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

CONTRACT NO. N62473-07-D-3211
CTO NO. 0018

FINAL

SURVEY UNIT 124 PROJECT REPORT

March 15, 2011

DCN: ECSD-3211-0018-0164

PARCEL G SANITARY SEWER
AND STORM DRAIN REMOVAL PROJECT
HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

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

CONTRACT NO. N62473-07-D-3211
CTO NO. 0018

FINAL

SURVEY UNIT 124 PROJECT REPORT

March 15, 2011

PARCEL G SANITARY SEWER AND STORM DRAIN REMOVAL PROJECT HUNTERS POINT SHIPYARD SAN FRANCISCO, CALIFORNIA

DCN: ECSD-3211-0018-0164

Prepared by:

TETRA TECH EC, INC.
1230 Columbia Street, Suite 750
San Diego, California 92101-8536

George Chiu
Technical Lead

Erik Abkemeier, CHP, PE, CSP, CHMM
Radiation Safety Officer

Bill Dougherty
Project Manager

TABLE OF CONTENTS

PAGE

ABBREVIATIONS AND ACRONYMS iii

1.0 INTRODUCTION 1-1
1.1 PURPOSE 1-1
1.2 BACKGROUND 1-1

2.0 RELEASE CRITERIA 2-1

3.0 FINAL STATUS SURVEYS 3-1
3.1 OBJECTIVE OF THE FINAL STATUS SURVEY 3-1
3.2 SURVEY UNIT 3-1
3.2.1 Trench Survey Unit 3-1
3.2.2 Excavated Soil Unit 3-4
3.2.3 Import Fill Material 3-6
3.3 REFERENCE AREA 3-6

4.0 LABORATORY ANALYSIS 4-1

5.0 STATISTICAL TESTS 5-1

6.0 DOSE MODELING 6-1
6.1 MODELING INPUT PARAMETERS USING LARGER OF MDL OR REPORTED ACTIVITY 6-1
6.2 DOSE AND RISK MODELING RESULTS 6-2

7.0 RECOMMENDATION OF FINAL UNRESTRICTED RELEASE 7-1
7.1 DERIVED CONCENTRATION GUIDELINES 7-1
7.2 DCGL MODELING 7-1
7.3 AS LOW AS REASONABLY ACHIEVABLE 7-1
7.4 ENVIRONMENTAL ALARA PROCESS 7-1
7.4.1 Identification of Potential Radiological Impacts 7-2
7.4.2 Review of Radiological Impacts 7-2
7.4.3 Performance of Qualitative ALARA Analyses 7-2
7.4.4 Performance of Quantitative ALARA Analyses 7-3
7.5 ALARA ANALYSIS RESULTS 7-4
7.6 RECOMMENDATIONS 7-4

8.0 REFERENCES 8-1

TABLE OF CONTENTS
(Continued)

PAGE

TABLES

Table 3-1 Class 1 Soil Measurements – Trench Unit 124 3-2

Table 3-2 Class 1 Soil Measurements – Excavated Soil Unit 199 3-5

Table 4-1 Survey Unit 124 Laboratory Results Comparison (pCi/g) 4-2

Table 6-1 Modeling Parameters Using Larger of MDL or Reported Activity Concentrations 6-1

Table 6-2 Dose and Risk Modeling Summary 6-2

FIGURES

Figure 1-1 Parcel G Survey Unit Key Plan

Figure 3-1 Parcel G Survey Unit 124, Areas 19 and 27

ATTACHMENTS

Attachment 1 Trench Unit 124 Radiation/Contamination Survey Form (on CD only)

Attachment 2 Laboratory Analysis Reports for Trench Unit 124 (on CD only)

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

Attachment 4 Excavated Soil Unit Gamma Spectroscopy Reports (on CD only)

Attachment 5 Excavated Soil Unit ^{90}Sr Results (on CD only)

Attachment 6 Quality Assurance Sample Results (on CD only)

Attachment 7 Backfill Material RESRAD Report (on CD only)

Attachment 8 Trench Unit RESRAD Report (on CD only)

Attachment 9 Response to Comments

ABBREVIATIONS AND ACRONYMS

ALARA	as low as reasonably achievable
AM	Action Memorandum
^{214}Bi	bismuth-214
^{137}Cs	cesium-137
DCGL	derived concentration guideline level
EPA	U.S. Environmental Protection Agency
FSS	Final Status Survey
HPS	Hunters Point Shipyard
keV	kiloelectron volt
MDA	minimum detectable activity
MDL	method detection limit
mrem/y	millirems per year
pCi/g	picocuries per gram
^{226}Ra	radium-226
RASO	Radiological Affairs Support Office
ROC	radionuclide of concern
RPD	relative percent difference
^{90}Sr	strontium-90
SUPR	Survey Unit Project Report
VSP	Visual Sample Plan

ED_004747_00002090-00005

This page intentionally left blank.

1.0 INTRODUCTION

1.1 PURPOSE

This Survey Unit Project Report (SUPR) documents the work performed in Survey Unit 124 (inclusive of the trench and the associated excavated soil and import fill material used as backfill). The work was conducted under the final Base-wide Storm Drain and Sanitary Sewer Removal Work Plan, Revision 4 (TtEC 2010a). This SUPR summarizes the scope, approach, and radiological surveys resulting from the removal of the sanitary sewer and storm drains located within Areas 19 and 27 in Parcel G at Hunters Point Shipyard (HPS), San Francisco, California.

Information that was provided in the SUPRs Abstract (TtEC 2010b) will be repeated only if there were exceptions to the information specific to Survey Unit 124.

1.2 BACKGROUND

Survey Unit 124 is the net sum of Trench Unit 124, excavated soil from Excavated Soil Unit 199, and a volume of import fill material, which was used for backfill. Survey Unit 124 is located in Parcel G within Areas 19 and 27 as identified on Figure 1-1. There are seven trench segments associated with Trench Unit 124. None of the trench segments are located in Installation Restoration sites.

Trench Unit 124 is located south of Spear Avenue, running east and west from H Street to Hussey Street. Trench Unit 124 is located north of radiologically impacted Building 401. The footprint of Trench Unit 124 was 369 linear feet in length (112.47 meters). The total surface area was 5,134.39 square feet (477 square meters) of actual excavated trench, in varying depths up to 11 feet below ground surface.

This page intentionally left blank.

2.0 RELEASE CRITERIA

Release criteria information for Survey Unit 124 is presented in Section 2.0 of the SUPRs Abstract (TtEC 2010b). No additional radionuclides of concern (ROCs) were identified.

This page intentionally left blank.

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 124 is located in Areas 19 and 27 and consists of two different types of survey units: trench and excavated soil. Survey Unit 124 is the net sum of Trench Unit 124, excavated soil from Excavated Soil Unit 199, and a volume of import fill material, which was used for backfill. There are seven trench segments associated with Trench Unit 124. None of the trench segments are located in Installation Restoration sites. The trench unit and the excavated soil unit were systematically sampled independently.

3.2.1 Trench Survey Unit

Scan surveys and systematic sampling were performed in Trench Unit 124. 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 124 had a total surface area of 477 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 124. Therefore, no additional surveys or sampling were performed. The trench unit gamma scan ranges, investigation level, and static measurement values are provided in Attachment 1.

One sediment sample was collected from a manhole removed from the trench. This manhole was disposed of as low-level radioactive waste because cesium-137 (^{137}Cs) activity was identified to be present at 0.209 picocurie per gram (pCi/g). Based on this information, 98 biased samples were collected along the bottom of the trench. Results of the biased sampling identified radium-226 (^{226}Ra) activity to be present above the release criteria at 27 locations from 1.5745 to 3.0701 pCi/g. Approximately 66 cubic yards of soil was remediated from the areas identified as having contamination present above the release criteria for ^{226}Ra, and 38 postremediation samples were collected. Postremediation sample results identified ^{226}Ra activity to be present at 12 locations from 1.4924 to 3.0122 pCi/g.

An additional 84.75 cubic yards of soil was remediated from the areas identified as having contamination present above the release criteria for ^{226}Ra, and 21 postremediation samples were

collected. Postremediation sample results identified ^{226}Ra activity to be present at three locations from 1.6195 to 3.0617 pCi/g.

An additional 37.5 cubic yards of soil was remediated from the areas identified as having contamination present above the release criteria for ^{226}Ra, and nine postremediation samples were collected. Results identified no activity above the release criteria for any ROC.

VSP was used to generate the final 18 systematic sample locations (samples 167 to 184) based on a random start point and a triangular grid. None of the sample results identified activity above the release criteria for any ROC. A summary of the 18 systematic sample results is provided in Table 3-1.

TABLE 3-1

Class 1 Soil Measurements - Trench Unit 124

	Results (pCi/g)											
Sample No.	^{137}Cs	Flags	MDA	≥MDA	^{90}Sr	Flags	MDA	≥MDA	^{226}Ra	Flags	MDA	≥MDA
167	-0.003	#B	0.031	0.031					-0.059	#B	0.834	0.834
168	0.078	#	0.023	0.078					0.517	B	0.857	0.857
169	0.066		0.028	0.066					0.366	B	0.930	0.930
170	0.070		0.037	0.070	-0.110	U	0.300	0.300	0.284	B	0.823	0.823
171	0.013	B	0.017	0.017					0.105	B	0.670	0.670
172	0.005	B	0.029	0.029					0.053	B	0.854	0.854
173	0.023	F	0.017	0.023					0.792	B	0.804	0.804
174	0.028		0.020	0.028					0.699	F	0.581	0.699
175	0.068		0.035	0.068	0.160	U	0.310	0.310	-0.078	#B	0.956	0.956
176	0.059		0.018	0.059					-0.052	#B	0.941	0.941
177	0.021	B	0.041	0.041					0.816	B	1.030	1.030
178	0.031	F	0.021	0.031					0.063	B	0.801	0.801
179	0.040	F	0.034	0.040					1.112		0.801	1.112
180	0.045	F	0.036	0.045					0.680	B	0.943	0.943
181	-0.001	#B	0.008	0.008					0.127	B	0.786	0.786
182	0.018	#F	0.015	0.018					0.756	F	0.732	0.756
183	0.049		0.025	0.049					1.014	#F	0.696	1.014
184	0.018	B	0.025	0.025					0.798	F	0.647	0.798
mean				**0.040**				**0.305**				**0.867**
std dev				**0.021**				**0.007**				**0.117**
median				**0.036**				**0.305**				**0.844**

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 4.8 of the SUPRs Abstract (TtEC 2010b).

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

ED_004747_00002090-00012

The ^{137}Cs results show 6 of the 18 values less than the reported minimum detectable activity (MDA). Additionally, six results above the MDA indicated flags that will require the values to be considered less than the MDA. However, the reported activity will be utilized for dose modeling purposes. The ^{226}Ra results show 13 of 18 values less than the MDA. Additionally, four results above the MDA indicated flags that will require the values to be considered less than the MDA. However, the reported activity will be utilized for dose modeling purposes.

The "#" flag indicates that "All peaks for activity calculation had bad shape." The "B" flag indicates "Activity <MDA and failed test." The "A" flag indicates "Activity is reported but the activity is <MDA." The "F" flag indicates "Failed fraction or key line test." These flag indications are printed on the on-site laboratory reports in Attachment 2. Section 4.3 of the SUPRs Abstract (TtEC 2010b) also discusses these flags in more detail. For the "#" flag, the SUPRs Abstract (TtEC 2010b) indicates that the peak did not have a proper Poisson shape and that these peaks are suspect. For the "B" flag, the SUPRs Abstract (TtEC 2010b) notes that the peak was not statistically differentiable from the background value and the background value was considered valid; activities reported with these codes should only be considered as <MDA values. For the "A" flag, the SUPRs Abstract (TtEC 2010b) specifies that the activity calculation performed on the peaks for the ROC yields a lower value than the calculation for the MDA. This identifies that a calculation was performed and the peaks were found, but the resulting activity was lower than the MDA. For the "F" flag, the SUPRs Abstract (TtEC 2010b) notes that the most abundant peak for the particular isotope was not observed in the correct proportions relative to other peaks, either high or low. The activity was determined using the most conservative estimate relative to using either the primary peak only or the secondary peaks only. The "F" flag also occurs if the key-line abundant centroid does not meet the criteria to be a real peak based on the library. Therefore, if the centroid for a peak is too wide or too narrow, an "F" flag would be assigned to the peak because the software is forced to provide a concentration for the ROC.

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 sample detection limit. The "J" flag indicates that "Results greater than sample detection limit but less than stated reporting limit." The "U" flag indicates "Result is less than the sample detection limit."

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

Complete laboratory analytical reports for each Trench Unit 124 soil sample, including biased and duplicate samples, are presented in Attachment 2.

3.2.2 Excavated Soil Unit

Excavated Soil Unit 199 was used to backfill Trench Unit 124. The gamma scan of Excavated Soil Unit 199 identified several measurements above the investigation level. Therefore, additional samples were collected. The scan data are presented in Attachment 3.

Eighteen systematic soil samples were collected at the excavated soil unit, as shown on Figure 3-2 of the SUPRs Abstract (TtEC 2010b). Each sample was analyzed at the on-site laboratory by gamma spectroscopy. Two samples of each excavated soil unit were also analyzed for ^{90}Sr. Individual gamma spectroscopy reports and sampling diagrams are presented in Attachment 4. Results for ^{90}Sr are presented in Attachment 5.

An additional 18 biased samples were collected and analyzed by gamma spectroscopy. One of the biased sample results identified ^{226}Ra contamination above the release criteria at 1.9730 pCi/g. Two additional characterization samples were collected to identify the extent of the contamination. None of the sample results identified activity above the release criteria for any ROC.

The areas bounded by four samples were remediated, and a second set of 18 systematic samples were collected and analyzed by gamma spectroscopy. None of the sample results identified activity above the release criteria for any ROC. Sample numbers 52 and 53 were randomly selected to be analyzed for ^{90}Sr. None of the sample results identified activity above the release criteria for any ROC. A summary of the sample results for Excavated Soil Unit 199 is provided in Table 3-2.

The ^{137}Cs results show 9 of the 18 values less than the reported MDA. Additionally, three results above the MDA indicated flags that will require the values to be considered less than the MDA. However, the reported activity will be utilized for dose modeling purposes. The ^{226}Ra results show 9 of 18 values less than the MDA. Additionally, four results above the MDA indicated flags that will require the values to be considered less than the MDA. However, the reported activity will be utilized for dose modeling purposes.

The "#" flag indicates that "All peaks for activity calculation had bad shape." The "B" flag indicates "Activity <MDA and failed test." The "A" flag indicates "Activity is reported but the activity is <MDA." The "F" flag indicates "Failed fraction or key line test." These flag indications are printed on the on-site laboratory reports in Attachment 4. Section 4.3 of the SUPRs Abstract (TtEC 2010b) also discusses these flags in more detail. For the "#" flag, the SUPRs Abstract (TtEC 2010b) indicates that the peak did not have a proper Poisson shape and that these peaks are suspect. For the "B" flag, the SUPRs Abstract (TtEC 2010b) notes that the peak was not statistically differentiable from the background value and the background value was considered valid; activities reported with these codes should only be considered as <MDA

TABLE 3-2

Class 1 Soil Measurements - Excavated Soil Unit 199

	Results (pCi/g)											
Sample No.	^{137}Cs	Flags	MDA	≥MDA	^{90}Sr	Flags	MDA	≥MDA	^{226}Ra	Flags	MDA	≥MDA
39	0.062		0.024	0.062					0.376	B	0.733	0.733
40	0.036	F	0.033	0.036					0.769	F	0.758	0.769
41	0.042		0.023	0.042					0.074	B	0.682	0.682
42	0.004	B	0.025	0.025					0.859	F	0.745	0.859
43	0.085		0.016	0.085					0.014	B	0.776	0.776
44	0.045	F	0.036	0.045					0.849		0.645	0.849
45	0.001	B	0.028	0.028					0.110	B	1.040	1.040
46	0.060		0.017	0.060					0.846	F	0.830	0.846
47	0.034	B	0.039	0.039					0.916	B	1.070	1.070
48	0.027	F	0.026	0.027					0.732	B	0.779	0.779
49	0.026	B	0.036	0.036					0.510	B	0.859	0.859
50	0.048		0.033	0.048					0.833	F	0.811	0.833
51	0.007	B	0.029	0.029					1.143		0.841	1.143
52	-0.001	#B	0.006	0.006	0.020	U	0.220	0.220	0.978		0.722	0.978
53	0.015	B	0.030	0.030	0.170	U	0.280	0.280	1.091		0.754	1.091
54	0.007	B	0.015	0.015					1.180		0.508	1.180
55	0.022	B	0.050	0.050					0.748	B	0.855	0.855
56	0.067		0.028	0.067					0.204	B	0.792	0.792
mean				0.041				0.250				0.896
std dev				0.019				0.042				0.149
median				0.038				0.250				0.852

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 4.8 of the SUPRs Abstract (TtEC 2010b).

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

values. For the "A" flag, the SUPRs Abstract (TtEC 2010b) specifies that the activity calculation performed on the peaks for the ROC yields a lower value than the calculation for the MDA. This identifies that a calculation was performed and the peaks were found, but the resulting activity was lower than the MDA. For the "F" flag, the SUPRs Abstract (TtEC 2010b) notes that the most abundant peak for the particular isotope was not observed in the correct proportions relative to other peaks, either high or low. The activity was determined using the most conservative estimate relative to using either the primary peak only or the secondary peaks only. The "F" flag also occurs if the key-line abundant centroid does not meet the criteria to be a real peak based on the library. Therefore, if the centroid for a peak is too wide or too narrow, an

"F" flag would be assigned to the peak because the software is forced to provide a concentration for the ROC.

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 reported activity and the MDL are less than the release criteria. The "J" flag indicates that "Results greater than sample detection limit but less than stated reporting limit." The "U" flag indicates "Result is less than the sample detection limit."

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

Complete laboratory analytical reports for each Excavated Soil Unit 199 soil sample, including biased samples, are presented in Attachment 4.

3.2.3 Import Fill Material

Approximately 246 cubic yards of import fill material was used to complete backfilling activities. Import fill sample information is presented in Section 3.2.6 of the SUPRs Abstract (TtEC 2010b).

3.3 REFERENCE AREA

Reference area sample information for Survey Unit 124 is presented in Section 3.3 of the SUPRs Abstract (TtEC 2010b).

4.0 LABORATORY ANALYSIS

Information concerning laboratory analysis is presented in Section 4.0 of the SUPRs Abstract (TtEC 2010b). Specifically, the 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 4.8 of the SUPRs Abstract (TtEC 2010b). The average count time for the off-site laboratory was 71.54 minutes, while the average count time for the on-site laboratory was 62.31 minutes. The MDAs and method detection limits (MDLs) for both the on-site and off-site laboratory were well below the release criteria for any ROCs. Off-site laboratory MDLs averaged 0.034 pCi/g for ^{137}Cs and 0.059 pCi/g for ^{226}Ra, while the on-site laboratory MDAs averaged 0.026 pCi/g for ^{137}Cs and 0.802 pCi/g for ^{226}Ra.

Results of the HPS 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 laboratories 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.

To perform a detailed comparison, analytical results for the samples that were analyzed by both the on-site and off-site laboratories were placed into a spreadsheet so that data could be compared directly. The review consisted of identifying sample results that reported activity above the MDA/MDL for any ROC. Once identified, the next step was to determine if either laboratory reported results above the MDA/MDL for the same samples. The on-site laboratory reported ^{137}Cs activity above the MDA for 3 of the 13 samples, while the off-site laboratory did not report ^{137}Cs activity above the MDL for any sample. Therefore, no direct comparison could be made.

The on-site and off-site laboratory reported ^{226}Ra activity above the MDA/MDL for all 13 samples. As a result, the ^{226}Ra activities for 13 samples were compared directly for precision. The results of the comparison showed relative percent differences (RPDs) from 11.31 to 100.59. Because the on-site laboratory reported higher ^{226}Ra activity than the off-site laboratory and the RPDs were not within 30, as stated in the Sampling and Analysis Plan (TtEC 2010a), no additional comparison was required. However, as an added comparison for informational purposes, the daughter isotopes of ^{226}Ra (^{214}Bi and lead-214) were compared.

The highest ^{226}Ra activity reported by the off-site laboratory was 2.010 pCi/g, which is below the activity for the same sample processed in the on-site laboratory. In addition, the ^{226}Ra activities for the final 18 systematic samples from either laboratory were well below the release criteria. As a result, no further laboratory comparisons were made.

Table 4-1 presents a comparison summary of the on-site and off-site laboratory sample results. On-site laboratory sample result reports are provided in Attachments 2 and 4; quality assurance sample result reports from the off-site laboratory are provided in Attachment 6.

TABLE 4-1

SURVEY UNIT 124 LABORATORY RESULTS COMPARISON (pCi/g)

Sample ID	On-site Laboratory							Off-site Laboratory (QA)						
	Count Time (min)	^{137}Cs			^{226}Ra			Count Time (min)	^{137}Cs			^{226}Ra		
		Activity	MDA	2σ Error	Activity	MDA	2σ Error		Activity	MDA	2σ Error	Activity	MDA	2σ Error
70-PDT-124-04	45	0.045	0.031	0.043	1.227	0.893	1.131	90	0.000	0.029	0.036	0.870	0.050	0.120
70-PDT-124-06	45	0.011	0.032	0.040	1.287	0.947	1.197	90	-0.006	0.033	0.040	0.980	0.060	0.160
70-PDT-124-09	90	-0.003	0.021	0.058	1.693	0.697	0.895	90	-0.030	0.030	3.000	1.160	0.060	0.170
70-PDT-124-25	90	0.008	0.020	0.025	2.148	0.604	0.813	90	0.000	0.033	0.040	0.910	0.050	0.130
70-PDT-124-45	45	-0.007	0.011	0.023	1.140	0.883	1.114	90	-0.008	0.031	0.038	0.820	0.050	0.140
70-PDT-124-48	45	0.028	0.032	0.042	1.297	0.991	1.249	90	0.010	0.026	0.032	1.060	0.060	0.160
70-PDT-124-54	90	0.021	0.029	0.036	2.251	0.854	1.088	90	0.016	0.039	0.049	2.010	0.050	0.210
70-PDT-124-90	45	-0.031	0.033	0.211	2.026	1.080	1.385	90	-0.008	0.026	0.032	0.670	0.040	0.110
70-PDT-124-98	90	-0.023	0.030	0.123	1.010	0.626	0.776	90	0.002	0.020	0.025	0.710	0.060	0.140
70-PGT-124-179	45	0.040	0.034	0.068	1.112	0.801	1.518	30	0.000	0.055	0.067	0.700	0.070	0.170
70-PGT-124-183	45	0.049	0.025	0.039	1.014	0.696	1.046	30	0.000	0.015	0.013	0.350	0.080	0.160
18-PG-C0199-51	45	0.007	0.029	0.036	1.143	0.841	1.064	30	-0.030	0.060	0.290	0.600	0.080	0.190
18-PG-C0199-54	90	0.007	0.015	0.020	1.180	0.508	0.655	30	0.024	0.042	0.055	0.710	0.060	0.160

Sample ID	On-site Laboratory							Off-site Laboratory (QA)						
	Count Time (min)	^{214}Bi			^{214}Pb			Count Time (min)	^{214}Bi			^{214}Pb		
		Activity	MDA	2σ Error	Activity	MDA	2σ Error		Activity	MDA	2σ Error	Activity	MDA	2σ Error
70-PDT-124-04	45	0.970	0.051	0.183	0.899	0.061	0.166	90	0.870	0.050	0.120	1.070	0.040	0.130
70-PDT-124-06	45	0.954	0.057	0.177	1.105	0.060	0.180	90	0.980	0.060	0.160	1.190	0.050	0.150
70-PDT-124-09	90	1.041	0.056	0.152	1.144	0.052	0.152	90	1.160	0.060	0.170	1.160	0.060	0.150
70-PDT-124-25	90	0.847	0.038	0.120	1.073	0.048	0.145	90	0.910	0.050	0.130	1.020	0.050	0.130
70-PDT-124-45	45	0.868	0.062	0.201	0.760	0.074	0.147	90	0.820	0.050	0.140	0.960	0.050	0.140
70-PDT-124-48	45	1.119	0.069	0.206	1.148	0.063	0.195	90	1.060	0.060	0.160	1.120	0.060	0.150
70-PDT-124-54	90	1.943	0.057	0.219	1.893	0.064	0.197	90	2.010	0.050	0.210	2.100	0.080	0.250
70-PDT-124-90	45	0.840	0.081	0.203	0.850	0.106	0.234	90	0.670	0.040	0.110	0.870	0.040	0.120
70-PDT-124-98	90	0.611	0.045	0.104	0.654	0.032	0.097	90	0.710	0.060	0.140	0.770	0.050	0.110
70-PGT-124-179	45	0.640	0.069	0.251	0.580	0.070	0.214	30	0.700	0.070	0.170	0.850	0.080	0.170
70-PGT-124-183	45	0.471	0.053	0.137	0.366	0.084	0.114	30	0.350	0.080	0.160	0.190	0.100	0.130
18-PG-C0199-51	45	0.582	0.044	0.135	0.600	0.064	0.149	30	0.600	0.080	0.190	0.560	0.080	0.170
18-PG-C0199-54	90	0.788	0.044	0.134	0.656	0.043	0.095	30	0.710	0.060	0.160	0.830	0.090	0.190

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 4.8 of the SUPRs Abstract (TtEC 2010b).
Values in red exceed the release criteria for that radionuclide of concern.

Abbreviations and Acronyms:
^{214}Bi – bismuth-214
^{137}Cs – cesium-137
MDA – minimum detectable activity
MDL – method detection limit
min – minute
^{214}Pb – lead-214
pCi/g – picocuries per gram
QA – quality assurance
^{226}Ra – radium-226
SUPR – Survey Unit Project Report

5.0 STATISTICAL TESTS

Because the majority of the data in Tables 3-1 and 3-2 were interpreted to be less than the MDA and all sample results were less than the release criteria for the ROCs, there was no basis for performing statistical tests for Survey Unit 124 or Excavated Soil Unit 199.

This page intentionally left blank.

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 each radionuclide is based on the isotopic net concentration.

TABLE 6-1

MODELING PARAMETERS USING LARGER OF MDL OR REPORTED ACTIVITY CONCENTRATIONS

Survey Unit 124	Residual Activity ≥ MDL (pCi/g)			Volume of Material (yd^3)	Percent of Fill	Weighted Sum (pCi/g)		
	^{137}Cs	^{90}Sr	^{226}Ra			^{137}Cs	^{90}Sr	^{226}Ra
ESU 199	0.041	0.250	0.896	247	50.10%	0.0205	0.125	0.449
Import Fill	0.053	0.070	1.094	246	49.90%	0.0264	0.035	0.546
Backfill Material Average Activity	0.047	0.160	0.995	Weighted Sum Activity		0.047	0.160	0.995
Trench Unit Average Activity	0.040	0.305	0.867	Backfill Net Activity		0.047	0.160	0.274
Reference Area Average Activity	0.040	0.194	0.721	Trench Unit Net Activity		0.040	0.305	0.146

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 were 0.047 pCi/g for ^{137}Cs, 0.160 pCi/g for ^{90}Sr, and 0.274 pCi/g for ^{226}Ra. The trench unit average net concentrations of residual radioactivity were 0.040 pCi/g for ^{137}Cs, 0.305 pCi/g for ^{90}Sr, and 0.146 pCi/g for ^{226}Ra.

ED_004747_00002090-00021

6.2 DOSE AND RISK MODELING RESULTS

Modeling resulted in a net residual dose of 3.477 millirems per year (mrem/y) with an increased cancer risk of 5.929×10^{-5} for the backfill material and 2.306 mrem/y with an increased cancer risk of 3.743×10^{-5} for the trench unit.

These results 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 7 and 8.

TABLE 6-2

DOSE AND RISK MODELING SUMMARY

Dose and Risk Modeling Summary - Trench Unit 124										
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 ≥ MDA	493 cy	0.047	0.160	0.995	0.047	0.160	0.274	3.477	5.929E-05
Trench Unit	Activity ≥ MDA	477 m^2	0.040	0.305	0.867	0.040	0.305	0.146	2.306	3.743E-05

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

ED_004747_00002090-00022

7.0 RECOMMENDATION OF FINAL UNRESTRICTED RELEASE

7.1 DERIVED CONCENTRATION GUIDELINES

The radionuclide-specific release criteria, referred to as derived concentration guideline levels (DCGLs), 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 DCGLs are presented in terms of mass activity concentrations and refer to average levels of radiation or radioactivity above background levels.

7.2 DCGL MODELING

DCGLs 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 the 15 mrem/y release criterion for HPS. The model for the critical group was based on default RESRAD Version 6.5 parameters. This model shows that with all the DCGLs combined (the ROCs), the dose to the average member of the critical group for this trench unit would be 12.09 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 HPS 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

ED_004747_00002090-00024

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 1 millirem (individual) or 10 person-rem (collective) were subjected to quantitative ALARA analyses using the steps described below. To date, no operations at HPS have resulted in an individual dose to the public greater than 1 millirem or a collective dose greater than 10 person-rem.

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 nonhealth 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 HPS 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 criteria for any ROC; no air sampling results were above 10 percent of the derived air concentration; and no personnel dosimetry badges processed identified gamma dose above background levels.

7.6 RECOMMENDATIONS

Dose modeling using RESRAD determined that the potential dose of Survey Unit 124 due to activity concentrations greater than or equal to the MDL or the MDA has been determined to be 3.477 mrem/y with an increased cancer risk of 5.929×10^{-5} as shown in Table 6-2. These results are less than the EPA criteria of 15 mrem/y with an increased cancer risk of less than 3×10^{-4}, which supports free release. Therefore, no further action is recommended for Survey Unit 124.

8.0 REFERENCES

DON (Department of the Navy). 2006. Final Base-wide 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.

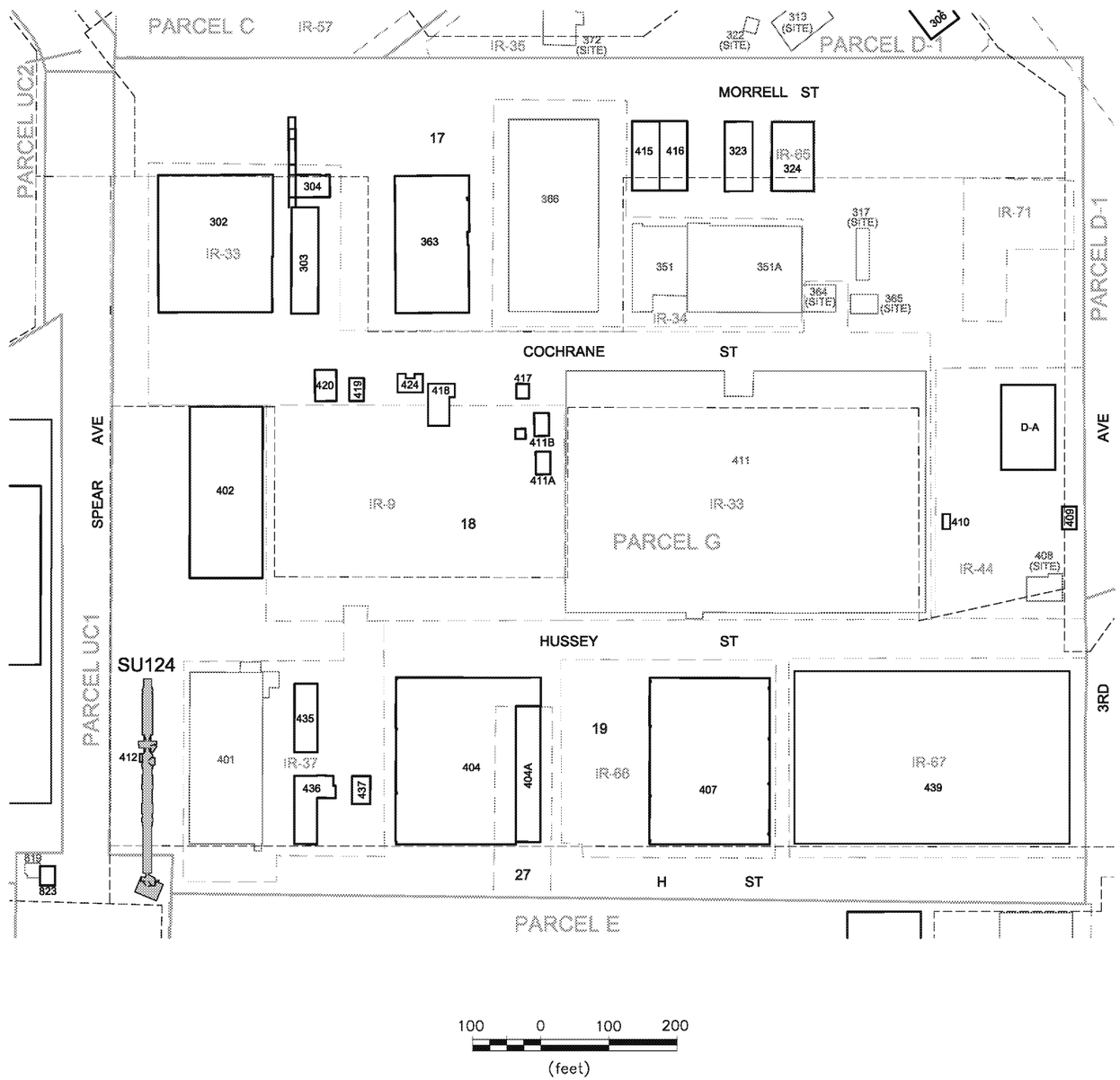
TtEC (Tetra Tech EC, Inc.). 2010a. Final Project Work Plan, Revision 4. Base-wide Storm Drain and Sanitary Sewer Removal, Hunters Point Shipyard, San Francisco, California. July 30.

——————. 2010b. Final Survey Unit Project Reports Abstract, Revision 2. January 27.

This page intentionally left blank.

FIGURES

This page intentionally left blank.



LEGEND

- SURVEY UNIT (SU)
- WORK AREA BOUNDARY
- IR BOUNDARY
- PARCEL BOUNDARY
- 140 — IMPACTED BUILDING BUILDING NUMBER
- 142 (SITE) — IMPACTED BUILDING FORMER BUILDING LOCATION
- 128 — NON-IMPACTED BUILDING BUILDING NUMBER

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

SURVEY UNIT 124 PROJECT REPORT

FIGURE 1-1

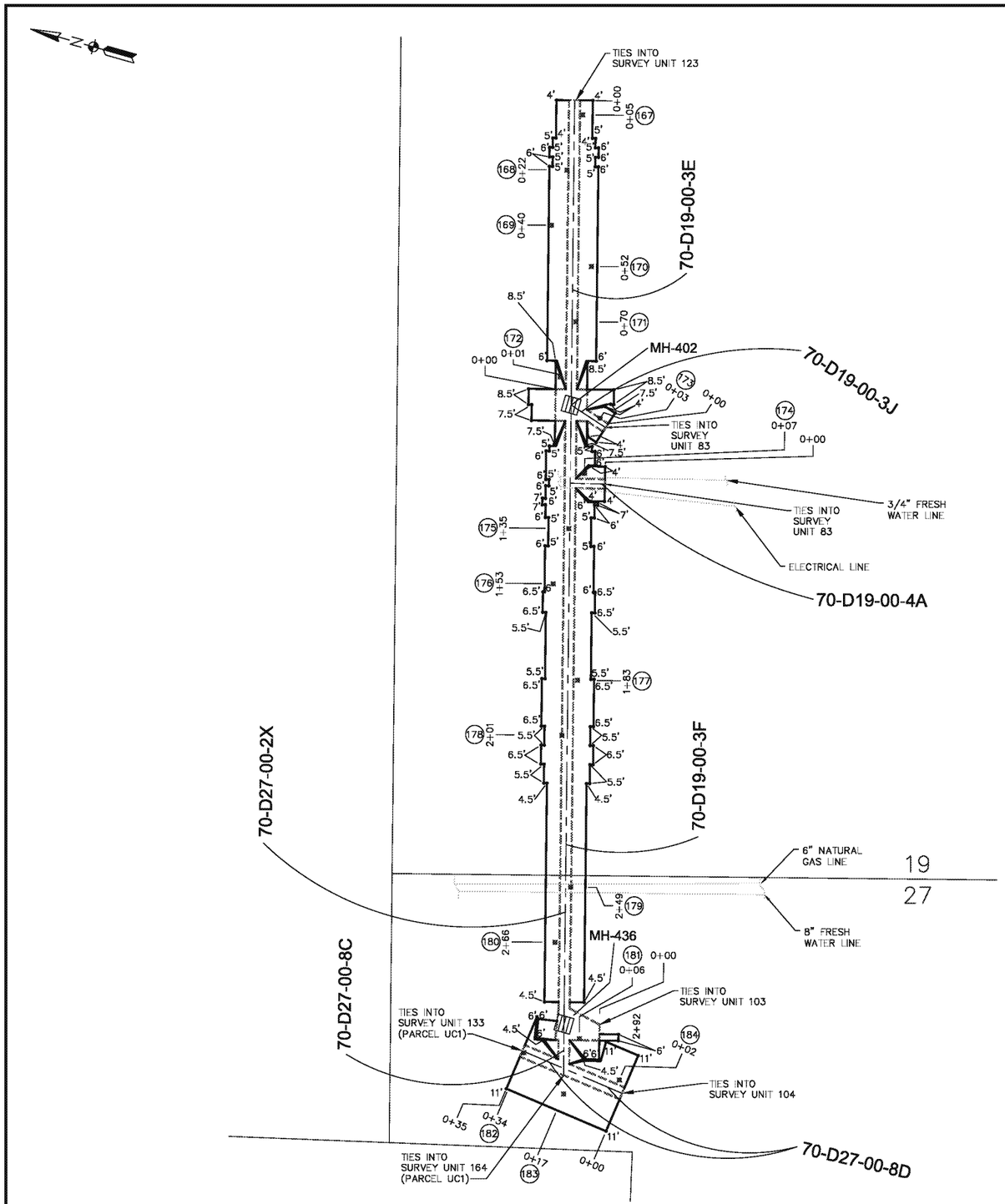
PARCEL G SURVEY UNIT KEY PLAN

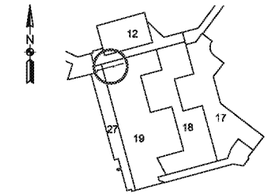
HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA

REVISION: A
AUTHOR: KLT
PROJECT NO: 1990-072X
FILE: SEE BELOW

TETRA TECH EC, INC.

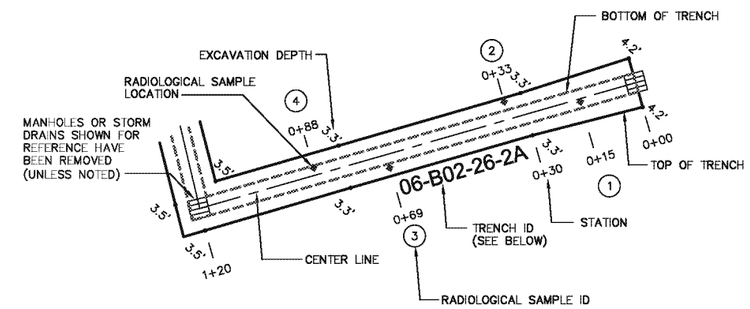
J:\CAD DEPT\HUNTERS POINT\CTO 72-FIGURES\FIGURES 1-1 AND 3-1\FINAL\PACKAGE 32\SU124_FIGURE 1-1_12-15-10.DWG





KEY PLAN

LEGEND



TRENCH ID

XX-XXX-XX-XX

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

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

SURVEY UNIT AREA = 477 SQUARE METERS
TOTAL LENGTH OF TRENCH = 369 LINEAR FEET

20 0 20 40
(feet)

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

SURVEY UNIT 124 PROJECT REPORT

FIGURE 3-1

PARCEL G SURVEY UNIT 124, AREAS 19 AND 27

HUNTERS POINT SHIPYARD, SAN FRANCISCO, CA

REVISION: A
AUTHOR: K. TODD
PROJECT NO: 1990-072X
FILE: SEE BELOW

TETRA TECH EC, INC.

J:\CAD DEPT\HUNTERS POINT\CTO 72-FIGURES\FIGURES 1-1 AND 3-1\FINAL\PACKAGE 32\SU124_FIGURE 3-1_12-14-10.DWG

ATTACHMENT 1

TRENCH UNIT 124
RADIATION/CONTAMINATION SURVEY FORM
(on CD only)

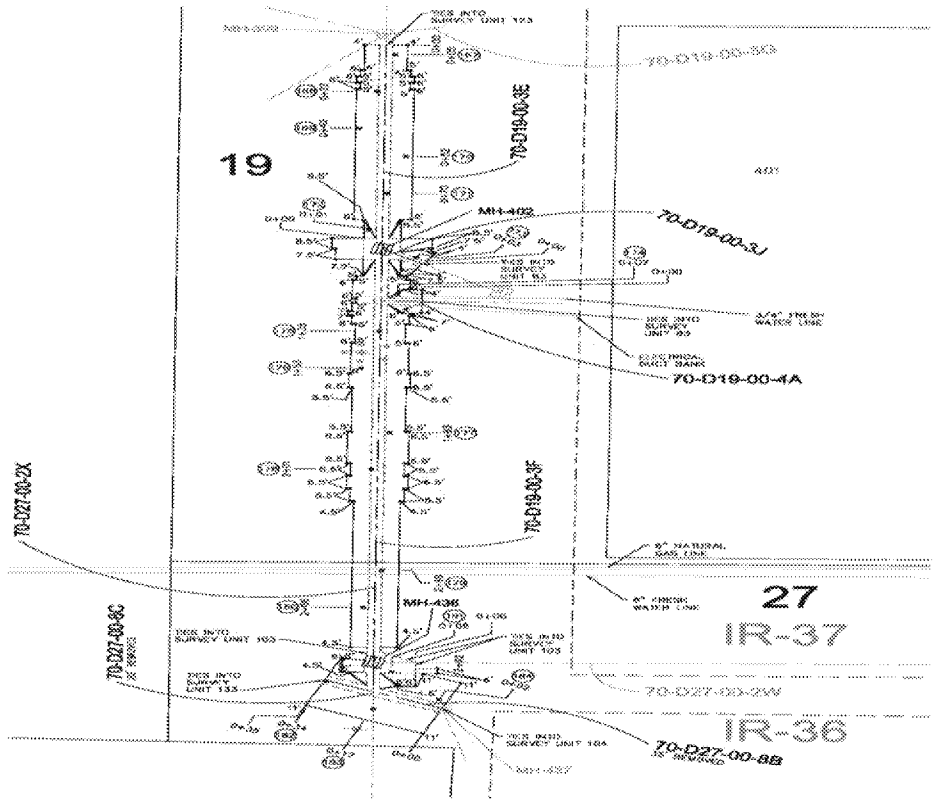
This page intentionally left blank.

RADIATION/CONTAMINATION SURVEY SUPPLEMENT

Date:	Time:	INSTRUMENTATION USED						
7/6/2009	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-124								
Location:	Parcel G							
Surveyor:	P. DeLong							
Reviewed By: (Print & Sign)		2350-1 44-10	232936 186956	2/18/2010				

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

Description of drawing: Trench Scan Survey



Comments:

Scan range for 2350-1 Instrument is 1.39 - 8.24 Kcpm

3 sigma investigation level for 2350-1 Instrument is 7048 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-124

SURVEYOR: P. DeLong | LOCATION: Parcel G

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	
167			3973					
168			3974					
169			3914					
170			3933					
171			3748					
172			3901					
173			3992					
174			4048					
175			3894					
176			3781					
177			3924					
178			4067					
179			4202					
180			4205					
181			4201					
182			4220					
183			4209					
184			4145					

Reviewer: | Date:

ATTACHMENT 2

LABORATORY ANALYSIS REPORTS FOR TRENCH UNIT 124 (on CD only)

This page intentionally left blank.

ORTEC g v - i (3263) Npp32 G53W3.10 30-JAN-2009 15:50:52
New World Technology Spectrum name: 1N000234.An1

Sample description
Parcel D 70-PDT-124-01 352g
1/29/09 09:35

Acquisition information
Start time: 30-Jan-2009 14:40:44
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	6.8814E-01	1.8423E-01	1.8911E-01	0.186E+00
AM-241	#A	-5.3096E-02	2.8391E-01	2.8394E-01	0.741E-01
Bi-212	F	6.9357E-01	3.3585E-01	3.3856E-01	0.185E+00
BI-214	F	4.4718E-01	1.3879E-01	1.4143E-01	0.836E-01
CO-60	#F	6.4388E-02	3.1737E-02	3.1981E-02	0.897E-02
CS-137	B	1.8838E-02	3.3544E-02	3.3564E-02	0.260E-01
EU-152	C	1.4997E-01	1.1918E-01	1.1964E-01	0.641E-01
EU-154	C	5.8016E-02	6.5437E-02	6.5563E-02	0.537E-01
K-40	#	2.9594E+00	8.2250E-01	8.4284E-01	0.214E+00
Pa-234	F	1.0504E-01	1.0088E-01	1.0120E-01	0.766E-01
Pb-210	#F	1.1152E+00	9.5773E-01	9.6156E-01	0.659E+00
Pb-212	F	9.5837E-01	1.1834E-01	1.3362E-01	0.624E-01
Pb-214		7.0806E-01	1.4419E-01	1.5095E-01	0.585E-01
RA-226	F	1.0173E+00	1.0241E+00	1.0262E+00	0.813E+00
Th-230	#B	4.1404E+00	6.2602E+00	6.2844E+00	0.458E+01
Th-234	B	7.7253E-01	2.4928E-01	2.6259E-01	0.888E+00
Tl-208	#	2.6577E-01	7.4727E-02	7.6447E-02	0.400E-01
U-235	#B	-6.0852E-02	4.5415E-02	4.5585E-02	0.685E-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 (39.4 to 2490.9 keV) 8.005E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 18:06:47
New World Technology Spectrum name: 2N000164.An1

Sample description
Parcel D 70-PDT-124-02 382g
1/29/09 09:40

Acquisition information
Start time: 30-Jan-2009 16:00:09
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 Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		2.5602E+00	2.2737E-01	2.7721E-01	0.164E+00
AM-241	#B	-2.7876E-01	2.2906E+00	2.2907E+00	0.749E+00
Bi-212	F	1.9921E+00	4.5567E-01	4.7183E-01	0.281E+00
BI-214	F	1.6090E+00	1.8209E-01	2.0665E-01	0.708E-01
CO-60	#B	1.0438E-02	9.1872E-02	9.1874E-02	0.325E-01
CS-137		7.2988E-02	4.5231E-02	4.5450E-02	0.356E-01
EU-152	B	7.8256E-02	1.3951E-01	1.3962E-01	0.131E+00
EU-154	F	1.4048E-01	1.0826E-01	1.0871E-01	0.818E-01
K-40		9.0613E+00	1.0305E+00	1.1745E+00	0.231E+00
Pa-234	B	1.1677E-01	1.1085E-01	1.1121E-01	0.177E+00
Pb-210	#F	0.0000E+00	3.2438E+00	3.2452E+00	0.000E+00
Pb-212		2.5222E+00	1.5862E-01	2.2768E-01	0.812E-01
PB-214	F	1.5024E+00	1.6648E-01	1.9156E-01	0.961E-01
RA-226	B	9.2501E-01	1.3201E+00	1.3215E+00	0.108E+01
Th-230	#B	-1.0955E+01	9.2925E+02	9.2925E+02	0.131E+02
Th-234	#B	-5.8452E+01	1.3404E+02	1.3418E+02	0.645E+01
Tl-208		9.8349E-01	9.8206E-02	1.5901E-01	0.879E-02
U-235	B	-6.0771E-02	8.1194E-02	8.1289E-02	0.717E-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 (43.2 to 2752.7 keV) 2.030E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 15:59:05
New World Technology Spectrum name: 3N000225.An1

Sample description
Parcel D 70-PDT-124-03 350g
1/29/09 09:45

Acquisition information
Start time: 30-Jan-2009 14:41:56
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	B	6.2563E-03	5.6990E-03	5.7122E-03	0.211E+00
AM-241	#B	-5.2715E-02	7.4786E-01	7.4787E-01	0.564E-01
Bi-212	B	2.8722E-02	3.0983E-01	3.0983E-01	0.289E+00
BI-214	F	3.0778E-01	1.4540E-01	1.4660E-01	0.807E-01
CO-60	#B	-9.8109E-03	5.7475E-02	5.7478E-02	0.487E-01
CS-137	B	6.6951E-03	4.0275E-02	4.0277E-02	0.383E-01
EU-152	#B	5.6069E-02	4.1789E-02	4.1976E-02	0.605E-01
EU-154	F	6.6786E-02	7.8571E-02	7.8712E-02	0.526E-01
K-40	#	4.4970E+00	1.0976E+00	1.1327E+00	0.182E+00
Pa-234	#B	6.9437E-02	9.6215E-02	9.6360E-02	0.992E-01
Pb-210	#B	-1.7756E+00	2.3966E+00	2.4004E+00	0.101E+01
Pb-212	F	1.4938E-01	9.8910E-02	9.9382E-02	0.691E-01
PB-214	B	8.3004E-02	1.0967E-01	1.0979E-01	0.840E-01
RA-226	B	5.1238E-01	9.3153E-01	9.3211E-01	0.763E+00
Th-230	#B	9.6059E-01	1.8658E+01	1.8658E+01	0.807E+01
Th-234	#B	-7.2712E+00	1.1816E+01	1.1842E+01	0.120E+01
Tl-208	F	1.1000E-01	1.0122E-01	1.0144E-01	0.433E-01
U-235	#B	-1.2745E-01	2.0208E-01	2.0224E-01	0.629E-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 (39.2 to 2494.9 keV) 4.915E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 30-JAN-2009 16:44:38
New World Technology Spectrum name: 1N000235.An1

Sample description
Parcel D 70-PDT-124-04 377g
1/29/09 09:50

Acquisition information
Start time: 30-Jan-2009 15:55:44
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	8.8071E-01	2.8096E-01	2.8623E-01	0.180E+00
AM-241	#A	-4.5024E-02	2.5310E-01	2.5313E-01	0.801E-01
Bi-212	#F	1.5598E+00	4.5640E-01	4.6640E-01	0.157E+00
BI-214	F	9.6951E-01	1.7321E-01	1.8297E-01	0.507E-01
CO-60	#F	2.2028E-02	2.3355E-02	2.3394E-02	0.114E-01
CS-137		4.5334E-02	4.3264E-02	4.3353E-02	0.314E-01
EU-152	C	1.1301E-01	1.0163E-01	1.0194E-01	0.497E-01
EU-154	#A	-3.5608E-03	6.2762E-02	6.2762E-02	0.657E-02
K-40		4.8051E+00	9.9334E-01	1.0373E+00	0.222E+00
Pa-234	F	1.6925E-01	1.1598E-01	1.1668E-01	0.735E-01
Pb-210	#F	1.0387E+00	1.0716E+00	1.0746E+00	0.705E+00
Pb-212	F	1.2234E+00	1.3255E-01	1.5442E-01	0.657E-01
Pb-214		8.9899E-01	1.5609E-01	1.6606E-01	0.614E-01
RA-226		1.2266E+00	1.1285E+00	1.1313E+00	0.893E+00
Th-230	#F	6.0592E+00	6.1676E+00	6.2203E+00	0.451E+01
Th-234	B	-1.9654E+00	2.4787E+00	2.4876E+00	0.834E+00
Tl-208	F	4.1261E-01	8.5091E-02	8.8698E-02	0.403E-01
U-235	#B	-2.8749E-02	2.4043E-02	2.4115E-02	0.690E-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 (39.4 to 2490.9 keV) 1.219E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 16:51:00
New World Technology Spectrum name: 3N000226.An1

Sample description
Parcel D 70-PDT-124-05 378g
1/29/09 09:55

Acquisition information
Start time: 30-Jan-2009 16:03:48
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	F	6.4534E-01	2.9331E-01	2.9602E-01	0.223E+00
AM-241	#B	-5.0287E-02	9.7883E-01	9.7884E-01	0.592E-01
Bi-212	F	7.4147E-01	3.8362E-01	3.8632E-01	0.261E+00
BI-214	F	8.7032E-01	2.0627E-01	2.1294E-01	0.807E-01
CO-60	#F	1.2472E-02	1.5825E-02	1.5844E-02	0.973E-02
CS-137	#B	-1.0274E-02	8.5180E-02	8.5182E-02	0.480E-01
EU-152	#B	-7.9180E-03	3.1672E-01	3.1672E-01	0.964E-01
EU-154	F	1.0860E-01	1.0695E-01	1.0723E-01	0.661E-01
K-40		7.1279E+00	1.2697E+00	1.3448E+00	0.258E+00
Pa-234	B	1.2293E-01	7.0917E-02	7.1534E-02	0.141E+00
Pb-210	#B	-1.3307E+00	2.7764E+00	2.7783E+00	0.106E+01
Pb-212		1.0400E+00	1.4334E-01	1.5837E-01	0.818E-01
PB-214		9.5881E-01	2.3455E-01	2.4222E-01	0.105E+00
RA-226	B	5.9857E-01	1.1360E+00	1.1367E+00	0.927E+00
Th-230	B	1.8572E+00	8.5705E+00	8.5741E+00	0.706E+01
Th-234	B	-6.3223E+00	2.0556E+01	2.0567E+01	0.138E+01
Tl-208	F	4.0787E-01	8.9347E-02	9.2702E-02	0.333E-01
U-235	#B	-1.1354E-01	2.7482E-01	2.7491E-01	0.712E-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 (39.2 to 2494.9 keV) 1.179E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 30-JAN-2009 17:41:12
New World Technology Spectrum name: 1N000236.An1

Sample description
Parcel D 70-PDT-124-06 375g
1/29/09 10:00

Acquisition information
Start time: 30-Jan-2009 16:56:03
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	F	1.3752E+00	2.6608E-01	2.7942E-01	0.204E+00
AM-241	#A	-4.8865E-02	3.4767E-01	3.4770E-01	0.968E-01
Bi-212	F	1.2365E+00	4.6049E-01	4.6674E-01	0.270E+00
BI-214	F	9.5430E-01	1.6772E-01	1.7748E-01	0.568E-01
CO-60	#B	4.8048E-03	1.4414E-02	1.4417E-02	0.109E-01
CS-137	B	1.1393E-02	4.0045E-02	4.0051E-02	0.325E-01
EU-152	C	1.8193E-01	1.2576E-01	1.2641E-01	0.778E-01
EU-154	A	3.8514E-02	6.1975E-02	6.2034E-02	0.417E-01
K-40		6.0331E+00	1.1842E+00	1.2422E+00	0.338E+00
Pa-234	#F	1.7268E-01	1.0762E-01	1.0841E-01	0.992E-01
Pb-210	#F	1.4499E+00	1.2384E+00	1.2434E+00	0.770E+00
Pb-212		1.4769E+00	1.5190E-01	1.7950E-01	0.787E-01
Pb-214		1.1054E+00	1.6550E-01	1.7958E-01	0.598E-01
RA-226		1.2866E+00	1.1945E+00	1.1973E+00	0.947E+00
Th-230	#B	2.9748E+00	7.4700E+00	7.4805E+00	0.561E+01
Th-234	F	1.6089E+00	5.1832E-01	5.4608E-01	0.813E+00
Tl-208	F	5.1333E-01	9.1520E-02	9.6676E-02	0.419E-01
U-235	#B	-1.4285E-03	1.4235E-03	1.4264E-03	0.703E-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 (39.4 to 2490.9 keV) 1.560E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 22:24:02
New World Technology Spectrum name: 2N000167.An1

Sample description
Parcel D 70-PDT-124-07 362g
1/29/09 10:05

Acquisition information
Start time: 30-Jan-2009 21:34:06
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	F	9.2699E-01	2.6104E-01	2.6728E-01	0.167E+00
AM-241	#B	-3.2604E-01	2.3768E+00	2.3770E+00	0.714E+00
Bi-212	B	3.8896E-01	4.8935E-01	4.8993E-01	0.395E+00
BI-214	F	5.7773E-01	1.9976E-01	2.0282E-01	0.119E+00
CO-60	#B	-2.0539E-02	1.8705E-01	1.8705E-01	0.585E-01
CS-137		6.6100E-02	5.2578E-02	5.2732E-02	0.414E-01
EU-152	B	1.3032E-01	8.6881E-02	8.7367E-02	0.154E+00
EU-154	F	1.3370E-01	1.2863E-01	1.2897E-01	0.952E-01
K-40		8.5672E+00	1.3638E+00	1.4642E+00	0.218E+00
Pa-234	B	9.4116E-02	2.6127E-01	2.6137E-01	0.220E+00
Pb-210	#F	0.0000E+00	5.3889E+00	5.3890E+00	0.000E+00
Pb-212		8.9890E-01	1.5212E-01	1.6288E-01	0.953E-01
PB-214	F	6.0638E-01	1.7902E-01	1.8306E-01	0.123E+00
RA-226	B	2.4288E-01	1.6584E+00	1.6585E+00	0.138E+01
Th-230	B	7.7588E+00	4.4771E+01	4.4783E+01	0.371E+02
Th-234	#B	-6.4610E+01	3.7896E+02	3.7902E+02	0.856E+01
Tl-208	F	2.6650E-01	1.2788E-01	1.3229E-01	0.615E-01
U-235	#B	-1.3828E-01	3.1189E-01	3.1202E-01	0.970E-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 (43.2 to 2752.7 keV) 1.191E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 18:05:46
New World Technology Spectrum name: 3N000227.An1

Sample description
Parcel D 70-PDT-124-08 392g
1/29/09 10:10

Acquisition information
Start time: 30-Jan-2009 16:55:36
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	F	1.4998E+00	3.7972E-01	3.9092E-01	0.173E+00
AM-241	#B	-1.7153E-02	1.4961E-01	1.4962E-01	0.712E-01
Bi-212	F	6.7515E-01	5.5767E-01	5.5922E-01	0.396E+00
BI-214	F	1.2210E+00	2.0995E-01	2.2266E-01	0.755E-01
CO-60	#B	-8.2224E-04	1.0383E+00	1.0383E+00	0.465E-01
CS-137	#B	-2.7226E-02	1.9317E-01	1.9318E-01	0.376E-01
EU-152	B	8.8635E-02	8.7491E-02	8.7714E-02	0.106E+00
EU-154	F	8.0131E-02	1.8151E-01	1.8160E-01	0.684E-01
K-40		8.7047E+00	1.2389E+00	1.3520E+00	0.103E+00
Pa-234	#B	4.7531E-02	9.4823E-02	9.4892E-02	0.122E+00
Pb-210	#B	-1.8965E+00	3.5211E+00	3.5241E+00	0.107E+01
Pb-212		1.4527E+00	1.5559E-01	1.8182E-01	0.854E-01
PB-214		8.3205E-01	1.6522E-01	1.7335E-01	0.106E+00
RA-226	B	5.8927E-01	1.2650E+00	1.2656E+00	0.103E+01
Th-230	F	1.2795E+01	1.3148E+01	1.3259E+01	0.850E+01
Th-234	B	-5.4339E+00	8.3735E+00	8.3937E+00	0.127E+01
Tl-208	F	5.8347E-01	1.1842E-01	1.2358E-01	0.445E-01
U-235	#B	-1.4294E-01	5.0547E-01	5.0555E-01	0.689E-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 (39.2 to 2494.9 keV) 1.497E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 30-JAN-2009 20:31:14
New World Technology Spectrum name: 1N000237.An1

Sample description
Parcel D 70-PDT-124-09 395g
1/29/09 10:12

Acquisition information
Start time: 30-Jan-2009 18:55:07
Live time: 5400
Real time: 5404

- -

***** 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		1.3138E+00	2.3427E-01	2.4804E-01	0.144E+00
AM-241	#A	-1.4110E-02	8.9015E-02	8.9022E-02	0.568E-01
Bi-212	F	1.2362E+00	3.1809E-01	3.2707E-01	0.187E+00
BI-214	F	1.0407E+00	1.3869E-01	1.5245E-01	0.558E-01
CO-60	B	2.6258E-03	9.9720E-03	9.9733E-03	0.803E-02
CS-137	#B	-2.8598E-03	5.7529E-02	5.7529E-02	0.209E-01
EU-152	C	1.3661E-01	7.6060E-02	7.6660E-02	0.579E-01
EU-154	C	7.6492E-02	5.6425E-02	5.6678E-02	0.334E-01
K-40		5.2176E+00	7.8370E-01	8.4821E-01	0.389E+00
Pa-234	F	7.8013E-02	9.3547E-02	9.3734E-02	0.647E-01
Pb-210		1.3479E+00	7.0105E-01	7.0865E-01	0.478E+00
Pb-212		1.7459E+00	1.0947E-01	1.5737E-01	0.493E-01
Pb-214		1.1442E+00	1.3412E-01	1.5230E-01	0.525E-01
RA-226		1.6926E+00	8.8812E-01	8.9481E-01	0.697E+00
Th-230	#B	1.7975E+00	5.3239E+00	5.3293E+00	0.413E+01
Th-234	B	-1.1788E+00	1.1330E+00	1.1400E+00	0.579E+00
Tl-208		5.4174E-01	7.7364E-02	8.4060E-02	0.343E-01
U-235	B	3.0090E-03	2.2904E-03	2.2986E-03	0.512E-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 (39.4 to 2490.9 keV) 1.528E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 30-JAN-2009 20:36:58
New World Technology Spectrum name: 6N000168.An1

Sample description
Parcel D 70-PDT-124-10 383g
1/29/09 10:15

Acquisition information
Start time: 30-Jan-2009 18:57:19
Live time: 5400
Real time: 5413

- -

***** 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		1.2092E+00	2.4652E-01	2.5057E-01	0.128E+00
AM-241	#A	-4.4535E-02	-4.4634E-01	-4.4634E-01	0.631E-01
Bi-212		6.8931E-01	3.0239E-01	3.0347E-01	0.219E+00
BI-214		8.1343E-01	1.0830E-01	1.1242E-01	0.581E-01
CO-60	#F	5.0142E-02	4.1373E-02	4.1414E-02	0.203E-01
CS-137	B	9.9983E-04	3.5133E-02	3.5133E-02	0.289E-01
EU-152	F	1.0448E-01	5.7285E-02	5.7415E-02	0.722E-01
EU-154	F	2.1194E-01	1.1051E-01	1.1079E-01	0.486E-01
K-40		8.3653E+00	9.4091E-01	9.9075E-01	0.355E+00
Pa-234	F	2.0279E-01	1.1336E-01	1.1361E-01	0.732E-01
Pb-210	F	7.0691E-01	7.3284E-01	7.3331E-01	0.606E+00
Pb-212	F	1.4207E+00	1.0407E-01	1.1665E-01	0.537E-01
PB-214		9.3143E-01	1.1578E-01	1.2082E-01	0.795E-01
RA-226		1.1833E+00	9.2017E-01	9.2121E-01	0.738E+00
Th-230	#B	-7.3463E-01	-1.2461E+01	-1.2461E+01	0.754E+01
Th-234	#F	2.0365E+00	5.5202E-01	5.5713E-01	0.737E+00
Tl-208	F	9.3566E-01	1.3499E-01	1.3938E-01	0.267E-01
U-235	#B	-9.4637E-02	-1.7520E-01	-1.7523E-01	0.521E-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 (43.5 to 2782.0 keV) 1.5598546E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 19:00:09
New World Technology Spectrum name: 2N000165.An1

Sample description
Parcel D 70-PDT-124-11 397g
1/29/09 10:20

Acquisition information
Start time: 30-Jan-2009 18:11:20
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		2.6640E+00	4.2720E-01	4.5796E-01	0.177E+00
AM-241	#B	-3.9512E-01	2.2138E+00	2.2140E+00	0.517E+00
Bi-212	F	2.0634E+00	5.7477E-01	5.8859E-01	0.330E+00
BI-214	F	1.6607E+00	2.7833E-01	2.9604E-01	0.103E+00
CO-60	#B	1.4017E-03	1.8843E-02	1.8843E-02	0.162E-01
CS-137	F	6.0501E-02	7.2648E-02	7.2742E-02	0.587E-01
EU-152	B	8.8550E-02	9.1771E-02	9.1983E-02	0.128E+00
EU-154	F	1.6849E-01	1.9484E-01	1.9520E-01	0.114E+00
K-40		1.0020E+01	1.3558E+00	1.4922E+00	0.107E+00
Pa-234	B	1.4771E-01	1.4692E-01	1.4736E-01	0.206E+00
Pb-210	#F	0.0000E+00	5.7613E+00	5.7614E+00	0.000E+00
Pb-212		2.2412E+00	2.0552E-01	2.5160E-01	0.104E+00
PB-214	F	1.3536E+00	2.4552E-01	2.5995E-01	0.127E+00
RA-226	B	9.4461E-01	1.8206E+00	1.8216E+00	0.148E+01
Th-230	#B	-3.7211E+01	2.2073E+02	2.2078E+02	0.549E+02
Th-234	#B	-5.7384E+01	2.4383E+02	2.4391E+02	0.839E+01
Tl-208	F	8.9416E-01	1.0852E-01	1.5717E-01	0.169E-01
U-235	#B	-1.5893E-01	4.8910E-01	4.8920E-01	0.983E-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 (43.2 to 2752.7 keV) 2.090E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 20:33:25
New World Technology Spectrum name: 3N000228.An1

Sample description
Parcel D 70-PDT-124-12 391g
1/29/09 10:25

Acquisition information
Start time: 30-Jan-2009 18:59:36
Live time: 5400
Real time: 5406

