 2011 13:10:50

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-01
Sample Description: Parcel E

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 09:40
Acquisition Time: 4/14/2011 08:30:07
Analysis Time: 4/14/2011 09:15
Analysis Quantity: 3.750E+02 g

Spectrum ID: 1_20110414_004
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #1 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/20/2011 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.080E+00	16.40	1.771E-01	1.924E-01	3.943E-02
Am-241	#AB	2.263E-01	138.10	3.126E-01	3.132E-01	2.445E-01
Bi-212		5.773E-01	47.15	2.722E-01	2.750E-01	1.757E-01
Bi-214		6.875E-01	14.70	1.011E-01	1.110E-01	3.129E-02
Co-60	#AB	-5.239E-03	554.30	2.904E-02	2.905E-02	2.330E-02
Cs-137	#AB	1.190E-02	253.90	3.021E-02	3.022E-02	2.382E-02
Eu-152	#AB	-2.925E-02	292.90	8.569E-02	8.572E-02	6.876E-02
Eu-154	#AB	-1.862E-02	480.80	8.953E-02	8.954E-02	7.161E-02
K-40		7.969E+00	11.82	9.415E-01	1.095E+00	2.502E-01
Pa-234	#AB	3.583E-02	470.60	1.686E-01	1.686E-01	1.349E-01
Pb-210	#	0.000E+00	99.77	2.099E+00	2.108E+00	0.000E+00
Pb-212		1.017E+00	10.11	1.028E-01	1.289E-01	3.858E-02
Pb-214		9.136E-01	13.40	1.224E-01	1.390E-01	4.138E-02
Ra-226		1.063E+00	62.45	6.640E-01	6.689E-01	4.967E-01
Th-230	#AB	-4.669E+00	400.00	1.867E+01	1.869E+01	1.517E+01
Th-234		1.553E+00	57.01	8.854E-01	8.977E-01	4.937E-01
Tl-208		3.647E-01	15.88	5.792E-02	6.279E-02	1.994E-02
U-235		4.752E-02	98.97	4.703E-02	4.717E-02	3.667E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.555E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/14/2011 12:30

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-02
Sample Description: Parcel E

Detector: HPGe #11 51-TP32744A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 09:45
Acquisition Time: 4/14/2011 14:17:19
Analysis Time: 4/14/2011 15:02
Analysis Quantity: 3.220E+02 g

Spectrum ID: 11_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.09 %

Efficiency: HPGe #11 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/28/2011 17:38
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.900E-01	16.12	1.596E-01	1.737E-01	1.498E-02
Am-241	#AB	1.065E-02	1673.00	1.781E-01	1.781E-01	1.460E-01
Bi-212	#	2.714E-01	87.10	2.364E-01	2.371E-01	1.674E-01
Bi-214		5.913E-01	19.01	1.124E-01	1.191E-01	4.249E-02
Co-60	#AB	1.736E-02	153.40	2.662E-02	2.665E-02	1.937E-02
Cs-137	#AB	-4.542E-03	650.90	2.956E-02	2.956E-02	2.390E-02
Eu-152	#AB	-4.467E-03	1580.00	7.057E-02	7.057E-02	5.777E-02
Eu-154	#AB	8.333E-03	1068.00	8.902E-02	8.902E-02	7.229E-02
K-40		8.899E+00	11.05	9.836E-01	1.165E+00	2.025E-01
Pa-234	#AB	0.000E+00	2000.00	2.431E-02	2.431E-02	1.406E-01
Pb-210	#AB	4.218E+00	195.60	8.249E+00	8.259E+00	6.530E+00
Pb-212		9.188E-01	10.65	9.786E-02	1.204E-01	3.597E-02
Pb-214		6.868E-01	14.74	1.013E-01	1.127E-01	3.633E-02
Ra-226		6.653E-01	83.82	5.577E-01	5.599E-01	4.296E-01
Th-230	#AB	-1.703E+00	755.70	1.287E+01	1.287E+01	1.051E+01
Th-234		9.694E-01	69.93	6.779E-01	6.842E-01	3.991E-01
Tl-208		2.725E-01	18.10	4.930E-02	5.252E-02	1.557E-02
U-235	AB	2.263E-02	179.30	4.058E-02	4.062E-02	3.224E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.854E+01

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 4/15/2011 16:35

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-03
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 09:50
Acquisition Time: 4/14/2011 13:17:08
Analysis Time: 4/14/2011 14:02
Analysis Quantity: 3.040E+02 g

Spectrum ID: 8_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.12 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.955E-01	20.75	1.650E-01	1.740E-01	3.781E-02
Am-241	#AB	-1.674E-02	1630.00	2.729E-01	2.729E-01	2.241E-01
Bi-212	#	4.677E-01	51.70	2.418E-01	2.439E-01	1.456E-01
Bi-214		6.129E-01	17.47	1.070E-01	1.146E-01	3.203E-02
Co-60	#AB	-4.772E-04	7505.00	3.581E-02	3.581E-02	2.945E-02
Cs-137	#	2.942E-02	120.30	3.540E-02	3.546E-02	2.644E-02
Eu-152	#AB	-2.930E-02	263.70	7.727E-02	7.730E-02	6.128E-02
Eu-154	#AB	-3.053E-02	355.30	1.085E-01	1.085E-01	8.594E-02
K-40		1.124E+01	9.71	1.092E+00	1.346E+00	6.178E-02
Pa-234	#AB	1.235E-02	1352.00	1.669E-01	1.669E-01	1.359E-01
Pb-210	#AB	2.085E+00	329.00	6.857E+00	6.860E+00	5.594E+00
Pb-212		8.296E-01	11.99	9.951E-02	1.180E-01	4.123E-02
Pb-214		7.416E-01	14.82	1.099E-01	1.222E-01	3.648E-02
Ra-226		5.346E-01	124.50	6.658E-01	6.670E-01	5.295E-01
Th-230	#AB	1.445E+00	986.30	1.425E+01	1.425E+01	1.167E+01
Th-234		1.498E+00	47.05	7.048E-01	7.192E-01	3.888E-01
Tl-208		3.310E-01	16.84	5.575E-02	5.994E-02	1.820E-02
U-235		4.640E-02	93.45	4.336E-02	4.350E-02	3.325E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.067E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/15/2011 16:34

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-04
Sample Description: Parcel E

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 09:55
Acquisition Time: 4/14/2011 13:18:05
Analysis Time: 4/14/2011 14:03
Analysis Quantity: 3.160E+02 g

Spectrum ID: 9_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.17 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.505E-01	18.65	1.400E-01	1.494E-01	1.521E-02
Am-241	#AB	8.451E-04	18300.00	1.546E-01	1.546E-01	1.273E-01
Bi-212	AB	1.658E-01	143.60	2.381E-01	2.383E-01	1.799E-01
Bi-214		4.621E-01	22.00	1.017E-01	1.062E-01	4.424E-02
Co-60	#AB	-1.291E-02	301.00	3.886E-02	3.887E-02	3.072E-02
Cs-137	#AB	-2.288E-02	131.70	3.013E-02	3.017E-02	2.251E-02
Eu-152	#AB	1.208E-02	503.60	6.082E-02	6.083E-02	4.895E-02
Eu-154	#AB	-3.215E-02	294.30	9.460E-02	9.462E-02	7.393E-02
K-40		1.309E+01	8.90	1.165E+00	1.482E+00	6.038E-02
Pa-234	#AB	-9.302E-03	1965.00	1.828E-01	1.828E-01	1.495E-01
Pb-210	#AB	-2.034E+00	292.40	5.947E+00	5.950E+00	4.780E+00
Pb-212		6.076E-01	13.91	8.453E-02	9.644E-02	3.619E-02
Pb-214		6.246E-01	15.79	9.865E-02	1.084E-01	3.374E-02
Ra-226		5.266E-01	103.80	5.467E-01	5.481E-01	4.284E-01
Th-230	#AB	-4.585E+00	270.20	1.239E+01	1.241E+01	9.966E+00
Th-234	#	1.245E+00	47.29	5.888E-01	6.007E-01	3.250E-01
Tl-208		2.306E-01	20.58	4.746E-02	4.987E-02	1.545E-02
U-235	AB	1.885E-02	189.70	3.577E-02	3.580E-02	2.834E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.773E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/15/2011 16:35

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-05
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:00
Acquisition Time: 4/14/2011 13:19:09
Analysis Time: 4/14/2011 14:04
Analysis Quantity: 3.440E+02 g

Spectrum ID: 10_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.281E-01	25.05	1.323E-01	1.373E-01	3.016E-02
Am-241	#AB	-1.097E-02	3983.00	4.372E-01	4.372E-01	3.594E-01
Bi-212	#	2.022E-01	109.50	2.214E-01	2.218E-01	1.595E-01
Bi-214	#	2.988E-01	25.51	7.622E-02	7.879E-02	3.655E-02
Co-60	#AB	-1.732E-03	2045.00	3.543E-02	3.544E-02	2.900E-02
Cs-137	#	2.763E-02	110.20	3.044E-02	3.050E-02	2.213E-02
Eu-152	#AB	-1.856E-02	389.60	7.231E-02	7.232E-02	5.796E-02
Eu-154	#AB	2.724E-03	2869.00	7.815E-02	7.815E-02	6.396E-02
K-40		1.169E+01	9.63	1.127E+00	1.393E+00	6.322E-02
Pa-234	#AB	1.301E-02	855.60	1.113E-01	1.113E-01	8.918E-02
Pb-210	#	0.000E+00	483.90	4.969E-01	4.970E-01	0.000E+00
Pb-212		5.332E-01	15.71	8.378E-02	9.316E-02	3.401E-02
Pb-214		4.490E-01	22.24	9.987E-02	1.050E-01	3.851E-02
Ra-226	#	6.268E-01	91.70	5.748E-01	5.768E-01	4.451E-01
Th-230	#AB	6.209E+00	340.70	2.115E+01	2.118E+01	1.700E+01
Th-234	#AB	-5.206E-02	1481.00	7.707E-01	7.707E-01	6.325E-01
Tl-208		1.647E-01	26.04	4.288E-02	4.426E-02	1.477E-02
U-235	#	3.844E-02	97.89	3.763E-02	3.774E-02	2.961E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.079E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/15/2011 16:35

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-06
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:05
Acquisition Time: 4/14/2011 13:20:41
Analysis Time: 4/14/2011 14:05
Analysis Quantity: 3.030E+02 g

Spectrum ID: 12_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.896E-01	20.10	1.386E-01	1.467E-01	1.623E-02
Am-241	#AB	2.354E-02	1418.00	3.337E-01	3.337E-01	2.738E-01
Bi-212	#	2.795E-01	81.85	2.287E-01	2.295E-01	1.563E-01
Bi-214		5.973E-01	16.15	9.645E-02	1.044E-01	2.896E-02
Co-60	#AB	1.592E-02	188.40	2.999E-02	3.001E-02	2.250E-02
Cs-137	#AB	1.723E-02	191.60	3.302E-02	3.304E-02	2.552E-02
Eu-152	#AB	-2.518E-02	306.10	7.706E-02	7.708E-02	6.145E-02
Eu-154	#AB	0.000E+00	2000.00	1.436E-02	1.436E-02	1.072E-01
K-40		1.024E+01	10.64	1.090E+00	1.304E+00	1.494E-01
Pa-234	#AB	1.475E-02	1183.00	1.745E-01	1.745E-01	1.419E-01
Pb-210	#	0.000E+00	601.30	7.136E-01	7.137E-01	0.000E+00
Pb-212		7.859E-01	12.26	9.634E-02	1.135E-01	3.761E-02
Pb-214		5.973E-01	17.32	1.034E-01	1.120E-01	3.467E-02
Ra-226		7.356E-01	88.08	6.479E-01	6.503E-01	5.030E-01
Th-230	#AB	6.001E+00	255.60	1.534E+01	1.537E+01	1.231E+01
Th-234		1.616E+00	38.99	6.299E-01	6.485E-01	3.361E-01
Tl-208	#	2.604E-01	19.43	5.058E-02	5.346E-02	1.745E-02
U-235		3.747E-02	116.80	4.374E-02	4.383E-02	3.404E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.191E+01

Analyst: Isaako Tapelu

Reviewer: Philip Smith
Review Date: 4/15/2011 16:36

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-07
Sample Description: Parcel E

Detector: HPGe #8 51-TP42242A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:10
Acquisition Time: 4/14/2011 14:14:00
Analysis Time: 4/14/2011 15:21
Analysis Quantity: 3.090E+02 g

Spectrum ID: 8_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #8 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:42
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.644E-01	19.12	1.844E-01	1.961E-01	4.739E-02
Am-241	#AB	2.157E-02	838.50	1.809E-01	1.809E-01	1.477E-01
Bi-212		4.180E-01	60.81	2.542E-01	2.558E-01	1.661E-01
Bi-214		5.787E-01	19.32	1.118E-01	1.183E-01	3.691E-02
Co-60	#AB	-3.080E-03	1138.00	3.505E-02	3.505E-02	2.852E-02
Cs-137		8.327E-02	50.78	4.228E-02	4.266E-02	1.762E-02
Eu-152	#AB	-5.327E-04	13910.00	7.412E-02	7.412E-02	6.101E-02
Eu-154	#AB	-2.784E-02	344.50	9.589E-02	9.591E-02	7.552E-02
K-40		1.072E+01	9.87	1.058E+00	1.297E+00	6.078E-02
Pa-234	#AB	3.219E-02	559.10	1.800E-01	1.800E-01	1.444E-01
Pb-210	#AB	1.509E+00	474.40	7.157E+00	7.159E+00	5.879E+00
Pb-212		7.737E-01	12.40	9.591E-02	1.127E-01	3.920E-02
Pb-214		6.104E-01	16.69	1.019E-01	1.110E-01	3.747E-02
Ra-226		6.419E-01	99.39	6.380E-01	6.398E-01	5.002E-01
Th-230	#AB	1.862E+00	679.70	1.266E+01	1.266E+01	1.033E+01
Th-234	AB	2.849E-01	207.50	5.911E-01	5.918E-01	4.743E-01
Tl-208	#	2.580E-01	20.10	5.187E-02	5.463E-02	1.926E-02
U-235		3.528E-02	122.30	4.314E-02	4.322E-02	3.370E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.879E+01

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 4/15/2011 16:34

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-08
Sample Description: Parcel E

Detector: HPGe #2 50-TP42229A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:15
Acquisition Time: 4/14/2011 12:23:50
Analysis Time: 4/14/2011 13:09
Analysis Quantity: 3.390E+02 g

Spectrum ID: 2_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.11 %

Efficiency: HPGe #2 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/19/2011 21:26
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.908E-01	34.37	1.343E-01	1.370E-01	7.210E-02
Am-241	#AB	-1.268E-01	241.50	3.062E-01	3.064E-01	2.450E-01
Bi-212	#AB	1.213E-01	171.50	2.080E-01	2.082E-01	1.574E-01
Bi-214	#	3.159E-01	24.64	7.784E-02	8.065E-02	3.748E-02
Co-60	#AB	3.381E-03	458.20	1.549E-02	1.549E-02	3.217E-02
Cs-137	#AB	1.301E-02	195.40	2.543E-02	2.544E-02	1.935E-02
Eu-152	#AB	-1.872E-02	360.90	6.757E-02	6.758E-02	5.396E-02
Eu-154	#AB	1.667E-02	531.00	8.851E-02	8.852E-02	7.073E-02
K-40		9.748E+00	10.98	1.070E+00	1.270E+00	1.850E-01
Pa-234	#AB	2.669E-03	5514.00	1.472E-01	1.472E-01	1.209E-01
Pb-210	#	0.000E+00	474.70	1.966E+00	1.966E+00	0.000E+00
Pb-212		5.714E-01	14.64	8.366E-02	9.437E-02	3.536E-02
Pb-214		5.390E-01	18.52	9.982E-02	1.071E-01	3.533E-02
Ra-226		4.607E-01	113.50	5.228E-01	5.240E-01	4.113E-01
Th-230	#AB	-2.519E+00	670.20	1.688E+01	1.689E+01	1.377E+01
Th-234	#	5.920E-01	86.54	5.123E-01	5.154E-01	3.867E-01
Tl-208	#	1.524E-01	23.93	3.647E-02	3.785E-02	1.496E-02
U-235	AB	2.655E-03	1392.00	3.696E-02	3.696E-02	3.029E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.293E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:32

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-09
Sample Description: Parcel E

Detector: HPGe #2 50-TP42229A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:20
Acquisition Time: 4/14/2011 13:13:48
Analysis Time: 4/14/2011 13:59
Analysis Quantity: 3.040E+02 g

Spectrum ID: 2_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.12 %

Efficiency: HPGe #2 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/19/2011 21:26
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		6.278E-01	26.86	1.686E-01	1.742E-01	5.509E-02
Am-241	#AB	2.141E-01	139.80	2.994E-01	3.000E-01	2.325E-01
Bi-212		2.705E-01	92.57	2.504E-01	2.511E-01	1.765E-01
Bi-214		5.626E-01	19.03	1.070E-01	1.134E-01	2.980E-02
Co-60	#AB	-1.717E-03	2097.00	3.600E-02	3.601E-02	2.946E-02
Cs-137	#	3.465E-02	93.05	3.224E-02	3.233E-02	2.268E-02
Eu-152	#AB	-2.268E-03	3599.00	8.161E-02	8.161E-02	6.704E-02
Eu-154	#AB	-9.813E-03	939.50	9.219E-02	9.219E-02	7.458E-02
K-40		1.240E+01	9.60	1.191E+00	1.474E+00	6.658E-02
Pa-234	#AB	-1.704E-02	874.70	1.491E-01	1.491E-01	1.201E-01
Pb-210	#	0.000E+00	384.70	1.488E+00	1.488E+00	0.000E+00
Pb-212		7.207E-01	14.23	1.026E-01	1.164E-01	4.221E-02
Pb-214		5.592E-01	18.02	1.008E-01	1.085E-01	3.322E-02
Ra-226		9.954E-01	68.20	6.788E-01	6.830E-01	5.126E-01
Th-230	#AB	-3.212E-01	4019.00	1.291E+01	1.291E+01	1.061E+01
Th-234	#	5.344E-01	115.60	6.179E-01	6.200E-01	4.799E-01
Tl-208		2.752E-01	17.18	4.729E-02	5.070E-02	8.089E-03
U-235	AB	1.411E-02	356.20	5.026E-02	5.027E-02	4.070E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.721E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:32

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-10
Sample Description: Parcel E

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:25
Acquisition Time: 4/14/2011 13:11:44
Analysis Time: 4/14/2011 13:57
Analysis Quantity: 3.400E+02 g

Spectrum ID: 1_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #1 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/20/2011 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		9.132E-01	18.56	1.695E-01	1.810E-01	3.362E-02
Am-241	#AB	6.698E-02	380.20	2.546E-01	2.547E-01	2.046E-01
Bi-212	#	3.433E-01	72.54	2.490E-01	2.501E-01	1.713E-01
Bi-214		6.556E-01	16.96	1.112E-01	1.195E-01	3.827E-02
Co-60	#AB	9.724E-03	347.30	3.377E-02	3.378E-02	2.672E-02
Cs-137	#AB	0.000E+00	2000.00	3.451E-02	3.451E-02	3.464E-02
Eu-152	#AB	1.520E-03	4777.00	7.261E-02	7.261E-02	5.969E-02
Eu-154	#AB	0.000E+00	2000.00	1.925E-02	1.925E-02	9.985E-02
K-40		8.999E+00	12.13	1.092E+00	1.261E+00	3.087E-01
Pa-234	#AB	3.093E-02	528.80	1.635E-01	1.635E-01	1.308E-01
Pb-210	#	0.000E+00	323.90	1.272E+00	1.272E+00	0.000E+00
Pb-212		8.366E-01	11.19	9.365E-02	1.134E-01	3.507E-02
Pb-214		7.062E-01	16.99	1.200E-01	1.303E-01	4.448E-02
Ra-226	#	8.649E-01	78.73	6.809E-01	6.841E-01	5.173E-01
Th-230	#AB	-1.265E+00	1442.00	1.824E+01	1.824E+01	1.496E+01
Th-234		1.208E+00	50.22	6.066E-01	6.175E-01	3.565E-01
Tl-208		2.976E-01	19.86	5.908E-02	6.231E-02	2.014E-02
U-235		5.956E-02	75.20	4.479E-02	4.501E-02	3.384E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.499E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:32

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-10DUP
Sample Description: Parcel E

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:25
Acquisition Time: 4/14/2011 14:54:54
Analysis Time: 4/14/2011 15:40
Analysis Quantity: 3.400E+02 g

Spectrum ID: 1_20110414_011
Sample Type: DUP
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #1 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/20/2011 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.007E+00	17.86	1.798E-01	1.929E-01	3.562E-02
Am-241	#AB	-9.197E-02	419.90	3.861E-01	3.862E-01	3.134E-01
Bi-212	#	3.926E-01	66.16	2.597E-01	2.611E-01	1.767E-01
Bi-214		5.492E-01	19.29	1.060E-01	1.121E-01	3.860E-02
Co-60	#AB	8.592E-03	312.20	2.682E-02	2.683E-02	2.086E-02
Cs-137	#	2.498E-02	123.00	3.071E-02	3.076E-02	2.279E-02
Eu-152	AB	2.381E-03	2845.00	6.773E-02	6.773E-02	5.559E-02
Eu-154	#AB	-2.401E-02	392.50	9.422E-02	9.423E-02	7.470E-02
K-40		9.631E+00	10.36	9.975E-01	1.204E+00	2.001E-01
Pa-234	#AB	5.555E-02	323.90	1.799E-01	1.800E-01	1.418E-01
Pb-210	#	0.000E+00	623.80	1.292E+00	1.292E+00	0.000E+00
Pb-212		8.887E-01	10.50	9.328E-02	1.154E-01	3.193E-02
Pb-214		7.007E-01	15.39	1.078E-01	1.191E-01	3.519E-02
Ra-226		8.690E-01	74.79	6.499E-01	6.533E-01	4.892E-01
Th-230	#AB	3.673E+00	555.20	2.039E+01	2.040E+01	1.663E+01
Th-234	#	1.643E+00	51.92	8.528E-01	8.671E-01	4.384E-01
Tl-208		2.627E-01	19.03	5.000E-02	5.296E-02	1.748E-02
U-235		7.178E-02	60.52	4.344E-02	4.378E-02	3.194E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.978E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:32

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-11
Sample Description: Parcel E

Detector: HPGe #3 51-TP32733A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:30
Acquisition Time: 4/14/2011 14:08:05
Analysis Time: 4/14/2011 15:38
Analysis Quantity: 3.150E+02 g

Spectrum ID: 3_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5410 sec
Dead Time: 0.19 %

Efficiency: HPGe #3 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/21/2011 13:54
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		1.284E+00	12.26	1.574E-01	1.809E-01	4.216E-02
Am-241	#AB	4.575E-03	3493.00	1.598E-01	1.598E-01	1.315E-01
Bi-212	#	7.137E-01	27.36	1.953E-01	2.013E-01	1.125E-01
Bi-214		7.486E-01	11.41	8.541E-02	9.896E-02	3.128E-02
Co-60	#AB	1.836E-03	452.00	8.299E-03	8.300E-03	1.751E-02
Cs-137	#	2.945E-02	78.81	2.320E-02	2.329E-02	1.716E-02
Eu-152	#AB	-2.766E-02	231.40	6.401E-02	6.405E-02	5.148E-02
Eu-154	#AB	-1.181E-02	557.50	6.581E-02	6.582E-02	5.319E-02
K-40		1.053E+01	8.21	8.640E-01	1.136E+00	1.735E-01
Pa-234	#AB	-5.914E-02	242.60	1.435E-01	1.435E-01	1.139E-01
Pb-210	#AB	-2.346E-01	2786.00	6.536E+00	6.536E+00	3.687E+00
Pb-212		1.108E+00	8.23	9.123E-02	1.245E-01	3.794E-02
Pb-214		8.703E-01	10.20	8.879E-02	1.087E-01	3.189E-02
Ra-226		1.069E+00	44.08	4.714E-01	4.783E-01	3.568E-01
Th-230		8.262E+00	87.61	7.238E+00	7.373E+00	5.230E+00
Th-234	AB	2.012E-01	205.40	4.133E-01	4.138E-01	3.346E-01
Tl-208		3.937E-01	11.92	4.692E-02	5.373E-02	1.527E-02
U-235		3.104E-02	100.70	3.126E-02	3.135E-02	2.470E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 2.524E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:41

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-12
Sample Description: Parcel E

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:35
Acquisition Time: 4/14/2011 13:18:04
Analysis Time: 4/14/2011 14:03
Analysis Quantity: 3.010E+02 g

Spectrum ID: 4_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/2011 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.128E-01	24.40	1.739E-01	1.808E-01	9.405E-02
Am-241	#AB	1.135E-04	201200.00	2.283E-01	2.283E-01	1.881E-01
Bi-212	#	3.785E-01	64.97	2.459E-01	2.473E-01	1.638E-01
Bi-214		6.500E-01	18.13	1.179E-01	1.256E-01	4.133E-02
Co-60	#AB	-9.608E-04	3942.00	3.787E-02	3.787E-02	3.110E-02
Cs-137	#AB	1.120E-02	267.80	2.999E-02	3.000E-02	2.357E-02
Eu-152	#AB	-3.174E-02	236.60	7.507E-02	7.511E-02	5.929E-02
Eu-154	#AB	4.682E-02	211.20	9.887E-02	9.892E-02	7.563E-02
K-40	#	8.078E+00	12.77	1.032E+00	1.177E+00	3.872E-01
Pa-234	#AB	-4.243E-02	426.00	1.807E-01	1.808E-01	1.439E-01
Pb-210	#AB	1.724E+00	316.40	5.456E+00	5.458E+00	4.386E+00
Pb-212		8.880E-01	11.29	1.003E-01	1.211E-01	3.943E-02
Pb-214		6.169E-01	17.44	1.076E-01	1.164E-01	3.701E-02
Ra-226		1.363E+00	47.17	6.430E-01	6.512E-01	4.646E-01
Th-230	#AB	-2.645E+00	560.40	1.482E+01	1.483E+01	1.209E+01
Th-234	#	7.304E-01	81.71	5.968E-01	6.008E-01	4.598E-01
Tl-208		3.416E-01	14.34	4.900E-02	5.401E-02	7.346E-03
U-235	AB	1.900E-02	240.60	4.571E-02	4.573E-02	3.674E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.556E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:33

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-13
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:40
Acquisition Time: 4/14/2011 13:20:12
Analysis Time: 4/14/2011 14:05
Analysis Quantity: 3.180E+02 g

Spectrum ID: 5_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.15 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/2011 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	4.270E-01	32.70	1.396E-01	1.427E-01	7.606E-02
Am-241	#AB	-9.068E-02	184.80	1.676E-01	1.678E-01	1.328E-01
Bi-212		2.065E-01	105.60	2.179E-01	2.184E-01	1.572E-01
Bi-214	#	3.437E-01	23.43	8.054E-02	8.375E-02	3.976E-02
Co-60	#AB	-3.025E-03	996.40	3.014E-02	3.014E-02	2.446E-02
Cs-137	#AB	2.079E-02	137.80	2.865E-02	2.868E-02	2.141E-02
Eu-152	#AB	1.777E-02	342.80	6.092E-02	6.093E-02	4.853E-02
Eu-154	#AB	-2.146E-02	470.70	1.010E-01	1.010E-01	8.084E-02
K-40		9.875E+00	10.06	9.931E-01	1.210E+00	1.991E-01
Pa-234	#AB	-5.673E-03	1759.00	9.979E-02	9.979E-02	8.106E-02
Pb-210	#AB	-2.177E+00	514.90	1.121E+01	1.121E+01	3.007E+00
Pb-212		5.626E-01	14.47	8.139E-02	9.204E-02	3.455E-02
Pb-214		3.871E-01	19.75	7.646E-02	8.140E-02	3.911E-02
Ra-226	#	6.436E-01	84.42	5.433E-01	5.455E-01	4.189E-01
Th-230	#AB	2.016E-01	3849.00	7.759E+00	7.759E+00	6.377E+00
Th-234	#	1.158E+00	51.82	6.000E-01	6.101E-01	3.193E-01
Tl-208	#	1.611E-01	26.86	4.327E-02	4.458E-02	2.419E-02
U-235	#	5.161E-02	70.90	3.659E-02	3.680E-02	2.713E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.406E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:44

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-14
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:45
Acquisition Time: 4/14/2011 13:21:36
Analysis Time: 4/14/2011 14:06
Analysis Quantity: 3.370E+02 g

Spectrum ID: 6_20110414_008
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.07 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 3/8/2011 12:39
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		5.105E-01	34.76	1.775E-01	1.810E-01	9.814E-02
Am-241	#AB	4.648E-02	200.30	9.309E-02	9.318E-02	7.453E-02
Bi-212	#AB	-2.840E-01	6906.00	1.961E+01	1.961E+01	3.053E-01
Bi-214	#	3.843E-01	29.59	1.137E-01	1.166E-01	7.138E-02
Co-60	#AB	3.022E-03	1652.00	4.992E-02	4.992E-02	4.082E-02
Cs-137	#AB	9.471E-03	375.40	3.555E-02	3.556E-02	2.826E-02
Eu-152	#AB	1.178E-02	774.00	9.114E-02	9.114E-02	7.414E-02
Eu-154	#AB	2.748E-02	447.10	1.229E-01	1.229E-01	9.791E-02
K-40	#	5.827E+00	15.70	9.147E-01	1.002E+00	3.117E-01
Pa-234	#AB	-4.481E-02	592.70	2.656E-01	2.656E-01	2.143E-01
Pb-210	#AB	4.723E-01	204.90	9.679E-01	9.685E-01	8.557E-01
Pb-212		6.468E-01	21.92	1.418E-01	1.501E-01	6.631E-02
Pb-214		6.981E-01	18.98	1.325E-01	1.417E-01	4.678E-02
Ra-226		1.280E+00	60.58	7.755E-01	7.815E-01	5.849E-01
Th-230	#AB	4.999E+00	162.00	8.100E+00	8.145E+00	6.462E+00
Th-234		7.073E-01	107.90	7.634E-01	7.664E-01	5.200E-01
Tl-208		1.757E-01	30.07	5.282E-02	5.410E-02	3.401E-02
U-235	AB	-1.919E-02	418.20	8.025E-02	8.026E-02	5.119E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.580E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:34

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-15
Sample Description: Parcel E

Detector: HPGe #1 50-TP42232A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:50
Acquisition Time: 4/14/2011 14:02:31
Analysis Time: 4/14/2011 14:47
Analysis Quantity: 3.180E+02 g

Spectrum ID: 1_20110414_010
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #1 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/20/2011 14:36
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.547E-01	29.95	1.362E-01	1.398E-01	6.308E-02
Am-241	#AB	-7.663E-02	424.10	3.250E-01	3.251E-01	2.628E-01
Bi-212	#	2.532E-01	89.96	2.278E-01	2.284E-01	1.587E-01
Bi-214		4.969E-01	17.48	8.686E-02	9.298E-02	2.579E-02
Co-60	#AB	0.000E+00	1414.00	4.862E-03	4.862E-03	5.664E-03
Cs-137	#AB	1.875E-02	166.80	3.128E-02	3.130E-02	2.381E-02
Eu-152	#AB	-3.922E-04	16190.00	6.351E-02	6.351E-02	5.228E-02
Eu-154	#AB	1.513E-02	369.30	5.589E-02	5.590E-02	4.267E-02
K-40		9.847E+00	11.68	1.150E+00	1.341E+00	3.029E-01
Pa-234	#AB	0.000E+00	2000.00	3.727E-02	3.727E-02	3.071E-02
Pb-210	#	0.000E+00	207.30	1.558E+00	1.560E+00	0.000E+00
Pb-212		6.265E-01	13.71	8.589E-02	9.833E-02	3.299E-02
Pb-214		5.401E-01	17.98	9.710E-02	1.046E-01	3.388E-02
Ra-226		9.536E-01	59.23	5.648E-01	5.694E-01	4.012E-01
Th-230	#AB	4.146E+00	321.20	1.332E+01	1.333E+01	1.065E+01
Th-234	AB	2.783E-01	225.70	6.283E-01	6.288E-01	5.033E-01
Tl-208		1.905E-01	23.27	4.431E-02	4.608E-02	1.583E-02
U-235		3.307E-02	126.70	4.188E-02	4.196E-02	3.259E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.785E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:32

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-16
Sample Description: Parcel E

Detector: HPGe #2 50-TP42229A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 10:55
Acquisition Time: 4/14/2011 14:04:36
Analysis Time: 4/14/2011 14:49
Analysis Quantity: 3.040E+02 g

Spectrum ID: 2_20110414_010
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2703 sec
Dead Time: 0.12 %

Efficiency: HPGe #2 Tuna Can Soil Solid 83489-918
Efficiency Cal Date: 1/19/2011 21:26
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.492E-01	21.60	1.618E-01	1.700E-01	3.363E-02
Am-241	#AB	-5.370E-02	605.40	3.251E-01	3.251E-01	2.646E-01
Bi-212	#	2.644E-01	86.54	2.288E-01	2.295E-01	1.561E-01
Bi-214	#	4.069E-01	23.32	9.488E-02	9.869E-02	4.712E-02
Co-60	#AB	2.795E-03	661.10	1.848E-02	1.848E-02	2.894E-02
Cs-137	#AB	2.186E-02	152.00	3.323E-02	3.326E-02	2.508E-02
Eu-152	#AB	-1.361E-02	593.40	8.078E-02	8.079E-02	6.540E-02
Eu-154	#AB	4.944E-02	165.50	8.183E-02	8.190E-02	5.921E-02
K-40		9.173E+00	11.16	1.024E+00	1.209E+00	6.658E-02
Pa-234	#AB	-9.425E-03	2190.00	2.064E-01	2.064E-01	1.690E-01
Pb-210		0.000E+00	255.40	7.112E-01	7.117E-01	0.000E+00
Pb-212		8.588E-01	12.40	1.065E-01	1.251E-01	4.287E-02
Pb-214		6.270E-01	17.45	1.094E-01	1.184E-01	3.572E-02
Ra-226		7.502E-01	81.74	6.133E-01	6.159E-01	4.694E-01
Th-230	#AB	1.832E+00	907.50	1.663E+01	1.663E+01	1.358E+01
Th-234	#AB	-9.248E-02	813.00	7.519E-01	7.520E-01	6.154E-01
Tl-208		3.026E-01	18.37	5.561E-02	5.914E-02	1.513E-02
U-235	AB	3.430E-02	130.50	4.475E-02	4.483E-02	3.490E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.507E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:32

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-17
Sample Description: Parcel E

Detector: HPGe #4 50-TP42236A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 11:00
Acquisition Time: 4/14/2011 14:09:31
Analysis Time: 4/14/2011 14:54
Analysis Quantity: 3.000E+02 g

Spectrum ID: 4_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.06 %

Efficiency: HPGe #4 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/19/2011 20:43
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.466E-01	32.02	1.430E-01	1.463E-01	8.366E-02
Am-241	#AB	-5.290E-02	344.40	1.822E-01	1.822E-01	1.469E-01
Bi-212	#	2.226E-01	101.70	2.264E-01	2.269E-01	1.625E-01
Bi-214		4.390E-01	20.98	9.208E-02	9.663E-02	2.877E-02
Co-60	#AB	-5.333E-04	4416.00	2.355E-02	2.355E-02	1.931E-02
Cs-137	#AB	9.673E-03	269.20	2.604E-02	2.605E-02	2.032E-02
Eu-152	#AB	-1.847E-03	3714.00	6.862E-02	6.862E-02	5.637E-02
Eu-154	#AB	-4.496E-03	2008.00	9.030E-02	9.030E-02	7.379E-02
K-40	#	7.689E+00	12.80	9.845E-01	1.122E+00	3.348E-01
Pa-234	#AB	-3.370E-03	3817.00	1.286E-01	1.286E-01	1.054E-01
Pb-210	#AB	0.000E+00	2000.00	5.393E+00	5.393E+00	4.740E+00
Pb-212		6.796E-01	14.97	1.017E-01	1.142E-01	4.194E-02
Pb-214		4.739E-01	18.96	8.983E-02	9.611E-02	3.131E-02
Ra-226		9.613E-01	56.35	5.417E-01	5.466E-01	3.949E-01
Th-230	#AB	-8.507E+00	164.20	1.397E+01	1.404E+01	1.110E+01
Th-234	#	6.853E-01	71.23	4.881E-01	4.925E-01	3.649E-01
Tl-208		2.548E-01	15.96	4.067E-02	4.405E-02	3.781E-03
U-235	AB	1.065E-02	367.30	3.911E-02	3.912E-02	3.162E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.187E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:33

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-18
Sample Description: Parcel E

Detector: HPGe #5 50-TP42234A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 11:05
Acquisition Time: 4/14/2011 14:11:20
Analysis Time: 4/14/2011 14:56
Analysis Quantity: 3.060E+02 g

Spectrum ID: 5_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2704 sec
Dead Time: 0.14 %

Efficiency: HPGe #5 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 1/18/2011 12:55
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		4.880E-01	29.23	1.427E-01	1.466E-01	7.047E-02
Am-241	#AB	-4.130E-03	3152.00	1.302E-01	1.302E-01	1.069E-01
Bi-212	#AB	1.501E-01	148.30	2.226E-01	2.228E-01	1.671E-01
Bi-214	#	5.066E-01	19.16	9.706E-02	1.028E-01	2.720E-02
Co-60	#AB	0.000E+00	1414.00	1.464E-02	1.464E-02	3.231E-02
Cs-137	#	2.515E-02	119.80	3.014E-02	3.018E-02	2.218E-02
Eu-152	#AB	-1.558E-02	420.50	6.553E-02	6.554E-02	5.259E-02
Eu-154	#AB	-2.358E-03	3500.00	8.252E-02	8.252E-02	6.765E-02
K-40		8.701E+00	10.95	9.529E-01	1.131E+00	2.069E-01
Pa-234	#AB	2.885E-02	536.70	1.549E-01	1.549E-01	1.236E-01
Pb-210	#AB	-3.128E+00	267.80	8.378E+00	8.383E+00	3.160E+00
Pb-212		4.754E-01	16.16	7.682E-02	8.497E-02	3.450E-02
Pb-214		4.174E-01	19.48	8.131E-02	8.670E-02	3.108E-02
Ra-226		6.225E-01	81.37	5.065E-01	5.087E-01	3.869E-01
Th-230	#AB	9.387E-01	1039.00	9.751E+00	9.752E+00	7.975E+00
Th-234		5.715E-01	72.78	4.159E-01	4.195E-01	3.067E-01
Tl-208	#	1.344E-01	28.79	3.870E-02	3.972E-02	2.053E-02
U-235	AB	1.172E-02	289.00	3.387E-02	3.389E-02	2.716E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.307E+01

Analyst: Eric Schrader

Reviewer: Philip Smith
Review Date: 4/15/2011 16:44

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-19
Sample Description: Parcel E

Detector: HPGe #6 49-TN19510U
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 11:10
Acquisition Time: 4/14/2011 16:14:37
Analysis Time: 4/14/2011 17:44
Analysis Quantity: 3.050E+02 g

Spectrum ID: 6_20110414_011
Sample Type: SAMPLE
Matrix: S
Live Time: 5400 sec
Real Time: 5404 sec
Dead Time: 0.07 %

Efficiency: HPGe #6 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 3/8/2011 12:39
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.920E-01	18.56	1.470E-01	1.569E-01	4.051E-02
Am-241	#AB	1.810E-02	417.80	7.562E-02	7.563E-02	6.173E-02
Bi-212	AB	-1.078E-01	438.40	4.725E-01	4.726E-01	2.128E-01
Bi-214	#	3.453E-01	23.24	8.024E-02	8.348E-02	5.095E-02
Co-60	#AB	7.904E-03	344.90	2.726E-02	2.727E-02	2.166E-02
Cs-137	#AB	2.405E-02	134.40	3.232E-02	3.236E-02	2.502E-02
Eu-152	#AB	7.772E-04	8886.00	6.906E-02	6.906E-02	5.685E-02
Eu-154	#AB	8.617E-03	1122.00	9.671E-02	9.671E-02	7.895E-02
K-40	AB	5.295E-01	223.60	1.184E+00	1.184E+00	9.745E-01
Pa-234	#AB	-5.166E-02	373.80	1.931E-01	1.931E-01	1.551E-01
Pb-210	AB	3.363E-01	209.30	7.038E-01	7.043E-01	5.620E-01
Pb-212		5.502E-01	13.83	7.610E-02	8.694E-02	3.970E-02
Pb-214		6.080E-01	15.38	9.350E-02	1.033E-01	3.297E-02
Ra-226		1.146E+00	53.73	6.157E-01	6.217E-01	4.752E-01
Th-230	#AB	3.765E-02	13810.00	5.198E+00	5.198E+00	4.281E+00
Th-234		7.898E-01	74.29	5.867E-01	5.916E-01	3.991E-01
Tl-208		2.203E-01	21.21	4.671E-02	4.895E-02	2.261E-02
U-235	AB	-2.321E-02	248.20	5.761E-02	5.764E-02	3.645E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 5.414E+00

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 4/15/2011 16:34

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-20
Sample Description: Parcel E

Detector: HPGe #12 51-TP32743A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 11:15
Acquisition Time: 4/14/2011 14:18:26
Analysis Time: 4/14/2011 15:03
Analysis Quantity: 3.100E+02 g

Spectrum ID: 12_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2701 sec
Dead Time: 0.05 %

Efficiency: HPGe #12 Tuna Can Soil Solid 83491-918
Efficiency Cal Date: 2/1/2011 09:56
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		3.207E-01	37.49	1.202E-01	1.223E-01	6.231E-02
Am-241	#AB	1.059E-01	222.60	2.358E-01	2.360E-01	1.873E-01
Bi-212	#	2.466E-01	96.68	2.384E-01	2.390E-01	1.703E-01
Bi-214		1.900E-01	34.27	6.511E-02	6.634E-02	3.804E-02
Co-60	#AB	0.000E+00	2000.00	1.490E-02	1.490E-02	3.310E-02
Cs-137	#AB	1.637E-02	188.50	3.086E-02	3.088E-02	2.374E-02
Eu-152	#AB	2.410E-02	254.30	6.128E-02	6.130E-02	4.808E-02
Eu-154	#AB	-1.604E-02	607.30	9.742E-02	9.742E-02	7.832E-02
K-40		9.314E+00	10.48	9.764E-01	1.174E+00	5.962E-02
Pa-234	#AB	4.428E-02	331.30	1.467E-01	1.467E-01	1.142E-01
Pb-210	#	0.000E+00	1207.00	1.477E+00	1.477E+00	0.000E+00
Pb-212		4.130E-01	19.39	8.009E-02	8.608E-02	3.661E-02
Pb-214		3.876E-01	21.41	8.299E-02	8.757E-02	3.051E-02
Ra-226	AB	8.720E-02	546.80	4.768E-01	4.768E-01	3.980E-01
Th-230	#AB	9.687E-01	1363.00	1.320E+01	1.320E+01	1.081E+01
Th-234	#AB	-2.642E-02	1997.00	5.277E-01	5.277E-01	4.333E-01
Tl-208		1.512E-01	25.94	3.921E-02	4.048E-02	1.614E-02
U-235	AB	2.331E-02	131.90	3.074E-02	3.079E-02	2.358E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.229E+01

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 4/15/2011 16:36

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-21
Sample Description: Parcel E

Detector: HPGe #9 51-TP42227A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 11:20
Acquisition Time: 4/14/2011 14:15:08
Analysis Time: 4/14/2011 15:00
Analysis Quantity: 3.220E+02 g

Spectrum ID: 9_20110414_010
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2705 sec
Dead Time: 0.18 %

Efficiency: HPGe #9 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 2/8/2011 08:53
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228		7.231E-01	21.26	1.537E-01	1.617E-01	3.370E-02
Am-241	#AB	0.000E+00	2000.00	9.218E-02	9.219E-02	1.848E-01
Bi-212	#	3.443E-01	64.23	2.212E-01	2.224E-01	1.441E-01
Bi-214		4.319E-01	22.00	9.504E-02	9.932E-02	3.816E-02
Co-60	#AB	6.830E-03	495.70	3.386E-02	3.386E-02	2.713E-02
Cs-137	#AB	-2.095E-03	1400.00	2.934E-02	2.934E-02	2.396E-02
Eu-152	#AB	-2.819E-02	261.30	7.368E-02	7.371E-02	5.850E-02
Eu-154	#AB	1.416E-03	6019.00	8.525E-02	8.525E-02	7.004E-02
K-40		1.176E+01	9.68	1.138E+00	1.405E+00	1.415E-01
Pa-234	#AB	-4.809E-03	3036.00	1.460E-01	1.460E-01	1.196E-01
Pb-210	#AB	8.791E-01	494.10	4.344E+00	4.345E+00	3.510E+00
Pb-212		6.369E-01	13.64	8.690E-02	9.959E-02	3.631E-02
Pb-214		5.207E-01	16.56	8.624E-02	9.405E-02	3.066E-02
Ra-226		7.795E-01	67.12	5.232E-01	5.265E-01	3.922E-01
Th-230	#AB	4.322E-01	2727.00	1.179E+01	1.179E+01	9.688E+00
Th-234	AB	4.015E-02	1039.00	4.173E-01	4.173E-01	3.414E-01
Tl-208	#	2.319E-01	18.57	4.306E-02	4.574E-02	1.140E-02
U-235	AB	1.437E-02	252.50	3.627E-02	3.629E-02	2.905E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.680E+01

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 4/15/2011 16:35

TetraTech Hunter's Point Lab

Sample ID: 04-PE-E0439-22
Sample Description: Parcel E

Detector: HPGe #10 51-TP42231A
Contract: Tetra Tech HPS
Unit Number: E0439
Sample Time: 4/13/2011 11:25
Acquisition Time: 4/14/2011 14:16:18
Analysis Time: 4/14/2011 15:01
Analysis Quantity: 3.150E+02 g

Spectrum ID: 10_20110414_009
Sample Type: SAMPLE
Matrix: S
Live Time: 2700 sec
Real Time: 2702 sec
Dead Time: 0.08 %

Efficiency: HPGe #10 Tuna Can Soil Solid 83490-918
Efficiency Cal Date: 1/28/2011 17:23
Library: GenericAnalysis.lib
Analysis Engine: Env32 G53W4.26

Nuclide	Flags	Activity pCi/g	2-Sigma Counting Uncert %	2-Sigma Counting Uncert pCi/g	2-Sigma Total Uncert pCi/g	Minimum Detectable Activity pCi/g
Ac-228	#	2.400E-01	51.44	1.234E-01	1.246E-01	7.407E-02
Am-241	#AB	0.000E+00	2000.00	1.267E-01	1.267E-01	2.888E-01
Bi-212	#	1.914E-01	114.30	2.187E-01	2.191E-01	1.562E-01
Bi-214		3.131E-01	24.47	7.663E-02	7.943E-02	2.133E-02
Co-60	#AB	-1.169E-02	336.10	3.927E-02	3.928E-02	3.103E-02
Cs-137	#AB	1.685E-02	172.10	2.900E-02	2.902E-02	2.187E-02
Eu-152	#AB	-2.572E-03	2630.00	6.765E-02	6.765E-02	5.547E-02
Eu-154	#AB	0.000E+00	2000.00	1.587E-02	1.587E-02	1.849E-02
K-40	#	8.223E+00	12.42	1.021E+00	1.173E+00	2.158E-01
Pa-234	#AB	5.096E-02	279.90	1.426E-01	1.427E-01	1.089E-01
Pb-210		0.000E+00	166.10	1.435E+00	1.437E+00	0.000E+00
Pb-212		3.533E-01	22.52	7.957E-02	8.402E-02	3.549E-02
Pb-214		3.778E-01	23.37	8.829E-02	9.240E-02	3.166E-02
Ra-226	#AB	4.431E-01	128.50	5.693E-01	5.702E-01	4.515E-01
Th-230	#AB	-5.725E+00	378.80	2.169E+01	2.171E+01	1.745E+01
Th-234	#AB	3.550E-01	150.10	5.327E-01	5.338E-01	4.125E-01
Tl-208	#	1.485E-01	29.20	4.335E-02	4.446E-02	1.567E-02
U-235	#AB	1.728E-02	234.70	4.056E-02	4.058E-02	3.345E-02

- All peaks for activity calculation had bad shape.
A - Activity < MDA
B - Activity < Critical Level

Total Activity 1.073E+01

Analyst: Joan Cosgrove

Reviewer: Philip Smith
Review Date: 4/15/2011 16:35

ATTACHMENT 5

EXCAVATED SOIL UNIT
OFF-SITE LABORATORY REPORTS
(on CD only)

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EXCAVATED SOIL UNIT 334

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-66

Radiochemistry

Lab Sample ID: F1D260474-001
Work Order: MHHT6
Matrix: SOLID

Date Collected: 03/14/11 1005
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**1.68**		**0.270**		**0.033**	30	**04/26/11**	**05/31/11**
Americium 241	0.000629	U	0.149		0.122	30	04/26/11	05/31/11
Bismuth 212	**0.730**		**0.471**		**0.302**	30	**04/26/11**	**05/31/11**
Bismuth 214	**1.19**		**0.223**		**0.074**	30	**04/26/11**	**05/31/11**
Cesium 137	-0.00661	U	0.0584	0.0700	0.047	30	04/26/11	05/31/11
Cobalt 60	-0.000740	U	0.0468		0.038	30	04/26/11	05/31/11
Europium 152	-0.0417	U	0.139		0.111	30	04/26/11	05/31/11
Europium 154	-0.0694	U	0.421		0.338	30	04/26/11	05/31/11
Lead 210	0.542	U	1.32	1.50	1.12	30	04/26/11	05/31/11
Lead 212	**1.41**		**0.186**		**0.072**	30	**04/26/11**	**05/31/11**
Lead 214	**1.20**		**0.225**		**0.080**	30	**04/26/11**	**05/31/11**
Potassium 40	**7.20**		**1.36**		**0.326**	30	**04/26/11**	**05/31/11**
Protactinium 234	-0.108	U	0.210		0.168	30	04/26/11	05/31/11
Radium (226)	**1.19**		**0.223**	0.700	**0.074**	30	**04/26/11**	**05/31/11**
Thallium 208	**0.580**		**0.115**		**0.036**	30	**04/26/11**	**05/31/11**
Thorium 232	**1.68**		**0.270**		**0.033**	30	**04/26/11**	**05/31/11**
Thorium 234	**1.30**		**0.621**		**1.17**	30	**04/26/11**	**05/31/11**
Uranium 235	0.0589	U	0.316		0.259	30	04/26/11	05/31/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-66 DUP

Radiochemistry

Lab Sample ID: F1D260474-001X
Work Order: MHHT6
Matrix: SOLID

Date Collected: 03/14/11 1005
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**1.46**		**0.246**		**0.068**	30	**04/26/11**	**05/31/11**
Americium 241	0.0670	U	0.136		0.109	30	04/26/11	05/31/11
Bismuth 212	**0.717**		**0.480**		**0.325**	30	**04/26/11**	**05/31/11**
Bismuth 214	**1.25**		**0.218**		**0.066**	30	**04/26/11**	**05/31/11**
Cesium 137	0.00198	U	0.0525	0.0700	0.043	30	04/26/11	05/31/11
Cobalt 60	0.0	U	0.0786		0.064	30	04/26/11	05/31/11
Europium 152	-0.0165	U	0.136		0.111	30	04/26/11	05/31/11
Europium 154	-0.0751	U	0.380		0.303	30	04/26/11	05/31/11
Lead 210	0.978	U	1.48	1.50	1.24	30	04/26/11	05/31/11
Lead 212	**1.38**		**0.205**		**0.082**	30	**04/26/11**	**05/31/11**
Lead 214	**1.25**		**0.210**		**0.070**	30	**04/26/11**	**05/31/11**
Potassium 40	**5.86**		**1.18**		**0.308**	30	**04/26/11**	**05/31/11**
Protactinium 234	-0.116	U	0.214		0.171	30	04/26/11	05/31/11
Radium (226)	**1.25**		**0.218**	0.700	**0.066**	30	**04/26/11**	**05/31/11**
Thallium 208	**0.490**		**0.0943**		**0.029**	30	**04/26/11**	**05/31/11**
Thorium 232	**1.46**		**0.246**		**0.068**	30	**04/26/11**	**05/31/11**
Thorium 234	**1.19**		**0.634**		**1.12**	30	**04/26/11**	**05/31/11**
Uranium 235	0.151	U	0.322		0.260	30	04/26/11	05/31/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-67

Radiochemistry

Lab Sample ID: F1D260474-002
Work Order: MHHT9
Matrix: SOLID

Date Collected: 03/14/11 1010
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.311**		**0.242**		**0.144**	30	**04/26/11**	**05/27/11**
Americium 241	-0.0264	U	1.06		0.089	30	04/26/11	05/27/11
Bismuth 212	0.0644	U	0.477		0.383	30	04/26/11	05/27/11
Bismuth 214	**0.484**		**0.160**		**0.060**	30	**04/26/11**	**05/27/11**
Cesium 137	0.0169	U	0.0622	0.0700	0.053	30	04/26/11	05/27/11
Cobalt 60	-0.0112	U	0.604		0.050	30	04/26/11	05/27/11
Europium 152	-0.0393	U	0.122		0.094	30	04/26/11	05/27/11
Europium 154	0.00257	U	0.348		0.286	30	04/26/11	05/27/11
Lead 210	0.472	U	1.22	1.50	1.05	30	04/26/11	05/27/11
Lead 212	**0.577**		**0.151**		**0.060**	30	**04/26/11**	**05/27/11**
Lead 214	**0.451**		**0.149**		**0.077**	30	**04/26/11**	**05/27/11**
Potassium 40	**6.66**		**1.75**		**0.619**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.00000683	U	0.116		0.095	30	04/26/11	05/27/11
Radium (226)	**0.484**	J	**0.160**	0.700	**0.060**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.183**		**0.0842**		**0.035**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.311**		**0.242**		**0.144**	30	**04/26/11**	**05/27/11**
Thorium 234	0.109	U	1.01		0.873	30	04/26/11	05/27/11
Uranium 235	-0.0548	U	2.59		0.198	30	04/26/11	05/27/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-68