- -

***** 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	F	1.6352E+00	2.1366E-01	2.3645E-01	0.125E+00
AM-241	#B	-4.8348E-02	1.9920E+00	1.9920E+00	0.976E-01
Bi-212	F	1.0573E+00	3.4838E-01	3.5439E-01	0.238E+00
BI-214	F	1.1334E+00	1.3321E-01	1.4994E-01	0.657E-01
CO-60	#B	-2.1305E-03	2.5797E-01	2.5797E-01	0.270E-01
CS-137	#B	-1.8386E-02	8.3136E-02	8.3143E-02	0.307E-01
EU-152	B	7.2418E-02	1.0404E-01	1.0417E-01	0.734E-01
EU-154	F	6.5403E-02	6.5871E-02	6.6033E-02	0.546E-01
K-40		8.7137E+00	9.3738E-01	1.0827E+00	0.164E+00
Pa-234	#F	1.3929E-01	1.2089E-01	1.2135E-01	0.657E-01
Pb-210	#B	-1.4198E+00	2.8038E+00	2.8058E+00	0.865E+00
Pb-212		1.6608E+00	1.1697E-01	1.5890E-01	0.626E-01
PB-214		1.2020E+00	1.5630E-01	1.7372E-01	0.809E-01
RA-226		2.2172E+00	9.3347E-01	9.4439E-01	0.721E+00
Th-230	#B	-1.8070E+00	7.2281E+01	7.2281E+01	0.861E+01
Th-234	B	-6.1786E+00	7.9506E+00	7.9781E+00	0.953E+00
Tl-208	F	6.9899E-01	9.8565E-02	1.0728E-01	0.372E-01
U-235	#B	-1.3018E-01	3.2504E-01	3.2515E-01	0.560E-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 (39.2 to 2494.9 keV) 1.832E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 21:29:17
New World Technology Spectrum name: 2N000166.An1

Sample description
Parcel D 70-PDT-124-13 391g
1/29/09 10:30

Acquisition information
Start time: 30-Jan-2009 19:54:09
Live time: 5400
Real time: 5408

- -

***** 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		1.6333E+00	2.8314E-01	3.0067E-01	0.140E+00
AM-241	#B	-5.1942E-02	1.0092E+00	1.0092E+00	0.632E+00
Bi-212	F	1.2517E+00	3.5622E-01	3.6443E-01	0.228E+00
BI-214	F	1.3822E+00	1.8743E-01	2.0536E-01	0.706E-01
CO-60	#B	-9.9735E-03	1.0922E-01	1.0922E-01	0.306E-01
CS-137		4.9234E-02	4.4451E-02	4.4552E-02	0.364E-01
EU-152	B	6.5111E-02	6.4978E-02	6.5140E-02	0.959E-01
EU-154	F	1.4231E-01	1.7139E-01	1.7169E-01	0.786E-01
K-40		1.0411E+01	1.0662E+00	1.2474E+00	0.205E+00
Pa-234	#B	1.3196E-01	1.2482E-01	1.2522E-01	0.152E+00
Pb-210	#F	0.0000E+00	2.7282E+00	2.7283E+00	0.000E+00
Pb-212		1.7818E+00	1.3756E-01	1.7954E-01	0.755E-01
PB-214	F	1.0962E+00	1.3814E-01	1.5448E-01	0.844E-01
RA-226	B	7.5224E-01	1.2049E+00	1.2059E+00	0.986E+00
Th-230	B	3.2732E+00	3.1604E+01	3.1607E+01	0.263E+02
Th-234	#B	-5.6096E+01	8.5434E+01	8.5644E+01	0.583E+01
Tl-208	F	7.3377E-01	9.1098E-02	1.3040E-01	0.858E-02
U-235	B	-1.0494E-01	1.7197E-01	1.7210E-01	0.662E-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 (43.2 to 2752.7 keV) 1.834E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 30-JAN-2009 21:24:56
New World Technology Spectrum name: 1N000238.An1

Sample description
Parcel D 70-PDT-124-14 380g
1/29/09 10:35

Acquisition information
Start time: 30-Jan-2009 20:39:46
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	9.6823E-01	3.4623E-01	3.5140E-01	0.261E+00
AM-241	#A	-5.1931E-02	3.3805E-01	3.3807E-01	0.825E-01
Bi-212	F	8.9391E-01	4.1727E-01	4.2089E-01	0.260E+00
BI-214	F	1.2003E+00	1.9629E-01	2.0943E-01	0.685E-01
CO-60	#B	-1.6756E-03	3.4999E-02	3.4999E-02	0.101E-01
CS-137	#B	-1.3651E-03	4.9883E-02	4.9883E-02	0.293E-01
EU-152	C	1.5178E-01	1.3121E-01	1.3164E-01	0.768E-01
EU-154	A	4.7349E-02	6.7708E-02	6.7789E-02	0.685E-01
K-40		5.9772E+00	1.1835E+00	1.2405E+00	0.362E+00
Pa-234	#B	2.2341E-02	6.3722E-02	6.3744E-02	0.684E-01
Pb-210		1.4226E+00	9.0564E-01	9.1221E-01	0.711E+00
Pb-212		1.8756E+00	1.6455E-01	2.0452E-01	0.769E-01
Pb-214		1.3308E+00	1.8774E-01	2.0565E-01	0.958E-01
RA-226		2.3309E+00	1.3112E+00	1.3198E+00	0.101E+01
Th-230	#B	-5.6494E-02	7.1754E+00	7.1754E+00	0.488E+00
Th-234	F	1.6133E+00	4.1702E-01	4.5124E-01	0.863E+00
Tl-208	F	6.0692E-01	1.1067E-01	1.1664E-01	0.498E-01
U-235	#B	1.6622E-02	1.5044E-02	1.5082E-02	0.785E-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 (39.4 to 2490.9 keV) 1.661E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 21:28:49
New World Technology Spectrum name: 3N000229.An1

Sample description
Parcel D 70-PDT-124-15 379g
1/29/09 10:40

Acquisition information
Start time: 30-Jan-2009 20:38:08
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	F	2.5407E+00	4.2558E-01	4.5374E-01	0.176E+00
AM-241	#B	-1.1554E-02	1.4332E-01	1.4332E-01	0.829E-01
Bi-212	F	1.1841E+00	5.4735E-01	5.5217E-01	0.377E+00
BI-214	F	1.4493E+00	2.3950E-01	2.5516E-01	0.829E-01
CO-60	#B	1.0544E-03	9.3416E-03	9.3418E-03	0.504E-01
CS-137	B	2.4664E-02	6.0928E-02	6.0946E-02	0.517E-01
EU-152	B	6.4704E-02	1.3438E-01	1.3445E-01	0.116E+00
EU-154	F	8.5668E-02	8.5435E-02	8.5648E-02	0.743E-01
K-40		8.0541E+00	1.4191E+00	1.5049E+00	0.611E+00
Pa-234	#B	5.1635E-02	1.4975E-01	1.4980E-01	0.122E+00
Pb-210	#B	-2.4351E+00	1.3181E+01	1.3183E+01	0.132E+01
Pb-212		2.0781E+00	1.8159E-01	2.2601E-01	0.921E-01
PB-214		1.5877E+00	2.3295E-01	2.5356E-01	0.108E+00
RA-226		2.1254E+00	1.4279E+00	1.4345E+00	0.112E+01
Th-230	#B	-1.2172E+00	4.8879E+01	4.8879E+01	0.857E+01
Th-234	#B	-5.4055E+00	7.4285E+00	7.4510E+00	0.129E+01
Tl-208	F	8.9298E-01	1.2752E-01	1.3853E-01	0.430E-01
U-235	#B	-1.2201E-01	3.8500E-01	3.8508E-01	0.824E-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 (39.2 to 2494.9 keV) 2.000E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 02-FEB-2009 11:20:51
New World Technology Spectrum name: 6N000169.An1

Sample description
Parcel D 70-PDT-124-16 390g
1/29/09 10:45

Acquisition information
Start time: 30-Jan-2009 23:06:04
Live time: 5400
Real time: 5413

- -

***** 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		Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.7278E+00	2.5977E-01	2.6756E-01	0.123E+00
AM-241	#A	-6.0840E-02	3.9676E+02	3.9676E+02	0.657E-01
Bi-212	F	1.4403E+00	3.5250E-01	3.5652E-01	0.226E+00
BI-214		1.1195E+00	1.2029E-01	1.2725E-01	0.592E-01
CO-60	F	5.4789E-02	2.7242E-02	2.7317E-02	0.220E-01
CS-137	B	4.9491E-04	3.8675E-02	3.8675E-02	0.319E-01
EU-152	F	1.7317E-01	1.0260E-01	1.0280E-01	0.729E-01
EU-154	F	7.8909E-02	8.1200E-02	8.1253E-02	0.395E-01
K-40		9.8769E+00	1.0127E+00	1.0770E+00	0.362E+00
Pa-234	#F	2.0678E-01	1.3357E-01	1.3379E-01	0.987E-01
Pb-210	F	8.9612E-01	9.0105E-01	9.0166E-01	0.636E+00
Pb-212		2.1761E+00	1.2547E-01	1.4919E-01	0.606E-01
PB-214		1.3732E+00	1.1437E-01	1.2520E-01	0.677E-01
RA-226		1.9699E+00	9.9621E-01	9.9888E-01	0.785E+00
Th-230	#B	-3.9792E+00	-3.1397E+01	-3.1398E+01	0.844E+01
Th-234	F	2.3049E+00	5.2972E-01	5.3653E-01	0.826E+00
Tl-208	F	1.1809E+00	1.5054E-01	1.5678E-01	0.263E-01
U-235	#B	-8.5745E-02	-1.7626E-01	-1.7629E-01	0.567E-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 (43.5 to 2782.0 keV) 2.1071266E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 07:33:36
New World Technology Spectrum name: 2N000168.An1

Sample description
Parcel D 70-PDT-124-17 365g
1/29/09 11:00

Acquisition information
Start time: 30-Jan-2009 22:57:11
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	F	1.5814E+00	3.8443E-01	3.9671E-01	0.224E+00
AM-241	#B	6.3768E-01	1.4947E+00	1.4956E+00	0.997E+00
Bi-212	#F	1.1126E+00	6.6590E-01	6.6940E-01	0.361E+00
BI-214	F	1.3834E+00	2.8253E-01	2.9475E-01	0.103E+00
CO-60	#F	1.7788E-02	1.6068E-02	1.6105E-02	0.108E-01
CS-137	F	6.5097E-02	7.0627E-02	7.0739E-02	0.568E-01
EU-152	#B	1.1386E-01	1.5374E-01	1.5395E-01	0.148E+00
EU-154	B	3.9761E-02	1.5184E-01	1.5184E-01	0.125E+00
K-40		1.0500E+01	1.4475E+00	1.5880E+00	0.116E+00
Pa-234	B	2.2879E-01	1.7557E-01	1.7643E-01	0.235E+00
Pb-210	#F	0.0000E+00	2.5015E+00	2.5018E+00	0.000E+00
Pb-212		1.5071E+00	1.8796E-01	2.1179E-01	0.109E+00
PB-214	F	1.1861E+00	2.2216E-01	2.3442E-01	0.117E+00
RA-226		2.7335E+00	1.7409E+00	1.7498E+00	0.135E+01
Th-230	#B	1.5216E+01	1.0941E+02	1.0943E+02	0.482E+02
Th-234	#B	-5.9814E+01	1.2723E+02	1.2740E+02	0.882E+01
Tl-208	F	7.4474E-01	1.0016E-01	1.3784E-01	0.184E-01
U-235	B	-6.4424E-02	1.4965E-01	1.4971E-01	0.100E+00

- 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 (43.2 to 2752.7 keV) 2.075E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 07:34:15
New World Technology Spectrum name: 3N000231.An1

Sample description
Parcel D 70-PDT-124-18 377g
1/29/09 11:10

Acquisition information
Start time: 30-Jan-2009 22:56:37
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		1.9098E+00	3.3367E-01	3.5402E-01	0.222E+00
AM-241	B	1.0539E-01	1.5387E-01	1.5411E-01	0.107E+00
Bi-212	F	1.2473E+00	5.2197E-01	5.2757E-01	0.327E+00
BI-214	F	1.2205E+00	2.1151E-01	2.2412E-01	0.818E-01
CO-60	#B	9.4107E-03	9.2208E-02	9.2210E-02	0.468E-01
CS-137		5.6633E-02	5.5712E-02	5.5819E-02	0.446E-01
EU-152	F	1.7888E-01	1.3929E-01	1.3986E-01	0.998E-01
EU-154	F	9.4632E-02	9.5040E-02	9.5274E-02	0.667E-01
K-40		1.0058E+01	1.3579E+00	1.4950E+00	0.107E+00
Pa-234	#F	1.4612E-01	9.3216E-02	9.3879E-02	0.116E+00
Pb-210	#B	-1.0468E+00	2.2589E+00	2.2603E+00	0.108E+01
Pb-212		1.9365E+00	1.7527E-01	2.1551E-01	0.852E-01
PB-214		1.3633E+00	2.1774E-01	2.3410E-01	0.108E+00
RA-226		2.7277E+00	1.3149E+00	1.3267E+00	0.992E+00
Th-230	#F	1.1569E+01	1.2913E+01	1.3005E+01	0.894E+01
Th-234	#B	-6.1749E+00	9.2611E+00	9.2847E+00	0.125E+01
Tl-208	F	6.6736E-01	1.0096E-01	1.0876E-01	0.426E-01
U-235	B	-7.1305E-02	1.6176E-01	1.6182E-01	0.796E-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 (39.2 to 2494.9 keV) 2.119E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 08:34:53
New World Technology Spectrum name: 3N000232.An1

Sample description
Parcel D 70-PDT-124-19 365g
1/29/09 11:20

Acquisition information
Start time: 02-Feb-2009 07:47:17
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	5.0528E-01	2.6321E-01	2.6507E-01	0.210E+00
AM-241	#B	-5.3943E-02	6.7577E+00	6.7577E+00	0.113E+00
Bi-212	F	2.6017E-01	4.1400E-01	4.1431E-01	0.239E+00
BI-214	F	6.8963E-01	1.4171E-01	1.4777E-01	0.502E-01
CO-60	#B	8.2552E-03	8.3032E-02	8.3034E-02	0.516E-01
CS-137	#	6.6364E-02	4.9385E-02	4.9551E-02	0.323E-01
EU-152	#B	8.8353E-03	2.1117E-02	2.1126E-02	0.825E-01
EU-154	F	8.7811E-02	6.6784E-02	6.7070E-02	0.543E-01
K-40		6.8901E+00	1.1426E+00	1.2203E+00	0.110E+00
Pa-234	F	1.3701E-01	6.2842E-02	6.3703E-02	0.102E+00
Pb-210	#B	-2.4284E+00	9.1954E+00	9.1973E+00	0.113E+01
Pb-212	F	3.3908E-01	1.0024E-01	1.0262E-01	0.735E-01
PB-214	F	4.5136E-01	1.8204E-01	1.8425E-01	0.967E-01
RA-226		1.1060E+00	1.0813E+00	1.0837E+00	0.858E+00
Th-230	#B	6.4046E+00	1.0364E+01	1.0399E+01	0.700E+01
Th-234	#B	-6.8981E+00	1.0597E+01	1.0623E+01	0.117E+01
Tl-208	F	3.7543E-01	7.1719E-02	7.5240E-02	0.166E-01
U-235	#B	-1.0351E-01	2.7842E-01	2.7850E-01	0.711E-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 (39.2 to 2494.9 keV) 9.918E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 16:00:42
New World Technology Spectrum name: 5N000153.An1

Sample description
Parcel D 70-PDT-124-20 365g
1/29/09 11:30

Acquisition information
Start time: 02-Feb-2009 14:47:53
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	F	1.2849E+00	2.6828E-01	2.7983E-01	0.133E+00
AM-241	#B	-2.1942E-02	1.9833E-01	1.9834E-01	0.898E-01
Bi-212	F	5.0240E-01	4.4964E-01	4.5070E-01	0.351E+00
BI-214	F	8.8723E-01	1.6414E-01	1.7276E-01	0.507E-01
CO-60	#B	8.5819E-03	1.5714E-01	1.5714E-01	0.482E-01
CS-137		9.0251E-02	5.2958E-02	5.3244E-02	0.338E-01
EU-152	F	1.5243E-01	1.0764E-01	1.0818E-01	0.101E+00
EU-154	#B	-1.3117E-02	4.0904E-02	4.0915E-02	0.629E-01
K-40	#	7.3116E+00	1.6575E+00	1.7187E+00	0.357E+00
Pa-234	F	1.8778E-01	1.4362E-01	1.4433E-01	0.125E+00
Pb-210	#B	1.0047E+00	2.9975E+00	2.9985E+00	0.118E+01
Pb-212		9.4711E-01	1.2955E-01	1.4333E-01	0.713E-01
Pb-214		9.2149E-01	1.7941E-01	1.8859E-01	0.742E-01
RA-226	B	3.3060E-01	1.2308E+00	1.2310E+00	0.103E+01
Th-230	#B	-3.0466E+00	4.4385E+01	4.4387E+01	0.986E+01
Th-234	B	-5.2300E+00	6.0249E+00	6.0508E+00	0.125E+01
Tl-208	F	3.1294E-01	7.9650E-02	8.1876E-02	0.394E-01
U-235	#B	-1.2655E-02	8.3878E-02	8.3882E-02	0.647E-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 2445.9 keV) 1.226E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 02-FEB-2009 09:30:06
New World Technology Spectrum name: 1N000240.An1

Sample description
Parcel D 70-PDT-124-21 352g
1/29/09 11:40

Acquisition information
Start time: 02-Feb-2009 08:22:09
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	F	1.3701E+00	3.3735E-01	3.4789E-01	0.248E+00
AM-241	#A	-1.1123E-01	6.6226E-01	6.6232E-01	0.515E-01
Bi-212	F	1.2990E+00	4.4873E-01	4.5581E-01	0.239E+00
BI-214	F	1.2153E+00	2.5083E-01	2.6149E-01	0.889E-01
CO-60	#B	1.4691E-02	1.4230E-02	1.4259E-02	0.196E-01
CS-137		3.2752E-02	2.8730E-02	2.8800E-02	0.190E-01
EU-152	C	8.5816E-02	1.3653E-01	1.3667E-01	0.721E-01
EU-154	A	2.9699E-02	5.7042E-02	5.7080E-02	0.611E-01
K-40		6.2588E+00	1.2502E+00	1.3094E+00	0.360E+00
Pa-234	#F	2.4184E-01	1.6379E-01	1.6482E-01	0.106E+00
Pb-210	B	8.3363E-01	1.3259E+00	1.3275E+00	0.874E+00
Pb-212		1.8775E+00	1.6833E-01	2.0765E-01	0.789E-01
Pb-214		1.3855E+00	2.0898E-01	2.2652E-01	0.771E-01
RA-226		2.8922E+00	1.3674E+00	1.3800E+00	0.103E+01
Th-230	#B	4.1336E-01	2.9372E+00	2.9377E+00	0.294E+01
Th-234	#F	2.6243E+00	7.3805E-01	7.8951E-01	0.962E+00
Tl-208	F	5.8636E-01	1.0826E-01	1.1396E-01	0.470E-01
U-235	B	-9.8065E-03	9.1192E-03	9.1411E-03	0.834E-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 (39.4 to 2490.9 keV) 1.716E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 11:12:29
New World Technology Spectrum name: 2N000169.An1

Sample description
Parcel D 70-PDT-124-22 381g
1/29/09 11:50

Acquisition information
Start time: 02-Feb-2009 09:33:08
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 Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.8196E+00	2.5378E-01	2.7768E-01	0.142E+00
AM-241	#B	-5.2680E-01	4.1278E+00	4.1280E+00	0.404E+00
Bi-212	F	1.6117E+00	5.0826E-01	5.1783E-01	0.249E+00
BI-214	F	1.3865E+00	1.9908E-01	2.1615E-01	0.747E-01
CO-60	B	5.9272E-03	3.7581E-02	3.7583E-02	0.204E-01
CS-137	B	4.0617E-03	3.7895E-02	3.7896E-02	0.343E-01
EU-152	F	1.3041E-01	5.9415E-02	6.0125E-02	0.107E+00
EU-154	F	1.9176E-01	1.2852E-01	1.2923E-01	0.774E-01
K-40		1.0426E+01	1.0644E+00	1.2463E+00	0.209E+00
Pa-234	B	-1.8370E-02	2.0791E-01	2.0791E-01	0.148E+00
Pb-210	#F	0.0000E+00	8.2122E+00	8.2122E+00	0.000E+00
Pb-212		1.6783E+00	1.3762E-01	1.7536E-01	0.790E-01
PB-214	F	1.1649E+00	1.3221E-01	1.5126E-01	0.862E-01
RA-226		2.0176E+00	1.2755E+00	1.2822E+00	0.101E+01
Th-230	F	2.6466E+01	3.5858E+01	3.6032E+01	0.257E+02
Th-234	#B	-5.7626E+01	1.2845E+02	1.2860E+02	0.639E+01
Tl-208		7.3320E-01	7.0520E-02	1.1690E-01	0.881E-02
U-235	B	-1.2568E-01	2.3920E-01	2.3934E-01	0.752E-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 (43.2 to 2752.7 keV) 2.084E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 02-FEB-2009 07:20:03
New World Technology Spectrum name: 1N000239.An1

Sample description
Parcel D 70-PDT-124-23 392g
1/29/09 12:40

Acquisition information
Start time: 30-Jan-2009 23:12:09
Live time: 5400
Real time: 5405

- -

***** 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		2.8584E+00	3.2208E-01	3.6766E-01	0.153E+00
AM-241	#A	-9.0295E-02	7.6829E-02	7.6829E-02	0.256E-01
Bi-212	F	1.8909E+00	3.9048E-01	4.0747E-01	0.227E+00
BI-214	F	1.9375E+00	1.8448E-01	2.1891E-01	0.608E-01
CO-60	#F	2.1185E-02	2.5639E-02	2.5672E-02	0.149E-01
CS-137	B	3.6641E-03	2.5446E-02	2.5447E-02	0.213E-01
EU-152	A	2.5867E-02	6.8134E-02	6.8158E-02	0.743E-01
EU-154	C	8.8045E-02	6.5280E-02	6.5569E-02	0.473E-01
K-40		5.9289E+00	8.0630E-01	8.8661E-01	0.370E+00
Pa-234	F	1.0638E-01	1.0311E-01	1.0343E-01	0.885E-01
Pb-210		7.6359E-01	7.3951E-01	7.4183E-01	0.551E+00
Pb-212		2.8839E+00	1.4380E-01	2.3570E-01	0.670E-01
Pb-214		1.8742E+00	1.7316E-01	2.0966E-01	0.690E-01
RA-226		2.5921E+00	1.0483E+00	1.0615E+00	0.813E+00
Th-230	B	9.5984E-01	5.7010E+00	5.7024E+00	0.467E+01
Th-234	B	-1.1803E+00	1.3135E+00	1.3196E+00	0.646E+00
Tl-208		1.0572E+00	1.0350E-01	1.2177E-01	0.394E-01
U-235	B	-9.8244E-03	7.8503E-03	7.8759E-03	0.592E-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 (39.4 to 2490.9 keV) 2.179E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 30-JAN-2009 22:26:22
New World Technology Spectrum name: 3N000230.An1

Sample description
Parcel D 70-PDT-124-24 384g
1/29/09 12:50

Acquisition information
Start time: 30-Jan-2009 21:36:35
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		2.5420E+00	4.7912E-01	5.0433E-01	0.203E+00
AM-241	B	1.3895E-01	2.2054E-01	2.2084E-01	0.139E+00
Bi-212	F	1.3925E+00	5.9280E-01	5.9895E-01	0.423E+00
BI-214	F	1.6503E+00	2.1975E-01	2.4152E-01	0.962E-01
CO-60	#B	2.2762E-03	2.5073E-02	2.5074E-02	0.562E-01
CS-137	B	2.5545E-02	6.1296E-02	6.1315E-02	0.519E-01
EU-152	B	1.1022E-01	1.1517E-01	1.1543E-01	0.122E+00
EU-154	F	1.7681E-01	9.5548E-02	9.6358E-02	0.844E-01
K-40		1.0818E+01	1.3953E+00	1.5490E+00	0.105E+00
Pa-234	#F	1.9071E-01	1.1085E-01	1.1180E-01	0.178E+00
Pb-210	#B	-1.7216E+00	8.1093E+00	8.1103E+00	0.140E+01
Pb-212		2.5988E+00	1.9871E-01	2.6040E-01	0.968E-01
PB-214		1.4660E+00	2.2805E-01	2.4608E-01	0.112E+00
RA-226		2.4077E+00	1.5901E+00	1.5977E+00	0.125E+01
Th-230	#B	-1.3962E+00	9.6182E+01	9.6182E+01	0.110E+02
Th-234	B	-5.9325E+00	8.6394E+00	8.6627E+00	0.133E+01
Tl-208		1.0280E+00	1.6168E-01	1.7326E-01	0.564E-01
U-235	B	-7.7915E-03	1.3849E-02	1.3858E-02	0.855E-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 (39.2 to 2494.9 keV) 2.408E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 02-FEB-2009 12:47:41
New World Technology Spectrum name: 1N000241.An1

Sample description
Parcel D 70-PDT-124-25 371g
1/29/09 13:00

Acquisition information
Start time: 02-Feb-2009 10:39:29
Live time: 5400
Real time: 5405

- -

***** 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	F	8.1092E-01	2.1937E-01	2.2507E-01	0.142E+00
AM-241	#A	-8.1335E-02	5.9528E-01	5.9532E-01	0.477E-01
Bi-212	F	1.0119E+00	2.7425E-01	2.8124E-01	0.147E+00
BI-214	F	8.4687E-01	1.0867E-01	1.2026E-01	0.381E-01
CO-60	#F	4.1007E-02	3.3267E-02	3.3362E-02	0.151E-01
CS-137	B	7.6125E-03	2.4691E-02	2.4696E-02	0.203E-01
EU-152	C	1.4502E-01	1.4529E-01	1.4564E-01	0.566E-01
EU-154	A	4.1711E-02	3.5645E-02	3.5764E-02	0.419E-01
K-40		4.5387E+00	7.3548E-01	7.8778E-01	0.348E+00
Pa-234	#B	2.3297E-02	3.6924E-02	3.6966E-02	0.349E-01
Pb-210	#	9.0337E-01	7.5697E-01	7.6015E-01	0.514E+00
Pb-212	F	1.3787E+00	9.6802E-02	1.3169E-01	0.478E-01
Pb-214		1.0732E+00	1.2801E-01	1.4480E-01	0.483E-01
RA-226		2.1477E+00	8.0070E-01	8.1260E-01	0.604E+00
Th-230	#F	6.3287E+00	7.1955E+00	7.2447E+00	0.464E+01
Th-234	#F	1.2364E+00	3.4192E-01	3.6654E-01	0.617E+00
Tl-208	F	4.6993E-01	6.9707E-02	7.5315E-02	0.336E-01
U-235	B	-1.4464E-01	1.9647E-01	1.9669E-01	0.516E-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 (39.4 to 2490.9 keV) 1.322E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 10:35:11
New World Technology Spectrum name: 3N000233.An1

Sample description
Parcel D 70-PDT-124-26 386g
1/29/09 13:10

Acquisition information
Start time: 02-Feb-2009 09:39:37
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	F	2.7122E+00	4.5452E-01	4.8458E-01	0.180E+00
AM-241	#B	1.3247E-02	1.7796E-01	1.7797E-01	0.126E+00
Bi-212	F	1.4520E+00	6.0614E-01	6.1267E-01	0.414E+00
BI-214	F	1.6089E+00	2.1380E-01	2.3507E-01	0.904E-01
CO-60	#B	1.4363E-03	1.7881E-01	1.7881E-01	0.576E-01
CS-137	#	8.9470E-02	7.1187E-02	7.1396E-02	0.429E-01
EU-152	B	5.1223E-02	1.1140E-01	1.1146E-01	0.121E+00
EU-154	F	1.8821E-01	9.9464E-02	1.0035E-01	0.843E-01
K-40		8.5271E+00	1.2357E+00	1.3447E+00	0.104E+00
Pa-234	F	1.9955E-01	1.1465E-01	1.1566E-01	0.178E+00
Pb-210	#B	-1.0329E+00	2.1468E+00	2.1483E+00	0.113E+01
Pb-212		2.3108E+00	1.9382E-01	2.4487E-01	0.101E+00
PB-214	F	1.8383E+00	2.5019E-01	2.7575E-01	0.113E+00
RA-226		2.5488E+00	1.5784E+00	1.5869E+00	0.123E+01
Th-230	B	2.6615E+00	1.1309E+01	1.1315E+01	0.929E+01
Th-234	#B	-4.8900E+00	7.0111E+00	7.0306E+00	0.136E+01
Tl-208	F	9.5825E-01	1.5179E-01	1.6252E-01	0.551E-01
U-235	B	-1.4776E-02	1.8302E-02	1.8327E-02	0.893E-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 (39.2 to 2494.9 keV) 2.205E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 13:17:34
New World Technology Spectrum name: 3N000234.An1

Sample description
Parcel D 70-PDT-124-27 396g
1/29/09 13:20

Acquisition information
Start time: 02-Feb-2009 11:40:37
Live time: 5400
Real time: 5406

- -

***** 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		2.4381E+00	3.0033E-01	3.3615E-01	0.148E+00
AM-241	B	5.5073E-02	1.1535E-01	1.1544E-01	0.950E-01
Bi-212	F	1.5237E+00	4.0084E-01	4.1163E-01	0.262E+00
BI-214	F	1.8705E+00	1.8060E-01	2.1335E-01	0.600E-01
CO-60	#B	5.0262E-03	1.0860E-01	1.0860E-01	0.350E-01
CS-137	#B	-9.6020E-03	5.3392E-02	5.3395E-02	0.308E-01
EU-152	F	1.6086E-01	1.1933E-01	1.1987E-01	0.831E-01
EU-154	F	9.2562E-02	7.1786E-02	7.2082E-02	0.609E-01
K-40		7.3742E+00	9.0893E-01	1.0181E+00	0.354E+00
Pa-234	#F	1.7375E-01	1.0378E-01	1.0462E-01	0.125E+00
Pb-210	#B	-1.1876E+00	2.0639E+00	2.0659E+00	0.802E+00
Pb-212		2.5653E+00	1.3460E-01	2.1380E-01	0.670E-01
PB-214		1.6302E+00	1.9606E-01	2.2139E-01	0.904E-01
RA-226		2.0809E+00	1.0827E+00	1.0910E+00	0.872E+00
Th-230	#B	-2.2300E-01	9.9556E+00	9.9557E+00	0.643E+01
Th-234	B	-6.0015E+00	7.6438E+00	7.6708E+00	0.964E+00
Tl-208		9.8403E-01	9.6113E-02	1.1310E-01	0.302E-01
U-235	B	-6.9972E-02	1.4975E-01	1.4982E-01	0.613E-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 (39.2 to 2494.9 keV) 2.047E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 02-FEB-2009 13:43:21
New World Technology Spectrum name: 4N000129.An1

Sample description
Parcel D 70-PDT-124-28 380g
1/29/09 13:30

Acquisition information
Start time: 02-Feb-2009 10:49:52
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	F	1.8373E+00	3.4916E-01	3.6724E-01	0.185E+00
AM-241	#B	-2.3518E-02	2.8810E-01	2.8810E-01	0.114E+00
Bi-212	F	1.5670E+00	5.6429E-01	5.7246E-01	0.344E+00
BI-214	F	1.4405E+00	2.0594E-01	2.2374E-01	0.724E-01
CO-60	#B	4.0846E-03	1.0969E-02	1.0972E-02	0.464E-01
CS-137	B	1.6685E-02	5.2884E-02	5.2893E-02	0.454E-01
EU-152	B	4.4919E-02	7.1470E-02	7.1541E-02	0.937E-01
EU-154	F	7.4675E-02	1.1073E-01	1.1086E-01	0.696E-01
K-40		1.0704E+01	1.3365E+00	1.4931E+00	0.173E+00
Pa-234	F	1.4764E-01	2.2610E-01	2.2638E-01	0.136E+00
Pb-210		1.9181E+00	1.7188E+00	1.7251E+00	0.116E+01
Pb-212		1.8693E+00	1.6789E-01	2.0698E-01	0.840E-01
Pb-214		1.4738E+00	2.0024E-01	2.2077E-01	0.797E-01
RA-226	B	8.5708E-01	1.4903E+00	1.4913E+00	0.121E+01
Th-230	#B	3.2560E+00	1.5183E+01	1.5189E+01	0.109E+02
Th-234		2.7165E+00	1.3039E+00	1.3359E+00	0.103E+01
Tl-208	F	5.5847E-01	1.0110E-01	1.2355E-01	0.340E-01
U-235	#B	-2.8785E-02	1.1551E-01	1.1553E-01	0.773E-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 (41.9 to 3331.5 keV) 2.408E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 03-FEB-2009 07:16:56
New World Technology Spectrum name: 2N000170.An1

Sample description
Parcel D 70-PDT-124-29 394g
1/29/09 13:40

Acquisition information
Start time: 02-Feb-2009 15:29:03
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 Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	2.6971E+00	2.5531E-01	3.0510E-01	0.135E+00
AM-241	#B	-7.0317E-03	7.8957E-01	7.8957E-01	0.596E+00
Bi-212	F	1.7468E+00	4.0890E-01	4.2276E-01	0.249E+00
BI-214	F	1.7869E+00	2.0038E-01	2.2787E-01	0.661E-01
CO-60	#B	3.0247E-03	3.3304E-02	3.3304E-02	0.364E-01
CS-137	F	3.8618E-02	4.4633E-02	4.4696E-02	0.372E-01
EU-152	F	2.5115E-01	1.6415E-01	1.6510E-01	0.130E+00
EU-154	F	1.8070E-01	1.1324E-01	1.1396E-01	0.960E-01
K-40	#	1.0923E+01	1.0650E+00	1.2632E+00	0.149E+00
Pa-234	B	1.6502E-01	1.9766E-01	1.9806E-01	0.171E+00
Pb-210	#F	0.0000E+00	3.9195E+00	3.9207E+00	0.000E+00
Pb-212		2.7275E+00	1.5589E-01	2.3558E-01	0.778E-01
PB-214	F	1.6248E+00	1.6206E-01	1.9174E-01	0.909E-01
RA-226		2.4865E+00	1.3268E+00	1.3365E+00	0.105E+01
Th-230	#B	-2.2308E+01	9.9439E+01	9.9484E+01	0.288E+02
Th-234	#B	-6.8261E+00	1.8196E+01	1.8210E+01	0.486E+01
Tl-208	F	8.9853E-01	1.3284E-01	1.7521E-01	0.583E-01
U-235	B	-1.8536E-01	6.2463E-01	6.2474E-01	0.806E-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 (43.2 to 2752.7 keV) 2.489E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 02-FEB-2009 13:41:07
New World Technology Spectrum name: 1N000242.An1

Sample description
Parcel D 70-PDT-124-30 378g
1/29/09 13:50

Acquisition information
Start time: 02-Feb-2009 12:53:33
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	F	9.5524E-01	2.6714E-01	2.7363E-01	0.184E+00
AM-241	#A	-1.0414E-01	6.0194E-01	6.0200E-01	0.485E-01
Bi-212	F	8.5165E-01	3.4575E-01	3.4970E-01	0.181E+00
BI-214	F	8.8902E-01	1.7190E-01	1.8021E-01	0.550E-01
CO-60	#F	1.9939E-02	1.6085E-02	1.6131E-02	0.177E-01
CS-137	B	6.8920E-03	2.6002E-02	2.6006E-02	0.215E-01
EU-152	C	1.6302E-01	1.0683E-01	1.0744E-01	0.708E-01
EU-154	A	2.9270E-02	4.5739E-02	4.5785E-02	0.410E-01
K-40		4.0183E+00	8.8555E-01	9.2014E-01	0.324E+00
Pa-234	#B	3.4602E-02	3.7923E-02	3.8014E-02	0.400E-01
Pb-210	#	1.5240E+00	1.1321E+00	1.1381E+00	0.696E+00
Pb-212	F	1.2880E+00	1.3887E-01	1.6199E-01	0.648E-01
Pb-214		9.1125E-01	1.4530E-01	1.5626E-01	0.587E-01
RA-226	F	1.1087E+00	1.1132E+00	1.1155E+00	0.886E+00
Th-230	#B	-5.6793E-02	7.6884E+00	7.6884E+00	0.490E+00
Th-234	#B	4.9667E-01	1.7632E-01	1.8414E-01	0.857E+00
Tl-208	F	3.6317E-01	7.8285E-02	8.1328E-02	0.471E-01
U-235	#B	-8.2967E-03	8.2491E-03	8.2664E-03	0.660E-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 (39.4 to 2490.9 keV) 1.080E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 14:01:41
New World Technology Spectrum name: 2N000179.An1

Sample description
Parcel D 70-PDT-124-31 362g
1/30/09 13:40

Acquisition information
Start time: 04-Feb-2009 12:47:50
Live time: 3600
Real time: 3605

- -

***** 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		Activity Time of Count pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	9.8202E-01	2.4852E-01	2.5586E-01	0.180E+00
AM-241	#B	-2.3260E-01	1.8532E+00	1.8533E+00	0.692E+00
Bi-212	B	2.9744E-01	3.8465E-01	3.8509E-01	0.315E+00
BI-214	F	9.4095E-01	1.6789E-01	1.7734E-01	0.660E-01
CO-60	#B	9.6252E-03	1.1438E-01	1.1438E-01	0.405E-01
CS-137		6.5958E-02	3.9729E-02	3.9932E-02	0.308E-01
EU-152	F	2.0839E-01	1.1778E-01	1.1869E-01	0.128E+00
EU-154	F	2.2125E-01	1.4589E-01	1.4672E-01	0.849E-01
K-40		4.9329E+00	1.2027E+00	1.2412E+00	0.692E+00
Pa-234	B	3.1604E-02	2.9729E-02	2.9827E-02	0.197E+00
Pb-210	#F	0.0000E+00	5.8558E+00	5.8558E+00	0.000E+00
Pb-212		8.7563E-01	1.3525E-01	1.4666E-01	0.872E-01
PB-214	F	7.1464E-01	1.6844E-01	1.7436E-01	0.966E-01
RA-226	B	7.5311E-01	1.4158E+00	1.4166E+00	0.117E+01
Th-230	B	1.4092E+00	2.9711E+01	2.9711E+01	0.253E+02
Th-234	#B	-1.1013E+01	2.4230E+01	2.4258E+01	0.534E+01
Tl-208	F	3.0827E-01	1.0750E-01	1.1443E-01	0.201E-01
U-235	#B	-1.0354E-01	1.4547E-01	1.4562E-01	0.850E-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 (43.2 to 2752.7 keV) 8.820E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 04-FEB-2009 13:25:07
New World Technology Spectrum name: 1N000258.An1

Sample description
Parcel D 70-PDT-124-32 389g
1/30/09 13:47

Acquisition information
Start time: 04-Feb-2009 11:52:04
Live time: 5400
Real time: 5406

- -

***** 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	F	9.6141E-01	2.3353E-01	2.4103E-01	0.172E+00
AM-241	#A	-5.6817E-02	2.7313E-01	2.7317E-01	0.570E-01
Bi-212	F	1.1675E+00	3.2594E-01	3.3378E-01	0.200E+00
BI-214	F	1.2229E+00	1.2512E-01	1.4556E-01	0.500E-01
CO-60	#F	4.0503E-02	2.4433E-02	2.4558E-02	0.105E-01
CS-137	B	6.6006E-03	2.1445E-02	2.1449E-02	0.177E-01
EU-152	C	1.3443E-01	8.6949E-02	8.7457E-02	0.578E-01
EU-154	A	2.1351E-02	6.2695E-02	6.2713E-02	0.436E-01
K-40		6.7978E+00	8.4840E-01	9.4789E-01	0.196E+00
Pa-234	#F	2.3879E-01	1.2019E-01	1.2155E-01	0.716E-01
Pb-210		1.1605E+00	7.5518E-01	7.6043E-01	0.512E+00
Pb-212		1.8368E+00	1.1276E-01	1.6390E-01	0.521E-01
Pb-214		1.2270E+00	1.4291E-01	1.6251E-01	0.587E-01
RA-226		1.6706E+00	9.0423E-01	9.1062E-01	0.711E+00
Th-230	#B	-6.6634E+00	3.5883E+01	3.5894E+01	0.393E+01
Th-234	B	-1.1211E+00	1.0920E+00	1.0986E+00	0.584E+00
Tl-208		5.7836E-01	8.7250E-02	9.4045E-02	0.380E-01
U-235	B	-1.5923E-03	1.2051E-03	1.2094E-03	0.509E-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 (39.4 to 2490.9 keV) 1.690E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 11:39:40
New World Technology Spectrum name: 3N000245.An1

Sample description
Parcel D 70-PDT-124-33 350g
1/30/09 13:45

Acquisition information
Start time: 04-Feb-2009 10:50:13
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	F	9.7417E-01	2.1222E-01	2.2063E-01	0.169E+00
AM-241	B	1.6554E-02	1.2037E-01	1.2038E-01	0.101E+00
Bi-212	F	5.4335E-01	4.6459E-01	4.6579E-01	0.358E+00
BI-214	F	1.0484E+00	1.9546E-01	2.0556E-01	0.668E-01
CO-60	#B	1.2606E-03	1.0520E-01	1.0520E-01	0.439E-01
CS-137	#B	-9.4834E-03	9.0114E-02	9.0116E-02	0.540E-01
EU-152	F	9.1779E-02	1.0467E-01	1.0487E-01	0.779E-01
EU-154	F	1.4119E-01	9.9112E-02	9.9611E-02	0.588E-01
K-40	#	5.5774E+00	1.9426E+00	1.9734E+00	0.504E+00
Pa-234	#F	1.5477E-01	1.3129E-01	1.3182E-01	0.900E-01
Pb-210	#B	-2.3248E+00	4.3317E+00	4.3354E+00	0.116E+01
Pb-212	F	8.3370E-01	1.3841E-01	1.4857E-01	0.879E-01
PB-214	F	5.6971E-01	1.9345E-01	1.9676E-01	0.107E+00
RA-226	B	8.7999E-01	1.2751E+00	1.2763E+00	0.104E+01
Th-230	#B	-8.4376E-01	4.9186E+01	4.9186E+01	0.111E+02
Th-234	B	-1.3813E+00	4.0110E+00	4.0138E+00	0.934E+00
Tl-208	F	3.9395E-01	1.2427E-01	1.2654E-01	0.496E-01
U-235	#B	-1.5285E-01	6.8286E-01	6.8293E-01	0.768E-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 (39.2 to 2494.9 keV) 9.941E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 16:55:54
New World Technology Spectrum name: 4N000141.An1

Sample description
Parcel D 70-PDT-124-34 390g
1/30/09 13:53

Acquisition information
Start time: 04-Feb-2009 15:06:12
Live time: 5400
Real time: 5404

- -

***** 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	F	9.4962E-01	2.5070E-01	2.5751E-01	0.136E+00
AM-241	B	4.6575E-02	1.1564E-01	1.1570E-01	0.956E-01
Bi-212	F	9.2580E-01	3.1887E-01	3.2391E-01	0.213E+00
BI-214	F	9.3623E-01	1.3168E-01	1.4343E-01	0.502E-01
CO-60	#B	-6.6745E-03	9.1988E-02	9.1989E-02	0.330E-01
CS-137	B	2.9152E-03	3.7205E-02	3.7205E-02	0.327E-01
EU-152	#B	3.4568E-02	5.4318E-02	5.4373E-02	0.901E-01
EU-154	#B	-1.0689E-03	6.4228E-03	6.4233E-03	0.609E-01
K-40		8.1910E+00	8.4147E-01	9.8362E-01	0.155E+00
Pa-234	B	4.3079E-02	1.1657E-01	1.1662E-01	0.985E-01
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212		1.0633E+00	9.7685E-02	1.1951E-01	0.567E-01
Pb-214		7.1537E-01	9.7873E-02	1.0777E-01	0.492E-01
RA-226	B	6.9527E-01	9.5358E-01	9.5464E-01	0.778E+00
Th-230	#B	-7.0593E+00	2.8237E+02	2.8237E+02	0.613E+01
Th-234	F	1.3689E+00	5.7142E-01	5.8990E-01	0.815E+00
Tl-208	F	5.0459E-01	8.2926E-02	1.0485E-01	0.155E-01
U-235	#B	-8.0480E-02	1.5217E-01	1.5226E-01	0.556E-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 (52.3 to 3331.5 keV) 1.329E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 14:21:36
New World Technology Spectrum name: 3N000246.An1

Sample description
Parcel D 70-PDT-124-35 384g
1/30/09 13:55

Acquisition information
Start time: 04-Feb-2009 12:50:06
Live time: 5400
Real time: 5406

- -

***** 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	F	9.1128E-01	2.2683E-01	2.3375E-01	0.154E+00
AM-241	#B	2.9893E-02	1.0418E-01	1.0421E-01	0.739E-01
Bi-212	F	6.4162E-01	3.7240E-01	3.7448E-01	0.286E+00
BI-214	F	1.1172E+00	1.6370E-01	1.7720E-01	0.653E-01
CO-60	#B	5.4146E-03	3.8764E-02	3.8766E-02	0.334E-01
CS-137	#B	-8.5718E-03	4.7751E-02	4.7754E-02	0.299E-01
EU-152	F	1.1145E-01	5.3802E-02	5.4375E-02	0.704E-01
EU-154	F	1.1244E-01	6.6003E-02	6.6478E-02	0.390E-01
K-40		9.3669E+00	9.5794E-01	1.1211E+00	0.130E+00
Pa-234	F	1.1914E-01	1.1434E-01	1.1470E-01	0.878E-01
Pb-210	#B	-1.2593E+00	2.1240E+00	2.1261E+00	0.792E+00
Pb-212		1.4114E+00	1.1184E-01	1.4443E-01	0.605E-01
PB-214		8.4972E-01	1.3809E-01	1.4813E-01	0.753E-01
RA-226		1.1795E+00	8.9707E-01	9.0030E-01	0.724E+00
Th-230	#B	1.6355E+00	8.8669E+00	8.8696E+00	0.612E+01
Th-234	#B	-4.5498E-01	1.4932E+00	1.4940E+00	0.698E+00
Tl-208	F	5.7176E-01	9.5654E-02	1.0173E-01	0.346E-01
U-235	B	-9.6408E-02	1.2099E-01	1.2115E-01	0.551E-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 (39.2 to 2494.9 keV) 1.605E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 12:54:25
New World Technology Spectrum name: 5N000167.An1

Sample description
Parcel D 70-PDT-124-36 380g
1/30/09 13:59

Acquisition information
Start time: 04-Feb-2009 11:08:48
Live time: 5400
Real time: 5407

- -

***** 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		1.9434E+00	2.1292E-01	2.4459E-01	0.890E-01
AM-241	#B	-3.8888E-02	4.4120E-01	4.4121E-01	0.994E-01
Bi-212	F	9.1624E-01	3.8551E-01	3.8960E-01	0.275E+00
BI-214	F	1.5634E+00	1.7719E-01	2.0102E-01	0.595E-01
CO-60	#B	3.3559E-03	7.3508E-02	7.3509E-02	0.282E-01
CS-137		4.9263E-02	4.6053E-02	4.6151E-02	0.352E-01
EU-152	F	1.1444E-01	1.0499E-01	1.0530E-01	0.775E-01
EU-154	F	1.1824E-01	9.7778E-02	9.8133E-02	0.481E-01
K-40		9.9081E+00	9.5687E-01	1.1381E+00	0.227E+00
Pa-234	F	1.1941E-01	1.4088E-01	1.4117E-01	0.793E-01
Pb-210	#F	1.3358E+00	2.3866E+00	2.3887E+00	0.927E+00
Pb-212		1.9596E+00	1.2534E-01	1.7836E-01	0.635E-01
Pb-214		1.4018E+00	1.2856E-01	1.5604E-01	0.687E-01
RA-226		1.3075E+00	1.0486E+00	1.0520E+00	0.848E+00
Th-230	B	6.4535E+00	9.4806E+00	9.5196E+00	0.778E+01
Th-234	F	1.3882E+00	4.9389E-01	5.1575E-01	0.803E+00
Tl-208		8.0299E-01	9.4015E-02	1.0586E-01	0.363E-01
U-235	B	5.0456E-02	8.1834E-02	8.1899E-02	0.584E-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 2445.9 keV) 1.985E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 11:52:26
New World Technology Spectrum name: 2N000178.An1

Sample description
Parcel D 70-PDT-124-37 358g
1/30/09 14:03

Acquisition information
Start time: 04-Feb-2009 10:48:04
Live time: 3600
Real time: 3605

- -

***** 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		Activity Time of Count pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	1.1515E+00	3.0611E-01	3.1431E-01	0.160E+00
AM-241	#B	-1.4072E-01	1.4082E+00	1.4083E+00	0.722E+00
Bi-212	F	6.5328E-01	3.6396E-01	3.6617E-01	0.283E+00
BI-214	F	1.0418E+00	1.7895E-01	1.8981E-01	0.669E-01
CO-60	#B	-2.3512E-04	3.2067E-02	3.2067E-02	0.361E-01
CS-137		5.4202E-02	4.9197E-02	4.9308E-02	0.401E-01
EU-152	F	1.2856E-01	2.0731E-01	2.0751E-01	0.120E+00
EU-154	F	1.0388E-01	1.1144E-01	1.1168E-01	0.940E-01
K-40	#	8.3181E+00	1.2754E+00	1.3763E+00	0.209E+00
Pa-234	F	2.4262E-01	1.4730E-01	1.4846E-01	0.240E+00
Pb-210	#F	0.0000E+00	5.5347E+00	5.5350E+00	0.000E+00
Pb-212		9.0015E-01	1.4470E-01	1.5600E-01	0.952E-01
PB-214	F	8.5525E-01	2.0034E-01	2.0748E-01	0.104E+00
RA-226	B	6.4778E-01	1.4740E+00	1.4746E+00	0.122E+01
Th-230	#B	-1.3097E+01	2.3084E+02	2.3085E+02	0.186E+02
Th-234	#B	-1.5908E+01	1.3381E+02	1.3382E+02	0.644E+01
Tl-208	F	5.0726E-01	1.0301E-01	1.2154E-01	0.141E-01
U-235	#B	-1.6516E-01	3.5611E-01	3.5627E-01	0.851E-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 (43.2 to 2752.7 keV) 1.348E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 04-FEB-2009 07:22:39
New World Technology Spectrum name: 1N000257.An1

Sample description
Parcel D 70-PDT-124-38 389g
1/30/09 14:11

Acquisition information
Start time: 03-Feb-2009 22:57:39
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	F	1.5065E+00	2.0881E-01	2.2877E-01	0.187E+00
AM-241	#A	-7.5961E-03	1.3174E-01	1.3174E-01	0.956E-01
Bi-212	F	1.3147E+00	4.4013E-01	4.4752E-01	0.242E+00
BI-214	F	1.2632E+00	1.9637E-01	2.1086E-01	0.646E-01
CO-60	#B	4.5274E-04	7.5661E-03	7.5662E-03	0.811E-02
CS-137	B	1.3846E-02	3.6712E-02	3.6722E-02	0.294E-01
EU-152	C	1.0542E-01	7.4746E-02	7.5110E-02	0.734E-01
EU-154	C	6.6072E-02	5.2197E-02	5.2401E-02	0.527E-01
K-40		9.7129E+00	1.2178E+00	1.3594E+00	0.888E-01
Pa-234	B	2.9070E-02	7.2176E-02	7.2209E-02	0.852E-01
Pb-210		1.7940E+00	1.0868E+00	1.0955E+00	0.852E+00
Pb-212	F	1.5454E+00	1.5591E-01	1.8526E-01	0.828E-01
Pb-214		1.2498E+00	1.6135E-01	1.7957E-01	0.719E-01
RA-226	B	4.7932E-01	1.2975E+00	1.2979E+00	0.107E+01
Th-230	#B	-8.1759E-01	8.9232E+00	8.9239E+00	0.610E+01
Th-234	F	8.9322E-01	2.8436E-01	2.9994E-01	0.868E+00
Tl-208	F	4.7463E-01	1.1102E-01	1.1470E-01	0.523E-01
U-235	B	2.2270E-02	3.6028E-02	3.6057E-02	0.689E-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 (39.4 to 2490.9 keV) 1.886E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 07:45:16
New World Technology Spectrum name: 4N000140.An1

Sample description
Parcel D 70-PDT-124-39 383g
1/30/09 14:15

Acquisition information
Start time: 03-Feb-2009 23:13:11
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		2.3128E+00	3.7908E-01	4.0524E-01	0.207E+00
AM-241	B	2.9128E-02	1.9587E-01	1.9588E-01	0.162E+00
Bi-212	F	1.4433E+00	5.7083E-01	5.7768E-01	0.377E+00
BI-214	F	1.9441E+00	2.7886E-01	3.0282E-01	0.108E+00
CO-60	#B	1.5292E-02	1.4406E-01	1.4406E-01	0.515E-01
CS-137	#	8.3152E-02	7.6345E-02	7.6513E-02	0.476E-01
EU-152	#B	1.0228E-01	1.2052E-01	1.2074E-01	0.152E+00
EU-154	F	2.0595E-01	1.9492E-01	1.9546E-01	0.106E+00
K-40		1.2799E+01	1.6415E+00	1.8243E+00	0.403E+00
Pa-234	F	2.1372E-01	1.8232E-01	1.8304E-01	0.144E+00
Pb-210		2.1179E+00	1.5681E+00	1.5765E+00	0.110E+01
Pb-212		2.8246E+00	2.0046E-01	2.7136E-01	0.910E-01
Pb-214	F	1.9044E+00	2.0213E-01	2.3513E-01	0.109E+00
RA-226		2.2778E+00	1.6518E+00	1.6583E+00	0.131E+01
Th-230	B	2.9865E+00	1.3153E+01	1.3159E+01	0.110E+02
Th-234	F	3.5788E+00	1.2034E+00	1.2629E+00	0.134E+01
Tl-208	F	1.0096E+00	1.0111E-01	1.6341E-01	0.223E-01
U-235	B	1.2049E-02	3.3847E-02	3.3856E-02	0.835E-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 (41.9 to 3331.5 keV) 2.872E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 04-FEB-2009 09:40:14
New World Technology Spectrum name: 6N000180.An1

Sample description
Parcel D 70-PDT-124-40 383g
1/30/09 14:19

Acquisition information
Start time: 04-Feb-2009 08:07:45
Live time: 5400
Real time: 5414

- -

***** 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		1.7211E+00	2.6423E-01	2.7181E-01	0.132E+00
AM-241	#A	-3.9869E-02	-3.8536E-01	-3.8536E-01	0.734E-01
Bi-212		1.6050E+00	4.5118E-01	4.5508E-01	0.214E+00
BI-214		1.2948E+00	1.7097E-01	1.7757E-01	0.708E-01
CO-60	#F	7.0034E-02	3.5425E-02	3.5520E-02	0.154E-01
CS-137	B	1.4135E-02	3.9959E-02	3.9963E-02	0.322E-01
EU-152	#B	5.4276E-02	5.0739E-02	5.0779E-02	0.705E-01
EU-154	F	6.0391E-02	7.7301E-02	7.7333E-02	0.540E-01
K-40		1.0343E+01	1.0385E+00	1.1069E+00	0.384E+00
Pa-234	#B	1.9793E-02	4.3496E-02	4.3502E-02	0.866E-01
Pb-210		8.3718E-01	8.2706E-01	8.2764E-01	0.617E+00
Pb-212	F	1.9968E+00	1.1565E-01	1.3727E-01	0.552E-01
PB-214		1.1879E+00	1.5369E-01	1.5986E-01	0.764E-01
RA-226		2.2400E+00	9.4304E-01	9.4668E-01	0.733E+00
Th-230	#B	-5.7832E+00	-4.9342E+01	-4.9342E+01	0.697E+01
Th-234	F	1.3565E+00	5.2230E-01	5.2471E-01	0.719E+00
Tl-208	F	7.8966E-01	1.0549E-01	1.0947E-01	0.196E-01
U-235	#B	-1.1807E-01	-3.0257E-01	-3.0260E-01	0.560E-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 (43.5 to 2782.6 keV) 2.2085533E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 07:47:49
New World Technology Spectrum name: 5N000166.An1

Sample description
Parcel D 70-PDT-124-41 375g
1/30/09 14:25

Acquisition information
Start time: 03-Feb-2009 23:16:59
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	F	1.5113E+00	3.3417E-01	3.4703E-01	0.179E+00
AM-241	B	7.4430E-02	1.5670E-01	1.5682E-01	0.129E+00
Bi-212		1.0919E+00	5.1497E-01	5.1933E-01	0.343E+00
BI-214	F	1.2174E+00	2.2157E-01	2.3358E-01	0.796E-01
CO-60	#B	-3.9420E-03	7.9740E-02	7.9740E-02	0.538E-01
CS-137	F	4.1809E-02	5.4732E-02	5.4792E-02	0.411E-01
EU-152	F	1.6899E-01	7.5575E-02	7.6511E-02	0.106E+00
EU-154	#B	2.0986E-03	3.0687E-02	3.0688E-02	0.643E-01
K-40	#	8.6966E+00	1.8385E+00	1.9164E+00	0.405E+00
Pa-234	F	2.7676E-01	1.7863E-01	1.7987E-01	0.111E+00
Pb-210		3.7227E+00	1.9349E+00	1.9554E+00	0.105E+01
Pb-212		1.7963E+00	1.6917E-01	2.0530E-01	0.802E-01
Pb-214		1.1761E+00	1.9602E-01	2.0959E-01	0.111E+00
RA-226	B	1.1048E+00	1.5416E+00	1.5433E+00	0.126E+01
Th-230	F	9.5092E+00	1.1613E+01	1.1682E+01	0.942E+01
Th-234	B	9.0828E-01	4.5184E-01	4.6218E-01	0.110E+01
Tl-208	F	5.9272E-01	1.6373E-01	1.6762E-01	0.545E-01
U-235	B	1.9740E-02	9.6530E-02	9.6539E-02	0.769E-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 2445.9 keV) 2.008E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 07:25:31
New World Technology Spectrum name: 2N000177.An1

Sample description
Parcel D 70-PDT-124-42 356g
2/02/09 12:40

Acquisition information
Start time: 03-Feb-2009 23:21:21
Live time: 2700
Real time: 2706

- -

***** 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	F	1.3951E+00	3.6703E-01	3.7706E-01	0.193E+00
AM-241	B	3.3758E-01	1.0706E+00	1.0710E+00	0.900E+00
Bi-212	#B	3.0472E-02	2.4625E-02	2.4696E-02	0.397E+00
BI-214	F	1.0560E+00	2.1496E-01	2.2432E-01	0.875E-01
CO-60	#B	-9.6731E-05	2.2238E-02	2.2238E-02	0.598E-01
CS-137		8.1331E-02	5.1822E-02	5.2059E-02	0.388E-01
EU-152	B	8.0720E-02	3.3463E-01	3.3468E-01	0.164E+00
EU-154	F	2.3455E-01	1.0001E-01	1.0137E-01	0.994E-01
K-40		9.4370E+00	1.4629E+00	1.5762E+00	0.246E+00
Pa-234	B	8.3315E-02	5.4708E-02	5.5076E-02	0.243E+00
Pb-210	#F	0.0000E+00	5.1933E+00	5.1933E+00	0.000E+00
Pb-212		9.4237E-01	1.5145E-01	1.6328E-01	0.932E-01
PB-214	F	7.9678E-01	2.1066E-01	2.1657E-01	0.121E+00
RA-226	B	1.1150E+00	1.5415E+00	1.5432E+00	0.126E+01
Th-230	#B	-1.4050E+01	2.3974E+03	2.3974E+03	0.456E+02
Th-234	#B	-1.8861E+01	5.5696E+02	5.5696E+02	0.590E+01
Tl-208	F	3.8494E-01	9.5061E-02	1.0692E-01	0.189E-01
U-235	#B	-1.7046E-01	6.1116E-01	6.1126E-01	0.103E+00

- 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 (43.2 to 2752.7 keV) 1.409E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 04-FEB-2009 09:34:55
New World Technology Spectrum name: 6N000179.An1

Sample description
Parcel D 70-PDT-124-43 372g
2/02/09 12:45

Acquisition information
Start time: 03-Feb-2009 21:19:45
Live time: 2700
Real time: 2706

- -

***** 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	1.0902E+00	2.9000E-01	2.9280E-01	0.167E+00
AM-241 #	1.7266E-01	1.8677E-01	1.8688E-01	0.116E+00
Bi-212 #F	7.5930E-01	3.9624E-01	3.9724E-01	0.243E+00
BI-214	8.3381E-01	1.4809E-01	1.5128E-01	0.589E-01
CO-60 #	6.2622E-02	3.4131E-02	3.4210E-02	0.121E-01
CS-137 B	8.0784E-03	4.1493E-02	4.1494E-02	0.334E-01
EU-152 B	-6.1522E-02	-2.8092E-01	-2.8093E-01	0.102E+00
EU-154 F	1.0262E-01	9.7385E-02	9.7459E-02	0.658E-01
K-40	8.3033E+00	1.1960E+00	1.2349E+00	0.423E+00
Pa-234 #F	1.7590E-01	1.1502E-01	1.1520E-01	0.821E-01
Pb-210	1.2187E+00	1.0410E+00	1.0420E+00	0.841E+00
Pb-212 F	8.6910E-01	1.4336E-01	1.4693E-01	0.939E-01
PB-214	6.5022E-01	1.4280E-01	1.4482E-01	0.910E-01
RA-226 B	8.3601E-01	1.3003E+00	1.3006E+00	0.105E+01
Th-230 #B	-3.5064E+00	-2.0256E+01	-2.0256E+01	0.725E+01
Th-234 F	1.7959E+00	5.3601E-01	5.4011E-01	0.880E+00
Tl-208 F	3.8692E-01	7.1106E-02	7.2535E-02	0.285E-01
U-235 #B	-1.9776E-02	-7.7916E-02	-7.7920E-02	0.691E-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 (43.5 to 2782.6 keV) 1.4174218E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 07:28:19
New World Technology Spectrum name: 3N000244.An1

Sample description
Parcel D 70-PDT-124-44 369g
2/02/09 12:51

Acquisition information
Start time: 03-Feb-2009 22:11:02
Live time: 5400
Real time: 5407

- -

***** 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		1.4698E+00	2.5693E-01	2.7258E-01	0.162E+00
AM-241	#B	-5.3603E-03	1.1569E-01	1.1569E-01	0.728E-01
Bi-212	F	1.1136E+00	3.8799E-01	3.9398E-01	0.271E+00
BI-214	F	1.2351E+00	1.7127E-01	1.8697E-01	0.660E-01
CO-60	#B	6.9728E-03	1.7885E-02	1.7890E-02	0.139E-01
CS-137	#B	-1.2714E-02	7.6227E-02	7.6231E-02	0.380E-01
EU-152	F	9.3945E-02	9.6801E-02	9.7028E-02	0.702E-01
EU-154	F	1.7970E-01	9.2244E-02	9.3110E-02	0.564E-01
K-40		9.1865E+00	1.0303E+00	1.1781E+00	0.197E+00
Pa-234	F	1.0564E-01	7.8489E-02	7.8901E-02	0.987E-01
Pb-210	#B	-2.3369E+00	3.4744E+00	3.4789E+00	0.816E+00
Pb-212		1.8248E+00	1.2421E-01	1.7144E-01	0.633E-01
PB-214		1.0788E+00	1.2878E-01	1.4565E-01	0.775E-01
RA-226		1.5745E+00	9.9495E-01	1.0001E+00	0.796E+00
Th-230	B	3.4650E+00	8.7467E+00	8.7589E+00	0.718E+01
Th-234	B	2.9961E-01	8.3919E-01	8.3981E-01	0.757E+00
Tl-208	F	7.9253E-01	9.3105E-02	1.0476E-01	0.319E-01
U-235	#B	-1.3094E-01	2.8266E-01	2.8278E-01	0.562E-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 (39.2 to 2494.9 keV) 1.846E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 04-FEB-2009 08:32:22
New World Technology Spectrum name: 1N000256.An1

Sample description
Parcel D 70-PDT-124-45 373g
2/02/09 12:57

Acquisition information
Start time: 03-Feb-2009 22:08:21
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	F	8.5348E-01	2.3314E-01	2.3907E-01	0.248E+00
AM-241	#A	-9.4895E-02	7.3850E-02	7.3850E-02	0.380E-01
Bi-212	F	8.8516E-01	3.3157E-01	3.3602E-01	0.154E+00
BI-214	F	8.6821E-01	1.9433E-01	2.0138E-01	0.620E-01
CO-60	#B	8.3536E-04	1.2046E-02	1.2046E-02	0.113E-01
CS-137	#B	-7.4549E-03	2.3499E-02	2.3499E-02	0.106E-01
EU-152	C	1.6582E-01	1.1977E-01	1.2033E-01	0.554E-01
EU-154	C	7.2830E-02	6.1821E-02	6.2031E-02	0.420E-01
K-40		7.1869E+00	1.0700E+00	1.1596E+00	0.927E-01
Pa-234	F	9.7275E-02	1.1434E-01	1.1458E-01	0.835E-01
Pb-210		1.0261E+00	9.8165E-01	9.8481E-01	0.674E+00
Pb-212	F	1.0273E+00	1.2904E-01	1.4518E-01	0.691E-01
Pb-214		7.6002E-01	1.3845E-01	1.4651E-01	0.737E-01
RA-226		1.1404E+00	1.1116E+00	1.1140E+00	0.883E+00
Th-230	#B	-8.6332E+00	6.2367E+00	6.2367E+00	0.316E+01
Th-234	F	1.5096E+00	3.8715E-01	4.1940E-01	0.785E+00
Tl-208		3.7553E-01	7.8397E-02	8.1642E-02	0.374E-01
U-235	B	-9.6177E-02	1.5479E-01	1.5492E-01	0.685E-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 (39.4 to 2490.9 keV) 1.327E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 09:55:32
New World Technology Spectrum name: 3N000243.An1

Sample description
Parcel D 70-PDT-124-46 336g
2/02/09 13:00

Acquisition information
Start time: 03-Feb-2009 20:10:54
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	B	2.0799E-01	1.2024E-01	1.2093E-01	0.230E+00
AM-241	#B	-4.3666E-02	1.3772E+00	1.3772E+00	0.112E+00
Bi-212	B	2.6223E-01	3.3930E-01	3.3968E-01	0.284E+00
BI-214	F	4.8841E-01	1.5603E-01	1.5883E-01	0.625E-01
CO-60	#B	1.5968E-02	1.4362E-01	1.4363E-01	0.461E-01
CS-137	B	1.8889E-02	4.5104E-02	4.5119E-02	0.408E-01
EU-152	B	6.7238E-02	1.0279E-01	1.0290E-01	0.976E-01
EU-154	F	8.5097E-02	7.2734E-02	7.2981E-02	0.604E-01
K-40		4.5724E+00	1.3808E+00	1.4098E+00	0.811E+00
Pa-234	B	5.1948E-02	6.0307E-02	6.0437E-02	0.145E+00
Pb-210	#B	-3.0106E+00	5.5688E+00	5.5735E+00	0.104E+01
Pb-212	F	2.0535E-01	1.0645E-01	1.0728E-01	0.816E-01
PB-214	F	2.2640E-01	1.3942E-01	1.4015E-01	0.111E+00
RA-226	B	5.2468E-01	1.1108E+00	1.1113E+00	0.925E+00
Th-230	#B	4.4652E+00	8.4234E+00	8.4445E+00	0.631E+01
Th-234	#B	-1.3629E+00	2.7630E+00	2.7668E+00	0.802E+00
Tl-208	F	1.4322E-01	6.8233E-02	6.8783E-02	0.301E-01
U-235	#B	-1.9230E-01	1.0981E+00	1.0982E+00	0.757E-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 (39.2 to 2494.9 keV) 5.636E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 04-FEB-2009 09:31:06
New World Technology Spectrum name: 6N000178.An1