Radiochemistry

Lab Sample ID: F1D260474-003
Work Order: MHHVA
Matrix: SOLID

Date Collected: 03/14/11 1015
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**1.74**		**0.300**		**0.081**	30	**04/26/11**	**05/27/11**
Americium 241	-0.0124	U	0.111		0.090	30	04/26/11	05/27/11
Bismuth 212	0.386	U	0.535		0.394	30	04/26/11	05/27/11
Bismuth 214	**1.19**		**0.230**		**0.059**	30	**04/26/11**	**05/27/11**
Cesium 137	0.0	U	0.0785	0.0700	0.064	30	04/26/11	05/27/11
Cobalt 60	0.0	U	0.0768		0.063	30	04/26/11	05/27/11
Europium 152	-0.0563	U	0.169		0.134	30	04/26/11	05/27/11
Europium 154	0.0	U	0.448		0.369	30	04/26/11	05/27/11
Lead 210	1.00	U	1.68	1.50	1.33	30	04/26/11	05/27/11
Lead 212	**1.54**		**0.242**		**0.089**	30	**04/26/11**	**05/27/11**
Lead 214	**1.09**		**0.204**		**0.054**	30	**04/26/11**	**05/27/11**
Potassium 40	**6.49**		**1.53**		**0.521**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.0815	U	0.276		0.224	30	04/26/11	05/27/11
Radium (226)	**1.19**		**0.230**	0.700	**0.059**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.551**		**0.131**		**0.044**	30	**04/26/11**	**05/27/11**
Thorium 232	**1.74**		**0.300**		**0.081**	30	**04/26/11**	**05/27/11**
Thorium 234	**1.26**		**1.55**		**1.26**	30	**04/26/11**	**05/27/11**
Uranium 235	0.148	U	0.398		0.323	30	04/26/11	05/27/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-69

Radiochemistry

Lab Sample ID: F1D260474-004
Work Order: MHHVC
Matrix: SOLID

Date Collected: 03/14/11 1020
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**1.18**		**0.255**		**0.049**	30	**04/26/11**	**05/27/11**
Americium 241	0.0176	U	0.115		0.093	30	04/26/11	05/27/11
Bismuth 212	**1.21**		**0.431**		**0.143**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.834**		**0.174**		**0.056**	30	**04/26/11**	**05/27/11**
Cesium 137	-0.00736	U	0.0471	0.0700	0.038	30	04/26/11	05/27/11
Cobalt 60	-0.0102	U	0.0521		0.041	30	04/26/11	05/27/11
Europium 152	-0.0174	U	0.130		0.106	30	04/26/11	05/27/11
Europium 154	0.0339	U	0.196		0.154	30	04/26/11	05/27/11
Lead 210	0.0164	U	1.22	1.50	1.00	30	04/26/11	05/27/11
Lead 212	**1.02**		**0.154**		**0.056**	30	**04/26/11**	**05/27/11**
Lead 214	**0.900**		**0.149**		**0.053**	30	**04/26/11**	**05/27/11**
Potassium 40	**4.63**		**1.06**		**0.405**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.0535	U	0.174		0.140	30	04/26/11	05/27/11
Radium (226)	**0.834**		**0.174**	0.700	**0.056**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.393**		**0.0939**		**0.033**	30	**04/26/11**	**05/27/11**
Thorium 232	**1.18**		**0.255**		**0.049**	30	**04/26/11**	**05/27/11**
Thorium 234	**1.06**		**1.09**		**0.843**	30	**04/26/11**	**05/27/11**
Uranium 235	0.0141	U	0.270		0.222	30	04/26/11	05/27/11

NOTE(S)

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Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-70

Radiochemistry

Lab Sample ID: F1D260474-005
Work Order: MHHVD
Matrix: SOLID

Date Collected: 03/14/11 1025
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.138**		**0.144**		**0.096**	30	**04/26/11**	**05/27/11**
Americium 241	0.00755	U	0.0796		0.065	30	04/26/11	05/27/11
Bismuth 212	**0.226**		**0.303**		**0.216**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.301**		**0.122**		**0.061**	30	**04/26/11**	**05/27/11**
Cesium 137	-0.00511	U	0.0388	0.0700	0.031	30	04/26/11	05/27/11
Cobalt 60	0.00776	U	0.0507		0.040	30	04/26/11	05/27/11
Europium 152	0.00189	U	0.0802		0.065	30	04/26/11	05/27/11
Europium 154	0.0	U	0.343		0.282	30	04/26/11	05/27/11
Lead 210	0.0529	U	0.999	1.50	0.926	30	04/26/11	05/27/11
Lead 212	**0.225**		**0.0876**		**0.050**	30	**04/26/11**	**05/27/11**
Lead 214	**0.235**		**0.0818**		**0.040**	30	**04/26/11**	**05/27/11**
Potassium 40	**5.59**		**1.13**		**0.337**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.0214	U	0.119		0.096	30	04/26/11	05/27/11
Radium (226)	**0.301**	**J**	**0.122**	0.700	**0.061**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.0520**		**0.0459**		**0.034**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.138**		**0.144**		**0.096**	30	**04/26/11**	**05/27/11**
Thorium 234	0.274	U	0.887		0.754	30	04/26/11	05/27/11
Uranium 235	-0.00860	U	0.269		0.137	30	04/26/11	05/27/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-71

Radiochemistry

Lab Sample ID: F1D260474-006
Work Order: MHHVE
Matrix: SOLID

Date Collected: 03/14/11 1030
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.863**		**0.213**		**0.066**	30	**04/26/11**	**05/27/11**
Americium 241	0.0880	U	0.117		0.091	30	04/26/11	05/27/11
Bismuth 212	**0.383**		**0.417**		**0.306**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.680**		**0.139**		**0.044**	30	**04/26/11**	**05/27/11**
Cesium 137	0.00653	U	0.0426	0.0700	0.034	30	04/26/11	05/27/11
Cobalt 60	0.00386	U	0.0478		0.038	30	04/26/11	05/27/11
Europium 152	-0.00227	U	0.126		0.103	30	04/26/11	05/27/11
Europium 154	0.132	U	0.289		0.214	30	04/26/11	05/27/11
Lead 210	**1.57**		**1.34**	1.50	**0.993**	30	**04/26/11**	**05/27/11**
Lead 212	**0.562**		**0.144**		**0.072**	30	**04/26/11**	**05/27/11**
Lead 214	**0.447**		**0.151**		**0.071**	30	**04/26/11**	**05/27/11**
Potassium 40	**9.99**		**1.56**		**0.292**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.0916	U	0.168		0.133	30	04/26/11	05/27/11
Radium (226)	**0.680**	J	**0.139**	0.700	**0.044**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.336**		**0.0715**		**0.023**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.863**		**0.213**		**0.066**	30	**04/26/11**	**05/27/11**
Thorium 234	0.596	U	1.19		0.980	30	04/26/11	05/27/11
Uranium 235	0.0675	U	0.206		0.167	30	04/26/11	05/27/11

NOTE(S)

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Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-72

Radiochemistry

Lab Sample ID: F1D260474-007
Work Order: MHHVF
Matrix: SOLID

Date Collected: 03/14/11 1035
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.750**		**0.148**		**0.027**	30	**04/26/11**	**05/27/11**
Americium 241	-0.0205	U	0.0916		0.074	30	04/26/11	05/27/11
Bismuth 212	**0.319**		**0.317**		**0.216**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.397**		**0.120**		**0.053**	30	**04/26/11**	**05/27/11**
Cesium 137	**0.0367**	J	**0.0372**	0.0700	**0.024**	30	**04/26/11**	**05/27/11**
Cobalt 60	-0.00795	U	0.0467		0.037	30	04/26/11	05/27/11
Europium 152	-0.0245	U	0.0961		0.076	30	04/26/11	05/27/11
Europium 154	0.0	U	0.407		0.335	30	04/26/11	05/27/11
Lead 210	0.0	U	1.01	1.50	0.833	30	04/26/11	05/27/11
Lead 212	**0.597**		**0.148**		**0.061**	30	**04/26/11**	**05/27/11**
Lead 214	**0.558**		**0.118**		**0.047**	30	**04/26/11**	**05/27/11**
Potassium 40	**6.15**		**1.17**		**0.307**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.0578	U	0.109		0.084	30	04/26/11	05/27/11
Radium (226)	**0.397**	J	**0.120**	0.700	**0.053**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.135**		**0.0565**		**0.025**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.750**		**0.148**		**0.027**	30	**04/26/11**	**05/27/11**
Thorium 234	0.385	U	0.941		0.753	30	04/26/11	05/27/11
Uranium 235	0.139	U	0.197		0.152	30	04/26/11	05/27/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-73

Radiochemistry

Lab Sample ID: F1D260474-008
Work Order: MHHVG
Matrix: SOLID

Date Collected: 03/14/11 1040
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.477**		**0.248**		**0.110**	30	**04/26/11**	**05/27/11**
Americium 241	0.0250	U	0.110		0.088	30	04/26/11	05/27/11
Bismuth 212	0.203	U	0.552		0.426	30	04/26/11	05/27/11
Bismuth 214	**0.587**		**0.162**		**0.043**	30	**04/26/11**	**05/27/11**
Cesium 137	-0.000688	U	0.0497	0.0700	0.040	30	04/26/11	05/27/11
Cobalt 60	0.0	U	0.0179		0.020	30	04/26/11	05/27/11
Europium 152	-0.0451	U	0.139		0.109	30	04/26/11	05/27/11
Europium 154	-0.0243	U	0.451		0.367	30	04/26/11	05/27/11
Lead 210	0.0162	U	1.20	1.50	1.08	30	04/26/11	05/27/11
Lead 212	**0.449**		**0.112**		**0.047**	30	**04/26/11**	**05/27/11**
Lead 214	**0.603**		**0.155**		**0.053**	30	**04/26/11**	**05/27/11**
Potassium 40	**6.27**		**1.69**		**0.598**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.0000975	U	0.136		0.112	30	04/26/11	05/27/11
Radium (226)	**0.587**	J	**0.162**	0.700	**0.043**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.165**		**0.0687**		**0.029**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.477**		**0.248**		**0.110**	30	**04/26/11**	**05/27/11**
Thorium 234	0.805	U	1.03		0.829	30	04/26/11	05/27/11
Uranium 235	0.0	U	0.234		0.193	30	04/26/11	05/27/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-74

Radiochemistry

Lab Sample ID: F1D260474-009
Work Order: MHHVH
Matrix: SOLID

Date Collected: 03/14/11 1045
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**1.54**		**0.344**		**0.053**	30	**04/26/11**	**05/27/11**
Americium 241	-0.0271	U	1.08		0.142	30	04/26/11	05/27/11
Bismuth 212	**0.694**		**0.646**		**0.441**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.961**		**0.225**		**0.064**	30	**04/26/11**	**05/27/11**
Cesium 137	-0.00399	U	0.0978	0.0700	0.066	30	04/26/11	05/27/11
Cobalt 60	-0.00445	U	0.142		0.063	30	04/26/11	05/27/11
Europium 152	0.0479	U	0.142		0.111	30	04/26/11	05/27/11
Europium 154	0.0833	U	0.499		0.396	30	04/26/11	05/27/11
Lead 210	**1.80**		**1.51**	1.50	**1.04**	30	**04/26/11**	**05/27/11**
Lead 212	**1.14**		**0.198**		**0.063**	30	**04/26/11**	**05/27/11**
Lead 214	**1.23**		**0.241**		**0.081**	30	**04/26/11**	**05/27/11**
Potassium 40	**4.04**		**1.63**		**0.887**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.129	U	0.214		0.168	30	04/26/11	05/27/11
Radium (226)	**0.961**		**0.225**	0.700	**0.064**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.438**		**0.107**		**0.026**	30	**04/26/11**	**05/27/11**
Thorium 232	**1.54**		**0.344**		**0.053**	30	**04/26/11**	**05/27/11**
Thorium 234	**1.27**		**1.25**		**0.993**	30	**04/26/11**	**05/27/11**
Uranium 235	0.0747	U	0.296		0.242	30	04/26/11	05/27/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-75

Radiochemistry

Lab Sample ID: F1D260474-010
Work Order: MHHVJ
Matrix: SOLID

Date Collected: 03/14/11 1050
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.877**		**0.236**		**0.068**	30	**04/26/11**	**05/27/11**
Americium 241	0.0410	U	0.121		0.097	30	04/26/11	05/27/11
Bismuth 212	0.0	U	0.438		0.361	30	04/26/11	05/27/11
Bismuth 214	**0.506**		**0.167**		**0.062**	30	**04/26/11**	**05/27/11**
Cesium 137	0.0	U	0.0696	0.0700	0.057	30	04/26/11	05/27/11
Cobalt 60	0.0	U	0.0149		0.017	30	04/26/11	05/27/11
Europium 152	0.00390	U	0.114		0.093	30	04/26/11	05/27/11
Europium 154	-0.112	U	0.471		0.371	30	04/26/11	05/27/11
Lead 210	0.922	U	1.62	1.50	1.28	30	04/26/11	05/27/11
Lead 212	**0.871**		**0.168**		**0.059**	30	**04/26/11**	**05/27/11**
Lead 214	**0.572**		**0.151**		**0.053**	30	**04/26/11**	**05/27/11**
Potassium 40	**5.16**		**1.39**		**0.491**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.0742	U	0.179		0.142	30	04/26/11	05/27/11
Radium (226)	**0.506**	**J**	**0.167**	0.700	**0.062**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.337**		**0.0955**		**0.030**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.877**		**0.236**		**0.068**	30	**04/26/11**	**05/27/11**
Thorium 234	**1.27**		**1.11**		**0.895**	30	**04/26/11**	**05/27/11**
Uranium 235	0.139	U	0.282		0.226	30	04/26/11	05/27/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-76

Radiochemistry

Lab Sample ID: F1D260474-011
Work Order: MHHVL
Matrix: SOLID

Date Collected: 03/14/11 1055
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**1.24**		**0.241**		**0.077**	30	**04/26/11**	**05/27/11**
Americium 241	-0.00376	U	0.108		0.088	30	04/26/11	05/27/11
Bismuth 212	**1.23**		**0.416**		**0.115**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.930**		**0.155**		**0.032**	30	**04/26/11**	**05/27/11**
Cesium 137	-0.00463	U	0.0414	0.0700	0.033	30	04/26/11	05/27/11
Cobalt 60	0.0	U	0.0501		0.041	30	04/26/11	05/27/11
Europium 152	-0.0400	U	0.118		0.093	30	04/26/11	05/27/11
Europium 154	0.0100	U	0.332		0.272	30	04/26/11	05/27/11
Lead 210	0.692	U	1.25	1.50	0.982	30	04/26/11	05/27/11
Lead 212	**1.26**		**0.167**		**0.054**	30	**04/26/11**	**05/27/11**
Lead 214	**0.911**		**0.175**		**0.060**	30	**04/26/11**	**05/27/11**
Potassium 40	**7.60**		**1.39**		**0.517**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.0828	U	0.182		0.146	30	04/26/11	05/27/11
Radium (226)	**0.930**		**0.155**	0.700	**0.032**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.434**		**0.0913**		**0.027**	30	**04/26/11**	**05/27/11**
Thorium 232	**1.24**		**0.241**		**0.077**	30	**04/26/11**	**05/27/11**
Thorium 234	**1.54**		**1.19**		**0.906**	30	**04/26/11**	**05/27/11**
Uranium 235	0.0	U	0.298		0.245	30	04/26/11	05/27/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-77

Radiochemistry

Lab Sample ID: F1D260474-012
Work Order: MHHVM
Matrix: SOLID

Date Collected: 03/14/11 1100
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.861**		**0.218**		**0.030**	30	**04/26/11**	**05/27/11**
Americium 241	0.00467	U	0.121		0.099	30	04/26/11	05/27/11
Bismuth 212	**0.355**		**0.421**		**0.306**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.747**		**0.146**		**0.045**	30	**04/26/11**	**05/27/11**
Cesium 137	0.00647	U	0.0540	0.0700	0.043	30	04/26/11	05/27/11
Cobalt 60	0.0	U	0.0102		0.011	30	04/26/11	05/27/11
Europium 152	-0.0108	U	0.105		0.085	30	04/26/11	05/27/11
Europium 154	-0.0365	U	0.392		0.319	30	04/26/11	05/27/11
Lead 210	**1.23**	**J**	**1.44**	1.50	**1.00**	30	**04/26/11**	**05/27/11**
Lead 212	**0.855**		**0.140**		**0.056**	30	**04/26/11**	**05/27/11**
Lead 214	**0.768**		**0.132**		**0.055**	30	**04/26/11**	**05/27/11**
Potassium 40	**8.79**		**1.53**		**0.423**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.0528	U	0.154		0.123	30	04/26/11	05/27/11
Radium (226)	**0.747**		**0.146**	0.700	**0.045**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.271**		**0.0837**		**0.035**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.861**		**0.218**		**0.030**	30	**04/26/11**	**05/27/11**
Thorium 234	0.680	U	1.17		0.966	30	04/26/11	05/27/11
Uranium 235	0.111	U	0.258		0.208	30	04/26/11	05/27/11

NOTE(S)

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Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-78

Radiochemistry

Lab Sample ID: F1D260474-013
Work Order: MHHVP
Matrix: SOLID

Date Collected: 03/14/11 1105
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	0.661		0.173		0.031	30	04/26/11	05/27/11
Americium 241	0.0767		0.0964		0.073	30	04/26/11	05/27/11
Bismuth 212	0.0770	U	0.393		0.322	30	04/26/11	05/27/11
Bismuth 214	0.466		0.124		0.051	30	04/26/11	05/27/11
Cesium 137	0.0180	U	0.0489	0.0700	0.038	30	04/26/11	05/27/11
Cobalt 60	0.000590	U	0.0337		0.027	30	04/26/11	05/27/11
Europium 152	-0.00713	U	0.115		0.093	30	04/26/11	05/27/11
Europium 154	0.0	U	0.0615		0.071	30	04/26/11	05/27/11
Lead 210	0.224	U	1.27	1.50	1.15	30	04/26/11	05/27/11
Lead 212	0.442		0.124		0.068	30	04/26/11	05/27/11
Lead 214	0.585		0.140		0.056	30	04/26/11	05/27/11
Potassium 40	6.89		1.29		0.299	30	04/26/11	05/27/11
Protactinium 234	0.0873	U	0.135		0.104	30	04/26/11	05/27/11
Radium (226)	0.466	J	0.124	0.700	0.051	30	04/26/11	05/27/11
Thallium 208	0.248		0.0625		0.024	30	04/26/11	05/27/11
Thorium 232	0.661		0.173		0.031	30	04/26/11	05/27/11
Thorium 234	0.201	U	1.08		0.912	30	04/26/11	05/27/11
Uranium 235	0.123	U	0.215		0.171	30	04/26/11	05/27/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-79

Radiochemistry

Lab Sample ID: F1D260474-014
Work Order: MHHVQ
Matrix: SOLID

Date Collected: 03/14/11 1110
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.682**		**0.183**		**0.028**	30	**04/26/11**	**05/27/11**
Americium 241	0.0303	U	0.102		0.082	30	04/26/11	05/27/11
Bismuth 212	0.231	U	0.321		0.232	30	04/26/11	05/27/11
Bismuth 214	**0.431**		**0.137**		**0.057**	30	**04/26/11**	**05/27/11**
Cesium 137	-0.00639	U	0.0482	0.0700	0.039	30	04/26/11	05/27/11
Cobalt 60	-0.0111	U	0.0511		0.040	30	04/26/11	05/27/11
Europium 152	-0.000229	U	0.0908		0.074	30	04/26/11	05/27/11
Europium 154	0.0	U	0.244		0.201	30	04/26/11	05/27/11
Lead 210	0.574	U	1.11	1.50	0.878	30	04/26/11	05/27/11
Lead 212	**0.445**		**0.111**		**0.049**	30	**04/26/11**	**05/27/11**
Lead 214	**0.566**		**0.119**		**0.035**	30	**04/26/11**	**05/27/11**
Potassium 40	**9.48**		**1.48**		**0.256**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.0390	U	0.121		0.097	30	04/26/11	05/27/11
Radium (226)	**0.431**	J	**0.137**	0.700	**0.057**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.164**		**0.0674**		**0.027**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.682**		**0.183**		**0.028**	30	**04/26/11**	**05/27/11**
Thorium 234	**1.19**		**0.931**		**0.690**	30	**04/26/11**	**05/27/11**
Uranium 235	0.0103	U	0.230		0.189	30	04/26/11	05/27/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-80

Radiochemistry

Lab Sample ID: F1D260474-015
Work Order: MHHVR
Matrix: SOLID

Date Collected: 03/14/11 1115
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.834**		**0.216**		**0.076**	30	**04/26/11**	**05/27/11**
Americium 241	0.0170	U	0.118		0.096	30	04/26/11	05/27/11
Bismuth 212	**0.649**		**0.373**		**0.206**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.802**		**0.183**		**0.062**	30	**04/26/11**	**05/27/11**
Cesium 137	0.0108	U	0.0409	0.0700	0.032	30	04/26/11	05/27/11
Cobalt 60	-0.000467	U	0.0498		0.040	30	04/26/11	05/27/11
Europium 152	0.0	U	0.149		0.123	30	04/26/11	05/27/11
Europium 154	0.0	U	0.519		0.427	30	04/26/11	05/27/11
Lead 210	0.369	U	1.31	1.50	1.14	30	04/26/11	05/27/11
Lead 212	**0.735**		**0.142**		**0.063**	30	**04/26/11**	**05/27/11**
Lead 214	**0.713**		**0.138**		**0.055**	30	**04/26/11**	**05/27/11**
Potassium 40	**6.73**		**1.37**		**0.549**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.00202	U	0.148		0.122	30	04/26/11	05/27/11
Radium (226)	**0.802**		**0.183**	0.700	**0.062**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.251**		**0.0850**		**0.039**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.834**		**0.216**		**0.076**	30	**04/26/11**	**05/27/11**
Thorium 234	0.0527	U	1.13		0.994	30	04/26/11	05/27/11
Uranium 235	0.0607	U	0.262		0.216	30	04/26/11	05/27/11

NOTE(S)

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U Result is less than the sample detection limit.

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Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-81

Radiochemistry

Lab Sample ID: F1D260474-016
Work Order: MHHVT
Matrix: SOLID

Date Collected: 03/14/11 1120
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**1.11**		**0.263**		**0.054**	30	**04/26/11**	**05/27/11**
Americium 241	0.0234	U	0.134		0.108	30	04/26/11	05/27/11
Bismuth 212	**1.48**		**0.537**		**0.111**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.736**		**0.251**		**0.097**	30	**04/26/11**	**05/27/11**
Cesium 137	0.00572	U	0.0692	0.0700	0.056	30	04/26/11	05/27/11
Cobalt 60	0.0	U	0.0987		0.081	30	04/26/11	05/27/11
Europium 152	0.00110	U	0.154		0.127	30	04/26/11	05/27/11
Europium 154	-0.156	U	0.673		0.533	30	04/26/11	05/27/11
Lead 210	**1.76**		**1.65**	1.50	**1.13**	30	**04/26/11**	**05/27/11**
Lead 212	**0.910**		**0.173**		**0.071**	30	**04/26/11**	**05/27/11**
Lead 214	**0.785**		**0.185**		**0.096**	30	**04/26/11**	**05/27/11**
Potassium 40	**6.17**		**1.73**		**0.643**	30	**04/26/11**	**05/27/11**
Protactinium 234	0.0346	U	0.192		0.156	30	04/26/11	05/27/11
Radium (226)	**0.736**		**0.251**	0.700	**0.097**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.273**		**0.0981**		**0.039**	30	**04/26/11**	**05/27/11**
Thorium 232	**1.11**		**0.263**		**0.054**	30	**04/26/11**	**05/27/11**
Thorium 234	-0.120	U	1.85		1.02	30	04/26/11	05/27/11
Uranium 235	0.0452	U	0.249		0.201	30	04/26/11	05/27/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-82

Radiochemistry

Lab Sample ID: F1D260474-017
Work Order: MHHVV
Matrix: SOLID

Date Collected: 03/14/11 1125
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.352**		**0.288**		**0.187**	30	**04/26/11**	**05/27/11**
Americium 241	0.0139	U	0.106		0.088	30	04/26/11	05/27/11
Bismuth 212	0.143	U	0.502		0.392	30	04/26/11	05/27/11
Bismuth 214	**0.640**		**0.168**		**0.045**	30	**04/26/11**	**05/27/11**
Cesium 137	0.0000628	U	0.0644	0.0700	0.057	30	04/26/11	05/27/11
Cobalt 60	0.00187	U	0.0551		0.048	30	04/26/11	05/27/11
Europium 152	-0.0216	U	0.150		0.121	30	04/26/11	05/27/11
Europium 154	0.0	U	0.415		0.342	30	04/26/11	05/27/11
Lead 210	**0.993**	**J**	**1.20**	1.50	**0.979**	30	**04/26/11**	**05/27/11**
Lead 212	**0.636**		**0.138**		**0.045**	30	**04/26/11**	**05/27/11**
Lead 214	**0.479**		**0.142**		**0.055**	30	**04/26/11**	**05/27/11**
Potassium 40	**5.36**		**1.56**		**0.579**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.0137	U	0.139		0.113	30	04/26/11	05/27/11
Radium (226)	**0.640**	**J**	**0.168**	0.700	**0.045**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.156**		**0.0674**		**0.031**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.352**		**0.288**		**0.187**	30	**04/26/11**	**05/27/11**
Thorium 234	0.639	U	1.21		1.00	30	04/26/11	05/27/11
Uranium 235	0.0778	U	0.215		0.174	30	04/26/11	05/27/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-83

Radiochemistry

Lab Sample ID: F1D260474-018
Work Order: MHHVW
Matrix: SOLID

Date Collected: 03/14/11 1130
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116409		Yld %
Actinium 228	**0.938**		**0.270**		**0.085**	30	**04/26/11**	**05/27/11**
Americium 241	0.0156	U	0.112		0.090	30	04/26/11	05/27/11
Bismuth 212	**0.380**		**0.323**		**0.208**	30	**04/26/11**	**05/27/11**
Bismuth 214	**0.727**		**0.162**		**0.056**	30	**04/26/11**	**05/27/11**
Cesium 137	0.000318	U	0.0491	0.0700	0.040	30	04/26/11	05/27/11
Cobalt 60	-0.0112	U	0.0538		0.042	30	04/26/11	05/27/11
Europium 152	-0.0124	U	0.121		0.098	30	04/26/11	05/27/11
Europium 154	-0.0771	U	0.371		0.295	30	04/26/11	05/27/11
Lead 210	0.886	U	1.23	1.50	0.953	30	04/26/11	05/27/11
Lead 212	**0.888**		**0.158**		**0.063**	30	**04/26/11**	**05/27/11**
Lead 214	**0.701**		**0.141**		**0.066**	30	**04/26/11**	**05/27/11**
Potassium 40	**7.90**		**1.41**		**0.387**	30	**04/26/11**	**05/27/11**
Protactinium 234	-0.0519	U	0.160		0.129	30	04/26/11	05/27/11
Radium (226)	**0.727**		**0.162**	0.700	**0.056**	30	**04/26/11**	**05/27/11**
Thallium 208	**0.365**		**0.0786**		**0.022**	30	**04/26/11**	**05/27/11**
Thorium 232	**0.938**		**0.270**		**0.085**	30	**04/26/11**	**05/27/11**
Thorium 234	0.624	U	0.312		0.954	30	04/26/11	05/27/11
Uranium 235	0.0839	U	0.261		0.210	30	04/26/11	05/27/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-72

Radiochemistry

Lab Sample ID: F1C300453-003
Work Order: MGCXC
Matrix: SOLID

Date Collected: 03/14/11 1035
Date Received: 03/30/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	**EPA-905 MOD**			**pCi/g**		**Batch # 1090198**		**Yld % 65.**
Strontium Total	0.0271	U	0.224	0.320	0.218	400	03/31/11	04/05/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 18-PE-D0334-83

Radiochemistry

Lab Sample ID: F1C300453-004
Work Order: MGCXD
Matrix: SOLID

Date Collected: 03/14/11 1130
Date Received: 03/30/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	**EPA-905 MOD**			**pCi/g**		**Batch # 1090198**		**Yld % 65.**
Strontium Total	0.217	U	0.256	0.320	0.237	400	03/31/11	04/05/11

NOTE(S)

Data are incomplete without the case narrative.
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The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