Sample description
Parcel D 70-PDT-124-47 336g
2/02/09 13:05

Acquisition information
Start time: 03-Feb-2009 20:29:34
Live time: 2700
Real time: 2706

- -

***** 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	F	8.6092E-01	3.0308E-01	3.0475E-01	0.180E+00
AM-241	#A	-4.5122E-02	-4.9889E-01	-4.9890E-01	0.981E-01
Bi-212	#F	5.9586E-01	4.4966E-01	4.5020E-01	0.284E+00
BI-214		8.0728E-01	1.8608E-01	1.8846E-01	0.766E-01
CO-60	#B	3.8075E-03	1.6539E-02	1.6540E-02	0.257E-01
CS-137	F	4.6992E-02	5.3678E-02	5.3707E-02	0.399E-01
EU-152	#B	-1.6213E-01	2.6583E+02	2.6583E+02	0.937E-01
EU-154	#F	1.7115E-01	8.8933E-02	8.9157E-02	0.605E-01
K-40		8.3966E+00	1.3392E+00	1.3749E+00	0.514E+00
Pa-234	F	1.5668E-01	1.8776E-01	1.8785E-01	0.120E+00
Pb-210	B	5.4196E-01	1.1447E+00	1.1449E+00	0.957E+00
Pb-212	F	9.4091E-01	1.3466E-01	1.3910E-01	0.732E-01
PB-214		4.8333E-01	1.4218E-01	1.4330E-01	0.897E-01
RA-226	F	1.0451E+00	1.2975E+00	1.2981E+00	0.104E+01
Th-230	#B	-5.6685E+00	-4.4909E+01	-4.4910E+01	0.928E+01
Th-234	B	-7.4084E-02	-1.1980E-01	-1.1983E-01	0.940E+00
Tl-208	F	5.7920E-01	1.3736E-01	1.3903E-01	0.316E-01
U-235	#B	-1.0188E-01	-2.3122E-01	-2.3125E-01	0.736E-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 (43.5 to 2782.6 keV) 1.2664062E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 04-FEB-2009 08:29:56
New World Technology Spectrum name: 1N000255.An1

Sample description
Parcel D 70-PDT-124-48 373g
2/02/09 13:15

Acquisition information
Start time: 03-Feb-2009 21:13:36
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	F	6.9784E-01	2.9432E-01	2.9748E-01	0.231E+00
AM-241	#A	-3.5551E-02	2.1198E-01	2.1200E-01	0.795E-01
Bi-212	F	1.2491E+00	3.8962E-01	3.9714E-01	0.176E+00
BI-214	#F	1.1191E+00	1.9444E-01	2.0601E-01	0.690E-01
CO-60	#B	2.6514E-03	1.9219E-02	1.9219E-02	0.153E-01
CS-137	B	2.8402E-02	4.1696E-02	4.1733E-02	0.320E-01
EU-152	#A	-2.8839E-02	9.2010E-02	9.2010E-02	0.221E-01
EU-154		8.4897E-02	6.8647E-02	6.8904E-02	0.543E-01
K-40	#	6.8528E+00	1.1447E+00	1.2215E+00	0.221E+00
Pa-234	#B	2.7577E-02	6.6568E-02	6.6601E-02	0.968E-01
Pb-210		1.0490E+00	9.3117E-01	9.3465E-01	0.751E+00
Pb-212		1.6796E+00	1.4408E-01	1.8052E-01	0.661E-01
Pb-214		1.1479E+00	1.8084E-01	1.9479E-01	0.630E-01
RA-226		1.2970E+00	1.2466E+00	1.2494E+00	0.991E+00
Th-230	#B	-5.5423E-01	1.2785E+01	1.2785E+01	0.789E+01
Th-234	F	1.0796E+00	3.3277E-01	3.5219E-01	0.946E+00
Tl-208		4.9941E-01	1.0124E-01	1.0568E-01	0.486E-01
U-235	#B	-2.3282E-02	3.1587E-02	3.1623E-02	0.727E-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 (39.4 to 2490.9 keV) 1.559E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 04-FEB-2009 19:59:47
New World Technology Spectrum name: 1N000254.An1

Sample description
Parcel D 70-PDT-124-49 392g
2/02/09 13:14

Acquisition information
Start time: 04-Feb-2009 18:29:36
Live time: 5400
Real time: 5405

- -

***** 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		2.3118E+00	2.8106E-01	3.1553E-01	0.149E+00
AM-241	#A	-5.0075E-02	2.3262E-01	2.3266E-01	0.582E-01
Bi-212	F	1.8298E+00	3.7649E-01	3.9299E-01	0.214E+00
BI-214	F	1.7181E+00	1.8717E-01	2.1437E-01	0.649E-01
CO-60	#F	1.5377E-02	1.5245E-02	1.5274E-02	0.877E-02
CS-137	#B	-4.3486E-03	1.4442E-01	1.4443E-01	0.292E-01
EU-152	A	4.2164E-02	6.2240E-02	6.2310E-02	0.732E-01
EU-154	C	6.5440E-02	6.7760E-02	6.7914E-02	0.516E-01
K-40		5.0975E+00	7.6432E-01	8.2745E-01	0.368E+00
Pa-234	B	3.6412E-03	1.6120E-02	1.6123E-02	0.653E-01
Pb-210		1.3031E+00	8.0940E-01	8.1557E-01	0.553E+00
Pb-212		2.6123E+00	1.3346E-01	2.1547E-01	0.590E-01
Pb-214		1.5356E+00	1.1683E-01	1.5175E-01	0.547E-01
RA-226		1.6308E+00	1.0120E+00	1.0175E+00	0.810E+00
Th-230	#B	-7.2150E-01	7.9003E+00	7.9009E+00	0.568E+01
Th-234	F	1.7702E+00	3.4297E-01	3.9166E-01	0.651E+00
Tl-208		8.4344E-01	8.5519E-02	9.9666E-02	0.351E-01
U-235	B	4.9551E-02	3.1623E-02	3.1784E-02	0.543E-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 (39.4 to 2490.9 keV) 1.888E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 04-FEB-2009 09:27:44
New World Technology Spectrum name: 6N000177.An1

Sample description
Parcel D 70-PDT-124-50 374g
2/02/09 13:17

Acquisition information
Start time: 03-Feb-2009 18:24:43
Live time: 5400
Real time: 5412

- -

***** 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	1.2411E+00	2.2951E-01	2.3407E-01	0.154E+00
AM-241 #A	6.7005E-04	9.8390E-02	9.8390E-02	0.758E-01
Bi-212	9.1103E-01	3.5590E-01	3.5750E-01	0.256E+00
BI-214	1.4204E+00	1.6845E-01	1.7647E-01	0.685E-01
CO-60 #F	6.7527E-02	3.8954E-02	3.9034E-02	0.184E-01
CS-137 B	1.7947E-02	3.2739E-02	3.2746E-02	0.258E-01
EU-152 #B	1.9776E-02	1.3582E-02	1.3601E-02	0.702E-01
EU-154 F	1.0670E-01	8.1980E-02	8.2075E-02	0.544E-01
K-40	9.7676E+00	9.6042E-01	1.0263E+00	0.332E+00
Pa-234 F	1.0573E-01	8.7412E-02	8.7500E-02	0.732E-01
Pb-210 #	1.4775E+00	9.3638E-01	9.3798E-01	0.641E+00
Pb-212 F	1.9513E+00	1.1212E-01	1.3340E-01	0.524E-01
PB-214	1.1655E+00	1.5158E-01	1.5760E-01	0.787E-01
RA-226	1.4627E+00	1.0030E+00	1.0045E+00	0.802E+00
Th-230 #B	-2.0611E+00	-1.3596E+01	-1.3596E+01	0.694E+01
Th-234 F	1.7704E+00	3.8949E-01	3.9495E-01	0.729E+00
Tl-208 F	8.5788E-01	1.1118E-01	1.1563E-01	0.201E-01
U-235 #B	-6.6704E-02	-1.2941E-01	-1.2943E-01	0.545E-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 (43.5 to 2782.6 keV) 2.0322538E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 09:52:56
New World Technology Spectrum name: 2N000176.An1

Sample description
Parcel D 70-PDT-124-51 370g
2/02/09 13:30

Acquisition information
Start time: 03-Feb-2009 20:22:43
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 Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	9.0437E-01	1.9448E-01	2.0238E-01	0.250E+00
AM-241	#B	-6.4404E-01	2.5762E+01	2.5762E+01	0.566E+00
Bi-212	F	6.7434E-01	3.9886E-01	4.0101E-01	0.290E+00
BI-214	F	1.1533E+00	1.4434E-01	1.6043E-01	0.516E-01
CO-60	#F	6.6677E-02	4.2402E-02	4.2598E-02	0.197E-01
CS-137	F	4.0543E-02	4.3338E-02	4.3408E-02	0.362E-01
EU-152	B	5.5477E-02	1.0844E-01	1.0851E-01	0.943E-01
EU-154	F	7.9546E-02	1.0503E-01	1.0518E-01	0.790E-01
K-40		9.1734E+00	1.0599E+00	1.2036E+00	0.241E+00
Pa-234	#B	-3.2557E-02	2.6148E-01	2.6149E-01	0.144E+00
Pb-210	#F	0.0000E+00	3.5185E+00	3.5190E+00	0.000E+00
Pb-212		1.3076E+00	1.2355E-01	1.4978E-01	0.725E-01
PB-214	F	8.6422E-01	1.3440E-01	1.4503E-01	0.828E-01
RA-226		1.8926E+00	1.1112E+00	1.1179E+00	0.884E+00
Th-230	#B	-6.8133E-02	3.0914E+01	3.0914E+01	0.233E+02
Th-234	#B	-1.2015E+01	2.6786E+01	2.6817E+01	0.457E+01
Tl-208	F	5.7407E-01	6.4759E-02	9.7581E-02	0.907E-02
U-235	B	-1.8414E-01	6.5190E-01	6.5201E-01	0.682E-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 (43.2 to 2752.7 keV) 1.571E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 04-FEB-2009 14:10:22
New World Technology Spectrum name: 6N000181.An1

Sample description
Parcel D 70-PDT-124-52 390g
2/02/09 13:37

Acquisition information
Start time: 04-Feb-2009 13:05:49
Live time: 2700
Real time: 2706

- -

***** 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		2.8478E+00	3.7009E-01	3.8483E-01	0.185E+00
AM-241	#A	9.2902E-03	1.3522E-01	1.3522E-01	0.106E+00
Bi-212	F	1.3960E+00	5.0694E-01	5.0957E-01	0.331E+00
BI-214		1.9726E+00	2.6240E-01	2.7238E-01	0.943E-01
CO-60	#F	3.4176E-02	2.3145E-02	2.3179E-02	0.101E-01
CS-137	B	2.2960E-02	5.8001E-02	5.8007E-02	0.462E-01
EU-152	F	1.6959E-01	7.6802E-02	7.7058E-02	0.123E+00
EU-154	F	8.4889E-02	7.2988E-02	7.3055E-02	0.625E-01
K-40	#	7.8157E+00	1.2003E+00	1.2347E+00	0.446E+00
Pa-234	#F	3.0968E-01	1.8578E-01	1.8613E-01	0.552E-01
Pb-210		1.5883E+00	1.3371E+00	1.3384E+00	0.941E+00
Pb-212		3.0295E+00	1.9321E-01	2.2343E-01	0.828E-01
PB-214		1.8529E+00	2.3772E-01	2.4743E-01	0.116E+00
RA-226	F	1.2514E+00	1.5153E+00	1.5160E+00	0.122E+01
Th-230	#B	-8.2726E+00	-1.9155E+02	-1.9155E+02	0.512E+01
Th-234	F	2.6890E+00	7.4968E-01	7.5624E-01	0.107E+01
Tl-208		1.0263E+00	1.4616E-01	1.5102E-01	0.272E-01
U-235	#B	2.4853E-02	1.0009E-01	1.0009E-01	0.782E-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 (43.5 to 2782.6 keV) 2.1563251E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 04-FEB-2009 22:52:51
New World Technology Spectrum name: 3N000253.An1

Sample description
Parcel D 70-PDT-124-53 384g
2/03/09 08:00

Acquisition information
Start time: 04-Feb-2009 22:07:40
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		2.7238E+00	4.5715E-01	4.8729E-01	0.256E+00
AM-241	#B	-3.5741E-02	7.7155E-01	7.7155E-01	0.139E+00
Bi-212	F	1.9839E+00	6.4346E-01	6.5491E-01	0.410E+00
BI-214	F	2.5820E+00	3.0419E-01	3.4222E-01	0.961E-01
CO-60	#B	4.3913E-02	1.9907E-02	2.0088E-02	0.539E-01
CS-137	#B	-3.0913E-02	2.9935E-01	2.9935E-01	0.454E-01
EU-152	#F	1.3756E-01	1.3290E-01	1.3325E-01	0.990E-01
EU-154	F	1.2034E-01	1.2686E-01	1.2715E-01	0.911E-01
K-40	#	9.8703E+00	1.4240E+00	1.5506E+00	0.243E+00
Pa-234	#F	1.8689E-01	1.0474E-01	1.0571E-01	0.123E+00
Pb-210	#B	-1.9848E+00	1.0301E+01	1.0302E+01	0.144E+01
Pb-212		3.6281E+00	2.3312E-01	3.3097E-01	0.109E+00
PB-214		2.2884E+00	2.6573E-01	3.0240E-01	0.136E+00
RA-226		3.0701E+00	1.6813E+00	1.6929E+00	0.131E+01
Th-230	F	1.3371E+01	1.4020E+01	1.4133E+01	0.113E+02
Th-234	B	1.9991E-01	8.0341E-01	8.0370E-01	0.108E+01
Tl-208		1.3090E+00	1.7960E-01	1.9633E-01	0.624E-01
U-235	#B	-1.0809E-01	3.6553E-01	3.6560E-01	0.922E-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 (39.2 to 2494.9 keV) 2.746E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-FEB-2009 11:12:26
New World Technology Spectrum name: 1N000262.An1

Sample description
Parcel D 70-PDT-124-54 367g
2/03/09 08:05

Acquisition information
Start time: 05-Feb-2009 09:32:31
Live time: 5400
Real time: 5406

- -

***** 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		2.6173E+00	2.7029E-01	3.1530E-01	0.147E+00
AM-241	#A	-9.6731E-02	2.3010E+01	2.3010E+01	0.431E-01
Bi-212	F	1.6010E+00	3.9059E-01	4.0284E-01	0.249E+00
BI-214	F	1.9432E+00	1.8419E-01	2.1885E-01	0.566E-01
CO-60	#F	1.5614E-02	2.0151E-02	2.0174E-02	0.126E-01
CS-137	B	2.1324E-02	3.6308E-02	3.6331E-02	0.290E-01
EU-152	A	5.2078E-02	1.2497E-01	1.2502E-01	0.773E-01
EU-154	C	6.4159E-02	6.1057E-02	6.1222E-02	0.546E-01
K-40		4.3140E+00	7.8575E-01	8.3029E-01	0.428E+00
Pa-234	F	1.7635E-01	1.4304E-01	1.4366E-01	0.903E-01
Pb-210		1.6446E+00	1.0576E+00	1.0651E+00	0.670E+00
Pb-212		3.0341E+00	1.4823E-01	2.4612E-01	0.655E-01
Pb-214		1.8934E+00	1.5615E-01	1.9658E-01	0.641E-01
RA-226		2.2509E+00	1.0782E+00	1.0879E+00	0.854E+00
Th-230	#B	-6.4559E+00	3.9448E+01	3.9457E+01	0.538E+01
Th-234	F	1.7631E+00	3.4236E-01	3.9076E-01	0.712E+00
Tl-208		9.7465E-01	9.6742E-02	1.1339E-01	0.403E-01
U-235	B	2.1114E-02	1.8634E-02	1.8683E-02	0.613E-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 (39.4 to 2490.9 keV) 2.045E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 05-FEB-2009 07:50:59
New World Technology Spectrum name: 6N000185.An1

Sample description
Parcel D 70-PDT-124-55 346g
2/03/09 08:08

Acquisition information
Start time: 04-Feb-2009 22:35:31
Live time: 5400
Real time: 5412

- -

***** 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	1.3227E+00	2.2490E-01	2.3017E-01	0.157E+00
AM-241 #A	4.3761E-04	9.5827E-02	9.5827E-02	0.742E-01
Bi-212	1.1186E+00	3.7247E-01	3.7477E-01	0.246E+00
BI-214	1.0004E+00	1.6496E-01	1.6908E-01	0.698E-01
CO-60 #F	8.8851E-02	4.6346E-02	4.6463E-02	0.191E-01
CS-137	5.1196E-02	3.5549E-02	3.5600E-02	0.258E-01
EU-152 #B	-1.5744E-01	4.0598E+02	4.0598E+02	0.876E-01
EU-154 F	8.7862E-02	8.4260E-02	8.4323E-02	0.558E-01
K-40	8.1581E+00	9.6436E-01	1.0106E+00	0.382E+00
Pa-234 F	1.4103E-01	9.0956E-02	9.1105E-02	0.923E-01
Pb-210 #B	6.0203E-01	9.2608E-01	9.2635E-01	0.674E+00
Pb-212 F	1.4899E+00	1.0944E-01	1.2256E-01	0.578E-01
PB-214	1.0243E+00	1.2747E-01	1.3300E-01	0.768E-01
RA-226	1.3325E+00	9.4002E-01	9.4132E-01	0.750E+00
Th-230 #B	-7.3258E+00	-6.6474E+01	-6.6475E+01	0.583E+01
Th-234 B	1.5209E-01	2.2504E-01	2.2511E-01	0.721E+00
Tl-208 F	6.8788E-01	1.0394E-01	1.0702E-01	0.217E-01
U-235 B	-9.6631E-02	-1.7456E-01	-1.7460E-01	0.555E-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 (43.5 to 2782.6 keV) 1.6274307E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 05-FEB-2009 16:33:01
New World Technology Spectrum name: 5N000172.An1

Sample description
Parcel D 70-PDT-124-56 348g
2/03/09 08:10

Acquisition information
Start time: 05-Feb-2009 14:29:55
Live time: 5400
Real time: 5407

- -

***** 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		2.5469E+00	3.3419E-01	3.6955E-01	0.108E+00
AM-241	B	9.6149E-03	1.1868E-01	1.1869E-01	0.992E-01
Bi-212	F	1.2891E+00	4.0473E-01	4.1241E-01	0.267E+00
BI-214	F	1.4810E+00	1.4698E-01	1.7231E-01	0.565E-01
CO-60	#B	-1.2704E-03	2.1176E+00	2.1176E+00	0.313E-01
CS-137	B	3.1692E-02	4.4976E-02	4.5018E-02	0.351E-01
EU-152	B	5.7442E-02	8.1916E-02	8.2016E-02	0.859E-01
EU-154	#B	4.5131E-03	1.3918E-02	1.3921E-02	0.662E-01
K-40		1.0747E+01	1.0375E+00	1.2341E+00	0.134E+00
Pa-234	F	1.4559E-01	2.0775E-01	2.0804E-01	0.119E+00
Pb-210		1.5265E+00	9.8975E-01	9.9651E-01	0.800E+00
Pb-212		2.2641E+00	1.3745E-01	2.0097E-01	0.678E-01
Pb-214	F	1.4309E+00	1.5054E-01	1.7553E-01	0.779E-01
RA-226	F	1.0303E+00	1.1582E+00	1.1601E+00	0.946E+00
Th-230		1.0284E+01	1.0198E+01	1.0290E+01	0.830E+01
Th-234	F	2.0239E+00	7.6374E-01	7.9385E-01	0.850E+00
Tl-208	F	8.0986E-01	9.8730E-02	1.1025E-01	0.394E-01
U-235	F	7.7408E-02	1.1008E-01	1.1019E-01	0.599E-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 2445.9 keV) 3.238E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 05-FEB-2009 07:31:06
New World Technology Spectrum name: 5N000171.An1

Sample description
Parcel D 70-PDT-124-57 348g
2/03/09 08:13

Acquisition information
Start time: 04-Feb-2009 22:30:57
Live time: 5400
Real time: 5407

- -

***** 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		2.2647E+00	3.0567E-01	3.3632E-01	0.120E+00
AM-241	#B	-2.2952E-02	2.2905E-01	2.2906E-01	0.101E+00
Bi-212		1.4181E+00	4.2293E-01	4.3182E-01	0.256E+00
BI-214	F	1.2969E+00	1.5411E-01	1.7307E-01	0.555E-01
CO-60	#B	3.2278E-03	1.1042E-01	1.1042E-01	0.339E-01
CS-137	B	2.3817E-02	4.6727E-02	4.6749E-02	0.371E-01
EU-152	F	1.8613E-01	8.3993E-02	8.5015E-02	0.895E-01
EU-154	B	4.1065E-02	8.6606E-02	8.6655E-02	0.600E-01
K-40		1.1502E+01	1.0330E+00	1.2565E+00	0.540E-01
Pa-234	F	1.6715E-01	1.2072E-01	1.2139E-01	0.104E+00
Pb-210		3.9964E+00	1.3222E+00	1.3565E+00	0.831E+00
Pb-212		2.0401E+00	1.2950E-01	1.8500E-01	0.610E-01
Pb-214		1.3187E+00	1.3874E-01	1.6177E-01	0.701E-01
RA-226	B	4.7971E-01	1.1471E+00	1.1475E+00	0.949E+00
Th-230	#B	-2.6068E+00	2.3126E+01	2.3129E+01	0.695E+01
Th-234	B	6.1230E-01	3.0961E-01	3.1647E-01	0.862E+00
Tl-208	F	7.1194E-01	7.2893E-02	8.4700E-02	0.313E-01
U-235	B	4.9429E-02	7.3942E-02	7.4011E-02	0.553E-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 2445.9 keV) 2.472E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 05-FEB-2009 10:45:54
New World Technology Spectrum name: 3N000255.An1

Sample description
Parcel D 70-PDT-124-58 360g
2/03/09 08:15

Acquisition information
Start time: 05-Feb-2009 09:07:43
Live time: 5400
Real time: 5406

- -

***** 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	F	1.1726E+00	2.5223E-01	2.6248E-01	0.171E+00
AM-241	B	2.8535E-02	1.1062E-01	1.1064E-01	0.918E-01
Bi-212	F	1.3125E+00	5.2005E-01	5.2627E-01	0.255E+00
BI-214	F	8.9209E-01	1.2839E-01	1.3935E-01	0.657E-01
CO-60	#B	1.0538E-02	6.3371E-02	6.3375E-02	0.290E-01
CS-137	B	5.6993E-03	3.9070E-02	3.9072E-02	0.348E-01
EU-152	#B	6.5958E-04	1.3241E-02	1.3241E-02	0.418E-01
EU-154	#B	6.6206E-03	4.7701E-02	4.7701E-02	0.393E-01
K-40		7.8870E+00	9.0110E-01	1.0259E+00	0.124E+00
Pa-234	#B	4.2748E-02	2.4259E-01	2.4261E-01	0.589E-01
Pb-210	#B	-1.7821E+00	2.2789E+00	2.2829E+00	0.829E+00
Pb-212		1.4319E+00	1.1439E-01	1.4725E-01	0.609E-01
PB-214	F	7.7844E-01	1.2009E-01	1.2974E-01	0.790E-01
RA-226		1.4063E+00	8.9061E-01	8.9523E-01	0.712E+00
Th-230	#B	-2.3608E+00	4.5095E+02	4.5095E+02	0.995E+01
Th-234	#F	1.2629E+00	5.3021E-01	5.4716E-01	0.785E+00
Tl-208	F	5.1171E-01	8.8865E-02	9.4119E-02	0.356E-01
U-235	#B	-1.4532E-01	3.4557E-01	3.4570E-01	0.567E-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 (39.2 to 2494.9 keV) 1.539E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 05-FEB-2009 11:14:43
New World Technology Spectrum name: 6N000186.An1

Sample description
Parcel D 70-PDT-124-59 349g
2/03/09 08:18

Acquisition information
Start time: 05-Feb-2009 09:35:19
Live time: 5400
Real time: 5410

- -

***** 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	F	4.3144E-01	2.0560E-01	2.0622E-01	0.131E+00
AM-241	#A	-2.6504E-02	-1.7861E-01	-1.7861E-01	0.682E-01
Bi-212	#F	7.1429E-01	4.5350E-01	4.5427E-01	0.230E+00
BI-214		4.0708E-01	1.1240E-01	1.1341E-01	0.558E-01
CO-60	#B	6.4765E-03	1.6742E-02	1.6744E-02	0.127E-01
CS-137	B	1.3911E-02	3.2522E-02	3.2526E-02	0.258E-01
EU-152	B	-1.1137E-01	-4.6410E-01	-4.6412E-01	0.716E-01
EU-154	F	1.1046E-01	6.2574E-02	6.2707E-02	0.363E-01
K-40		6.9296E+00	9.1971E-01	9.5485E-01	0.383E+00
Pa-234	F	1.1302E-01	9.1736E-02	9.1831E-02	0.753E-01
Pb-210	B	4.7980E-01	6.9014E-01	6.9037E-01	0.580E+00
Pb-212	F	4.7440E-01	7.3806E-02	7.5869E-02	0.479E-01
PB-214		3.9674E-01	1.1664E-01	1.1756E-01	0.737E-01
RA-226	F	7.2503E-01	7.6932E-01	7.6979E-01	0.623E+00
Th-230	#B	-8.6216E+00	-2.8050E+02	-2.8050E+02	0.400E+01
Th-234	F	8.8727E-01	2.8788E-01	2.8974E-01	0.584E+00
Tl-208	F	2.1099E-01	5.9335E-02	5.9847E-02	0.215E-01
U-235	#B	-1.5772E-01	-4.4894E-01	-4.4898E-01	0.482E-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 (43.5 to 2782.6 keV) 9.5645046E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 05-FEB-2009 17:36:44
New World Technology Spectrum name: 6N000189.An1

Sample description
Parcel D 70-PDT-124-60 332g
2/03/09 08:21

Acquisition information
Start time: 05-Feb-2009 15:41:54
Live time: 5400
Real time: 5410

- -

***** 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	F	4.1860E-01	2.5115E-01	2.5163E-01	0.146E+00
AM-241	#A	-5.1237E-02	-4.0258E-01	-4.0258E-01	0.611E-01
Bi-212		4.5697E-01	2.7559E-01	2.7611E-01	0.208E+00
BI-214		3.9810E-01	1.1203E-01	1.1300E-01	0.557E-01
CO-60	#F	1.9181E-02	1.4822E-02	1.4839E-02	0.110E-01
CS-137		4.6389E-02	3.4485E-02	3.4528E-02	0.250E-01
EU-152	#B	-2.2321E-02	-2.3100E-02	-2.3114E-02	0.719E-01
EU-154	#F	6.8546E-02	8.5190E-02	8.5227E-02	0.436E-01
K-40		7.6392E+00	9.2713E-01	9.6934E-01	0.362E+00
Pa-234	F	1.3190E-01	1.1644E-01	1.1655E-01	0.356E-01
Pb-210	#F	6.5345E-01	7.9571E-01	7.9608E-01	0.585E+00
Pb-212	F	4.7588E-01	7.6967E-02	7.8959E-02	0.505E-01
PB-214		3.2463E-01	1.0179E-01	1.0250E-01	0.674E-01
RA-226	F	7.3730E-01	8.3343E-01	8.3388E-01	0.677E+00
Th-230	#B	-8.9105E+00	-3.0842E+02	-3.0842E+02	0.599E+01
Th-234	B	-1.1268E+00	-1.5216E+00	-1.5222E+00	0.628E+00
Tl-208	F	2.9705E-01	7.1292E-02	7.2136E-02	0.226E-01
U-235	#B	-1.2139E-01	-1.9365E-01	-1.9370E-01	0.496E-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 (43.5 to 2782.6 keV) 1.0056816E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 05-FEB-2009 11:58:21
New World Technology Spectrum name: 3N000256.An1

Sample description
Parcel D 70-PDT-124-61 328g
2/03/09 08:25

Acquisition information
Start time: 05-Feb-2009 10:52:37
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	#B	1.5599E-01	2.6987E-01	2.7005E-01	0.242E+00
AM-241	#B	-1.4284E-01	1.1706E+00	1.1707E+00	0.190E+00
Bi-212	F	3.4307E-01	3.8836E-01	3.8894E-01	0.315E+00
BI-214	F	6.3175E-01	1.5751E-01	1.6211E-01	0.599E-01
CO-60	#B	1.0900E-02	1.6466E-01	1.6466E-01	0.530E-01
CS-137	B	8.7180E-03	4.3942E-02	4.3945E-02	0.414E-01
EU-152	#B	3.8996E-02	5.1259E-02	5.1332E-02	0.742E-01
EU-154	F	7.8397E-02	8.1478E-02	8.1665E-02	0.505E-01
K-40	#	5.5904E+00	1.7175E+00	1.7524E+00	0.412E+00
Pa-234	B	5.1063E-02	9.9920E-02	9.9996E-02	0.114E+00
Pb-210	#B	-2.8464E+00	1.2196E+01	1.2198E+01	0.130E+01
Pb-212		5.3365E-01	1.2437E-01	1.2909E-01	0.862E-01
PB-214	F	3.4173E-01	1.7935E-01	1.8064E-01	0.116E+00
RA-226	B	3.1485E-01	1.1430E+00	1.1432E+00	0.963E+00
Th-230	B	3.0768E+00	8.4035E+00	8.4135E+00	0.691E+01
Th-234	#B	-3.7238E-02	2.5139E-02	2.5453E-02	0.102E+01
Tl-208	F	2.9573E-01	7.9459E-02	8.1455E-02	0.272E-01
U-235	#B	-1.4610E-01	3.2175E-01	3.2189E-01	0.724E-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 (39.2 to 2494.9 keV) 7.393E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 05-FEB-2009 12:44:41
New World Technology Spectrum name: 6N000187.An1

Sample description
Parcel D 70-PDT-124-62 343g
2/03/09 08:29

Acquisition information
Start time: 05-Feb-2009 11:20:07
Live time: 2700
Real time: 2706

- -

***** 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		1.4484E+00	2.3322E-01	2.3932E-01	0.195E+00
AM-241	#A	-7.3442E-03	-1.5804E-01	-1.5804E-01	0.108E+00
Bi-212	#	1.7094E+00	6.7215E-01	6.7513E-01	0.359E+00
BI-214		1.2184E+00	1.9028E-01	1.9556E-01	0.747E-01
CO-60	#B	1.2758E-03	3.3047E-03	3.3050E-03	0.108E-01
CS-137		4.9080E-02	4.8399E-02	4.8433E-02	0.349E-01
EU-152	B	3.7748E-02	5.2875E-02	5.2894E-02	0.984E-01
EU-154	#B	-3.4427E-03	1.7833E+02	1.7833E+02	0.769E-01
K-40		8.4702E+00	1.4888E+00	1.5215E+00	0.595E+00
Pa-234	B	9.4459E-02	1.1098E-01	1.1104E-01	0.134E+00
Pb-210	B	4.5729E-01	1.2115E+00	1.2116E+00	0.101E+01
Pb-212	F	1.6169E+00	1.6165E-01	1.7239E-01	0.844E-01
PB-214		1.1155E+00	2.3787E-01	2.4143E-01	0.120E+00
RA-226	B	9.4024E-01	1.4645E+00	1.4649E+00	0.119E+01
Th-230	#B	4.2917E+00	1.2549E+01	1.2550E+01	0.932E+01
Th-234	F	1.8276E+00	6.8601E-01	6.8932E-01	0.107E+01
Tl-208	F	5.5300E-01	1.1509E-01	1.1690E-01	0.309E-01
U-235	#B	-6.9574E-02	-1.7716E-01	-1.7718E-01	0.786E-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 (43.5 to 2782.6 keV) 1.6180988E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 14:20:16
New World Technology Spectrum name: 3N000272.An1

Sample description
Parcel D 70-PDT-124-63 365g
2/03/09 09:25

Acquisition information
Start time: 09-Feb-2009 13:35:05
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	F	1.9657E+00	4.3518E-01	4.5190E-01	0.194E+00
AM-241	B	2.2515E-02	1.3868E-01	1.3869E-01	0.116E+00
Bi-212	F	1.1962E+00	5.2428E-01	5.2942E-01	0.347E+00
BI-214	F	1.3223E+00	2.0637E-01	2.2144E-01	0.740E-01
CO-60	#B	2.1728E-03	1.1801E-02	1.1802E-02	0.101E-01
CS-137	#B	-4.1067E-02	4.9807E-01	4.9808E-01	0.329E-01
EU-152	B	6.2571E-02	8.6701E-02	8.6814E-02	0.820E-01
EU-154	F	8.7784E-02	8.5534E-02	8.5758E-02	0.623E-01
K-40		8.6394E+00	1.2792E+00	1.3874E+00	0.110E+00
Pa-234	F	9.7969E-02	7.8375E-02	7.8730E-02	0.553E-01
Pb-210	#B	-1.4005E+00	3.0773E+00	3.0792E+00	0.117E+01
Pb-212		2.0899E+00	1.8469E-01	2.2897E-01	0.933E-01
PB-214		1.2972E+00	2.0342E-01	2.1926E-01	0.115E+00
RA-226		2.7405E+00	1.3961E+00	1.4073E+00	0.107E+01
Th-230	#F	1.0013E+01	1.0220E+01	1.0307E+01	0.751E+01
Th-234		2.3891E+00	9.5227E-01	9.8599E-01	0.897E+00
Tl-208	F	7.8142E-01	1.2633E-01	1.3491E-01	0.398E-01
U-235	B	-6.1910E-02	1.0763E-01	1.0771E-01	0.817E-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 (39.2 to 2494.9 keV) 2.242E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 14:38:04
New World Technology Spectrum name: 1N000293.An1

Sample description
Parcel D 70-PDT-124-64 368g
2/03/09 09:28

Acquisition information
Start time: 09-Feb-2009 13:52:54
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	F	1.1946E+00	3.1591E-01	3.2449E-01	0.311E+00
AM-241	#A	-8.8240E-02	2.4005E+00	2.4006E+00	0.865E-01
Bi-212	F	1.9780E+00	5.4505E-01	5.5849E-01	0.260E+00
BI-214	F	1.2277E+00	1.8115E-01	1.9594E-01	0.733E-01
CO-60	#B	-1.0749E-02	1.7942E-01	1.7942E-01	0.473E-01
CS-137	#B	-1.6904E-02	1.0002E-01	1.0002E-01	0.375E-01
EU-152	C	1.2233E-01	1.5208E-01	1.5233E-01	0.945E-01
EU-154	A	6.2897E-02	9.3902E-02	9.4005E-02	0.633E-01
K-40		6.0655E+00	1.1264E+00	1.1879E+00	0.446E+00
Pa-234	#B	1.3350E-02	2.2017E-01	2.2017E-01	0.883E-01
Pb-210	B	7.4405E-01	1.1119E+00	1.1133E+00	0.796E+00
Pb-212		1.9568E+00	1.5768E-01	2.0229E-01	0.797E-01
Pb-214		1.4870E+00	1.9802E-01	2.1911E-01	0.678E-01
RA-226	B	1.0185E+00	1.2942E+00	1.2959E+00	0.105E+01
Th-230	#B	-7.9511E+00	1.0883E+02	1.0883E+02	0.560E+01
Th-234	F	1.5987E+00	4.7121E-01	5.0121E-01	0.941E+00
Tl-208	F	6.8660E-01	1.1947E-01	1.2653E-01	0.517E-01
U-235	B	-2.7943E-02	2.8835E-02	2.8891E-02	0.760E-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 (39.4 to 2490.9 keV) 1.460E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 14:33:38
New World Technology Spectrum name: 4N000161.An1

Sample description
Parcel D 70-PDT-124-65 351g
2/03/09 09:30

Acquisition information
Start time: 09-Feb-2009 13:48:29
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	F	1.0651E+00	3.1972E-01	3.2646E-01	0.220E+00
AM-241	B	5.5949E-02	1.8114E-01	1.8120E-01	0.150E+00
Bi-212	F	5.4732E-01	5.2897E-01	5.3004E-01	0.339E+00
BI-214	F	9.2342E-01	1.8700E-01	1.9523E-01	0.784E-01
CO-60	#B	-1.3688E-03	3.3577E-02	3.3577E-02	0.542E-01
CS-137	#B	-2.5622E-02	1.9235E-01	1.9236E-01	0.444E-01
EU-152	F	2.0593E-01	1.2177E-01	1.2264E-01	0.127E+00
EU-154	B	5.5186E-02	2.0466E-01	2.0470E-01	0.913E-01
K-40		1.0210E+01	1.4787E+00	1.6092E+00	0.377E+00
Pa-234	B	7.4091E-02	1.3726E-01	1.3738E-01	0.170E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	1.3383E+00	1.5605E-01	1.7850E-01	0.856E-01
Pb-214	F	9.4605E-01	1.5956E-01	1.7035E-01	0.810E-01
RA-226	B	1.1352E+00	1.5217E+00	1.5235E+00	0.123E+01
Th-230	B	5.0098E+00	1.3588E+01	1.3604E+01	0.113E+02
Th-234	F	2.1590E+00	9.0529E-01	9.3431E-01	0.124E+01
Tl-208	F	5.9017E-01	1.3361E-01	1.5324E-01	0.243E-01
U-235	B	5.8196E-02	6.2110E-02	6.2224E-02	0.783E-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 (52.3 to 3331.5 keV) 1.583E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 09-FEB-2009 15:02:11
New World Technology Spectrum name: 6N000203.An1

Sample description
Parcel D 70-PDT-124-66 367g
2/03/09 08:33

Acquisition information
Start time: 09-Feb-2009 14:16:59
Live time: 2700
Real time: 2706

- -

***** 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	1.7994E+00	3.5622E-01	3.6241E-01	0.210E+00
AM-241 #	1.4366E-01	2.1694E-01	2.1700E-01	0.139E+00
Bi-212 #F	2.0474E+00	7.8934E-01	7.9297E-01	0.373E+00
BI-214	1.5050E+00	2.2812E-01	2.3483E-01	0.884E-01
CO-60 #F	2.1357E-02	3.1194E-02	3.1204E-02	0.203E-01
CS-137 B	2.3874E-02	4.2090E-02	4.2100E-02	0.322E-01
EU-152 #B	-1.4843E-01	2.2542E+02	2.2542E+02	0.973E-01
EU-154 B	4.7312E-02	1.1934E-01	1.1935E-01	0.797E-01
K-40	1.0402E+01	1.4283E+00	1.4793E+00	0.484E+00
Pa-234 #F	1.0936E-01	1.0930E-01	1.0938E-01	0.903E-01
Pb-210 #	1.6408E+00	1.3432E+00	1.3445E+00	0.931E+00
Pb-212 F	2.1772E+00	1.7563E-01	1.9326E-01	0.836E-01
PB-214	1.2069E+00	1.7851E-01	1.8402E-01	0.106E+00
RA-226	2.1694E+00	1.4792E+00	1.4814E+00	0.116E+01
Th-230 #B	-3.9903E+00	-2.7214E+01	-2.7214E+01	0.825E+01
Th-234 B	8.2258E-01	6.6729E-01	6.6798E-01	0.109E+01
Tl-208	9.4312E-01	1.6668E-01	1.7030E-01	0.289E-01
U-235 #B	-7.3889E-03	-2.8537E-02	-2.8539E-02	0.802E-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 (43.5 to 2782.6 keV) 2.3890764E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 15:09:12
New World Technology Spectrum name: 3N000273.An1

Sample description
Parcel D 70-PDT-124-67 340g
2/03/09 08:36

Acquisition information
Start time: 09-Feb-2009 14:24:03
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	F	4.3025E-01	2.0302E-01	2.0476E-01	0.216E+00
AM-241	B	2.8788E-02	1.3142E-01	1.3144E-01	0.110E+00
Bi-212	F	3.7847E-01	3.8354E-01	3.8425E-01	0.306E+00
BI-214	F	6.0716E-01	1.6583E-01	1.6988E-01	0.652E-01
CO-60	#B	1.4111E-02	1.4126E-01	1.4126E-01	0.451E-01
CS-137	B	1.3252E-02	4.2757E-02	4.2765E-02	0.396E-01
EU-152	F	1.4413E-01	9.0140E-02	9.0712E-02	0.922E-01
EU-154	F	1.7281E-01	1.0029E-01	1.0103E-01	0.735E-01
K-40	#	5.2694E+00	1.7454E+00	1.7759E+00	0.434E+00
Pa-234	B	1.0068E-01	1.2077E-01	1.2101E-01	0.102E+00
Pb-210	#B	-4.4158E+00	7.9543E+01	7.9544E+01	0.164E+01
Pb-212		5.4434E-01	1.2342E-01	1.2835E-01	0.852E-01
PB-214	F	5.0969E-01	1.7196E-01	1.7494E-01	0.111E+00
RA-226	#B	-7.4360E-02	1.4180E+00	1.4180E+00	0.956E+00
Th-230	#B	3.9476E+00	2.2158E+01	2.2164E+01	0.943E+01
Th-234		1.8131E+00	9.6560E-01	9.8491E-01	0.742E+00
Tl-208	F	2.6494E-01	8.6809E-02	8.8281E-02	0.380E-01
U-235	#B	-1.7592E-01	6.1723E-01	6.1734E-01	0.700E-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 (39.2 to 2494.9 keV) 9.009E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 17:18:24
New World Technology Spectrum name: 4N000162.An1

Sample description
Parcel D 70-PDT-124-68 346g
2/03/09 08:40

Acquisition information
Start time: 09-Feb-2009 15:48:14
Live time: 5400
Real time: 5404

- -

***** 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	F	1.0666E+00	1.9064E-01	2.0177E-01	0.148E+00
AM-241	#B	-5.0990E-02	7.9476E-01	7.9477E-01	0.112E+00
Bi-212	F	8.9681E-01	3.3461E-01	3.3912E-01	0.225E+00
BI-214	F	7.8307E-01	1.5936E-01	1.6630E-01	0.717E-01
CO-60	#B	1.0157E-03	9.3128E-03	9.3130E-03	0.321E-01
CS-137	#B	-3.6401E-02	3.2709E-01	3.2710E-01	0.268E-01
EU-152	B	8.6178E-02	7.6545E-02	7.6787E-02	0.930E-01
EU-154	B	3.7434E-02	5.8067E-02	5.8127E-02	0.730E-01
K-40		9.0176E+00	9.7903E-01	1.1282E+00	0.239E+00
Pa-234	B	1.1571E-01	9.7696E-02	9.8093E-02	0.118E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	1.0038E+00	9.8550E-02	1.1806E-01	0.562E-01
Pb-214	F	6.7465E-01	9.8581E-02	1.0737E-01	0.558E-01
RA-226	B	7.1996E-01	1.0749E+00	1.0759E+00	0.878E+00
Th-230	#B	-4.5094E+00	2.8960E+01	2.8966E+01	0.676E+01
Th-234	F	2.7216E+00	7.4981E-01	8.0439E-01	0.880E+00
Tl-208	F	5.3509E-01	9.0735E-02	1.1341E-01	0.174E-01
U-235	#B	-4.7962E-02	1.0246E-01	1.0251E-01	0.590E-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 (52.3 to 3331.5 keV) 1.398E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 09-FEB-2009 17:29:29
New World Technology Spectrum name: 6N000204.An1

Sample description
Parcel D 70-PDT-124-69 347g
2/03/09 08:43

Acquisition information
Start time: 09-Feb-2009 15:59:10
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		1.5084E+00	2.0388E-01	2.1140E-01	0.144E+00
AM-241	#A	-1.5000E-02	-1.6034E-01	-1.6034E-01	0.785E-01
Bi-212	F	1.1360E+00	3.6450E-01	3.6692E-01	0.249E+00
BI-214		1.2290E+00	1.3084E-01	1.3853E-01	0.617E-01
CO-60		1.0277E-01	7.7383E-02	7.7476E-02	0.311E-01
CS-137	F	2.7380E-02	3.4182E-02	3.4197E-02	0.263E-01
EU-152	F	1.3684E-01	5.2372E-02	5.2616E-02	0.863E-01
EU-154	B	3.1247E-02	6.4133E-02	6.4143E-02	0.473E-01
K-40		7.9837E+00	9.3850E-01	9.8399E-01	0.369E+00
Pa-234	F	1.6701E-01	1.2109E-01	1.2125E-01	0.961E-01
Pb-210		1.4981E+00	1.0881E+00	1.0895E+00	0.725E+00
Pb-212	F	1.7604E+00	1.1528E-01	1.3244E-01	0.568E-01
PB-214		8.1256E-01	1.2852E-01	1.3200E-01	0.882E-01
RA-226		1.3035E+00	1.0455E+00	1.0467E+00	0.840E+00
Th-230	#B	-3.0908E+00	-1.7434E+01	-1.7434E+01	0.721E+01
Th-234	F	1.8782E+00	5.0411E-01	5.0886E-01	0.709E+00
Tl-208	F	7.0105E-01	1.1569E-01	1.1857E-01	0.306E-01
U-235	#B	-4.8786E-02	-1.0248E-01	-1.0250E-01	0.561E-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 (43.5 to 2782.6 keV) 1.8035553E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 17:31:38
New World Technology Spectrum name: 3N000274.An1

Sample description
Parcel D 70-PDT-124-70 352g
2/03/09 08:47

Acquisition information
Start time: 09-Feb-2009 16:01:26
Live time: 5400
Real time: 5405

- -

***** 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		1.1040E+00	2.4255E-01	2.5200E-01	0.164E+00
AM-241	#B	-2.5510E-04	1.1340E-01	1.1340E-01	0.940E-01
Bi-212	F	1.5876E+00	4.8626E-01	4.9596E-01	0.233E+00
BI-214	F	1.1599E+00	1.7367E-01	1.8741E-01	0.636E-01
CO-60	#B	4.3438E-03	6.4966E-02	6.4966E-02	0.154E-01
CS-137	#B	-1.8659E-02	8.4497E-02	8.4505E-02	0.341E-01
EU-152	F	8.4142E-02	6.6742E-02	6.7006E-02	0.776E-01
EU-154	F	1.4671E-01	1.1233E-01	1.1281E-01	0.514E-01
K-40		6.9639E+00	9.7729E-01	1.0689E+00	0.431E+00
Pa-234	B	3.3005E-02	9.2575E-02	9.2609E-02	0.700E-01
Pb-210	#B	-2.1642E+00	2.8966E+00	2.9013E+00	0.845E+00
Pb-212		1.6988E+00	1.2302E-01	1.6503E-01	0.655E-01
PB-214		1.0733E+00	1.7048E-01	1.8343E-01	0.881E-01
RA-226		1.6505E+00	9.7374E-01	9.7956E-01	0.773E+00
Th-230	#B	-8.8551E+00	2.6130E+01	2.6157E+01	0.954E+01
Th-234		1.4971E+00	8.2485E-01	8.4026E-01	0.648E+00
Tl-208	F	6.0688E-01	8.3373E-02	9.1121E-02	0.283E-01
U-235	#B	-1.1674E-01	2.1200E-01	2.1214E-01	0.575E-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 (39.2 to 2494.9 keV) 1.734E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 16:32:10
New World Technology Spectrum name: 1N000295.An1

Sample description
Parcel D 70-PDT-124-71 343g
2/03/09 08:50

Acquisition information
Start time: 09-Feb-2009 15:47:02
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	F	5.9460E-01	2.3079E-01	2.3372E-01	0.222E+00
AM-241	#A	-7.7318E-02	6.5725E-01	6.5728E-01	0.867E-01
Bi-212	F	8.1490E-01	3.4951E-01	3.5309E-01	0.179E+00
BI-214	F	6.6341E-01	1.5821E-01	1.6328E-01	0.525E-01
CO-60	#B	8.0178E-03	1.4757E-02	1.4765E-02	0.920E-02
CS-137	#B	-6.0051E-03	6.0162E-02	6.0163E-02	0.357E-01
EU-152	C	9.3776E-02	9.1247E-02	9.1483E-02	0.722E-01
EU-154	C	8.2257E-02	6.0746E-02	6.1017E-02	0.426E-01
K-40		4.8749E+00	9.1938E-01	9.6807E-01	0.101E+00
Pa-234	#B	6.8453E-04	1.7378E-03	1.7385E-03	0.715E-01
Pb-210	#B	-2.6949E-01	2.3334E+00	2.3335E+00	0.814E+00
Pb-212	F	6.9928E-01	1.1830E-01	1.2667E-01	0.690E-01
Pb-214		6.2477E-01	1.4533E-01	1.5057E-01	0.594E-01
RA-226	F	9.7520E-01	1.0471E+00	1.0490E+00	0.848E+00
Th-230	#B	-1.1215E+01	1.9112E+02	1.9113E+02	0.812E+01
Th-234	#B	-1.6644E+00	2.2814E+00	2.2883E+00	0.862E+00
Tl-208	F	1.9361E-01	7.0631E-02	7.1602E-02	0.422E-01
U-235	#B	-1.5293E-01	2.4804E-01	2.4824E-01	0.719E-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 (39.4 to 2490.9 keV) 7.871E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 17:50:54
New World Technology Spectrum name: 5N000190.An1

Sample description
Parcel D 70-PDT-124-72 339g
2/03/09 08:54

Acquisition information
Start time: 09-Feb-2009 17:05:45
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	F	5.0036E-01	2.5240E-01	2.5430E-01	0.165E+00
AM-241	B	9.7816E-02	1.2069E-01	1.2096E-01	0.984E-01
Bi-212	F	4.5865E-01	3.3623E-01	3.3741E-01	0.232E+00
BI-214	F	3.8964E-01	2.4370E-01	2.4485E-01	0.802E-01
CO-60	#B	-6.4701E-03	8.3731E-02	8.3732E-02	0.579E-01
CS-137		1.0289E-01	5.1480E-02	5.1862E-02	0.294E-01
EU-152	F	1.0696E-01	1.1043E-01	1.1069E-01	0.932E-01
EU-154	F	9.4071E-02	6.2679E-02	6.3029E-02	0.767E-01
K-40		8.2638E+00	1.2549E+00	1.3560E+00	0.111E+00
Pa-234	#B	9.3293E-02	1.7542E-01	1.7556E-01	0.105E+00
Pb-210	#F	1.0893E+00	2.2806E+00	2.2821E+00	0.930E+00
Pb-212	F	5.6122E-01	1.1005E-01	1.1590E-01	0.666E-01
Pb-214		4.4418E-01	1.7735E-01	1.7955E-01	0.848E-01
RA-226	#B	-3.6585E-01	3.7356E+00	3.7357E+00	0.990E+00
Th-230	#B	-2.0325E-01	1.1486E+01	1.1486E+01	0.903E+01
Th-234	B	7.0023E-01	3.5432E-01	3.6216E-01	0.991E+00
Tl-208	#F	1.7006E-01	1.1191E-01	1.1238E-01	0.450E-01
U-235	#B	-3.1779E-02	1.0416E-01	1.0418E-01	0.657E-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 2445.9 keV) 1.089E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 17:26:23
New World Technology Spectrum name: 1N000296.An1

Sample description
Parcel D 70-PDT-124-73 343g
2/03/09 08:57

Acquisition information
Start time: 09-Feb-2009 16:41:13
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	B	1.2362E-01	6.5796E-02	6.6241E-02	0.222E+00
AM-241	#A	-5.6925E-02	2.4886E-01	2.4890E-01	0.657E-01
Bi-212	F	3.3725E-01	2.9080E-01	2.9154E-01	0.191E+00
BI-214	#F	2.3677E-01	2.1853E-01	2.1901E-01	0.815E-01
CO-60	#B	1.6880E-03	1.2507E-01	1.2507E-01	0.399E-01
CS-137	#B	-3.5967E-03	2.8426E-02	2.8427E-02	0.273E-01
EU-152		6.1129E-02	6.6456E-02	6.6594E-02	0.477E-01
EU-154		7.5000E-02	5.6254E-02	5.6498E-02	0.448E-01
K-40		5.3506E+00	9.6309E-01	1.0189E+00	0.101E+00
Pa-234	#B	-1.0265E-03	4.1060E-02	4.1060E-02	0.555E-01
Pb-210	#B	3.5479E-01	8.1933E-01	8.1978E-01	0.655E+00
Pb-212	F	3.9692E-01	9.3522E-02	9.6990E-02	0.595E-01
Pb-214		3.3125E-01	1.1298E-01	1.1490E-01	0.579E-01
RA-226	B	4.0575E-01	9.9771E-01	9.9806E-01	0.837E+00
Th-230	#B	-6.1042E+00	6.2518E+01	6.2523E+01	0.667E+01
Th-234	#B	-1.9000E+00	2.0074E+00	2.0177E+00	0.776E+00
Tl-208	#F	9.5398E-02	7.3652E-02	7.3879E-02	0.428E-01
U-235	B	-1.1541E-01	1.0814E-01	1.0839E-01	0.669E-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 (39.4 to 2490.9 keV) 6.653E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 09-FEB-2009 21:08:51
New World Technology Spectrum name: 6N000205.An1

Sample description
Parcel D 70-PDT-124-74 369g
2/03/09 09:00

Acquisition information
Start time: 09-Feb-2009 19:38:33
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	3.7565E-01	1.6420E-01	1.6479E-01	0.126E+00
AM-241	#A	-5.4966E-02	-3.1063E-01	-3.1063E-01	0.339E-01
Bi-212		5.1949E-01	2.5587E-01	2.5659E-01	0.208E+00
BI-214		5.1726E-01	1.2349E-01	1.2496E-01	0.548E-01
CO-60	#F	3.0927E-02	1.8438E-02	1.8474E-02	0.150E-01
CS-137		4.1538E-02	3.1044E-02	3.1082E-02	0.225E-01
EU-152	#B	2.0576E-02	2.1082E-02	2.1096E-02	0.714E-01
EU-154	F	8.6881E-02	8.3036E-02	8.3098E-02	0.448E-01
K-40		9.5807E+00	9.8241E-01	1.0445E+00	0.343E+00
Pa-234	F	1.3602E-01	1.0947E-01	1.0958E-01	0.779E-01
Pb-210	#B	5.9162E-01	9.0601E-01	9.0628E-01	0.619E+00
Pb-212	F	5.9449E-01	7.4197E-02	7.7395E-02	0.449E-01
PB-214		4.1950E-01	8.4287E-02	8.5707E-02	0.642E-01
RA-226	F	7.1688E-01	7.8640E-01	7.8685E-01	0.638E+00
Th-230	#B	-6.4077E+00	-2.6611E+01	-2.6612E+01	0.382E+01
Th-234	F	1.1499E+00	3.4272E-01	3.4534E-01	0.646E+00
Tl-208	B	3.3710E-02	1.4224E-02	1.4279E-02	0.656E-01
U-235	#B	-9.6736E-02	-1.4551E-01	-1.4556E-01	0.448E-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 (43.5 to 2782.6 keV) 1.2048635E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 18:14:37
New World Technology Spectrum name: 4N000163.An1

Sample description
Parcel D 70-PDT-124-75 360g
2/03/09 09:20

Acquisition information
Start time: 09-Feb-2009 17:29:28
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	F	7.5727E-01	2.3598E-01	2.4059E-01	0.192E+00
AM-241	B	1.7862E-02	1.6482E-01	1.6483E-01	0.137E+00
Bi-212	F	3.4802E-01	4.0453E-01	4.0510E-01	0.307E+00
BI-214	F	5.7935E-01	1.3724E-01	1.4168E-01	0.684E-01
CO-60	#B	-7.1310E-04	1.2578E-01	1.2578E-01	0.452E-01
CS-137	B	1.0790E-02	4.9056E-02	4.9061E-02	0.433E-01
EU-152	F	1.7680E-01	8.9336E-02	9.0204E-02	0.125E+00
EU-154	F	9.9401E-02	7.4763E-02	7.5091E-02	0.865E-01
K-40		9.2541E+00	1.3364E+00	1.4550E+00	0.273E+00
Pa-234	#B	8.4338E-02	1.5613E-01	1.5626E-01	0.119E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	5.5345E-01	1.1875E-01	1.2404E-01	0.782E-01
Pb-214	F	4.4277E-01	1.4209E-01	1.4480E-01	0.932E-01
RA-226	B	9.5534E-01	1.3535E+00	1.3549E+00	0.109E+01
Th-230	#B	-6.1955E-01	1.2654E+01	1.2655E+01	0.861E+01
Th-234	#F	1.1226E+00	1.1970E+00	1.2030E+00	0.112E+01
Tl-208	F	2.3286E-01	8.5959E-02	9.0916E-02	0.496E-01
U-235	B	8.7838E-03	1.8964E-02	1.8973E-02	0.736E-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 (52.3 to 3331.5 keV) 1.182E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 17:50:21
New World Technology Spectrum name: 2N000189.An1

Sample description
Parcel D 70-PDT-124-76 360g
2/03/09 09:23

Acquisition information
Start time: 09-Feb-2009 17:05:08
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	F	2.8327E-01	1.2786E-01	1.2905E-01	0.211E+00
AM-241	#B	-6.2713E-01	1.1701E+01	1.1701E+01	0.466E+00
Bi-212	#B	-4.7480E-02	2.8060E-01	2.8062E-01	0.308E+00
BI-214	F	6.2489E-01	1.4960E-01	1.5433E-01	0.525E-01
CO-60	#B	-1.6891E-02	1.3457E-01	1.3457E-01	0.472E-01
CS-137		8.8045E-02	5.0258E-02	5.0545E-02	0.365E-01
EU-152	B	7.9618E-02	7.9808E-02	8.0006E-02	0.111E+00
EU-154	B	6.2358E-02	1.0269E-01	1.0278E-01	0.903E-01
K-40	#	5.1971E+00	1.2232E+00	1.2652E+00	0.234E+00
Pa-234	#B	9.5474E-02	7.7929E-02	7.8268E-02	0.151E+00
Pb-210	#F	0.0000E+00	4.1787E+00	4.1789E+00	0.000E+00
Pb-212	F	3.2132E-01	1.2075E-01	1.2253E-01	0.929E-01
PB-214	F	3.2381E-01	1.6203E-01	1.6332E-01	0.102E+00
RA-226	B	2.0239E-01	1.4566E+00	1.4567E+00	0.123E+01
Th-230	B	3.1916E+00	2.9228E+01	2.9231E+01	0.241E+02
Th-234	B	3.1844E+00	4.9368E+00	4.9485E+00	0.390E+01
Tl-208	F	2.4332E-01	6.9747E-02	7.6301E-02	0.275E-01
U-235	B	-7.3954E-02	9.0848E-02	9.0973E-02	0.908E-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 (43.2 to 2752.7 keV) 6.799E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 18:28:09
New World Technology Spectrum name: 3N000275.An1

Sample description
Parcel D 70-PDT-124-77 350g
2/03/09 09:36

Acquisition information
Start time: 09-Feb-2009 17:43:00
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	F	8.7510E-01	2.2133E-01	2.2787E-01	0.168E+00
AM-241	#B	-1.0916E-02	1.3292E-01	1.3293E-01	0.785E-01
Bi-212	F	4.8136E-01	5.0615E-01	5.0701E-01	0.400E+00
BI-214	F	5.1815E-01	2.6671E-01	2.6856E-01	0.984E-01
CO-60	#B	9.5077E-03	3.7432E-02	3.7436E-02	0.115E-01
CS-137	#B	-2.2981E-02	1.3706E-01	1.3707E-01	0.457E-01
EU-152	B	6.2147E-02	6.3119E-02	6.3271E-02	0.772E-01
EU-154	F	1.4883E-01	7.2195E-02	7.2954E-02	0.688E-01
K-40		8.6793E+00	1.3724E+00	1.4747E+00	0.229E+00
Pa-234	#B	2.1597E-02	6.3665E-02	6.3686E-02	0.140E+00
Pb-210	#B	-2.3766E+00	9.8801E+00	9.8817E+00	0.130E+01
Pb-212		8.9418E-01	1.3604E-01	1.4785E-01	0.828E-01
PB-214	F	6.0837E-01	1.5752E-01	1.6213E-01	0.911E-01
RA-226	B	2.5917E-01	1.2072E+00	1.2073E+00	0.101E+01
Th-230	#B	3.4266E+00	2.4723E+01	2.4727E+01	0.105E+02
Th-234	#F	6.9977E-01	8.7219E-01	8.7540E-01	0.631E+00
Tl-208	F	3.7483E-01	8.6458E-02	8.9391E-02	0.320E-01
U-235	B	-1.2084E-01	3.1797E-01	3.1807E-01	0.747E-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 (39.2 to 2494.9 keV) 1.195E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 19:09:20
New World Technology Spectrum name: 1N000298.An1

Sample description
Parcel D 70-PDT-124-78 354g
2/03/09 09:33

Acquisition information
Start time: 09-Feb-2009 18:24:13
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	F	6.0070E-01	1.5134E-01	1.5586E-01	0.224E+00
AM-241	#A	-4.9847E-02	2.6116E-01	2.6120E-01	0.737E-01
Bi-212	B	2.5121E-01	3.8352E-01	3.8384E-01	0.303E+00
BI-214	F	5.0083E-01	1.6532E-01	1.6810E-01	0.612E-01
CO-60	#B	-1.5428E-03	3.4126E-02	3.4126E-02	0.420E-01
CS-137	#B	-1.3664E-02	6.9297E-02	6.9302E-02	0.344E-01
EU-152	#A	-3.0387E-02	1.2155E+00	1.2155E+00	0.551E-01
EU-154	C	5.0655E-02	5.3462E-02	5.3580E-02	0.320E-01
K-40		6.6508E+00	1.0567E+00	1.1347E+00	0.976E-01
Pa-234	#B	5.0612E-02	6.8026E-02	6.8134E-02	0.548E-01
Pb-210	B	5.6555E-01	1.1025E+00	1.1034E+00	0.777E+00
Pb-212	F	7.6398E-01	1.2089E-01	1.3062E-01	0.704E-01
Pb-214		6.6435E-01	1.3149E-01	1.3800E-01	0.644E-01
RA-226	B	7.6635E-01	1.0443E+00	1.0455E+00	0.856E+00
Th-230	#B	-4.5146E+00	1.6186E+01	1.6197E+01	0.518E+01
Th-234	B	4.6144E-01	2.4565E-01	2.5055E-01	0.838E+00
Tl-208	F	2.4567E-01	7.8803E-02	8.0200E-02	0.429E-01
U-235	B	-1.5458E-01	2.6295E-01	2.6314E-01	0.704E-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 (39.4 to 2490.9 keV) 8.826E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 19:05:21
New World Technology Spectrum name: 4N000164.An1

Sample description
Parcel D 70-PDT-124-79 391g
2/03/09 09:37

Acquisition information
Start time: 09-Feb-2009 18:20:12
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	F	9.5150E-01	3.0384E-01	3.0950E-01	0.175E+00
AM-241	#B	-2.0143E-02	2.8713E-01	2.8713E-01	0.125E+00
Bi-212	F	8.4910E-01	4.4298E-01	4.4604E-01	0.300E+00
BI-214	F	1.1081E+00	2.4750E-01	2.5649E-01	0.102E+00
CO-60	#B	1.5349E-04	3.2686E-02	3.2686E-02	0.499E-01
CS-137	#B	-2.1773E-02	1.8860E-01	1.8860E-01	0.459E-01
EU-152	F	1.0996E-01	9.8945E-02	9.9249E-02	0.932E-01
EU-154	B	7.0457E-02	1.2189E-01	1.2199E-01	0.806E-01
K-40		1.0819E+01	1.4621E+00	1.6095E+00	0.383E+00
Pa-234	F	2.7770E-01	1.9030E-01	1.9147E-01	0.143E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	1.2265E+00	1.4022E-01	1.6115E-01	0.760E-01
Pb-214		1.0665E+00	2.1197E-01	2.2239E-01	0.960E-01
RA-226	B	8.2691E-01	1.4161E+00	1.4171E+00	0.115E+01
Th-230	#B	7.8764E+00	1.4232E+01	1.4271E+01	0.102E+02
Th-234	F	2.5403E+00	1.1216E+00	1.1541E+00	0.111E+01
Tl-208	F	3.5683E-01	6.9670E-02	8.3142E-02	0.520E-01
U-235	B	4.6857E-03	1.5911E-02	1.5914E-02	0.754E-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 (52.3 to 3331.5 keV) 1.666E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 18:16:44
New World Technology Spectrum name: 1N000297.An1

Sample description
Parcel D 70-PDT-124-80 380g
2/03/09 09:41

Acquisition information
Start time: 09-Feb-2009 17:31:35
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	8.0091E-01	2.6519E-01	2.6980E-01	0.183E+00
AM-241	#A	-7.5908E-02	8.8179E-01	8.8181E-01	0.821E-01
Bi-212	F	8.8938E-01	3.7797E-01	3.8192E-01	0.216E+00
BI-214	F	8.0804E-01	1.8867E-01	1.9496E-01	0.702E-01
CO-60	#B	2.5061E-02	1.3501E-01	1.3502E-01	0.426E-01
CS-137	#B	-2.0867E-02	8.7742E-02	8.7751E-02	0.285E-01
EU-152	C	9.8334E-02	1.0437E-01	1.0460E-01	0.589E-01
EU-154	C	6.0317E-02	4.6925E-02	4.7114E-02	0.535E-01
K-40		6.5939E+00	1.1762E+00	1.2457E+00	0.289E+00
Pa-234	#B	-9.2656E-04	3.7062E-02	3.7062E-02	0.930E-01
Pb-210		1.3791E+00	1.0982E+00	1.1033E+00	0.734E+00
Pb-212	F	1.0922E+00	1.2418E-01	1.4291E-01	0.629E-01
Pb-214		7.6117E-01	1.2276E-01	1.3181E-01	0.545E-01
RA-226		1.1621E+00	1.0887E+00	1.0912E+00	0.873E+00
Th-230	#B	1.3600E+00	8.3674E+00	8.3694E+00	0.629E+01
Th-234	B	-1.3440E+00	1.5866E+00	1.5931E+00	0.791E+00
Tl-208	F	3.1882E-01	8.1095E-02	8.3372E-02	0.412E-01
U-235	B	-6.5784E-02	6.5964E-02	6.6101E-02	0.677E-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 (39.4 to 2490.9 keV) 1.381E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 18:42:56
New World Technology Spectrum name: 2N000190.An1