EXCAVATED SOIL UNIT 421

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-09

Radiochemistry

Lab Sample ID: F1E090553-001
Work Order: MH540
Matrix: SOLID

Date Collected: 04/11/11 1340
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.673**		**0.165**		**0.026**	30	**05/10/11**	**06/05/11**
Americium 241	0.00871	U	0.0990		0.081	30	05/10/11	06/05/11
Bismuth 212	0.118	U	0.289		0.221	30	05/10/11	06/05/11
Bismuth 214	**0.455**		**0.113**		**0.039**	30	**05/10/11**	**06/05/11**
Cesium 137	0.0140	U	0.0384	0.0700	0.029	30	05/10/11	06/05/11
Cobalt 60	0.0	U	0.0833		0.068	30	05/10/11	06/05/11
Europium 152	-0.0173	U	0.106		0.085	30	05/10/11	06/05/11
Europium 154	-0.0652	U	0.332		0.265	30	05/10/11	06/05/11
Lead 210	0.147	U	1.77	1.50	1.45	30	05/10/11	06/05/11
Lead 212	**0.457**		**0.111**		**0.048**	30	**05/10/11**	**06/05/11**
Lead 214	**0.517**		**0.111**		**0.053**	30	**05/10/11**	**06/05/11**
Potassium 40	**7.93**		**1.29**		**0.211**	30	**05/10/11**	**06/05/11**
Protactinium 234	0.000575	U	0.115		0.094	30	05/10/11	06/05/11
Radium (226)	**0.455**	**J**	**0.113**	0.700	**0.039**	30	**05/10/11**	**06/05/11**
Thallium 208	**0.158**		**0.0607**		**0.025**	30	**05/10/11**	**06/05/11**
Thorium 232	**0.673**		**0.165**		**0.026**	30	**05/10/11**	**06/05/11**
Thorium 234	0.619	U	0.332		0.747	30	05/10/11	06/05/11
Uranium 235	-0.0718	U	0.217		0.174	30	05/10/11	06/05/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-09 DUP

Radiochemistry

Lab Sample ID: F1E090553-001X
Work Order: MH540
Matrix: SOLID

Date Collected: 04/11/11 1340
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.400**		**0.146**		**0.127**	30	**05/10/11**	**06/06/11**
Americium 241	-0.00613	U	0.102		0.083	30	05/10/11	06/06/11
Bismuth 212	0.140	U	0.387		0.302	30	05/10/11	06/06/11
Bismuth 214	**0.456**		**0.159**		**0.074**	30	**05/10/11**	**06/06/11**
Cesium 137	0.0115	U	0.0523	0.0700	0.041	30	05/10/11	06/06/11
Cobalt 60	0.0148	U	0.0592		0.046	30	05/10/11	06/06/11
Europium 152	0.00424	U	0.100		0.082	30	05/10/11	06/06/11
Europium 154	0.0	U	0.549		0.452	30	05/10/11	06/06/11
Lead 210	0.372	U	1.40	1.50	1.20	30	05/10/11	06/06/11
Lead 212	**0.471**		**0.140**		**0.069**	30	**05/10/11**	**06/06/11**
Lead 214	**0.513**		**0.137**		**0.060**	30	**05/10/11**	**06/06/11**
Potassium 40	**8.88**		**1.49**		**0.433**	30	**05/10/11**	**06/06/11**
Protactinium 234	0.0848	U	0.155		0.122	30	05/10/11	06/06/11
Radium (226)	**0.456**	**J**	**0.159**	0.700	**0.074**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.0933**		**0.0593**		**0.041**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.400**		**0.146**		**0.127**	30	**05/10/11**	**06/06/11**
Thorium 234	**1.14**		**0.943**		**0.718**	30	**05/10/11**	**06/06/11**
Uranium 235	0.0661	U	0.223		0.182	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-10

Radiochemistry

Lab Sample ID: F1E090553-002
Work Order: MH541
Matrix: SOLID

Date Collected: 04/11/11 1340
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.483**		**0.157**		**0.028**	30	**05/10/11**	**06/06/11**
Americium 241	0.0242	U	0.0981		0.079	30	05/10/11	06/06/11
Bismuth 212	**0.897**		**0.308**		**0.059**	30	**05/10/11**	**06/06/11**
Bismuth 214	**0.649**		**0.158**		**0.057**	30	**05/10/11**	**06/06/11**
Cesium 137	0.00712	U	0.0355	0.0700	0.028	30	05/10/11	06/06/11
Cobalt 60	0.0	U	0.0908		0.074	30	05/10/11	06/06/11
Europium 152	0.00193	U	0.0828		0.067	30	05/10/11	06/06/11
Europium 154	0.136	U	0.237		0.166	30	05/10/11	06/06/11
Lead 210	0.682	U	1.10	1.50	0.921	30	05/10/11	06/06/11
Lead 212	**0.597**		**0.145**		**0.065**	30	**05/10/11**	**06/06/11**
Lead 214	**0.540**		**0.145**		**0.063**	30	**05/10/11**	**06/06/11**
Potassium 40	**9.23**		**1.47**		**0.286**	30	**05/10/11**	**06/06/11**
Protactinium 234	0.0126	U	0.138		0.113	30	05/10/11	06/06/11
Radium (226)	**0.649**	J	**0.158**	0.700	**0.057**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.203**		**0.0680**		**0.029**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.483**		**0.157**		**0.028**	30	**05/10/11**	**06/06/11**
Thorium 234	0.357	U	0.924		0.770	30	05/10/11	06/06/11
Uranium 235	-0.0631	U	0.987		0.211	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-11

Radiochemistry

Lab Sample ID: F1E090553-003
Work Order: MH542
Matrix: SOLID

Date Collected: 04/11/11 1345
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.714**		**0.252**		**0.050**	30	**05/10/11**	**06/06/11**
Americium 241	0.0166	U	0.0970		0.080	30	05/10/11	06/06/11
Bismuth 212	0.0	U	0.337		0.277	30	05/10/11	06/06/11
Bismuth 214	**0.642**		**0.175**		**0.057**	30	**05/10/11**	**06/06/11**
Cesium 137	0.00362	U	0.0733	0.0700	0.063	30	05/10/11	06/06/11
Cobalt 60	-0.0207	U	0.829		0.031	30	05/10/11	06/06/11
Europium 152	-0.0351	U	0.154		0.123	30	05/10/11	06/06/11
Europium 154	0.0483	U	0.254		0.193	30	05/10/11	06/06/11
Lead 210	0.712	U	1.10	1.50	0.928	30	05/10/11	06/06/11
Lead 212	**0.757**		**0.174**		**0.069**	30	**05/10/11**	**06/06/11**
Lead 214	**0.686**		**0.167**		**0.081**	30	**05/10/11**	**06/06/11**
Potassium 40	**7.94**		**1.73**		**0.206**	30	**05/10/11**	**06/06/11**
Protactinium 234	0.00138	U	0.141		0.116	30	05/10/11	06/06/11
Radium (226)	**0.642**	**J**	**0.175**	0.700	**0.057**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.314**		**0.0834**		**0.017**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.714**		**0.252**		**0.050**	30	**05/10/11**	**06/06/11**
Thorium 234	**0.990**		**1.03**		**0.823**	30	**05/10/11**	**06/06/11**
Uranium 235	0.100	U	0.206		0.159	30	05/10/11	06/06/11

NOTE(S)

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Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-12

Radiochemistry

Lab Sample ID: F1E090553-004
Work Order: MH543
Matrix: SOLID

Date Collected: 04/11/11 1350
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	0.616		0.164		0.134	30	05/10/11	06/08/11
Americium 241	0.0443	U	0.0934		0.073	30	05/10/11	06/08/11
Bismuth 212	0.481		0.404		0.272	30	05/10/11	06/08/11
Bismuth 214	0.761		0.176		0.067	30	05/10/11	06/08/11
Cesium 137	0.0188	U	0.0438	0.0700	0.033	30	05/10/11	06/08/11
Cobalt 60	0.0267	U	0.0487		0.035	30	05/10/11	06/08/11
Europium 152	-0.0663	U	0.135		0.105	30	05/10/11	06/08/11
Europium 154	0.121	U	0.386		0.302	30	05/10/11	06/08/11
Lead 210	0.565	U	1.42	1.50	1.21	30	05/10/11	06/08/11
Lead 212	0.732		0.140		0.063	30	05/10/11	06/08/11
Lead 214	0.820		0.162		0.066	30	05/10/11	06/08/11
Potassium 40	8.86		1.48		0.429	30	05/10/11	06/08/11
Protactinium 234	0.0640	U	0.140		0.111	30	05/10/11	06/08/11
Radium (226)	0.761		0.176	0.700	0.067	30	05/10/11	06/08/11
Thallium 208	0.335		0.0880		0.032	30	05/10/11	06/08/11
Thorium 232	0.616		0.164		0.134	30	05/10/11	06/08/11
Thorium 234	1.22		1.12		0.800	30	05/10/11	06/08/11
Uranium 235	-0.0718	U	1.04		0.223	30	05/10/11	06/08/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-13

Radiochemistry

Lab Sample ID: F1E090553-005
Work Order: MH544
Matrix: SOLID

Date Collected: 04/11/11 1355
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.823**		**0.179**		**0.028**	30	**05/10/11**	**06/06/11**
Americium 241	0.0427	U	0.0772		0.059	30	05/10/11	06/06/11
Bismuth 212	0.0948	U	0.331		0.260	30	05/10/11	06/06/11
Bismuth 214	**0.704**		**0.165**		**0.056**	30	**05/10/11**	**06/06/11**
Cesium 137	0.0255	U	0.0393	0.0700	0.028	30	05/10/11	06/06/11
Cobalt 60	-0.0162	U	0.0477		0.036	30	05/10/11	06/06/11
Europium 152	0.0595	U	0.108		0.082	30	05/10/11	06/06/11
Europium 154	-0.106	U	0.415		0.329	30	05/10/11	06/06/11
Lead 210	-0.0314	U	1.66	1.50	1.37	30	05/10/11	06/06/11
Lead 212	**0.527**		**0.123**		**0.052**	30	**05/10/11**	**06/06/11**
Lead 214	**0.636**		**0.131**		**0.053**	30	**05/10/11**	**06/06/11**
Potassium 40	**8.54**		**1.49**		**0.484**	30	**05/10/11**	**06/06/11**
Protactinium 234	-0.0488	U	0.163		0.132	30	05/10/11	06/06/11
Radium (226)	**0.704**		**0.165**	0.700	**0.056**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.221**		**0.0653**		**0.023**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.823**		**0.179**		**0.028**	30	**05/10/11**	**06/06/11**
Thorium 234	-0.00500	U	0.811		0.668	30	05/10/11	06/06/11
Uranium 235	-0.0240	U	0.246		0.201	30	05/10/11	06/06/11

NOTE(S)

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Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-14

Radiochemistry

Lab Sample ID: F1E090553-006
Work Order: MH545
Matrix: SOLID

Date Collected: 04/11/11 1400
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.448**		**0.208**		**0.126**	30	**05/10/11**	**06/06/11**
Americium 241	0.0	U	0.119		0.097	30	05/10/11	06/06/11
Bismuth 212	0.246	U	0.356		0.260	30	05/10/11	06/06/11
Bismuth 214	**0.504**		**0.141**		**0.061**	30	**05/10/11**	**06/06/11**
Cesium 137	**0.0767**		**0.0330**	0.0700	**0.008**	30	**05/10/11**	**06/06/11**
Cobalt 60	0.0372	U	0.0564		0.040	30	05/10/11	06/06/11
Europium 152	0.0242	U	0.126		0.101	30	05/10/11	06/06/11
Europium 154	0.0	U	0.241		0.198	30	05/10/11	06/06/11
Lead 210	0.527	U	1.18	1.50	1.01	30	05/10/11	06/06/11
Lead 212	**0.491**		**0.115**		**0.057**	30	**05/10/11**	**06/06/11**
Lead 214	**0.563**		**0.126**		**0.050**	30	**05/10/11**	**06/06/11**
Potassium 40	**7.96**		**1.37**		**0.412**	30	**05/10/11**	**06/06/11**
Protactinium 234	0.00764	U	0.159		0.131	30	05/10/11	06/06/11
Radium (226)	**0.504**	J	**0.141**	0.700	**0.061**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.233**		**0.0591**		**0.020**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.448**		**0.208**		**0.126**	30	**05/10/11**	**06/06/11**
Thorium 234	0.0530	U	1.09		0.957	30	05/10/11	06/06/11
Uranium 235	0.0334	U	0.253		0.209	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-15

Radiochemistry

Lab Sample ID: F1E090553-007
Work Order: MH546
Matrix: SOLID

Date Collected: 04/11/11 1405
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.753**		**0.207**		**0.122**	30	**05/10/11**	**06/06/11**
Americium 241	0.0255	U	0.118		0.095	30	05/10/11	06/06/11
Bismuth 212	**0.998**		**0.392**		**0.116**	30	**05/10/11**	**06/06/11**
Bismuth 214	**0.587**		**0.188**		**0.080**	30	**05/10/11**	**06/06/11**
Cesium 137	0.0	U	0.0571	0.0700	0.047	30	05/10/11	06/06/11
Cobalt 60	0.000111	U	0.0467		0.038	30	05/10/11	06/06/11
Europium 152	0.0	U	0.132		0.109	30	05/10/11	06/06/11
Europium 154	0.00598	U	0.223		0.182	30	05/10/11	06/06/11
Lead 210	0.181	U	1.29	1.50	1.10	30	05/10/11	06/06/11
Lead 212	**1.01**		**0.155**		**0.061**	30	**05/10/11**	**06/06/11**
Lead 214	**0.805**		**0.166**		**0.078**	30	**05/10/11**	**06/06/11**
Potassium 40	**9.23**		**1.48**		**0.290**	30	**05/10/11**	**06/06/11**
Protactinium 234	-0.0518	U	0.191		0.155	30	05/10/11	06/06/11
Radium (226)	**0.587**	J	**0.188**	0.700	**0.080**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.333**		**0.0792**		**0.029**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.753**		**0.207**		**0.122**	30	**05/10/11**	**06/06/11**
Thorium 234	0.733	U	1.17		0.953	30	05/10/11	06/06/11
Uranium 235	-0.227	U	0.428		0.245	30	05/10/11	06/06/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-16

Radiochemistry

Lab Sample ID: F1E090553-008
Work Order: MH547
Matrix: SOLID

Date Collected: 04/11/11 1410
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.309**		**0.228**		**0.130**	30	**05/10/11**	**06/06/11**
Americium 241	0.0637	U	0.102		0.080	30	05/10/11	06/06/11
Bismuth 212	0.271	U	0.503		0.373	30	05/10/11	06/06/11
Bismuth 214	**0.708**		**0.187**		**0.060**	30	**05/10/11**	**06/06/11**
Cesium 137	0.0130	U	0.0589	0.0700	0.050	30	05/10/11	06/06/11
Cobalt 60	-0.0206	U	0.824		0.135	30	05/10/11	06/06/11
Europium 152	0.0868	U	0.138		0.102	30	05/10/11	06/06/11
Europium 154	-0.0569	U	0.497		0.400	30	05/10/11	06/06/11
Lead 210	0.808	U	1.18	1.50	0.982	30	05/10/11	06/06/11
Lead 212	**0.595**		**0.138**		**0.054**	30	**05/10/11**	**06/06/11**
Lead 214	**0.655**		**0.181**		**0.080**	30	**05/10/11**	**06/06/11**
Potassium 40	**11.7**		**2.13**		**0.204**	30	**05/10/11**	**06/06/11**
Protactinium 234	-0.0608	U	0.164		0.131	30	05/10/11	06/06/11
Radium (226)	**0.708**		**0.187**	0.700	**0.060**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.275**		**0.0977**		**0.036**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.309**		**0.228**		**0.130**	30	**05/10/11**	**06/06/11**
Thorium 234	0.575	U	1.04		0.858	30	05/10/11	06/06/11
Uranium 235	0.0828	U	0.253		0.201	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-17

Radiochemistry

Lab Sample ID: F1E090553-009
Work Order: MH548
Matrix: SOLID

Date Collected: 04/11/11 1415
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	0.266		0.225		0.145	30	05/10/11	06/06/11
Americium 241	0.00664	U	0.133		0.110	30	05/10/11	06/06/11
Bismuth 212	0.336		0.399		0.272	30	05/10/11	06/06/11
Bismuth 214	0.619		0.147		0.019	30	05/10/11	06/06/11
Cesium 137	0.0117	U	0.0467	0.0700	0.036	30	05/10/11	06/06/11
Cobalt 60	0.00335	U	0.0581		0.047	30	05/10/11	06/06/11
Europium 152	-0.0262	U	0.139		0.111	30	05/10/11	06/06/11
Europium 154	0.104	U	0.345		0.263	30	05/10/11	06/06/11
Lead 210	-0.582	U	1.51	1.50	1.21	30	05/10/11	06/06/11
Lead 212	0.482		0.135		0.066	30	05/10/11	06/06/11
Lead 214	0.453		0.195		0.081	30	05/10/11	06/06/11
Potassium 40	12.8		2.06		0.286	30	05/10/11	06/06/11
Protactinium 234	0.0539	U	0.188		0.151	30	05/10/11	06/06/11
Radium (226)	0.619	J	0.147	0.700	0.019	30	05/10/11	06/06/11
Thallium 208	0.152		0.0863		0.039	30	05/10/11	06/06/11
Thorium 232	0.266		0.225		0.145	30	05/10/11	06/06/11
Thorium 234	0.0485	U	1.00		0.874	30	05/10/11	06/06/11
Uranium 235	0.0246	U	0.282		0.235	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-18

Radiochemistry

Lab Sample ID: F1E090553-010
Work Order: MH549
Matrix: SOLID

Date Collected: 04/11/11 1420
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	0.525		0.195		0.153	30	05/10/11	06/06/11
Americium 241	0.00595	U	0.107		0.087	30	05/10/11	06/06/11
Bismuth 212	0.305		0.369		0.272	30	05/10/11	06/06/11
Bismuth 214	0.827		0.175		0.061	30	05/10/11	06/06/11
Cesium 137	0.0105	U	0.0473	0.0700	0.037	30	05/10/11	06/06/11
Cobalt 60	0.000274	U	0.0519		0.042	30	05/10/11	06/06/11
Europium 152	0.000664	U	0.117		0.096	30	05/10/11	06/06/11
Europium 154	-0.0828	U	0.363		0.287	30	05/10/11	06/06/11
Lead 210	2.23		2.13	1.50	1.28	30	05/10/11	06/06/11
Lead 212	0.803		0.161		0.074	30	05/10/11	06/06/11
Lead 214	0.989		0.184		0.062	30	05/10/11	06/06/11
Potassium 40	9.13		1.49		0.292	30	05/10/11	06/06/11
Protactinium 234	0.0216	U	0.166		0.135	30	05/10/11	06/06/11
Radium (226)	0.827		0.175	0.700	0.061	30	05/10/11	06/06/11
Thallium 208	0.271		0.0751		0.031	30	05/10/11	06/06/11
Thorium 232	0.525		0.195		0.153	30	05/10/11	06/06/11
Thorium 234	0.955	U	1.26		1.03	30	05/10/11	06/06/11
Uranium 235	0.0661	U	0.246		0.202	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-19

Radiochemistry

Lab Sample ID: F1E090553-011
Work Order: MH55A
Matrix: SOLID

Date Collected: 04/11/11 1425
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.815**		**0.235**		**0.084**	30	**05/10/11**	**06/06/11**
Americium 241	-0.0173	U	0.0992		0.080	30	05/10/11	06/06/11
Bismuth 212	**0.570**		**0.299**		**0.119**	30	**05/10/11**	**06/06/11**
Bismuth 214	**0.711**		**0.146**		**0.046**	30	**05/10/11**	**06/06/11**
Cesium 137	0.00865	U	0.0383	0.0700	0.030	30	05/10/11	06/06/11
Cobalt 60	0.000149	U	0.0333		0.027	30	05/10/11	06/06/11
Europium 152	0.0369	U	0.0912		0.071	30	05/10/11	06/06/11
Europium 154	0.000734	U	0.228		0.188	30	05/10/11	06/06/11
Lead 210	0.371	U	0.932	1.50	0.740	30	05/10/11	06/06/11
Lead 212	**0.604**		**0.137**		**0.057**	30	**05/10/11**	**06/06/11**
Lead 214	**0.649**		**0.132**		**0.062**	30	**05/10/11**	**06/06/11**
Potassium 40	**9.34**		**1.46**		**0.300**	30	**05/10/11**	**06/06/11**
Protactinium 234	-0.0258	U	0.130		0.105	30	05/10/11	06/06/11
Radium (226)	**0.711**		**0.146**	0.700	**0.046**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.185**		**0.0615**		**0.025**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.815**		**0.235**		**0.084**	30	**05/10/11**	**06/06/11**
Thorium 234	0.743	U	0.985		0.772	30	05/10/11	06/06/11
Uranium 235	0.147	U	0.244		0.192	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-20

Radiochemistry

Lab Sample ID: F1E090553-012
Work Order: MH55C
Matrix: SOLID

Date Collected: 04/11/11 1430
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	0.679		0.194		0.110	30	05/10/11	06/06/11
Americium 241	-0.00704	U	0.107		0.087	30	05/10/11	06/06/11
Bismuth 212	0.318		0.344		0.240	30	05/10/11	06/06/11
Bismuth 214	0.819		0.172		0.054	30	05/10/11	06/06/11
Cesium 137	0.0139	U	0.0494	0.0700	0.039	30	05/10/11	06/06/11
Cobalt 60	0.0290	U	0.0571		0.042	30	05/10/11	06/06/11
Europium 152	-0.0382	U	0.129		0.103	30	05/10/11	06/06/11
Europium 154	-0.0668	U	0.411		0.330	30	05/10/11	06/06/11
Lead 210	0.588	U	1.30	1.50	1.10	30	05/10/11	06/06/11
Lead 212	0.643		0.126		0.059	30	05/10/11	06/06/11
Lead 214	0.786		0.152		0.056	30	05/10/11	06/06/11
Potassium 40	8.79		1.44		0.405	30	05/10/11	06/06/11
Protactinium 234	-0.0189	U	0.180		0.147	30	05/10/11	06/06/11
Radium (226)	0.819		0.172	0.700	0.054	30	05/10/11	06/06/11
Thallium 208	0.271		0.0821		0.033	30	05/10/11	06/06/11
Thorium 232	0.679		0.194		0.110	30	05/10/11	06/06/11
Thorium 234	0.101	U	1.17		1.01	30	05/10/11	06/06/11
Uranium 235	-0.0402	U	1.61		0.228	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-21

Radiochemistry

Lab Sample ID: F1E090553-013
Work Order: MH55D
Matrix: SOLID

Date Collected: 04/11/11 1435
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.715**		**0.244**		**0.079**	30	**05/10/11**	**06/06/11**
Americium 241	0.0367	U	0.0961		0.076	30	05/10/11	06/06/11
Bismuth 212	0.0695	U	0.375		0.301	30	05/10/11	06/06/11
Bismuth 214	**0.635**		**0.162**		**0.065**	30	**05/10/11**	**06/06/11**
Cesium 137	0.0234	U	0.0475	0.0700	0.036	30	05/10/11	06/06/11
Cobalt 60	0.000246	U	0.0456		0.037	30	05/10/11	06/06/11
Europium 152	0.00144	U	0.0962		0.079	30	05/10/11	06/06/11
Europium 154	0.0	U	0.341		0.281	30	05/10/11	06/06/11
Lead 210	-0.316	U	2.66	1.50	1.17	30	05/10/11	06/06/11
Lead 212	**0.706**		**0.135**		**0.059**	30	**05/10/11**	**06/06/11**
Lead 214	**0.722**		**0.158**		**0.060**	30	**05/10/11**	**06/06/11**
Potassium 40	**10.4**		**1.58**		**0.291**	30	**05/10/11**	**06/06/11**
Protactinium 234	0.0402	U	0.158		0.128	30	05/10/11	06/06/11
Radium (226)	**0.635**	J	**0.162**	0.700	**0.065**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.150**		**0.0684**		**0.045**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.715**		**0.244**		**0.079**	30	**05/10/11**	**06/06/11**
Thorium 234	**1.67**		**1.28**		**0.781**	30	**05/10/11**	**06/06/11**
Uranium 235	-0.0227	U	1.07		0.226	30	05/10/11	06/06/11

NOTE (S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-22

Radiochemistry

Lab Sample ID: F1E090553-014
Work Order: MH55E
Matrix: SOLID

Date Collected: 04/11/11 1440
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.494**		**0.285**		**0.160**	30	**05/10/11**	**06/06/11**
Americium 241	-0.0367	U	0.442		0.116	30	05/10/11	06/06/11
Bismuth 212	**0.457**		**0.463**		**0.300**	30	**05/10/11**	**06/06/11**
Bismuth 214	**0.706**		**0.202**		**0.074**	30	**05/10/11**	**06/06/11**
Cesium 137	0.0131	U	0.0662	0.0700	0.056	30	05/10/11	06/06/11
Cobalt 60	-0.0229	U	1.50		0.063	30	05/10/11	06/06/11
Europium 152	-0.0311	U	0.134		0.106	30	05/10/11	06/06/11
Europium 154	-0.145	U	0.535		0.418	30	05/10/11	06/06/11
Lead 210	0.613	U	1.33	1.50	1.12	30	05/10/11	06/06/11
Lead 212	**0.757**		**0.161**		**0.059**	30	**05/10/11**	**06/06/11**
Lead 214	**0.707**		**0.160**		**0.080**	30	**05/10/11**	**06/06/11**
Potassium 40	**8.01**		**1.81**		**0.373**	30	**05/10/11**	**06/06/11**
Protactinium 234	0.0581	U	0.153		0.122	30	05/10/11	06/06/11
Radium (226)	**0.706**		**0.202**	0.700	**0.074**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.299**		**0.112**		**0.044**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.494**		**0.285**		**0.160**	30	**05/10/11**	**06/06/11**
Thorium 234	0.506	U	1.28		1.07	30	05/10/11	06/06/11
Uranium 235	0.0986	U	0.194		0.149	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-23

Radiochemistry

Lab Sample ID: F1E090553-015
Work Order: MH55F
Matrix: SOLID

Date Collected: 04/11/11 1445
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**1.00**		**0.231**		**0.043**	30	**05/10/11**	**06/06/11**
Americium 241	0.00420	U	0.136		0.112	30	05/10/11	06/06/11
Bismuth 212	0.296	U	0.496		0.369	30	05/10/11	06/06/11
Bismuth 214	**0.987**		**0.192**		**0.019**	30	**05/10/11**	**06/06/11**
Cesium 137	0.000519	U	0.0687	0.0700	0.056	30	05/10/11	06/06/11
Cobalt 60	0.0	U	0.0146		0.017	30	05/10/11	06/06/11
Europium 152	-0.0104	U	0.149		0.122	30	05/10/11	06/06/11
Europium 154	0.230	U	0.485		0.364	30	05/10/11	06/06/11
Lead 210	**1.91**		**1.27**	1.50	**0.886**	30	**05/10/11**	**06/06/11**
Lead 212	**0.780**		**0.196**		**0.085**	30	**05/10/11**	**06/06/11**
Lead 214	**0.892**		**0.196**		**0.060**	30	**05/10/11**	**06/06/11**
Potassium 40	**9.19**		**1.75**		**0.295**	30	**05/10/11**	**06/06/11**
Protactinium 234	-0.00361	U	0.173		0.142	30	05/10/11	06/06/11
Radium (226)	**0.987**		**0.192**	0.700	**0.019**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.340**		**0.0820**		**0.018**	30	**05/10/11**	**06/06/11**
Thorium 232	**1.00**		**0.231**		**0.043**	30	**05/10/11**	**06/06/11**
Thorium 234	0.758	U	1.25		1.03	30	05/10/11	06/06/11
Uranium 235	-0.134	U	1.06		0.290	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-24

Radiochemistry

Lab Sample ID: F1E090553-016
Work Order: MH55G
Matrix: SOLID

Date Collected: 04/11/11 1450
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.624**		**0.182**		**0.074**	30	**05/10/11**	**06/06/11**
Americium 241	0.00507	U	0.0848		0.069	30	05/10/11	06/06/11
Bismuth 212	**0.695**		**0.282**		**0.090**	30	**05/10/11**	**06/06/11**
Bismuth 214	**0.629**		**0.142**		**0.050**	30	**05/10/11**	**06/06/11**
Cesium 137	0.00592	U	0.0461	0.0700	0.037	30	05/10/11	06/06/11
Cobalt 60	-0.00627	U	0.0471		0.037	30	05/10/11	06/06/11
Europium 152	-0.00891	U	0.0983		0.080	30	05/10/11	06/06/11
Europium 154	0.0	U	0.0573		0.066	30	05/10/11	06/06/11
Lead 210	0.0973	U	1.31	1.50	1.18	30	05/10/11	06/06/11
Lead 212	**0.590**		**0.136**		**0.065**	30	**05/10/11**	**06/06/11**
Lead 214	**0.564**		**0.138**		**0.053**	30	**05/10/11**	**06/06/11**
Potassium 40	**6.81**		**1.31**		**0.353**	30	**05/10/11**	**06/06/11**
Protactinium 234	-0.00170	U	0.136		0.112	30	05/10/11	06/06/11
Radium (226)	**0.629**	J	**0.142**	0.700	**0.050**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.200**		**0.0677**		**0.032**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.624**		**0.182**		**0.074**	30	**05/10/11**	**06/06/11**
Thorium 234	**1.21**		**1.04**		**0.823**	30	**05/10/11**	**06/06/11**
Uranium 235	0.0227	U	0.189		0.158	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-25

Radiochemistry

Lab Sample ID: F1E090553-017
Work Order: MH55H
Matrix: SOLID

Date Collected: 04/11/11 1455
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	**0.624**		**0.222**		**0.114**	30	**05/10/11**	**06/06/11**
Americium 241	-0.0454	U	0.101		0.080	30	05/10/11	06/06/11
Bismuth 212	**0.263**		**0.354**		**0.260**	30	**05/10/11**	**06/06/11**
Bismuth 214	**0.649**		**0.139**		**0.046**	30	**05/10/11**	**06/06/11**
Cesium 137	0.0	U	0.0642	0.0700	0.052	30	05/10/11	06/06/11
Cobalt 60	-0.00147	U	0.0460		0.037	30	05/10/11	06/06/11
Europium 152	-0.00908	U	0.107		0.087	30	05/10/11	06/06/11
Europium 154	-0.103	U	0.333		0.261	30	05/10/11	06/06/11
Lead 210	0.260	U	1.23	1.50	0.999	30	05/10/11	06/06/11
Lead 212	**0.683**		**0.134**		**0.055**	30	**05/10/11**	**06/06/11**
Lead 214	**0.750**		**0.148**		**0.052**	30	**05/10/11**	**06/06/11**
Potassium 40	**9.31**		**1.42**		**0.213**	30	**05/10/11**	**06/06/11**
Protactinium 234	0.00848	U	0.140		0.114	30	05/10/11	06/06/11
Radium (226)	**0.649**	**J**	**0.139**	0.700	**0.046**	30	**05/10/11**	**06/06/11**
Thallium 208	**0.261**		**0.0681**		**0.022**	30	**05/10/11**	**06/06/11**
Thorium 232	**0.624**		**0.222**		**0.114**	30	**05/10/11**	**06/06/11**
Thorium 234	0.698	U	0.967		0.758	30	05/10/11	06/06/11
Uranium 235	-0.0781	U	0.257		0.208	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-26

Radiochemistry

Lab Sample ID: F1E090553-018
Work Order: MH55J
Matrix: SOLID

Date Collected: 04/11/11 1500
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1130345		Yld %
Actinium 228	0.843		0.212		0.068	30	05/10/11	06/06/11
Americium 241	-0.00181	U	0.104		0.085	30	05/10/11	06/06/11
Bismuth 212	0.347		0.388		0.274	30	05/10/11	06/06/11
Bismuth 214	0.651		0.196		0.079	30	05/10/11	06/06/11
Cesium 137	-0.00301	U	0.0390	0.0700	0.031	30	05/10/11	06/06/11
Cobalt 60	-0.000544	U	0.0462		0.037	30	05/10/11	06/06/11
Europium 152	-0.0366	U	0.127		0.101	30	05/10/11	06/06/11
Europium 154	0.0	U	0.460		0.379	30	05/10/11	06/06/11
Lead 210	0.0276	U	1.22	1.50	1.07	30	05/10/11	06/06/11
Lead 212	0.642		0.135		0.059	30	05/10/11	06/06/11
Lead 214	0.707		0.143		0.060	30	05/10/11	06/06/11
Potassium 40	8.84		1.59		0.416	30	05/10/11	06/06/11
Protactinium 234	0.122		0.155		0.119	30	05/10/11	06/06/11
Radium (226)	0.651	J	0.196	0.700	0.079	30	05/10/11	06/06/11
Thallium 208	0.259		0.0829		0.032	30	05/10/11	06/06/11
Thorium 232	0.843		0.212		0.068	30	05/10/11	06/06/11
Thorium 234	0.937		0.557		0.898	30	05/10/11	06/06/11
Uranium 235	0.0675	U	0.278		0.227	30	05/10/11	06/06/11

NOTE(S)

Data are incomplete without the case narrative.
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J Result is greater than sample detection limit but less than stated reporting limit.
U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-14

Radiochemistry

Lab Sample ID: F1E090535-009
Work Order: MH5GX
Matrix: SOLID

Date Collected: 04/11/11 1400
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	EPA-905 MOD			pCi/g		Batch # 1130246		Yld % 81.
Strontium Total	0.205		0.225	0.320	0.198	600	05/10/11	05/16/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is
given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0421-22

Radiochemistry

Lab Sample ID: F1E090535-010
Work Order: MH5G1
Matrix: SOLID

Date Collected: 04/11/11 1440
Date Received: 05/09/11 1250

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	**EPA-905 MOD**			**pCi/g**		**Batch # 1130246**		**Yld % 84.**
Strontium Total	-0.127	U	0.185	0.320	0.176	600	05/10/11	05/16/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

EXCAVATED SOIL UNIT 439

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-05

Radiochemistry

Lab Sample ID: F1D260436-001
Work Order: MHHKE
Matrix: SOLID

Date Collected: 04/13/11 1000
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.665**		**0.196**		**0.062**	30	**04/26/11**	**05/25/11**
Americium 241	-0.00480	U	0.112		0.091	30	04/26/11	05/25/11
Bismuth 212	0.174	U	0.313		0.230	30	04/26/11	05/25/11
Bismuth 214	**0.566**		**0.158**		**0.064**	30	**04/26/11**	**05/25/11**
Cesium 137	0.0140	U	0.0538	0.0700	0.042	30	04/26/11	05/25/11
Cobalt 60	0.000901	U	0.0458		0.037	30	04/26/11	05/25/11
Europium 152	**0.0752**		**0.0993**		**0.071**	30	**04/26/11**	**05/25/11**
Europium 154	0.147	U	0.332		0.249	30	04/26/11	05/25/11
Lead 210	-0.495	U	3.13	1.50	1.06	30	04/26/11	05/25/11
Lead 212	**0.470**		**0.131**		**0.067**	30	**04/26/11**	**05/25/11**
Lead 214	**0.499**		**0.140**		**0.065**	30	**04/26/11**	**05/25/11**
Potassium 40	**9.59**		**1.60**		**0.400**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0544	U	0.168		0.135	30	04/26/11	05/25/11
Radium (226)	**0.566**	**J**	**0.158**	0.700	**0.064**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.208**		**0.0603**		**0.021**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.665**		**0.196**		**0.062**	30	**04/26/11**	**05/25/11**
Thorium 234	0.274	U	0.932		0.791	30	04/26/11	05/25/11
Uranium 235	0.0	U	0.288		0.238	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-05 DUP

Radiochemistry

Lab Sample ID: F1D260436-001X
Work Order: MHHKE
Matrix: SOLID

Date Collected: 04/13/11 1000
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.827**		**0.214**		**0.075**	30	**04/26/11**	**05/25/11**
Americium 241	-0.00952	U	0.120		0.098	30	04/26/11	05/25/11
Bismuth 212	0.0	U	0.310		0.255	30	04/26/11	05/25/11
Bismuth 214	**0.594**		**0.142**		**0.051**	30	**04/26/11**	**05/25/11**
Cesium 137	0.00129	U	0.0558	0.0700	0.045	30	04/26/11	05/25/11
Cobalt 60	0.0	U	0.0542		0.044	30	04/26/11	05/25/11
Europium 152	0.0471	U	0.124		0.097	30	04/26/11	05/25/11
Europium 154	0.0356	U	0.333		0.269	30	04/26/11	05/25/11
Lead 210	-0.0947	U	1.46	1.50	1.12	30	04/26/11	05/25/11
Lead 212	**0.558**		**0.126**		**0.058**	30	**04/26/11**	**05/25/11**
Lead 214	**0.493**		**0.129**		**0.056**	30	**04/26/11**	**05/25/11**
Potassium 40	**9.38**		**1.54**		**0.424**	30	**04/26/11**	**05/25/11**
Protactinium 234	0.0280	U	0.158		0.128	30	04/26/11	05/25/11
Radium (226)	**0.594**	J	**0.142**	0.700	**0.051**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.192**		**0.0648**		**0.029**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.827**		**0.214**		**0.075**	30	**04/26/11**	**05/25/11**
Thorium 234	**1.42**		**1.42**		**0.898**	30	**04/26/11**	**05/25/11**
Uranium 235	0.0773	U	0.245		0.200	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-06

Radiochemistry

Lab Sample ID: F1D260436-002
Work Order: MHHKG
Matrix: SOLID

Date Collected: 04/13/11 1005
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.982**		**0.295**		**0.049**	30	**04/26/11**	**05/25/11**
Americium 241	-0.00710	U	0.148		0.121	30	04/26/11	05/25/11
Bismuth 212	0.0	U	0.392		0.406	30	04/26/11	05/25/11
Bismuth 214	**0.688**		**0.188**		**0.057**	30	**04/26/11**	**05/25/11**
Cesium 137	-0.000411	U	0.0662	0.0700	0.054	30	04/26/11	05/25/11
Cobalt 60	-0.0182	U	0.0851		0.067	30	04/26/11	05/25/11
Europium 152	0.0316	U	0.152		0.121	30	04/26/11	05/25/11
Europium 154	0.175	U	0.571		0.445	30	04/26/11	05/25/11
Lead 210	0.783	U	1.66	1.50	1.31	30	04/26/11	05/25/11
Lead 212	**0.919**		**0.183**		**0.072**	30	**04/26/11**	**05/25/11**
Lead 214	**0.694**		**0.208**		**0.072**	30	**04/26/11**	**05/25/11**
Potassium 40	**10.8**		**2.03**		**0.319**	30	**04/26/11**	**05/25/11**
Protactinium 234	0.0209	U	0.201		0.164	30	04/26/11	05/25/11
Radium (226)	**0.688**	**J**	**0.188**	0.700	**0.057**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.208**		**0.0876**		**0.049**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.982**		**0.295**		**0.049**	30	**04/26/11**	**05/25/11**
Thorium 234	0.150	U	1.29		1.11	30	04/26/11	05/25/11
Uranium 235	0.241	U	0.356		0.281	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-07

Radiochemistry

Lab Sample ID: F1D260436-003
Work Order: MHHKH
Matrix: SOLID

Date Collected: 04/13/11 1010
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.845**		**0.295**		**0.178**	30	**04/26/11**	**05/25/11**
Americium 241	-0.0288	U	1.15		0.123	30	04/26/11	05/25/11
Bismuth 212	**0.383**		**0.524**		**0.367**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.739**		**0.207**		**0.068**	30	**04/26/11**	**05/25/11**
Cesium 137	-0.0328	U	1.31	0.0700	0.064	30	04/26/11	05/25/11
Cobalt 60	-0.0259	U	0.305		0.073	30	04/26/11	05/25/11
Europium 152	0.0	U	0.166		0.137	30	04/26/11	05/25/11
Europium 154	-0.146	U	0.585		0.458	30	04/26/11	05/25/11
Lead 210	0.284	U	1.27	1.50	1.11	30	04/26/11	05/25/11
Lead 212	**0.864**		**0.189**		**0.077**	30	**04/26/11**	**05/25/11**
Lead 214	**0.825**		**0.205**		**0.066**	30	**04/26/11**	**05/25/11**
Potassium 40	**6.65**		**1.85**		**0.692**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0298	U	0.158		0.128	30	04/26/11	05/25/11
Radium (226)	**0.739**		**0.207**	0.700	**0.068**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.234**		**0.0826**		**0.027**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.845**		**0.295**		**0.178**	30	**04/26/11**	**05/25/11**
Thorium 234	**1.26**		**1.17**		**0.922**	30	**04/26/11**	**05/25/11**
Uranium 235	**0.210**		**0.261**		**0.199**	30	**04/26/11**	**05/25/11**

NOTE(S)

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Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-08

Radiochemistry

Lab Sample ID: F1D260436-004
Work Order: MHHKJ
Matrix: SOLID

Date Collected: 04/13/11 1015
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.340**		**0.138**		**0.060**	30	**04/26/11**	**05/25/11**
Americium 241	0.0422	U	0.111		0.088	30	04/26/11	05/25/11
Bismuth 212	**0.413**		**0.488**		**0.345**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.636**		**0.162**		**0.045**	30	**04/26/11**	**05/25/11**
Cesium 137	**0.0669**	J	**0.0651**	0.0700	**0.063**	30	**04/26/11**	**05/25/11**
Cobalt 60	-0.0152	U	0.0777		0.061	30	04/26/11	05/25/11
Europium 152	-0.0189	U	0.120		0.096	30	04/26/11	05/25/11
Europium 154	-0.00821	U	0.393		0.322	30	04/26/11	05/25/11
Lead 210	**1.54**		**1.65**	1.50	**1.19**	30	**04/26/11**	**05/25/11**
Lead 212	**0.611**		**0.122**		**0.051**	30	**04/26/11**	**05/25/11**
Lead 214	**0.538**		**0.120**		**0.058**	30	**04/26/11**	**05/25/11**
Potassium 40	**10.1**		**1.86**		**0.310**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0101	U	0.151		0.124	30	04/26/11	05/25/11
Radium (226)	**0.636**	J	**0.162**	0.700	**0.045**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.224**		**0.0751**		**0.028**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.340**		**0.138**		**0.060**	30	**04/26/11**	**05/25/11**
Thorium 234	0.822	U	1.02		0.837	30	04/26/11	05/25/11
Uranium 235	0.120	U	0.202		0.160	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-09

Radiochemistry

Lab Sample ID: F1D260436-005
Work Order: MHHKL
Matrix: SOLID

Date Collected: 04/13/11 1020
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.867**		**0.246**		**0.070**	30	**04/26/11**	**05/25/11**
Americium 241	-0.0573	U	0.130		0.104	30	04/26/11	05/25/11
Bismuth 212	**0.556**		**0.549**		**0.393**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.606**		**0.181**		**0.078**	30	**04/26/11**	**05/25/11**
Cesium 137	-0.0363	U	0.0768	0.0700	0.059	30	04/26/11	05/25/11
Cobalt 60	0.0	U	0.0595		0.049	30	04/26/11	05/25/11
Europium 152	-0.0525	U	0.159		0.127	30	04/26/11	05/25/11
Europium 154	-0.153	U	0.446		0.347	30	04/26/11	05/25/11
Lead 210	0.424	U	1.17	1.50	1.02	30	04/26/11	05/25/11
Lead 212	**0.857**		**0.154**		**0.060**	30	**04/26/11**	**05/25/11**
Lead 214	**0.683**		**0.151**		**0.072**	30	**04/26/11**	**05/25/11**
Potassium 40	**10.7**		**1.88**		**0.657**	30	**04/26/11**	**05/25/11**
Protactinium 234	0.0573	U	0.164		0.131	30	04/26/11	05/25/11
Radium (226)	**0.606**	**J**	**0.181**	0.700	**0.078**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.269**		**0.0878**		**0.035**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.867**		**0.246**		**0.070**	30	**04/26/11**	**05/25/11**
Thorium 234	0.317	U	1.07		0.907	30	04/26/11	05/25/11
Uranium 235	0.185	U	0.278		0.215	30	04/26/11	05/25/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-10

Radiochemistry

Lab Sample ID: F1D260436-006
Work Order: MHHKM
Matrix: SOLID

Date Collected: 04/13/11 1025
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	1.03		0.256		0.051	30	04/26/11	05/25/11
Americium 241	0.00581	U	0.123		0.103	30	04/26/11	05/25/11
Bismuth 212	0.338	U	0.537		0.393	30	04/26/11	05/25/11
Bismuth 214	0.649		0.181		0.059	30	04/26/11	05/25/11
Cesium 137	0.0196	U	0.0763	0.0700	0.064	30	04/26/11	05/25/11
Cobalt 60	-0.0133	U	0.531		0.082	30	04/26/11	05/25/11
Europium 152	-0.0435	U	0.170		0.135	30	04/26/11	05/25/11
Europium 154	0.171	U	0.459		0.345	30	04/26/11	05/25/11
Lead 210	0.238	U	1.46	1.50	1.25	30	04/26/11	05/25/11
Lead 212	0.831		0.184		0.076	30	04/26/11	05/25/11
Lead 214	0.730		0.173		0.078	30	04/26/11	05/25/11
Potassium 40	8.22		1.81		0.314	30	04/26/11	05/25/11
Protactinium 234	-0.0874	U	0.183		0.145	30	04/26/11	05/25/11
Radium (226)	0.649	J	0.181	0.700	0.059	30	04/26/11	05/25/11
Thallium 208	0.327		0.0976		0.032	30	04/26/11	05/25/11
Thorium 232	1.03		0.256		0.051	30	04/26/11	05/25/11
Thorium 234	1.43		1.27		0.996	30	04/26/11	05/25/11
Uranium 235	0.235		0.294		0.228	30	04/26/11	05/25/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-11

Radiochemistry

Lab Sample ID: F1D260436-007
Work Order: MHHKQ
Matrix: SOLID

Date Collected: 04/13/11 1030
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**1.20**		**0.315**		**0.161**	30	**04/26/11**	**05/25/11**
Americium 241	0.0191	U	0.170		0.139	30	04/26/11	05/25/11
Bismuth 212	**0.886**		**0.651**		**0.430**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.923**		**0.221**		**0.067**	30	**04/26/11**	**05/25/11**
Cesium 137	0.0106	U	0.0613	0.0700	0.048	30	04/26/11	05/25/11
Cobalt 60	-0.0177	U	0.0652		0.050	30	04/26/11	05/25/11
Europium 152	0.0828	U	0.172		0.134	30	04/26/11	05/25/11
Europium 154	0.00492	U	0.537		0.441	30	04/26/11	05/25/11
Lead 210	0.431	U	1.72	1.50	1.39	30	04/26/11	05/25/11
Lead 212	**1.33**		**0.215**		**0.083**	30	**04/26/11**	**05/25/11**
Lead 214	**0.976**		**0.189**		**0.053**	30	**04/26/11**	**05/25/11**
Potassium 40	**10.2**		**1.94**		**0.307**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0131	U	0.284		0.233	30	04/26/11	05/25/11
Radium (226)	**0.923**		**0.221**	0.700	**0.067**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.523**		**0.120**		**0.036**	30	**04/26/11**	**05/25/11**
Thorium 232	**1.20**		**0.315**		**0.161**	30	**04/26/11**	**05/25/11**
Thorium 234	0.666	U	1.64		1.37	30	04/26/11	05/25/11
Uranium 235	0.139	U	0.403		0.327	30	04/26/11	05/25/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-12

Radiochemistry

Lab Sample ID: F1D260436-008
Work Order: MHHKR
Matrix: SOLID

Date Collected: 04/13/11 1035
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**1.21**		**0.245**		**0.086**	30	**04/26/11**	**05/25/11**
Americium 241	0.00786	U	0.137		0.112	30	04/26/11	05/25/11
Bismuth 212	0.343	U	0.505		0.378	30	04/26/11	05/25/11
Bismuth 214	**0.878**		**0.218**		**0.084**	30	**04/26/11**	**05/25/11**
Cesium 137	0.0	U	0.0781	0.0700	0.064	30	04/26/11	05/25/11
Cobalt 60	0.000227	U	0.0491		0.040	30	04/26/11	05/25/11
Europium 152	-0.0308	U	0.154		0.124	30	04/26/11	05/25/11
Europium 154	-0.0782	U	0.412		0.328	30	04/26/11	05/25/11
Lead 210	0.640	U	1.70	1.50	1.44	30	04/26/11	05/25/11
Lead 212	**1.10**		**0.176**		**0.070**	30	**04/26/11**	**05/25/11**
Lead 214	**0.848**		**0.171**		**0.083**	30	**04/26/11**	**05/25/11**
Potassium 40	**9.60**		**1.66**		**0.484**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.127	U	0.241		0.193	30	04/26/11	05/25/11
Radium (226)	**0.878**		**0.218**	0.700	**0.084**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.330**		**0.0939**		**0.038**	30	**04/26/11**	**05/25/11**
Thorium 232	**1.21**		**0.245**		**0.086**	30	**04/26/11**	**05/25/11**
Thorium 234	**1.78**		**1.48**		**1.01**	30	**04/26/11**	**05/25/11**
Uranium 235	0.200	U	0.289		0.229	30	04/26/11	05/25/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-13

Radiochemistry

Lab Sample ID: F1F010462-001
Work Order: MJXH8
Matrix: SOLID

Date Collected: 04/13/11 1040
Date Received: 06/01/11 1600

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1154135		Yld %
Actinium 228	0.265		0.118		0.166	30	06/03/11	06/13/11
Americium 241	0.0482	U	0.109		0.087	30	06/03/11	06/13/11
Bismuth 212	0.231	U	0.501		0.375	30	06/03/11	06/13/11
Bismuth 214	0.741		0.209		0.070	30	06/03/11	06/13/11
Cesium 137	0.00702	U	0.0747	0.0700	0.064	30	06/03/11	06/13/11
Cobalt 60	-0.0227	U	0.909		0.090	30	06/03/11	06/13/11
Europium 152	0.0	U	0.219		0.181	30	06/03/11	06/13/11
Europium 154	-0.0351	U	0.438		0.354	30	06/03/11	06/13/11
Lead 210	0.212	U	1.25	1.50	1.10	30	06/03/11	06/13/11
Lead 212	0.642		0.150		0.057	30	06/03/11	06/13/11
Lead 214	0.685		0.187		0.090	30	06/03/11	06/13/11
Potassium 40	9.88		2.04		0.226	30	06/03/11	06/13/11
Protactinium 234	0.0648	U	0.135		0.105	30	06/03/11	06/13/11
Radium (226)	0.741		0.209	0.700	0.070	30	06/03/11	06/13/11
Thallium 208	0.272		0.0812		0.019	30	06/03/11	06/13/11
Thorium 232	0.265		0.118		0.166	30	06/03/11	06/13/11
Thorium 234	0.354	U	1.21		1.02	30	06/03/11	06/13/11
Uranium 235	0.182		0.208		0.149	30	06/03/11	06/13/11

NOTE(S)

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Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-13 DUP

Radiochemistry

Lab Sample ID: F1F010462-001X
Work Order: MJXH8
Matrix: SOLID

Date Collected: 04/13/11 1040
Date Received: 06/01/11 1600

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1154135		Yld %
Actinium 228	**0.592**		**0.242**		**0.137**	30	**06/03/11**	**06/13/11**
Americium 241	-0.0759	U	0.132		0.104	30	06/03/11	06/13/11
Bismuth 212	0.297	U	0.427		0.314	30	06/03/11	06/13/11
Bismuth 214	**0.640**		**0.168**		**0.070**	30	**06/03/11**	**06/13/11**
Cesium 137	0.0	U	0.0530	0.0700	0.043	30	06/03/11	06/13/11
Cobalt 60	0.0	U	0.0111		0.013	30	06/03/11	06/13/11
Europium 152	0.0513	U	0.114		0.087	30	06/03/11	06/13/11
Europium 154	-0.132	U	0.461		0.363	30	06/03/11	06/13/11
Lead 210	0.587	U	1.37	1.50	1.17	30	06/03/11	06/13/11
Lead 212	**0.713**		**0.140**		**0.063**	30	**06/03/11**	**06/13/11**
Lead 214	**0.658**		**0.160**		**0.087**	30	**06/03/11**	**06/13/11**
Potassium 40	**10.6**		**1.70**		**0.471**	30	**06/03/11**	**06/13/11**
Protactinium 234	-0.114	U	0.190		0.150	30	06/03/11	06/13/11
Radium (226)	**0.640**	J	**0.168**	0.700	**0.070**	30	**06/03/11**	**06/13/11**
Thallium 208	**0.234**		**0.0798**		**0.035**	30	**06/03/11**	**06/13/11**
Thorium 232	**0.592**		**0.242**		**0.137**	30	**06/03/11**	**06/13/11**
Thorium 234	**1.27**		**1.32**		**0.892**	30	**06/03/11**	**06/13/11**
Uranium 235	0.140	U	0.261		0.208	30	06/03/11	06/13/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-14

Radiochemistry

Lab Sample ID: F1D260436-010
Work Order: MHHKV
Matrix: SOLID

Date Collected: 04/13/11 1045
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.529**		**0.219**		**0.117**	30	**04/26/11**	**05/25/11**
Americium 241	0.0268	U	0.105		0.084	30	04/26/11	05/25/11
Bismuth 212	**0.269**		**0.358**		**0.256**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.653**		**0.174**		**0.073**	30	**04/26/11**	**05/25/11**
Cesium 137	0.00112	U	0.0419	0.0700	0.034	30	04/26/11	05/25/11
Cobalt 60	0.0	U	0.0111		0.012	30	04/26/11	05/25/11
Europium 152	0.0550	U	0.120		0.093	30	04/26/11	05/25/11
Europium 154	-0.107	U	0.386		0.303	30	04/26/11	05/25/11
Lead 210	0.403	U	1.36	1.50	1.16	30	04/26/11	05/25/11
Lead 212	**0.839**		**0.149**		**0.059**	30	**04/26/11**	**05/25/11**
Lead 214	**0.684**		**0.173**		**0.075**	30	**04/26/11**	**05/25/11**
Potassium 40	**9.48**		**1.58**		**0.328**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0855	U	0.176		0.140	30	04/26/11	05/25/11
Radium (226)	**0.653**	**J**	**0.174**	0.700	**0.073**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.326**		**0.0815**		**0.027**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.529**		**0.219**		**0.117**	30	**04/26/11**	**05/25/11**
Thorium 234	0.492	U	1.10		0.917	30	04/26/11	05/25/11
Uranium 235	0.179	U	0.285		0.223	30	04/26/11	05/25/11

NOTE(S)

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-15

Radiochemistry

Lab Sample ID: F1D260436-011
Work Order: MHHK0
Matrix: SOLID

Date Collected: 04/13/11 1050
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.598**		**0.200**		**0.171**	30	**04/26/11**	**05/25/11**
Americium 241	**0.0874**		**0.0639**		**0.041**	30	**04/26/11**	**05/25/11**
Bismuth 212	**0.340**		**0.370**		**0.236**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.376**		**0.165**		**0.098**	30	**04/26/11**	**05/25/11**
Cesium 137	0.0534	U	0.0780	0.0700	0.071	30	04/26/11	05/25/11
Cobalt 60	0.0171	U	0.0555		0.041	30	04/26/11	05/25/11
Europium 152	0.0108	U	0.122		0.099	30	04/26/11	05/25/11
Europium 154	-0.132	U	0.494		0.387	30	04/26/11	05/25/11
Lead 210	0.163	U	1.66	1.50	1.49	30	04/26/11	05/25/11
Lead 212	**0.645**		**0.153**		**0.070**	30	**04/26/11**	**05/25/11**
Lead 214	**0.558**		**0.149**		**0.081**	30	**04/26/11**	**05/25/11**
Potassium 40	**11.6**		**2.06**		**0.331**	30	**04/26/11**	**05/25/11**
Protactinium 234	0.0373	U	0.159		0.129	30	04/26/11	05/25/11
Radium (226)	**0.376**	**J**	**0.165**	0.700	**0.098**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.224**		**0.0878**		**0.039**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.598**		**0.200**		**0.171**	30	**04/26/11**	**05/25/11**
Thorium 234	0.201	U	1.00		0.864	30	04/26/11	05/25/11
Uranium 235	0.0536	U	0.249		0.204	30	04/26/11	05/25/11

NOTE(S)

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Bold results are greater than the MDL.