Sample description
Parcel D 70-PDT-124-81 391g
2/03/09 09:45

Acquisition information
Start time: 09-Feb-2009 17:57:43
Live time: 2700
Real time: 2706

- -

***** 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	F	1.3376E+00	3.2410E-01	3.3452E-01	0.216E+00
AM-241	#B	-3.2450E-01	3.2883E+00	3.2884E+00	0.874E+00
Bi-212	F	6.0748E-01	4.4247E-01	4.4404E-01	0.331E+00
BI-214	F	7.7989E-01	1.9561E-01	2.0126E-01	0.110E+00
CO-60	#B	1.3296E-02	1.3532E-01	1.3532E-01	0.476E-01
CS-137	#	1.1051E-01	8.7829E-02	8.8088E-02	0.496E-01
EU-152	B	9.9691E-02	8.7290E-02	8.7574E-02	0.137E+00
EU-154	F	1.7576E-01	9.9236E-02	1.0001E-01	0.107E+00
K-40		1.0017E+01	1.4601E+00	1.5874E+00	0.429E+00
Pa-234	B	-2.9841E-01	1.2175E+00	1.2177E+00	0.276E+00
Pb-210	#F	0.0000E+00	1.8288E+00	1.8289E+00	0.000E+00
Pb-212		1.3695E+00	1.6834E-01	1.9027E-01	0.930E-01
PB-214	F	9.6025E-01	2.1831E-01	2.2656E-01	0.116E+00
RA-226	B	4.7347E-01	1.5912E+00	1.5915E+00	0.132E+01
Th-230	#B	-1.3279E+01	1.7417E+02	1.7417E+02	0.445E+02
Th-234	B	3.9692E+00	5.2071E+00	5.2244E+00	0.410E+01
Tl-208	F	5.5489E-01	1.0674E-01	1.2795E-01	0.172E-01
U-235	#B	-1.2031E-01	3.2482E-01	3.2492E-01	0.955E-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 (43.2 to 2752.7 keV) 1.574E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 18:46:55
New World Technology Spectrum name: 5N000191.An1

Sample description
Parcel D 70-PDT-124-82 394g
2/03/09 09:50

Acquisition information
Start time: 09-Feb-2009 18:01:46
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	F	1.2978E+00	2.2254E-01	2.3661E-01	0.101E+00
AM-241		3.2746E-01	1.8480E-01	1.8678E-01	0.145E+00
Bi-212		1.2424E+00	4.1638E-01	4.2333E-01	0.221E+00
BI-214	F	1.0221E+00	2.3862E-01	2.4656E-01	0.824E-01
CO-60	#B	-3.2846E-03	1.6854E-02	1.6855E-02	0.880E-02
CS-137		8.8530E-02	4.6327E-02	4.6641E-02	0.276E-01
EU-152	F	1.4310E-01	1.0142E-01	1.0192E-01	0.102E+00
EU-154	F	1.1942E-01	1.2283E-01	1.2312E-01	0.726E-01
K-40		1.0635E+01	1.3936E+00	1.5426E+00	0.371E+00
Pa-234	F	3.0224E-01	2.0676E-01	2.0804E-01	0.860E-01
Pb-210	#F	1.1852E+00	2.8367E+00	2.8382E+00	0.111E+01
Pb-212		1.2877E+00	1.3749E-01	1.6080E-01	0.686E-01
Pb-214		1.1369E+00	1.9108E-01	2.0409E-01	0.783E-01
RA-226	B	1.8523E-01	1.2371E+00	1.2372E+00	0.103E+01
Th-230	#B	-3.1607E+00	3.8732E+01	3.8734E+01	0.701E+01
Th-234	B	1.0470E+00	8.1624E-01	8.2389E-01	0.123E+01
Tl-208	F	3.0239E-01	1.5174E-01	1.5284E-01	0.507E-01
U-235	#B	-1.4885E-02	9.1439E-02	9.1444E-02	0.661E-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 2445.9 keV) 1.779E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 09-FEB-2009 22:59:53
New World Technology Spectrum name: 6N000207.An1

Sample description
Parcel D 70-PDT-124-83 374g
2/03/09 09:55

Acquisition information
Start time: 09-Feb-2009 22:14:40
Live time: 2700
Real time: 2706

- -

***** 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		1.0198E+00	2.5737E-01	2.6013E-01	0.174E+00
AM-241	#A	-4.0174E-02	-3.6324E-01	-3.6324E-01	0.760E-01
Bi-212	F	7.9280E-01	4.4848E-01	4.4944E-01	0.326E+00
BI-214		8.6834E-01	1.6350E-01	1.6663E-01	0.641E-01
CO-60	#F	8.8718E-02	4.5251E-02	4.5370E-02	0.154E-01
CS-137	F	4.3995E-02	5.1316E-02	5.1342E-02	0.385E-01
EU-152	B	-7.8860E-02	-3.4258E-01	-3.4259E-01	0.932E-01
EU-154	F	9.2217E-02	9.1017E-02	9.1081E-02	0.718E-01
K-40		8.4728E+00	1.2902E+00	1.3278E+00	0.472E+00
Pa-234	F	1.3768E-01	1.5693E-01	1.5702E-01	0.104E+00
Pb-210	F	9.1448E-01	1.2959E+00	1.2963E+00	0.902E+00
Pb-212	F	1.1489E+00	1.3086E-01	1.3761E-01	0.730E-01
PB-214		8.3910E-01	1.5784E-01	1.6087E-01	0.100E+00
RA-226		1.1997E+00	1.1342E+00	1.1350E+00	0.901E+00
Th-230	#B	8.4430E+00	1.3711E+01	1.3714E+01	0.925E+01
Th-234	F	1.0464E+00	4.4872E-01	4.5038E-01	0.815E+00
Tl-208	F	5.4145E-01	1.2579E-01	1.2738E-01	0.284E-01
U-235	#B	-8.3214E-02	-1.6027E-01	-1.6030E-01	0.706E-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 (43.5 to 2782.6 keV) 1.4971473E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 20:57:57
New World Technology Spectrum name: 1N000300.An1

Sample description
Parcel D 70-PDT-124-84 390g
2/03/09 10:00

Acquisition information
Start time: 09-Feb-2009 20:12:49
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		1.2034E+00	2.3728E-01	2.4875E-01	0.174E+00
AM-241	#A	-7.5766E-02	1.0277E+00	1.0277E+00	0.792E-01
Bi-212	F	1.1921E+00	4.2714E-01	4.3340E-01	0.241E+00
BI-214	F	1.2278E+00	1.8455E-01	1.9909E-01	0.499E-01
CO-60	#B	-1.9839E-02	1.6792E-01	1.6793E-01	0.483E-01
CS-137	#B	-3.4607E-02	2.8829E+00	2.8829E+00	0.418E-01
EU-152	C	1.3480E-01	1.1665E-01	1.1703E-01	0.588E-01
EU-154	C	1.0300E-01	6.7208E-02	6.7593E-02	0.516E-01
K-40		7.2197E+00	1.1257E+00	1.2119E+00	0.201E+00
Pa-234	B	3.4865E-02	2.5164E-01	2.5165E-01	0.970E-01
Pb-210	#B	6.4567E-01	1.6839E+00	1.6846E+00	0.818E+00
Pb-212		1.4080E+00	1.3780E-01	1.6524E-01	0.656E-01
Pb-214		1.0793E+00	1.3615E-01	1.5222E-01	0.714E-01
RA-226	B	8.2560E-01	1.1658E+00	1.1670E+00	0.952E+00
Th-230	#B	-8.6369E+00	9.2514E+02	9.2514E+02	0.955E+01
Th-234	F	1.3508E+00	5.4442E-01	5.6323E-01	0.816E+00
Tl-208	F	4.6778E-01	8.8675E-02	9.3108E-02	0.419E-01
U-235	B	-5.5809E-02	4.5917E-02	4.6058E-02	0.721E-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 (39.4 to 2490.9 keV) 1.380E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 20:56:42
New World Technology Spectrum name: 3N000276.An1

Sample description
Parcel D 70-PDT-124-85 388g
2/03/09 10:03

Acquisition information
Start time: 09-Feb-2009 19:26:30
Live time: 5400
Real time: 5405

- -

***** 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		1.1758E+00	2.1788E-01	2.2973E-01	0.145E+00
AM-241	#B	-4.5825E-02	3.1511E-01	3.1514E-01	0.345E-01
Bi-212	F	8.8495E-01	3.3530E-01	3.3969E-01	0.237E+00
BI-214	F	9.0803E-01	1.4263E-01	1.5292E-01	0.560E-01
CO-60	#B	-7.2689E-03	1.1277E-01	1.1277E-01	0.361E-01
CS-137	B	5.9162E-04	3.5050E-02	3.5050E-02	0.317E-01
EU-152	B	4.5812E-02	2.5139E-01	2.5141E-01	0.742E-01
EU-154	F	5.9020E-02	5.4775E-02	5.4933E-02	0.532E-01
K-40		8.2008E+00	9.7108E-01	1.0968E+00	0.382E+00
Pa-234	B	3.7088E-03	1.3957E-01	1.3957E-01	0.782E-01
Pb-210	#B	-1.3807E+00	1.8194E+00	1.8225E+00	0.715E+00
Pb-212		1.2736E+00	1.0421E-01	1.3289E-01	0.582E-01
PB-214		9.4686E-01	1.4266E-01	1.5466E-01	0.709E-01
RA-226	F	8.8959E-01	8.9759E-01	8.9943E-01	0.730E+00
Th-230	B	8.6865E-01	7.3017E+00	7.3026E+00	0.601E+01
Th-234	#F	1.3633E+00	1.6544E+00	1.6608E+00	0.698E+00
Tl-208	F	5.4948E-01	8.3140E-02	8.9559E-02	0.300E-01
U-235	#B	-1.2636E-01	2.6376E-01	2.6389E-01	0.515E-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 (39.2 to 2494.9 keV) 1.394E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 22:54:05
New World Technology Spectrum name: 3N000278.An1

Sample description
Parcel D 70-PDT-124-86 384g
2/03/09 10:07

Acquisition information
Start time: 09-Feb-2009 22:08:56
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	F	7.5585E-01	3.1294E-01	3.1642E-01	0.214E+00
AM-241	#B	-5.5318E-02	2.2127E+00	2.2127E+00	0.802E-01
Bi-212	F	6.0875E-01	5.0248E-01	5.0387E-01	0.385E+00
BI-214	F	9.9815E-01	1.9477E-01	2.0399E-01	0.683E-01
CO-60	#B	2.0729E-03	1.4396E-01	1.4396E-01	0.462E-01
CS-137	#B	-2.5570E-02	2.0824E-01	2.0825E-01	0.484E-01
EU-152	B	6.0942E-02	1.2224E-01	1.2232E-01	0.988E-01
EU-154	F	1.3757E-01	1.1932E-01	1.1972E-01	0.714E-01
K-40	#	5.3487E+00	1.9713E+00	1.9991E+00	0.526E+00
Pa-234	F	3.0279E-01	1.5628E-01	1.5797E-01	0.118E+00
Pb-210	#B	-1.3845E+00	2.6257E+00	2.6278E+00	0.101E+01
Pb-212		1.1951E+00	1.4879E-01	1.6771E-01	0.835E-01
PB-214		7.5547E-01	1.6188E-01	1.6875E-01	0.103E+00
RA-226		1.2137E+00	1.1841E+00	1.1867E+00	0.948E+00
Th-230	B	9.4919E-01	7.8310E+00	7.8321E+00	0.643E+01
Th-234	F	1.4250E+00	1.3302E+00	1.3389E+00	0.959E+00
Tl-208	F	5.3224E-01	8.6324E-02	9.2151E-02	0.229E-01
U-235	#B	-1.2695E-01	3.6661E-01	3.6670E-01	0.728E-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 (39.2 to 2494.9 keV) 1.141E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 20:08:39
New World Technology Spectrum name: 1N000299.An1

Sample description
Parcel D 70-PDT-124-87 389g
2/03/09 10:10

Acquisition information
Start time: 09-Feb-2009 19:23:30
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	1.1108E+00	2.7520E-01	2.8370E-01	0.204E+00
AM-241 #A	-5.3146E-02	3.3110E-01	3.3113E-01	0.745E-01
Bi-212 #F	1.1288E+00	4.7020E-01	4.7531E-01	0.190E+00
BI-214 F	1.0201E+00	1.5658E-01	1.6842E-01	0.422E-01
CO-60 #B	1.9203E-03	9.8529E-03	9.8536E-03	0.811E-02
CS-137 #B	-3.5741E-02	1.4297E+00	1.4297E+00	0.329E-01
EU-152 #A	-2.7653E-02	1.1061E+00	1.1061E+00	0.850E-01
EU-154 #A	3.0268E-03	1.3536E-02	1.3538E-02	0.449E-01
K-40	8.1763E+00	1.2313E+00	1.3321E+00	0.228E+00
Pa-234 #B	-1.2982E-02	9.5882E-02	9.5887E-02	0.837E-01
Pb-210	1.1353E+00	8.5388E-01	8.5833E-01	0.644E+00
Pb-212	1.2502E+00	1.3659E-01	1.5878E-01	0.720E-01
Pb-214	9.7662E-01	1.5848E-01	1.7003E-01	0.757E-01
RA-226 B	7.3428E-01	1.0757E+00	1.0768E+00	0.881E+00
Th-230 #B	-2.8820E+00	2.1578E+01	2.1581E+01	0.741E+01
Th-234 F	1.4751E+00	4.8761E-01	5.1245E-01	0.832E+00
Tl-208 F	3.8678E-01	7.3053E-02	7.6731E-02	0.399E-01
U-235 #B	-4.6538E-02	7.9574E-02	7.9631E-02	0.682E-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 (39.4 to 2490.9 keV) 1.518E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 20:18:50
New World Technology Spectrum name: 4N000165.An1

Sample description
Parcel D 70-PDT-124-88 390g
2/03/09 09:15

Acquisition information
Start time: 09-Feb-2009 19:33:42
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		1.0523E+00	2.5154E-01	2.5985E-01	0.181E+00
AM-241	#B	-4.1185E-02	6.1063E-01	6.1064E-01	0.111E+00
Bi-212	F	8.7697E-01	4.6595E-01	4.6906E-01	0.320E+00
BI-214	F	1.1092E+00	1.9343E-01	2.0482E-01	0.715E-01
CO-60	#B	-2.1284E-02	1.6053E-01	1.6053E-01	0.574E-01
CS-137	#B	-5.2208E-03	6.0652E-02	6.0653E-02	0.417E-01
EU-152	B	7.7597E-02	1.0286E-01	1.0301E-01	0.992E-01
EU-154	F	9.2699E-02	1.7573E-01	1.7585E-01	0.846E-01
K-40		1.1537E+01	1.4037E+00	1.5764E+00	0.241E+00
Pa-234	B	4.9550E-02	5.0203E-02	5.0345E-02	0.121E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	1.3110E+00	1.4727E-01	1.6999E-01	0.811E-01
Pb-214	F	1.1274E+00	1.9424E-01	2.0685E-01	0.845E-01
RA-226	B	7.5709E-01	1.3575E+00	1.3584E+00	0.111E+01
Th-230	#B	-7.0593E+00	2.8237E+02	2.8237E+02	0.876E+01
Th-234	B	9.2852E-01	8.1556E-01	8.2159E-01	0.111E+01
Tl-208	F	5.6094E-01	9.7101E-02	1.2048E-01	0.219E-01
U-235	B	2.2389E-02	8.0355E-02	8.0368E-02	0.673E-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 (52.3 to 3331.5 keV) 1.758E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 22:07:16
New World Technology Spectrum name: 4N000167.An1

Sample description
Parcel D 70-PDT-124-89 353g
2/03/09 10:20

Acquisition information
Start time: 09-Feb-2009 21:22:07
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	F	7.2184E-01	2.0868E-01	2.1342E-01	0.185E+00
AM-241	B	9.5885E-02	1.7572E-01	1.7590E-01	0.144E+00
Bi-212	F	7.4985E-01	4.6196E-01	4.6425E-01	0.323E+00
BI-214	F	9.4690E-01	2.1999E-01	2.2738E-01	0.869E-01
CO-60	#B	6.9064E-03	3.5384E-02	3.5386E-02	0.524E-01
CS-137	#B	-1.5103E-02	9.6293E-02	9.6297E-02	0.427E-01
EU-152	F	1.2220E-01	1.1174E-01	1.1207E-01	0.110E+00
EU-154	#B	3.1660E-02	5.3682E-02	5.3729E-02	0.885E-01
K-40		9.9256E+00	1.3366E+00	1.4723E+00	0.186E+00
Pa-234	B	1.2465E-01	1.8889E-01	1.8913E-01	0.156E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	9.2268E-01	1.4079E-01	1.5295E-01	0.790E-01
Pb-214	F	6.7346E-01	2.2472E-01	2.2870E-01	0.837E-01
RA-226	#B	-6.6635E-02	2.0313E+00	2.0313E+00	0.123E+01
Th-230	B	1.9164E+00	1.3602E+01	1.3605E+01	0.114E+02
Th-234	B	6.0390E-01	1.0592E+00	1.0612E+00	0.114E+01
Tl-208	F	2.4199E-01	6.7340E-02	7.4037E-02	0.404E-01
U-235	B	4.8831E-02	9.4161E-02	9.4214E-02	0.765E-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 (52.3 to 3331.5 keV) 1.418E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 23:26:31
New World Technology Spectrum name: 4N000168.An1

Sample description
Parcel D 70-PDT-124-90 356g
2/03/09 10:25

Acquisition information
Start time: 09-Feb-2009 22:41:24
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	F	8.7137E-01	2.8222E-01	2.8733E-01	0.195E+00
AM-241	#B	-4.1092E-02	5.9120E-01	5.9121E-01	0.129E+00
Bi-212	F	8.1166E-01	5.0248E-01	5.0495E-01	0.357E+00
BI-214	F	8.3958E-01	1.9622E-01	2.0273E-01	0.808E-01
CO-60	#B	1.7507E-02	1.7670E-02	1.7702E-02	0.541E-01
CS-137	#B	-3.1452E-02	2.1143E-01	2.1144E-01	0.334E-01
EU-152	B	6.5286E-02	9.3911E-02	9.4024E-02	0.108E+00
EU-154	B	6.6102E-02	8.9780E-02	8.9901E-02	0.886E-01
K-40		8.3683E+00	1.4890E+00	1.5773E+00	0.723E+00
Pa-234	B	5.2584E-02	1.5945E-01	1.5950E-01	0.121E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	9.2899E-01	1.3571E-01	1.4844E-01	0.796E-01
Pb-214		8.5024E-01	2.2785E-01	2.3408E-01	0.106E+00
RA-226		2.0264E+00	1.3787E+00	1.3849E+00	0.108E+01
Th-230	#B	-4.5580E+00	5.3212E+01	5.3215E+01	0.117E+02
Th-234	F	2.6870E+00	1.1032E+00	1.1400E+00	0.114E+01
Tl-208	F	3.2082E-01	9.5245E-02	1.0361E-01	0.473E-01
U-235	#B	-1.3307E-01	4.1966E-01	4.1975E-01	0.838E-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 (52.3 to 3331.5 keV) 1.502E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 20:19:00
New World Technology Spectrum name: 5N000192.An1

Sample description
Parcel D 70-PDT-124-91 361g
2/03/09 10:28

Acquisition information
Start time: 09-Feb-2009 19:33:44
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	F	9.0550E-01	2.7127E-01	2.7701E-01	0.118E+00
AM-241	B	2.2708E-02	1.2666E-01	1.2667E-01	0.106E+00
Bi-212	F	1.1003E+00	4.2826E-01	4.3357E-01	0.244E+00
BI-214	F	6.6090E-01	2.4795E-01	2.5118E-01	0.797E-01
CO-60	#B	-1.1718E-03	2.9501E-03	2.9510E-03	0.432E-01
CS-137		9.3175E-02	4.5112E-02	4.5469E-02	0.242E-01
EU-152	F	1.6586E-01	1.0015E-01	1.0083E-01	0.977E-01
EU-154	F	1.8514E-01	1.1594E-01	1.1667E-01	0.757E-01
K-40		1.0708E+01	1.3840E+00	1.5358E+00	0.104E+00
Pa-234	F	2.2472E-01	1.3138E-01	1.3249E-01	0.103E+00
Pb-210	#F	1.4677E+00	2.9428E+00	2.9449E+00	0.116E+01
Pb-212	F	8.9233E-01	1.3255E-01	1.4459E-01	0.771E-01
Pb-214		6.9896E-01	1.9139E-01	1.9640E-01	0.104E+00
RA-226	B	5.1933E-01	1.2784E+00	1.2788E+00	0.106E+01
Th-230	B	2.9472E+00	8.5629E+00	8.5719E+00	0.716E+01
Th-234	B	5.5126E-01	4.1898E-01	4.2312E-01	0.103E+01
Tl-208	#F	4.2244E-01	9.1987E-02	9.5482E-02	0.390E-01
U-235	B	2.9724E-02	8.4750E-02	8.4772E-02	0.688E-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 2445.9 keV) 1.565E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 22:49:58
New World Technology Spectrum name: 5N000193.An1

Sample description
Parcel D 70-PDT-124-92 370g
2/03/09 10:30

Acquisition information
Start time: 09-Feb-2009 21:19:47
Live time: 5400
Real time: 5404

- -

***** 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	F	1.2221E+00	2.8001E-01	2.9006E-01	0.111E+00
AM-241	B	2.1330E-02	1.0145E-01	1.0146E-01	0.847E-01
Bi-212	F	9.0771E-01	5.0381E-01	5.0690E-01	0.244E+00
BI-214	F	1.0056E+00	1.5598E-01	1.6750E-01	0.544E-01
CO-60	#B	1.9454E-02	1.0087E-01	1.0088E-01	0.308E-01
CS-137		4.4875E-02	3.8029E-02	3.8127E-02	0.282E-01
EU-152	F	1.3494E-01	5.4811E-02	5.5633E-02	0.568E-01
EU-154	#B	1.2965E-02	1.5916E-02	1.5942E-02	0.511E-01
K-40		1.0164E+01	9.4180E-01	1.1342E+00	0.508E-01
Pa-234	#F	1.6787E-01	1.5170E-01	1.5224E-01	0.876E-01
Pb-210		1.6165E+00	1.0931E+00	1.0999E+00	0.658E+00
Pb-212		1.1002E+00	9.7642E-02	1.2087E-01	0.534E-01
Pb-214		8.3540E-01	9.9469E-02	1.1257E-01	0.514E-01
RA-226	B	1.6481E-01	8.6504E-01	8.6510E-01	0.725E+00
Th-230	#B	-4.0266E+00	5.1450E+01	5.1453E+01	0.542E+01
Th-234	B	7.2742E-01	2.6730E-01	2.7841E-01	0.731E+00
Tl-208	F	4.0722E-01	7.4694E-02	7.8663E-02	0.314E-01
U-235	#B	-2.5372E-02	7.6230E-02	7.6247E-02	0.488E-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 2445.9 keV) 1.747E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 21:41:25
New World Technology Spectrum name: 2N000191.An1

Sample description
Parcel D 70-PDT-124-93 380g
2/03/09 10:37

Acquisition information
Start time: 09-Feb-2009 20:11:10
Live time: 5400
Real time: 5408

- -

***** 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		1.0574E+00	1.5105E-01	1.6463E-01	0.134E+00
AM-241	#B	-2.9906E-01	2.1601E+00	2.1603E+00	0.583E+00
Bi-212	F	6.0484E-01	3.3022E-01	3.3231E-01	0.250E+00
BI-214	F	9.0029E-01	1.4336E-01	1.5343E-01	0.601E-01
CO-60	#B	9.6442E-03	4.0123E-02	4.0128E-02	0.325E-01
CS-137		7.4020E-02	4.2512E-02	4.2752E-02	0.332E-01
EU-152	B	1.8356E-02	4.6073E-02	4.6091E-02	0.772E-01
EU-154	F	8.4689E-02	8.7775E-02	8.7978E-02	0.545E-01
K-40		9.0037E+00	9.6794E-01	1.1182E+00	0.134E+00
Pa-234	F	1.9183E-01	1.6295E-01	1.6360E-01	0.154E+00
Pb-210	#F	0.0000E+00	3.1515E+00	3.1517E+00	0.000E+00
Pb-212		9.9984E-01	1.1012E-01	1.2774E-01	0.654E-01
PB-214	F	8.1448E-01	1.6553E-01	1.7332E-01	0.888E-01
RA-226		1.2054E+00	1.0762E+00	1.0790E+00	0.872E+00
Th-230	#B	-5.9006E+00	2.2938E+02	2.2938E+02	0.246E+02
Th-234	#F	3.0392E+00	4.1011E+00	4.1140E+00	0.284E+01
Tl-208	F	4.1033E-01	6.5525E-02	8.3760E-02	0.205E-01
U-235	B	-9.7806E-02	9.9563E-02	9.9764E-02	0.688E-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 (43.2 to 2752.7 keV) 1.507E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 21:11:08
New World Technology Spectrum name: 4N000166.An1

Sample description
Parcel D 70-PDT-124-94 380g
2/03/09 10:55

Acquisition information
Start time: 09-Feb-2009 20:25:59
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	F	6.9635E-01	2.8456E-01	2.8781E-01	0.186E+00
AM-241	B	6.3269E-02	1.6633E-01	1.6641E-01	0.137E+00
Bi-212		9.4926E-01	4.3971E-01	4.4357E-01	0.285E+00
BI-214	F	1.0914E+00	2.1673E-01	2.2663E-01	0.808E-01
CO-60	#B	7.2404E-03	9.6457E-02	9.6458E-02	0.488E-01
CS-137	B	7.0049E-03	4.4486E-02	4.4488E-02	0.398E-01
EU-152	F	1.3375E-01	1.1583E-01	1.1621E-01	0.986E-01
EU-154	B	8.0561E-02	9.5732E-02	9.5900E-02	0.828E-01
K-40		1.1685E+01	1.4478E+00	1.6199E+00	0.262E+00
Pa-234	B	1.0894E-01	1.5527E-01	1.5550E-01	0.154E+00
Pb-210	#	0.0000E+00	0.0000E+00	0.0000E+00	0.000E+00
Pb-212	F	9.7037E-01	1.3642E-01	1.5020E-01	0.810E-01
Pb-214		1.0624E+00	1.6460E-01	1.7772E-01	0.639E-01
RA-226	B	6.1738E-01	1.3833E+00	1.3839E+00	0.113E+01
Th-230	B	2.3584E+00	1.1454E+01	1.1458E+01	0.959E+01
Th-234	F	1.7780E+00	9.2648E-01	9.4581E-01	0.116E+01
Tl-208	F	3.0024E-01	7.6957E-02	8.5906E-02	0.467E-01
U-235	#B	-4.2767E-02	1.1979E-01	1.1982E-01	0.709E-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 (52.3 to 3331.5 keV) 1.675E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 22:50:35
New World Technology Spectrum name: 2N000192.An1

Sample description
Parcel D 70-PDT-124-95 381g
2/03/09 11:00

Acquisition information
Start time: 09-Feb-2009 22:05:23
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	F	9.7647E-01	3.2788E-01	3.3341E-01	0.182E+00
AM-241	#B	-6.2544E-01	2.5018E+01	2.5018E+01	0.520E+00
Bi-212	B	3.4783E-01	6.7605E-01	6.7639E-01	0.372E+00
BI-214	F	1.0802E+00	2.0996E-01	2.1997E-01	0.765E-01
CO-60	#B	1.6824E-02	4.8855E-02	4.8866E-02	0.473E-01
CS-137		5.8722E-02	5.5495E-02	5.5610E-02	0.445E-01
EU-152	B	6.1139E-02	1.0745E-01	1.0754E-01	0.115E+00
EU-154	F	1.3703E-01	8.2894E-02	8.3455E-02	0.902E-01
K-40		1.0240E+01	1.4423E+00	1.5766E+00	0.207E+00
Pa-234	#B	9.4334E-02	1.2280E-01	1.2301E-01	0.248E+00
Pb-210	#F	0.0000E+00	4.6778E+00	4.6779E+00	0.000E+00
Pb-212		9.2377E-01	1.5309E-01	1.6436E-01	0.965E-01
PB-214	F	7.8887E-01	1.9172E-01	1.9807E-01	0.117E+00
RA-226	#B	-3.5091E-01	4.1566E+00	4.1567E+00	0.126E+01
Th-230	#B	1.0735E+01	9.6556E+01	9.6566E+01	0.422E+02
Th-234	B	1.3786E+00	3.6841E+00	3.6871E+00	0.297E+01
Tl-208	F	3.1836E-01	7.9873E-02	8.9546E-02	0.331E-01
U-235	#B	-2.0446E-01	7.7911E-01	7.7922E-01	0.879E-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 (43.2 to 2752.7 keV) 1.439E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) wan32 G53W2.06 09-FEB-2009 21:57:58
New World Technology Spectrum name: 6N000206.An1

Sample description
Parcel D 70-PDT-124-96 376g
2/03/09 11:05

Acquisition information
Start time: 09-Feb-2009 21:12:46
Live time: 2700
Real time: 2706

- -

***** 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		7.7220E-01	2.1328E-01	2.1519E-01	0.165E+00
AM-241	#A	-5.9523E-02	-2.5572E+00	-2.5572E+00	0.814E-01
Bi-212	F	6.6374E-01	4.2844E-01	4.2915E-01	0.321E+00
BI-214		9.4570E-01	1.7357E-01	1.7707E-01	0.677E-01
CO-60	#F	1.6315E-02	1.8020E-02	1.8030E-02	0.125E-01
CS-137	B	2.1632E-02	4.9582E-02	4.9588E-02	0.390E-01
EU-152	#F	1.4092E-01	6.0075E-02	6.0300E-02	0.101E+00
EU-154	F	1.1866E-01	8.1808E-02	8.1926E-02	0.575E-01
K-40		9.3443E+00	1.4101E+00	1.4520E+00	0.513E+00
Pa-234	F	2.3935E-01	1.7120E-01	1.7143E-01	0.113E+00
Pb-210	B	7.5358E-01	1.0132E+00	1.0136E+00	0.836E+00
Pb-212	F	8.9486E-01	1.2434E-01	1.2868E-01	0.674E-01
PB-214		8.2574E-01	1.7004E-01	1.7277E-01	0.950E-01
RA-226	F	9.4133E-01	1.1615E+00	1.1620E+00	0.935E+00
Th-230	#B	2.7385E+00	9.6988E+00	9.6993E+00	0.744E+01
Th-234	F	1.0937E+00	3.5192E-01	3.5423E-01	0.850E+00
Tl-208	F	2.9260E-01	7.2141E-02	7.2951E-02	0.282E-01
U-235	B	-7.9877E-02	-1.9893E-01	-1.9895E-01	0.691E-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 (43.5 to 2782.6 keV) 1.3739162E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 21:48:09
New World Technology Spectrum name: 3N000277.An1

Sample description
Parcel D 70-PDT-124-97 353g
2/03/09 11:11

Acquisition information
Start time: 09-Feb-2009 21:03:00
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	6.9174E-01	2.1064E-01	2.1496E-01	0.249E+00
AM-241	#B	-4.0921E-02	6.4412E-01	6.4413E-01	0.105E+00
Bi-212	B	6.2948E-03	5.5515E-03	5.5650E-03	0.339E+00
BI-214	F	7.3937E-01	1.8701E-01	1.9233E-01	0.784E-01
CO-60	#B	6.8128E-04	1.2406E-01	1.2406E-01	0.398E-01
CS-137	F	4.2476E-02	4.6000E-02	4.6073E-02	0.383E-01
EU-152	F	1.4895E-01	1.1152E-01	1.1201E-01	0.949E-01
EU-154	F	1.0296E-01	9.2595E-02	9.2880E-02	0.662E-01
K-40		1.1133E+01	1.4764E+00	1.6306E+00	0.114E+00
Pa-234	#F	1.1104E-01	7.7878E-02	7.8337E-02	0.836E-01
Pb-210	#B	-1.8942E+00	3.6192E+00	3.6221E+00	0.109E+01
Pb-212	F	7.2915E-01	1.3408E-01	1.4215E-01	0.821E-01
PB-214	F	6.4498E-01	2.0410E-01	2.0812E-01	0.971E-01
RA-226	B	8.5326E-01	1.2728E+00	1.2740E+00	0.104E+01
Th-230	#B	-6.1298E-01	2.0075E+02	2.0075E+02	0.706E+01
Th-234	F	1.4130E+00	1.0155E+00	1.0267E+00	0.785E+00
Tl-208	F	4.4173E-01	9.8602E-02	1.0217E-01	0.330E-01
U-235	#B	-7.6671E-02	1.7340E-01	1.7348E-01	0.731E-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 (39.2 to 2494.9 keV) 1.579E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Wan32 G53W2.10 09-FEB-2009 23:38:39
New World Technology Spectrum name: 1N000301.An1

Sample description
Parcel D 70-PDT-124-98 354g
2/03/09 11:20

Acquisition information
Start time: 09-Feb-2009 22:08:29
Live time: 5400
Real time: 5403

- -

***** 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	F	5.2554E-01	1.3620E-01	1.4004E-01	0.167E+00
AM-241	#A	-9.6154E-02	2.1408E+00	2.1408E+00	0.459E-01
Bi-212	F	4.8396E-01	2.4279E-01	2.4461E-01	0.159E+00
BI-214	F	6.1059E-01	9.6871E-02	1.0375E-01	0.448E-01
CO-60	#B	-3.1636E-03	1.9007E-01	1.9007E-01	0.307E-01
CS-137	#B	-2.3380E-02	1.2302E-01	1.2302E-01	0.301E-01
EU-152	C	1.0152E-01	7.7856E-02	7.8180E-02	0.479E-01
EU-154	C	4.2637E-02	2.6751E-02	2.6917E-02	0.277E-01
K-40		6.0223E+00	8.4634E-01	9.2550E-01	0.221E+00
Pa-234	#B	4.0659E-02	1.5986E-01	1.5989E-01	0.677E-01
Pb-210	#B	-8.2881E-01	2.4697E+00	2.4705E+00	0.563E+00
Pb-212	F	7.4258E-01	7.9482E-02	9.2896E-02	0.444E-01
Pb-214		6.5431E-01	8.7571E-02	9.6806E-02	0.324E-01
RA-226		1.0097E+00	7.7350E-01	7.7623E-01	0.626E+00
Th-230	#B	-4.2675E+00	1.9920E+01	1.9928E+01	0.529E+01
Th-234	B	-1.7174E+00	1.7804E+00	1.7898E+00	0.606E+00
Tl-208		1.8388E-01	4.6315E-02	4.7640E-02	0.326E-01
U-235	B	-1.4986E-01	1.7755E-01	1.7781E-01	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 (39.4 to 2490.9 keV) 9.707E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 09:30:49
New World Technology Spectrum name: 4N000575.An1

Sample description
Parcel G 70-PGT-124-99 399g
6/04/09 09:54

Acquisition information
Start time: 05-Jun-2009 08:39:41
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	F	2.1496E+00	2.9413E-01	3.2286E-01	0.125E+00
AM-241	B	4.6433E-02	6.1774E-01	6.1775E-01	0.511E+00
Bi-212		1.2365E+00	5.0190E-01	5.0762E-01	0.367E+00
BI-214	F	1.3824E+00	1.9454E-01	2.1188E-01	0.724E-01
CO-60	#F	3.8606E-02	1.8374E-02	1.8525E-02	0.181E-01
CS-137	F	4.2641E-02	5.1410E-02	5.1476E-02	0.387E-01
EU-152	F	1.8046E-01	1.2444E-01	1.2509E-01	0.156E+00
EU-154	F	1.5473E-01	9.4253E-02	9.4883E-02	0.109E+00
K-40		1.5930E+01	1.6392E+00	1.9152E+00	0.275E+00
Pa-234	F	2.2944E-01	1.9196E-01	1.9276E-01	0.222E+00
Pb-210	#F	0.0000E+00	7.0211E+00	7.0211E+00	0.000E+00
Pb-212	F	1.4393E+00	1.6059E-01	1.8568E-01	0.963E-01
Pb-214	F	1.2672E+00	1.6536E-01	1.8366E-01	0.823E-01
RA-226		1.9434E+00	1.3625E+00	1.3683E+00	0.107E+01
Th-230	#B	-2.4728E+01	2.3426E+01	2.3426E+01	0.905E+01
Th-234	#B	-8.0861E-01	5.0351E+00	5.0358E+00	0.292E+01
Tl-208		6.3328E-01	1.1346E-01	1.1977E-01	0.519E-01
U-235	B	7.2839E-02	1.1012E-01	1.1022E-01	0.761E-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 (40.4 to 2576.4 keV) 2.598E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 16:45:19
New World Technology Spectrum name: 4N000576.An1

Sample description
Parcel G 70-PGT-124-100 368g
6/04/09 09:51

Acquisition information
Start time: 05-Jun-2009 15:00:45
Live time: 5400
Real time: 5408

- -

***** 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		1.8364E+00	2.4815E-01	2.7297E-01	0.137E+00
AM-241	B	1.8770E-01	4.3596E-01	4.3623E-01	0.357E+00
Bi-212	F	6.7785E-01	3.4941E-01	3.5189E-01	0.273E+00
BI-214	F	1.1754E+00	1.2707E-01	1.4574E-01	0.571E-01
CO-60	#F	6.9041E-02	4.9136E-02	4.9317E-02	0.244E-01
CS-137	B	2.6399E-02	3.6625E-02	3.6660E-02	0.285E-01
EU-152	B	9.2687E-02	8.1268E-02	8.1531E-02	0.112E+00
EU-154	F	1.0967E-01	5.4007E-02	5.4558E-02	0.761E-01
K-40		1.5758E+01	1.1467E+00	1.5084E+00	0.108E+00
Pa-234	#B	4.7796E-02	4.1476E-02	4.1635E-02	0.139E+00
Pb-210	#F	0.0000E+00	1.0144E+01	1.0144E+01	0.000E+00
Pb-212		1.2843E+00	1.0790E-01	1.3623E-01	0.632E-01
Pb-214	F	9.6433E-01	1.5783E-01	1.6915E-01	0.771E-01
RA-226		1.2405E+00	9.8157E-01	9.8483E-01	0.788E+00
Th-230	#B	-5.9929E+00	3.4457E+01	3.4466E+01	0.188E+02
Th-234	#B	-1.8963E+00	6.1060E+00	6.1094E+00	0.214E+01
Tl-208	F	4.9571E-01	6.5367E-02	7.1937E-02	0.380E-01
U-235	F	1.3147E-01	6.4688E-02	6.5243E-02	0.501E-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 (40.4 to 2576.4 keV) 2.363E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 18:30:12
New World Technology Spectrum name: 2N000675.An1

Sample description
Parcel G 70-PGT-124-101 369g
6/04/09 09:49

Acquisition information
Start time: 05-Jun-2009 16:57:52
Live time: 5400
Real time: 5408

- -

***** 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	F	2.0664E+00	3.4300E-01	3.6610E-01	0.141E+00
AM-241	B	2.4080E-02	9.6849E-02	9.6870E-02	0.797E-01
Bi-212	F	1.2549E+00	4.2303E-01	4.3000E-01	0.296E+00
BI-214	F	1.5587E+00	1.8780E-01	2.1030E-01	0.687E-01
CO-60	#B	-1.4140E-03	8.7714E-02	8.7714E-02	0.836E-02
CS-137	#B	-7.8193E-02	2.8069E-01	2.8074E-01	0.533E-01
EU-152	#F	1.0344E-01	8.5440E-02	8.5751E-02	0.680E-01
EU-154	F	1.5319E-01	1.0808E-01	1.0862E-01	0.631E-01
K-40		1.2745E+01	1.1634E+00	1.4077E+00	0.179E+00
Pa-234	B	8.5062E-02	1.0462E-01	1.0482E-01	0.102E+00
Pb-210	B	4.8011E-01	8.5511E-01	8.5589E-01	0.735E+00
Pb-212		2.0616E+00	1.3693E-01	1.9124E-01	0.708E-01
PB-214		1.5171E+00	1.4555E-01	1.7419E-01	0.680E-01
RA-226		3.0122E+00	1.0688E+00	1.0864E+00	0.817E+00
Th-230	#B	-3.1221E+00	3.6025E+01	3.6027E+01	0.794E+01
Th-234	F	1.3770E+00	7.7770E-01	7.9154E-01	0.714E+00
Tl-208		5.6551E-01	7.6420E-02	8.3750E-02	0.456E-01
U-235	F	1.2022E-01	7.3788E-02	7.4195E-02	0.580E-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 (40.6 to 2592.1 keV) 2.628E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 17:49:32
New World Technology Spectrum name: 4N000577.An1

Sample description
Parcel G 70-PGT-124-102 360g
6/04/09 09:47

Acquisition information
Start time: 05-Jun-2009 17:03:04
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	F	6.9642E-01	1.8156E-01	1.8662E-01	0.178E+00
AM-241	#B	3.3108E-01	6.1387E-01	6.1448E-01	0.410E+00
Bi-212	B	7.8548E-02	4.3112E-01	4.3115E-01	0.382E+00
BI-214	F	5.6557E-01	1.3819E-01	1.4240E-01	0.745E-01
CO-60	#F	3.4962E-02	4.2311E-02	4.2365E-02	0.234E-01
CS-137	#B	1.6412E-02	5.1328E-02	5.1338E-02	0.328E-01
EU-152	B	2.8968E-02	4.6761E-02	4.6805E-02	0.112E+00
EU-154	F	1.3866E-01	1.1118E-01	1.1160E-01	0.781E-01
K-40		1.2794E+01	1.4960E+00	1.6944E+00	0.196E+00
Pa-234	B	1.0298E-01	6.3336E-02	6.3820E-02	0.190E+00
Pb-210	#F	0.0000E+00	2.3024E+00	2.3024E+00	0.000E+00
Pb-212	F	4.0734E-01	1.1396E-01	1.1697E-01	0.839E-01
Pb-214	F	4.1791E-01	1.3128E-01	1.3390E-01	0.858E-01
RA-226	F	8.3048E-01	9.7829E-01	9.7976E-01	0.784E+00
Th-230	#B	-1.2519E+01	7.0344E+01	7.0364E+01	0.209E+02
Th-234	#B	-2.7223E+00	1.2504E+01	1.2507E+01	0.249E+01
Tl-208	F	2.2836E-01	9.0960E-02	9.2006E-02	0.484E-01
U-235	B	4.2537E-02	1.3694E-01	1.3696E-01	0.514E-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 (40.4 to 2576.4 keV) 1.525E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 7:59:44 PM
New World Technology Spectrum name: 7N000434.An1

Sample description
Parcel G 70-PGT-124-103 394g
6/04/09 09:45

Acquisition information
Start time: 6/5/2009 6:01:12 PM
Live time: 5400
Real time: 5408

- -

***** 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	F	2.3769E+00	2.7589E-01	3.1271E-01	0.124E+00
AM-241	A	5.7555E-02	1.0985E-01	1.0995E-01	0.902E-01
Bi-212		9.2813E-01	3.9356E-01	3.9767E-01	0.293E+00
BI-214		1.5409E+00	1.3256E-01	1.6226E-01	0.542E-01
CO-60	F	4.5459E-02	3.3864E-02	3.3979E-02	0.185E-01
CS-137	B	2.1220E-02	3.1789E-02	3.1815E-02	0.248E-01
EU-152	F	2.3955E-01	8.3254E-02	8.4955E-02	0.937E-01
EU-154	B	1.7387E-02	2.0380E-02	2.0417E-02	0.724E-01
K-40		1.1295E+01	1.0364E+00	1.2520E+00	0.291E+00
Pa-234	F	1.4208E-01	1.0099E-01	1.0157E-01	0.107E+00
Pb-210		1.4295E+00	8.0280E-01	8.1025E-01	0.634E+00
Pb-212		1.9054E+00	1.1205E-01	1.6667E-01	0.612E-01
PB-214		1.3828E+00	1.5295E-01	1.7607E-01	0.618E-01
RA-226		2.1632E+00	8.8308E-01	8.9406E-01	0.689E+00
Th-230	#B	-3.0225E+00	2.6118E+01	2.6121E+01	0.560E+01
Th-234	F	1.2236E+00	7.4337E-01	7.5481E-01	0.607E+00
Tl-208	F	5.9894E-01	7.1847E-02	1.0470E-01	0.100E+00
U-235	F	7.3997E-02	6.0876E-02	6.1063E-02	0.487E-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 (41.0 to 2614.9 keV) 2.496E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 06-JUN-2009 01:31:21
New World Technology Spectrum name: 5N000587.An1

Sample description
Parcel G 70-PGT-124-104 329g
6/04/09 09:43

Acquisition information
Start time: 05-Jun-2009 08:39:41
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	F	1.2534E+00	2.3294E-01	2.4554E-01	0.108E+00
AM-241	#B	-2.1797E-02	2.1274E-01	2.1275E-01	0.581E-01
Bi-212	F	9.0778E-01	4.5394E-01	4.5736E-01	0.308E+00
BI-214	F	8.4130E-01	1.9556E-01	2.0212E-01	0.723E-01
CO-60	B	2.8459E-02	1.9999E-02	2.0075E-02	0.339E-01
CS-137	B	1.3600E-02	4.4870E-02	4.4878E-02	0.354E-01
EU-152	B	4.7675E-02	4.2903E-02	4.3035E-02	0.935E-01
EU-154	B	6.2382E-02	6.1195E-02	6.1353E-02	0.805E-01
K-40		8.8682E+00	1.3738E+00	1.4803E+00	0.403E+00
Pa-234	F	1.4202E-01	1.2423E-01	1.2470E-01	0.125E+00
Pb-210	#B	-1.4041E-01	1.5974E+00	1.5975E+00	0.106E+01
Pb-212		1.0188E+00	1.3471E-01	1.5000E-01	0.760E-01
Pb-214	F	7.1244E-01	2.0235E-01	2.0728E-01	0.875E-01
RA-226	B	8.1934E-01	1.1392E+00	1.1404E+00	0.920E+00
Th-230	#B	5.1007E+00	1.0747E+01	1.0769E+01	0.759E+01
Th-234	F	8.6887E-01	1.0668E+00	1.0709E+00	0.867E+00
Tl-208	F	4.0600E-01	9.2933E-02	9.6134E-02	0.406E-01
U-235	F	1.2389E-01	8.0250E-02	8.0649E-02	0.545E-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 2445.7 keV) 1.413E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 14:02:24
New World Technology Spectrum name: 5N000588.An1

Sample description
Parcel G 70-PGT-124-105 397g
6/04/09 09:41

Acquisition information
Start time: 05-Jun-2009 13:15:11
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	F	1.5246E+00	2.4506E-01	2.6263E-01	0.154E+00
AM-241		3.4982E-01	1.6800E-01	1.7049E-01	0.129E+00
Bi-212	F	5.7433E-01	4.3098E-01	4.3242E-01	0.405E+00
BI-214	F	1.0082E+00	1.8590E-01	1.9572E-01	0.101E+00
CO-60	#B	-1.8654E-03	1.8277E-03	1.8313E-03	0.239E-01
CS-137	B	3.1108E-02	4.5667E-02	4.5706E-02	0.345E-01
EU-152	F	2.4770E-01	1.2015E-01	1.2142E-01	0.105E+00
EU-154	F	1.7075E-01	1.5142E-01	1.5190E-01	0.805E-01
K-40		1.1107E+01	1.3845E+00	1.5472E+00	0.334E+00
Pa-234	F	1.7162E-01	1.5526E-01	1.5581E-01	0.127E+00
Pb-210	#B	-5.3070E-01	1.8887E+00	1.8891E+00	0.999E+00
Pb-212		1.5265E+00	1.4335E-01	1.7413E-01	0.726E-01
Pb-214	F	1.1829E+00	1.8215E-01	1.9684E-01	0.715E-01
RA-226	F	1.0580E+00	1.1771E+00	1.1791E+00	0.945E+00
Th-230	B	2.4020E-03	1.0460E+01	1.0460E+01	0.862E+01
Th-234	#B	-7.1162E-02	1.1190E+00	1.1190E+00	0.885E+00
Tl-208	#F	5.3624E-01	9.0311E-02	9.5978E-02	0.358E-01
U-235	F	1.4997E-01	8.0487E-02	8.1068E-02	0.591E-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 2445.7 keV) 1.796E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 15:03:40
New World Technology Spectrum name: 5N000589.An1

Sample description
Parcel G 70-PGT-124-106 390g
6/04/09 09:39

Acquisition information
Start time: 05-Jun-2009 14:10:47
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228		1.8249E+00	2.7205E-01	2.9460E-01	0.860E-01
AM-241	B	2.2140E-02	1.3943E-01	1.3945E-01	0.115E+00
Bi-212	F	1.2767E+00	4.6978E-01	4.7629E-01	0.296E+00
BI-214	F	1.3738E+00	2.0688E-01	2.2306E-01	0.647E-01
CO-60	B	-9.3921E-03	4.1423E-02	4.1427E-02	0.245E-01
CS-137	#B	-9.5747E-05	4.6185E-02	4.6185E-02	0.296E-01
EU-152	F	1.3663E-01	1.0017E-01	1.0064E-01	0.114E+00
EU-154	F	1.4903E-01	1.0042E-01	1.0096E-01	0.764E-01
K-40		1.0214E+01	1.3426E+00	1.4852E+00	0.340E+00
Pa-234	B	7.2249E-02	7.6424E-02	7.6622E-02	0.953E-01
Pb-210		1.2760E+00	1.0774E+00	1.0818E+00	0.857E+00
Pb-212		1.6745E+00	1.4986E-01	1.8498E-01	0.742E-01
Pb-214		1.1971E+00	1.7394E-01	1.8962E-01	0.706E-01
RA-226	F	1.0872E+00	1.1343E+00	1.1364E+00	0.907E+00
Th-230	#B	3.9063E+00	7.7834E+00	7.8009E+00	0.623E+01
Th-234	F	1.5616E+00	1.1004E+00	1.1130E+00	0.892E+00
Tl-208	F	7.0295E-01	1.1268E-01	1.2046E-01	0.415E-01
U-235	F	1.2309E-01	1.0902E-01	1.0931E-01	0.622E-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 2445.7 keV) 2.122E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 17:37:38
New World Technology Spectrum name: 5N000590.An1

Sample description
Parcel G 70-PGT-124-107 392g
6/04/09 09:36

Acquisition information
Start time: 05-Jun-2009 16:01:08
Live time: 5400
Real time: 5405

- -

***** 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		2.8313E+00	2.0164E-01	2.6723E-01	0.824E-01
AM-241	B	3.1685E-03	1.0885E-01	1.0885E-01	0.903E-01
Bi-212	F	1.5596E+00	3.9300E-01	4.0452E-01	0.256E+00
BI-214	F	1.8160E+00	1.6537E-01	1.9876E-01	0.526E-01
CO-60	#F	8.6077E-02	6.1640E-02	6.1864E-02	0.293E-01
CS-137		6.3837E-02	3.9897E-02	4.0087E-02	0.290E-01
EU-152	F	1.6284E-01	8.5345E-02	8.6116E-02	0.859E-01
EU-154	B	3.3284E-02	3.4866E-02	3.4945E-02	0.605E-01
K-40		1.1399E+01	1.0567E+00	1.2724E+00	0.288E+00
Pa-234	B	9.5172E-02	7.0207E-02	7.0581E-02	0.983E-01
Pb-210	B	3.3879E-01	1.2455E+00	1.2458E+00	0.836E+00
Pb-212		2.6278E+00	1.2849E-01	2.1323E-01	0.576E-01
Pb-214		1.8321E+00	1.6097E-01	1.9816E-01	0.636E-01
RA-226		2.4543E+00	8.2464E-01	8.3973E-01	0.626E+00
Th-230	#F	1.1120E+01	1.1403E+01	1.1499E+01	0.740E+01
Th-234		1.1453E+00	7.4067E-01	7.5074E-01	0.718E+00
Tl-208		9.5275E-01	8.6604E-02	1.0408E-01	0.321E-01
U-235	F	9.6193E-02	7.3895E-02	7.4156E-02	0.510E-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 2445.7 keV) 2.686E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 20:25:59
New World Technology Spectrum name: 5N000591.An1

Sample description
Parcel G 70-PGT-124-108 366g
6/04/09 09:34

Acquisition information
Start time: 05-Jun-2009 18:54:01
Live time: 5400
Real time: 5405

- -

***** 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	F	1.6511E+00	2.3618E-01	2.5737E-01	0.117E+00
AM-241	#B	3.8735E-03	8.5484E-02	8.5484E-02	0.655E-01
Bi-212	F	8.1869E-01	3.6191E-01	3.6539E-01	0.266E+00
BI-214	F	1.1859E+00	1.4734E-01	1.6400E-01	0.500E-01
CO-60	B	2.3838E-02	1.9663E-02	1.9717E-02	0.294E-01
CS-137	B	2.2246E-02	3.3946E-02	3.3973E-02	0.264E-01
EU-152	#F	1.3762E-01	6.1358E-02	6.2123E-02	0.818E-01
EU-154	#B	2.0174E-02	2.0941E-02	2.0989E-02	0.579E-01
K-40		8.6797E+00	9.4853E-01	1.0913E+00	0.340E+00
Pa-234	B	9.2862E-02	6.0262E-02	6.0676E-02	0.101E+00
Pb-210	#B	5.9951E-01	1.1794E+00	1.1803E+00	0.796E+00
Pb-212		1.5190E+00	1.0706E-01	1.4539E-01	0.560E-01
Pb-214		1.0246E+00	1.3950E-01	1.5374E-01	0.601E-01
RA-226		1.6564E+00	8.2629E-01	8.3319E-01	0.646E+00
Th-230	#B	5.6885E+00	9.5046E+00	9.5349E+00	0.630E+01
Th-234	B	6.4877E-01	6.8499E-01	6.8850E-01	0.669E+00
Tl-208	F	6.2755E-01	8.2201E-02	9.0570E-02	0.323E-01
U-235	F	9.2939E-02	5.9712E-02	6.0013E-02	0.424E-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 2445.7 keV) 1.726E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 9:35:56 AM
New World Technology Spectrum name: 6N000722.An1

Sample description
Parcel G 70-PGT-124-109 343g
6/04/09 09:32

Acquisition information
Start time: 6/5/2009 8:49:34 AM
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	B	2.5040E-02	2.7275E-02	2.7319E-02	0.157E+00
AM-241	#A	5.6551E-02	1.1129E-01	1.1139E-01	0.785E-01
Bi-212	#B	-1.7521E-02	4.3491E-01	4.3491E-01	0.500E-01
BI-214		2.7484E-01	1.2282E-01	1.2395E-01	0.696E-01
CO-60	#B	8.7729E-04	8.5291E-03	8.5293E-03	0.889E-02
CS-137	B	1.1730E-02	3.7348E-02	3.7355E-02	0.293E-01
EU-152	F	1.1638E-01	6.9673E-02	7.0156E-02	0.806E-01
EU-154	#F	7.9729E-02	5.3153E-02	5.3449E-02	0.523E-01
K-40		3.4739E+00	8.7423E-01	9.0052E-01	0.338E+00
Pa-234	#F	2.1297E-01	1.1350E-01	1.1465E-01	0.881E-01
Pb-210	#B	-2.4371E-01	1.4506E+00	1.4508E+00	0.802E+00
Pb-212	F	9.8964E-02	8.6649E-02	8.6886E-02	0.580E-01
PB-214	F	1.9833E-01	1.0510E-01	1.0584E-01	0.653E-01
RA-226	B	5.8703E-01	8.7889E-01	8.7971E-01	0.712E+00
Th-230	#B	-1.7658E+00	4.8753E+00	4.8753E+00	0.145E+01
Th-234	#B	-1.3957E+00	2.6670E+00	2.6712E+00	0.777E+00
Tl-208	#F	9.9213E-02	4.0385E-02	4.2310E-02	0.191E-01
U-235	F	6.9592E-02	8.5840E-02	8.5958E-02	0.414E-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 (41.6 to 2659.6 keV) 4.259E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 10:30:34 AM
New World Technology Spectrum name: 6N000723.An1

Sample description
Parcel G 70-PGT-124-110 326g
6/04/09 09:30

Acquisition information
Start time: 6/5/2009 9:41:11 AM
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	B	1.1775E-01	1.2555E-01	1.2576E-01	0.164E+00
AM-241	#A	6.0393E-02	1.2072E-01	1.2083E-01	0.837E-01
Bi-212	B	6.7612E-03	2.5370E-01	2.5371E-01	0.211E+00
BI-214		2.1937E-01	1.0446E-01	1.0531E-01	0.600E-01
CO-60	#B	9.3206E-04	9.4665E-03	9.4667E-03	0.935E-02
CS-137	B	1.3323E-02	3.5535E-02	3.5544E-02	0.274E-01
EU-152	F	8.0495E-02	6.7466E-02	6.7705E-02	0.301E-01
EU-154	F	1.1390E-01	6.6903E-02	6.7384E-02	0.479E-01
K-40		5.0709E+00	1.0348E+00	1.0818E+00	0.213E+00
Pa-234	F	1.5510E-01	1.0436E-01	1.0503E-01	0.635E-01
Pb-210	#B	-6.2734E-01	2.4048E+00	2.4053E+00	0.890E+00
Pb-212	F	1.1365E-01	7.6839E-02	7.7190E-02	0.676E-01
PB-214	F	2.5075E-01	1.5135E-01	1.5217E-01	0.600E-01
RA-226	B	4.1779E-01	9.1538E-01	9.1578E-01	0.751E+00
Th-230	#F	6.2618E+00	8.1759E+00	8.2185E+00	0.599E+01
Th-234	#B	-1.4727E+00	3.2479E+00	3.2517E+00	0.867E+00
Tl-208	F	1.7553E-01	7.8859E-02	8.1956E-02	0.200E-01
U-235	F	8.7395E-02	9.3686E-02	9.3856E-02	0.469E-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 (41.6 to 2659.6 keV) 5.830E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/6/2009 12:50:09 AM
New World Technology Spectrum name: 6N000724.An1

Sample description
Parcel G 70-PGT-124-111 378g
6/04/09 09:28

Acquisition information
Start time: 6/5/2009 11:20:51 AM
Live time: 5400
Real time: 5410

- -

***** 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		1.3872E+00	2.5235E-01	2.6657E-01	0.125E+00
AM-241	#A	3.5664E-02	8.7482E-02	8.7532E-02	0.651E-01
Bi-212		1.1211E+00	3.2802E-01	3.3518E-01	0.209E+00
BI-214		1.0607E+00	1.1373E-01	1.3070E-01	0.521E-01
CO-60	#F	3.0043E-02	4.3466E-02	4.3505E-02	0.237E-01
CS-137	#B	-6.7641E-06	5.1097E-02	5.1097E-02	0.292E-02
EU-152	F	1.8852E-01	7.6305E-02	7.7457E-02	0.691E-01
EU-154	F	1.1610E-01	7.5459E-02	7.5902E-02	0.461E-01
K-40		9.5133E+00	9.9955E-01	1.1615E+00	0.237E+00
Pa-234	#F	1.6296E-01	9.4411E-02	9.5224E-02	0.526E-01
Pb-210	#B	4.7055E-03	7.8414E-01	7.8414E-01	0.609E+00
Pb-212		1.6409E+00	1.0296E-01	1.4796E-01	0.511E-01
PB-214		1.0905E+00	1.4083E-01	1.5673E-01	0.622E-01
RA-226		1.4720E+00	8.0156E-01	8.0718E-01	0.633E+00
Th-230	#B	1.7012E+00	6.2709E+00	6.2750E+00	0.493E+01
Th-234	B	5.8430E-01	2.7606E-01	2.8306E-01	0.671E+00
Tl-208	F	7.7099E-01	1.0728E-01	1.4533E-01	0.947E-02
U-235	F	9.8977E-02	6.6856E-02	6.7161E-02	0.420E-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 (41.6 to 2659.6 keV) 1.816E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 7:59:24 PM
New World Technology Spectrum name: 6N000725.An1

Sample description
Parcel G 70-PGT-124-112 380g
6/04/09 08:47

Acquisition information
Start time: 6/5/2009 5:07:28 PM
Live time: 5400
Real time: 5410

- -

***** 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	F	1.3330E+00	2.7731E-01	2.8934E-01	0.133E+00
AM-241	#	1.0617E-01	1.3473E-01	1.3502E-01	0.839E-01
Bi-212	F	1.0948E+00	3.4210E-01	3.4865E-01	0.226E+00
BI-214		1.1495E+00	1.4353E-01	1.5960E-01	0.537E-01
CO-60	#F	2.8335E-02	3.8493E-02	3.8532E-02	0.210E-01
CS-137	F	3.1196E-02	3.3708E-02	3.3762E-02	0.258E-01
EU-152	B	3.2846E-02	7.6039E-02	7.6074E-02	0.695E-01
EU-154	B	4.8194E-02	4.8309E-02	4.8429E-02	0.493E-01
K-40		9.0737E+00	9.9739E-01	1.1459E+00	0.444E+00
Pa-234	B	5.1988E-02	1.1024E-01	1.1031E-01	0.837E-01
Pb-210	F	7.3716E-01	9.3579E-01	9.3747E-01	0.659E+00
Pb-212		1.4050E+00	9.9179E-02	1.3459E-01	0.533E-01
PB-214		1.1132E+00	1.6415E-01	1.7853E-01	0.715E-01
RA-226		2.2944E+00	7.8653E-01	8.0037E-01	0.599E+00
Th-230	#F	6.3263E+00	7.5873E+00	7.6342E+00	0.551E+01
Th-234	B	3.6545E-02	1.8042E-01	1.8046E-01	0.649E+00
Tl-208	F	7.4848E-01	1.0543E-01	1.4203E-01	0.942E-02
U-235	F	8.7370E-02	7.1081E-02	7.1305E-02	0.445E-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 (41.6 to 2659.6 keV) 1.830E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 18:45:45
New World Technology Spectrum name: 4N000578.An1

Sample description
Parcel G 70-PGT-124-113 377g
6/04/09 08:45

Acquisition information
Start time: 05-Jun-2009 17:54:46
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	F	8.7393E-01	2.1397E-01	2.2071E-01	0.820E-01
AM-241	#B	-1.0157E-02	3.4227E-01	3.4227E-01	0.261E+00
Bi-212	B	2.0884E-01	4.2401E-01	4.2420E-01	0.380E+00
BI-214	F	7.3620E-01	1.3887E-01	1.4589E-01	0.611E-01
CO-60	#F	5.0207E-02	4.1046E-02	4.1161E-02	0.196E-01
CS-137	B	1.6736E-02	4.3022E-02	4.3034E-02	0.337E-01
EU-152	F	1.0911E-01	9.1201E-02	9.1526E-02	0.101E+00
EU-154	F	1.1765E-01	1.1339E-01	1.1370E-01	0.901E-01
K-40		1.2551E+01	1.4567E+00	1.6526E+00	0.198E+00
Pa-234	B	1.1434E-01	1.2302E-01	1.2333E-01	0.173E+00
Pb-210	#F	0.0000E+00	2.2579E+00	2.2579E+00	0.000E+00
Pb-212	F	5.5090E-01	1.1366E-01	1.1912E-01	0.769E-01
Pb-214	F	6.7358E-01	1.4436E-01	1.5048E-01	0.641E-01
RA-226	B	3.4428E-01	1.0757E+00	1.0759E+00	0.887E+00
Th-230	#B	-2.1389E+01	1.3611E+02	1.3614E+02	0.152E+02
Th-234	#B	-1.9633E+00	1.0345E+01	1.0347E+01	0.276E+01
Tl-208	F	2.2691E-01	6.6817E-02	6.8217E-02	0.391E-01
U-235	B	3.5711E-02	7.2254E-02	7.2291E-02	0.580E-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 (40.4 to 2576.4 keV) 1.566E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 12:57:09 PM
New World Technology Spectrum name: 7N000432.An1

Sample description
Parcel G 70-PGT-124-114 369g
6/04/09 08:46

Acquisition information
Start time: 6/5/2009 11:59:49 AM
Live time: 2700
Real time: 2707

- -

***** 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	F	1.5790E+00	3.2622E-01	3.4057E-01	0.144E+00
AM-241	A	9.4027E-03	1.2013E-01	1.2014E-01	0.100E+00
Bi-212	F	6.5274E-01	4.0809E-01	4.1005E-01	0.353E+00
BI-214		8.2959E-01	1.7244E-01	1.7964E-01	0.667E-01
CO-60	#F	3.9812E-02	2.3049E-02	2.3177E-02	0.208E-01
CS-137		7.5992E-02	5.5067E-02	5.5262E-02	0.387E-01
EU-152	F	1.4675E-01	1.1080E-01	1.1128E-01	0.120E+00
EU-154	#B	6.2656E-02	7.5286E-02	7.5415E-02	0.827E-01
K-40		1.0597E+01	1.4569E+00	1.5989E+00	0.428E+00
Pa-234	F	2.0940E-01	1.6076E-01	1.6155E-01	0.132E+00
Pb-210	#F	1.2073E+00	1.2437E+00	1.2471E+00	0.786E+00
Pb-212	F	8.3079E-01	1.2189E-01	1.3323E-01	0.776E-01
PB-214		8.7878E-01	1.7346E-01	1.8210E-01	0.695E-01
RA-226	B	7.5925E-01	1.0637E+00	1.0649E+00	0.860E+00
Th-230	#B	3.7637E+00	1.0462E+01	1.0474E+01	0.712E+01
Th-234	F	1.1447E+00	8.4933E-01	8.5812E-01	0.762E+00
Tl-208	F	1.6134E-01	4.0389E-02	4.5300E-02	0.111E+00
U-235	F	1.0184E-01	6.7914E-02	6.8232E-02	0.520E-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 (41.0 to 2614.9 keV) 1.559E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 5:08:14 PM
New World Technology Spectrum name: 7N000433.An1