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

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-16

Radiochemistry

Lab Sample ID: F1D260436-012
Work Order: MHHK2
Matrix: SOLID

Date Collected: 04/13/11 1055
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.717**		**0.207**		**0.114**	30	**04/26/11**	**05/25/11**
Americium 241	0.0238	U	0.121		0.098	30	04/26/11	05/25/11
Bismuth 212	0.167	U	0.449		0.349	30	04/26/11	05/25/11
Bismuth 214	**0.436**		**0.173**		**0.083**	30	**04/26/11**	**05/25/11**
Cesium 137	0.0305	U	0.0497	0.0700	0.036	30	04/26/11	05/25/11
Cobalt 60	-0.00400	U	0.0517		0.041	30	04/26/11	05/25/11
Europium 152	-0.0234	U	0.136		0.110	30	04/26/11	05/25/11
Europium 154	0.162	U	0.421		0.323	30	04/26/11	05/25/11
Lead 210	0.322	U	1.42	1.50	1.23	30	04/26/11	05/25/11
Lead 212	**0.714**		**0.149**		**0.065**	30	**04/26/11**	**05/25/11**
Lead 214	**0.705**		**0.175**		**0.079**	30	**04/26/11**	**05/25/11**
Potassium 40	**8.47**		**1.56**		**0.363**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0229	U	0.162		0.131	30	04/26/11	05/25/11
Radium (226)	**0.436**	J	**0.173**	0.700	**0.083**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.339**		**0.0900**		**0.031**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.717**		**0.207**		**0.114**	30	**04/26/11**	**05/25/11**
Thorium 234	0.444	U	1.16		0.972	30	04/26/11	05/25/11
Uranium 235	0.0271	U	0.264		0.215	30	04/26/11	05/25/11

NOTE(S)

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Bold results are greater than the MDL.

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-17

Radiochemistry

Lab Sample ID: F1D260436-013
Work Order: MHHK4
Matrix: SOLID

Date Collected: 04/13/11 1100
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.844**		**0.235**		**0.126**	30	**04/26/11**	**05/25/11**
Americium 241	0.0709	U	0.124		0.097	30	04/26/11	05/25/11
Bismuth 212	**0.783**		**0.423**		**0.170**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.609**		**0.180**		**0.076**	30	**04/26/11**	**05/25/11**
Cesium 137	0.0	U	0.0465	0.0700	0.038	30	04/26/11	05/25/11
Cobalt 60	-0.00352	U	0.0594		0.048	30	04/26/11	05/25/11
Europium 152	0.0	U	0.158		0.130	30	04/26/11	05/25/11
Europium 154	0.00272	U	0.262		0.215	30	04/26/11	05/25/11
Lead 210	**2.37**		**1.62**	1.50	**1.12**	30	**04/26/11**	**05/25/11**
Lead 212	**0.721**		**0.147**		**0.066**	30	**04/26/11**	**05/25/11**
Lead 214	**0.748**		**0.154**		**0.069**	30	**04/26/11**	**05/25/11**
Potassium 40	**6.68**		**1.44**		**0.597**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0408	U	0.183		0.148	30	04/26/11	05/25/11
Radium (226)	**0.609**	J	**0.180**	0.700	**0.076**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.272**		**0.0856**		**0.038**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.844**		**0.235**		**0.126**	30	**04/26/11**	**05/25/11**
Thorium 234	**2.34**		**1.51**		**0.975**	30	**04/26/11**	**05/25/11**
Uranium 235	0.0477	U	0.270		0.223	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-18

Radiochemistry

Lab Sample ID: F1D260436-014
Work Order: MHHK5
Matrix: SOLID

Date Collected: 04/13/11 1105
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.423**		**0.208**		**0.158**	30	**04/26/11**	**05/25/11**
Americium 241	0.0577	U	0.0981		0.076	30	04/26/11	05/25/11
Bismuth 212	0.176	U	0.413		0.309	30	04/26/11	05/25/11
Bismuth 214	**0.568**		**0.186**		**0.072**	30	**04/26/11**	**05/25/11**
Cesium 137	0.0635	U	0.0705	0.0700	0.070	30	04/26/11	05/25/11
Cobalt 60	-0.00220	U	0.0676		0.055	30	04/26/11	05/25/11
Europium 152	-0.0488	U	0.121		0.093	30	04/26/11	05/25/11
Europium 154	0.0902	U	0.392		0.305	30	04/26/11	05/25/11
Lead 210	-0.301	U	1.81	1.50	1.34	30	04/26/11	05/25/11
Lead 212	**0.576**		**0.129**		**0.056**	30	**04/26/11**	**05/25/11**
Lead 214	**0.609**		**0.145**		**0.068**	30	**04/26/11**	**05/25/11**
Potassium 40	**10.3**		**1.97**		**0.344**	30	**04/26/11**	**05/25/11**
Protactinium 234	0.0264	U	0.154		0.125	30	04/26/11	05/25/11
Radium (226)	**0.568**	J	**0.186**	0.700	**0.072**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.194**		**0.0651**		**0.023**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.423**		**0.208**		**0.158**	30	**04/26/11**	**05/25/11**
Thorium 234	0.494	U	0.901		0.770	30	04/26/11	05/25/11
Uranium 235	0.0145	U	0.233		0.195	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-19

Radiochemistry

Lab Sample ID: F1D260436-015
Work Order: MHHK6
Matrix: SOLID

Date Collected: 04/13/11 1110
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.600**		**0.240**		**0.124**	30	**04/26/11**	**05/25/11**
Americium 241	0.00617	U	0.112		0.092	30	04/26/11	05/25/11
Bismuth 212	**0.303**		**0.344**		**0.231**	30	**04/26/11**	**05/25/11**
Bismuth 214	**0.549**		**0.180**		**0.082**	30	**04/26/11**	**05/25/11**
Cesium 137	-0.00631	U	0.0616	0.0700	0.050	30	04/26/11	05/25/11
Cobalt 60	0.0	U	0.0662		0.054	30	04/26/11	05/25/11
Europium 152	0.0254	U	0.130		0.104	30	04/26/11	05/25/11
Europium 154	-0.0547	U	0.470		0.380	30	04/26/11	05/25/11
Lead 210	0.237	U	1.34	1.50	1.17	30	04/26/11	05/25/11
Lead 212	**0.712**		**0.167**		**0.077**	30	**04/26/11**	**05/25/11**
Lead 214	**0.642**		**0.187**		**0.082**	30	**04/26/11**	**05/25/11**
Potassium 40	**9.35**		**1.70**		**0.524**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0607	U	0.181		0.146	30	04/26/11	05/25/11
Radium (226)	**0.549**	J	**0.180**	0.700	**0.082**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.168**		**0.0726**		**0.044**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.600**		**0.240**		**0.124**	30	**04/26/11**	**05/25/11**
Thorium 234	0.462	U	1.15		0.964	30	04/26/11	05/25/11
Uranium 235	-0.0299	U	0.232		0.189	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-20

Radiochemistry

Lab Sample ID: F1D260436-016
Work Order: MHHK7
Matrix: SOLID

Date Collected: 04/13/11 1115
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	0.160	U	0.246		0.175	30	04/26/11	05/25/11
Americium 241	0.0354	U	0.124		0.101	30	04/26/11	05/25/11
Bismuth 212	0.0130	U	0.471		0.385	30	04/26/11	05/25/11
Bismuth 214	**0.117**		**0.148**		**0.112**	30	**04/26/11**	**05/25/11**
Cesium 137	-0.0349	U	1.71	0.0700	0.056	30	04/26/11	05/25/11
Cobalt 60	0.0200	U	0.0844		0.068	30	04/26/11	05/25/11
Europium 152	0.0	U	0.136		0.112	30	04/26/11	05/25/11
Europium 154	-0.104	U	0.527		0.416	30	04/26/11	05/25/11
Lead 210	0.249	U	1.10	1.50	0.985	30	04/26/11	05/25/11
Lead 212	**0.417**		**0.146**		**0.068**	30	**04/26/11**	**05/25/11**
Lead 214	**0.622**		**0.163**		**0.055**	30	**04/26/11**	**05/25/11**
Potassium 40	**7.04**		**1.84**		**0.579**	30	**04/26/11**	**05/25/11**
Protactinium 234	0.0337	U	0.135		0.107	30	04/26/11	05/25/11
Radium (226)	**0.117**	J	**0.148**	0.700	**0.112**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.125**		**0.0638**		**0.027**	30	**04/26/11**	**05/25/11**
Thorium 232	0.160	U	0.246		0.175	30	04/26/11	05/25/11
Thorium 234	0.321	U	1.20		1.02	30	04/26/11	05/25/11
Uranium 235	-0.0498	U	1.99		0.205	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-21

Radiochemistry

Lab Sample ID: F1D260436-017
Work Order: MHHK8
Matrix: SOLID

Date Collected: 04/13/11 1120
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.965**		**0.284**		**0.046**	30	**04/26/11**	**05/25/11**
Americium 241	0.0673	U	0.128		0.101	30	04/26/11	05/25/11
Bismuth 212	0.258	U	0.471		0.348	30	04/26/11	05/25/11
Bismuth 214	**0.739**		**0.205**		**0.061**	30	**04/26/11**	**05/25/11**
Cesium 137	0.00111	U	0.0656	0.0700	0.053	30	04/26/11	05/25/11
Cobalt 60	0.0	U	0.0158		0.018	30	04/26/11	05/25/11
Europium 152	0.0456	U	0.141		0.111	30	04/26/11	05/25/11
Europium 154	-0.156	U	0.489		0.378	30	04/26/11	05/25/11
Lead 210	0.452	U	1.67	1.50	1.34	30	04/26/11	05/25/11
Lead 212	**0.826**		**0.167**		**0.063**	30	**04/26/11**	**05/25/11**
Lead 214	**0.897**		**0.182**		**0.035**	30	**04/26/11**	**05/25/11**
Potassium 40	**11.5**		**2.04**		**0.300**	30	**04/26/11**	**05/25/11**
Protactinium 234	-0.0128	U	0.213		0.175	30	04/26/11	05/25/11
Radium (226)	**0.739**		**0.205**	0.700	**0.061**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.273**		**0.0992**		**0.042**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.965**		**0.284**		**0.046**	30	**04/26/11**	**05/25/11**
Thorium 234	-0.0679	U	1.45		1.11	30	04/26/11	05/25/11
Uranium 235	0.181	U	0.312		0.248	30	04/26/11	05/25/11

NOTE(S)

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Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-22

Radiochemistry

Lab Sample ID: F1D260436-018
Work Order: MHHK9
Matrix: SOLID

Date Collected: 04/13/11 1125
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Gamma Ra-226 & hits by EPA 901.1 MOD				pCi/g		Batch # 1116399		Yld %
Actinium 228	**0.428**		**0.158**		**0.054**	30	**04/26/11**	**05/25/11**
Americium 241	-0.00717	U	0.0577		0.046	30	04/26/11	05/25/11
Bismuth 212	0.232	U	0.354		0.261	30	04/26/11	05/25/11
Bismuth 214	**0.582**		**0.141**		**0.046**	30	**04/26/11**	**05/25/11**
Cesium 137	**0.0338**	J	**0.0445**	0.0700	**0.031**	30	**04/26/11**	**05/25/11**
Cobalt 60	0.00524	U	0.0404		0.032	30	04/26/11	05/25/11
Europium 152	-0.00674	U	0.115		0.094	30	04/26/11	05/25/11
Europium 154	0.0	U	0.360		0.296	30	04/26/11	05/25/11
Lead 210	0.461	U	1.01	1.50	0.794	30	04/26/11	05/25/11
Lead 212	**0.412**		**0.103**		**0.042**	30	**04/26/11**	**05/25/11**
Lead 214	**0.495**		**0.107**		**0.029**	30	**04/26/11**	**05/25/11**
Potassium 40	**7.73**		**1.36**		**0.293**	30	**04/26/11**	**05/25/11**
Protactinium 234	0.0715	U	0.130		0.101	30	04/26/11	05/25/11
Radium (226)	**0.582**	J	**0.141**	0.700	**0.046**	30	**04/26/11**	**05/25/11**
Thallium 208	**0.176**		**0.0694**		**0.027**	30	**04/26/11**	**05/25/11**
Thorium 232	**0.428**		**0.158**		**0.054**	30	**04/26/11**	**05/25/11**
Thorium 234	0.299	U	0.835		0.666	30	04/26/11	05/25/11
Uranium 235	0.0993	U	0.178		0.137	30	04/26/11	05/25/11

NOTE(S)

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U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-07

Radiochemistry

Lab Sample ID: F1D260463-001
Work Order: MHHRD
Matrix: SOLID

Date Collected: 04/13/11 1010
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	**EPA-905 MOD**			**pCi/g**		**Batch # 1117167**		**Yld % 80.**
Strontium Total	-0.0307	U	0.109	0.320	0.109	400	04/27/11	05/16/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-07 DUP

Radiochemistry

Lab Sample ID: F1D260463-001X
Work Order: MHHRD
Matrix: SOLID

Date Collected: 04/13/11 1010
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	EPA-905 MOD			pCi/g		Batch # 1117167		Yld % 80.
Strontium Total	0.113		0.110	0.320	0.099	400	04/27/11	05/16/11

NOTE(S)

Data are incomplete without the case narrative.
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The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

Tetra Tech EC, Inc.

Client Sample ID: 04-PE-E0439-11

Radiochemistry

Lab Sample ID: F1D260463-002
Work Order: MHHRE
Matrix: SOLID

Date Collected: 04/13/11 1030
Date Received: 04/26/11 0920

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Total SR BY GFPC	**EPA-905 MOD**			**pCi/g**		**Batch # 1117167**		**Yld % 80.**
Strontium Total	-0.302	U	0.245	0.320	0.257	400	04/27/11	05/06/11

NOTE(S)

Data are incomplete without the case narrative.
Bold results are greater than the MDL.

U Result is less than the sample detection limit.

The MDL is an estimate of the measured concentration at which there is a 99% confidence that a given analyte is given sample matrix. This is functionally analogous to the "critical value" or the "limit of detection".

Ra-226 results analyzed by EPA 901.1 MOD were calculated and reported from the 46.09 percent abundant 609.31 KeV line of Bi-214.

ATTACHMENT 6

BACKFILL MATERIAL
RESRAD REPORT
(on CD only)

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Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ba-137m (Source: FGR 12)	3.606E+00	3.606E+00	DCF1(1)
A-1	Cs-137 (Source: FGR 12)	7.510E-04	7.510E-04	DCF1(2)
A-1	Sr-90 (Source: FGR 12)	7.043E-04	7.043E-04	DCF1(3)
A-1	Y-90 (Source: FGR 12)	2.391E-02	2.391E-02	DCF1(4)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Cs-137+D	3.190E-05	3.190E-05	DCF2(1)
B-1	Sr-90+D	1.308E-03	1.300E-03	DCF2(2)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Cs-137+D	5.000E-05	5.000E-05	DCF3(1)
D-1	Sr-90+D	1.528E-04	1.420E-04	DCF3(2)
D-34	Food transfer factors:			
D-34	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(1,1)
D-34	Cs-137+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.000E-02	3.000E-02	RTF(1,2)
D-34	Cs-137+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	8.000E-03	8.000E-03	RTF(1,3)
D-34				
D-34	Sr-90+D , plant/soil concentration ratio, dimensionless	3.000E-01	3.000E-01	RTF(2,1)
D-34	Sr-90+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-03	8.000E-03	RTF(2,2)
D-34	Sr-90+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-03	2.000E-03	RTF(2,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Cs-137+D , fish	2.000E+03	2.000E+03	BIOFAC(1,1)
D-5	Cs-137+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(1,2)
D-5				
D-5	Sr-90+D , fish	6.000E+01	6.000E+01	BIOFAC(2,1)
D-5	Sr-90+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(2,2)

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.
*Base Case means Default.Lib w/o Associate Nuclide contributions.

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	9.170E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	2.000E+00	2.000E+00	---	THICK0
R011	Fraction of contamination that is submerged	0.000E+00	0.000E+00	---	SUBMFRACT
R011	Length parallel to aquifer flow (m)	1.000E+02	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	2.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Cs-137	4.400E-02	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Sr-90	1.330E-01	0.000E+00	---	S1(2)
R012	Concentration in groundwater (pCi/L): Cs-137	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Sr-90	not used	0.000E+00	---	W1(2)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	1.000E-03	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	4.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	5.300E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	2.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.000E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	2.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Cs-137				
R016	Contaminated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.623E-05	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Sr-90				
R016	Contaminated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.516E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	5.400E+00	---	DIET(5)
R018	Other seafood consumption (kg/yr)	9.000E-01	9.000E-01	---	DIET(6)
R018	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+02	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	1.000E+00	1.000E+00	---	FDW
R018	Contamination fraction of household water	not used	1.000E+00	---	FHHW
R018	Contamination fraction of livestock water	1.000E+00	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	1.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	5.000E-01	5.000E-01	---	FR9
R018	Contamination fraction of plant food	-1	-1	0.459E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.458E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.458E-01	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	7.000E-01	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	1.500E+00	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
R021	Total porosity of the cover material	not used	4.000E-01	---	TPCV
R021	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
R021	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
R021	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
R021	Diffusion coefficient for radon gas (m/sec):				
R021	in cover material	not used	2.000E-06	---	DIFCV
R021	in foundation material	not used	3.000E-07	---	DIFFL
R021	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
R021	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
R021	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
R021	Height of the building (room) (m)	not used	2.500E+00	---	HRM
R021	Building interior area factor	not used	0.000E+00	---	FAI
R021	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
R021	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA(1)
R021	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA(2)
TITL	Number of graphical time points	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	KYMAX

Summary of Pathway Selections

Pathway	User Selection
1 -- external gamma	active
2 -- inhalation (w/o radon)	active
3 -- plant ingestion	active
4 -- meat ingestion	active
5 -- milk ingestion	active
6 -- aquatic foods	active
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	suppressed
Find peak pathway doses	suppressed

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	917.00 square meters	Cs-137	4.400E-02
Thickness:	2.00 meters	Sr-90	1.330E-01
Cover Depth:	0.00 meters		

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	5.808E-01	5.645E-01	5.334E-01	4.373E-01	2.483E-01	3.490E-02	1.953E-04	8.408E-12
M(t):	2.323E-02	2.258E-02	2.133E-02	1.749E-02	9.933E-03	1.396E-03	7.814E-06	3.363E-13

Maximum TDOSE(t): 5.808E-01 mrem/yr at t = 0.000E+00 years

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.878E-02	0.1356	6.930E-08	0.0000	0.000E+00	0.0000	6.940E-03	0.0119	6.069E-04	0.0010	1.982E-04	0.0003	5.459E-05	0.0001
Sr-90	1.725E-03	0.0030	8.566E-06	0.0000	0.000E+00	0.0000	4.794E-01	0.8255	9.681E-03	0.0167	2.874E-03	0.0049	5.027E-04	0.0009
Total	8.050E-02	0.1386	8.635E-06	0.0000	0.000E+00	0.0000	4.864E-01	0.8374	1.029E-02	0.0177	3.072E-03	0.0053	5.573E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.658E-02	0.1491
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.942E-01	0.8509
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.808E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.697E-02	0.1364	6.771E-08	0.0000	0.000E+00	0.0000	6.781E-03	0.0120	5.930E-04	0.0011	1.936E-04	0.0003	5.334E-05	0.0001
Sr-90	1.675E-03	0.0030	8.318E-06	0.0000	0.000E+00	0.0000	4.656E-01	0.8247	9.402E-03	0.0167	2.791E-03	0.0049	4.882E-04	0.0009
Total	7.865E-02	0.1393	8.386E-06	0.0000	0.000E+00	0.0000	4.724E-01	0.8367	9.995E-03	0.0177	2.985E-03	0.0053	5.416E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.460E-02	0.1499
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.799E-01	0.8501
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.645E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.349E-02	0.1378	6.465E-08	0.0000	0.000E+00	0.0000	6.475E-03	0.0121	5.662E-04	0.0011	1.849E-04	0.0003	5.093E-05	0.0001
Sr-90	1.580E-03	0.0030	7.844E-06	0.0000	0.000E+00	0.0000	4.391E-01	0.8232	8.867E-03	0.0166	2.632E-03	0.0049	4.604E-04	0.0009
Total	7.507E-02	0.1408	7.909E-06	0.0000	0.000E+00	0.0000	4.455E-01	0.8353	9.433E-03	0.0177	2.817E-03	0.0053	5.113E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.077E-02	0.1514
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.526E-01	0.8486
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.334E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	6.250E-02	0.1429	5.498E-08	0.0000	0.000E+00	0.0000	5.506E-03	0.0126	4.815E-04	0.0011	1.572E-04	0.0004	4.331E-05	0.0001
Sr-90	1.287E-03	0.0029	6.389E-06	0.0000	0.000E+00	0.0000	3.576E-01	0.8177	7.222E-03	0.0165	2.144E-03	0.0049	3.750E-04	0.0009
Total	6.379E-02	0.1459	6.444E-06	0.0000	0.000E+00	0.0000	3.631E-01	0.8303	7.703E-03	0.0176	2.301E-03	0.0053	4.183E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.869E-02	0.1571
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.686E-01	0.8429
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.373E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	3.935E-02	0.1584	3.461E-08	0.0000	0.000E+00	0.0000	3.466E-03	0.0140	3.031E-04	0.0012	9.897E-05	0.0004	2.727E-05	0.0001
Sr-90	7.157E-04	0.0029	3.554E-06	0.0000	0.000E+00	0.0000	1.989E-01	0.8011	4.018E-03	0.0162	1.193E-03	0.0048	2.086E-04	0.0008
Total	4.006E-02	0.1613	3.589E-06	0.0000	0.000E+00	0.0000	2.024E-01	0.8151	4.321E-03	0.0174	1.292E-03	0.0052	2.359E-04	0.0009

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.324E-02	0.1741
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.051E-01	0.8259
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.483E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.787E-03	0.2232	6.851E-09	0.0000	0.000E+00	0.0000	6.861E-04	0.0197	5.999E-05	0.0017	1.959E-05	0.0006	5.397E-06	0.0002
Sr-90	9.192E-05	0.0026	4.565E-07	0.0000	0.000E+00	0.0000	2.555E-02	0.7322	5.160E-04	0.0148	1.532E-04	0.0044	2.679E-05	0.0008
Total	7.879E-03	0.2258	4.633E-07	0.0000	0.000E+00	0.0000	2.624E-02	0.7518	5.760E-04	0.0165	1.728E-04	0.0050	3.219E-05	0.0009

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.558E-03	0.2452
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.634E-02	0.7548
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.490E-02	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.610E-05	0.3896	6.694E-11	0.0000	0.000E+00	0.0000	6.704E-06	0.0343	5.862E-07	0.0030	1.914E-07	0.0010	5.274E-08	0.0003
Sr-90	2.611E-07	0.0013	1.297E-09	0.0000	0.000E+00	0.0000	7.257E-05	0.3715	1.466E-06	0.0075	4.351E-07	0.0022	7.610E-08	0.0004
Total	7.636E-05	0.3909	1.363E-09	0.0000	0.000E+00	0.0000	7.927E-05	0.4058	2.052E-06	0.0105	6.265E-07	0.0032	1.288E-07	0.0007

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.363E-05	0.4281
Sr-90	3.390E-05	0.1735	1.720E-08	0.0001	0.000E+00	0.0000	2.576E-06	0.0132	2.676E-07	0.0014	1.461E-07	0.0007	1.117E-04	0.5719
Total	3.390E-05	0.1735	1.720E-08	0.0001	0.000E+00	0.0000	2.576E-06	0.0132	2.676E-07	0.0014	1.461E-07	0.0007	1.953E-04	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.020E-12	0.8349	6.175E-18	0.0000	0.000E+00	0.0000	6.184E-13	0.0736	5.408E-14	0.0064	1.766E-14	0.0021	4.865E-15	0.0006
Sr-90	3.188E-16	0.0000	1.583E-18	0.0000	0.000E+00	0.0000	8.861E-14	0.0105	1.790E-15	0.0002	5.312E-16	0.0001	9.292E-17	0.0000
Total	7.020E-12	0.8350	7.759E-18	0.0000	0.000E+00	0.0000	7.071E-13	0.0841	5.587E-14	0.0066	1.819E-14	0.0022	4.958E-15	0.0006

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.715E-12	0.9176
Sr-90	5.523E-13	0.0657	2.803E-16	0.0000	0.000E+00	0.0000	4.199E-14	0.0050	4.369E-15	0.0005	2.382E-15	0.0003	6.927E-13	0.0824
Total	5.523E-13	0.0657	2.803E-16	0.0000	0.000E+00	0.0000	4.199E-14	0.0050	4.369E-15	0.0005	2.382E-15	0.0003	8.408E-12	1.0000

*Sum of all water independent and dependent pathways.

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137+D	Cs-137+D	1.000E+00	1.968E+00	1.923E+00	1.836E+00	1.561E+00	9.828E-01	1.945E-01	1.901E-03	1.753E-10
Sr-90+D	Sr-90+D	1.000E+00	3.716E+00	3.609E+00	3.403E+00	2.772E+00	1.542E+00	1.980E-01	8.399E-04	5.208E-12

The DSR includes contributions from associated (half-life ≤ 180 days) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 2.500E+01 mrem/yr

Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137	1.271E+01	1.300E+01	1.362E+01	1.601E+01	2.544E+01	1.285E+02	1.315E+04	1.426E+11
Sr-90	6.728E+00	6.928E+00	7.346E+00	9.020E+00	1.621E+01	1.262E+02	2.976E+04	4.800E+12

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 0.000E+00 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Cs-137	4.400E-02	0.000E+00	1.968E+00	1.271E+01	1.968E+00	1.271E+01
Sr-90	1.330E-01	0.000E+00	3.716E+00	6.728E+00	3.716E+00	6.728E+00

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137	Cs-137	1.000E+00	8.658E-02	8.460E-02	8.077E-02	6.869E-02	4.324E-02	8.558E-03	8.363E-05	7.715E-12
Sr-90	Sr-90	1.000E+00	4.942E-01	4.799E-01	4.526E-01	3.686E-01	2.051E-01	2.634E-02	1.117E-04	6.927E-13

THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137	Cs-137	1.000E+00	4.400E-02	4.299E-02	4.105E-02	3.491E-02	2.198E-02	4.350E-03	4.250E-05	3.921E-12
Sr-90	Sr-90	1.000E+00	1.330E-01	1.292E-01	1.218E-01	9.920E-02	5.519E-02	7.088E-03	2.013E-05	2.458E-14

THF(i) is the thread fraction of the parent nuclide.