Sample description
Parcel G 70-PGT-124-115 364g
6/04/09 08:44

Acquisition information
Start time: 6/5/2009 4:08:12 PM
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	F	2.0165E+00	3.6482E-01	3.8561E-01	0.158E+00
AM-241	A	1.2753E-02	1.4821E-01	1.4821E-01	0.123E+00
Bi-212	F	1.5578E+00	4.7420E-01	4.8377E-01	0.273E+00
BI-214		1.2536E+00	2.4028E-01	2.5205E-01	0.903E-01
CO-60	#B	2.5603E-02	4.8851E-02	4.8876E-02	0.303E-01
CS-137	B	1.3135E-02	4.1741E-02	4.1749E-02	0.330E-01
EU-152	F	2.0172E-01	9.7849E-02	9.8880E-02	0.128E+00
EU-154	B	8.3946E-02	7.0331E-02	7.0580E-02	0.985E-01
K-40		1.3052E+01	1.5529E+00	1.7522E+00	0.378E+00
Pa-234	F	1.7654E-01	1.2598E-01	1.2669E-01	0.114E+00
Pb-210	#F	2.1233E+00	1.5798E+00	1.5882E+00	0.946E+00
Pb-212		1.5535E+00	1.5050E-01	1.8103E-01	0.843E-01
PB-214		1.2054E+00	2.0723E-01	2.2073E-01	0.859E-01
RA-226	F	1.2246E+00	1.2481E+00	1.2506E+00	0.100E+01
Th-230	#B	-2.6542E+00	1.8033E+01	1.8037E+01	0.608E+01
Th-234	B	8.2283E-01	9.5189E-01	9.5596E-01	0.866E+00
Tl-208	F	3.2954E-01	6.4989E-02	7.7327E-02	0.136E+00
U-235	F	1.1072E-01	8.3009E-02	8.3317E-02	0.647E-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 (41.0 to 2614.9 keV) 2.287E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 17:54:50
New World Technology Spectrum name: 1N000900.An1

Sample description
Parcel G 70-PGT-124-116 315g
6/04/09 08:42

Acquisition information
Start time: 05-Jun-2009 17:08:28
Live time: 2700
Real time: 2701

- -

***** 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	F	4.9519E-01	1.6557E-01	1.6840E-01	0.166E+00
AM-241	#A	-1.4846E-02	1.2808E+00	1.2808E+00	0.610E-01
Bi-212	#B	-3.5451E-01	3.1512E-01	3.1512E-01	0.225E+00
BI-214	F	4.0044E-01	1.1168E-01	1.1430E-01	0.467E-01
CO-60	#B	7.7450E-03	1.2663E-02	1.2671E-02	0.104E-01
CS-137	F	2.0981E-02	3.0223E-02	3.0251E-02	0.209E-01
EU-152	C	7.5717E-02	7.7324E-02	7.7506E-02	0.568E-01
EU-154	#A	2.7078E-02	4.8782E-02	4.8819E-02	0.433E-01
K-40		3.9703E+00	1.0441E+00	1.0729E+00	0.310E+00
Pa-234	#F	1.9480E-01	1.0212E-01	1.0318E-01	0.689E-01
Pb-210	#	9.2246E-01	7.9614E-01	7.9927E-01	0.598E+00
Pb-212	F	4.6205E-01	1.0948E-01	1.1350E-01	0.692E-01
Pb-214	F	3.9760E-01	1.0650E-01	1.0941E-01	0.391E-01
RA-226	B	3.0204E-01	1.0133E+00	1.0135E+00	0.841E+00
Th-230	#B	-3.6009E+00	1.8348E+01	1.8355E+01	0.671E+01
Th-234	B	6.1517E-01	1.1483E+00	1.1501E+00	0.803E+00
Tl-208	F	2.6466E-01	6.4707E-02	6.6670E-02	0.179E-01
U-235	B	6.8113E-02	3.9388E-02	3.9658E-02	0.225E+00

- 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 (39.3 to 2490.8 keV) 7.107E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 18:44:01
New World Technology Spectrum name: 1N000901.An1

Sample description
Parcel G 70-PGT-124-117 385g
6/04/09 08:40

Acquisition information
Start time: 05-Jun-2009 17:56:59
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		1.3904E+00	2.1811E-01	2.3454E-01	0.146E+00
AM-241	A	4.2570E-02	1.1442E-01	1.1448E-01	0.930E-01
Bi-212	F	7.7612E-01	3.6557E-01	3.6869E-01	0.250E+00
BI-214	F	1.0179E+00	1.7534E-01	1.8595E-01	0.596E-01
CO-60	#F	2.0256E-02	2.7528E-02	2.7556E-02	0.159E-01
CS-137	F	2.4570E-02	2.6766E-02	2.6808E-02	0.175E-01
EU-152	C	1.2990E-01	8.8969E-02	8.9433E-02	0.660E-01
EU-154	A	-6.2980E-03	3.5553E-02	3.5556E-02	0.498E-01
K-40		8.4758E+00	1.1630E+00	1.2769E+00	0.928E-01
Pa-234	#F	1.6196E-01	1.0233E-01	1.0307E-01	0.837E-01
Pb-210	#F	1.1335E+00	1.1609E+00	1.1641E+00	0.783E+00
Pb-212	F	1.3556E+00	1.4036E-01	1.6555E-01	0.710E-01
Pb-214		9.4856E-01	1.2685E-01	1.4025E-01	0.569E-01
RA-226		1.2004E+00	1.0246E+00	1.0275E+00	0.808E+00
Th-230	B	2.4810E+00	9.5432E+00	9.5489E+00	0.711E+01
Th-234	B	2.1785E-01	7.8201E-01	7.8235E-01	0.702E+00
Tl-208	#F	5.1832E-01	9.5017E-02	1.0009E-01	0.349E-01
U-235	B	5.1241E-02	4.1430E-02	4.1575E-02	0.225E+00

- 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 (39.3 to 2490.8 keV) 1.585E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 21:04:32
New World Technology Spectrum name: 1N000902.An1

Sample description
Parcel G 70-PGT-124-118 389g
6/04/09 08:35

Acquisition information
Start time: 05-Jun-2009 19:32:54
Live time: 5400
Real time: 5403

- -

***** 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		1.3383E+00	1.8512E-01	2.0288E-01	0.114E+00
AM-241	#A	-1.2140E-03	7.3608E-02	7.3608E-02	0.512E-01
Bi-212	F	9.5712E-01	3.1033E-01	3.1588E-01	0.215E+00
BI-214	F	9.1792E-01	1.0948E-01	1.2289E-01	0.510E-01
CO-60	#B	6.6342E-03	1.7265E-02	1.7269E-02	0.129E-01
CS-137	#B	-7.4043E-04	2.1939E-02	2.1939E-02	0.319E-02
EU-152	C	1.3455E-01	6.0698E-02	6.1426E-02	0.431E-01
EU-154	A	-1.0748E-02	6.7229E-02	6.7233E-02	0.362E-01
K-40		8.1205E+00	8.5315E-01	9.9141E-01	0.146E+00
Pa-234	B	2.0368E-02	4.6489E-02	4.6515E-02	0.595E-01
Pb-210	B	4.4207E-02	7.1102E-01	7.1102E-01	0.603E+00
Pb-212	F	1.3477E+00	9.8089E-02	1.3129E-01	0.489E-01
Pb-214		1.0383E+00	1.2527E-01	1.4135E-01	0.463E-01
RA-226		2.3019E+00	7.5043E-01	7.6498E-01	0.560E+00
Th-230	#B	-4.4559E+00	2.2227E+01	2.2235E+01	0.524E+01
Th-234	#	1.8574E+00	8.1132E-01	8.3524E-01	0.578E+00
Tl-208		5.1772E-01	7.4774E-02	8.1106E-02	0.281E-01
U-235	B	1.1045E-01	6.3374E-02	6.3815E-02	0.172E+00

- 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 (39.3 to 2490.8 keV) 1.840E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 12:46:50
New World Technology Spectrum name: 1N000897.An1

Sample description
Parcel G 70-PGT-124-119 392g
6/04/09 08:33

Acquisition information
Start time: 05-Jun-2009 11:58:30
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	6.2641E-01	2.1490E-01	2.1838E-01	0.127E+00
AM-241	#A	-1.2752E-02	1.1108E+00	1.1108E+00	0.289E-01
Bi-212	F	2.8362E-01	3.4752E-01	3.4796E-01	0.262E+00
BI-214	F	6.7379E-01	1.6272E-01	1.6780E-01	0.639E-01
CO-60	#B	4.7847E-03	1.7506E-02	1.7509E-02	0.137E-01
CS-137	#B	-4.6263E-04	2.6988E-02	2.6988E-02	0.686E-02
EU-152	C	1.5617E-01	7.6811E-02	7.7586E-02	0.557E-01
EU-154	A	3.7952E-02	3.2744E-02	3.2852E-02	0.425E-01
K-40		8.6414E+00	1.2663E+00	1.3757E+00	0.226E+00
Pa-234	#F	1.0468E-01	1.3837E-01	1.3860E-01	0.881E-01
Pb-210	B	7.2371E-01	8.9230E-01	8.9402E-01	0.728E+00
Pb-212	F	9.3848E-01	1.1280E-01	1.2813E-01	0.550E-01
Pb-214		7.8841E-01	1.5796E-01	1.6560E-01	0.612E-01
RA-226		1.7667E+00	9.4318E-01	9.5003E-01	0.711E+00
Th-230	#B	-6.3780E+00	7.9654E+01	7.9658E+01	0.656E+01
Th-234	F	7.4193E-01	7.4794E-01	7.5213E-01	0.654E+00
Tl-208	F	3.6857E-01	8.6137E-02	8.8994E-02	0.321E-01
U-235	B	7.5025E-02	6.8219E-02	6.8409E-02	0.249E+00

- 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 (39.3 to 2490.8 keV) 1.380E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 16:07:59
New World Technology Spectrum name: 2N000674.An1

Sample description
Parcel G 70-PGT-124-120 370g
6/04/09 08:31

Acquisition information
Start time: 05-Jun-2009 14:33:50
Live time: 5400
Real time: 5407

- -

***** 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	F	1.3701E+00	2.2954E-01	2.4472E-01	0.130E+00
AM-241	B	3.6944E-02	9.4347E-02	9.4397E-02	0.772E-01
Bi-212	F	6.3163E-01	3.6188E-01	3.6396E-01	0.278E+00
BI-214	F	1.0067E+00	1.4813E-01	1.6024E-01	0.552E-01
CO-60	#B	2.2607E-02	3.8437E-02	3.8462E-02	0.228E-01
CS-137	#B	-5.4037E-02	1.3266E-01	1.3270E-01	0.482E-01
EU-152	F	1.6457E-01	1.1061E-01	1.1122E-01	0.832E-01
EU-154	F	1.1302E-01	1.0473E-01	1.0503E-01	0.529E-01
K-40		9.8137E+00	1.0057E+00	1.1763E+00	0.133E+00
Pa-234	F	8.3142E-02	6.5141E-02	6.5448E-02	0.707E-01
Pb-210	F	8.9185E-01	1.0061E+00	1.0083E+00	0.703E+00
Pb-212		1.2494E+00	1.1342E-01	1.3932E-01	0.648E-01
PB-214		1.0606E+00	1.4446E-01	1.5920E-01	0.745E-01
RA-226		1.3317E+00	9.3451E-01	9.3846E-01	0.745E+00
Th-230	#B	1.1082E-01	9.9966E+00	9.9966E+00	0.701E+01
Th-234		9.3798E-01	7.1370E-01	7.2073E-01	0.586E+00
Tl-208	F	3.6944E-01	7.4071E-02	7.7380E-02	0.428E-01
U-235	F	8.6172E-02	6.8089E-02	6.8316E-02	0.491E-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 (40.6 to 2592.1 keV) 1.786E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 13:49:18
New World Technology Spectrum name: 1N000898.An1

Sample description
Parcel G 70-PGT-124-121 395g
6/04/09 08:27

Acquisition information
Start time: 05-Jun-2009 12:50:33
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		2.6232E+00	3.7866E-01	4.1214E-01	0.145E+00
AM-241	#	1.3746E-01	1.9188E-01	1.9222E-01	0.119E+00
Bi-212	F	1.5318E+00	5.3202E-01	5.4032E-01	0.348E+00
BI-214	F	1.6727E+00	2.3073E-01	2.5216E-01	0.718E-01
CO-60	#B	4.6412E-04	7.7564E-03	7.7564E-03	0.832E-02
CS-137	B	1.6362E-02	3.4021E-02	3.4035E-02	0.259E-01
EU-152	C	2.0419E-01	1.0015E-01	1.0116E-01	0.818E-01
EU-154	A	3.2728E-02	6.9549E-02	6.9587E-02	0.685E-01
K-40		6.2263E+00	1.2135E+00	1.2738E+00	0.347E+00
Pa-234	#F	1.4876E-01	1.2826E-01	1.2876E-01	0.582E-01
Pb-210		2.3245E+00	1.5003E+00	1.5108E+00	0.903E+00
Pb-212		2.4928E+00	1.8100E-01	2.4253E-01	0.815E-01
Pb-214		1.4981E+00	1.7344E-01	1.9750E-01	0.768E-01
RA-226		2.2871E+00	1.2490E+00	1.2577E+00	0.962E+00
Th-230	#B	-1.9216E+00	1.8668E+01	1.8670E+01	0.842E+01
Th-234	F	1.4009E+00	1.0987E+00	1.1089E+00	0.820E+00
Tl-208	F	9.4307E-01	1.3003E-01	1.4207E-01	0.442E-01
U-235	B	1.8459E-01	9.9850E-02	1.0063E-01	0.299E+00

- 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 (39.3 to 2490.8 keV) 2.300E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 16:06:12
New World Technology Spectrum name: 3N000913.An1

Sample description
Parcel G 70-PGT-124-122 365g
6/04/09 08:20

Acquisition information
Start time: 05-Jun-2009 14:34:48
Live time: 5400
Real time: 5405

- -

***** 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	F	1.6844E+00	2.0490E-01	2.2993E-01	0.980E-01
AM-241	B	4.9260E-02	1.1160E-01	1.1168E-01	0.765E-01
Bi-212		9.1778E-01	3.5321E-01	3.5768E-01	0.239E+00
BI-214	F	1.1643E+00	1.5410E-01	1.6954E-01	0.543E-01
CO-60	B	5.0692E-03	2.6474E-02	2.6476E-02	0.223E-01
CS-137	B	2.4347E-02	3.4225E-02	3.4257E-02	0.266E-01
EU-152	#F	1.3593E-01	6.9028E-02	6.9692E-02	0.763E-01
EU-154	F	5.9660E-02	4.3000E-02	4.3205E-02	0.420E-01
K-40		6.2917E+00	8.5106E-01	9.3668E-01	0.173E+00
Pa-234	F	1.1995E-01	1.1156E-01	1.1193E-01	0.672E-01
Pb-210		1.5571E+00	1.0302E+00	1.0370E+00	0.664E+00
Pb-212		1.5299E+00	1.1704E-01	1.5334E-01	0.633E-01
PB-214		9.3988E-01	1.1909E-01	1.3303E-01	0.643E-01
RA-226		1.4924E+00	8.8134E-01	8.8659E-01	0.696E+00
Th-230	#B	-1.8760E+00	1.3703E+01	1.3705E+01	0.720E+01
Th-234	F	1.5539E+00	1.0695E+00	1.0823E+00	0.672E+00
Tl-208		6.3594E-01	8.2188E-02	9.0772E-02	0.314E-01
U-235	F	8.4305E-02	6.8526E-02	6.8742E-02	0.469E-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 (39.2 to 2494.9 keV) 1.785E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 17:06:11
New World Technology Spectrum name: 1N000899.An1

Sample description
Parcel G 70-PGT-124-123 334g
6/04/09 08:22

Acquisition information
Start time: 05-Jun-2009 15:28:10
Live time: 5400
Real time: 5403

- -

***** 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	F	5.4605E-01	1.7165E-01	1.7496E-01	0.131E+00
AM-241	A	2.8299E-02	6.0989E-02	6.1034E-02	0.497E-01
Bi-212	#B	6.8181E-02	3.8592E-02	3.8820E-02	0.226E+00
BI-214	F	6.0440E-01	1.3122E-01	1.3627E-01	0.502E-01
CO-60	#B	9.8377E-03	2.0494E-02	2.0503E-02	0.133E-01
CS-137	B	8.7004E-03	2.6340E-02	2.6346E-02	0.209E-01
EU-152		1.4143E-01	8.1940E-02	8.2537E-02	0.512E-01
EU-154	#A	2.4075E-03	1.8199E-03	1.8277E-03	0.356E-01
K-40		2.1493E+00	6.1936E-01	6.3362E-01	0.357E+00
Pa-234	B	5.5366E-02	7.4249E-02	7.4368E-02	0.587E-01
Pb-210		6.5133E-01	6.0204E-01	6.0410E-01	0.498E+00
Pb-212	F	6.8591E-01	8.3765E-02	9.4812E-02	0.491E-01
Pb-214		3.7305E-01	9.4617E-02	9.7498E-02	0.583E-01
RA-226	F	6.4694E-01	6.8233E-01	6.8360E-01	0.553E+00
Th-230	#B	-6.9836E+00	4.0464E+01	4.0475E+01	0.440E+01
Th-234	#F	1.2997E+00	7.7278E-01	7.8515E-01	0.533E+00
Tl-208	F	2.5563E-01	4.9144E-02	5.1534E-02	0.257E-01
U-235	B	7.0513E-02	3.1002E-02	3.1368E-02	0.172E+00

- 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 (39.3 to 2490.8 keV) 6.707E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 17:14:02
New World Technology Spectrum name: 3N000914.An1

Sample description
Parcel G 70-PGT-124-124 311g
6/04/09 08:19

Acquisition information
Start time: 05-Jun-2009 16:14:35
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	F	3.0935E-01	1.3636E-01	1.3770E-01	0.337E-01
AM-241	B	1.2400E-01	1.6178E-01	1.6211E-01	0.130E+00
Bi-212	B	1.1383E-01	2.0432E-01	2.0444E-01	0.173E+00
BI-214	F	3.2848E-01	1.2354E-01	1.2514E-01	0.480E-01
CO-60	#B	5.1593E-03	5.7186E-03	5.7273E-03	0.183E-01
CS-137		8.5116E-02	5.1498E-02	5.1760E-02	0.310E-01
EU-152	F	1.4937E-01	1.0349E-01	1.0402E-01	0.865E-01
EU-154	B	5.9616E-02	6.1815E-02	6.1958E-02	0.616E-01
K-40	#	4.1657E+00	1.0772E+00	1.1079E+00	0.256E+00
Pa-234	F	2.3140E-01	1.1490E-01	1.1625E-01	0.930E-01
Pb-210	#F	1.2489E+00	1.2827E+00	1.2863E+00	0.839E+00
Pb-212	B	5.9860E-02	8.2421E-02	8.2512E-02	0.750E-01
PB-214	F	1.7973E-01	1.2475E-01	1.2526E-01	0.580E-01
RA-226	B	1.9214E-01	9.4126E-01	9.4135E-01	0.790E+00
Th-230	#B	-1.2218E+01	6.1486E+01	6.1508E+01	0.709E+01
Th-234	B	-1.6084E-01	5.4632E-01	5.4659E-01	0.890E+00
Tl-208	#F	2.0000E-01	1.0746E-01	1.0814E-01	0.314E-01
U-235	F	8.4633E-02	7.2595E-02	7.2801E-02	0.417E-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 (39.2 to 2494.9 keV) 5.268E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 17:52:07
New World Technology Spectrum name: 3N000915.An1

Sample description
Parcel G 70-PGT-124-125 323g
6/04/09 08:17

Acquisition information
Start time: 05-Jun-2009 17:06:58
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	F	5.6564E-01	1.7779E-01	1.8121E-01	0.325E-01
AM-241	#B	5.4628E-02	1.0880E-01	1.0889E-01	0.761E-01
Bi-212	B	3.3447E-02	2.7225E-01	2.7226E-01	0.240E+00
BI-214	F	1.6387E-01	9.7595E-02	9.8101E-02	0.718E-01
CO-60	#B	9.3351E-03	1.9548E-02	1.9556E-02	0.165E-01
CS-137	F	2.9333E-02	3.5060E-02	3.5106E-02	0.243E-01
EU-152	B	3.8133E-02	6.8469E-02	6.8522E-02	0.901E-01
EU-154	F	9.6671E-02	7.4593E-02	7.4903E-02	0.683E-01
K-40	#F	3.6851E+00	8.8761E-01	9.1671E-01	0.124E+00
Pa-234	F	9.9125E-02	1.0037E-01	1.0065E-01	0.873E-01
Pb-210	B	9.8687E-02	7.8449E-01	7.8452E-01	0.678E+00
Pb-212	F	1.3452E-01	8.7304E-02	8.7737E-02	0.734E-01
PB-214	F	2.0293E-01	1.2880E-01	1.2944E-01	0.604E-01
RA-226	B	3.3760E-01	8.6761E-01	8.6788E-01	0.720E+00
Th-230	#B	-9.0144E+00	3.5560E+01	3.5580E+01	0.807E+01
Th-234	B	4.3404E-01	7.9961E-01	8.0096E-01	0.667E+00
Tl-208	#F	1.0228E-01	4.8277E-02	4.8673E-02	0.201E-01
U-235	F	6.1222E-02	8.1431E-02	8.1527E-02	0.474E-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 (39.2 to 2494.9 keV) 4.854E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 19:22:42
New World Technology Spectrum name: 2N000676.An1

Sample description
Parcel G 70-PGT-124-126 334g
6/04/09 08:14

Acquisition information
Start time: 05-Jun-2009 18:34:06
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	F	4.6000E-01	2.1281E-01	2.1471E-01	0.207E+00
AM-241	#B	4.0247E-02	9.0820E-02	9.0881E-02	0.720E-01
Bi-212	F	5.3870E-01	3.5914E-01	3.6066E-01	0.342E+00
BI-214	#F	4.7409E-01	1.6396E-01	1.6647E-01	0.642E-01
CO-60	#F	1.8209E-02	1.9527E-02	1.9559E-02	0.114E-01
CS-137	#B	-1.4722E-02	7.3420E-02	7.3426E-02	0.613E-01
EU-152	#F	1.2877E-01	8.4811E-02	8.5297E-02	0.111E+00
EU-154	F	8.8406E-02	6.8684E-02	6.8967E-02	0.764E-01
K-40		4.1206E+00	1.2502E+00	1.2762E+00	0.687E+00
Pa-234	F	2.7396E-01	1.4834E-01	1.4980E-01	0.956E-01
Pb-210	B	6.3256E-01	1.3561E+00	1.3570E+00	0.960E+00
Pb-212	F	3.8980E-01	1.0959E-01	1.1246E-01	0.861E-01
PB-214	F	4.5351E-01	1.2177E-01	1.2509E-01	0.707E-01
RA-226	B	9.7391E-01	1.2201E+00	1.2217E+00	0.981E+00
Th-230	#B	-3.3493E+00	3.0884E+01	3.0887E+01	0.748E+01
Th-234	F	1.2454E+00	8.3933E-01	8.4985E-01	0.837E+00
Tl-208	F	8.7184E-02	6.6925E-02	6.7133E-02	0.539E-01
U-235	B	6.2770E-02	1.0257E-01	1.0265E-01	0.683E-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 (40.6 to 2592.1 keV) 5.799E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 21:42:56
New World Technology Spectrum name: 2N000677.An1

Sample description
Parcel G 70-PGT-124-127 391g
6/04/09 08:12

Acquisition information
Start time: 05-Jun-2009 20:11:20
Live time: 5400
Real time: 5408

- -

***** 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	F	2.3963E+00	2.9544E-01	3.3063E-01	0.987E-01
AM-241		1.2666E-01	1.0369E-01	1.0422E-01	0.729E-01
Bi-212	F	1.0881E+00	4.0054E-01	4.0609E-01	0.286E+00
BI-214	F	1.6673E+00	1.8239E-01	2.0860E-01	0.648E-01
CO-60	#F	4.0158E-02	3.3662E-02	3.3751E-02	0.199E-01
CS-137	#B	-1.0760E-02	5.3159E-02	5.3163E-02	0.426E-01
EU-152	F	1.6998E-01	1.0204E-01	1.0274E-01	0.860E-01
EU-154	F	9.0702E-02	5.8348E-02	5.8698E-02	0.502E-01
K-40		1.0075E+01	9.7855E-01	1.1619E+00	0.116E+00
Pa-234	F	1.3040E-01	1.0970E-01	1.1015E-01	0.851E-01
Pb-210	F	8.8294E-01	1.0025E+00	1.0047E+00	0.722E+00
Pb-212		2.3217E+00	1.3863E-01	2.0451E-01	0.682E-01
PB-214		1.1586E+00	1.5331E-01	1.6984E-01	0.953E-01
RA-226		1.5350E+00	1.0350E+00	1.0397E+00	0.826E+00
Th-230	B	1.6081E+00	8.6010E+00	8.6037E+00	0.645E+01
Th-234	F	1.0010E+00	7.2669E-01	7.3454E-01	0.628E+00
Tl-208		7.4253E-01	9.8244E-02	1.0806E-01	0.467E-01
U-235	F	1.4985E-01	7.8098E-02	7.8696E-02	0.541E-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 (40.6 to 2592.1 keV) 2.230E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 20:31:08
New World Technology Spectrum name: 3N000916.An1

Sample description
Parcel G 70-PGT-124-128 324g
6/04/09 08:10

Acquisition information
Start time: 05-Jun-2009 18:57:30
Live time: 5400
Real time: 5404

- -

***** 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	F	9.5250E-01	2.2419E-01	2.3182E-01	0.797E-01
AM-241	#B	2.9470E-02	8.8946E-02	8.8980E-02	0.639E-01
Bi-212	F	8.2308E-01	4.8003E-01	4.8269E-01	0.228E+00
BI-214	F	5.3772E-01	1.2553E-01	1.2971E-01	0.599E-01
CO-60	#B	-4.3350E-03	3.8861E-02	3.8862E-02	0.158E-01
CS-137		4.8089E-02	3.8703E-02	3.8815E-02	0.283E-01
EU-152	F	9.3500E-02	7.6659E-02	7.6943E-02	0.710E-01
EU-154	F	1.2187E-01	6.5891E-02	6.6449E-02	0.446E-01
K-40		6.8934E+00	9.2593E-01	1.0203E+00	0.154E+00
Pa-234	F	1.2842E-01	1.2172E-01	1.2212E-01	0.753E-01
Pb-210	#F	1.0788E+00	1.1272E+00	1.1302E+00	0.700E+00
Pb-212		6.5651E-01	9.0966E-02	1.0041E-01	0.578E-01
PB-214	F	4.1145E-01	1.0116E-01	1.0444E-01	0.682E-01
RA-226	F	7.6838E-01	7.9831E-01	7.9985E-01	0.646E+00
Th-230	#B	-1.4201E+01	2.6738E+02	2.6739E+02	0.440E+01
Th-234		1.2317E+00	6.7253E-01	6.8532E-01	0.575E+00
Tl-208	F	2.8621E-01	5.1151E-02	5.4011E-02	0.224E-01
U-235	B	3.7105E-02	5.1757E-02	5.1813E-02	0.414E-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 (39.2 to 2494.9 keV) 1.184E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 21:19:36
New World Technology Spectrum name: 3N000917.An1

Sample description
Parcel G 70-PGT-124-129 331g
6/04/09 08:08

Acquisition information
Start time: 05-Jun-2009 20:34:27
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	F	6.3044E-01	1.8677E-01	1.9081E-01	0.317E-01
AM-241	B	3.3036E-02	1.0415E-01	1.0418E-01	0.858E-01
Bi-212	F	2.5383E-01	2.9931E-01	2.9972E-01	0.226E+00
BI-214	F	4.1785E-01	1.2416E-01	1.2673E-01	0.412E-01
CO-60	#B	-8.0584E-03	9.7898E-02	9.7899E-02	0.182E-01
CS-137		2.9466E-02	2.7627E-02	2.7685E-02	0.166E-01
EU-152	B	1.2679E-02	2.5358E-02	2.5374E-02	0.947E-01
EU-154	#B	5.5902E-02	5.3624E-02	5.3768E-02	0.614E-01
K-40	#	3.3092E+00	9.2826E-01	9.5080E-01	0.228E+00
Pa-234	#F	5.4231E-02	6.9858E-02	6.9980E-02	0.528E-01
Pb-210		1.6356E+00	1.3020E+00	1.3080E+00	0.103E+01
Pb-212	F	2.1534E-01	9.1917E-02	9.2969E-02	0.730E-01
PB-214	F	2.9608E-01	1.4762E-01	1.4880E-01	0.676E-01
RA-226	B	1.3578E-01	8.3319E-01	8.3324E-01	0.704E+00
Th-230	#B	-9.8087E+00	4.7536E+01	4.7554E+01	0.831E+01
Th-234	F	7.1974E-01	8.6316E-01	8.6659E-01	0.702E+00
Tl-208	#F	5.1578E-02	5.3838E-02	5.3929E-02	0.153E-01
U-235	F	6.1887E-02	5.3551E-02	5.3700E-02	0.400E-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 (39.2 to 2494.9 keV) 6.596E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 06-JUN-2009 00:02:45
New World Technology Spectrum name: 3N000918.An1

Sample description
Parcel G 70-PGT-124-130 366g
6/04/09 08:06

Acquisition information
Start time: 05-Jun-2009 22:30:09
Live time: 5400
Real time: 5405

- -

***** 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	F	1.0154E+00	2.0513E-01	2.1456E-01	0.198E+00
AM-241	#B	1.3731E-02	6.2903E-02	6.2913E-02	0.525E-01
Bi-212	F	8.4169E-01	3.2349E-01	3.2761E-01	0.214E+00
BI-214	F	1.0257E+00	1.4188E-01	1.5495E-01	0.495E-01
CO-60	#F	2.8509E-02	3.2766E-02	3.2813E-02	0.187E-01
CS-137	#	7.2314E-02	4.7587E-02	4.7792E-02	0.232E-01
EU-152	F	1.0116E-01	5.0060E-02	5.0567E-02	0.625E-01
EU-154	F	6.9895E-02	8.9208E-02	8.9344E-02	0.462E-01
K-40	#	6.1472E+00	8.4743E-01	9.2965E-01	0.176E+00
Pa-234	F	1.5934E-01	1.0675E-01	1.0743E-01	0.884E-01
Pb-210	#	1.4439E+00	1.0714E+00	1.0770E+00	0.665E+00
Pb-212		1.2291E+00	1.0692E-01	1.3329E-01	0.579E-01
PB-214		8.7138E-01	1.5568E-01	1.6509E-01	0.696E-01
RA-226		1.5628E+00	7.5545E-01	7.6217E-01	0.585E+00
Th-230	#B	-9.4735E+00	4.3255E+01	4.3273E+01	0.573E+01
Th-234	F	1.1368E+00	6.5341E-01	6.6464E-01	0.558E+00
Tl-208	F	4.6801E-01	7.1634E-02	7.7042E-02	0.259E-01
U-235	F	5.3954E-02	5.2759E-02	5.2874E-02	0.480E-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 (39.2 to 2494.9 keV) 1.581E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 19:38:32
New World Technology Spectrum name: 4N000579.An1

Sample description
Parcel G 70-PGT-124-131 332g
6/04/09 08:03

Acquisition information
Start time: 05-Jun-2009 18:51:38
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	F	1.2306E+00	2.5375E-01	2.6495E-01	0.866E-01
AM-241	#B	-1.1584E-01	6.9240E+00	6.9240E+00	0.236E+00
Bi-212	B	3.4622E-01	3.2764E-01	3.2833E-01	0.383E+00
BI-214	F	8.8444E-01	1.9596E-01	2.0319E-01	0.716E-01
CO-60	#F	1.5488E-02	1.6609E-02	1.6636E-02	0.967E-02
CS-137		5.1062E-02	4.0763E-02	4.0882E-02	0.264E-01
EU-152	F	1.8572E-01	9.4038E-02	9.4947E-02	0.144E+00
EU-154	F	9.8135E-02	8.0647E-02	8.0943E-02	0.885E-01
K-40		1.0542E+01	1.6254E+00	1.7526E+00	0.719E+00
Pa-234	B	2.0358E-01	7.3129E-02	7.4757E-02	0.215E+00
Pb-210	#F	0.0000E+00	2.7581E+00	2.7581E+00	0.000E+00
Pb-212	F	5.4876E-01	1.2907E-01	1.3387E-01	0.906E-01
Pb-214	F	6.1099E-01	1.6600E-01	1.7042E-01	0.810E-01
RA-226	B	2.7334E-01	1.2748E+00	1.2749E+00	0.106E+01
Th-230	#B	-6.0634E+00	4.6341E+01	4.6348E+01	0.266E+02
Th-234	#B	-9.6099E-01	5.0249E+00	5.0259E+00	0.269E+01
Tl-208	F	2.1360E-01	8.1204E-02	8.2229E-02	0.479E-01
U-235	F	1.3523E-01	9.8443E-02	9.8830E-02	0.646E-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 (40.4 to 2576.4 keV) 1.422E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 9:37:04 PM
New World Technology Spectrum name: 6N000726.An1

Sample description
Parcel G 70-PGT-124-132 387g
6/04/09 07:59

Acquisition information
Start time: 6/5/2009 8:04:26 PM
Live time: 5400
Real time: 5413

- -

***** 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		1.2655E+00	2.2574E-01	2.3896E-01	0.149E+00
AM-241	A	6.3430E-03	9.2574E-02	9.2576E-02	0.762E-01
Bi-212	F	1.2503E+00	3.2449E-01	3.3346E-01	0.207E+00
BI-214		1.1640E+00	1.1651E-01	1.3627E-01	0.517E-01
CO-60	#F	2.5535E-02	2.2030E-02	2.2085E-02	0.189E-01
CS-137	B	1.4638E-02	3.7113E-02	3.7123E-02	0.298E-01
EU-152	F	2.6568E-01	1.3144E-01	1.3277E-01	0.734E-01
EU-154	F	7.9470E-02	5.3986E-02	5.4276E-02	0.441E-01
K-40		8.3742E+00	9.4574E-01	1.0796E+00	0.260E+00
Pa-234	F	1.5875E-01	1.0682E-01	1.0750E-01	0.843E-01
Pb-210	B	4.1591E-01	8.7030E-01	8.7087E-01	0.638E+00
Pb-212		2.0345E+00	1.1511E-01	1.7495E-01	0.560E-01
PB-214		1.4044E+00	1.5277E-01	1.7660E-01	0.648E-01
RA-226		1.8028E+00	8.5097E-01	8.5890E-01	0.668E+00
Th-230	#B	3.4199E+00	7.6484E+00	7.6620E+00	0.573E+01
Th-234	F	9.2225E-01	3.9347E-01	4.0566E-01	0.663E+00
Tl-208	F	7.1547E-01	8.0082E-02	1.2120E-01	0.710E-01
U-235	F	1.1385E-01	5.5705E-02	5.6189E-02	0.443E-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 (41.6 to 2659.6 keV) 1.812E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 22:06:36
New World Technology Spectrum name: 4N000580.An1

Sample description
Parcel G 70-PGT-124-133 368g
6/04/09 07:56

Acquisition information
Start time: 05-Jun-2009 20:33:35
Live time: 5400
Real time: 5410

- -

***** 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		1.8334E+00	2.3171E-01	2.5804E-01	0.907E-01
AM-241	#F	3.7093E-01	5.2370E-01	5.2461E-01	0.344E+00
Bi-212	F	1.1170E+00	3.6202E-01	3.6848E-01	0.259E+00
BI-214	F	1.2696E+00	1.6988E-01	1.8655E-01	0.626E-01
CO-60	F	4.4328E-02	3.2614E-02	3.2726E-02	0.224E-01
CS-137	F	3.1139E-02	3.3696E-02	3.3750E-02	0.256E-01
EU-152	F	1.9890E-01	1.0638E-01	1.0730E-01	0.110E+00
EU-154	B	5.1460E-02	5.4854E-02	5.4974E-02	0.780E-01
K-40		1.4630E+01	1.1140E+00	1.4383E+00	0.135E+00
Pa-234	B	1.2639E-01	1.0437E-01	1.0481E-01	0.167E+00
Pb-210	#F	0.0000E+00	1.0043E+01	1.0043E+01	0.000E+00
Pb-212		1.3385E+00	1.1179E-01	1.4146E-01	0.663E-01
Pb-214	F	9.9810E-01	1.4997E-01	1.6265E-01	0.714E-01
RA-226	B	5.8386E-01	9.6752E-01	9.6825E-01	0.792E+00
Th-230	#B	-2.8268E+01	2.4685E+02	2.4688E+02	0.952E+01
Th-234	#B	-8.9729E-01	5.1465E+00	5.1474E+00	0.230E+01
Tl-208	F	5.4982E-01	8.2130E-02	8.8629E-02	0.390E-01
U-235	F	9.7836E-02	6.2436E-02	6.2755E-02	0.490E-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 (40.4 to 2576.4 keV) 2.188E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 05-JUN-2009 21:19:06
New World Technology Spectrum name: 5N000592.An1

Sample description
Parcel G 70-PGT-124-134 373g
6/04/09 07:54

Acquisition information
Start time: 05-Jun-2009 20:31:42
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	F	1.2668E+00	2.9268E-01	3.0301E-01	0.103E+00
AM-241	#B	-3.1200E-02	2.2467E+00	2.2467E+00	0.620E-01
Bi-212	B	1.0660E-01	8.0580E-02	8.0846E-02	0.496E+00
BI-214	F	7.4044E-01	1.5838E-01	1.6464E-01	0.835E-01
CO-60	#F	3.1964E-02	1.8400E-02	1.8503E-02	0.313E-01
CS-137		8.5038E-02	4.7281E-02	4.7565E-02	0.291E-01
EU-152	F	1.1444E-01	7.0880E-02	7.1339E-02	0.108E+00
EU-154	F	8.8382E-02	9.0552E-02	9.0766E-02	0.768E-01
K-40		8.7143E+00	1.3857E+00	1.4879E+00	0.431E+00
Pa-234	F	1.8493E-01	1.1886E-01	1.1969E-01	0.114E+00
Pb-210	B	3.0398E-01	1.4191E+00	1.4193E+00	0.103E+01
Pb-212		1.2270E+00	1.3275E-01	1.5471E-01	0.688E-01
Pb-214		1.0886E+00	1.7939E-01	1.9208E-01	0.724E-01
RA-226		1.2282E+00	1.0706E+00	1.0735E+00	0.846E+00
Th-230	#B	-6.2199E-02	7.8460E+00	7.8460E+00	0.537E+00
Th-234	B	5.2883E-01	1.1489E+00	1.1503E+00	0.845E+00
Tl-208	F	4.7674E-01	8.8585E-02	9.3176E-02	0.386E-01
U-235	F	1.1652E-01	8.9875E-02	9.0190E-02	0.547E-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 2445.7 keV) 1.494E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 9:00:38 PM
New World Technology Spectrum name: 7N000435.An1

Sample description
Parcel G 70-PGT-124-135 376g
6/04/09 08:27

Acquisition information
Start time: 6/5/2009 8:09:29 PM
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	F	7.9109E-01	2.1042E-01	2.1605E-01	0.153E+00
AM-241	A	8.5507E-03	1.1419E-01	1.1419E-01	0.955E-01
Bi-212	F	5.8254E-01	3.6273E-01	3.6449E-01	0.263E+00
BI-214	#	4.6408E-01	1.3003E-01	1.3304E-01	0.515E-01
CO-60	#B	1.4086E-02	1.4488E-02	1.4514E-02	0.151E-01
CS-137	#	5.9675E-02	3.2433E-02	3.2637E-02	0.135E-01
EU-152	B	4.6583E-02	8.0530E-02	8.0597E-02	0.871E-01
EU-154	B	2.8197E-02	4.8803E-02	4.8843E-02	0.653E-01
K-40		6.6920E+00	1.1151E+00	1.1902E+00	0.366E+00
Pa-234	F	1.5781E-01	7.8393E-02	7.9310E-02	0.924E-01
Pb-210	#F	2.4705E+00	1.5038E+00	1.5157E+00	0.802E+00
Pb-212	F	3.6905E-01	9.5358E-02	9.8307E-02	0.687E-01
PB-214	F	3.6171E-01	9.3933E-02	9.6664E-02	0.591E-01
RA-226	#B	-4.5472E-02	1.3084E+00	1.3084E+00	0.812E+00
Th-230	#B	-3.3546E+00	2.2349E+01	2.2354E+01	0.504E+01
Th-234	F	1.1914E+00	9.1061E-01	9.1950E-01	0.632E+00
Tl-208	F	1.5636E-01	6.6984E-02	6.9872E-02	0.833E-01
U-235	F	1.3907E-01	6.2656E-02	6.3297E-02	0.410E-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 (41.0 to 2614.9 keV) 1.209E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/5/2009 9:52:59 PM
New World Technology Spectrum name: 7N000436.An1

Sample description
Parcel G 70-PGT-124-136 327g
6/04/09 08:29

Acquisition information
Start time: 6/5/2009 9:05:51 PM
Live time: 2700
Real time: 2707

- -

***** 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		5.7945E-01	2.4906E-01	2.5163E-01	0.184E+00
AM-241	A	2.9726E-02	1.3268E-01	1.3271E-01	0.110E+00
Bi-212	F	6.2670E-01	4.8470E-01	4.8623E-01	0.368E+00
BI-214		6.5690E-01	1.4185E-01	1.4735E-01	0.627E-01
CO-60	#F	9.8858E-02	4.4530E-02	4.4939E-02	0.174E-01
CS-137	#	3.9061E-02	3.8058E-02	3.8133E-02	0.219E-01
EU-152	#F	1.5959E-01	7.7411E-02	7.8227E-02	0.844E-01
EU-154	#B	9.8592E-03	2.0514E-02	2.0526E-02	0.595E-01
K-40		7.2228E+00	1.3798E+00	1.4510E+00	0.526E+00
Pa-234	F	2.7317E-01	1.2534E-01	1.2706E-01	0.108E+00
Pb-210	#F	1.2797E+00	9.6041E-01	9.6541E-01	0.654E+00
Pb-212	F	6.5436E-01	1.1943E-01	1.2672E-01	0.794E-01
PB-214	F	6.0482E-01	1.8027E-01	1.8426E-01	0.780E-01
RA-226	B	5.6052E-01	1.1512E+00	1.1518E+00	0.941E+00
Th-230	#B	-2.8410E+00	2.1148E+01	2.1151E+01	0.736E+01
Th-234	F	1.1821E+00	9.2358E-01	9.3220E-01	0.766E+00
Tl-208	B	9.6298E-02	2.8869E-02	3.1359E-02	0.109E+00
U-235	F	6.2288E-02	7.5715E-02	7.5822E-02	0.600E-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 (41.0 to 2614.9 keV) 1.176E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 17:00:42
New World Technology Spectrum name: 2N000753.An1

Sample description
Parcel G 70-PGT-124-137 330g
6/11/09 13:00

Acquisition information
Start time: 12-Jun-2009 14:31:52
Live time: 5400
Real time: 5407

- -

***** 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	F	3.0593E+00	2.3097E-01	2.9814E-01	0.118E+00
AM-241	B	3.7428E-03	8.4912E-02	8.4913E-02	0.704E-01
Bi-212	F	1.7296E+00	4.5817E-01	4.7013E-01	0.298E+00
BI-214	F	1.7375E+00	1.7198E-01	2.0103E-01	0.744E-01
CO-60	#F	1.6842E-02	1.5169E-02	1.5203E-02	0.150E-01
CS-137	F	5.0751E-02	5.3518E-02	5.3606E-02	0.417E-01
EU-152	B	7.9287E-02	1.0894E-01	1.0908E-01	0.954E-01
EU-154	F	1.0242E-01	7.3534E-02	7.3877E-02	0.685E-01
K-40		1.1630E+01	1.3936E+00	1.5687E+00	0.373E+00
Pa-234	B	4.2264E-02	1.2066E-01	1.2070E-01	0.112E+00
Pb-210	B	2.2439E-01	8.5981E-01	8.5990E-01	0.743E+00
Pb-212		2.9851E+00	1.6117E-01	2.4964E-01	0.839E-01
PB-214		2.0461E+00	2.2502E-01	2.5803E-01	0.928E-01
RA-226		3.0617E+00	1.1722E+00	1.1884E+00	0.902E+00
Th-230	#B	-5.3049E+00	1.6745E+02	1.6745E+02	0.663E+01
Th-234		1.8614E+00	9.2586E-01	9.4362E-01	0.742E+00
Tl-208	F	8.2995E-01	8.9108E-02	1.0196E-01	0.474E-01
U-235	F	1.4948E-01	1.1217E-01	1.1258E-01	0.673E-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 (40.6 to 2591.2 keV) 2.909E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 16:50:20
New World Technology Spectrum name: 3N000980.An1

Sample description
Parcel G 70-PGT-124-138 332g
6/11/09 13:03

Acquisition information
Start time: 12-Jun-2009 15:17:49
Live time: 5400
Real time: 5408

- -

***** 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	F	1.2783E+00	2.2160E-01	2.3518E-01	0.663E-01
AM-241	#B	1.5355E-03	6.2562E-02	6.2562E-02	0.527E-01
Bi-212	F	8.3277E-01	3.2869E-01	3.3258E-01	0.218E+00
BI-214	F	1.0435E+00	1.5966E-01	1.7147E-01	0.590E-01
CO-60	#B	7.4047E-04	1.8518E-02	1.8518E-02	0.168E-01
CS-137		4.3592E-02	3.7759E-02	3.7850E-02	0.284E-01
EU-152	F	1.9251E-01	9.2392E-02	9.3355E-02	0.746E-01
EU-154	F	6.0269E-02	4.6296E-02	4.6485E-02	0.553E-01
K-40		8.5155E+00	1.0223E+00	1.1504E+00	0.193E+00
Pa-234	F	1.6080E-01	1.0685E-01	1.0751E-01	0.702E-01
Pb-210	#B	6.7762E-01	1.0510E+00	1.0517E+00	0.702E+00
Pb-212	F	1.2792E+00	1.1432E-01	1.4051E-01	0.621E-01
PB-214		9.2817E-01	1.1971E-01	1.3271E-01	0.634E-01
RA-226		1.4562E+00	8.5617E-01	8.6121E-01	0.674E+00
Th-230	#B	-9.9954E+00	4.1842E+01	4.1861E+01	0.539E+01
Th-234	F	1.2492E+00	1.0399E+00	1.0471E+00	0.649E+00
Tl-208	#F	4.5367E-01	8.0690E-02	8.5115E-02	0.315E-01
U-235	F	8.2267E-02	8.4979E-02	8.5141E-02	0.473E-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 (39.2 to 2494.4 keV) 1.708E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 13:31:54
New World Technology Spectrum name: 3N000978.An1

Sample description
Parcel G 70-PGT-124-139 357g
6/11/09 13:06

Acquisition information
Start time: 12-Jun-2009 12:46:43
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	F	1.0621E+00	2.8496E-01	2.9238E-01	0.231E+00
AM-241	#B	-2.8560E-02	1.0186E-01	1.0186E-01	0.210E-01
Bi-212	F	1.1278E+00	5.5197E-01	5.5623E-01	0.351E+00
BI-214	F	1.2146E+00	2.0487E-01	2.1741E-01	0.702E-01
CO-60	#B	3.1962E-03	4.6932E-03	4.6972E-03	0.389E-01
CS-137	B	3.4282E-02	5.2222E-02	5.2263E-02	0.399E-01
EU-152	#F	2.2916E-01	1.0627E-01	1.0746E-01	0.712E-01
EU-154	#B	4.2857E-02	6.4234E-02	6.4303E-02	0.784E-01
K-40		1.0795E+01	1.4363E+00	1.5843E+00	0.111E+00
Pa-234	#B	1.2787E-02	4.9428E-02	4.9437E-02	0.112E+00
Pb-210		1.3105E+00	1.0705E+00	1.0731E+00	0.849E+00
Pb-212		1.6152E+00	1.7144E-01	2.0008E-01	0.901E-01
PB-214		1.3219E+00	2.0051E-01	2.1647E-01	0.810E-01
RA-226	B	9.1008E-01	1.2757E+00	1.2770E+00	0.103E+01
Th-230	#B	-3.0728E+00	2.0745E+01	2.0749E+01	0.107E+02
Th-234		1.6539E+00	9.3533E-01	9.4924E-01	0.810E+00
Tl-208	F	3.8199E-01	1.1107E-01	1.1338E-01	0.742E-01
U-235	F	1.2542E-01	1.1054E-01	1.1083E-01	0.653E-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 (39.2 to 2494.4 keV) 1.955E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 14:26:14
New World Technology Spectrum name: 3N000979.An1

Sample description
Parcel G 70-PGT-124-140 345g
6/11/09 13:09

Acquisition information
Start time: 12-Jun-2009 13:39:43
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	F	6.1132E-01	2.0234E-01	2.0581E-01	0.153E+00
AM-241	#B	6.6495E-02	1.0717E-01	1.0726E-01	0.781E-01
Bi-212	F	5.5884E-01	4.1153E-01	4.1294E-01	0.290E+00
BI-214	F	4.9479E-01	1.4093E-01	1.4401E-01	0.778E-01
CO-60	#B	6.5807E-03	1.1204E-02	1.1211E-02	0.188E-01
CS-137	#B	-4.4179E-03	3.5196E-02	3.5196E-02	0.893E-02
EU-152	#B	6.9009E-02	4.0459E-02	4.0742E-02	0.884E-01
EU-154	#F	7.7061E-02	7.0956E-02	7.1158E-02	0.565E-01
K-40	#	5.4363E+00	1.0369E+00	1.0902E+00	0.115E+00
Pa-234	#B	2.6586E-02	3.5643E-02	3.5697E-02	0.555E-01
Pb-210	#	2.2281E+00	1.1481E+00	1.1551E+00	0.686E+00
Pb-212	F	7.4679E-01	1.2385E-01	1.3272E-01	0.714E-01
PB-214	F	5.5329E-01	1.4627E-01	1.5021E-01	0.650E-01
RA-226	B	7.6364E-01	9.6798E-01	9.6921E-01	0.779E+00
Th-230	#B	-8.1037E+00	3.9645E+01	3.9658E+01	0.743E+01
Th-234	#F	1.2202E+00	1.1242E+00	1.1305E+00	0.730E+00
Tl-208	F	2.7708E-01	8.0940E-02	8.2614E-02	0.315E-01
U-235	F	7.5089E-02	1.0109E-01	1.0120E-01	0.531E-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 (39.2 to 2494.4 keV) 1.213E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 2:41:52 PM
New World Technology Spectrum name: 6N000786.An1

Sample description
Parcel G 70-PGT-124-141 367g
6/11/09 13:12

Acquisition information
Start time: 6/12/2009 1:47:57 PM
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	#B	-9.1980E-02	1.7316E-01	1.7326E-01	0.149E+00
AM-241	A	1.5033E-02	8.3888E-02	8.3894E-02	0.685E-01
Bi-212	B	5.3326E-02	2.1723E-01	2.1726E-01	0.257E+00
BI-214		2.6153E-01	9.9752E-02	1.0098E-01	0.465E-01
CO-60	#B	5.7949E-03	1.6630E-02	1.6633E-02	0.128E-01
CS-137	B	1.6410E-03	2.5682E-02	2.5682E-02	0.209E-01
EU-152	F	1.2070E-01	6.4520E-02	6.5062E-02	0.652E-01
EU-154	F	1.4092E-01	7.2607E-02	7.3263E-02	0.544E-01
K-40		2.9460E+00	7.6010E-01	7.8169E-01	0.185E+00
Pa-234	F	2.6651E-01	1.3477E-01	1.3620E-01	0.856E-01
Pb-210	#B	-4.2889E-01	1.4277E+00	1.4279E+00	0.591E+00
Pb-212	F	8.9073E-02	6.5004E-02	6.5253E-02	0.611E-01
PB-214	F	1.3929E-01	1.1054E-01	1.1088E-01	0.705E-01
RA-226	#B	-3.1669E-01	1.6361E+00	1.6361E+00	0.201E+00
Th-230	#F	8.8911E+00	1.0677E+01	1.0734E+01	0.654E+01
Th-234	B	-9.3188E-02	2.8685E-01	2.8700E-01	0.725E+00
Tl-208	#F	3.7561E-02	2.6684E-02	2.7105E-02	0.214E-01
U-235	#F	1.2499E-01	8.6665E-02	8.7033E-02	0.402E-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 (41.6 to 2659.0 keV) 3.738E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 3:01:34 PM
New World Technology Spectrum name: 7N000472.An1

Sample description
Parcel G 70-PGT-124-142 315g
6/11/09 13:15

Acquisition information
Start time: 6/12/2009 2:01:32 PM
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	F	4.2930E-01	1.6372E-01	1.6585E-01	0.156E+00
AM-241	#A	-4.3418E-02	1.7131E+00	1.7131E+00	0.966E-01
Bi-212	B	2.2194E-01	3.0044E-01	3.0075E-01	0.256E+00
BI-214	#	4.4170E-01	1.7898E-01	1.8093E-01	0.660E-01
CO-60	#B	-1.0315E-02	1.2139E-01	1.2139E-01	0.185E-01
CS-137		5.5723E-02	4.1584E-02	4.1720E-02	0.261E-01
EU-152	B	8.2711E-02	1.3950E-01	1.3962E-01	0.115E+00
EU-154	F	1.3020E-01	1.2957E-01	1.2988E-01	0.840E-01
K-40		4.5283E+00	9.9008E-01	1.0290E+00	0.406E+00
Pa-234	#B	6.8911E-02	6.0570E-02	6.0783E-02	0.998E-01
Pb-210		1.3621E+00	9.0601E-01	9.0937E-01	0.697E+00
Pb-212	F	2.4908E-01	1.0494E-01	1.0614E-01	0.849E-01
PB-214	F	5.6123E-01	1.6754E-01	1.7109E-01	0.677E-01
RA-226		1.2394E+00	1.1903E+00	1.1929E+00	0.945E+00
Th-230	B	1.1811E+00	1.0178E+01	1.0179E+01	0.865E+01
Th-234	F	1.0338E+00	7.5102E-01	7.5780E-01	0.764E+00
Tl-208	#B	-8.2099E-02	9.8313E-01	9.8319E-01	0.836E-01
U-235	F	8.1006E-02	1.0676E-01	1.0689E-01	0.600E-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 (41.0 to 2614.6 keV) 9.901E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 19:24:17
New World Technology Spectrum name: 1N000978.An1

Sample description
Parcel G 70-PGT-124-143 353g
6/11/09 13:18

Acquisition information
Start time: 12-Jun-2009 18:31:32
Live time: 2700
Real time: 2701

- -

***** 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	#B	7.7652E-03	4.6708E-03	4.6953E-03	0.152E+00
AM-241	#A	-9.7897E-03	2.0927E-01	2.0927E-01	0.309E-01
Bi-212	#B	-1.0377E-02	7.4215E-02	7.4217E-02	0.233E+00
BI-214	F	1.6928E-01	9.0178E-02	9.0747E-02	0.329E-01
CO-60	#B	3.5000E-03	1.6178E-02	1.6180E-02	0.126E-01
CS-137	B	4.6769E-03	1.9950E-02	1.9952E-02	0.155E-01
EU-152	C	8.3000E-02	5.0580E-02	5.0908E-02	0.500E-01
EU-154	#C	3.5312E-02	2.4970E-02	2.5090E-02	0.338E-01
K-40	#F	9.0646E-01	3.9132E-01	3.9535E-01	0.972E-01
Pa-234	#B	2.5386E-02	4.0550E-02	4.0593E-02	0.293E-01
Pb-210	#B	8.2272E-02	4.9872E-01	4.9875E-01	0.443E+00
Pb-212	F	1.4676E-01	7.5469E-02	7.6050E-02	0.515E-01
Pb-214	#F	6.4815E-02	6.2343E-02	6.2471E-02	0.433E-01
RA-226	#B	-3.8234E-01	6.6509E-01	6.6509E-01	0.242E+00
Th-230	#B	-5.2490E+00	1.7886E+01	1.7898E+01	0.446E+01
Th-234	B	5.9116E-01	8.7303E-01	8.7495E-01	0.606E+00
Tl-208	#F	8.1517E-02	4.6994E-02	4.7246E-02	0.200E-01
U-235	#B	8.1417E-02	3.2842E-02	3.3295E-02	0.162E+00

- 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 (39.4 to 2490.5 keV) 1.304E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 17:51:00
New World Technology Spectrum name: 2N000754.An1

Sample description
Parcel G 70-PGT-124-144 343g
6/11/09 13:21

Acquisition information
Start time: 12-Jun-2009 17:03:37
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	F	3.1674E-01	1.5100E-01	1.5226E-01	0.120E+00
AM-241	#B	-1.4654E-02	5.3725E-01	5.3725E-01	0.604E-01
Bi-212	#B	-6.9480E-02	4.3994E-01	4.3996E-01	0.286E+00
BI-214	F	3.1338E-01	1.0401E-01	1.0569E-01	0.412E-01
CO-60	#B	2.2294E-04	1.4552E-03	1.4553E-03	0.108E-01
CS-137		8.8258E-02	5.0754E-02	5.1033E-02	0.316E-01
EU-152	F	1.6593E-01	8.2963E-02	8.3760E-02	0.978E-01
EU-154	F	7.8733E-02	5.5672E-02	5.5940E-02	0.632E-01
K-40	#	3.5216E+00	9.2063E-01	9.4612E-01	0.212E+00
Pa-234	B	7.7090E-02	1.1338E-01	1.1353E-01	0.798E-01
Pb-210	#B	-6.4896E-01	1.9545E+00	1.9548E+00	0.743E+00
Pb-212	B	7.1480E-02	6.3915E-02	6.4078E-02	0.737E-01
PB-214	F	2.3479E-01	1.4528E-01	1.4600E-01	0.782E-01
RA-226	B	3.2074E-01	1.0676E+00	1.0677E+00	0.885E+00
Th-230	#B	-4.1696E+00	2.2664E+01	2.2670E+01	0.405E+01
Th-234	#B	4.4814E-01	3.9827E-01	4.0068E-01	0.598E+00
Tl-208	#F	5.3546E-02	6.3332E-02	6.3413E-02	0.500E-01
U-235	F	7.6397E-02	9.4783E-02	9.4909E-02	0.554E-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 (40.6 to 2591.2 keV) 4.475E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 19:19:05
New World Technology Spectrum name: 3N000981.An1

Sample description
Parcel G 70-PGT-124-145 349g
6/11/09 13:24

Acquisition information
Start time: 12-Jun-2009 17:41:04
Live time: 5400
Real time: 5408

- -

***** 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		1.8524E+00	2.7725E-01	2.9983E-01	0.856E-01
AM-241	#B	2.0450E-02	9.6664E-02	9.6674E-02	0.704E-01
Bi-212	F	1.0732E+00	3.9831E-01	4.0364E-01	0.273E+00
BI-214	F	1.3854E+00	1.8291E-01	2.0087E-01	0.671E-01
CO-60	#B	1.9872E-02	1.0874E-02	1.0941E-02	0.221E-01
CS-137		5.6021E-02	3.9522E-02	3.9667E-02	0.291E-01
EU-152	F	1.2541E-01	9.6731E-02	9.7123E-02	0.807E-01
EU-154	F	7.4540E-02	6.8460E-02	6.8656E-02	0.594E-01
K-40		1.0786E+01	1.1447E+00	1.3254E+00	0.232E+00
Pa-234	B	5.3842E-02	9.4222E-02	9.4306E-02	0.896E-01
Pb-210		1.4046E+00	1.0642E+00	1.0672E+00	0.669E+00
Pb-212		1.7472E+00	1.1991E-01	1.6380E-01	0.592E-01
PB-214		1.2304E+00	1.6075E-01	1.7778E-01	0.745E-01
RA-226		1.6195E+00	9.1472E-01	9.2056E-01	0.721E+00
Th-230	#B	-7.7687E+00	3.5955E+01	3.5968E+01	0.740E+01
Th-234		1.8772E+00	6.7098E-01	6.9569E-01	0.615E+00
Tl-208	F	6.7253E-01	8.0101E-02	8.9603E-02	0.295E-01
U-235	F	9.2862E-02	5.7949E-02	5.8252E-02	0.440E-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 (39.2 to 2494.4 keV) 2.380E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 3:35:22 PM
New World Technology Spectrum name: 6N000787.An1

Sample description
Parcel G 70-PGT-124-146 338g
6/11/09 13:27

Acquisition information
Start time: 6/12/2009 2:44:33 PM
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	F	5.3917E-01	2.2046E-01	2.2295E-01	0.188E+00
AM-241	#A	5.6939E-02	1.0033E-01	1.0040E-01	0.750E-01
Bi-212	F	4.7453E-01	3.9479E-01	3.9584E-01	0.279E+00
BI-214		5.5028E-01	1.3701E-01	1.4092E-01	0.724E-01
CO-60	#F	7.6161E-02	3.4526E-02	3.4837E-02	0.899E-02
CS-137	F	3.6786E-02	4.7290E-02	4.7342E-02	0.351E-01
EU-152	B	7.6986E-02	8.8894E-02	8.9055E-02	0.945E-01
EU-154	F	1.0803E-01	9.0222E-02	9.0533E-02	0.636E-01
K-40	#	9.3802E+00	1.2664E+00	1.3933E+00	0.995E-01
Pa-234	#F	1.4850E-01	1.8497E-01	1.8529E-01	0.109E+00
Pb-210	#B	8.8041E-02	9.7256E-01	9.7257E-01	0.766E+00
Pb-212	F	7.5490E-01	1.1948E-01	1.2884E-01	0.731E-01
PB-214	F	3.4861E-01	1.3610E-01	1.3779E-01	0.954E-01
RA-226	B	7.9426E-01	1.0481E+00	1.0494E+00	0.845E+00
Th-230	#F	7.3244E+00	9.3177E+00	9.3626E+00	0.658E+01
Th-234	F	8.7984E-01	1.0090E+00	1.0127E+00	0.869E+00
Tl-208	F	5.0082E-01	1.2255E-01	1.3799E-01	0.173E-01
U-235	F	9.5839E-02	8.7017E-02	8.7232E-02	0.555E-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 (41.6 to 2659.0 keV) 1.272E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 16:04:55
New World Technology Spectrum name: 1N000977.An1

Sample description
Parcel G 70-PGT-124-147 352g
6/11/09 13:30

Acquisition information
Start time: 12-Jun-2009 15:13:39
Live time: 2700
Real time: 2701

- -

***** 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	F	7.9875E-01	1.9993E-01	2.0592E-01	0.160E+00
AM-241	#	8.1533E-02	1.2692E-01	1.2703E-01	0.777E-01
Bi-212	B	9.9632E-02	3.7577E-01	3.7582E-01	0.329E+00
BI-214	F	7.0201E-01	1.5544E-01	1.6103E-01	0.543E-01
CO-60	#B	-1.0190E-03	4.0761E-02	4.0761E-02	0.879E-02
CS-137		4.3546E-02	3.0263E-02	3.0377E-02	0.168E-01
EU-152	C	1.7123E-01	1.6326E-01	1.6369E-01	0.566E-01
EU-154	#A	1.0311E-03	3.3806E-03	3.3813E-03	0.494E-01
K-40		6.4959E+00	1.1534E+00	1.2220E+00	0.232E+00
Pa-234	#F	9.2685E-02	1.0108E-01	1.0131E-01	0.660E-01
Pb-210	B	6.1799E-01	7.7278E-01	7.7358E-01	0.635E+00
Pb-212	F	7.9292E-01	1.2383E-01	1.3379E-01	0.736E-01
Pb-214		6.7333E-01	1.2734E-01	1.3395E-01	0.398E-01
RA-226	F	7.7086E-01	9.4260E-01	9.4388E-01	0.757E+00
Th-230	#B	-1.2132E+00	1.0329E+01	1.0330E+01	0.627E+01
Th-234		1.5194E+00	8.2450E-01	8.3782E-01	0.662E+00
Tl-208	#F	3.6446E-01	7.5764E-02	7.8829E-02	0.265E-01
U-235	B	1.1922E-01	6.9075E-02	6.9539E-02	0.212E+00

- 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 (39.4 to 2490.5 keV) 1.139E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 6:02:17 PM
New World Technology Spectrum name: 7N000473.An1

Sample description
Parcel G 70-PGT-124-148 358g
6/11/09 13:33

Acquisition information
Start time: 6/12/2009 4:25:58 PM
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 Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228		2.1518E+00	2.5653E-01	2.8878E-01	0.132E+00
AM-241	A	7.1009E-03	1.0851E-01	1.0851E-01	0.901E-01
Bi-212	F	1.4024E+00	3.9784E-01	4.0691E-01	0.268E+00
BI-214		1.6616E+00	1.8853E-01	2.1320E-01	0.682E-01
CO-60	F	4.2575E-02	2.4706E-02	2.4842E-02	0.326E-01
CS-137	F	3.1147E-02	3.2655E-02	3.2709E-02	0.246E-01
EU-152	F	2.3376E-01	1.0903E-01	1.1023E-01	0.846E-01
EU-154	F	1.0773E-01	6.5781E-02	6.6204E-02	0.561E-01
K-40		1.1442E+01	1.0222E+00	1.2438E+00	0.273E+00
Pa-234	F	2.3378E-01	1.5856E-01	1.5950E-01	0.114E+00
Pb-210	#F	2.0468E+00	1.2084E+00	1.2141E+00	0.691E+00
Pb-212		2.7242E+00	1.4671E-01	2.2757E-01	0.733E-01
PB-214		1.5303E+00	1.3525E-01	1.6496E-01	0.778E-01
RA-226		2.8312E+00	1.1346E+00	1.1489E+00	0.887E+00
Th-230	#B	-5.9970E+00	9.8407E+01	9.8410E+01	0.677E+01
Th-234		1.2440E+00	9.1089E-01	9.1899E-01	0.748E+00
Tl-208	F	6.2566E-01	8.1893E-02	1.1395E-01	0.129E+00
U-235	B	8.1599E-02	2.3895E-01	2.3902E-01	0.249E+00

- 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 (41.0 to 2614.6 keV) 2.813E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 4:25:19 PM
New World Technology Spectrum name: 6N000788.An1

Sample description
Parcel G 70-PGT-124-149 308g
6/11/09 13:36

Acquisition information
Start time: 6/12/2009 3:37:54 PM
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	B	1.6857E-01	1.0743E-01	1.0793E-01	0.179E+00
AM-241	#A	1.2440E-02	3.9243E-02	3.9251E-02	0.370E-01
Bi-212	B	1.9529E-01	2.7864E-01	2.7889E-01	0.308E+00
BI-214		2.7859E-01	1.1674E-01	1.1793E-01	0.732E-01
CO-60	#B	1.1531E-02	1.9440E-02	1.9453E-02	0.194E-01
CS-137	B	1.5071E-02	4.1614E-02	4.1624E-02	0.323E-01
EU-152	F	1.3807E-01	7.9716E-02	8.0292E-02	0.903E-01
EU-154	F	9.0738E-02	6.0408E-02	6.0735E-02	0.623E-01
K-40		4.8378E+00	1.0945E+00	1.1348E+00	0.447E+00
Pa-234	F	2.0317E-01	1.5752E-01	1.5824E-01	0.810E-01
Pb-210	#B	4.7546E-01	1.2576E+00	1.2579E+00	0.873E+00
Pb-212	F	1.8662E-01	1.1132E-01	1.1196E-01	0.768E-01
PB-214	F	3.8617E-01	1.4626E-01	1.4818E-01	0.684E-01
RA-226	B	4.8871E-01	1.0202E+00	1.0207E+00	0.835E+00
Th-230	#B	2.3832E-01	5.1313E+00	5.1314E+00	0.454E+01
Th-234	B	-2.2158E+00	8.0012E+00	8.0042E+00	0.810E+00
Tl-208	#F	7.2686E-02	3.9669E-02	4.0723E-02	0.233E-01
U-235	F	1.0416E-01	1.0371E-01	1.0392E-01	0.541E-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 (41.6 to 2659.0 keV) 5.793E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 5:19:04 PM
New World Technology Spectrum name: 6N000789.An1

Sample description
Parcel G 70-PGT-124-150 359g
6/11/09 13:39

Acquisition information
Start time: 6/12/2009 4:27:51 PM
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	B	1.0388E-01	1.8977E-01	1.8988E-01	0.138E+00
AM-241	#A	9.2177E-03	4.9901E-02	4.9905E-02	0.427E-01
Bi-212	F	3.3405E-01	2.6395E-01	2.6474E-01	0.171E+00
BI-214		2.1908E-01	9.7453E-02	9.8333E-02	0.471E-01
CO-60	#F	5.0673E-02	2.3220E-02	2.3425E-02	0.138E-01
CS-137		5.8416E-02	4.0806E-02	4.0958E-02	0.264E-01
EU-152	F	9.5788E-02	5.5303E-02	5.5702E-02	0.748E-01
EU-154	F	7.7181E-02	6.8747E-02	6.8956E-02	0.503E-01
K-40		2.9760E+00	8.7942E-01	8.9853E-01	0.449E+00
Pa-234	F	1.4632E-01	1.3053E-01	1.3098E-01	0.937E-01
Pb-210	#B	-2.9012E-01	1.6190E+00	1.6191E+00	0.708E+00
Pb-212	F	1.0584E-01	7.3568E-02	7.3878E-02	0.618E-01
PB-214	F	1.7907E-01	1.0457E-01	1.0515E-01	0.544E-01
RA-226	B	5.7243E-01	8.4533E-01	8.4612E-01	0.685E+00
Th-230	B	2.0018E+00	6.8862E+00	6.8907E+00	0.565E+01
Th-234	#B	-8.2088E-01	1.4143E+00	1.4165E+00	0.670E+00
Tl-208	#F	4.4395E-02	2.3593E-02	2.4254E-02	0.199E-01
U-235	F	6.0981E-02	6.8318E-02	6.8429E-02	0.445E-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 (41.6 to 2659.0 keV) 3.964E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 7:51:29 PM
New World Technology Spectrum name: 6N000790.An1

Sample description
Parcel G 70-PGT-124-151 340g
6/11/09 13:42

Acquisition information
Start time: 6/12/2009 6:08:04 PM
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	F	6.2014E-01	1.4527E-01	1.5021E-01	0.130E+00
AM-241	A	3.7168E-02	7.9217E-02	7.9254E-02	0.643E-01
Bi-212	F	5.3329E-01	2.8667E-01	2.8851E-01	0.201E+00
BI-214		6.0000E-01	9.8503E-02	1.0486E-01	0.483E-01
CO-60	#B	4.1445E-03	1.4698E-02	1.4700E-02	0.117E-01
CS-137		4.0139E-02	3.2176E-02	3.2267E-02	0.234E-01
EU-152	F	1.0517E-01	7.1305E-02	7.1678E-02	0.514E-01
EU-154	B	3.9949E-02	4.4297E-02	4.4384E-02	0.408E-01
K-40		5.5772E+00	7.3827E-01	8.1508E-01	0.222E+00
Pa-234	F	1.4682E-01	9.0219E-02	9.0868E-02	0.762E-01
Pb-210	#B	-2.0269E-01	9.8806E-01	9.8812E-01	0.555E+00
Pb-212	F	6.8590E-01	8.2788E-02	9.3662E-02	0.518E-01
PB-214		6.1594E-01	1.0693E-01	1.1349E-01	0.514E-01
RA-226		8.5848E-01	6.7528E-01	6.7750E-01	0.540E+00
Th-230	B	3.1255E-01	6.0448E+00	6.0449E+00	0.501E+01
Th-234	B	2.2730E-01	2.1418E-01	2.1533E-01	0.559E+00
Tl-208	F	4.5322E-01	8.2196E-02	1.0025E-01	0.942E-02
U-235	F	6.6522E-02	4.6906E-02	4.7098E-02	0.377E-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 (41.6 to 2659.0 keV) 1.005E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 8:41:42 PM
New World Technology Spectrum name: 6N000791.An1

Sample description
Parcel G 70-PGT-124-152 334g
6/11/09 13:45

Acquisition information
Start time: 6/12/2009 7:54:41 PM
Live time: 2700
Real time: 2706

- -

***** 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	F	9.5584E-01	3.0630E-01	3.1191E-01	0.218E+00
AM-241	#A	5.8925E-02	1.1710E-01	1.1716E-01	0.862E-01
Bi-212	F	8.9949E-01	4.0326E-01	4.0696E-01	0.237E+00
BI-214		9.2746E-01	2.0571E-01	2.1308E-01	0.820E-01
CO-60	#B	-2.7345E-04	2.9580E-02	2.9580E-02	0.159E-01
CS-137	B	2.8702E-03	3.8276E-02	3.8277E-02	0.312E-01
EU-152	#F	1.4145E-01	1.0829E-01	1.0874E-01	0.102E+00
EU-154	F	1.0951E-01	1.4535E-01	1.4554E-01	0.703E-01
K-40		9.4926E+00	1.3661E+00	1.4873E+00	0.231E+00
Pa-234	F	2.1181E-01	2.2581E-01	2.2635E-01	0.921E-01
Pb-210	B	6.8463E-01	1.4189E+00	1.4194E+00	0.944E+00
Pb-212		1.3474E+00	1.4147E-01	1.6559E-01	0.721E-01
PB-214		1.0311E+00	1.9621E-01	2.0627E-01	0.846E-01
RA-226	F	1.0526E+00	1.0932E+00	1.0953E+00	0.873E+00
Th-230	#B	3.0168E+00	9.5189E+00	9.5264E+00	0.713E+01
Th-234	#B	-5.2197E-01	1.4173E+00	1.4182E+00	0.794E+00
Tl-208	F	5.7407E-01	1.3187E-01	1.5058E-01	0.175E-01
U-235	F	1.6566E-01	1.2862E-01	1.2906E-01	0.617E-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 (41.6 to 2659.0 keV) 1.539E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.12 6/12/2009 9:29:14 PM
New World Technology Spectrum name: 6N000792.An1

Sample description
Parcel G 70-PGT-124-153 306g
6/11/09 13:48

Acquisition information
Start time: 6/12/2009 8:42:51 PM
Live time: 2700
Real time: 2706

- -

***** 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	#F	5.1526E-01	2.1432E-01	2.1666E-01	0.162E+00
AM-241	#A	5.6348E-02	9.8287E-02	9.8357E-02	0.748E-01
Bi-212	F	7.4252E-01	4.2231E-01	4.2473E-01	0.269E+00
BI-214	#	4.6881E-01	1.5622E-01	1.5873E-01	0.657E-01
CO-60	#F	5.8543E-02	3.1908E-02	3.2107E-02	0.993E-02
CS-137	B	2.4845E-02	4.5133E-02	4.5158E-02	0.342E-01
EU-152	B	6.1321E-02	8.1624E-02	8.1735E-02	0.753E-01
EU-154	F	7.1830E-02	8.7195E-02	8.7338E-02	0.568E-01
K-40	#	5.3628E+00	1.0917E+00	1.1411E+00	0.227E+00
Pa-234	F	1.7845E-01	1.5485E-01	1.5541E-01	0.853E-01
Pb-210	#B	8.1893E-02	1.0905E+00	1.0905E+00	0.824E+00
Pb-212		3.6751E-01	1.0699E-01	1.0954E-01	0.762E-01
PB-214	F	4.9237E-01	1.3043E-01	1.3393E-01	0.581E-01
RA-226	F	1.0927E+00	1.1249E+00	1.1271E+00	0.897E+00
Th-230	#B	-1.7663E+00	1.2820E+01	1.2820E+01	0.145E+01
Th-234	B	-4.1333E-03	9.5229E-02	9.5230E-02	0.879E+00
Tl-208	F	3.8875E-01	1.1364E-01	1.2385E-01	0.191E-01
U-235	F	1.1973E-01	9.2430E-02	9.2746E-02	0.557E-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 (41.6 to 2659.0 keV) 8.516E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 18:39:36
New World Technology Spectrum name: 2N000755.An1

Sample description
Parcel G 70-PGT-124-154 340g
6/11/09 13:51

Acquisition information
Start time: 12-Jun-2009 17:52:18
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	F	5.7143E-01	2.2903E-01	2.3172E-01	0.116E+00
AM-241	B	6.4807E-02	1.1291E-01	1.1299E-01	0.909E-01
Bi-212	B	1.5728E-01	3.0278E-01	3.0293E-01	0.401E+00
BI-214	F	7.9513E-01	1.7023E-01	1.7677E-01	0.492E-01
CO-60	#F	9.1967E-02	4.1692E-02	4.2067E-02	0.109E-01
CS-137	B	4.0584E-02	5.6640E-02	5.6693E-02	0.433E-01
EU-152	F	2.0258E-01	1.4192E-01	1.4261E-01	0.789E-01
EU-154	F	7.8044E-02	6.1059E-02	6.1299E-02	0.587E-01
K-40		6.9940E+00	1.2108E+00	1.2860E+00	0.122E+00
Pa-234	F	1.8402E-01	1.0116E-01	1.0207E-01	0.959E-01
Pb-210	#B	-2.4867E-01	1.3231E+00	1.3232E+00	0.796E+00
Pb-212	F	7.0749E-01	1.4233E-01	1.4933E-01	0.871E-01
PB-214	F	5.2542E-01	1.6217E-01	1.6538E-01	0.825E-01
RA-226	B	5.5192E-01	1.3298E+00	1.3303E+00	0.109E+01
Th-230	#B	1.4892E+00	1.0829E+01	1.0831E+01	0.771E+01
Th-234	F	1.5860E+00	8.9529E-01	9.0864E-01	0.794E+00
Tl-208	F	1.6299E-01	8.1379E-02	8.1959E-02	0.551E-01
U-235	F	1.2462E-01	8.7962E-02	8.8322E-02	0.593E-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 (40.6 to 2591.2 keV) 1.156E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 19:35:59
New World Technology Spectrum name: 2N000756.An1

Sample description
Parcel G 70-PGT-124-155 328g
6/11/09 13:54

Acquisition information
Start time: 12-Jun-2009 18:41:51
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	4.1999E-01	1.8634E-01	1.8813E-01	0.155E+00
AM-241	#B	-9.6504E-03	2.3888E-01	2.3888E-01	0.703E-01
Bi-212	B	-3.2889E-01	1.3156E+01	1.3156E+01	0.343E+00
BI-214	F	4.9500E-01	1.6844E-01	1.7103E-01	0.672E-01
CO-60	#F	8.5668E-02	4.0999E-02	4.1331E-02	0.113E-01
CS-137		8.0487E-02	5.5664E-02	5.5876E-02	0.374E-01
EU-152	#B	6.3659E-02	6.4859E-02	6.5010E-02	0.107E+00
EU-154	F	1.0368E-01	8.8431E-02	8.8723E-02	0.563E-01
K-40		7.1957E+00	1.2504E+00	1.3275E+00	0.126E+00
Pa-234	#B	8.2474E-02	1.2685E-01	1.2700E-01	0.918E-01
Pb-210	#B	-1.3554E-02	8.5769E-01	8.5769E-01	0.777E+00
Pb-212	F	2.2708E-01	1.1417E-01	1.1509E-01	0.897E-01
PB-214	F	5.2169E-01	1.5701E-01	1.6028E-01	0.721E-01
RA-226	B	3.1888E-01	1.1615E+00	1.1617E+00	0.963E+00
Th-230	#B	-3.9540E+00	2.2514E+01	2.2519E+01	0.479E+01
Th-234	#F	1.0997E+00	6.5255E-01	6.6137E-01	0.617E+00
Tl-208	F	1.0877E-01	1.2377E-01	1.2394E-01	0.582E-01
U-235	F	1.1062E-01	1.0559E-01	1.0583E-01	0.585E-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 (40.6 to 2591.2 keV) 9.136E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 21:46:38
New World Technology Spectrum name: 3N000982.An1

Sample description
Parcel G 70-PGT-124-156 336g
6/11/09 13:57

Acquisition information
Start time: 12-Jun-2009 20:10:23
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 Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	2.2598E-01	1.3208E-01	1.3281E-01	0.895E-01
AM-241	#B	-1.6993E-02	1.3852E-01	1.3852E-01	0.366E-01
Bi-212	#B	-9.7481E-03	4.3058E-02	4.3062E-02	0.168E+00
BI-214	F	1.9705E-01	1.0581E-01	1.0647E-01	0.485E-01
CO-60	#B	7.7875E-03	1.0570E-02	1.0580E-02	0.167E-01
CS-137	B	2.1618E-02	3.2022E-02	3.2049E-02	0.253E-01
EU-152	#F	9.3957E-02	6.0874E-02	6.1223E-02	0.547E-01
EU-154	F	5.7321E-02	4.5167E-02	4.5342E-02	0.454E-01
K-40	#	3.2666E+00	6.0707E-01	6.3991E-01	0.108E+00
Pa-234	F	2.3257E-01	9.9244E-02	1.0072E-01	0.725E-01
Pb-210	#B	3.5840E-01	7.0023E-01	7.0053E-01	0.488E+00
Pb-212	F	6.0458E-02	5.5625E-02	5.5759E-02	0.509E-01
PB-214	F	1.3453E-01	9.3228E-02	9.3597E-02	0.428E-01
RA-226	B	3.1905E-01	5.4148E-01	5.4186E-01	0.450E+00
Th-230	#B	-1.1297E+01	7.6711E+01	7.6724E+01	0.530E+01
Th-234	#B	-3.5496E-02	3.4131E-01	3.4132E-01	0.426E+00
Tl-208	#F	9.1858E-02	3.5795E-02	3.6213E-02	0.159E-01
U-235	B	2.5818E-02	5.4667E-02	5.4692E-02	0.298E-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 (39.2 to 2494.4 keV) 3.916E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 12-JUN-2009 22:38:43
New World Technology Spectrum name: 3N000983.An1

Sample description
Parcel G 70-PGT-124-157 318g
6/11/09 14:00

Acquisition information
Start time: 12-Jun-2009 21:51:37
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	F	3.7565E-01	1.4306E-01	1.4492E-01	0.317E-01
AM-241	B	1.1492E-01	1.6600E-01	1.6618E-01	0.134E+00
Bi-212	B	-2.1913E-02	3.2172E-01	3.2172E-01	0.214E+00
BI-214	F	1.5796E-01	1.0549E-01	1.0591E-01	0.545E-01
CO-60	#B	9.2180E-03	1.9303E-02	1.9311E-02	0.163E-01
CS-137	F	3.4449E-02	4.4686E-02	4.4735E-02	0.334E-01
EU-152	#B	3.5321E-02	3.1592E-02	3.1687E-02	0.824E-01
EU-154	F	9.0501E-02	6.2289E-02	6.2605E-02	0.535E-01
K-40	#	3.6990E+00	8.9097E-01	9.1995E-01	0.125E+00
Pa-234	#B	8.2453E-02	6.4104E-02	6.4392E-02	0.839E-01
Pb-210	#B	4.3612E-01	1.2924E+00	1.2926E+00	0.830E+00
Pb-212	B	8.3276E-03	2.2586E-02	2.2592E-02	0.715E-01
PB-214	F	1.5450E-01	8.3845E-02	8.4386E-02	0.466E-01
RA-226	B	4.0171E-01	8.5961E-01	8.5999E-01	0.710E+00
Th-230	#B	-8.1547E+00	2.8837E+01	2.8855E+01	0.674E+01
Th-234	B	4.8831E-01	3.3846E-01	3.4181E-01	0.564E+00
Tl-208	#F	5.2136E-02	4.9051E-02	4.9149E-02	0.216E-01
U-235	F	6.8825E-02	9.4958E-02	9.5060E-02	0.455E-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 (39.2 to 2494.4 keV) 4.387E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 00:51:24
New World Technology Spectrum name: 7N000518.An1

Sample description
Parcel G 70-PGT-124-158 357g
6/22/09 08:40

Acquisition information
Start time: 23-Jun-2009 00:04:06
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	3.8688E-01	2.2764E-01	2.3044E-01	0.138E+00
AM-241	#A	-2.7171E-02	3.5900E-01	3.5901E-01	0.540E-01
Bi-212	#F	2.5839E-01	5.1121E-01	5.1176E-01	0.235E+00
BI-214	#	4.7501E-01	2.1016E-01	2.1446E-01	0.528E-01
CO-60	#B	-1.0630E-02	6.3779E-01	6.3779E-01	0.148E-01
CS-137	B	9.8249E-05	5.5797E-02	5.5797E-02	0.308E-01
EU-152	B	7.2586E-02	9.7660E-02	9.7953E-02	0.763E-01
EU-154	#B	-1.1893E-02	1.7528E-01	1.7529E-01	0.652E-01
K-40	#	5.0074E+00	1.4431E+00	1.5162E+00	0.356E+00
Pa-234	#F	1.2948E-01	9.8337E-02	9.9377E-02	0.928E-01
Pb-210	F	6.7679E-01	1.0354E+00	1.0370E+00	0.548E+00
Pb-212	F	1.7467E-01	1.3118E-01	1.3225E-01	0.777E-01
PB-214	F	3.1368E-01	1.8073E-01	1.8305E-01	0.698E-01
RA-226	B	6.2500E-01	1.3823E+00	1.3836E+00	0.754E+00
Th-230	#B	-1.0739E+00	1.6491E+01	1.6493E+01	0.697E+01
Th-234	#B	-3.4303E-01	2.3452E+00	2.3457E+00	0.645E+00
Tl-208	#F	1.2239E-01	1.1571E-01	1.1802E-01	0.694E-01
U-235	B	4.6237E-02	9.7262E-02	9.7363E-02	0.512E-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 (32.9 to 2616.0 keV) 6.480E+00 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 01:42:56
New World Technology Spectrum name: 7N000519.An1

Sample description
Parcel G 70-PGT-124-159 372g
6/22/09 08:35

Acquisition information
Start time: 23-Jun-2009 00:56:53
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	5.1318E-01	2.9409E-01	2.9789E-01	0.135E+00
AM-241	#A	-3.6590E-02	5.8147E-01	5.8148E-01	0.384E-01
Bi-212	#F	3.8973E-01	5.0322E-01	5.0448E-01	0.228E+00
BI-214		6.5726E-01	2.0588E-01	2.1418E-01	0.407E-01
CO-60	B	2.0803E-02	3.1802E-02	3.1859E-02	0.311E-01
CS-137		6.4168E-02	5.4481E-02	5.4790E-02	0.202E-01
EU-152	B	4.8026E-02	9.6052E-02	9.6183E-02	0.622E-01
EU-154	#B	5.4055E-02	4.6813E-02	4.7150E-02	0.630E-01
K-40		5.4686E+00	1.5662E+00	1.6465E+00	0.454E+00
Pa-234	#F	8.9015E-02	1.3168E-01	1.3205E-01	0.539E-01
Pb-210	#F	1.3259E+00	1.4658E+00	1.4702E+00	0.635E+00
Pb-212	F	5.2820E-01	1.5871E-01	1.6658E-01	0.698E-01
PB-214	F	4.6359E-01	2.5884E-01	2.6237E-01	0.870E-01
RA-226		1.1357E+00	1.4015E+00	1.4057E+00	0.740E+00
Th-230	#B	-4.3776E+00	5.0997E+01	5.1003E+01	0.631E+01
Th-234	B	4.9951E-02	1.1181E+00	1.1181E+00	0.654E+00
Tl-208	F	1.4977E-01	7.3239E-02	7.8571E-02	0.935E-01
U-235	F	9.2514E-02	1.1090E-01	1.1125E-01	0.469E-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 (32.9 to 2616.0 keV) 1.064E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 01:43:18
New World Technology Spectrum name: 6N000870.An1

Sample description
Parcel G 70-PGT-124-160 358g
6/22/09 08:30

Acquisition information
Start time: 23-Jun-2009 00:55:15
Live time: 2700
Real time: 2707

- -

***** 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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	4.4666E-01	3.6243E-01	3.6477E-01	0.182E+00
AM-241	#	8.0272E-02	1.6387E-01	1.6407E-01	0.765E-01
Bi-212	F	8.1411E-01	5.8932E-01	5.9400E-01	0.243E+00
BI-214		5.7870E-01	2.0550E-01	2.1198E-01	0.529E-01
CO-60	#F	2.0558E-02	2.4644E-02	2.4716E-02	0.167E-01
CS-137		7.6512E-02	6.4255E-02	6.4627E-02	0.261E-01
EU-152	F	9.9087E-02	1.4307E-01	1.4345E-01	0.947E-01
EU-154	F	1.1497E-01	9.2130E-02	9.2904E-02	0.578E-01
K-40		6.9216E+00	1.5858E+00	1.7112E+00	0.939E-01
Pa-234	F	9.2019E-02	1.5865E-01	1.5898E-01	0.908E-01
Pb-210	#B	-3.5437E-01	1.9833E+00	1.9836E+00	0.639E+00
Pb-212	F	4.9138E-01	1.5347E-01	1.6053E-01	0.632E-01
PB-214	F	5.2296E-01	2.3730E-01	2.4219E-01	0.722E-01
RA-226		1.1267E+00	1.3374E+00	1.3418E+00	0.698E+00
Th-230	#B	-1.5098E+00	1.0929E+01	1.0929E+01	0.124E+01
Th-234	B	-1.0104E-02	1.9152E-02	1.9210E-02	0.802E+00
Tl-208	F	1.2300E-01	6.2149E-02	6.6396E-02	0.598E-01
U-235	B	2.6168E-02	9.9663E-02	9.9695E-02	0.519E-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 2659.0 keV) 1.098E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 00:48:04
New World Technology Spectrum name: 6N000869.An1

Sample description
Parcel G 70-PGT-124-161 347g
6/22/09 08:25

Acquisition information
Start time: 23-Jun-2009 00:01:34
Live time: 2700
Real time: 2707

- -

***** 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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	7.1488E-01	4.1818E-01	4.2337E-01	0.165E+00
AM-241	#A	5.0192E-04	4.5969E-02	4.5969E-02	0.314E-01
Bi-212	F	8.0804E-01	6.2590E-01	6.3024E-01	0.298E+00
BI-214		6.9359E-01	2.3911E-01	2.4710E-01	0.585E-01
CO-60	#B	2.5636E-03	1.1832E-02	1.1835E-02	0.126E-01
CS-137	F	3.5973E-02	6.6982E-02	6.7061E-02	0.328E-01
EU-152	B	4.5564E-02	9.7045E-02	9.7161E-02	0.873E-01
EU-154	F	7.3372E-02	1.0294E-01	1.0323E-01	0.507E-01
K-40	#	6.2511E+00	1.9867E+00	2.0699E+00	0.419E+00
Pa-234	F	1.5973E-01	2.1658E-01	2.1730E-01	0.799E-01
Pb-210	#B	-3.1595E-01	2.7285E+00	2.7287E+00	0.794E+00
Pb-212	F	5.4733E-01	1.5634E-01	1.6490E-01	0.663E-01
PB-214	F	5.0891E-01	2.0769E-01	2.1297E-01	0.624E-01
RA-226	B	3.0045E-01	1.4706E+00	1.4709E+00	0.809E+00
Th-230	#B	4.4229E+00	1.6376E+01	1.6397E+01	0.720E+01
Th-234	B	-1.6345E-01	5.2780E-01	5.2834E-01	0.818E+00
Tl-208	#F	3.1465E-01	1.2740E-01	1.4073E-01	0.169E-01
U-235	F	8.4768E-02	9.9620E-02	9.9951E-02	0.511E-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 2659.0 keV) 9.923E+00 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 09:26:34
New World Technology Spectrum name: 2N000832.An1

Sample description
Parcel G 70-PGT-124-162 340g
6/22/09 08:20

Acquisition information
Start time: 23-Jun-2009 07:53:46
Live time: 5400
Real time: 5406

- -

***** 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	F	4.5740E-01	1.6492E-01	1.6731E-01	0.938E-01
AM-241	#F	7.0756E-02	8.2142E-02	8.2274E-02	0.572E-01
Bi-212	F	4.3857E-01	2.0674E-01	2.0846E-01	0.265E+00
BI-214	F	6.1152E-01	1.0620E-01	1.1234E-01	0.510E-01
CO-60	#F	3.2700E-02	2.2992E-02	2.3078E-02	0.184E-01
CS-137		1.0980E-01	4.0509E-02	4.1048E-02	0.251E-01
EU-152	B	-3.9203E-03	6.7650E-03	6.7704E-03	0.551E-01
EU-154	#B	4.1935E-02	4.9319E-02	4.9405E-02	0.511E-01
K-40		7.0986E+00	8.6255E-01	9.6814E-01	0.609E-01
Pa-234	F	1.6474E-01	1.1757E-01	1.1820E-01	0.500E-01
Pb-210	B	7.6137E-03	6.2486E-01	6.2486E-01	0.566E+00
Pb-212	F	4.7899E-01	8.9485E-02	9.4569E-02	0.627E-01
PB-214		4.7538E-01	1.1470E-01	1.1840E-01	0.589E-01
RA-226	B	5.5136E-01	8.7103E-01	8.7174E-01	0.714E+00
Th-230	#B	-6.7929E-01	8.7917E+00	8.7921E+00	0.533E+01
Th-234	#F	1.6215E+00	4.8891E-01	5.1402E-01	0.526E+00
Tl-208	F	1.0967E-01	4.8798E-02	4.9236E-02	0.406E-01
U-235	F	6.5025E-02	5.3847E-02	5.4007E-02	0.421E-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 (40.6 to 2591.2 keV) 9.439E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 25-JUN-2009 11:23:30
New World Technology Spectrum name: 4N000728.An1

Sample description
Parcel G 70-PGT-124-163 382g
6/22/09 08:15

Acquisition information
Start time: 25-Jun-2009 09:49:59
Live time: 5400
Real time: 5408

- -

***** 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		1.1284E+00	1.8459E-01	1.9725E-01	0.785E-01
AM-241	#B	1.8903E-01	4.2308E-01	4.2326E-01	0.290E+00
Bi-212	F	3.4693E-01	3.1393E-01	3.1464E-01	0.262E+00
BI-214	F	8.2013E-01	1.1012E-01	1.2059E-01	0.511E-01
CO-60	F	3.9136E-02	2.7311E-02	2.7415E-02	0.178E-01
CS-137		7.0000E-02	3.5937E-02	3.6184E-02	0.245E-01
EU-152	F	1.1172E-01	8.0043E-02	8.0419E-02	0.980E-01
EU-154	F	7.4857E-02	5.2704E-02	5.2959E-02	0.664E-01
K-40		1.1505E+01	9.9574E-01	1.2244E+00	0.157E+00
Pa-234	F	1.8576E-01	1.1337E-01	1.1420E-01	0.137E+00
Pb-210	#F	0.0000E+00	3.3322E+00	3.3322E+00	0.000E+00
Pb-212	F	8.7195E-01	1.0650E-01	1.2018E-01	0.684E-01
Pb-214	F	7.0003E-01	1.1076E-01	1.1889E-01	0.680E-01
RA-226		1.3269E+00	9.9203E-01	9.9565E-01	0.794E+00
Th-230	#B	-2.0268E+01	1.2126E+02	1.2129E+02	0.176E+02
Th-234	#B	-2.1925E+00	7.1274E+00	7.1306E+00	0.203E+01
Tl-208	F	3.7318E-01	7.0437E-02	7.3877E-02	0.362E-01
U-235	F	8.0355E-02	6.6440E-02	6.6638E-02	0.526E-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 (40.4 to 2575.8 keV) 1.726E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 14:57:42
New World Technology Spectrum name: 2N000833.An1

Sample description
Parcel G 70-PGT-124-164 354g
6/22/09 08:10

Acquisition information
Start time: 23-Jun-2009 14:03:47
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	F	1.5082E-01	9.9826E-02	1.0026E-01	0.103E+00
AM-241	#B	2.5633E-02	8.6452E-02	8.6469E-02	0.627E-01
Bi-212	#B	-1.2061E-01	4.4057E-01	4.4063E-01	0.277E+00
BI-214	F	2.2562E-01	1.2578E-01	1.2651E-01	0.585E-01
CO-60	#B	1.0297E-03	1.0011E-02	1.0011E-02	0.104E-01
CS-137		1.0844E-01	5.3365E-02	5.3765E-02	0.319E-01
EU-152	#B	2.8244E-02	4.9701E-02	4.9739E-02	0.863E-01
EU-154	B	5.1952E-02	6.3628E-02	6.3730E-02	0.565E-01
K-40	#	4.7584E+00	9.7919E-01	1.0226E+00	0.117E+00
Pa-234	#F	8.2790E-02	9.9728E-02	9.9915E-02	0.743E-01
Pb-210	#B	1.8045E-01	9.7030E-01	9.7035E-01	0.737E+00
Pb-212	F	7.9108E-02	8.3134E-02	8.3288E-02	0.780E-01
PB-214	F	1.5225E-01	1.0630E-01	1.0672E-01	0.742E-01
RA-226	F	8.4655E-01	9.5731E-01	9.5884E-01	0.765E+00
Th-230	#B	-4.6471E+00	8.1312E+01	8.1314E+01	0.577E+01
Th-234	F	9.0413E-01	5.6592E-01	5.7280E-01	0.645E+00
Tl-208	F	8.6271E-02	3.9684E-02	4.0017E-02	0.469E-01
U-235	F	8.1303E-02	9.4035E-02	9.4179E-02	0.566E-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 (40.6 to 2591.2 keV) 5.245E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 17:36:17
New World Technology Spectrum name: 2N000834.An1

Sample description
Parcel G 70-PGT-124-165 348g
6/22/09 08:05

Acquisition information
Start time: 23-Jun-2009 15:49:55
Live time: 5400
Real time: 5406

- -

***** 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	F	1.7568E-01	1.0455E-01	1.0511E-01	0.954E-01
AM-241	#B	-2.0466E-02	4.6721E-01	4.6721E-01	0.236E-01
Bi-212	B	1.0682E-01	2.1445E-01	2.1455E-01	0.196E+00
BI-214	F	2.2856E-01	7.9725E-02	8.0892E-02	0.364E-01
CO-60	#B	1.6100E-03	3.4179E-03	3.4194E-03	0.531E-02
CS-137		6.7631E-02	3.6241E-02	3.6470E-02	0.248E-01
EU-152	#B	4.3522E-03	5.4185E-03	5.4269E-03	0.634E-01
EU-154	F	5.9912E-02	7.3492E-02	7.3610E-02	0.459E-01
K-40		4.8302E+00	7.4637E-01	8.0410E-01	0.132E+00
Pa-234	#F	8.3057E-02	7.9414E-02	7.9651E-02	0.468E-01
Pb-210	#B	-1.3093E-01	7.9879E-01	7.9882E-01	0.531E+00
Pb-212	B	4.9589E-02	5.9536E-02	5.9620E-02	0.564E-01
PB-214	F	2.1478E-01	9.2399E-02	9.3345E-02	0.523E-01
RA-226	#B	-3.3513E-02	8.7447E-01	8.7448E-01	0.632E+00
Th-230	#B	-3.6656E+00	2.7937E+01	2.7941E+01	0.496E+01
Th-234	F	9.8058E-01	5.3984E-01	5.4831E-01	0.452E+00
Tl-208	#F	1.7306E-01	5.1711E-02	5.2733E-02	0.384E-01
U-235	F	7.9671E-02	5.0354E-02	5.0611E-02	0.357E-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 (40.6 to 2591.2 keV) 5.421E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 23-JUN-2009 19:20:04
New World Technology Spectrum name: 1N001088.An1

Sample description
Parcel G 70-PGT-124-166 347g
6/22/09 08:00

Acquisition information
Start time: 23-Jun-2009 18:30:06
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	B	9.2223E-03	4.8926E-03	4.9256E-03	0.123E+00
AM-241	#	5.0653E-02	5.2776E-02	5.2881E-02	0.363E-01
Bi-212	B	3.5809E-02	2.6914E-01	2.6915E-01	0.257E+00
BI-214	#F	1.4883E-01	6.7161E-02	6.7751E-02	0.397E-01
CO-60	#F	1.4280E-02	1.5314E-02	1.5339E-02	0.892E-02
CS-137	#B	3.8528E-04	6.4387E-03	6.4388E-03	0.691E-02
EU-152	C	3.9948E-02	4.2632E-02	4.2722E-02	0.353E-01
EU-154	A	3.2204E-02	4.8211E-02	4.8263E-02	0.326E-01
K-40	#F	1.4309E+00	4.9473E-01	5.0266E-01	0.988E-01
Pa-234	#F	7.8276E-02	6.0178E-02	6.0454E-02	0.367E-01
Pb-210	#F	5.6354E-01	5.9186E-01	5.9273E-01	0.454E+00
Pb-212	B	2.2864E-02	4.3919E-02	4.3943E-02	0.481E-01
Pb-214	F	2.4897E-02	4.2969E-02	4.2997E-02	0.227E-01
RA-226	#B	-1.6944E-01	1.9356E+00	1.9357E+00	0.661E+00
Th-230	#B	-4.5999E+00	1.7851E+01	1.7861E+01	0.525E+01
Th-234	F	5.6574E-01	6.1938E-01	6.2185E-01	0.529E+00
Tl-208	#B	9.5583E-03	1.3332E-02	1.3344E-02	0.107E-01
U-235	B	6.2571E-02	2.7679E-02	2.7996E-02	0.171E+00

- 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 (39.4 to 2490.5 keV) 1.658E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 09:27:16
New World Technology Spectrum name: 3N001187.An1

Sample description
Parcel G 70-PGT-124-167 374g
7/06/09 13:09

Acquisition information
Start time: 07-Jul-2009 07:04:50
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	F	5.2820E-01	1.5617E-01	1.5953E-01	0.527E-01
AM-241	#B	2.1809E-02	7.6605E-02	7.6618E-02	0.596E-01
Bi-212	F	4.2532E-01	3.4869E-01	3.4965E-01	0.226E+00
BI-214	F	2.9814E-01	1.2246E-01	1.2376E-01	0.127E+00
CO-60	#F	6.9385E-02	3.5770E-02	3.6019E-02	0.138E-01
CS-137	#B	-2.5690E-03	6.8084E-02	6.8084E-02	0.310E-01
EU-152	B	3.3576E-02	4.7483E-02	4.7541E-02	0.834E-01
EU-154	#F	8.5091E-02	5.5279E-02	5.5594E-02	0.643E-01
K-40		9.9395E+00	1.3465E+00	1.4806E+00	0.106E+00
Pa-234	F	1.8187E-01	1.0677E-01	1.0761E-01	0.988E-01
Pb-210	#B	5.0021E-01	1.0776E+00	1.0780E+00	0.707E+00
Pb-212	F	4.2822E-01	1.0829E-01	1.1169E-01	0.694E-01
PB-214	F	5.2733E-01	1.3752E-01	1.4131E-01	0.590E-01
RA-226	#B	-5.9494E-02	1.3759E+00	1.3759E+00	0.834E+00
Th-230	#B	-1.1376E+01	3.5047E+02	3.5048E+02	0.556E+01
Th-234		1.3460E+00	7.9199E-01	8.0288E-01	0.579E+00
Tl-208	F	2.6022E-01	8.2380E-02	8.3832E-02	0.331E-01
U-235	F	7.5081E-02	8.6524E-02	8.6657E-02	0.495E-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 (39.2 to 2494.4 keV) 1.352E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 10:21:26
New World Technology Spectrum name: 3N001188.An1

Sample description
Parcel G 70-PGT-124-168 358g
7/06/09 12:57

Acquisition information
Start time: 07-Jul-2009 09:28:58
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	F	6.5429E-01	2.4106E-01	2.4441E-01	0.842E-01
AM-241	B	1.0788E-02	7.9380E-02	7.9383E-02	0.664E-01
Bi-212	#B	-1.1098E-01	2.8080E-01	2.8080E-01	0.122E+00
BI-214	F	5.3476E-01	1.3441E-01	1.3818E-01	0.449E-01
CO-60	#B	1.1963E-02	1.0490E-02	1.0515E-02	0.144E-01
CS-137	#	7.7880E-02	4.9026E-02	4.9251E-02	0.233E-01
EU-152	#B	5.8461E-02	5.8461E-02	5.8602E-02	0.835E-01
EU-154	B	5.2323E-03	7.9663E-03	7.9746E-03	0.547E-01
K-40	#	6.0487E+00	1.0737E+00	1.1372E+00	0.111E+00
Pa-234	#F	1.7981E-01	1.0597E-01	1.0680E-01	0.840E-01
Pb-210		1.3923E+00	1.1036E+00	1.1064E+00	0.699E+00
Pb-212	F	5.4939E-01	1.1256E-01	1.1790E-01	0.726E-01
PB-214	F	7.1939E-01	1.7164E-01	1.7729E-01	0.818E-01
RA-226	B	5.1661E-01	1.0478E+00	1.0483E+00	0.857E+00
Th-230	#B	-5.2289E+00	2.5791E+01	2.5799E+01	0.788E+01
Th-234	B	2.9900E-01	8.6943E-01	8.6993E-01	0.724E+00
Tl-208	F	2.6872E-01	7.5976E-02	7.7652E-02	0.320E-01
U-235	B	4.7020E-02	9.1777E-02	9.1826E-02	0.557E-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 (39.2 to 2494.4 keV) 1.025E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 09:08:25
New World Technology Spectrum name: 5N000812.An1

Sample description
Parcel G 70-PGT-124-169 317g
7/06/09 12:49

Acquisition information
Start time: 07-Jul-2009 08:23:17
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	5.5544E-01	1.8660E-01	1.8971E-01	0.607E-01
AM-241	#B	-1.1366E-02	1.1435E-01	1.1436E-01	0.559E-01
Bi-212	F	4.3511E-01	4.0495E-01	4.0581E-01	0.316E+00
BI-214	F	5.8927E-01	1.6674E-01	1.7044E-01	0.541E-01
CO-60	#B	-3.0666E-02	3.4306E-01	3.4307E-01	0.296E-01
CS-137		6.6085E-02	4.5117E-02	4.5293E-02	0.275E-01
EU-152	#F	1.0931E-01	7.7290E-02	7.7663E-02	0.992E-01
EU-154	F	1.4319E-01	1.0025E-01	1.0074E-01	0.615E-01
K-40		5.2463E+00	1.2019E+00	1.2451E+00	0.590E+00
Pa-234	B	4.2732E-02	4.9774E-02	4.9874E-02	0.922E-01
Pb-210	#B	-3.5439E-02	1.2693E+00	1.2694E+00	0.926E+00
Pb-212	F	3.6769E-01	1.1573E-01	1.1809E-01	0.825E-01
Pb-214	F	4.8180E-01	1.7582E-01	1.7832E-01	0.809E-01
RA-226	B	3.6639E-01	1.1249E+00	1.1251E+00	0.930E+00
Th-230	#F	8.0940E+00	7.2295E+00	7.3000E+00	0.509E+01
Th-234	B	3.4573E-01	1.1341E+00	1.1346E+00	0.821E+00
Tl-208	F	2.0477E-01	6.5550E-02	6.6681E-02	0.342E-01
U-235	F	1.3475E-01	6.4036E-02	6.4612E-02	0.447E-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 2445.3 keV) 1.618E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 08:21:16
New World Technology Spectrum name: 5N000811.An1

Sample description
Parcel G 70-PGT-124-170 348g
7/06/09 12:45

Acquisition information
Start time: 07-Jul-2009 07:33:45
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	F	9.5238E-01	2.6635E-01	2.7274E-01	0.108E+00
AM-241	B	3.7643E-02	1.0576E-01	1.0579E-01	0.869E-01
Bi-212	F	4.4535E-01	3.1490E-01	3.1607E-01	0.259E+00
BI-214	F	4.9645E-01	1.7274E-01	1.7528E-01	0.989E-01
CO-60	#F	6.3360E-02	5.2525E-02	5.2667E-02	0.319E-01
CS-137		6.9557E-02	5.3739E-02	5.3903E-02	0.369E-01
EU-152	B	8.2055E-02	5.4703E-02	5.5000E-02	0.936E-01
EU-154	B	5.4854E-02	5.2685E-02	5.2823E-02	0.685E-01
K-40		6.2149E+00	1.1122E+00	1.1769E+00	0.370E+00
Pa-234	#F	1.2809E-01	1.1865E-01	1.1903E-01	0.914E-01
Pb-210	B	3.3089E-01	9.3622E-01	9.3641E-01	0.767E+00
Pb-212	F	6.8860E-01	1.2978E-01	1.3702E-01	0.891E-01
Pb-214	F	4.6331E-01	1.4302E-01	1.4585E-01	0.681E-01
RA-226	B	2.8382E-01	9.9314E-01	9.9330E-01	0.823E+00
Th-230	#F	7.4448E+00	9.4974E+00	9.5429E+00	0.635E+01
Th-234	#B	-4.4182E-01	1.3153E+00	1.3160E+00	0.705E+00
Tl-208	F	2.6980E-01	7.4175E-02	7.5904E-02	0.357E-01
U-235	F	9.4685E-02	6.5474E-02	6.5753E-02	0.506E-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 2445.3 keV) 9.758E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 09:19:57
New World Technology Spectrum name: 7N000621.An1

Sample description
Parcel G 70-PGT-124-171 363g
7/06/09 11:45

Acquisition information
Start time: 07-Jul-2009 08:28:31
Live time: 2700
Real time: 2708

- -

***** 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	3 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	4.4213E-01	2.7338E-01	2.7642E-01	0.129E+00
AM-241		6.7102E-02	1.2778E-01	1.2796E-01	0.617E-01
Bi-212	B	1.4858E-01	2.9461E-01	2.9492E-01	0.218E+00
BI-214		3.9174E-01	1.7520E-01	1.7871E-01	0.372E-01
CO-60	#F	2.5570E-02	2.3767E-02	2.3882E-02	0.174E-01
CS-137	B	1.3435E-02	3.5995E-02	3.6015E-02	0.171E-01
EU-152	B	3.9430E-02	8.6615E-02	8.6713E-02	0.817E-01
EU-154	F	7.2613E-02	5.3345E-02	5.3878E-02	0.580E-01
K-40		4.0255E+00	1.2975E+00	1.3503E+00	0.350E+00
Pa-234	#F	1.1707E-01	8.7800E-02	8.8751E-02	0.721E-01
Pb-210	B	3.9364E-01	1.0463E+00	1.0469E+00	0.570E+00
Pb-212	F	9.9196E-02	1.2825E-01	1.2860E-01	0.742E-01
PB-214	#F	3.0169E-01	1.6611E-01	1.6844E-01	0.529E-01
RA-226	B	1.0495E-01	1.1804E+00	1.1804E+00	0.670E+00
Th-230	#B	-3.0774E+00	2.3138E+01	2.3145E+01	0.519E+01
Th-234	B	3.4842E-01	9.8582E-01	9.8714E-01	0.661E+00
Tl-208	F	1.4609E-01	1.6552E-01	1.6783E-01	0.669E-01
U-235	B	3.8048E-02	8.2311E-02	8.2392E-02	0.431E-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 (32.9 to 2616.0 keV) 5.406E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 09:24:04
New World Technology Spectrum name: 6N000963.An1

Sample description
Parcel G 70-PGT-124-172 308g
7/06/09 11:42

Acquisition information
Start time: 07-Jul-2009 08:32:15
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	3 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	4.3068E-01	2.3449E-01	2.3785E-01	0.179E+00
AM-241	#	1.0348E-01	1.7710E-01	1.7740E-01	0.789E-01
Bi-212	F	3.7143E-01	5.9815E-01	5.9911E-01	0.291E+00
BI-214		3.5628E-01	2.1775E-01	2.2009E-01	0.888E-01
CO-60	#B	5.5070E-04	3.6657E-02	3.6657E-02	0.194E-01
CS-137	B	4.6411E-03	5.4145E-02	5.4147E-02	0.291E-01
EU-152	F	1.0399E-01	9.8658E-02	9.9252E-02	0.823E-01
EU-154	F	9.1353E-02	7.5959E-02	7.6552E-02	0.620E-01
K-40		6.5460E+00	1.6629E+00	1.7707E+00	0.109E+00
Pa-234	F	1.3032E-01	1.7492E-01	1.7552E-01	0.658E-01
Pb-210	B	3.8647E-01	1.8530E+00	1.8533E+00	0.872E+00
Pb-212	F	4.3150E-01	1.5618E-01	1.6156E-01	0.731E-01
PB-214	F	3.2390E-01	2.1283E-01	2.1494E-01	0.796E-01
RA-226	B	5.2746E-02	1.5294E+00	1.5294E+00	0.854E+00
Th-230	B	5.2129E+00	1.4028E+01	1.4062E+01	0.757E+01
Th-234	#B	9.2915E-02	1.1597E-01	1.1677E-01	0.795E+00
Tl-208	#F	3.1225E-01	1.4317E-01	1.5497E-01	0.190E-01
U-235	F	1.3983E-01	9.3163E-02	9.4123E-02	0.437E-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 2659.0 keV) 8.540E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 10:16:25
New World Technology Spectrum name: 1N001196.An1

Sample description
Parcel G 70-PGT-124-173 311g
7/06/09 11:38

Acquisition information
Start time: 07-Jul-2009 09:31:17
Live time: 2700
Real time: 2701

- -

***** 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	F	6.8268E-01	1.8679E-01	1.9149E-01	0.147E+00
AM-241	#A	5.3265E-02	8.9019E-02	8.9088E-02	0.628E-01
Bi-212	F	6.1323E-01	3.5318E-01	3.5515E-01	0.262E+00
BI-214	F	4.2945E-01	1.3897E-01	1.4134E-01	0.557E-01
CO-60	#F	5.0107E-02	2.9595E-02	2.9753E-02	0.995E-02
CS-137	F	2.3359E-02	2.6999E-02	2.7035E-02	0.171E-01
EU-152	A	3.9296E-02	5.4512E-02	5.4581E-02	0.515E-01
EU-154	A	3.5522E-02	3.7082E-02	3.7164E-02	0.474E-01
K-40		6.4137E+00	1.2779E+00	1.3386E+00	0.535E+00
Pa-234	F	1.8038E-01	1.0213E-01	1.0299E-01	0.623E-01
Pb-210	#F	1.0272E+00	8.2412E-01	8.2620E-01	0.598E+00
Pb-212	F	4.2024E-01	1.0733E-01	1.1064E-01	0.698E-01
Pb-214		4.8973E-01	1.2897E-01	1.3247E-01	0.515E-01
RA-226	B	7.9241E-01	9.9984E-01	1.0011E+00	0.804E+00
Th-230	#B	-4.5764E+00	1.7110E+01	1.7119E+01	0.585E+01
Th-234	#B	6.6437E-01	1.0297E+00	1.0318E+00	0.731E+00
Tl-208	F	2.6067E-01	7.6938E-02	7.8498E-02	0.259E-01
U-235	B	6.5499E-02	4.5320E-02	4.5533E-02	0.211E+00

- 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 (39.4 to 2490.5 keV) 1.057E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 12:38:21
New World Technology Spectrum name: 1N001197.An1

Sample description
Parcel G 70-PGT-124-174 308g
7/06/09 11:35

Acquisition information
Start time: 07-Jul-2009 11:08:11
Live time: 5400
Real time: 5404

- -

***** 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	F	4.3027E-01	1.5485E-01	1.5712E-01	0.118E+00
AM-241	#A	-1.0892E-02	1.7197E-01	1.7197E-01	0.280E-01
Bi-212	#B	1.3393E-01	1.4233E-01	1.4256E-01	0.229E+00
BI-214	F	4.4801E-01	1.1460E-01	1.1771E-01	0.439E-01
CO-60	#F	5.3183E-02	4.5762E-02	4.5877E-02	0.209E-01
CS-137		2.8182E-02	2.8051E-02	2.8102E-02	0.203E-01
EU-152	C	8.4262E-02	9.0032E-02	9.0223E-02	0.332E-01
EU-154	A	2.2364E-03	1.3678E-02	1.3679E-02	0.282E-01
K-40		8.3081E+00	9.9065E-01	1.1171E+00	0.196E+00
Pa-234	B	3.6987E-02	6.2848E-02	6.2907E-02	0.529E-01
Pb-210	#F	8.7692E-01	8.7866E-01	8.8007E-01	0.565E+00
Pb-212	F	4.0882E-01	7.4100E-02	7.8567E-02	0.485E-01
Pb-214		5.2133E-01	1.0865E-01	1.1331E-01	0.460E-01
RA-226	F	6.9913E-01	7.1699E-01	7.1838E-01	0.581E+00
Th-230	#B	-6.0626E+00	3.1634E+01	3.1643E+01	0.523E+01
Th-234	F	6.3961E-01	5.9875E-01	6.0202E-01	0.488E+00
Tl-208	#	1.9644E-01	4.2428E-02	4.4021E-02	0.134E-01
U-235	B	8.0290E-02	3.0801E-02	3.1271E-02	0.145E+00

- 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 (39.4 to 2490.5 keV) 1.103E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 12:42:59
New World Technology Spectrum name: 4N000763.An1

Sample description
Parcel G 70-PGT-124-175 339g
7/06/09 11:28

Acquisition information
Start time: 07-Jul-2009 11:47:36
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	F	4.9860E-01	1.8977E-01	1.9224E-01	0.805E-01
AM-241	#B	1.4387E-01	4.7909E-01	4.7918E-01	0.349E+00
Bi-212	B	-6.0817E-03	4.4934E-01	4.4934E-01	0.336E+00
BI-214	F	4.3282E-01	1.9986E-01	2.0154E-01	0.805E-01
CO-60	#F	6.1318E-02	2.3996E-02	2.4286E-02	0.958E-02
CS-137		6.8103E-02	5.2099E-02	5.2261E-02	0.351E-01
EU-152	F	1.8506E-01	1.2907E-01	1.2971E-01	0.129E+00
EU-154	F	1.2764E-01	9.2880E-02	9.3302E-02	0.694E-01
K-40		1.0230E+01	1.3506E+00	1.4918E+00	0.104E+00
Pa-234	B	4.7487E-02	3.8452E-02	3.8611E-02	0.170E+00
Pb-210	#F	0.0000E+00	5.3335E+00	5.3335E+00	0.000E+00
Pb-212	F	1.2460E-01	1.3343E-01	1.3367E-01	0.914E-01
Pb-214	F	3.6308E-01	1.6071E-01	1.6226E-01	0.788E-01
RA-226	#B	-7.8442E-02	1.5767E+00	1.5767E+00	0.956E+00
Th-230	#B	-1.6730E+01	7.0811E+01	7.0842E+01	0.222E+02
Th-234	#B	-3.4003E+00	1.4445E+01	1.4448E+01	0.300E+01
Tl-208	F	9.0751E-02	7.7578E-02	7.7767E-02	0.464E-01
U-235	B	6.8162E-04	6.4622E-02	6.4622E-02	0.532E-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 (40.4 to 2575.8 keV) 1.174E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 13:02:21
New World Technology Spectrum name: 5N000813.An1

Sample description
Parcel G 70-PGT-124-176 309g
7/06/09 11:24

Acquisition information
Start time: 07-Jul-2009 11:50:05
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	F	3.2004E-01	1.7820E-01	1.7929E-01	0.916E-01
AM-241	#B	-3.6247E-02	7.7391E-02	7.7391E-02	0.257E-01
Bi-212	#B	-1.8346E-02	2.7348E-02	2.7371E-02	0.254E+00
BI-214	F	3.1246E-01	1.2981E-01	1.3116E-01	0.434E-01
CO-60	#B	-3.1460E-02	3.5194E-01	3.5195E-01	0.304E-01
CS-137		5.8810E-02	3.6486E-02	3.6658E-02	0.183E-01
EU-152	#F	9.9194E-02	5.9816E-02	6.0212E-02	0.976E-01
EU-154	B	1.7605E-02	2.3639E-02	2.3671E-02	0.690E-01
K-40	#	6.0727E+00	1.1739E+00	1.2327E+00	0.416E+00
Pa-234	B	6.4054E-02	9.1254E-02	9.1376E-02	0.953E-01
Pb-210	#B	-3.3630E-01	1.7436E+00	1.7437E+00	0.968E+00
Pb-212	F	1.6750E-01	9.3957E-02	9.4564E-02	0.800E-01
Pb-214	F	2.2263E-01	1.6151E-01	1.6210E-01	0.806E-01
RA-226	#B	-5.2329E-02	1.4105E+00	1.4105E+00	0.941E+00
Th-230	B	1.0902E-02	6.0391E+00	6.0391E+00	0.498E+01
Th-234	#B	-1.3179E-01	1.1955E+00	1.1955E+00	0.796E+00
Tl-208	F	9.6028E-02	4.9509E-02	4.9840E-02	0.346E-01
U-235	F	1.4981E-01	6.5212E-02	6.5911E-02	0.447E-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 2445.3 keV) 7.400E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 09:29:07
New World Technology Spectrum name: 4N000762.An1

Sample description
Parcel G 70-PGT-124-177 329g
7/06/09 11:20

Acquisition information
Start time: 07-Jul-2009 08:37:00
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	F	5.4705E-01	2.2919E-01	2.3166E-01	0.100E+00
AM-241	#F	4.8125E-01	6.8706E-01	6.8779E-01	0.441E+00
Bi-212	F	3.7156E-01	4.6280E-01	4.6335E-01	0.323E+00
BI-214	F	4.6934E-01	1.6495E-01	1.6733E-01	0.724E-01
CO-60	#B	8.1776E-03	1.6168E-02	1.6175E-02	0.102E-01
CS-137	B	2.0781E-02	5.2083E-02	5.2098E-02	0.407E-01
EU-152	F	1.8349E-01	1.0778E-01	1.0853E-01	0.150E+00
EU-154	F	1.2361E-01	1.1400E-01	1.1432E-01	0.895E-01
K-40		1.1320E+01	1.4422E+00	1.6036E+00	0.107E+00
Pa-234	B	7.6123E-02	6.0928E-02	6.1187E-02	0.192E+00
Pb-210	#F	0.0000E+00	2.2223E+00	2.2223E+00	0.000E+00
Pb-212	F	2.5949E-01	1.9115E-01	1.9187E-01	0.104E+00
Pb-214	F	4.3217E-01	1.5306E-01	1.5537E-01	0.859E-01
RA-226	B	8.1620E-01	1.2651E+00	1.2661E+00	0.103E+01
Th-230	#B	-3.0322E+01	3.4355E+02	3.4358E+02	0.221E+02
Th-234	#B	-3.3835E+00	1.4926E+01	1.4930E+01	0.295E+01
Tl-208	F	1.5306E-01	9.3912E-02	9.4355E-02	0.553E-01
U-235	B	5.0786E-02	1.1740E-01	1.1744E-01	0.782E-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 (40.4 to 2575.8 keV) 1.318E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 13:50:18
New World Technology Spectrum name: 4N000764.An1

Sample description
Parcel G 70-PGT-124-177DUP 329g
7/06/09 11:20

Acquisition information
Start time: 07-Jul-2009 12:45:26
Live time: 2700
Real time: 2706

- -

***** 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	F	7.2849E-01	2.3176E-01	2.3607E-01	0.933E-01
AM-241	#B	-1.2713E-01	3.7342E-01	3.7342E-01	0.105E+00
Bi-212	#B	-3.4008E-01	1.5067E+00	1.5068E+00	0.349E+00
BI-214	F	5.2704E-01	1.7461E-01	1.7744E-01	0.756E-01
CO-60	#F	4.5464E-02	2.8106E-02	2.8242E-02	0.987E-02
CS-137	F	4.9376E-02	5.1929E-02	5.2015E-02	0.371E-01
EU-152	F	2.2838E-01	1.2965E-01	1.3062E-01	0.140E+00
EU-154	#F	8.9062E-02	6.8891E-02	6.9168E-02	0.782E-01
K-40		1.0770E+01	1.4067E+00	1.5569E+00	0.107E+00
Pa-234	#B	9.5531E-02	8.9007E-02	8.9286E-02	0.180E+00
Pb-210	#F	0.0000E+00	2.0243E+00	2.0243E+00	0.000E+00
Pb-212	F	2.8991E-01	1.4189E-01	1.4309E-01	0.989E-01
Pb-214	F	4.1639E-01	2.1232E-01	2.1387E-01	0.111E+00
RA-226	F	1.1512E+00	1.2991E+00	1.3012E+00	0.104E+01
Th-230	#B	-1.4213E+01	6.1685E+01	6.1711E+01	0.237E+02
Th-234	#B	-1.7575E+00	6.5714E+00	6.5737E+00	0.310E+01
Tl-208	F	1.2703E-01	7.0173E-02	7.0582E-02	0.462E-01
U-235	F	9.4733E-02	9.3735E-02	9.3931E-02	0.726E-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 (40.4 to 2575.8 keV) 1.300E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 11:13:17
New World Technology Spectrum name: 3N001189.An1

Sample description
Parcel G 70-PGT-124-178 317g
7/06/09 11:10

Acquisition information
Start time: 07-Jul-2009 10:23:13
Live time: 2700
Real time: 2706

- -

***** 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	F	2.2192E-01	1.3380E-01	1.3450E-01	0.111E+00
AM-241	#F	1.1901E-01	1.2415E-01	1.2440E-01	0.804E-01
Bi-212	F	4.5192E-01	3.4564E-01	3.4673E-01	0.237E+00
BI-214	F	2.3771E-01	1.0936E-01	1.1028E-01	0.611E-01
CO-60	#B	1.5016E-03	2.8027E-02	2.8027E-02	0.244E-01
CS-137	F	3.0953E-02	3.1344E-02	3.1400E-02	0.214E-01
EU-152	B	5.0640E-02	4.5294E-02	4.5430E-02	0.765E-01
EU-154	#F	1.9988E-01	1.0534E-01	1.0625E-01	0.604E-01
K-40	#	3.4955E+00	8.6748E-01	8.9409E-01	0.125E+00
Pa-234	#F	1.1745E-01	1.0968E-01	1.1002E-01	0.920E-01
Pb-210	B	9.1919E-02	8.2278E-01	8.2279E-01	0.703E+00
Pb-212	F	2.4776E-01	9.4217E-02	9.5536E-02	0.754E-01
PB-214	F	3.1650E-01	1.3520E-01	1.3661E-01	0.716E-01
RA-226	B	6.3275E-02	9.5394E-01	9.5394E-01	0.801E+00
Th-230	#B	-4.4481E+00	2.3056E+01	2.3063E+01	0.843E+01
Th-234	F	7.1574E-01	6.1517E-01	6.1915E-01	0.531E+00
Tl-208	#F	1.9467E-01	7.6393E-02	7.7272E-02	0.295E-01
U-235	F	6.6002E-02	7.5486E-02	7.5604E-02	0.516E-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 (39.2 to 2494.4 keV) 5.144E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 10:22:40
New World Technology Spectrum name: 6N000964.An1

Sample description
Parcel G 70-PGT-124-179 379g
7/06/09 10:44

Acquisition information
Start time: 07-Jul-2009 09:26:47
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	3 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	7.5695E-01	3.6872E-01	3.7530E-01	0.144E+00
AM-241	A	7.4490E-02	1.5634E-01	1.5651E-01	0.832E-01
Bi-212	F	7.5328E-01	5.1245E-01	5.1706E-01	0.198E+00
BI-214		6.4010E-01	2.4481E-01	2.5148E-01	0.693E-01
CO-60	#B	7.9179E-04	1.7127E-02	1.7127E-02	0.107E-01
CS-137	F	3.9814E-02	6.8360E-02	6.8455E-02	0.336E-01
EU-152	#F	7.0046E-02	1.0671E-01	1.0696E-01	0.645E-01
EU-154	F	1.1437E-01	1.2088E-01	1.2146E-01	0.640E-01
K-40		1.3947E+01	2.2876E+00	2.6291E+00	0.211E+00
Pa-234	F	1.2837E-01	1.7382E-01	1.7440E-01	0.401E-01
Pb-210	#B	-4.3075E-01	2.5684E+00	2.5687E+00	0.691E+00
Pb-212	F	6.3689E-01	1.6340E-01	1.7442E-01	0.690E-01
PB-214	F	5.7962E-01	2.0729E-01	2.1412E-01	0.703E-01
RA-226		1.1120E+00	1.5140E+00	1.5177E+00	0.801E+00
Th-230	#B	5.6693E+00	1.4304E+01	1.4344E+01	0.668E+01
Th-234	#B	-5.4494E-01	2.0654E+00	2.0670E+00	0.763E+00
Tl-208	F	1.4637E-01	7.2514E-02	7.7662E-02	0.604E-01
U-235	F	9.6047E-02	1.2955E-01	1.2988E-01	0.513E-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 2659.0 keV) 1.852E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 10:19:53
New World Technology Spectrum name: 7N000622.An1

Sample description
Parcel G 70-PGT-124-180 342g
7/06/09 10:36

Acquisition information
Start time: 07-Jul-2009 09:21:37
Live time: 2700
Real time: 2708

- -

***** 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	3 Sigma Total pCi/g	MDA pCi/g
Ac-228		1.0157E+00	4.6942E-01	4.7871E-01	0.254E+00
AM-241	#A	8.6564E-02	2.2020E-01	2.2036E-01	0.100E+00
Bi-212	F	5.7348E-01	7.2186E-01	7.2376E-01	0.370E+00
BI-214		1.4699E+00	3.8123E-01	4.0347E-01	0.874E-01
CO-60	B	5.3490E-03	2.0688E-02	2.0694E-02	0.189E-01
CS-137	F	4.4527E-02	7.4475E-02	7.4584E-02	0.362E-01
EU-152	B	7.0926E-02	1.2046E-01	1.2069E-01	0.805E-01
EU-154	B	2.8272E-02	5.9852E-02	5.9925E-02	0.771E-01
K-40		6.9794E+00	1.9069E+00	2.0141E+00	0.486E+00
Pa-234	#F	2.2716E-01	2.5250E-01	2.5375E-01	0.130E+00
Pb-210	#B	1.5551E-01	1.1523E+00	1.1524E+00	0.629E+00
Pb-212	F	1.0816E+00	2.4472E-01	2.6575E-01	0.105E+00
PB-214	F	1.2477E+00	3.4283E-01	3.6177E-01	0.964E-01
RA-226	B	6.7950E-01	1.7280E+00	1.7292E+00	0.943E+00
Th-230	#B	-5.9510E+00	9.9681E+01	9.9687E+01	0.633E+01
Th-234	#F	1.2437E+00	1.2956E+00	1.3084E+00	0.882E+00
Tl-208	F	2.7469E-01	9.7410E-02	1.1051E-01	0.949E-01
U-235	F	9.9797E-02	1.1712E-01	1.1751E-01	0.602E-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 (32.9 to 2616.0 keV) 1.247E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 16:41:05
New World Technology Spectrum name: 7N000623.An1

Sample description
Parcel G 70-PGT-124-181 317g
7/06/09 10:28

Acquisition information
Start time: 07-Jul-2009 15:52:32
Live time: 2700
Real time: 2707

- -

***** 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	F	1.5622E-01	1.0129E-01	1.0175E-01	0.155E+00
AM-241	#A	-5.0161E-02	8.8460E-02	8.8460E-02	0.286E-01
Bi-212	B	1.6382E-01	2.0840E-01	2.0864E-01	0.221E+00
BI-214	#	2.8076E-01	1.5468E-01	1.5560E-01	0.721E-01
CO-60	#B	-1.2826E-02	3.6106E-01	3.6106E-01	0.199E-01
CS-137	#B	-1.0418E-03	3.5202E-02	3.5202E-02	0.775E-02
EU-152	B	7.8454E-02	6.8546E-02	6.8763E-02	0.802E-01
EU-154	B	1.5373E-02	8.4543E-02	8.4549E-02	0.717E-01
K-40	#	4.2353E+00	9.5450E-01	9.8989E-01	0.401E+00
Pa-234	#F	1.7655E-01	1.3370E-01	1.3433E-01	0.111E+00
Pb-210	B	1.7709E-01	7.9898E-01	7.9905E-01	0.669E+00
Pb-212	#B	-1.7644E-02	1.1070E-01	1.1071E-01	0.815E-01
PB-214	F	1.8417E-01	1.5299E-01	1.5341E-01	0.735E-01
RA-226	B	1.2672E-01	9.3608E-01	9.3611E-01	0.786E+00
Th-230	#B	-3.5094E+00	2.2629E+01	2.2633E+01	0.760E+01
Th-234	#B	4.1842E-01	3.7049E-01	3.7275E-01	0.681E+00
Tl-208	#B	4.7429E-02	8.5954E-02	8.6164E-02	0.683E-01
U-235	B	4.4615E-02	6.4588E-02	6.4651E-02	0.508E-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 (32.9 to 2616.0 keV) 4.700E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 11:12:25
New World Technology Spectrum name: 6N000965.An1

Sample description
Parcel G 70-PGT-124-182 336g
7/06/09 10:23

Acquisition information
Start time: 07-Jul-2009 10:24:43
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	3 Sigma Total pCi/g	MDA pCi/g
Ac-228	B	7.9964E-02	4.9773E-02	5.0318E-02	0.147E+00
AM-241	A	3.7343E-02	1.2254E-01	1.2260E-01	0.655E-01
Bi-212	B	1.5127E-01	5.7430E-01	5.7447E-01	0.302E+00
BI-214		4.1556E-01	2.5551E-01	2.5823E-01	0.625E-01
CO-60	#F	6.2635E-02	6.6880E-02	6.7125E-02	0.178E-01
CS-137	#F	1.7977E-02	3.3523E-02	3.3562E-02	0.148E-01
EU-152	F	1.2874E-01	1.1149E-01	1.1230E-01	0.694E-01
EU-154	B	4.8162E-02	5.0995E-02	5.1241E-02	0.607E-01
K-40		5.2705E+00	1.4288E+00	1.5104E+00	0.100E+00
Pa-234	F	1.2199E-01	1.5368E-01	1.5427E-01	0.779E-01
Pb-210	#B	1.3052E-01	1.6777E+00	1.6777E+00	0.788E+00
Pb-212	F	1.5021E-01	1.4352E-01	1.4424E-01	0.650E-01
PB-214	F	1.4902E-01	1.4207E-01	1.4273E-01	0.612E-01
RA-226	F	7.5578E-01	1.3686E+00	1.3705E+00	0.732E+00
Th-230	#B	4.2500E+00	1.1587E+01	1.1615E+01	0.562E+01
Th-234	B	1.7820E-01	3.4065E-01	3.4165E-01	0.784E+00
Tl-208	B	3.6954E-02	4.1327E-02	4.1919E-02	0.504E-01
U-235	B	4.5484E-02	1.2720E-01	1.2727E-01	0.512E-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 2659.0 keV) 6.048E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 12:03:17
New World Technology Spectrum name: 3N001190.An1

Sample description
Parcel G 70-PGT-124-183 323g
7/06/09 11:16

Acquisition information
Start time: 07-Jul-2009 11:18:05
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	F	7.9740E-01	2.6599E-01	2.7049E-01	0.912E-01
AM-241	#B	0.0000E+00	7.5058E-02	7.5087E-02	0.637E-01
Bi-212	F	4.0531E-01	3.3374E-01	3.3465E-01	0.233E+00
BI-214	F	4.7135E-01	1.3427E-01	1.3721E-01	0.527E-01
CO-60	#B	-5.1776E-03	1.2085E-01	1.2085E-01	0.315E-01
CS-137		4.8965E-02	3.8737E-02	3.8850E-02	0.253E-01
EU-152	#B	4.1861E-02	3.1644E-02	3.1778E-02	0.739E-01
EU-154	F	9.0520E-02	8.2015E-02	8.2255E-02	0.572E-01
K-40		8.3937E+00	1.3316E+00	1.4294E+00	0.123E+00
Pa-234	#B	9.0902E-02	8.8621E-02	8.8875E-02	0.965E-01
Pb-210	B	6.7989E-01	9.3094E-01	9.3174E-01	0.759E+00
Pb-212	F	2.6348E-01	1.1224E-01	1.1350E-01	0.811E-01
PB-214	F	3.6588E-01	1.1224E-01	1.1449E-01	0.844E-01
RA-226	#F	1.0143E+00	1.0445E+00	1.0465E+00	0.696E+00
Th-230	#B	-7.4765E+00	2.6509E+01	2.6526E+01	0.713E+01
Th-234	B	6.8222E-02	8.9446E-01	8.9448E-01	0.676E+00
Tl-208	F	2.4127E-01	6.4060E-02	6.5660E-02	0.161E-01
U-235	#B	0.0000E+00	5.6339E-02	5.6339E-02	0.464E-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 (39.2 to 2494.4 keV) 1.099E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 07-JUL-2009 13:53:15
New World Technology Spectrum name: 3N001191.An1

Sample description
Parcel G 70-PGT-124-184 339g
7/06/09 10:10

Acquisition information
Start time: 07-Jul-2009 13:04:20
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	F	6.2845E-01	2.1560E-01	2.1905E-01	0.699E-01
AM-241	#B	-2.0753E-02	2.5195E-01	2.5196E-01	0.459E-01
Bi-212	F	5.6935E-01	3.8453E-01	3.8609E-01	0.261E+00
BI-214	F	3.7447E-01	1.1922E-01	1.2131E-01	0.438E-01
CO-60	#F	2.2227E-02	2.3953E-02	2.3992E-02	0.152E-01
CS-137	B	1.7883E-02	3.1762E-02	3.1780E-02	0.246E-01
EU-152	F	1.5590E-01	6.9722E-02	7.0559E-02	0.841E-01
EU-154	F	1.0242E-01	5.5309E-02	5.5764E-02	0.656E-01
K-40		6.8405E+00	1.1734E+00	1.2475E+00	0.117E+00
Pa-234	#F	7.8203E-02	4.9467E-02	4.9803E-02	0.508E-01
Pb-210	B	5.1521E-01	8.8523E-01	8.8572E-01	0.729E+00
Pb-212	F	3.0804E-01	9.6600E-02	9.8582E-02	0.690E-01
PB-214	F	4.8968E-01	1.6195E-01	1.6474E-01	0.714E-01
RA-226	F	7.9785E-01	8.1474E-01	8.1633E-01	0.647E+00
Th-230	#B	-8.8911E+00	4.4724E+01	4.4738E+01	0.776E+01
Th-234	F	1.2533E+00	8.5313E-01	8.6191E-01	0.580E+00
Tl-208	F	1.4519E-01	7.2930E-02	7.3444E-02	0.325E-01
U-235	F	8.4519E-02	8.0085E-02	8.0267E-02	0.468E-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 (39.2 to 2494.4 keV) 9.356E+00 pCi/g

Laboratory: New World Technology

Tetra Tech EC, Inc.