RESCALC.EXE execution time = 0.50 seconds

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Cancer Risk Slope Factors Summary Table
Risk Library: FGR 13 Morbidity

Menu	Parameter	Current Value	Base Case*	Parameter Name
Sf-1	Ground external radiation slope factors, 1/yr per (pCi/g):			
Sf-1	Cs-137+D	2.55E-06	5.32E-10	SLPF(1,1)
Sf-1	Sr-90+D	1.96E-08	4.82E-10	SLPF(2,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Cs-137+D	1.12E-10	1.12E-10	SLPF(1,2)
Sf-2	Sr-90+D	4.33E-10	4.25E-10	SLPF(2,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,3)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(2,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.04E-11	3.04E-11	SLPF(1,4)
Sf-3	Sr-90+D	7.40E-11	5.59E-11	SLPF(2,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,5)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(2,5)

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Risk Slope and Environmental Transport Factors for the Ground Pathway

Nuclide (i)	Slope(i)*	ETFG(i,t) At Time in Years (dimensionless) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Ba-137m	2.690E-06	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01
Cs-137	5.320E-10	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01
Sr-90	4.820E-10	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01
Y-90	1.910E-08	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01

* - Units are 1/yr per (pCi/g) at infinite depth and area. Multiplication by ETFG(i,t) converts to site conditions.

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 0.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.198E-03	1.404E+02	1.228E+01	4.009E+00	1.105E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.578E+02
Sr-90	6.643E-03	3.183E+03	6.424E+01	1.907E+01	3.339E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.270E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.286E-06	0.1679	5.324E-12	0.0000	1.136E-07	0.0148	9.933E-09	0.0013	3.243E-09	0.0004	8.935E-10	0.0001
Sr-90	2.778E-08	0.0036	5.745E-11	0.0000	6.054E-06	0.7903	1.223E-07	0.0160	3.630E-08	0.0047	6.349E-09	0.0008
Total	1.314E-06	0.1715	6.277E-11	0.0000	6.168E-06	0.8051	1.322E-07	0.0173	3.954E-08	0.0052	7.243E-09	0.0009

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.414E-06	0.1845
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.247E-06	0.8155
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.661E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.286E-06	0.1679	5.324E-12	0.0000	0.000E+00	0.0000	1.136E-07	0.0148	9.933E-09	0.0013	3.243E-09	0.0004	8.935E-10	0.0001
Sr-90	2.778E-08	0.0036	5.745E-11	0.0000	0.000E+00	0.0000	6.054E-06	0.7903	1.223E-07	0.0160	3.630E-08	0.0047	6.349E-09	0.0008
Total	1.314E-06	0.1715	6.277E-11	0.0000	0.000E+00	0.0000	6.168E-06	0.8051	1.322E-07	0.0173	3.954E-08	0.0052	7.243E-09	0.0009

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.414E-06	0.1845
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.247E-06	0.8155
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.661E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.147E-03	1.372E+02	1.200E+01	3.918E+00	1.079E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.542E+02
Sr-90	6.451E-03	3.092E+03	6.244E+01	1.854E+01	3.242E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.176E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.256E-06	0.1687	5.202E-12	0.0000	1.110E-07	0.0149	9.706E-09	0.0013	3.169E-09	0.0004	8.731E-10	0.0001
Sr-90	2.698E-08	0.0036	5.579E-11	0.0000	5.880E-06	0.7894	1.187E-07	0.0159	3.525E-08	0.0047	6.166E-09	0.0008
Total	1.283E-06	0.1723	6.099E-11	0.0000	5.991E-06	0.8043	1.284E-07	0.0172	3.842E-08	0.0052	7.039E-09	0.0009

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.381E-06	0.1854
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.067E-06	0.8146
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.448E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.256E-06	0.1687	5.202E-12	0.0000	0.000E+00	0.0000	1.110E-07	0.0149	9.706E-09	0.0013	3.169E-09	0.0004	8.731E-10	0.0001
Sr-90	2.698E-08	0.0036	5.579E-11	0.0000	0.000E+00	0.0000	5.880E-06	0.7894	1.187E-07	0.0159	3.525E-08	0.0047	6.166E-09	0.0008
Total	1.283E-06	0.1723	6.099E-11	0.0000	0.000E+00	0.0000	5.991E-06	0.8043	1.284E-07	0.0172	3.842E-08	0.0052	7.039E-09	0.0009

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.381E-06	0.1854
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.067E-06	0.8146
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.448E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.050E-03	1.310E+02	1.146E+01	3.740E+00	1.030E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.472E+02
Sr-90	6.084E-03	2.916E+03	5.888E+01	1.748E+01	3.058E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.995E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.200E-06	0.1704	4.967E-12	0.0000	1.060E-07	0.0151	9.267E-09	0.0013	3.026E-09	0.0004	8.336E-10	0.0001
Sr-90	2.544E-08	0.0036	5.261E-11	0.0000	5.545E-06	0.7876	1.120E-07	0.0159	3.324E-08	0.0047	5.814E-09	0.0008
Total	1.225E-06	0.1740	5.758E-11	0.0000	5.651E-06	0.8027	1.212E-07	0.0172	3.627E-08	0.0052	6.648E-09	0.0009

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.319E-06	0.1873
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.721E-06	0.8127
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.040E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.200E-06	0.1704	4.967E-12	0.0000	0.000E+00	0.0000	1.060E-07	0.0151	9.267E-09	0.0013	3.026E-09	0.0004	8.336E-10	0.0001
Sr-90	2.544E-08	0.0036	5.261E-11	0.0000	0.000E+00	0.0000	5.545E-06	0.7876	1.120E-07	0.0159	3.324E-08	0.0047	5.814E-09	0.0008
Total	1.225E-06	0.1740	5.758E-11	0.0000	0.000E+00	0.0000	5.651E-06	0.8027	1.212E-07	0.0172	3.627E-08	0.0052	6.648E-09	0.0009

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.319E-06	0.1873
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.721E-06	0.8127
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.040E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.744E-03	1.114E+02	9.742E+00	3.181E+00	8.763E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.252E+02
Sr-90	4.955E-03	2.375E+03	4.796E+01	1.424E+01	2.490E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.439E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.020E-06	0.1765	4.224E-12	0.0000	9.012E-08	0.0156	7.881E-09	0.0014	2.573E-09	0.0004	7.089E-10	0.0001
Sr-90	2.072E-08	0.0036	4.285E-11	0.0000	4.516E-06	0.7811	9.120E-08	0.0158	2.707E-08	0.0047	4.736E-09	0.0008
Total	1.041E-06	0.1801	4.707E-11	0.0000	4.606E-06	0.7967	9.908E-08	0.0171	2.965E-08	0.0051	5.445E-09	0.0009

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.122E-06	0.1940
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.660E-06	0.8060
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.781E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.020E-06	0.1765	4.224E-12	0.0000	0.000E+00	0.0000	9.012E-08	0.0156	7.881E-09	0.0014	2.573E-09	0.0004	7.089E-10	0.0001
Sr-90	2.072E-08	0.0036	4.285E-11	0.0000	0.000E+00	0.0000	4.516E-06	0.7811	9.120E-08	0.0158	2.707E-08	0.0047	4.736E-09	0.0008
Total	1.041E-06	0.1801	4.707E-11	0.0000	0.000E+00	0.0000	4.606E-06	0.7967	9.908E-08	0.0171	2.965E-08	0.0051	5.445E-09	0.0009

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.122E-06	0.1940
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.660E-06	0.8060
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.781E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.098E-03	7.013E+01	6.133E+00	2.002E+00	5.517E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.882E+01
Sr-90	2.756E-03	1.321E+03	2.668E+01	7.921E+00	1.385E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.357E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	6.422E-07	0.1947	2.659E-12	0.0000	5.673E-08	0.0172	4.961E-09	0.0015	1.620E-09	0.0005	4.463E-10	0.0001
Sr-90	1.153E-08	0.0035	2.384E-11	0.0000	2.512E-06	0.7617	5.074E-08	0.0154	1.506E-08	0.0046	2.635E-09	0.0008
Total	6.538E-07	0.1982	2.650E-11	0.0000	2.569E-06	0.7789	5.570E-08	0.0169	1.668E-08	0.0051	3.081E-09	0.0009

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.060E-07	0.2140
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.592E-06	0.7860
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.298E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	6.422E-07	0.1947	2.659E-12	0.0000	0.000E+00	0.0000	5.673E-08	0.0172	4.961E-09	0.0015	1.620E-09	0.0005	4.463E-10	0.0001
Sr-90	1.153E-08	0.0035	2.384E-11	0.0000	0.000E+00	0.0000	2.512E-06	0.7617	5.074E-08	0.0154	1.506E-08	0.0046	2.635E-09	0.0008
Total	6.538E-07	0.1982	2.650E-11	0.0000	0.000E+00	0.0000	2.569E-06	0.7789	5.570E-08	0.0169	1.668E-08	0.0051	3.081E-09	0.0009

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.060E-07	0.2140
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.592E-06	0.7860
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.298E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.172E-04	1.388E+01	1.214E+00	3.963E-01	1.092E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.560E+01
Sr-90	3.540E-04	1.697E+02	3.427E+00	1.017E+00	1.779E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.743E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.271E-07	0.2689	5.263E-13	0.0000	1.123E-08	0.0238	9.819E-10	0.0021	3.206E-10	0.0007	8.833E-11	0.0002
Sr-90	1.481E-09	0.0031	3.062E-12	0.0000	3.227E-07	0.6826	6.516E-09	0.0138	1.934E-09	0.0041	3.384E-10	0.0007
Total	1.286E-07	0.2721	3.588E-12	0.0000	3.339E-07	0.7064	7.498E-09	0.0159	2.255E-09	0.0048	4.267E-10	0.0009

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.397E-07	0.2956
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.329E-07	0.7044
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.727E-07	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.271E-07	0.2689	5.263E-13	0.0000	0.000E+00	0.0000	1.123E-08	0.0238	9.819E-10	0.0021	3.206E-10	0.0007	8.833E-11	0.0002
Sr-90	1.481E-09	0.0031	3.062E-12	0.0000	0.000E+00	0.0000	3.227E-07	0.6826	6.516E-09	0.0138	1.934E-09	0.0041	3.384E-10	0.0007
Total	1.286E-07	0.2721	3.588E-12	0.0000	0.000E+00	0.0000	3.339E-07	0.7064	7.498E-09	0.0159	2.255E-09	0.0048	4.267E-10	0.0009

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.397E-07	0.2956
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.329E-07	0.7044
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.727E-07	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.123E-06	1.356E-01	1.186E-02	3.873E-03	1.067E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.524E-01
Sr-90	1.006E-06	4.819E-01	9.732E-03	2.889E-03	5.054E-04	2.238E-01	1.135E-04	1.700E-02	1.767E-03	9.644E-04	7.387E-01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.242E-09	0.4535	5.143E-15	0.0000	1.097E-10	0.0401	9.595E-12	0.0035	3.133E-12	0.0011	8.632E-13	0.0003
Sr-90	4.205E-12	0.0015	8.696E-15	0.0000	9.165E-10	0.3346	1.851E-11	0.0068	5.494E-12	0.0020	9.610E-13	0.0004
Total	1.246E-09	0.4550	1.384E-14	0.0000	1.026E-09	0.3747	2.810E-11	0.0103	8.628E-12	0.0031	1.824E-12	0.0007

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.365E-09	0.4985
Sr-90	3.840E-10	0.1402	2.509E-13	0.0001	3.758E-11	0.0137	3.905E-12	0.0014	2.131E-12	0.0008	1.373E-09	0.5015
Total	3.840E-10	0.1402	2.509E-13	0.0001	3.758E-11	0.0137	3.905E-12	0.0014	2.131E-12	0.0008	2.739E-09	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.242E-09	0.4535	5.143E-15	0.0000	0.000E+00	0.0000	1.097E-10	0.0401	9.595E-12	0.0035	3.133E-12	0.0011	8.632E-13	0.0003
Sr-90	4.205E-12	0.0015	8.696E-15	0.0000	0.000E+00	0.0000	9.165E-10	0.3346	1.851E-11	0.0068	5.494E-12	0.0020	9.610E-13	0.0004
Total	1.246E-09	0.4550	1.384E-14	0.0000	0.000E+00	0.0000	1.026E-09	0.3747	2.810E-11	0.0103	8.628E-12	0.0031	1.824E-12	0.0007

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.365E-09	0.4985
Sr-90	3.840E-10	0.1402	2.509E-13	0.0001	0.000E+00	0.0000	3.758E-11	0.0137	3.905E-12	0.0014	2.131E-12	0.0008	1.373E-09	0.5015
Total	3.840E-10	0.1402	2.509E-13	0.0001	0.000E+00	0.0000	3.758E-11	0.0137	3.905E-12	0.0014	2.131E-12	0.0008	2.739E-09	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+03 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.958E-13	1.251E-08	1.094E-09	3.573E-10	9.843E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.406E-08
Sr-90	1.228E-15	5.885E-10	1.188E-11	3.528E-12	6.171E-13	3.669E-09	1.861E-12	2.789E-10	2.902E-11	1.582E-11	4.599E-09

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.146E-16	0.8607	4.744E-22	0.0000	1.012E-17	0.0760	8.851E-19	0.0066	2.890E-19	0.0022	7.962E-20	0.0006
Sr-90	5.135E-21	0.0000	1.062E-23	0.0000	1.119E-18	0.0084	2.260E-20	0.0002	6.709E-21	0.0001	1.173E-21	0.0000
Total	1.146E-16	0.8608	4.850E-22	0.0000	1.124E-17	0.0844	9.077E-19	0.0068	2.957E-19	0.0022	8.080E-20	0.0006

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.260E-16	0.9462
Sr-90	5.391E-18	0.0405	3.523E-21	0.0000	5.278E-19	0.0040	5.492E-20	0.0004	2.994E-20	0.0002	7.162E-18	0.0538
Total	5.391E-18	0.0405	3.523E-21	0.0000	5.278E-19	0.0040	5.492E-20	0.0004	2.994E-20	0.0002	1.331E-16	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.146E-16	0.8607	4.744E-22	0.0000	0.000E+00	0.0000	1.012E-17	0.0760	8.851E-19	0.0066	2.890E-19	0.0022	7.962E-20	0.0006
Sr-90	5.135E-21	0.0000	1.062E-23	0.0000	0.000E+00	0.0000	1.119E-18	0.0084	2.260E-20	0.0002	6.709E-21	0.0001	1.173E-21	0.0000
Total	1.146E-16	0.8608	4.850E-22	0.0000	0.000E+00	0.0000	1.124E-17	0.0844	9.077E-19	0.0068	2.957E-19	0.0022	8.080E-20	0.0006

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.260E-16	0.9462
Sr-90	5.391E-18	0.0405	3.523E-21	0.0000	0.000E+00	0.0000	5.278E-19	0.0040	5.492E-20	0.0004	2.994E-20	0.0002	7.162E-18	0.0538
Total	5.391E-18	0.0405	3.523E-21	0.0000	0.000E+00	0.0000	5.278E-19	0.0040	5.492E-20	0.0004	2.994E-20	0.0002	1.331E-16	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

ATTACHMENT 7

TRENCH UNIT
RESRAD REPORT
(on CD only)

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Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ba-137m (Source: FGR 12)	3.606E+00	3.606E+00	DCF1(1)
A-1	Cs-137 (Source: FGR 12)	7.510E-04	7.510E-04	DCF1(2)
A-1	Sr-90 (Source: FGR 12)	7.043E-04	7.043E-04	DCF1(3)
A-1	Y-90 (Source: FGR 12)	2.391E-02	2.391E-02	DCF1(4)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Cs-137+D	3.190E-05	3.190E-05	DCF2(1)
B-1	Sr-90+D	1.308E-03	1.300E-03	DCF2(2)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Cs-137+D	5.000E-05	5.000E-05	DCF3(1)
D-1	Sr-90+D	1.528E-04	1.420E-04	DCF3(2)
D-34	Food transfer factors:			
D-34	Cs-137+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(1,1)
D-34	Cs-137+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.000E-02	3.000E-02	RTF(1,2)
D-34	Cs-137+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	8.000E-03	8.000E-03	RTF(1,3)
D-34				
D-34	Sr-90+D , plant/soil concentration ratio, dimensionless	3.000E-01	3.000E-01	RTF(2,1)
D-34	Sr-90+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-03	8.000E-03	RTF(2,2)
D-34	Sr-90+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-03	2.000E-03	RTF(2,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Cs-137+D , fish	2.000E+03	2.000E+03	BIOFAC(1,1)
D-5	Cs-137+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(1,2)
D-5				
D-5	Sr-90+D , fish	6.000E+01	6.000E+01	BIOFAC(2,1)
D-5	Sr-90+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(2,2)

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.
*Base Case means Default.Lib w/o Associate Nuclide contributions.

Site-Specific Parameter Summary

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	9.170E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	2.000E+00	2.000E+00	---	THICK0
R011	Fraction of contamination that is submerged	0.000E+00	0.000E+00	---	SUBMFRACT
R011	Length parallel to aquifer flow (m)	1.000E+02	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	2.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Cs-137	4.300E-02	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Sr-90	1.770E-01	0.000E+00	---	S1(2)
R012	Concentration in groundwater (pCi/L): Cs-137	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Sr-90	not used	0.000E+00	---	W1(2)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	1.000E-03	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	4.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	5.300E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	2.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.000E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	2.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Cs-137				
R016	Contaminated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	4.600E+03	4.600E+03	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.623E-05	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Sr-90				
R016	Contaminated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.516E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	5.400E+00	---	DIET(5)
R018	Other seafood consumption (kg/yr)	9.000E-01	9.000E-01	---	DIET(6)
R018	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+02	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	1.000E+00	1.000E+00	---	FDW
R018	Contamination fraction of household water	not used	1.000E+00	---	FHHW
R018	Contamination fraction of livestock water	1.000E+00	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	1.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	5.000E-01	5.000E-01	---	FR9
R018	Contamination fraction of plant food	-1	-1	0.459E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.458E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.458E-01	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	9.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	1.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	1.000E+00	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	1.000E+00	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	7.000E-01	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	1.500E+00	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
R021	Total porosity of the cover material	not used	4.000E-01	---	TPCV
R021	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
R021	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
R021	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
R021	Diffusion coefficient for radon gas (m/sec):				
R021	in cover material	not used	2.000E-06	---	DIFCV
R021	in foundation material	not used	3.000E-07	---	DIFFL
R021	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
R021	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
R021	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
R021	Height of the building (room) (m)	not used	2.500E+00	---	HRM
R021	Building interior area factor	not used	0.000E+00	---	FAI
R021	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
R021	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA(1)
R021	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA(2)
TITL	Number of graphical time points	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	KYMAX

Summary of Pathway Selections

Pathway	User Selection
1 -- external gamma	active
2 -- inhalation (w/o radon)	active
3 -- plant ingestion	active
4 -- meat ingestion	active
5 -- milk ingestion	active
6 -- aquatic foods	active
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	suppressed
Find peak pathway doses	suppressed

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	917.00 square meters	Cs-137	4.300E-02
Thickness:	2.00 meters	Sr-90	1.770E-01
Cover Depth:	0.00 meters		

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	7.423E-01	7.214E-01	6.813E-01	5.577E-01	3.152E-01	4.342E-02	2.304E-04	8.461E-12
M(t):	2.969E-02	2.886E-02	2.725E-02	2.231E-02	1.261E-02	1.737E-03	9.216E-06	3.385E-13

Maximum TDOSE(t): 7.423E-01 mrem/yr at t = 0.000E+00 years

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.699E-02	0.1037	6.772E-08	0.0000	0.000E+00	0.0000	6.782E-03	0.0091	5.931E-04	0.0008	1.937E-04	0.0003	5.335E-05	0.0001
Sr-90	2.295E-03	0.0031	1.140E-05	0.0000	0.000E+00	0.0000	6.380E-01	0.8595	1.288E-02	0.0174	3.825E-03	0.0052	6.691E-04	0.0009
Total	7.928E-02	0.1068	1.147E-05	0.0000	0.000E+00	0.0000	6.448E-01	0.8686	1.348E-02	0.0182	4.019E-03	0.0054	7.224E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.461E-02	0.1140
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.577E-01	0.8860
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.423E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.523E-02	0.1043	6.618E-08	0.0000	0.000E+00	0.0000	6.627E-03	0.0092	5.795E-04	0.0008	1.892E-04	0.0003	5.213E-05	0.0001
Sr-90	2.229E-03	0.0031	1.107E-05	0.0000	0.000E+00	0.0000	6.196E-01	0.8589	1.251E-02	0.0173	3.715E-03	0.0051	6.497E-04	0.0009
Total	7.745E-02	0.1074	1.114E-05	0.0000	0.000E+00	0.0000	6.262E-01	0.8681	1.309E-02	0.0181	3.904E-03	0.0054	7.019E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.267E-02	0.1146
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.387E-01	0.8854
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.214E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.182E-02	0.1054	6.318E-08	0.0000	0.000E+00	0.0000	6.328E-03	0.0093	5.533E-04	0.0008	1.807E-04	0.0003	4.977E-05	0.0001
Sr-90	2.102E-03	0.0031	1.044E-05	0.0000	0.000E+00	0.0000	5.843E-01	0.8577	1.180E-02	0.0173	3.503E-03	0.0051	6.127E-04	0.0009
Total	7.393E-02	0.1085	1.050E-05	0.0000	0.000E+00	0.0000	5.906E-01	0.8670	1.235E-02	0.0181	3.684E-03	0.0054	6.625E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.893E-02	0.1159
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.023E-01	0.8841
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.813E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	6.108E-02	0.1095	5.373E-08	0.0000	0.000E+00	0.0000	5.381E-03	0.0096	4.706E-04	0.0008	1.537E-04	0.0003	4.233E-05	0.0001
Sr-90	1.712E-03	0.0031	8.502E-06	0.0000	0.000E+00	0.0000	4.759E-01	0.8533	9.611E-03	0.0172	2.853E-03	0.0051	4.990E-04	0.0009
Total	6.279E-02	0.1126	8.556E-06	0.0000	0.000E+00	0.0000	4.813E-01	0.8630	1.008E-02	0.0181	3.007E-03	0.0054	5.414E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.713E-02	0.1204
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.906E-01	0.8796
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.577E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	3.845E-02	0.1220	3.383E-08	0.0000	0.000E+00	0.0000	3.388E-03	0.0107	2.962E-04	0.0009	9.672E-05	0.0003	2.665E-05	0.0001
Sr-90	9.525E-04	0.0030	4.730E-06	0.0000	0.000E+00	0.0000	2.648E-01	0.8400	5.347E-03	0.0170	1.587E-03	0.0050	2.776E-04	0.0009
Total	3.940E-02	0.1250	4.764E-06	0.0000	0.000E+00	0.0000	2.681E-01	0.8508	5.643E-03	0.0179	1.684E-03	0.0053	3.043E-04	0.0010

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.226E-02	0.1341
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.729E-01	0.8659
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.152E-01	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.610E-03	0.1753	6.695E-09	0.0000	0.000E+00	0.0000	6.705E-04	0.0154	5.863E-05	0.0014	1.914E-05	0.0004	5.274E-06	0.0001
Sr-90	1.223E-04	0.0028	6.075E-07	0.0000	0.000E+00	0.0000	3.400E-02	0.7832	6.867E-04	0.0158	2.039E-04	0.0047	3.566E-05	0.0008
Total	7.733E-03	0.1781	6.142E-07	0.0000	0.000E+00	0.0000	3.467E-02	0.7986	7.453E-04	0.0172	2.230E-04	0.0051	4.093E-05	0.0009

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.364E-03	0.1926
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.505E-02	0.8074
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.342E-02	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	7.437E-05	0.3228	6.542E-11	0.0000	0.000E+00	0.0000	6.552E-06	0.0284	5.729E-07	0.0025	1.871E-07	0.0008	5.154E-08	0.0002
Sr-90	3.475E-07	0.0015	1.725E-09	0.0000	0.000E+00	0.0000	9.658E-05	0.4192	1.950E-06	0.0085	5.790E-07	0.0025	1.013E-07	0.0004
Total	7.472E-05	0.3243	1.791E-09	0.0000	0.000E+00	0.0000	1.031E-04	0.4476	2.523E-06	0.0110	7.661E-07	0.0033	1.528E-07	0.0007

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.173E-05	0.3547
Sr-90	4.511E-05	0.1958	2.288E-08	0.0001	0.000E+00	0.0000	3.428E-06	0.0149	3.562E-07	0.0015	1.944E-07	0.0008	1.487E-04	0.6453
Total	4.511E-05	0.1958	2.288E-08	0.0001	0.000E+00	0.0000	3.428E-06	0.0149	3.562E-07	0.0015	1.944E-07	0.0008	2.304E-04	1.0000

*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	6.860E-12	0.8108	6.035E-18	0.0000	0.000E+00	0.0000	6.044E-13	0.0714	5.285E-14	0.0062	1.726E-14	0.0020	4.754E-15	0.0006
Sr-90	4.243E-16	0.0001	2.107E-18	0.0000	0.000E+00	0.0000	1.179E-13	0.0139	2.382E-15	0.0003	7.070E-16	0.0001	1.237E-16	0.0000
Total	6.861E-12	0.8108	8.142E-18	0.0000	0.000E+00	0.0000	7.223E-13	0.0854	5.523E-14	0.0065	1.796E-14	0.0021	4.878E-15	0.0006

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.540E-12	0.8911
Sr-90	7.351E-13	0.0869	3.730E-16	0.0000	0.000E+00	0.0000	5.588E-14	0.0066	5.815E-15	0.0007	3.170E-15	0.0004	9.219E-13	0.1089
Total	7.351E-13	0.0869	3.730E-16	0.0000	0.000E+00	0.0000	5.588E-14	0.0066	5.815E-15	0.0007	3.170E-15	0.0004	8.461E-12	1.0000

*Sum of all water independent and dependent pathways.

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137+D	Cs-137+D	1.000E+00	1.968E+00	1.923E+00	1.836E+00	1.561E+00	9.828E-01	1.945E-01	1.901E-03	1.753E-10
Sr-90+D	Sr-90+D	1.000E+00	3.716E+00	3.609E+00	3.403E+00	2.772E+00	1.542E+00	1.980E-01	8.399E-04	5.208E-12

The DSR includes contributions from associated (half-life ≤ 180 days) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 2.500E+01 mrem/yr

Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137	1.271E+01	1.300E+01	1.362E+01	1.601E+01	2.544E+01	1.285E+02	1.315E+04	1.426E+11
Sr-90	6.728E+00	6.928E+00	7.346E+00	9.020E+00	1.621E+01	1.262E+02	2.976E+04	4.800E+12

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 0.000E+00 years

Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Cs-137	4.300E-02	0.000E+00	1.968E+00	1.271E+01	1.968E+00	1.271E+01
Sr-90	1.770E-01	0.000E+00	3.716E+00	6.728E+00	3.716E+00	6.728E+00

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137	Cs-137	1.000E+00	8.461E-02	8.267E-02	7.893E-02	6.713E-02	4.226E-02	8.364E-03	8.173E-05	7.540E-12
Sr-90	Sr-90	1.000E+00	6.577E-01	6.387E-01	6.023E-01	4.906E-01	2.729E-01	3.505E-02	1.487E-04	9.219E-13

THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Cs-137	Cs-137	1.000E+00	4.300E-02	4.202E-02	4.012E-02	3.412E-02	2.148E-02	4.251E-03	4.154E-05	3.832E-12
Sr-90	Sr-90	1.000E+00	1.770E-01	1.719E-01	1.621E-01	1.320E-01	7.345E-02	9.433E-03	2.679E-05	3.271E-14

THF(i) is the thread fraction of the parent nuclide.