Client Sample ID: 70-PGT-124-170

Radiochemistry

Lab Sample ID: F9H100147-001
Work Order: LHWK4
Matrix: SOLID

Date Collected: 07/06/09 1245
Date Received: 08/10/09 1000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 9223331**		**Yld % 53**
Strontium 90	-0.11	U	0.27	0.32	0.30	200	08/11/09	08/21/09

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: 70-PGT-124-175

Radiochemistry

Lab Sample ID: F9G150348-012
Work Order: LGJ0G
Matrix: SOLID

Date Collected: 07/06/09 1128
Date Received: 07/15/09 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 9196498**		**Yld % 59**
Strontium 90	0.16	U	0.31	0.33	0.31	200	07/15/09	07/31/09

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)

This page intentionally left blank.

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
1	[redacted]	37.72061683	-122.3634764
2	[redacted]	37.72061661	-122.3634758
3	[redacted]	37.72061741	-122.3634762
4	[redacted]	37.7206173	-122.3634767
5	[redacted]	37.72061754	-122.3634769
6	1207	37.72061759	-122.3634767
7	[redacted]	37.72061759	-122.3634764
8	1214	37.72061659	-122.3634761
9	[redacted]	37.72062201	-122.3634764
10	[redacted]	37.72063149	-122.3634739
11	[redacted]	37.72064295	-122.3634661
12	[redacted]	37.72065467	-122.3634557
13	[redacted]	37.72066515	-122.3634447
14	[redacted]	37.72067634	-122.3634329
15	[redacted]	37.72068606	-122.3634219
16	[redacted]	37.72069597	-122.3634138
17	[redacted]	37.72070612	-122.3634056
18	[redacted]	37.72071515	-122.3633963
19	1181	37.72072404	-122.3633876
20	1174	37.72073368	-122.3633815
21	1201	37.7207421	-122.3633806
22	1172	37.72075148	-122.3633836
23	1167	37.72076212	-122.3633908
24	1128	37.72077126	-122.3634003
25	1169	37.72077952	-122.3634115
26	1153	37.72078644	-122.3634227
27	1198	37.72079427	-122.3634358
28	1188	37.72080101	-122.3634476
29	1202	37.72080782	-122.3634593
30	1173	37.72081459	-122.3634715
31	1162	37.72082169	-122.3634839
32	1185	37.72082829	-122.3634961
33	1165	37.72083583	-122.3635088
34	1155	37.72084257	-122.3635211
35	1207	37.72084984	-122.3635326
36	[redacted]	37.72085689	-122.3635455
37	1177	37.72086436	-122.3635573
38	1186	37.72087071	-122.3635683
39	1199	37.7208778	-122.3635814
40	1141	37.72088523	-122.3635942
41	1164	37.72089144	-122.3636058
42	1180	37.72089883	-122.3636175
43	1158	37.72090606	-122.3636308
44	1167	37.72091341	-122.3636429
45	1188	37.72092041	-122.3636545
46	1170	37.72092729	-122.3636671
47	1194	37.72093445	-122.3636787
48	1198	37.72093978	-122.3636891
49	1180	37.72093878	-122.3636853
50	[redacted]	37.72094068	-122.3636927
51	1180	37.72094065	-122.3637043
52	1124	37.72093715	-122.3637153
53	1094	37.720931	-122.3637282
54	1165	37.72092251	-122.3637397
55	1213	37.72091418	-122.3637494
56	1170	37.72090472	-122.3637594
57	1187	37.72089513	-122.3637686
58	1108	37.72088559	-122.3637774
59	1163	37.72087698	-122.3637857
60	[redacted]	37.72086713	-122.3637942
61	1195	37.72085868	-122.3638017
62	[redacted]	37.7208512	-122.3638093

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
63	[illegible]	37.72084242	-122.3638165
64	[illegible]	37.72083394	-122.3638238
65	[illegible]	37.72082606	-122.3638313
66	[illegible]	37.72081756	-122.3638397
67	[illegible]	37.72081011	-122.3638466
68	[illegible]	37.72080349	-122.3638497
69	[illegible]	37.72079713	-122.36385
70	[illegible]	37.72078956	-122.3638464
71	[illegible]	37.72078231	-122.3638405
72	[illegible]	37.72077569	-122.3638331
73	[illegible]	37.72076908	-122.3638238
74	[illegible]	37.7207629	-122.3638138
75	[illegible]	37.72075679	-122.3638049
76	[illegible]	37.72075095	-122.3637944
77	[illegible]	37.72074552	-122.3637843
78	1195	37.72073969	-122.3637748
79	[illegible]	37.72073453	-122.3637645
80	1157	37.72072862	-122.3637538
81	[illegible]	37.72072276	-122.3637434
82	[illegible]	37.7207171	-122.3637337
83	[illegible]	37.72071119	-122.3637234
84	[illegible]	37.72070558	-122.3637138
85	[illegible]	37.72069974	-122.3637049
86	[illegible]	37.72069319	-122.3636955
87	[illegible]	37.7206866	-122.3636864
88	[illegible]	37.72068052	-122.3636773
89	[illegible]	37.72067521	-122.3636682
90	[illegible]	37.72066969	-122.3636583
91	[illegible]	37.72066391	-122.3636487
92	[illegible]	37.7206586	-122.3636391
93	1202	37.72065319	-122.3636296
94	1174	37.72064751	-122.3636202
95	1144	37.720642	-122.3636109
96	1195	37.72063634	-122.3636018
97	1213	37.720631	-122.3635924
98	[illegible]	37.72062573	-122.3635828
99	[illegible]	37.72062017	-122.3635733
100	[illegible]	37.72061443	-122.3635643
101	1198	37.72060853	-122.3635548
102	[illegible]	37.72060328	-122.3635465
103	1212	37.72059894	-122.3635385
104	[illegible]	37.72059629	-122.3635309
105	1209	37.72059604	-122.363525
106	1188	37.72059692	-122.3635189
107	1193	37.72060153	-122.3635115
108	1170	37.72060776	-122.3635028
109	[illegible]	37.72061553	-122.363495
110	1206	37.72062197	-122.3634877
111	[illegible]	37.72062996	-122.3634804
112	[illegible]	37.7206377	-122.3634741
113	[illegible]	37.72064501	-122.3634685
114	[illegible]	37.72065356	-122.363462
115	[illegible]	37.7206619	-122.3634553
116	[illegible]	37.72066935	-122.3634485
117	[illegible]	37.72067741	-122.3634413
118	[illegible]	37.7206858	-122.3634348
119	[illegible]	37.72069366	-122.363428
120	[illegible]	37.72070186	-122.3634207
121	[illegible]	37.72070982	-122.3634136
122	[illegible]	37.72071734	-122.3634067
123	[illegible]	37.72072495	-122.3634003
124	[illegible]	37.72073227	-122.3633962

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
125	1142	37.72073911	-122.3633954
126	1182	37.72074752	-122.3633974
127	1192	37.72075575	-122.3634023
128	1162	37.72076306	-122.3634083
129	1200	37.72077081	-122.3634164
130	[illegible]	37.72077763	-122.3634249
131	1195	37.72078359	-122.3634338
132	[illegible]	37.72078998	-122.3634439
133	1178	37.72079586	-122.3634539
134	1193	37.72080137	-122.3634635
135	1210	37.72080633	-122.3634729
136	1188	37.7208118	-122.3634833
137	1192	37.72081764	-122.3634937
138	1156	37.72082312	-122.3635032
139	1189	37.72082855	-122.3635133
140	1166	37.72083408	-122.363523
141	[illegible]	37.72083985	-122.3635323
142	1210	37.7208459	-122.3635416
143	1193	37.72085219	-122.3635514
144	1185	37.72085761	-122.3635609
145	1175	37.72086284	-122.3635694
146	1181	37.72086841	-122.3635794
147	1175	37.72087392	-122.3635898
148	1199	37.72087955	-122.3636
149	[illegible]	37.72088467	-122.3636091
150	1208	37.72089022	-122.3636194
151	[illegible]	37.72089583	-122.3636288
152	1195	37.7209014	-122.3636383
153	[illegible]	37.72090713	-122.3636478
154	[illegible]	37.72091313	-122.3636577
155	1181	37.72091826	-122.3636673
156	1213	37.72092358	-122.3636765
157	1200	37.72092772	-122.3636866
158	1157	37.72092922	-122.3636958
159	1214	37.72092859	-122.3637048
160	1187	37.72092599	-122.3637143
161	1147	37.72092138	-122.3637242
162	1192	37.72091596	-122.3637339
163	1162	37.72090938	-122.3637422
164	1162	37.72090178	-122.3637502
165	1158	37.72089453	-122.363758
166	1146	37.72088761	-122.3637651
167	1187	37.72087937	-122.3637727
168	1205	37.72087168	-122.3637797
169	[illegible]	37.72086414	-122.3637865
170	[illegible]	37.72085614	-122.3637938
171	[illegible]	37.72084842	-122.3638008
172	[illegible]	37.72084094	-122.3638078
173	[illegible]	37.72083282	-122.3638151
174	[illegible]	**37.72082507**	**-122.3638223**
175	[illegible]	37.72081673	-122.3638299
176	[illegible]	37.72080956	-122.3638349
177	[illegible]	37.72080168	-122.3638366
178	[illegible]	37.72079488	-122.3638349
179	[illegible]	**37.72078798**	**-122.3638307**
180	[illegible]	37.72078107	-122.3638242
181	[illegible]	37.72077434	-122.3638158
182	[illegible]	37.72076797	-122.363807
183	[illegible]	37.72076208	-122.3637976
184	[illegible]	37.72075591	-122.3637871
185	[illegible]	37.72074986	-122.363777
186	[illegible]	37.72074465	-122.363768

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
187	1153	37.72073904	-122.3637579
188	[illegible]	37.72073316	-122.3637479
189	[illegible]	37.72072732	-122.3637376
190	[illegible]	37.72072204	-122.363728
191	[illegible]	37.72071602	-122.3637176
192	[illegible]	37.72071043	-122.3637082
193	[illegible]	37.72070513	-122.3636991
194	[illegible]	37.72069858	-122.363689
195	[illegible]	37.72069201	-122.3636794
196	[illegible]	**37.72068639**	**-122.3636702**
197	[illegible]	37.72068052	-122.3636607
198	[illegible]	37.72067484	-122.3636506
199	[illegible]	37.72066911	-122.3636402
200	[illegible]	37.72066356	-122.3636309
201	1207	37.72065814	-122.3636213
202	[illegible]	37.72065222	-122.3636116
203	[illegible]	37.72064611	-122.3636019
204	[illegible]	37.72064075	-122.3635931
205	[illegible]	37.72063482	-122.3635836
206	[illegible]	37.72062993	-122.3635761
207	[illegible]	37.72062583	-122.3635698
208	1211	37.72061949	-122.3635593
209	1202	37.72061347	-122.3635496
210	[illegible]	37.72060975	-122.3635411
211	[illegible]	37.72060879	-122.363533
212	1198	37.72060964	-122.3635238
213	[illegible]	37.72061352	-122.3635146
214	1212	37.72061955	-122.363505
215	1167	37.72062715	-122.3634962
216	[illegible]	37.72063478	-122.3634889
217	[illegible]	37.72064296	-122.3634812
218	[illegible]	37.72065106	-122.3634745
219	[illegible]	37.72065968	-122.3634675
220	[illegible]	37.72066802	-122.3634605
221	[illegible]	37.72067703	-122.3634533
222	[illegible]	**37.72068529**	**-122.363446**
223	[illegible]	37.72069414	-122.3634388
224	[illegible]	37.72070238	-122.363431
225	[illegible]	37.72071104	-122.3634231
226	[illegible]	37.7207188	-122.3634158
227	[illegible]	37.72072638	-122.3634106
228	1201	37.72073475	-122.363408
229	1197	37.72074293	-122.3634083
230	1169	37.72075117	-122.3634121
231	1214	37.72075929	-122.3634183
232	1177	37.72076734	-122.3634267
233	1170	37.72077428	-122.3634356
234	[illegible]	37.72078068	-122.3634448
235	[illegible]	37.72078721	-122.3634549
236	1207	37.72079318	-122.3634651
237	1200	37.72079855	-122.3634746
238	1207	37.72080399	-122.3634853
239	1190	37.72081005	-122.3634968
240	[illegible]	37.72081622	-122.363508
241	1159	37.72082159	-122.3635176
242	1172	37.72082763	-122.3635279
243	1192	37.72083395	-122.3635382
244	[illegible]	37.72083968	-122.3635479
245	1193	37.72084574	-122.3635583
246	[illegible]	37.72085162	-122.3635685
247	1184	37.72085735	-122.3635783
248	1141	37.72086326	-122.3635886

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
249	1214	37.72086997	-122.3635998
250	[illegible]	37.72087609	-122.3636099
251	[illegible]	37.7208819	-122.3636197
252	[illegible]	37.72088744	-122.3636291
253	1203	37.72089369	-122.3636399
254	1200	37.72089943	-122.3636504
255	[illegible]	37.72090507	-122.3636604
256	1213	37.72091126	-122.3636712
257	[illegible]	37.7209167	-122.3636814
258	1200	37.7209193	-122.363691
259	1166	37.72091964	-122.3637004
260	1203	37.72091735	-122.3637106
261	1203	37.72091283	-122.3637203
262	1196	37.72090664	-122.3637299
263	1185	37.72090011	-122.3637393
264	1159	37.72089269	-122.3637477
265	1149	37.72088574	-122.3637553
266	1198	37.72087743	-122.3637634
267	[illegible]	37.72086909	-122.3637713
268	1201	37.72086119	-122.3637785
269	[illegible]	37.72085279	-122.363786
270	[illegible]	37.72084447	-122.3637931
271	[illegible]	37.72083672	-122.3638003
272	[illegible]	37.72082872	-122.3638079
273	[illegible]	37.72081995	-122.3638156
274	[illegible]	37.72081169	-122.3638208
275	[illegible]	37.72080454	-122.3638224
276	[illegible]	37.72079688	-122.3638207
277	[illegible]	37.72078943	-122.3638163
278	[illegible]	37.7207822	-122.3638094
279	[illegible]	37.72077553	-122.3638013
280	1179	37.72076796	-122.3637915
281	1189	37.72076155	-122.3637817
282	[illegible]	37.72075552	-122.3637717
283	1178	37.72074938	-122.3637617
284	1214	37.7207431	-122.3637512
285	[illegible]	37.72073726	-122.3637407
286	[illegible]	37.72073169	-122.3637308
287	[illegible]	37.72072544	-122.3637201
288	[illegible]	37.72071922	-122.3637098
289	[illegible]	37.72071361	-122.3636998
290	[illegible]	37.72070777	-122.3636902
291	[illegible]	37.72070171	-122.3636793
292	[illegible]	37.72069516	-122.3636689
293	[illegible]	37.72068894	-122.3636588
294	[illegible]	37.72068268	-122.3636487
295	[illegible]	37.72067681	-122.3636383
296	[illegible]	37.7206702	-122.3636282
297	[illegible]	37.72066436	-122.3636188
298	[illegible]	37.72065798	-122.3636086
299	[illegible]	37.72065137	-122.3635981
300	[illegible]	37.72064588	-122.3635882
301	[illegible]	37.72063973	-122.3635786
302	[illegible]	37.72063346	-122.3635688
303	1170	37.72062743	-122.3635589
304	1204	37.72062238	-122.3635493
305	[illegible]	37.72061955	-122.3635408
306	[illegible]	37.72061924	-122.3635315
307	1212	37.72062132	-122.3635223
308	[illegible]	37.72062609	-122.3635138
309	[illegible]	37.72063259	-122.3635047

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
310	[illegible]	37.72063996	-122.3634963
311	[illegible]	37.72064735	-122.3634889
312	[illegible]	37.72065551	-122.3634816
313	[illegible]	37.72066397	-122.3634741
314	[illegible]	37.72067196	-122.3634671
315	[illegible]	37.72068084	-122.3634596
316	[illegible]	37.72068968	-122.363452
317	[illegible]	37.7206986	-122.363445
318	[illegible]	37.72070628	-122.3634379
319	[illegible]	37.72071465	-122.3634302
320	[illegible]	37.72072281	-122.3634238
321	[illegible]	37.72073058	-122.3634203
322	1182	37.72073869	-122.3634203
323	1163	37.72074729	-122.3634229
324	1156	37.72075557	-122.3634288
325	1153	37.72076301	-122.3634358
326	1202	37.72077021	-122.363445
327	[illegible]	37.72077706	-122.3634546
328	1207	37.72078346	-122.3634644
329	1212	37.72078899	-122.3634737
330	[illegible]	37.72079454	-122.3634836
331	[illegible]	37.72080096	-122.3634945
332	1212	37.72080722	-122.3635056
333	1213	37.72081278	-122.3635155
334	[illegible]	37.72081856	-122.3635257
335	1190	37.7208246	-122.3635363
336	[illegible]	37.72083039	-122.3635465
337	[illegible]	37.72083596	-122.3635564
338	[illegible]	37.72084195	-122.3635669
339	[illegible]	**37.72084791**	**-122.3635771**
340	1148	37.72085356	-122.3635864
341	1196	37.72085971	-122.3635972
342	[illegible]	37.72086567	-122.3636078
343	[illegible]	37.72087176	-122.3636183
344	1209	37.72087724	-122.3636278
345	1206	37.7208834	-122.3636384
346	[illegible]	37.7208888	-122.3636485
347	[illegible]	37.72089444	-122.3636581
348	[illegible]	37.72090057	-122.3636688
349	1199	37.72090591	-122.3636788
350	[illegible]	37.7209091	-122.3636884
351	[illegible]	37.72090953	-122.3636977
352	1186	37.72090758	-122.3637082
353	[illegible]	37.72090328	-122.3637184
354	1171	37.72089734	-122.3637275
355	1143	37.72089065	-122.3637365
356	1154	37.72088363	-122.3637455
357	1167	37.72087616	-122.3637537
358	1147	37.72086826	-122.3637613
359	1209	37.72085998	-122.3637692
360	[illegible]	37.72085194	-122.3637765
361	[illegible]	37.72084419	-122.363784
362	[illegible]	37.72083627	-122.3637913
363	1206	37.72082813	-122.3637993
364	[illegible]	37.72081999	-122.3638061
365	[illegible]	37.72081281	-122.3638096
366	[illegible]	37.720805	-122.36381
367	[illegible]	37.72079713	-122.3638072
368	[illegible]	37.72078954	-122.3638019
369	[illegible]	37.72078209	-122.3637951
370	1194	37.72077495	-122.3637862
371	1175	37.72076831	-122.3637767

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
372	1228	37.72076209	-122.363767
373	1231	37.72075554	-122.3637571
374	1238	37.72074946	-122.3637469
375	1424	37.72074368	-122.3637365
376	**1486**	**37.72073804**	**-122.3637269**
377	1454	37.72073189	-122.3637165
378	1460	37.72072549	-122.3637056
379	1293	37.72071965	-122.3636959
380	1435	37.72071408	-122.3636863
381	1415	37.72070791	-122.3636758
382	1430	37.72070126	-122.3636652
383	1452	37.72069473	-122.3636548
384	1377	37.72068893	-122.3636451
385	1305	37.72068287	-122.3636348
386	1238	37.7206761	-122.3636244
387	1199	37.72067051	-122.3636146
388	1345	37.72066431	-122.3636048
389	**1352**	**37.72065782**	**-122.3635944**
390	1280	37.72065186	-122.3635852
391	1229	37.72064565	-122.3635751
392	1230	37.7206402	-122.3635664
393	1213	37.7206343	-122.3635569
394	1193	37.72063016	-122.3635478
395	1262	37.72062856	-122.3635392
396	1281	37.72062994	-122.3635312
397	1284	37.72063325	-122.3635215
398	1293	37.72063883	-122.3635127
399	1253	37.72064545	-122.3635046
400	1247	37.7206531	-122.3634969
401	1269	37.72066073	-122.3634885
402	1264	37.72066898	-122.363481
403	1268	37.72067719	-122.3634744
404	1324	37.72068563	-122.3634672
405	1355	37.72069417	-122.3634595
406	1374	37.72070261	-122.3634517
407	1266	37.72070991	-122.3634447
408	1370	37.72071809	-122.3634384
409	1314	37.72072669	-122.3634339
410	1218	37.7207347	-122.3634327
411	1181	37.72074223	-122.3634345
412	1170	37.72075086	-122.3634393
413	1141	37.72075906	-122.3634458
414	1182	37.72076586	-122.3634534
415	1217	37.72077294	-122.3634629
416	1215	37.72077889	-122.3634721
417	1241	37.72078443	-122.3634813
418	1250	37.72079085	-122.3634916
419	1248	37.72079691	-122.3635021
420	1243	37.72080276	-122.3635122
421	1240	37.72080911	-122.3635229
422	1212	37.72081479	-122.3635328
423	1223	37.72082026	-122.3635423
424	1226	37.72082639	-122.3635528
425	1260	37.72083249	-122.3635628
426	1216	37.72083782	-122.3635723
427	1240	37.72084373	-122.3635826
428	1180	37.72084973	-122.3635927
429	1234	37.72085541	-122.3636028
430	1188	37.7208609	-122.3636126
431	1246	37.72086676	-122.3636233
432	1209	37.7208724	-122.3636333
433	1204	37.72087737	-122.3636425

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
434	[illegible]	37.72088325	-122.3636531
435	[illegible]	37.72088892	-122.363663
436	[illegible]	37.72089413	-122.3636728
437	[illegible]	37.72089788	-122.3636822
438	1202	37.72089983	-122.3636921
439	1161	37.72089884	-122.3637013
440	[illegible]	37.72089537	-122.3637108
441	1188	37.72089046	-122.3637209
442	1151	37.72088436	-122.3637298
443	1207	37.72087805	-122.3637379
444	1197	37.72087082	-122.3637463
445	1175	37.72086289	-122.3637543
446	1198	37.72085531	-122.3637621
447	1183	37.72084819	-122.363769
448	1209	37.72084039	-122.3637772
449	1169	37.72083286	-122.3637849
450	1164	37.72082564	-122.363792
451	1201	37.72081765	-122.3637965
452	1201	37.72080989	-122.3637978
453	[illegible]	37.72080231	-122.3637961
454	[illegible]	37.72079492	-122.3637919
455	[illegible]	37.72078707	-122.3637852
456	1194	37.72077996	-122.3637776
457	1210	37.7207733	-122.3637684
458	[illegible]	37.72076714	-122.3637594
459	[illegible]	37.72076058	-122.3637491
460	[illegible]	37.72075476	-122.3637392
461	[illegible]	37.72074918	-122.36373
462	[illegible]	37.72074335	-122.3637196
463	[illegible]	37.72073737	-122.3637091
464	[illegible]	37.72073171	-122.3636997
465	[illegible]	37.72072556	-122.3636895
466	[illegible]	37.7207198	-122.36368
467	[illegible]	37.72071419	-122.3636704
468	[illegible]	37.72070777	-122.3636596
469	[illegible]	37.72070137	-122.3636496
470	[illegible]	37.7206955	-122.3636401
471	[illegible]	37.72068937	-122.3636303
472	[illegible]	37.72068317	-122.3636202
473	1186	37.72067721	-122.3636099
474	[illegible]	37.7206713	-122.3636005
475	[illegible]	37.72066511	-122.3635908
476	[illegible]	37.72065852	-122.3635813
477	[illegible]	37.72065247	-122.363572
478	[illegible]	37.72064711	-122.3635634
479	[illegible]	37.72064315	-122.363554
480	[illegible]	37.72064131	-122.3635446
481	[illegible]	37.72064261	-122.3635366
482	[illegible]	37.72064565	-122.3635269
483	[illegible]	37.72065083	-122.3635178
484	[illegible]	37.72065702	-122.3635082
485	[illegible]	37.72066445	-122.3635
486	[illegible]	37.72067294	-122.3634917
487	[illegible]	37.72068131	-122.3634842
488	[illegible]	37.72068902	-122.3634771
489	[illegible]	37.72069696	-122.3634694
490	[illegible]	37.72070505	-122.3634613
491	[illegible]	37.72071304	-122.3634535
492	[illegible]	37.72072047	-122.3634478
493	[illegible]	37.72072834	-122.3634442
494	[illegible]	37.72073592	-122.3634443
495	1196	37.72074374	-122.3634471

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
496	1183	37.72075159	-122.3634525
497	[illegible]	37.72075909	-122.36346
498	1184	37.72076641	-122.3634683
499	1214	37.72077237	-122.363477
500	[illegible]	37.720779	-122.3634866
501	[illegible]	37.72078523	-122.3634971
502	[illegible]	37.72079109	-122.3635078
503	[illegible]	37.72079667	-122.363518
504	1210	37.7208026	-122.3635283
505	[illegible]	37.72080889	-122.3635383
506	1160	37.72081494	-122.3635482
507	1204	37.72082058	-122.3635579
508	1212	37.72082646	-122.3635678
509	1175	37.72083258	-122.3635778
510	1152	37.72083834	-122.3635881
511	1174	37.72084365	-122.3635979
512	1141	37.72084922	-122.3636085
513	1178	37.72085495	-122.3636194
514	[illegible]	37.72086075	-122.3636301
515	1204	37.72086655	-122.3636396
516	[illegible]	37.72087269	-122.36365
517	1206	37.72087867	-122.3636595
518	[illegible]	37.72088419	-122.3636688
519	[illegible]	37.7208889	-122.363679
520	[illegible]	37.72089061	-122.3636885
521	[illegible]	37.72089022	-122.3636975
522	1162	37.72088741	-122.3637075
523	1192	37.72088274	-122.3637176
524	[illegible]	37.72087709	-122.363727
525	1181	37.72087042	-122.3637355
526	1192	37.72086278	-122.363744
527	1155	37.72085521	-122.363752
528	1155	37.72084755	-122.3637598
529	1185	37.72084055	-122.3637674
530	1209	37.72083278	-122.3637758
531	1144	37.72082505	-122.3637823
532	1174	37.72081779	-122.3637853
533	1196	37.72080994	-122.3637858
534	1130	37.72080186	-122.363783
535	1210	37.72079385	-122.3637778
536	[illegible]	37.72078651	-122.363771
537	[illegible]	37.72077941	-122.3637625
538	[illegible]	37.72077272	-122.3637531
539	[illegible]	37.72076624	-122.3637431
540	[illegible]	37.7207607	-122.363734
541	[illegible]	37.72075475	-122.3637241
542	[illegible]	37.7207489	-122.3637134
543	[illegible]	37.72074309	-122.3637032
544	[illegible]	37.72073738	-122.3636939
545	[illegible]	37.72073119	-122.3636839
546	[illegible]	37.72072518	-122.3636743
547	[illegible]	37.7207193	-122.3636648
548	[illegible]	37.7207131	-122.363654
549	[illegible]	37.72070681	-122.363644
550	[illegible]	37.72070081	-122.3636349
551	[illegible]	37.7206945	-122.3636248
552	[illegible]	37.72068804	-122.3636149
553	1212	37.72068195	-122.363605
554	[illegible]	37.72067594	-122.3635957
555	[illegible]	37.72066955	-122.3635852
556	[illegible]	37.72066318	-122.3635753
557	[illegible]	37.72065754	-122.3635665

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
558	[illegible]	37.72065332	-122.3635565
559	[illegible]	37.72065232	-122.3635464
560	1202	37.72065325	-122.3635379
561	[illegible]	**37.72065635**	**-122.3635288**
562	[illegible]	37.72066195	-122.3635193
563	[illegible]	37.72066849	-122.3635095
564	[illegible]	37.72067602	-122.3635012
565	[illegible]	37.72068309	-122.3634929
566	[illegible]	37.72069128	-122.3634852
567	[illegible]	37.72069925	-122.3634776
568	[illegible]	37.72070664	-122.3634702
569	[illegible]	37.72071518	-122.3634626
570	[illegible]	37.72072297	-122.3634583
571	[illegible]	37.72073073	-122.3634571
572	[illegible]	37.7207382	-122.3634583
573	[illegible]	37.72074649	-122.3634631
574	[illegible]	37.72075372	-122.3634694
575	[illegible]	37.72076059	-122.3634767
576	[illegible]	37.72076748	-122.3634859
577	[illegible]	37.72077392	-122.3634953
578	1213	37.72078072	-122.3635057
579	[illegible]	37.72078671	-122.3635154
580	1206	37.72079266	-122.3635259
581	1193	37.72079878	-122.3635363
582	[illegible]	37.72080446	-122.3635455
583	1202	37.72081059	-122.3635553
584	[illegible]	37.72081653	-122.3635656
585	1203	37.72082263	-122.3635759
586	1153	37.7208279	-122.3635853
587	1145	37.72083376	-122.3635957
588	1212	37.7208394	-122.3636067
589	1163	37.72084485	-122.3636173
590	1214	37.72085043	-122.3636273
591	[illegible]	37.72085649	-122.3636375
592	[illegible]	37.72086269	-122.3636476
593	[illegible]	37.72086882	-122.363657
594	1205	37.72087453	-122.3636661
595	[illegible]	37.72087928	-122.3636762
596	[illegible]	**37.72088131**	**-122.3636855**
597	[illegible]	37.72088108	-122.3636946
598	[illegible]	37.72087862	-122.3637042
599	1176	37.72087434	-122.363714
600	1213	37.72086868	-122.3637238
601	[illegible]	37.72086176	-122.3637328
602	1205	37.72085488	-122.3637408
603	1170	37.72084758	-122.3637491
604	1128	37.72084032	-122.3637572
605	1126	37.72083281	-122.3637648
606	1169	37.7208254	-122.36377
607	1158	37.72081737	-122.3637728
608	1161	37.72080967	-122.3637724
609	1127	37.72080196	-122.3637694
610	[illegible]	37.72079466	-122.3637639
611	[illegible]	37.72078706	-122.363756
612	[illegible]	37.72078018	-122.3637471
613	[illegible]	37.72077302	-122.3637375
614	[illegible]	37.72076719	-122.3637284
615	[illegible]	37.72076119	-122.3637184
616	[illegible]	37.7207555	-122.3637089
617	[illegible]	37.72074915	-122.3636985
618	[illegible]	37.72074368	-122.3636891
619	[illegible]	37.72073727	-122.3636787

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
620	[illegible]	37.72073122	-122.363669
621	[illegible]	37.72072555	-122.3636598
622	[illegible]	37.72071927	-122.3636499
623	[illegible]	37.72071266	-122.3636399
624	[illegible]	37.72070664	-122.36363
625	[illegible]	37.7207005	-122.3636204
626	[illegible]	37.72069427	-122.3636105
627	[illegible]	37.72068789	-122.3636004
628	[illegible]	37.72068156	-122.3635906
629	[illegible]	37.72067559	-122.3635809
630	[illegible]	37.72066939	-122.3635704
631	[illegible]	37.72066476	-122.3635609
632	[illegible]	37.72066328	-122.3635526
633	1204	37.72066361	-122.3635431
634	[illegible]	37.72066685	-122.3635335
635	[illegible]	37.72067174	-122.3635236
636	1206	37.72067756	-122.3635154
637	[illegible]	37.72068454	-122.363506
638	[illegible]	37.72069215	-122.3634976
639	[illegible]	37.72069914	-122.3634899
640	[illegible]	37.72070693	-122.3634824
641	[illegible]	37.7207148	-122.3634755
642	[illegible]	37.72072263	-122.3634716
643	[illegible]	37.72072996	-122.3634706
644	[illegible]	37.72073808	-122.3634729
645	[illegible]	37.72074589	-122.3634776
646	[illegible]	37.72075317	-122.3634841
647	1213	37.72076033	-122.3634925
648	[illegible]	37.72076736	-122.363502
649	[illegible]	37.72077435	-122.3635116
650	[illegible]	37.7207806	-122.3635213
651	[illegible]	37.7207868	-122.3635317
652	1191	37.72079304	-122.3635416
653	[illegible]	37.72079886	-122.3635514
654	[illegible]	37.72080472	-122.3635619
655	1209	37.72081052	-122.3635718
656	1190	37.72081667	-122.3635821
657	1152	37.72082222	-122.3635916
658	1143	37.72082811	-122.363602
659	[illegible]	37.72083403	-122.3636124
660	1176	37.72083967	-122.3636226
661	1188	37.72084522	-122.3636323
662	1204	37.7208515	-122.3636427
663	1189	37.72085757	-122.3636531
664	1167	37.72086346	-122.3636632
665	[illegible]	37.72086778	-122.3636728
666	1201	37.72086997	-122.3636823
667	[illegible]	37.72086988	-122.3636918
668	[illegible]	37.72086758	-122.3637023
669	[illegible]	37.72086316	-122.3637117
670	[illegible]	37.72085759	-122.3637215
671	1172	37.72085134	-122.3637311
672	1121	37.72084442	-122.3637397
673	1136	37.72083793	-122.3637474
674	1105	37.72083032	-122.3637541
675	1077	37.7208221	-122.3637581
676	1129	37.72081462	-122.3637587
677	1158	37.72080753	-122.3637569
678	1187	37.72079941	-122.3637521
679	1210	37.72079126	-122.3637449
680	[illegible]	37.72078421	-122.3637369
681	[illegible]	37.72077772	-122.3637282

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
682	1327	37.72077095	-122.3637188
683	1270	37.72076445	-122.363709
684	1394	37.7207581	-122.363699
685	1455	37.72075273	-122.3636897
686	1544	37.7207464	-122.3636796
687	1566	37.72074025	-122.3636696
688	1370	37.72073447	-122.3636603
689	1384	37.72072854	-122.3636511
690	1328	37.72072209	-122.3636411
691	1302	37.72071565	-122.363631
692	1283	37.72070938	-122.3636212
693	1301	37.72070333	-122.3636122
694	1270	37.72069681	-122.3636024
695	1250	37.72069023	-122.3635924
696	1245	37.72068424	-122.3635825
697	1224	37.72067822	-122.3635725
698	1226	37.72067414	-122.3635629
699	1194	37.72067289	-122.3635536
700	1221	37.72067384	-122.3635443
701	1247	37.72067767	-122.3635343
702	1213	37.72068305	-122.3635246
703	1276	37.72068974	-122.3635154
704	1271	37.72069637	-122.3635069
705	1360	37.72070384	-122.3634985
706	1440	37.7207109	-122.3634906
707	1508	37.72071833	-122.3634855
708	1515	37.72072551	-122.3634833
709	1452	37.72073393	-122.3634846
710	1492	37.72074168	-122.3634883
711	1326	37.72074947	-122.3634943
712	1281	37.72075663	-122.3635015
713	1337	37.72076388	-122.363511
714	1324	37.72077053	-122.3635208
715	1442	37.72077701	-122.3635306
716	1556	37.72078296	-122.36354
717	1239	37.72078922	-122.3635499
718	1295	37.72079495	-122.3635598
719	1315	37.7208004	-122.3635695
720	1176	37.72080605	-122.3635788
721	1191	37.7208121	-122.3635892
722	1199	37.72081797	-122.3635993
723	1191	37.72082375	-122.3636094
724	1199	37.72082917	-122.3636191
725	1174	37.72083535	-122.3636299
726	1193	37.7208413	-122.3636399
727	1223	37.72084701	-122.3636496
728	1194	37.72085281	-122.36366
729	1243	37.7208576	-122.3636704
730	1227	37.72085979	-122.3636799
731	1210	37.72085939	-122.3636883
732	1205	37.72085655	-122.3636992
733	1223	37.72085228	-122.3637097
734	1183	37.72084694	-122.3637195
735	1142	37.72084088	-122.3637286
736	1118	37.72083429	-122.3637374
737	1078	37.72082749	-122.363744
738	1078	37.72082016	-122.3637468
739	1135	37.72081367	-122.3637465
740	1189	37.72080616	-122.3637436
741	1168	37.7207978	-122.3637377
742	1277	37.72079065	-122.36373
743	1245	37.72078432	-122.3637221

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
744	[illegible]	37.7207775	-122.3637125
745	[illegible]	37.7207706	-122.3637025
746	[illegible]	37.72076424	-122.3636929
747	[illegible]	37.72075854	-122.3636834
748	[illegible]	37.72075209	-122.3636731
749	[illegible]	37.72074604	-122.3636636
750	[illegible]	37.72074001	-122.3636542
751	[illegible]	37.72073386	-122.3636447
752	[illegible]	37.72072754	-122.3636343
753	[illegible]	37.72072175	-122.3636249
754	[illegible]	37.72071575	-122.3636149
755	[illegible]	37.72070942	-122.3636048
756	1196	37.72070344	-122.3635947
757	1197	37.72069765	-122.3635853
758	1214	37.72069185	-122.3635753
759	1175	37.72068745	-122.3635653
760	1189	37.72068597	-122.3635553
761	1207	37.72068674	-122.3635458
762	1182	37.72068979	-122.3635356
763	[illegible]	37.72069482	-122.3635249
764	[illegible]	37.72070083	-122.3635157
765	[illegible]	37.72070718	-122.3635077
766	[illegible]	37.72071413	-122.3635003
767	[illegible]	37.72072152	-122.3634968
768	[illegible]	37.72072898	-122.3634966
769	[illegible]	37.72073657	-122.3634987
770	[illegible]	37.72074466	-122.3635035
771	[illegible]	37.72075238	-122.3635109
772	[illegible]	37.72075976	-122.3635195
773	[illegible]	37.72076611	-122.3635284
774	[illegible]	37.72077243	-122.3635384
775	[illegible]	37.72077897	-122.3635487
776	[illegible]	37.72078523	-122.3635588
777	[illegible]	37.72079086	-122.3635676
778	[illegible]	37.72079704	-122.3635776
779	[illegible]	37.72080322	-122.3635882
780	[illegible]	37.72080923	-122.3635984
781	1205	37.72081493	-122.3636082
782	1187	37.72082055	-122.3636184
783	1203	37.72082683	-122.3636288
784	1211	37.72083257	-122.3636392
785	[illegible]	37.72083815	-122.363649
786	[illegible]	37.72084391	-122.3636593
787	[illegible]	37.72084826	-122.3636699
788	[illegible]	37.72084988	-122.3636799
789	1196	37.72084926	-122.3636894
790	1183	37.72084652	-122.3637002
791	1184	37.720842	-122.3637107
792	1087	37.72083666	-122.3637204
793	1140	37.72083015	-122.3637273
794	1099	37.72082325	-122.3637319
795	1079	37.72081588	-122.3637326
796	1168	37.7208085	-122.3637307
797	1207	37.72080063	-122.3637258
798	[illegible]	**37.72079337**	**-122.3637189**
799	[illegible]	37.72078603	-122.3637108
800	[illegible]	37.72077905	-122.3637017
801	[illegible]	37.72077286	-122.3636922
802	[illegible]	37.72076625	-122.363682
803	[illegible]	37.72076017	-122.3636722
804	[illegible]	37.72075441	-122.3636625
805	[illegible]	37.72074893	-122.3636534

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
806	[illegible]	37.72074256	-122.3636436
807	[illegible]	37.72073612	-122.3636333
808	[illegible]	37.72072971	-122.3636233
809	[illegible]	37.72072385	-122.3636137
810	[illegible]	37.72071754	-122.3636038
811	[illegible]	37.72071113	-122.3635935
812	1151	37.72070563	-122.3635836
813	1154	37.72070086	-122.3635741
814	1204	37.72069828	-122.3635636
815	[illegible]	37.72069751	-122.3635527
816	1188	37.72069904	-122.3635422
817	[illegible]	37.72070228	-122.3635321
818	[illegible]	37.72070725	-122.3635226
819	[illegible]	37.72071337	-122.3635151
820	[illegible]	37.72071997	-122.3635116
821	[illegible]	37.72072655	-122.3635111
822	[illegible]	37.72073438	-122.3635131
823	[illegible]	37.72074281	-122.3635179
824	[illegible]	37.72075077	-122.363525
825	[illegible]	37.72075799	-122.363533
826	**[illegible]**	**37.720765**	**-122.3635423**
827	[illegible]	37.72077147	-122.3635522
828	[illegible]	37.72077734	-122.3635615
829	[illegible]	37.72078366	-122.3635716
830	[illegible]	37.72078946	-122.3635817
831	[illegible]	37.72079508	-122.3635914
832	[illegible]	37.7208011	-122.3636019
833	[illegible]	37.72080729	-122.3636119
834	1160	37.72081341	-122.3636219
835	1208	37.72081931	-122.3636313
836	1169	37.72082526	-122.3636416
837	1193	37.72083126	-122.3636522
838	1212	37.72083578	-122.3636618
839	1154	37.72083878	-122.3636728
840	1150	37.7208396	-122.3636833
841	1138	37.72083804	-122.3636929
842	1141	37.72083457	-122.363703
843	1087	37.72082957	-122.3637106
844	1126	37.7208237	-122.3637149
845	1146	37.72081763	-122.3637162
846	1200	37.72080991	-122.3637146
847	[illegible]	37.7208021	-122.3637107
848	[illegible]	37.72079458	-122.3637049
849	[illegible]	37.72078716	-122.3636969
850	[illegible]	37.72077996	-122.3636878
851	[illegible]	37.72077327	-122.363678
852	[illegible]	37.72076699	-122.3636689
853	[illegible]	37.720761	-122.3636591
854	[illegible]	37.72075497	-122.3636491
855	[illegible]	37.72074927	-122.3636396
856	[illegible]	37.72074308	-122.3636292
857	[illegible]	37.72073692	-122.3636196
858	[illegible]	37.72073036	-122.3636101
859	[illegible]	37.72072383	-122.3636003
860	[illegible]	37.72071731	-122.36359
861	[illegible]	37.72071181	-122.3635801
862	1185	37.72070799	-122.3635702
863	1159	37.72070627	-122.3635603
864	[illegible]	37.72070664	-122.3635494
865	[illegible]	37.72070936	-122.3635397
866	[illegible]	37.72071405	-122.3635326
867	[illegible]	37.7207193	-122.3635285

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
868	1451	37.72072576	-122.3635268
869	1470	37.72073372	-122.363528
870	1508	37.72074205	-122.3635325
871	1396	37.72074951	-122.3635389
872	1426	37.72075684	-122.3635469
873	1447	37.72076398	-122.3635562
874	1391	37.72077072	-122.3635659
875	1388	37.72077661	-122.3635753
876	1381	37.72078267	-122.3635854
877	1346	37.72078878	-122.3635955
878	1255	37.72079461	-122.3636052
879	1198	37.72080075	-122.3636156
880	1124	37.72080716	-122.3636254
881	1143	37.72081343	-122.3636354
882	1173	37.72081917	-122.3636451
883	1157	37.72082465	-122.3636556
884	1241	37.7208281	-122.3636664
885	1166	37.72082938	-122.3636763
886	1123	37.72082845	-122.3636858
887	1164	37.72082562	-122.3636925
888	1223	37.72082159	-122.3636963
889	1237	37.7208167	-122.3636976
890	1262	37.72080965	-122.3636968
891	1294	37.72080171	-122.3636927
892	1209	37.72079433	-122.3636868
893	1280	37.72078666	-122.3636782
894	1343	37.72077988	-122.3636694
895	1543	37.72077284	-122.3636601
896	**1717**	**37.72076665**	**-122.3636515**
897	1662	37.72076027	-122.3636418
898	1586	37.72075426	-122.3636321
899	1412	37.72074831	-122.3636226
900	1359	37.72074197	-122.3636129
901	1365	37.72073516	-122.3636026
902	1396	37.72072896	-122.3635924
903	1275	37.72072351	-122.3635826
904	**1238**	**37.720719**	**-122.3635721**
905	1178	37.72071663	-122.3635626
906	1253	37.72071774	-122.3635544
907	1377	37.72072023	-122.3635487
908	1513	37.72072431	-122.3635455
909	1659	37.72072967	-122.3635439
910	1614	37.72073626	-122.363545
911	1634	37.72074477	-122.3635497
912	1521	37.72075227	-122.3635562
913	1359	37.72075934	-122.363564
914	1307	37.72076644	-122.3635736
915	1346	37.72077323	-122.3635831
916	1377	37.72077935	-122.363593
917	1301	37.72078508	-122.3636024
918	1223	37.72079117	-122.3636124
919	1182	37.72079743	-122.3636227
920	1127	37.72080356	-122.3636312
921	1156	37.72081085	-122.3636378
922	1166	37.72081853	-122.3636449
923	1195	37.72082376	-122.3636531
924	1196	37.72082581	-122.3636614
925	1182	37.72082556	-122.3636689
926	1132	37.72082336	-122.363674
927	1149	37.72081997	-122.3636772
928	1175	37.72081537	-122.3636783
929	1205	37.72080794	-122.3636776

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
930	1257	37.72080001	-122.3636732
931	1340	37.72079227	-122.3636672
932	1320	37.72078491	-122.3636592
933	1360	37.7207777	-122.3636501
934	1331	37.72077092	-122.3636413
935	1322	37.72076513	-122.3636326
936	1370	37.7207589	-122.363623
937	1477	37.72075232	-122.3636135
938	1359	37.72074607	-122.3636039
939	1361	37.72074045	-122.3635936
940	1446	37.7207369	-122.3635827
941	1446	37.72073575	-122.363572
942	1724	37.72073655	-122.3635611
943	1740	37.7207388	-122.363549
944	1532	37.72074219	-122.3635369
945	1438	37.72074556	-122.3635246
946	1326	37.72074864	-122.363513
947	1330	37.72075142	-122.3635001
948	1303	37.72075395	-122.363488
949	1348	37.72075386	-122.3634782
950	1290	37.72075142	-122.3634701
951	1419	37.72074741	-122.363465
952	1391	37.72074198	-122.3634622
953	1360	37.72073706	-122.3634626
954	1387	37.7207318	-122.3634657
955	1408	37.72072761	-122.3634719
956	**1625**	**37.72072495**	**-122.3634802**
957	1505	37.720724	-122.363491
958	1519	37.72072508	-122.3635021
959	1454	37.72072783	-122.3635127
960	1481	37.72073181	-122.3635246
961	1502	37.72073698	-122.3635356
962	1523	37.7207423	-122.363546
963	1651	37.72074833	-122.3635561
964	1459	37.72075462	-122.3635666
965	1360	37.72076095	-122.3635773
966	1382	37.72076653	-122.3635871
967	1431	37.72077203	-122.3635967
968	1521	37.72077826	-122.363607
969	1390	37.72078419	-122.3636171
970	1263	37.72078971	-122.3636264
971	1180	37.72079557	-122.3636366
972	1170	37.72080189	-122.3636469
973	1185	37.72080798	-122.3636572
974	1143	37.72081403	-122.3636672
975	1154	37.72082001	-122.3636784
976	1128	37.72082606	-122.363687
977	1167	37.72083304	-122.3636925
978	1177	37.72084095	-122.3636953
979	1194	37.72085083	-122.3636975
980	1185	37.7208592	-122.3637015
981	1253	37.720864	-122.3637066
982	1235	37.72086694	-122.3637131
983	1229	37.72086727	-122.3637192
984	1225	37.72086556	-122.3637249
985	1210	37.72086199	-122.3637292
986	1150	37.72085726	-122.3637313
987	1159	37.72085106	-122.3637318
988	1173	37.7208436	-122.3637288
989	1120	37.72083605	-122.3637235
990	1107	37.72082872	-122.3637158
991	1182	37.72082211	-122.3637076

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
992	1247	37.72081526	-122.3636984
993	1282	37.72080901	-122.3636887
994	1294	37.72080256	-122.3636786
995	1320	37.72079593	-122.3636684
996	1326	37.72079046	-122.3636596
997	1301	37.72078386	-122.363649
998	1312	37.72077746	-122.3636391
999	1475	37.72077137	-122.3636297
1000	1580	37.72076591	-122.3636203
1001	1447	37.72075971	-122.3636101
1002	1474	37.72075355	-122.3635998
1003	1493	37.72074753	-122.3635894
1004	1420	37.72074156	-122.3635795
1005	1400	37.7207352	-122.3635699
1006	1487	37.72072922	-122.3635595
1007	1433	37.72072316	-122.3635495
1008	1314	37.72071668	-122.3635406
1009	1246	37.72070935	-122.3635331
1010	1221	37.72070116	-122.3635284
1011	1204	37.72069216	-122.3635241
1012	1288	37.72068522	-122.3635191
1013	1222	37.72067941	-122.3635123
1014	1239	37.72067622	-122.3635042
1015	1296	37.72067582	-122.3634963
1016	1274	37.72067743	-122.3634897
1017	1280	37.72068127	-122.3634841
1018	1280	37.72068652	-122.3634812
1019	1302	37.72069164	-122.3634811
1020	1351	37.72069684	-122.363483
1021	1400	37.72070241	-122.3634892
1022	1394	37.72070777	-122.3634987
1023	1385	37.72071281	-122.3635085
1024	1382	37.72071864	-122.3635195
1025	1419	37.72072402	-122.3635303
1026	1556	37.72072907	-122.3635404
1027	1778	37.72073509	-122.3635513
1028	**1810**	**37.72074114**	**-122.3635616**
1029	1588	37.72074722	-122.3635711
1030	1450	37.72075374	-122.3635815
1031	1479	37.72075983	-122.3635919
1032	1451	37.72076553	-122.3636015
1033	1605	37.72077173	-122.3636116
1034	**1500**	**37.72077784**	**-122.3636216**
1035	1380	37.72078347	-122.3636308
1036	1325	37.72078983	-122.3636407
1037	1239	37.72079599	-122.3636505
1038	1246	37.72080277	-122.3636607
1039	1264	37.72080892	-122.3636701
1040	1159	37.72081581	-122.3636805
1041	1132	37.72082197	-122.3636906
1042	1169	37.720828	-122.3636998
1043	1142	37.7208352	-122.363709
1044	1158	37.7208427	-122.3637176
1045	1193	37.72085068	-122.3637258
1046	1209	37.72085854	-122.3637335
1047	1210	37.72086735	-122.3637406
1048	1192	37.720876	-122.3637462
1049	1156	37.72088421	-122.3637497
1050	1177	37.72089369	-122.3637513
1051	1164	37.72090303	-122.3637496
1052	1196	37.72091188	-122.3637462
1053	1165	37.72091931	-122.3637414

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
1054	1137	37.72092516	-122.3637345
1055	1131	37.72092839	-122.3637265
1056	1143	37.7209285	-122.3637181
1057	1199	37.7209271	-122.3637114
1058	1192	37.72092359	-122.3637068
1059	[illegible]	37.72091804	-122.3637037
1060	1197	37.72091082	-122.3637035
1061	[illegible]	37.72091798	-122.3637032
1062	1188	37.72093181	-122.3637024
1063	1180	37.7209425	-122.3636974
1064	1184	37.72093863	-122.3636999
1065	[illegible]	37.72092754	-122.3637052
1066	1179	37.72091681	-122.3637128
1067	1207	37.72090873	-122.3637246
1068	1148	37.72090155	-122.3637376
1069	1158	37.72089377	-122.3637502
1070	1181	37.7208877	-122.3637583
1071	1163	37.72089626	-122.3637488
1072	1148	37.72090592	-122.3637411
1073	1187	37.72091684	-122.3637334
1074	1169	37.72092731	-122.3637258
1075	1130	37.72093734	-122.3637177
1076	1102	37.72094662	-122.363709
1077	1188	37.72095411	-122.3637016
1078	1142	37.72094478	-122.3637108
1079	1128	37.72093503	-122.3637214
1080	1144	37.72092682	-122.3637326
1081	1213	37.72091715	-122.3637447
1082	1145	37.72090812	-122.3637551
1083	1143	37.72089958	-122.3637639
1084	1180	37.72090606	-122.3637576
1085	1157	37.72091671	-122.3637474
1086	1179	37.72092553	-122.3637391
1087	1129	37.72093466	-122.363731
1088	1128	37.72094363	-122.3637225
1089	1128	37.72095357	-122.3637138
1090	1165	37.72095265	-122.3637146
1091	1112	37.72094093	-122.3637227
1092	1086	37.7209281	-122.3637293
1093	1177	37.72091451	-122.3637348
1094	1182	37.7209019	-122.3637422
1095	1169	37.72089151	-122.3637513
1096	1176	37.72089901	-122.3637437
1097	1213	37.72090912	-122.3637339
1098	1149	37.7209181	-122.3637255
1099	1143	37.72092643	-122.363717
1100	1148	37.72093706	-122.3637065
1101	1177	37.72094848	-122.3636973
1102	1159	37.72094014	-122.3637034
1103	1185	37.72093086	-122.3637092
1104	1174	37.72092034	-122.3637119
1105	1206	37.72090851	-122.3637113
1106	1203	37.72089689	-122.3637082
1107	1183	37.72088662	-122.3637034
1108	[illegible]	37.72087616	-122.3636966
1109	[illegible]	37.72086542	-122.3636895
1110	[illegible]	37.72085446	-122.363683
1111	1183	37.72084382	-122.3636776
1112	1165	37.72083238	-122.363672
1113	1158	37.7208207	-122.363666
1114	1185	37.72080915	-122.3636603

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
1115	[illegible]	37.7207982	-122.3636548
1116	[illegible]	37.72078733	-122.3636489
1117	[illegible]	37.72077623	-122.3636429
1118	[illegible]	37.72076541	-122.3636361
1119	[illegible]	37.72075517	-122.3636297
1120	[illegible]	37.72074391	-122.363623
1121	[illegible]	37.72073274	-122.3636162
1122	[illegible]	37.72072184	-122.3636091
1123	[illegible]	37.72071155	-122.363603
1124	[illegible]	37.72069966	-122.3635976
1125	[illegible]	37.7206876	-122.3635924
1126	[illegible]	37.72067561	-122.3635874
1127	[illegible]	37.72066416	-122.3635834
1128	[illegible]	37.72065253	-122.363579
1129	[illegible]	37.72064103	-122.3635741
1130	[illegible]	37.72063071	-122.3635683
1131	1208	37.72062104	-122.3635609
1132	[illegible]	37.7206121	-122.3635513
1133	[illegible]	37.72060699	-122.3635432
1134	[illegible]	37.72060529	-122.3635357
1135	[illegible]	37.72060534	-122.3635259
1136	1189	37.720609	-122.3635138
1137	[illegible]	37.72061533	-122.3635041
1138	[illegible]	37.72062246	-122.3634945
1139	[illegible]	37.72061796	-122.3634998
1140	[illegible]	37.72060788	-122.3635078
1141	1187	37.72059509	-122.3635114
1142	1159	37.72058214	-122.3635153
1143	1200	37.72058571	-122.3635138
1144	1210	37.72059758	-122.3635073
1145	1146	37.7206075	-122.3634977
1146	1176	37.72061297	-122.3634919
1147	1192	37.72060226	-122.3635039
1148	1160	37.72059102	-122.363518
1149	1204	37.72058719	-122.363523
1150	1213	37.72059363	-122.3635158
1151	1163	37.72060118	-122.3635105
1152	1176	37.72060944	-122.3635061
1153	[illegible]	37.72061822	-122.3635018
1154	1209	37.72062666	-122.3634973
1155	[illegible]	37.72063242	-122.3634936
1156	[illegible]	37.720621	-122.3635019
1157	1207	37.72060949	-122.3635111
1158	1200	37.72059561	-122.3635212
1159	[illegible]	37.72058575	-122.3635302
1160	[illegible]	37.72059412	-122.3635222
1161	1165	37.72060538	-122.3635158
1162	1197	37.7206176	-122.3635103
1163	[illegible]	37.72062948	-122.3635035
1164	[illegible]	37.72063942	-122.3634959
1165	[illegible]	37.72063519	-122.3634994
1166	[illegible]	37.72062697	-122.3635065
1167	[illegible]	37.72061795	-122.3635132
1168	[illegible]	37.72060748	-122.3635188
1169	1183	37.72059771	-122.363525
1170	[illegible]	37.72059024	-122.3635324
1171	[illegible]	37.72059893	-122.3635238
1172	1210	37.72060877	-122.3635186
1173	1202	37.72061896	-122.3635185
1174	[illegible]	37.72063211	-122.363521
1175	[illegible]	37.72064426	-122.3635258
1176	[illegible]	37.72065525	-122.3635308

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
1177	[illegible]	37.72066728	-122.3635365
1178	[illegible]	37.72067998	-122.3635418
1179	1211	37.720692	-122.3635476
1180	[illegible]	37.72070341	-122.3635532
1181	1197	37.72071533	-122.3635593
1182	[illegible]	37.72072835	-122.3635643
1183	[illegible]	37.72074073	-122.3635698
1184	[illegible]	37.72075199	-122.3635747
1185	[illegible]	37.72076508	-122.3635813
1186	[illegible]	37.72077654	-122.3635871
1187	[illegible]	37.72078876	-122.3635929
1188	1192	37.7208006	-122.3635982
1189	1200	37.72081315	-122.3636041
1190	1164	37.72082484	-122.3636101
1191	1185	37.72083258	-122.363618
1192	[illegible]	37.72083611	-122.3636263
1193	1163	37.72083618	-122.3636376
1194	1191	37.72083222	-122.3636467
1195	[illegible]	37.72082485	-122.3636555
1196	1156	37.72081425	-122.3636653
1197	[illegible]	37.72080346	-122.3636751
1198	[illegible]	37.72079304	-122.3636855
1199	[illegible]	37.72078433	-122.3636958
1200	[illegible]	37.72077558	-122.3637078
1201	[illegible]	37.72076723	-122.3637207
1202	[illegible]	37.72076052	-122.3637339
1203	[illegible]	37.72075527	-122.3637477
1204	1211	37.72075281	-122.3637623
1205	[illegible]	37.72075334	-122.3637792
1206	[illegible]	37.72075653	-122.3637944
1207	[illegible]	37.72076083	-122.3638083
1208	[illegible]	37.72076701	-122.3638221
1209	[illegible]	37.72077304	-122.3638362
1210	[illegible]	37.72077969	-122.3638451
1211	[illegible]	37.72078659	-122.363848
1212	[illegible]	37.7207957	-122.363848
1213	[illegible]	37.72080866	-122.3638431
1214	[illegible]	37.72081941	-122.3638354
1215	[illegible]	37.72081356	-122.3638398
1216	[illegible]	37.72080308	-122.3638492
1217	[illegible]	37.72079326	-122.3638596
1218	[illegible]	37.7207826	-122.3638704
1219	[illegible]	37.72079085	-122.3638628
1220	[illegible]	37.72080304	-122.3638528
1221	[illegible]	37.720812	-122.3638413
1222	[illegible]	37.72082035	-122.3638261
1223	[illegible]	37.72082385	-122.3638209
1224	[illegible]	37.72081403	-122.3638328
1225	[illegible]	37.72080162	-122.3638434
1226	[illegible]	37.72078664	-122.3638564
1227	[illegible]	37.72078666	-122.3638567
1228	[illegible]	37.72079841	-122.3638435
1229	[illegible]	37.72080887	-122.363828
1230	[illegible]	37.72081955	-122.3638111
1231	[illegible]	37.72081271	-122.3638206
1232	[illegible]	37.72079661	-122.3638336
1233	[illegible]	37.72078247	-122.3638442
1234	[illegible]	37.72077687	-122.3638478
1235	[illegible]	37.7207869	-122.3638409
1236	[illegible]	37.72079543	-122.3638307
1237	[illegible]	37.72080474	-122.3638156
1238	[illegible]	37.72080828	-122.3638091

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
1239	[illegible]	37.72079828	-122.363822
1240	[illegible]	37.72078161	-122.3638311
1241	[illegible]	37.72076906	-122.3638382
1242	[illegible]	37.72077688	-122.3638332
1243	[illegible]	37.72078461	-122.3638277
1244	[illegible]	37.72079177	-122.3638193
1245	[illegible]	37.72079745	-122.3638087
1246	1186	37.72080247	-122.3637941
1247	1145	37.72080542	-122.3637805
1248	1174	37.72080784	-122.3637656
1249	1141	37.72080962	-122.3637509
1250	1117	37.7208105	-122.3637351
1251	1175	37.72081176	-122.3637203
1252	[illegible]	37.72081266	-122.3637064
1253	[illegible]	37.7208139	-122.3636905
1254	1189	37.72081608	-122.3636749
1255	1123	37.72081831	-122.3636614
1256	1168	37.72082176	-122.3636453
1257	1190	37.7208253	-122.3636304
1258	1193	37.7208286	-122.363616
1259	1159	37.72083003	-122.363609
1260	1193	37.72082392	-122.3636289
1261	1179	37.72081592	-122.3636504
1262	1194	37.72080859	-122.3636709
1263	1202	37.7208047	-122.3636863
1264	[illegible]	37.7208009	-122.3637016
1265	[illegible]	37.72080295	-122.3636945
1266	[illegible]	37.72080373	-122.3636812
1267	[illegible]	37.7208026	-122.3636661
1268	1159	37.72080087	-122.3636509
1269	1140	37.72079997	-122.3636356
1270	1166	37.72079947	-122.3636214
1271	[illegible]	37.72079851	-122.3636049
1272	[illegible]	37.7207975	-122.3635897
1273	[illegible]	37.72079641	-122.3635746
1274	[illegible]	37.72079463	-122.3635606
1275	[illegible]	37.72079252	-122.3635459
1276	[illegible]	37.72078985	-122.3635304
1277	1204	37.72078719	-122.3635164
1278	1183	37.72078468	-122.363501
1279	[illegible]	37.72078299	-122.3634863
1280	[illegible]	37.7207813	-122.3634718
1281	1186	37.72078053	-122.3634579
1282	1212	37.72077935	-122.3634427
1283	1169	37.72077812	-122.3634301
1284	1193	37.72077572	-122.3634174
1285	1164	37.72077186	-122.363406
1286	1133	37.72076634	-122.3633953
1287	1165	37.72075932	-122.3633887
1288	1188	37.72075203	-122.3633866
1289	1169	37.72074321	-122.363387
1290	[illegible]	37.72073319	-122.36339
1291	[illegible]	37.72072434	-122.3633945
1292	1199	37.72071468	-122.3634003
1293	[illegible]	37.72070591	-122.3634069
1294	1179	37.7207112	-122.3634025
1295	[illegible]	37.72072174	-122.3633911
1296	[illegible]	37.72073514	-122.3633775
1297	1195	37.72074789	-122.3633661
1298	1167	37.72075191	-122.3633622
1299	1162	37.72074141	-122.3633732
1300	1174	37.72073188	-122.3633863

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
1301	[illegible]	37.72072302	-122.3633999
1302	[illegible]	37.72072206	-122.3634015
1303	[illegible]	37.7207352	-122.363388
1304	[illegible]	37.72075016	-122.3633755
1305	1170	37.72075628	-122.3633699
1306	1212	37.72074625	-122.3633802
1307	1192	37.72073803	-122.3633924
1308	1212	37.72072959	-122.3634062
1309	[illegible]	**37.72073408**	**-122.3634003**
1310	1208	37.72074305	-122.363389
1311	1177	37.72075236	-122.3633807
1312	1136	37.72076265	-122.363373
1313	1153	37.72075665	-122.3633779
1314	1142	37.72074705	-122.363385
1315	1191	37.72074074	-122.3633944
1316	1150	37.7207367	-122.3634069
1317	1209	37.72073743	-122.3634044
1318	1182	37.72074371	-122.3633938
1319	1132	37.720756	-122.3633849
1320	1193	37.72076383	-122.363379
1321	1195	37.72075419	-122.363387
1322	1187	37.72074674	-122.3633968
1323	1207	37.72074249	-122.36341
1324	1176	37.72074046	-122.3634255
1325	1211	37.72074019	-122.3634402
1326	[illegible]	37.72074149	-122.3634558
1327	[illegible]	37.72074255	-122.3634721
1328	[illegible]	37.72074334	-122.3634881
1329	[illegible]	37.72074451	-122.3635026
1330	[illegible]	37.7207468	-122.3635185
1331	[illegible]	37.72075054	-122.3635338
1332	[illegible]	37.72075631	-122.3635483
1333	[illegible]	37.72076251	-122.3635614
1334	[illegible]	37.72076959	-122.363575
1335	[illegible]	37.720777	-122.3635877
1336	[illegible]	37.7207844	-122.363601
1337	1209	37.72079103	-122.3636138
1338	1163	37.72079801	-122.3636269
1339	1156	37.72080525	-122.3636405
1340	1168	37.72081203	-122.3636545
1341	1141	37.72081858	-122.3636674
1342	1158	37.72082521	-122.363681
1343	1147	37.72082823	-122.3636933
1344	1151	37.72082695	-122.3637057
1345	1100	37.72082239	-122.3637153
1346	1145	37.72081444	-122.3637237
1347	1157	37.72080484	-122.3637288
1348	[illegible]	37.72079459	-122.3637288
1349	[illegible]	37.7207832	-122.3637254
1350	[illegible]	37.72077214	-122.3637184
1351	[illegible]	37.72076212	-122.36371
1352	[illegible]	37.72075348	-122.3636999
1353	[illegible]	37.72074452	-122.363688
1354	[illegible]	**37.72073618**	**-122.3636758**
1355	[illegible]	37.72072836	-122.3636643
1356	[illegible]	37.72072039	-122.3636527
1357	[illegible]	37.72071129	-122.3636401
1358	[illegible]	37.72070245	-122.3636285
1359	[illegible]	37.72069413	-122.3636176
1360	[illegible]	37.72068522	-122.3636059
1361	[illegible]	37.72067641	-122.3635937
1362	[illegible]	37.72066824	-122.3635811

Pile 199, Pad C 07

Sample ID	Gamma Total cps	Latitude	Longitude
1363	1253	37.720661	-122.3635692
1364	1270	37.72065338	-122.3635563
1365	1280	37.72064591	-122.3635436
1366	1293	37.72063846	-122.3635317
1367	1270	37.72063088	-122.3635195
1368	1241	37.72061965	-122.3635
1369	1207	37.72061973	-122.3635
1370	1241	37.72061977	-122.3635
1371	1209	37.72061972	-122.3634999

1810	**Maximum**
102.50	**Std Dev**
1261.39	**Average**
1215	**3 σ Investigation Level**

Investigation Level Exceeded

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

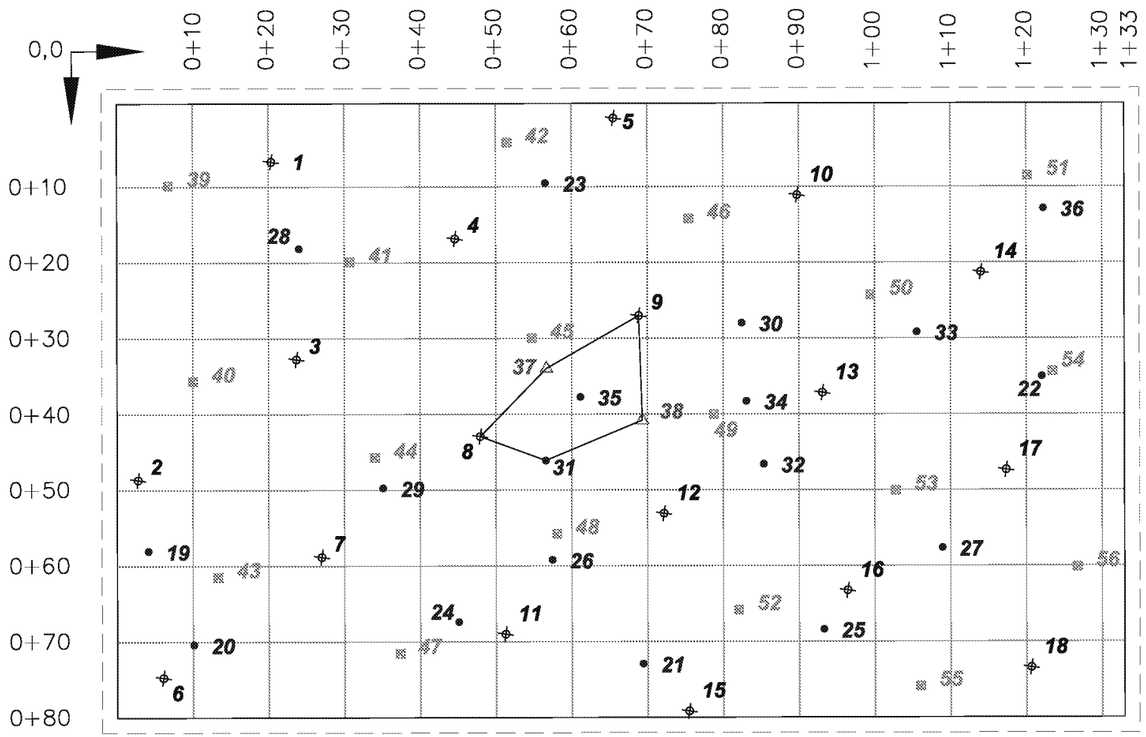
ATTACHMENT 4

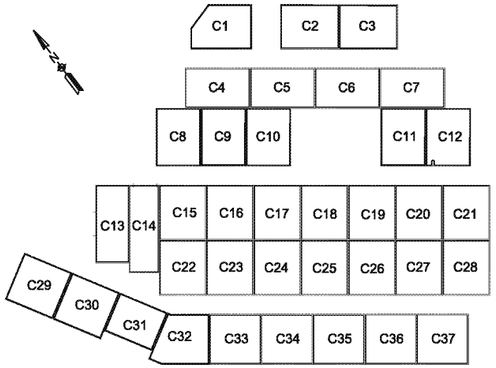
EXCAVATED SOIL UNIT
GAMMA SPECTROSCOPY REPORTS
(on CD only)

This page intentionally left blank.