RESCALC.EXE execution time = 0.42 seconds

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Cancer Risk Slope Factors Summary Table
Risk Library: FGR 13 Morbidity

Menu	Parameter	Current Value	Base Case*	Parameter Name
Sf-1	Ground external radiation slope factors, 1/yr per (pCi/g):			
Sf-1	Cs-137+D	2.55E-06	5.32E-10	SLPF(1,1)
Sf-1	Sr-90+D	1.96E-08	4.82E-10	SLPF(2,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Cs-137+D	1.12E-10	1.12E-10	SLPF(1,2)
Sf-2	Sr-90+D	4.33E-10	4.25E-10	SLPF(2,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,3)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(2,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.04E-11	3.04E-11	SLPF(1,4)
Sf-3	Sr-90+D	7.40E-11	5.59E-11	SLPF(2,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,5)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(2,5)

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Risk Slope and Environmental Transport Factors for the Ground Pathway

Nuclide (i)	Slope(i)*	ETFG(i,t) At Time in Years (dimensionless) t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Ba-137m	2.690E-06	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01	5.308E-01
Cs-137	5.320E-10	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01	5.460E-01
Sr-90	4.820E-10	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01	5.481E-01
Y-90	1.910E-08	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01	5.342E-01

* - Units are 1/yr per (pCi/g) at infinite depth and area. Multiplication by ETFG(i,t) converts to site conditions.

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 0.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.148E-03	1.372E+02	1.200E+01	3.918E+00	1.079E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.542E+02
Sr-90	8.840E-03	4.236E+03	8.549E+01	2.539E+01	4.443E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.352E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.257E-06	0.1296	5.203E-12	0.0000	1.110E-07	0.0114	9.707E-09	0.0010	3.170E-09	0.0003	8.732E-10	0.0001
Sr-90	3.697E-08	0.0038	7.645E-11	0.0000	8.057E-06	0.8311	1.627E-07	0.0168	4.830E-08	0.0050	8.449E-09	0.0009
Total	1.294E-06	0.1334	8.166E-11	0.0000	8.168E-06	0.8425	1.724E-07	0.0178	5.147E-08	0.0053	9.323E-09	0.0010

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.381E-06	0.1425
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.314E-06	0.8575
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.695E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.257E-06	0.1296	5.203E-12	0.0000	0.000E+00	0.0000	1.110E-07	0.0114	9.707E-09	0.0010	3.170E-09	0.0003	8.732E-10	0.0001
Sr-90	3.697E-08	0.0038	7.645E-11	0.0000	0.000E+00	0.0000	8.057E-06	0.8311	1.627E-07	0.0168	4.830E-08	0.0050	8.449E-09	0.0009
Total	1.294E-06	0.1334	8.166E-11	0.0000	0.000E+00	0.0000	8.168E-06	0.8425	1.724E-07	0.0178	5.147E-08	0.0053	9.323E-09	0.0010

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.381E-06	0.1425
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.314E-06	0.8575
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.695E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.099E-03	1.341E+02	1.172E+01	3.829E+00	1.055E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.507E+02
Sr-90	8.585E-03	4.115E+03	8.310E+01	2.467E+01	4.315E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.227E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.228E-06	0.1303	5.084E-12	0.0000	1.085E-07	0.0115	9.485E-09	0.0010	3.097E-09	0.0003	8.532E-10	0.0001
Sr-90	3.590E-08	0.0038	7.425E-11	0.0000	7.825E-06	0.8303	1.580E-07	0.0168	4.691E-08	0.0050	8.205E-09	0.0009
Total	1.264E-06	0.1341	7.933E-11	0.0000	7.933E-06	0.8418	1.675E-07	0.0178	5.001E-08	0.0053	9.059E-09	0.0010

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.350E-06	0.1432
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.074E-06	0.8568
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.424E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.228E-06	0.1303	5.084E-12	0.0000	0.000E+00	0.0000	1.085E-07	0.0115	9.485E-09	0.0010	3.097E-09	0.0003	8.532E-10	0.0001
Sr-90	3.590E-08	0.0038	7.425E-11	0.0000	0.000E+00	0.0000	7.825E-06	0.8303	1.580E-07	0.0168	4.691E-08	0.0050	8.205E-09	0.0009
Total	1.264E-06	0.1341	7.933E-11	0.0000	0.000E+00	0.0000	7.933E-06	0.8418	1.675E-07	0.0178	5.001E-08	0.0053	9.059E-09	0.0010

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.350E-06	0.1432
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.074E-06	0.8568
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.424E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.004E-03	1.280E+02	1.119E+01	3.655E+00	1.007E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.439E+02
Sr-90	8.096E-03	3.880E+03	7.836E+01	2.326E+01	4.069E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.986E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.172E-06	0.1317	4.854E-12	0.0000	1.036E-07	0.0116	9.056E-09	0.0010	2.957E-09	0.0003	8.147E-10	0.0001
Sr-90	3.386E-08	0.0038	7.002E-11	0.0000	7.379E-06	0.8289	1.490E-07	0.0167	4.424E-08	0.0050	7.738E-09	0.0009
Total	1.206E-06	0.1355	7.487E-11	0.0000	7.483E-06	0.8405	1.581E-07	0.0178	4.720E-08	0.0053	8.553E-09	0.0010

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.289E-06	0.1448
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.614E-06	0.8552
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.903E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.172E-06	0.1317	4.854E-12	0.0000	0.000E+00	0.0000	1.036E-07	0.0116	9.056E-09	0.0010	2.957E-09	0.0003	8.147E-10	0.0001
Sr-90	3.386E-08	0.0038	7.002E-11	0.0000	0.000E+00	0.0000	7.379E-06	0.8289	1.490E-07	0.0167	4.424E-08	0.0050	7.738E-09	0.0009
Total	1.206E-06	0.1355	7.487E-11	0.0000	0.000E+00	0.0000	7.483E-06	0.8405	1.581E-07	0.0178	4.720E-08	0.0053	8.553E-09	0.0010

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.289E-06	0.1448
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.614E-06	0.8552
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.903E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.704E-03	1.089E+02	9.521E+00	3.109E+00	8.564E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.224E+02
Sr-90	6.594E-03	3.160E+03	6.382E+01	1.895E+01	3.314E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.246E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	9.970E-07	0.1366	4.128E-12	0.0000	8.808E-08	0.0121	7.702E-09	0.0011	2.515E-09	0.0003	6.928E-10	0.0001
Sr-90	2.758E-08	0.0038	5.703E-11	0.0000	6.010E-06	0.8236	1.214E-07	0.0166	3.603E-08	0.0049	6.302E-09	0.0009
Total	1.025E-06	0.1404	6.115E-11	0.0000	6.098E-06	0.8357	1.291E-07	0.0177	3.855E-08	0.0053	6.995E-09	0.0010

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.096E-06	0.1502
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.201E-06	0.8498
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.297E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	9.970E-07	0.1366	4.128E-12	0.0000	0.000E+00	0.0000	8.808E-08	0.0121	7.702E-09	0.0011	2.515E-09	0.0003	6.928E-10	0.0001
Sr-90	2.758E-08	0.0038	5.703E-11	0.0000	0.000E+00	0.0000	6.010E-06	0.8236	1.214E-07	0.0166	3.603E-08	0.0049	6.302E-09	0.0009
Total	1.025E-06	0.1404	6.115E-11	0.0000	0.000E+00	0.0000	6.098E-06	0.8357	1.291E-07	0.0177	3.855E-08	0.0053	6.995E-09	0.0010

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.096E-06	0.1502
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.201E-06	0.8498
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.297E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.073E-03	6.854E+01	5.993E+00	1.957E+00	5.391E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.703E+01
Sr-90	3.668E-03	1.758E+03	3.551E+01	1.054E+01	1.844E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.806E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	6.276E-07	0.1516	2.599E-12	0.0000	5.544E-08	0.0134	4.848E-09	0.0012	1.583E-09	0.0004	4.361E-10	0.0001
Sr-90	1.534E-08	0.0037	3.173E-11	0.0000	3.344E-06	0.8076	6.752E-08	0.0163	2.005E-08	0.0048	3.506E-09	0.0008
Total	6.430E-07	0.1553	3.432E-11	0.0000	3.399E-06	0.8210	7.237E-08	0.0175	2.163E-08	0.0052	3.942E-09	0.0010

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.900E-07	0.1667
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.450E-06	0.8333
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.140E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	6.276E-07	0.1516	2.599E-12	0.0000	0.000E+00	0.0000	5.544E-08	0.0134	4.848E-09	0.0012	1.583E-09	0.0004	4.361E-10	0.0001
Sr-90	1.534E-08	0.0037	3.173E-11	0.0000	0.000E+00	0.0000	3.344E-06	0.8076	6.752E-08	0.0163	2.005E-08	0.0048	3.506E-09	0.0008
Total	6.430E-07	0.1553	3.432E-11	0.0000	0.000E+00	0.0000	3.399E-06	0.8210	7.237E-08	0.0175	2.163E-08	0.0052	3.942E-09	0.0010

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.900E-07	0.1667
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.450E-06	0.8333
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.140E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.123E-04	1.357E+01	1.186E+00	3.873E-01	1.067E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.525E+01
Sr-90	4.711E-04	2.258E+02	4.560E+00	1.354E+00	2.368E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.320E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.242E-07	0.2143	5.143E-13	0.0000	1.097E-08	0.0189	9.596E-10	0.0017	3.133E-10	0.0005	8.632E-11	0.0001
Sr-90	1.970E-09	0.0034	4.075E-12	0.0000	4.294E-07	0.7408	8.672E-09	0.0150	2.574E-09	0.0044	4.503E-10	0.0008
Total	1.262E-07	0.2177	4.589E-12	0.0000	4.404E-07	0.7598	9.632E-09	0.0166	2.888E-09	0.0050	5.366E-10	0.0009

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.366E-07	0.2356
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.431E-07	0.7644
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.796E-07	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.242E-07	0.2143	5.143E-13	0.0000	0.000E+00	0.0000	1.097E-08	0.0189	9.596E-10	0.0017	3.133E-10	0.0005	8.632E-11	0.0001
Sr-90	1.970E-09	0.0034	4.075E-12	0.0000	0.000E+00	0.0000	4.294E-07	0.7408	8.672E-09	0.0150	2.574E-09	0.0044	4.503E-10	0.0008
Total	1.262E-07	0.2177	4.589E-12	0.0000	0.000E+00	0.0000	4.404E-07	0.7598	9.632E-09	0.0166	2.888E-09	0.0050	5.366E-10	0.0009

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.366E-07	0.2356
Sr-90	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.431E-07	0.7644
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.796E-07	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	2.075E-06	1.326E-01	1.159E-02	3.785E-03	1.043E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.490E-01
Sr-90	1.338E-06	6.414E-01	1.295E-02	3.845E-03	6.726E-04	2.978E-01	1.511E-04	2.263E-02	2.351E-03	1.283E-03	9.830E-01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.214E-09	0.3839	5.026E-15	0.0000	1.072E-10	0.0339	9.377E-12	0.0030	3.062E-12	0.0010	8.435E-13	0.0003
Sr-90	5.596E-12	0.0018	1.157E-14	0.0000	1.220E-09	0.3857	2.463E-11	0.0078	7.312E-12	0.0023	1.279E-12	0.0004
Total	1.220E-09	0.3856	1.660E-14	0.0000	1.327E-09	0.4196	3.401E-11	0.0108	1.037E-11	0.0033	2.123E-12	0.0007

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.334E-09	0.4220
Sr-90	5.110E-10	0.1616	3.339E-13	0.0001	5.002E-11	0.0158	5.197E-12	0.0016	2.837E-12	0.0009	1.828E-09	0.5780
Total	5.110E-10	0.1616	3.339E-13	0.0001	5.002E-11	0.0158	5.197E-12	0.0016	2.837E-12	0.0009	3.162E-09	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.214E-09	0.3839	5.026E-15	0.0000	0.000E+00	0.0000	1.072E-10	0.0339	9.377E-12	0.0030	3.062E-12	0.0010	8.435E-13	0.0003
Sr-90	5.596E-12	0.0018	1.157E-14	0.0000	0.000E+00	0.0000	1.220E-09	0.3857	2.463E-11	0.0078	7.312E-12	0.0023	1.279E-12	0.0004
Total	1.220E-09	0.3856	1.660E-14	0.0000	0.000E+00	0.0000	1.327E-09	0.4196	3.401E-11	0.0108	1.037E-11	0.0033	2.123E-12	0.0007

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.334E-09	0.4220
Sr-90	5.110E-10	0.1616	3.339E-13	0.0001	0.000E+00	0.0000	5.002E-11	0.0158	5.197E-12	0.0016	2.837E-12	0.0009	1.828E-09	0.5780
Total	5.110E-10	0.1616	3.339E-13	0.0001	0.000E+00	0.0000	5.002E-11	0.0158	5.197E-12	0.0016	2.837E-12	0.0009	3.162E-09	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+03 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Cs-137	1.914E-13	1.223E-08	1.069E-09	3.492E-10	9.619E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.374E-08
Sr-90	1.634E-15	7.831E-10	1.582E-11	4.695E-12	8.212E-13	4.882E-09	2.477E-12	3.712E-10	3.862E-11	2.106E-11	6.120E-09

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.120E-16	0.8443	4.636E-22	0.0000	9.892E-18	0.0746	8.650E-19	0.0065	2.825E-19	0.0021	7.781E-20	0.0006
Sr-90	6.834E-21	0.0001	1.413E-23	0.0000	1.489E-18	0.0112	3.008E-20	0.0002	8.929E-21	0.0001	1.562E-21	0.0000
Total	1.120E-16	0.8444	4.778E-22	0.0000	1.138E-17	0.0858	8.951E-19	0.0067	2.914E-19	0.0022	7.938E-20	0.0006

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.231E-16	0.9281
Sr-90	7.175E-18	0.0541	4.688E-21	0.0000	7.025E-19	0.0053	7.309E-20	0.0006	3.985E-20	0.0003	9.532E-18	0.0719
Total	7.175E-18	0.0541	4.688E-21	0.0000	7.025E-19	0.0053	7.309E-20	0.0006	3.985E-20	0.0003	1.326E-16	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	1.120E-16	0.8443	4.636E-22	0.0000	0.000E+00	0.0000	9.892E-18	0.0746	8.650E-19	0.0065	2.825E-19	0.0021	7.781E-20	0.0006
Sr-90	6.834E-21	0.0001	1.413E-23	0.0000	0.000E+00	0.0000	1.489E-18	0.0112	3.008E-20	0.0002	8.929E-21	0.0001	1.562E-21	0.0000
Total	1.120E-16	0.8444	4.778E-22	0.0000	0.000E+00	0.0000	1.138E-17	0.0858	8.951E-19	0.0067	2.914E-19	0.0022	7.938E-20	0.0006

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Cs-137	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.231E-16	0.9281
Sr-90	7.175E-18	0.0541	4.688E-21	0.0000	0.000E+00	0.0000	7.025E-19	0.0053	7.309E-20	0.0006	3.985E-20	0.0003	9.532E-18	0.0719
Total	7.175E-18	0.0541	4.688E-21	0.0000	0.000E+00	0.0000	7.025E-19	0.0053	7.309E-20	0.0006	3.985E-20	0.0003	1.326E-16	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

ATTACHMENT 8

RESPONSE TO COMMENTS

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RESPONSE TO COMMENTS ON
DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 197, 198, 199, AND 200 (WORK PACKAGE 43)
PARCEL C STORM DRAIN AND SANITARY SEWER REMOVAL
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

Comments from Ryan Miya, Ph.D.
Senior Hazardous Substances Scientist
San Francisco Peninsula Team Leader
Brownfields and Environmental Restoration Program – Berkeley
Department of Toxic Substances Control

Comments Dated: March 12, 2012

SPECIFIC COMMENTS ON ALL DRAFT SUPRs	RESPONSE
Comment 1. Section 3.2 – Survey Unit. Please briefly explain why there are no pipe segment scans as well as sediment analyses from the removed pipe segments (for example, not enough sediment volume to collect samples, majority of pipe segments disintegrated upon removal, etc.).	**Response 1.** Pipe and manhole sediment sample analyses are provided in each individual SUPR when radiological contamination above the release criteria is identified. Information related to the availability of a sufficient volume of sediment for sample collection and analysis, pipe/manhole survey results, sediment sample analyses, and final disposition of the pipe/manholes will be presented in the Parcel C Radiological Removal Action Completion Report (Radiological RACR).
Comment 2. Section 3.2.1 – Trench Survey Unit. Please provide the dates of excavation, soil sampling, and backfilling at each trench survey unit.	**Response 2.** The Navy will provide this information in the Parcel C Radiological RACR.
Comment 3. Section 3.2.2 – Import Fill Material/Excavated Soil Units. Please specify if any additional analyses on the import fill material/excavated soil units beyond the radiological analyses were conducted in order to verify the quality of the backfill.	**Response 3.** The Navy conducted additional soil analyses only if the origin of the excavated soil was from an identified Installation Restoration site. If the excavated soil was not obtained from an Installation Restoration site, only radiological analyses were performed. However, additional analyses for chemicals of concern were performed on the import fill material as specified in the Hunters Point Shipyard Project Backfill Review and Acceptance Procedure provided in Appendix C to the Final Parcel C Design Plan and Final Sampling and Analysis Plan – SAP Worksheet #17 – Sampling Design and Rationale. The Navy has provided this information in the Survey Unit Project Reports Abstract, Section 3.2.4.

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RESPONSE TO COMMENTS ON DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 197, 198, 199, AND 200 (WORK PACKAGE 43) PARCEL C STORM DRAIN AND SANITARY SEWER REMOVAL HUNTERS POINT NAVAL SHIPYARD SAN FRANCISCO, CALIFORNIA	
Comment 4. Sections 3.2.2.x – Excavated Soil Unit(s). The total volume of soil remediated from each excavated soil unit identified as having contamination present that exceeded the release criteria, as applicable, should be provided in the text.	**Response 4.** The Parcel C Radiological RACR will provide Table 3-4 that summarizes the elevated sample results, radionuclides of concern (if present), and estimated soil volume remediated for each excavated soil survey unit derived from excavation of the Parcel C storm drain and sanitary sewer systems.

RESPONSE TO COMMENTS ON
DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 197, 198, 199, AND 200 (WORK PACKAGE 43)
PARCEL C STORM DRAIN AND SANITARY SEWER REMOVAL
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

Comments from Larry Morgan
Senior Health Physicist
Environmental Management Branch (EMB)
California Department of Public Health (CDPH)

Comments Dated: March 5, 2012

GENERAL COMMENTS ON ALL DRAFT SUPRs	RESPONSE
Comment 1. These survey unit project reports and the work they represent appear to differ from previous reports and work on the sewer project in that the sample results from the onsite laboratory are not reported in the main body of the report and do not appear to be used for dose calculations. Now, instead of using the onsite data based on the 186 keV peak as the basis for analysis in the reports, offsite laboratory data is used. It appears that all samples have been sent to the offsite laboratory for analysis based on the Bi-214 peak at 609 keV. Please specify when this change in analysis and reporting process occurred. This alternative approach appears satisfactory overall but may be inconsistent with some existing project documentation and does raise some action items as noted in some of the comments below.	**Response 1.** The Navy made this change in January of 2011. The "Survey Unit Project Reports Abstract for Sanitary Sewer and Storm Drain Removal Conducted After January 1, 2011" referenced in the SUPRs included in Package 43 describes the analysis and reporting process used for all radiological surveys conducted in trench survey units after January 1, 2011.
Comment 2. These SUPRs refer to specific sections of the related survey unit project abstracts document that may need to be updated to reflect the change or alternate methodology of using offsite 609 keV peak data for analysis in the report. Please provide updated sections of the SUPRA document as needed.	**Response 2.** The Survey Unit Project Reports Abstract was sent out as revised finals for two separate documents in July 2011. One revision reflected changes that were agreed upon between the State of California and the Navy for work that was performed prior to January 2011. The other document specified the changes that were implemented at the start of the 2011 year. See the response to comment 1.

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RESPONSE TO COMMENTS ON DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 197, 198, 199, AND 200 (WORK PACKAGE 43) PARCEL C STORM DRAIN AND SANITARY SEWER REMOVAL HUNTERS POINT NAVAL SHIPYARD SAN FRANCISCO, CALIFORNIA	
Comment 3. Section 4 of the main body of this report does not contain any comparison table showing onsite screening results vs. offsite laboratory results, as has been shown in previous reports. While the individual sample data from both laboratories is provided in the attachments, the comparison table in the main report would still be useful in Section 4 to provide the reader with a clear comparison.	**Response 3.** The Navy has not provided a comparison table as all final 18 systematic soil samples were analyzed by a State of California and DoD accredited laboratory. However, all on-site laboratory data are provided in an attachment to each individual SUPR.
Comment 4. In situations where 609 keV Bi-214 peak data is used for the final status survey, most or all of the results are now above MDA. This will allow some of the summary statistics and statistical analysis originally specified, but which was invalid with mostly less than MDA 186 keV Ra-226 results, to be performed and reported in the SUPR. The SUPRA needs to be reviewed for consistency with the 609 kev peak data, which has less statistical analysis limitations than the 186 kev data.	**Response 4.** The Navy did not perform any statistical tests based on the information provided in Section 5.0 of each SUPR since all final DoD ELAP sample results were less than the release criteria for the ROCs. As such, there is no basis for performing statistical tests for trench units or excavated soil units per Section 8.2.2.1 of MARSSIM (DoD et al. 2000).

RESPONSE TO COMMENTS ON DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 197, 198, 199, AND 200 (WORK PACKAGE 43) PARCEL C STORM DRAIN AND SANITARY SEWER REMOVAL HUNTERS POINT NAVAL SHIPYARD SAN FRANCISCO, CALIFORNIA	
Comment 5. The dose modeling parameters specified in Table 6-1 and the dose and risk modeling summarized Table 6-2 are based on the reference area average activity shown in Table 6-1. For Ra-226 that value is 0.625 pCi/gm. Our recollection is that the reference area samples were never analyzed and results reported based on the 609 keV peak of Bi-214. So, it appears that the reference area average is a result of onsite 186 keV peak analysis that is typically biased high relative to the 609 keV peak data. Based on those considerations, it appears that the reference area samples need to be analyzed by the 609 keV peak method and those results used for determining a reference area average, whenever 609 keV peak Bi-214 data is used in dose and risk modeling. Using the old 186 keV Ra-226 peak data which is biased high will underestimate the dose and risk for Ra-226, so it appears necessary to analyze the reference area samples utilizing the same peak used for the survey unit being modeled. Please revise the dose modeling in Section 6 as needed after consideration of this comment.	**Response 5.** The Navy has already analyzed the reference area samples at the off-site laboratory using the 609 keV peak. This information was provided in the "Survey Unit Project Reports Abstract for Sanitary Sewer and Storm Drain Removal Conducted After January 1, 2011." All dose and risk modeling for ^{226}Ra was performed using data analyzed by the off-site laboratory from both the reference area and the survey unit. The off-site laboratory used the ^{214}Bi 609 keV gamma peak to quantify ^{226}Ra, after allowing for a 21 day in-growth. Analysis of the reference area samples at the off-site laboratory yielded a mean value of 0.625 pCi/g. Because all reference area samples and survey unit samples were analyzed at the same off-site laboratory using the same analysis methodology, no dose modeling revision in Section 6.0 is necessary. Modeling using the on-site laboratory ^{226}Ra results based on the 186 keV peak and the on-site laboratory reference area mean of 0.485 pCi/g has not been provided, as the on-site laboratory results were used only for screening purposes prior to final analysis at the off-site laboratory.

Comment 6. Why is the basis for setting the offsite laboratory reporting limit at 0.70 pCi/gm for Ra-226, when values below that are quantifiable and well above the MDA? It appears that the J flags reported for most of the 609 keV peak data may be unnecessary or misleading and caused by arbitrary or unnecessary selection of a high reporting limit. The laboratory summary reports for the offsite laboratory in Attachment 2 specify what the reporting limits are but they do not explain the basis for setting the reporting limits resulting in the J flags. Please review and discuss this with the offsite laboratory and clarify the basis for the reporting limit in the SUPRs or a revised SUPRA and revise the reporting limit for the future, if appropriate. Another way to look at the reporting limit for Ra-226 is to question why the reporting limit for Ra-226 has been set so much higher than the MOL (about seven to ten times the MOL) when the reporting limit for Cs-137 is set at about two times the Cs-137 MOL. We suspect that the Ra-226 reporting limit of 0.7 pCi/gm may be an artifact carried over from use of the 186 kev peak for Ra-226 reporting, which was the original peak used for reporting data from the offsite laboratory.	**Response 6.** Comment noted. The Navy recognizes the validity of this comment. The Navy has discussed this issue and believes it will not be beneficial to change the reporting limit at this time. However, the Navy will consider modifications during the next revision to the Sampling and Analysis Plan.
SPECIFIC COMMENTS	**RESPONSE**
Comment 1. EMB may need to conduct independent confirmation soil samples for Survey Units 197, 198, 199, 200 Storm Drain and Sanitary Sewer Removal Project Report.	**Response 1.** Comment noted.
Comment 2. Page 1-1, Section 1.2, "Background." Please include radiological background on IR Site 28 (SUPR197), since the Navy excavated Soil Unit 301 and 302.	**Response 2.** IR Site 28 was not considered radiologically impacted per the Historical Radiological Assessment. However, some sewer and/or sanitary drain lines did extend into IR Site 28. The excavated soil generated from removing the lines would have been radiologically impacted and was removed in its entirety. No further radiologically impacted material remains in IR Site 28.

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RESPONSE TO COMMENTS ON DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 197, 198, 199, AND 200 (WORK PACKAGE 43) PARCEL C STORM DRAIN AND SANITARY SEWER REMOVAL HUNTERS POINT NAVAL SHIPYARD SAN FRANCISCO, CALIFORNIA	
Comment 3. Page 1-1, Section 1.2, "Background." Please include a radiological background on Area 33 since excavation occurred in Excavated Soil Units 307 and 314.	**Response 3.** Area 33 was not considered radiologically impacted. The term Work Area was developed by TtEC to aid in providing the Navy with reference locations close to the trench units within that location.
Comment 4. Page 1-1, Section 1.1, "Purpose", and Section 1.2, "Background," SUPR (200), EMB noted the two sections reference Survey unit 197 (excavated soil units 301, 302, and 303) and not Survey Unit 200 Excavated Soil Units (334, 421 and 439).	**Response 4.** The Navy has reviewed SUPR 200 and did not identify the same inconsistency in the electronic copy. However, it was noted that there was a page switch that happened on a couple of copies during the duplication process. This error will be fixed on the final copy.
Comment 5. Section 3.2.2, "Excavated Soil Units," 334, 421 and 439 (SUPR 200), all have elevated soil samples. Explain the conceptual site model for these elevated soil units?	**Response 5.** The conceptual site model for Survey Unit 200 is the same for all sanitary sewer and storm drain piping, i.e., ^{226}Ra from radium dial maintenance operations and/or fission products from decontamination operations associated with Operation Crossroads may have collected in the piping. The Navy noted that only Excavated Soil Unit 334 had elevated soil samples. These areas were characterized and remediated.
Comment 6. Page 3-1, Section 3.2, "Survey Unit," include ^{137}CS and ^{226}Ra contaminants of concern for all SUPR reports.	**Response 6.** The isotopes of concern for the storm drain and sanitary sewer system are cesium-137, radium-226, and strontium-90. This information is provided in the Survey Unit Project Reports Abstract. If any additional radionuclides of concern are identified, the information will be provided in Section 2.0 of each SUPR.