C07-199

(NON-IR , WORK AREA 26 SOIL)





KEY PLAN

LEGEND:

- 1 SYSTEMATIC 1
- 19 BIASED
- 37 CHARACTERIZATION
- 39 SYSTEMATIC 2

REMEDIATION AREA

10 0 10 20
(feet)

SYSTEMATIC 1 SAMPLES 1–18
BIASED SAMPLES 19–36
CHARACTERIZATION SAMPLES 37–38
SYSTEMATIC 2 SAMPLES 39–56

DRAFT

RECORD DRAWING

RADIOLOGICAL SCREENING YARD 2 (RSY2)
SOIL SAMPLING LOCATIONS AREA C07

HUNTERS POINT SHIPYARD-SAN FRANCISCO, CA

TETRA TECH EC, INC.

DRAWING NO: 18-PG-C07-199.DWG
DCN:
TASK: CTO 018
APPROVED BY: BMH
CHECKED BY: TYL
REV:
DRAWN BY: AEC
DATE: 07-06-09

\\Ecisfofile1\projects\CTO 006\CAD\TO 70 Parcel D\Parcel D working Files_RSY Pad Surveys\DWG Files\Active Pads\18-PG-C07-199.dwg

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 10:10:59
New World Technology Spectrum name: 5N000729.An1

Sample description
Parcel G 18-PG-C0199-01 403g
5/26/09 10:02

Acquisition information
Start time: 20-Jun-2009 09:22:14
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	F	6.4908E-01	1.6856E-01	1.7324E-01	0.478E-01
AM-241	#B	-2.7792E-02	6.9189E-02	6.9189E-02	0.197E-01
Bi-212	F	5.0614E-01	2.8706E-01	2.8871E-01	0.222E+00
BI-214	F	5.1129E-01	1.3064E-01	1.3418E-01	0.520E-01
CO-60	#B	-2.4122E-02	2.6985E-01	2.6986E-01	0.233E-01
CS-137	B	2.5524E-02	3.6303E-02	3.6335E-02	0.266E-01
EU-152	B	7.6270E-02	6.8859E-02	6.9063E-02	0.821E-01
EU-154	B	9.3713E-03	1.8320E-02	1.8331E-02	0.533E-01
K-40		1.0537E+01	1.3185E+00	1.4712E+00	0.319E+00
Pa-234	#B	2.7118E-02	3.6104E-02	3.6159E-02	0.815E-01
Pb-210	#B	-4.1815E-02	9.3875E-01	9.3875E-01	0.730E+00
Pb-212		3.2146E-01	9.9602E-02	1.0170E-01	0.735E-01
Pb-214	F	5.9837E-01	1.4664E-01	1.5122E-01	0.627E-01
RA-226	B	1.3267E-02	9.0321E-01	9.0321E-01	0.759E+00
Th-230	#F	6.4287E+00	8.6175E+00	8.6549E+00	0.589E+01
Th-234	B	4.4627E-01	8.8731E-01	8.8838E-01	0.667E+00
Tl-208	F	2.4039E-01	6.0724E-02	6.2398E-02	0.268E-01
U-235	F	1.1142E-01	5.4332E-02	5.4797E-02	0.387E-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 2445.3 keV) 1.347E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 13:30:31
New World Technology Spectrum name: 6N000858.An1

Sample description
Parcel G 18-PG-C0199-02 388g
5/26/09 10:04

Acquisition information
Start time: 20-Jun-2009 12:41:20
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	4.7928E-01	3.0890E-01	3.1206E-01	0.157E+00
AM-241	A	4.8686E-02	1.2215E-01	1.2224E-01	0.650E-01
Bi-212	F	7.5392E-01	5.0420E-01	5.0889E-01	0.194E+00
BI-214		4.4124E-01	1.9097E-01	1.9504E-01	0.773E-01
CO-60	#F	1.5233E-02	2.7517E-02	2.7552E-02	0.950E-02
CS-137	#B	-6.7823E-06	4.0694E-04	4.0694E-04	0.315E-01
EU-152	F	2.2361E-01	1.5812E-01	1.5983E-01	0.850E-01
EU-154	F	1.5601E-01	1.4696E-01	1.4785E-01	0.605E-01
K-40		1.3817E+01	2.3243E+00	2.6552E+00	0.280E+00
Pa-234	F	1.0750E-01	1.6397E-01	1.6440E-01	0.926E-01
Pb-210	B	8.8806E-02	1.5765E+00	1.5765E+00	0.740E+00
Pb-212	F	4.2538E-01	1.4115E-01	1.4691E-01	0.633E-01
PB-214	F	3.6611E-01	1.8345E-01	1.8655E-01	0.838E-01
RA-226	B	4.7992E-01	1.4898E+00	1.4905E+00	0.811E+00
Th-230	B	8.6277E-01	1.1910E+01	1.1911E+01	0.656E+01
Th-234	#B	-6.9409E-02	1.2298E+00	1.2299E+00	0.703E+00
Tl-208	F	1.7888E-01	6.3579E-02	7.2091E-02	0.491E-01
U-235	F	1.4029E-01	1.5152E-01	1.5211E-01	0.504E-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 2659.0 keV) 1.660E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 11:00:54
New World Technology Spectrum name: 5N000730.An1

Sample description
Parcel G 18-PG-C0199-03 394g
5/26/09 10:06

Acquisition information
Start time: 20-Jun-2009 10:13:00
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	F	7.4594E-01	2.1350E-01	2.1840E-01	0.971E-01
AM-241	#F	8.8323E-02	1.0426E-01	1.0442E-01	0.737E-01
Bi-212	F	4.3313E-01	3.5982E-01	3.6079E-01	0.275E+00
BI-214	F	6.8646E-01	1.5761E-01	1.6289E-01	0.560E-01
CO-60	#B	3.0557E-02	4.8725E-02	4.8760E-02	0.318E-01
CS-137	#B	-7.6553E-04	3.1174E-02	3.1174E-02	0.661E-02
EU-152	#F	1.1391E-01	8.5678E-02	8.6043E-02	0.682E-01
EU-154	F	1.1107E-01	8.3086E-02	8.3443E-02	0.542E-01
K-40		1.2432E+01	1.4443E+00	1.6368E+00	0.326E+00
Pa-234	F	1.0537E-01	1.0555E-01	1.0584E-01	0.886E-01
Pb-210	B	4.5621E-01	1.0482E+00	1.0485E+00	0.765E+00
Pb-212	F	4.3402E-01	1.0588E-01	1.0945E-01	0.808E-01
Pb-214	F	5.9250E-01	1.6869E-01	1.7260E-01	0.757E-01
RA-226	B	4.6062E-01	9.0147E-01	9.0195E-01	0.737E+00
Th-230	#F	7.8641E+00	7.6306E+00	7.6938E+00	0.530E+01
Th-234	B	8.4528E-02	9.2025E-01	9.2029E-01	0.691E+00
Tl-208	F	2.8713E-01	7.1107E-02	7.3145E-02	0.326E-01
U-235	F	7.5643E-02	5.7894E-02	5.8096E-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 (38.2 to 2445.3 keV) 2.355E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 09:54:42
New World Technology Spectrum name: 4N000692.An1

Sample description
Parcel G 18-PG-C0199-04 388g
5/26/09 10:08

Acquisition information
Start time: 22-Jun-2009 08:19:42
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	F	9.3626E-01	1.8096E-01	1.8993E-01	0.804E-01
AM-241	#B	1.2298E-01	2.8881E-01	2.8893E-01	0.222E+00
Bi-212	F	2.5801E-01	2.7967E-01	2.8011E-01	0.236E+00
BI-214	F	7.9416E-01	1.5770E-01	1.6473E-01	0.644E-01
CO-60	#F	8.7952E-02	5.1447E-02	5.1726E-02	0.214E-01
CS-137	F	2.8899E-02	3.3354E-02	3.3400E-02	0.254E-01
EU-152	B	5.3786E-02	8.0761E-02	8.0848E-02	0.957E-01
EU-154	F	7.1241E-02	6.5778E-02	6.5964E-02	0.573E-01
K-40		1.7542E+01	1.2286E+00	1.6401E+00	0.193E+00
Pa-234	B	1.1446E-01	1.0027E-01	1.0062E-01	0.134E+00
Pb-210	#F	0.0000E+00	3.3542E+00	3.3542E+00	0.000E+00
Pb-212	F	5.2504E-01	9.2874E-02	9.8742E-02	0.652E-01
Pb-214	F	6.1342E-01	1.1462E-01	1.2071E-01	0.587E-01
RA-226	F	8.0952E-01	9.2222E-01	9.2367E-01	0.749E+00
Th-230	#B	-3.2535E+00	3.0913E+01	3.0916E+01	0.178E+02
Th-234	#B	-3.8942E+00	2.7544E+01	2.7547E+01	0.198E+01
Tl-208	F	2.3240E-01	6.4738E-02	6.6209E-02	0.354E-01
U-235	B	3.9988E-02	6.0054E-02	6.0108E-02	0.483E-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 (40.4 to 2575.8 keV) 2.073E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 10:14:28
New World Technology Spectrum name: 1N001061.An1

Sample description
Parcel G 18-PG-C0199-05 398g
5/26/09 10:10

Acquisition information
Start time: 20-Jun-2009 09:27:03
Live time: 2700
Real time: 2701

- -

***** 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	F	5.1188E-01	1.8084E-01	1.8358E-01	0.120E+00
AM-241	#A	-1.5034E-02	1.7123E-01	1.7123E-01	0.243E-01
Bi-212	#B	-7.9533E-02	7.4204E-02	7.4363E-02	0.258E+00
BI-214	F	4.5288E-01	1.1077E-01	1.1405E-01	0.422E-01
CO-60	B	1.5517E-02	2.7591E-02	2.7607E-02	0.196E-01
CS-137	F	1.8998E-02	1.9236E-02	1.9270E-02	0.111E-01
EU-152		1.2949E-01	9.9713E-02	1.0012E-01	0.452E-01
EU-154	#A	-5.2063E-03	7.3628E-03	7.3717E-03	0.329E-01
K-40		8.8977E+00	1.2225E+00	1.3418E+00	0.202E+00
Pa-234	B	4.9198E-02	5.9105E-02	5.9217E-02	0.591E-01
Pb-210	#F	9.4861E-01	7.7021E-01	7.7211E-01	0.510E+00
Pb-212	F	3.5153E-01	8.9716E-02	9.2484E-02	0.581E-01
Pb-214		4.5098E-01	1.2004E-01	1.2322E-01	0.490E-01
RA-226	F	7.5300E-01	7.8237E-01	7.8385E-01	0.622E+00
Th-230	#B	-2.9665E+00	1.3445E+01	1.3450E+01	0.493E+01
Th-234	#B	2.5502E-01	9.8935E-01	9.8967E-01	0.659E+00
Tl-208	F	1.3259E-01	5.4599E-02	5.5171E-02	0.345E-01
U-235	B	1.0174E-01	5.8819E-02	5.9216E-02	0.205E+00

- 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 (39.4 to 2490.5 keV) 1.188E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 10:20:44
New World Technology Spectrum name: 3N001054.An1

Sample description
Parcel G 18-PG-C0199-06 394g
5/26/09 10:12

Acquisition information
Start time: 20-Jun-2009 09:34:08
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	F	5.7134E-01	1.8435E-01	1.8768E-01	0.120E+00
AM-241	B	2.6817E-02	8.4670E-02	8.4689E-02	0.697E-01
Bi-212	#B	-1.2472E-02	2.4945E-02	2.4956E-02	0.325E+00
BI-214	F	6.0093E-01	1.6462E-01	1.6851E-01	0.634E-01
CO-60	#F	4.6388E-02	2.9146E-02	2.9283E-02	0.131E-01
CS-137	F	3.5783E-02	3.7299E-02	3.7361E-02	0.269E-01
EU-152	F	9.0290E-02	6.7016E-02	6.7309E-02	0.858E-01
EU-154	#F	9.7061E-02	7.8257E-02	7.8546E-02	0.560E-01
K-40		1.1343E+01	1.6055E+00	1.7524E+00	0.645E+00
Pa-234	F	9.8672E-02	8.1948E-02	8.2271E-02	0.940E-01
Pb-210	B	6.4722E-01	8.1770E-01	8.1853E-01	0.664E+00
Pb-212	F	4.3334E-01	9.6186E-02	1.0009E-01	0.639E-01
PB-214	F	7.0819E-01	1.7113E-01	1.7662E-01	0.696E-01
RA-226	B	6.4594E-01	8.8225E-01	8.8321E-01	0.712E+00
Th-230	#B	-7.6101E+00	3.1681E+01	3.1695E+01	0.585E+01
Th-234	F	1.2605E+00	8.7960E-01	8.8821E-01	0.636E+00
Tl-208	#F	1.2683E-01	7.1804E-02	7.2202E-02	0.417E-01
U-235	F	7.9189E-02	8.7191E-02	8.7338E-02	0.489E-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 (39.2 to 2494.4 keV) 1.496E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 09:31:47
New World Technology Spectrum name: 3N001053.An1

Sample description
Parcel G 18-PG-C0199-07 398g
5/26/09 10:14

Acquisition information
Start time: 20-Jun-2009 08:43:18
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	F	7.8509E-01	2.1633E-01	2.2168E-01	0.765E-01
AM-241	#B	-1.5595E-02	2.9845E-01	2.9845E-01	0.621E-01
Bi-212	#B	-9.9827E-02	3.8926E-01	3.8926E-01	0.110E+00
BI-214	F	6.1761E-01	1.5078E-01	1.5526E-01	0.595E-01
CO-60	#B	1.1960E-03	2.4773E-02	2.4773E-02	0.214E-01
CS-137		4.2330E-02	3.4942E-02	3.5035E-02	0.236E-01
EU-152	F	1.0139E-01	6.0504E-02	6.0913E-02	0.818E-01
EU-154	F	8.7478E-02	5.9256E-02	5.9566E-02	0.637E-01
K-40		1.1868E+01	1.4263E+00	1.6046E+00	0.998E-01
Pa-234	B	6.4962E-02	8.7237E-02	8.7369E-02	0.788E-01
Pb-210	F	7.6113E-01	7.8940E-01	7.9060E-01	0.634E+00
Pb-212	F	3.9334E-01	1.0555E-01	1.0850E-01	0.726E-01
PB-214	F	4.9569E-01	1.0251E-01	1.0697E-01	0.748E-01
RA-226		1.1019E+00	8.9046E-01	8.9324E-01	0.697E+00
Th-230	#B	-5.0488E+00	2.1776E+01	2.1786E+01	0.728E+01
Th-234	F	1.0128E+00	6.5995E-01	6.6736E-01	0.583E+00
Tl-208	F	1.7436E-01	5.7763E-02	5.8693E-02	0.325E-01
U-235	F	9.7497E-02	9.2791E-02	9.3000E-02	0.488E-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 (39.2 to 2494.4 keV) 1.649E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 11:09:46
New World Technology Spectrum name: 3N001055.An1

Sample description
Parcel G 18-PG-C0199-07DUP 398g
5/26/09 10:14

Acquisition information
Start time: 20-Jun-2009 10:22:54
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	F	5.8695E-01	2.2642E-01	2.2929E-01	0.849E-01
AM-241	#B	-2.0226E-02	8.8847E-01	8.8847E-01	0.879E-01
Bi-212	F	7.0059E-01	3.6315E-01	3.6565E-01	0.230E+00
BI-214	#F	5.4574E-01	1.3857E-01	1.4237E-01	0.531E-01
CO-60	#B	2.4465E-03	1.0623E-02	1.0624E-02	0.155E-01
CS-137	#B	-7.7837E-03	2.8246E-02	2.8246E-02	0.110E-01
EU-152	F	1.1800E-01	7.6741E-02	7.7178E-02	0.649E-01
EU-154	F	9.1867E-02	4.9154E-02	4.9566E-02	0.600E-01
K-40		1.1337E+01	1.4823E+00	1.6402E+00	0.233E+00
Pa-234	#F	2.2262E-01	1.0494E-01	1.0622E-01	0.910E-01
Pb-210		1.5942E+00	9.8429E-01	9.8848E-01	0.613E+00
Pb-212	F	5.0325E-01	9.8346E-02	1.0346E-01	0.618E-01
PB-214	F	4.6747E-01	1.2038E-01	1.2379E-01	0.689E-01
RA-226	B	5.3815E-01	9.2198E-01	9.2262E-01	0.751E+00
Th-230	#B	-1.0995E+01	4.3980E+02	4.3980E+02	0.455E+01
Th-234	F	1.0100E+00	8.1795E-01	8.2390E-01	0.600E+00
Tl-208	#F	2.1832E-01	7.1289E-02	7.2471E-02	0.263E-01
U-235	F	7.3943E-02	7.3466E-02	7.3618E-02	0.494E-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 (39.2 to 2494.4 keV) 1.603E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 15:04:51
New World Technology Spectrum name: 2N000822.An1

Sample description
Parcel G 18-PG-C0199-08 386g
5/26/09 10:16

Acquisition information
Start time: 20-Jun-2009 13:33:17
Live time: 5400
Real time: 5405

- -

***** 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	F	6.7307E-01	1.4421E-01	1.5005E-01	0.103E+00
AM-241	B	2.8634E-02	7.3483E-02	7.3507E-02	0.602E-01
Bi-212	F	2.8432E-01	2.7930E-01	2.7983E-01	0.230E+00
BI-214	F	6.2651E-01	1.2468E-01	1.3021E-01	0.525E-01
CO-60	#F	3.6963E-02	2.2826E-02	2.2937E-02	0.192E-01
CS-137		9.8548E-02	3.6085E-02	3.6572E-02	0.224E-01
EU-152	B	2.8761E-02	6.4512E-02	6.4543E-02	0.617E-01
EU-154	F	5.3010E-02	5.6888E-02	5.7007E-02	0.466E-01
K-40		1.2103E+01	1.0565E+00	1.2955E+00	0.537E-01
Pa-234	F	1.0462E-01	1.2937E-01	1.2960E-01	0.735E-01
Pb-210	#B	3.4803E-01	7.9760E-01	7.9785E-01	0.574E+00
Pb-212	F	4.8848E-01	8.4646E-02	9.0212E-02	0.587E-01
PB-214	F	7.4845E-01	1.4892E-01	1.5592E-01	0.691E-01
RA-226		1.1307E+00	8.2582E-01	8.2897E-01	0.659E+00
Th-230	#B	-2.5956E+00	1.8215E+01	1.8218E+01	0.495E+01
Th-234	F	8.1866E-01	5.3451E-01	5.4048E-01	0.515E+00
Tl-208	F	1.5441E-01	8.2275E-02	8.2790E-02	0.428E-01
U-235	F	8.9495E-02	5.4617E-02	5.4916E-02	0.417E-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 (40.6 to 2591.2 keV) 1.725E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 12:49:02
New World Technology Spectrum name: 3N001057.An1

Sample description
Parcel G 18-PG-C0199-09 380g
5/26/09 10:18

Acquisition information
Start time: 20-Jun-2009 12:02:50
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	F	1.0054E+00	2.4775E-01	2.5538E-01	0.747E-01
AM-241	#B	-2.6831E-02	8.6528E-02	8.6528E-02	0.198E-01
Bi-212	#B	-1.0456E-01	2.8059E-01	2.8059E-01	0.115E+00
BI-214	F	6.5272E-01	1.4205E-01	1.4733E-01	0.450E-01
CO-60	#F	4.9309E-02	3.9806E-02	3.9919E-02	0.206E-01
CS-137	F	4.2721E-02	4.5652E-02	4.5725E-02	0.336E-01
EU-152	#F	1.0282E-01	7.5507E-02	7.5844E-02	0.806E-01
EU-154	#F	1.1509E-01	6.2151E-02	6.2662E-02	0.600E-01
K-40		1.1434E+01	1.5207E+00	1.6775E+00	0.239E+00
Pa-234	#B	9.3837E-02	9.6897E-02	9.7144E-02	0.116E+00
Pb-210		1.0933E+00	8.9348E-01	8.9565E-01	0.707E+00
Pb-212	F	6.5942E-01	1.1769E-01	1.2500E-01	0.726E-01
PB-214	F	6.4219E-01	1.7333E-01	1.7781E-01	0.920E-01
RA-226	B	6.1940E-01	9.6841E-01	9.6922E-01	0.786E+00
Th-230	#B	-1.0194E+01	4.6262E+01	4.6280E+01	0.452E+01
Th-234	F	1.2849E+00	7.7776E-01	7.8786E-01	0.658E+00
Tl-208	#F	3.1285E-01	7.9152E-02	8.1326E-02	0.319E-01
U-235	F	8.9637E-02	1.0075E-01	1.0092E-01	0.531E-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 (39.2 to 2494.4 keV) 1.585E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 13:25:27
New World Technology Spectrum name: 1N001063.An1

Sample description
Parcel G 18-PG-C0199-10 398g
5/26/09 10:20

Acquisition information
Start time: 20-Jun-2009 12:38:40
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	3.3896E-01	1.2447E-01	1.2621E-01	0.113E+00
AM-241	#	6.6520E-02	7.6618E-02	7.6743E-02	0.512E-01
Bi-212	F	3.7900E-01	2.6869E-01	2.6968E-01	0.253E+00
BI-214	F	5.3049E-01	1.4443E-01	1.4789E-01	0.518E-01
CO-60	#F	7.5871E-02	3.9495E-02	3.9766E-02	0.141E-01
CS-137	#B	-6.9765E-04	2.8305E-02	2.8305E-02	0.602E-02
EU-152	C	9.5531E-02	8.9444E-02	8.9690E-02	0.536E-01
EU-154	#A	-5.0388E-04	3.3424E-03	3.3426E-03	0.382E-01
K-40		8.2540E+00	1.1938E+00	1.2993E+00	0.209E+00
Pa-234	F	1.1242E-01	8.3653E-02	8.4064E-02	0.534E-01
Pb-210		1.0654E+00	9.7580E-01	9.7768E-01	0.608E+00
Pb-212	F	5.0184E-01	1.0075E-01	1.0573E-01	0.566E-01
Pb-214		4.6399E-01	1.1578E-01	1.1927E-01	0.538E-01
RA-226		1.1487E+00	6.4095E-01	6.4514E-01	0.473E+00
Th-230	#B	-1.5779E+00	8.3516E+00	8.3539E+00	0.471E+01
Th-234	#F	6.5507E-01	7.7102E-01	7.7368E-01	0.590E+00
Tl-208	F	1.7843E-01	5.4247E-02	5.5284E-02	0.209E-01
U-235	B	1.5801E-01	1.9131E-01	1.9161E-01	0.173E+00

- 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 (39.4 to 2490.5 keV) 1.305E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 20-JUN-2009 13:38:28
New World Technology Spectrum name: 3N001058.An1

Sample description
Parcel G 18-PG-C0199-11 382g
5/26/09 10:22

Acquisition information
Start time: 20-Jun-2009 12:51:03
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	F	9.4757E-01	2.4000E-01	2.4700E-01	0.896E-01
AM-241	#B	-8.0072E-03	1.8600E-01	1.8600E-01	0.757E-01
Bi-212	F	5.4054E-01	3.8444E-01	3.8585E-01	0.270E+00
BI-214	F	6.2005E-01	1.4895E-01	1.5351E-01	0.811E-01
CO-60	#F	6.3914E-02	3.4087E-02	3.4309E-02	0.135E-01
CS-137	#B	-5.0869E-03	1.5514E-01	1.5514E-01	0.311E-01
EU-152	#B	6.4509E-02	5.0704E-02	5.0902E-02	0.907E-01
EU-154	F	8.7229E-02	5.5965E-02	5.6291E-02	0.686E-01
K-40		1.3473E+01	1.6319E+00	1.8329E+00	0.238E+00
Pa-234	#B	3.2469E-02	5.7779E-02	5.7829E-02	0.102E+00
Pb-210	#F	1.0443E+00	8.2626E-01	8.2841E-01	0.593E+00
Pb-212	F	6.3449E-01	1.1604E-01	1.2291E-01	0.734E-01
PB-214	F	8.0177E-01	1.6638E-01	1.7358E-01	0.775E-01
RA-226	B	8.2192E-01	1.0705E+00	1.0717E+00	0.863E+00
Th-230	#B	-5.9823E+00	2.9334E+01	2.9344E+01	0.742E+01
Th-234	F	1.4527E+00	1.0187E+00	1.0285E+00	0.662E+00
Tl-208	F	2.6089E-01	6.9011E-02	7.0748E-02	0.277E-01
U-235	F	1.0867E-01	7.1521E-02	7.1858E-02	0.520E-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 (39.2 to 2494.4 keV) 1.995E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 13:24:49
New World Technology Spectrum name: 5N000734.An1

Sample description
Parcel G 18-PG-C0199-12 402g
5/26/09 10:24

Acquisition information
Start time: 20-Jun-2009 13:33:54
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	F	6.9059E-01	2.2450E-01	2.2850E-01	0.811E-01
AM-241	#B	4.2037E-02	9.2549E-02	9.2590E-02	0.682E-01
Bi-212	F	4.5473E-01	3.0175E-01	3.0302E-01	0.282E+00
BI-214	F	6.9570E-01	1.3735E-01	1.4354E-01	0.621E-01
CO-60	#B	-2.2738E-02	1.9041E-01	1.9041E-01	0.242E-01
CS-137	B	3.1256E-02	4.3932E-02	4.3972E-02	0.329E-01
EU-152	#F	1.8777E-01	1.3855E-01	1.3916E-01	0.867E-01
EU-154	B	2.0139E-02	1.9954E-02	2.0003E-02	0.620E-01
K-40		1.3649E+01	1.4952E+00	1.7176E+00	0.320E+00
Pa-234	#F	1.1611E-01	9.1789E-02	9.2188E-02	0.634E-01
Pb-210	B	1.0012E-01	8.4622E-01	8.4624E-01	0.769E+00
Pb-212		4.8902E-01	1.0705E-01	1.1152E-01	0.731E-01
Pb-214	F	4.0253E-01	1.3051E-01	1.3286E-01	0.104E+00
RA-226		1.0318E+00	9.2749E-01	9.2983E-01	0.732E+00
Th-230	#B	2.0972E+00	6.9571E+00	6.9620E+00	0.537E+01
Th-234	#B	-5.3882E-01	1.8768E+00	1.8775E+00	0.748E+00
Tl-208	#F	2.1349E-01	8.1687E-02	8.2675E-02	0.403E-01
U-235	F	8.3698E-02	9.0423E-02	9.0582E-02	0.509E-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 2445.3 keV) 1.763E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 08:19:11
New World Technology Spectrum name: 1N001065.An1

Sample description
Parcel G 18-PG-C0199-13 390g
5/26/09 10:26

Acquisition information
Start time: 22-Jun-2009 07:30:09
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	F	1.3449E+00	2.5679E-01	2.6988E-01	0.137E+00
AM-241	#A	-4.0542E-03	1.4579E-01	1.4579E-01	0.603E-01
Bi-212	F	6.1137E-01	3.6763E-01	3.6952E-01	0.270E+00
BI-214	F	1.0069E+00	1.9763E-01	2.0664E-01	0.681E-01
CO-60	#B	-1.9416E-03	1.9076E-02	1.9076E-02	0.794E-02
CS-137	B	8.7744E-03	2.3821E-02	2.3827E-02	0.181E-01
EU-152	C	1.7620E-01	9.0794E-02	9.1616E-02	0.658E-01
EU-154	#A	2.3146E-02	2.9566E-02	2.9609E-02	0.443E-01
K-40		8.3856E+00	1.2590E+00	1.3626E+00	0.276E+00
Pa-234	#F	2.9538E-01	1.1595E-01	1.1798E-01	0.771E-01
Pb-210	#B	-5.3616E-01	8.5987E-01	8.5987E-01	0.269E+00
Pb-212		1.1430E+00	1.3365E-01	1.5229E-01	0.708E-01
Pb-214		9.3469E-01	1.6644E-01	1.7616E-01	0.630E-01
RA-226		1.0752E+00	9.8158E-01	9.8398E-01	0.777E+00
Th-230	#B	-5.7454E+00	5.5314E+01	5.5319E+01	0.674E+01
Th-234		1.7066E+00	8.8780E-01	9.0340E-01	0.691E+00
Tl-208	#F	4.7699E-01	9.9527E-02	1.0352E-01	0.358E-01
U-235	B	6.7824E-02	5.5260E-02	5.5448E-02	0.249E+00

- 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 (39.4 to 2490.5 keV) 1.698E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 09:50:53
New World Technology Spectrum name: 6N000860.An1

Sample description
Parcel G 18-PG-C0199-14 367g
5/26/09 10:28

Acquisition information
Start time: 22-Jun-2009 08:19:07
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	6.4880E-01	3.0091E-01	3.0683E-01	0.155E+00
AM-241	#A	-2.8474E-03	9.1162E-02	9.1162E-02	0.428E-02
Bi-212	F	9.8138E-01	4.4366E-01	4.5263E-01	0.194E+00
BI-214		8.0049E-01	1.6179E-01	1.7707E-01	0.548E-01
CO-60	#F	3.7329E-02	3.8647E-02	3.8798E-02	0.236E-01
CS-137	F	3.1115E-02	5.1411E-02	5.1488E-02	0.262E-01
EU-152	F	8.5330E-02	1.2205E-01	1.2237E-01	0.514E-01
EU-154	F	1.1332E-01	1.2980E-01	1.3033E-01	0.492E-01
K-40		1.1529E+01	1.6119E+00	1.9353E+00	0.261E+00
Pa-234	F	9.4192E-02	1.6848E-01	1.6880E-01	0.760E-01
Pb-210	B	2.1869E-02	9.4513E-01	9.4513E-01	0.550E+00
Pb-212		1.0165E+00	1.3844E-01	1.6926E-01	0.503E-01
PB-214		9.4241E-01	2.2209E-01	2.3861E-01	0.642E-01
RA-226		1.2298E+00	1.1184E+00	1.1246E+00	0.590E+00
Th-230	#B	9.8184E-01	8.8451E+00	8.8471E+00	0.446E+01
Th-234	B	2.1157E-01	2.1970E-01	2.2188E-01	0.524E+00
Tl-208	F	4.3972E-01	7.5964E-02	1.1291E-01	0.873E-02
U-235	F	7.6885E-02	8.2348E-02	8.2677E-02	0.414E-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 2659.0 keV) 1.770E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 08:21:04
New World Technology Spectrum name: 7N000505.An1

Sample description
Parcel G 18-PG-C0199-15 405g
5/26/09 10:30

Acquisition information
Start time: 22-Jun-2009 07:35:04
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	7.5003E-01	2.8842E-01	2.9663E-01	0.140E+00
AM-241	#A	5.2582E-03	1.2421E-01	1.2421E-01	0.656E-01
Bi-212	F	5.6384E-01	5.0608E-01	5.0870E-01	0.242E+00
BI-214		8.3638E-01	2.5617E-01	2.6697E-01	0.609E-01
CO-60	#B	1.4056E-02	5.0199E-02	5.0215E-02	0.231E-01
CS-137	B	2.5520E-02	7.1536E-02	7.1573E-02	0.370E-01
EU-152	B	6.3873E-02	9.4515E-02	9.4749E-02	0.735E-01
EU-154	F	1.6089E-01	1.2624E-01	1.2734E-01	0.601E-01
K-40		1.0782E+01	2.2844E+00	2.4944E+00	0.742E+00
Pa-234	F	1.6174E-01	1.5979E-01	1.6079E-01	0.728E-01
Pb-210	F	5.8010E-01	9.6848E-01	9.6975E-01	0.516E+00
Pb-212	F	6.5047E-01	1.6945E-01	1.8054E-01	0.722E-01
PB-214	F	6.1636E-01	2.2694E-01	2.3400E-01	0.826E-01
RA-226	B	4.8144E-01	1.2660E+00	1.2669E+00	0.694E+00
Th-230	#B	-6.1211E+00	9.1739E+00	9.1739E+00	0.251E+01
Th-234	B	5.2420E-01	1.6377E+00	1.6395E+00	0.734E+00
Tl-208	F	1.9160E-01	1.2872E-01	1.3377E-01	0.603E-01
U-235	B	3.4369E-03	9.1329E-02	9.1330E-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 (32.9 to 2616.0 keV) 1.439E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 09:10:12
New World Technology Spectrum name: 1N001066.An1

Sample description
Parcel G 18-PG-C0199-16 394g
5/26/09 10:32

Acquisition information
Start time: 22-Jun-2009 08:20:59
Live time: 2700
Real time: 2701

- -

***** 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	F	5.4567E-01	1.7477E-01	1.7799E-01	0.134E+00
AM-241	#A	-1.2877E-02	4.8235E-01	4.8235E-01	0.239E-01
Bi-212	F	3.3437E-01	2.8635E-01	2.8708E-01	0.228E+00
BI-214	F	4.4232E-01	1.1484E-01	1.1786E-01	0.403E-01
CO-60	#F	1.3588E-02	2.0107E-02	2.0124E-02	0.110E-01
CS-137		2.8233E-02	2.6056E-02	2.6112E-02	0.163E-01
EU-152	C	8.4055E-02	7.8090E-02	7.8308E-02	0.600E-01
EU-154	C	4.9787E-02	2.8744E-02	2.8951E-02	0.381E-01
K-40		7.6241E+00	1.1638E+00	1.2565E+00	0.213E+00
Pa-234	#F	1.6681E-01	7.9461E-02	8.0410E-02	0.448E-01
Pb-210	#B	-2.7400E-01	3.0325E+00	3.0325E+00	0.830E+00
Pb-212	F	3.7802E-01	8.8305E-02	9.1548E-02	0.588E-01
Pb-214		5.1623E-01	1.2498E-01	1.2898E-01	0.536E-01
RA-226	B	3.4001E-01	8.2316E-01	8.2345E-01	0.678E+00
Th-230	#B	-8.0972E+00	1.0214E+02	1.0215E+02	0.449E+01
Th-234	F	6.4560E-01	7.7274E-01	7.7532E-01	0.612E+00
Tl-208	#F	1.9272E-01	5.0056E-02	5.1363E-02	0.172E-01
U-235	B	5.6076E-02	3.6518E-02	3.6712E-02	0.192E+00

- 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 (39.4 to 2490.5 keV) 1.023E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 09:15:31
New World Technology Spectrum name: 5N000735.An1

Sample description
Parcel G 18-PG-C0199-17 401g
5/26/09 10:34

Acquisition information
Start time: 22-Jun-2009 08:22:16
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	F	8.6369E-01	2.2861E-01	2.3473E-01	0.105E+00
AM-241	B	9.0291E-02	1.7297E-01	1.7307E-01	0.141E+00
Bi-212	F	4.5764E-01	2.9388E-01	2.9520E-01	0.226E+00
BI-214	F	8.1148E-01	1.3769E-01	1.4602E-01	0.314E-01
CO-60	#B	-9.9488E-03	4.8739E-02	4.8743E-02	0.232E-01
CS-137		3.9582E-02	3.9209E-02	3.9281E-02	0.274E-01
EU-152	#B	5.1650E-02	4.9756E-02	4.9885E-02	0.831E-01
EU-154	F	8.5467E-02	8.9738E-02	8.9934E-02	0.606E-01
K-40		1.1541E+01	1.3809E+00	1.5549E+00	0.321E+00
Pa-234	#B	8.2979E-02	8.7468E-02	8.7682E-02	0.102E+00
Pb-210	B	4.9075E-01	8.4997E-01	8.5043E-01	0.756E+00
Pb-212		5.3119E-01	1.0013E-01	1.0572E-01	0.695E-01
Pb-214	F	6.0219E-01	1.4436E-01	1.4907E-01	0.662E-01
RA-226	F	9.1341E-01	1.0256E+00	1.0273E+00	0.821E+00
Th-230	#B	-5.6036E-02	6.2190E+00	6.2190E+00	0.484E+00
Th-234	#B	-4.3796E-01	1.6933E+00	1.6938E+00	0.787E+00
Tl-208	F	2.0235E-01	6.1293E-02	6.2473E-02	0.320E-01
U-235	F	1.1087E-01	6.2412E-02	6.2813E-02	0.469E-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 2445.3 keV) 1.516E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 09:14:01
New World Technology Spectrum name: 7N000506.An1

Sample description
Parcel G 18-PG-C0199-18 382g
5/26/09 10:36

Acquisition information
Start time: 22-Jun-2009 08:23:47
Live time: 2700
Real time: 2701

- -

***** 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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	4.4616E-01	2.5627E-01	2.5957E-01	0.136E+00
AM-241	#A	-1.4654E-02	2.0880E-01	2.0880E-01	0.596E-01
Bi-212	F	3.3157E-01	4.2131E-01	4.2239E-01	0.244E+00
BI-214	#	6.3352E-01	2.6114E-01	2.6728E-01	0.653E-01
CO-60	#B	8.1609E-03	2.7777E-02	2.7787E-02	0.159E-01
CS-137		6.3574E-02	5.7762E-02	5.8048E-02	0.232E-01
EU-152	B	8.4036E-02	1.1088E-01	1.1123E-01	0.843E-01
EU-154	F	9.7126E-02	1.0462E-01	1.0511E-01	0.638E-01
K-40		1.1515E+01	2.0513E+00	2.3135E+00	0.332E+00
Pa-234	#F	1.6599E-01	1.3536E-01	1.3660E-01	0.853E-01
Pb-210	#F	6.2650E-01	1.2666E+00	1.2678E+00	0.594E+00
Pb-212	F	4.9263E-01	1.5396E-01	1.6103E-01	0.680E-01
PB-214	F	6.7042E-01	2.2943E-01	2.3768E-01	0.667E-01
RA-226	F	8.7991E-01	1.4126E+00	1.4151E+00	0.758E+00
Th-230	#B	-6.4896E+00	8.6244E+00	8.6244E+00	0.266E+01
Th-234	B	5.5679E-01	4.7001E-01	4.7707E-01	0.671E+00
Tl-208	B	7.8213E-02	6.4000E-02	6.5701E-02	0.947E-01
U-235	F	7.0752E-02	1.1667E-01	1.1687E-01	0.501E-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 (32.9 to 2616.0 keV) 1.415E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 09:57:56
New World Technology Spectrum name: 1N001067.An1

Sample description
Parcel G 18-PG-C0199-19 384g
5/26/09 10:38

Acquisition information
Start time: 22-Jun-2009 09:11:44
Live time: 2700
Real time: 2701

- -

***** 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	F	6.6687E-01	1.7206E-01	1.7692E-01	0.124E+00
AM-241	#A	-1.2159E-02	8.4920E-02	8.4920E-02	0.132E-01
Bi-212	#F	3.6711E-01	4.0608E-01	4.0670E-01	0.258E+00
BI-214	F	5.8562E-01	1.4302E-01	1.4727E-01	0.473E-01
CO-60	#B	1.3596E-02	2.8259E-02	2.8271E-02	0.182E-01
CS-137	B	1.4729E-02	2.5254E-02	2.5270E-02	0.182E-01
EU-152	A	1.8861E-02	5.3857E-02	5.3873E-02	0.461E-01
EU-154	#A	4.1434E-03	6.3279E-03	6.3345E-03	0.381E-01
K-40		1.0169E+01	1.3309E+00	1.4734E+00	0.215E+00
Pa-234	#F	1.5354E-01	1.0590E-01	1.0650E-01	0.265E-01
Pb-210	#F	1.4345E+00	1.0330E+00	1.0362E+00	0.641E+00
Pb-212	F	4.7563E-01	9.0913E-02	9.5856E-02	0.545E-01
Pb-214		5.9136E-01	1.3085E-01	1.3585E-01	0.497E-01
RA-226		1.0109E+00	9.3098E-01	9.3322E-01	0.736E+00
Th-230	#B	-5.4951E+00	3.5671E+01	3.5678E+01	0.531E+01
Th-234	B	2.5415E-01	6.5512E-01	6.5559E-01	0.601E+00
Tl-208	F	2.7945E-01	6.5550E-02	6.7642E-02	0.179E-01
U-235	B	7.5387E-02	3.6727E-02	3.7075E-02	0.183E+00

- 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 (39.4 to 2490.5 keV) 1.521E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 10:04:36
New World Technology Spectrum name: 5N000736.An1

Sample description
Parcel G 18-PG-C0199-20 394g
5/26/09 10:40

Acquisition information
Start time: 22-Jun-2009 09:18:50
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	F	8.6946E-01	2.4859E-01	2.5430E-01	0.943E-01
AM-241	#B	-1.8125E-02	2.9826E-01	2.9826E-01	0.587E-01
Bi-212	F	2.6394E-01	2.5203E-01	2.5255E-01	0.258E+00
BI-214	F	6.1697E-01	1.3162E-01	1.3672E-01	0.588E-01
CO-60	#B	-2.4673E-02	4.6018E-01	4.6019E-01	0.253E-01
CS-137	B	2.8180E-02	4.8712E-02	4.8741E-02	0.374E-01
EU-152	#F	1.3447E-01	5.7338E-02	5.8095E-02	0.700E-01
EU-154	B	5.0682E-02	3.9380E-02	3.9537E-02	0.594E-01
K-40		1.3615E+01	1.5658E+00	1.7784E+00	0.385E+00
Pa-234	F	9.6828E-02	7.5065E-02	7.5405E-02	0.914E-01
Pb-210	#B	1.0455E-01	1.0652E+00	1.0652E+00	0.798E+00
Pb-212	F	4.9158E-01	1.0795E-01	1.1242E-01	0.736E-01
Pb-214	F	4.1196E-01	1.3553E-01	1.3789E-01	0.835E-01
RA-226	B	2.6632E-01	1.0044E+00	1.0045E+00	0.831E+00
Th-230	F	5.8304E+00	7.3674E+00	7.4034E+00	0.579E+01
Th-234	B	6.2632E-01	8.3688E-01	8.3913E-01	0.712E+00
Tl-208	F	2.0570E-01	7.3159E-02	7.4182E-02	0.380E-01
U-235	F	1.0852E-01	6.3427E-02	6.3805E-02	0.472E-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 2445.3 keV) 1.632E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 10:01:37
New World Technology Spectrum name: 7N000507.An1

Sample description
Parcel G 18-PG-C0199-21 389g
5/26/09 10:42

Acquisition information
Start time: 22-Jun-2009 09:16:29
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	5.2667E-01	2.9130E-01	2.9534E-01	0.159E+00
AM-241	#A	-8.9950E-03	1.6558E-01	1.6559E-01	0.609E-01
Bi-212	F	9.9209E-01	7.1184E-01	7.1759E-01	0.254E+00
BI-214		7.9022E-01	2.1709E-01	2.2841E-01	0.477E-01
CO-60	#F	8.5015E-02	8.4544E-02	8.4901E-02	0.264E-01
CS-137	B	3.0128E-03	4.9179E-02	4.9180E-02	0.267E-01
EU-152	F	1.0751E-01	1.4083E-01	1.4128E-01	0.882E-01
EU-154	F	7.3931E-02	8.3658E-02	8.4011E-02	0.647E-01
K-40		1.3138E+01	2.1647E+00	2.4851E+00	0.326E+00
Pa-234	#F	9.2659E-02	1.1054E-01	1.1102E-01	0.683E-01
Pb-210	F	7.6077E-01	1.1797E+00	1.1815E+00	0.566E+00
Pb-212		6.5343E-01	1.6050E-01	1.7227E-01	0.688E-01
PB-214	F	5.9260E-01	2.1915E-01	2.2591E-01	0.733E-01
RA-226	B	7.8180E-01	1.5203E+00	1.5221E+00	0.822E+00
Th-230	#B	-4.2496E+00	5.4370E+01	5.4376E+01	0.643E+01
Th-234	F	8.7820E-01	8.7728E-01	8.8670E-01	0.696E+00
Tl-208	F	1.0782E-01	4.6399E-02	5.0719E-02	0.624E-01
U-235	F	1.1560E-01	1.0239E-01	1.0299E-01	0.514E-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 (32.9 to 2616.0 keV) 1.689E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 10:44:10
New World Technology Spectrum name: 1N001068.An1

Sample description
Parcel G 18-PG-C0199-22 397g
5/26/09 10:44

Acquisition information
Start time: 22-Jun-2009 09:59:01
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	F	9.0875E-01	2.5095E-01	2.5715E-01	0.130E+00
AM-241	A	1.8921E-02	7.8910E-02	7.8919E-02	0.646E-01
Bi-212	F	4.0858E-01	3.6907E-01	3.6991E-01	0.291E+00
BI-214	F	8.6737E-01	1.7317E-01	1.8081E-01	0.628E-01
CO-60	#F	2.8210E-02	2.7012E-02	2.7067E-02	0.125E-01
CS-137	F	2.1146E-02	2.8171E-02	2.8200E-02	0.199E-01
EU-152	C	9.4288E-02	8.4781E-02	8.5034E-02	0.694E-01
EU-154	A	3.5913E-02	3.3448E-02	3.3541E-02	0.414E-01
K-40		8.2970E+00	1.1101E+00	1.2240E+00	0.864E-01
Pa-234	#F	7.0498E-02	6.4739E-02	6.4948E-02	0.605E-01
Pb-210	#B	3.8771E-01	7.1301E-01	7.1336E-01	0.545E+00
Pb-212	F	8.6061E-01	1.2563E-01	1.3713E-01	0.748E-01
Pb-214		9.6205E-01	1.6363E-01	1.7407E-01	0.568E-01
RA-226		9.9184E-01	9.1092E-01	9.1312E-01	0.720E+00
Th-230	#B	-3.4802E+00	2.1807E+01	2.1811E+01	0.625E+01
Th-234	F	9.0700E-01	6.8096E-01	6.8673E-01	0.621E+00
Tl-208	#F	3.4336E-01	7.0225E-02	7.3159E-02	0.237E-01
U-235	B	5.0920E-02	4.3008E-02	4.3144E-02	0.212E+00

- 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 (39.4 to 2490.5 keV) 1.367E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 12:48:59
New World Technology Spectrum name: 6N000861.An1

Sample description
Parcel G 18-PG-C0199-23 394g
5/26/09 10:46

Acquisition information
Start time: 22-Jun-2009 10:41:20
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	4.2122E-01	2.8458E-01	2.8723E-01	0.108E+00
AM-241	A	1.5646E-02	9.2322E-02	9.2335E-02	0.503E-01
Bi-212	F	4.5216E-01	3.4905E-01	3.5149E-01	0.159E+00
BI-214		4.8994E-01	1.4667E-01	1.5314E-01	0.430E-01
CO-60	#F	6.9972E-02	5.5188E-02	5.5558E-02	0.171E-01
CS-137	B	9.5777E-03	4.4255E-02	4.4264E-02	0.236E-01
EU-152	F	1.1536E-01	1.3541E-01	1.3595E-01	0.567E-01
EU-154	F	6.4858E-02	1.0525E-01	1.0546E-01	0.353E-01
K-40		1.1722E+01	1.4589E+00	1.8205E+00	0.245E+00
Pa-234	F	6.9860E-02	1.0611E-01	1.0639E-01	0.582E-01
Pb-210	#B	-2.8465E-02	8.2153E-01	8.2153E-01	0.461E+00
Pb-212		4.2112E-01	9.4685E-02	1.0292E-01	0.419E-01
PB-214	F	4.6181E-01	1.0975E-01	1.1778E-01	0.492E-01
RA-226		6.6304E-01	8.6862E-01	8.7094E-01	0.465E+00
Th-230	#B	2.1848E+00	9.8783E+00	9.8868E+00	0.444E+01
Th-234	B	-8.3697E-01	1.8779E+00	1.8819E+00	0.508E+00
Tl-208	F	3.1148E-01	9.5067E-02	1.1198E-01	0.813E-02
U-235	F	5.7915E-02	8.0534E-02	8.0725E-02	0.319E-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 2659.0 keV) 1.507E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 10:59:29
New World Technology Spectrum name: 7N000508.An1

Sample description
Parcel G 18-PG-C0199-24 385g
5/26/09 10:48

Acquisition information
Start time: 22-Jun-2009 10:05:06
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	8.8625E-01	3.4007E-01	3.4980E-01	0.149E+00
AM-241	#A	1.4452E-02	1.3016E-01	1.3016E-01	0.684E-01
Bi-212	F	5.0922E-01	5.0489E-01	5.0703E-01	0.329E+00
BI-214		8.5470E-01	2.6306E-01	2.7405E-01	0.625E-01
CO-60	#F	2.7947E-02	2.1425E-02	2.1577E-02	0.170E-01
CS-137		7.5371E-02	6.6834E-02	6.7182E-02	0.282E-01
EU-152	F	7.3809E-02	1.1138E-01	1.1165E-01	0.647E-01
EU-154	#B	5.4699E-02	6.7446E-02	6.7686E-02	0.573E-01
K-40		1.1425E+01	2.0353E+00	2.2955E+00	0.330E+00
Pa-234	F	1.7689E-01	2.0555E-01	2.0648E-01	0.992E-01
Pb-210	#	1.4594E+00	1.5456E+00	1.5506E+00	0.658E+00
Pb-212	F	6.9134E-01	1.7545E-01	1.8753E-01	0.743E-01
PB-214	F	8.0249E-01	2.6330E-01	2.7358E-01	0.770E-01
RA-226		1.2767E+00	1.6274E+00	1.6320E+00	0.863E+00
Th-230	#B	-1.3713E+00	1.7659E+01	1.7661E+01	0.625E+01
Th-234	B	5.7877E-01	6.9250E-01	6.9769E-01	0.630E+00
Tl-208	F	1.4182E-01	7.6421E-02	8.1031E-02	0.889E-01
U-235	F	7.6338E-02	1.0707E-01	1.0732E-01	0.558E-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 (32.9 to 2616.0 keV) 1.806E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 11:27:30
New World Technology Spectrum name: 2N000823.An1

Sample description
Parcel G 18-PG-C0199-25 373g
5/26/09 10:50

Acquisition information
Start time: 22-Jun-2009 10:39:25
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	F	8.2526E-01	2.0789E-01	2.1402E-01	0.117E+00
AM-241	#B	2.3196E-02	1.1215E-01	1.1216E-01	0.812E-01
Bi-212	F	2.7777E-01	3.3439E-01	3.3482E-01	0.277E+00
BI-214	F	7.7808E-01	2.1025E-01	2.1535E-01	0.845E-01
CO-60	#F	6.6835E-02	3.3991E-02	3.4235E-02	0.990E-02
CS-137		5.1379E-02	5.0628E-02	5.0722E-02	0.370E-01
EU-152	B	1.9095E-02	2.9855E-02	2.9885E-02	0.704E-01
EU-154	F	1.0388E-01	6.7129E-02	6.7515E-02	0.577E-01
K-40		1.3383E+01	1.5983E+00	1.8004E+00	0.111E+00
Pa-234	F	1.1747E-01	1.0108E-01	1.0145E-01	0.107E+00
Pb-210	#B	-6.6616E-01	2.6331E+00	2.6334E+00	0.831E+00
Pb-212	F	5.7290E-01	1.2124E-01	1.2664E-01	0.734E-01
PB-214		7.6151E-01	1.9182E-01	1.9749E-01	0.851E-01
RA-226	B	6.0437E-01	1.1983E+00	1.1990E+00	0.979E+00
Th-230	#B	-3.9352E-01	1.0594E+01	1.0594E+01	0.772E+01
Th-234	B	7.7032E-01	4.9552E-01	5.0123E-01	0.772E+00
Tl-208	F	1.7250E-01	9.3035E-02	9.3603E-02	0.540E-01
U-235	F	1.0275E-01	8.9372E-02	8.9613E-02	0.585E-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 (40.6 to 2591.2 keV) 1.671E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 11:28:01
New World Technology Spectrum name: 3N001060.An1

Sample description
Parcel G 18-PG-C0199-26 401g
5/26/09 10:52

Acquisition information
Start time: 22-Jun-2009 10:38:04
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	F	1.3312E+00	2.5916E-01	2.7183E-01	0.547E-01
AM-241	#F	1.1696E-01	1.3493E-01	1.3515E-01	0.891E-01
Bi-212	F	8.5798E-01	4.4495E-01	4.4801E-01	0.298E+00
BI-214	F	1.0567E+00	1.8402E-01	1.9461E-01	0.625E-01
CO-60	#F	3.5629E-02	3.9459E-02	3.9519E-02	0.231E-01
CS-137	#B	-7.7254E-03	1.4525E-02	1.4525E-02	0.110E-01
EU-152	B	3.8236E-02	3.5101E-02	3.5202E-02	0.867E-01
EU-154	F	6.9252E-02	6.7320E-02	6.7492E-02	0.642E-01
K-40	#	1.1673E+01	1.4982E+00	1.6635E+00	0.233E+00
Pa-234	F	1.6014E-01	1.3985E-01	1.4035E-01	0.110E+00
Pb-210		1.5390E+00	1.1605E+00	1.1638E+00	0.720E+00
Pb-212		1.1647E+00	1.3978E-01	1.5833E-01	0.762E-01
PB-214		1.0469E+00	2.0244E-01	2.1250E-01	0.823E-01
RA-226	B	7.8322E-01	1.0271E+00	1.0283E+00	0.828E+00
Th-230	#B	-1.0397E+01	2.4497E+02	2.4498E+02	0.596E+01
Th-234		1.4182E+00	8.4208E-01	8.5344E-01	0.716E+00
Tl-208	F	4.0915E-01	7.5686E-02	7.9531E-02	0.327E-01
U-235	F	1.3037E-01	8.7828E-02	8.8222E-02	0.551E-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 (39.2 to 2494.4 keV) 2.063E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 11:39:32
New World Technology Spectrum name: 1N001069.An1

Sample description
Parcel G 18-PG-C0199-27 399g
5/26/09 10:54

Acquisition information
Start time: 22-Jun-2009 10:53:59
Live time: 2700
Real time: 2701

- -

***** 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	F	4.2508E-01	1.1252E-01	1.1554E-01	0.118E+00
AM-241	#A	-1.2209E-02	9.9626E-01	9.9626E-01	0.249E-01
Bi-212	#B	-1.2259E-01	1.8126E-01	1.8142E-01	0.276E+00
BI-214	F	3.9287E-01	1.1419E-01	1.1659E-01	0.429E-01
CO-60	#B	7.6580E-04	7.4451E-03	7.4453E-03	0.776E-02
CS-137	B	1.3915E-02	2.3243E-02	2.3258E-02	0.166E-01
EU-152	C	9.7625E-02	9.5392E-02	9.5633E-02	0.372E-01
EU-154	#A	-1.3020E-03	1.8412E-03	1.8435E-03	0.317E-01
K-40		6.5581E+00	1.1854E+00	1.2535E+00	0.347E+00
Pa-234	#B	3.1760E-02	4.5728E-02	4.5788E-02	0.342E-01
Pb-210	B	5.2582E-01	6.6662E-01	6.6729E-01	0.549E+00
Pb-212	F	3.1016E-01	8.7084E-02	8.9309E-02	0.586E-01
Pb-214		4.2122E-01	1.0559E-01	1.0874E-01	0.569E-01
RA-226	B	6.4806E-01	8.3949E-01	8.4052E-01	0.676E+00
Th-230	#B	-7.1563E+00	1.8711E+02	1.8711E+02	0.385E+01
Th-234	B	4.3132E-01	6.3065E-01	6.3207E-01	0.551E+00
Tl-208	F	9.1651E-02	5.1065E-02	5.1358E-02	0.364E-01
U-235	B	1.3661E-01	6.3759E-02	6.4417E-02	0.189E+00

- 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 (39.4 to 2490.5 keV) 8.199E+00 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 11:52:05
New World Technology Spectrum name: 7N000509.An1

Sample description
Parcel G 18-PG-C0199-28 402g
5/26/09 10:56

Acquisition information
Start time: 22-Jun-2009 11:02:13
Live time: 2700
Real time: 2701

- -

***** 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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	4.9279E-01	3.1089E-01	3.1421E-01	0.130E+00
AM-241	#A	-3.9555E-02	1.0317E-01	1.0317E-01	0.226E-01
Bi-212	#B	-2.2056E-01	5.2080E-01	5.2080E-01	0.155E+00
BI-214		6.1745E-01	2.2224E-01	2.2906E-01	0.584E-01
CO-60	#B	-2.2835E-03	9.1338E-03	9.1362E-03	0.157E-01
CS-137	B	1.8901E-02	5.2481E-02	5.2508E-02	0.265E-01
EU-152	B	5.4312E-02	1.0479E-01	1.0495E-01	0.650E-01
EU-154	#F	1.1326E-01	9.1389E-02	9.2147E-02	0.600E-01
K-40		1.2750E+01	2.0976E+00	2.4090E+00	0.316E+00
Pa-234	F	2.5284E-01	1.9940E-01	2.0136E-01	0.755E-01
Pb-210	B	3.8857E-01	1.0982E+00	1.0987E+00	0.598E+00
Pb-212	F	3.9078E-01	1.3987E-01	1.4480E-01	0.647E-01
PB-214	F	6.3140E-01	2.6848E-01	2.7477E-01	0.724E-01
RA-226	B	6.9082E-01	1.3693E+00	1.3709E+00	0.742E+00
Th-230	#B	-6.4713E-01	1.5213E+01	1.5214E+01	0.628E+01
Th-234	B	3.7200E-01	9.4823E-01	9.4980E-01	0.620E+00
Tl-208	B	5.8016E-02	3.3172E-02	3.4955E-02	0.926E-01
U-235	F	7.2987E-02	8.9802E-02	9.0074E-02	0.460E-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 (32.9 to 2616.0 keV) 1.496E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 12:50:49
New World Technology Spectrum name: 3N001061.An1

Sample description
Parcel G 18-PG-C0199-29 384g
5/26/09 10:58

Acquisition information
Start time: 22-Jun-2009 11:30:11
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	F	6.5155E-01	1.7799E-01	1.8246E-01	0.739E-01
AM-241	#	1.6409E-01	1.3294E-01	1.3337E-01	0.814E-01
Bi-212	F	4.2063E-01	2.9759E-01	2.9869E-01	0.200E+00
BI-214	F	5.8735E-01	1.3029E-01	1.3496E-01	0.659E-01
CO-60	#B	8.1454E-03	7.9258E-03	7.9413E-03	0.147E-01
CS-137	#B	-5.8295E-03	2.2649E-01	2.2649E-01	0.319E-01
EU-152	#B	6.3616E-02	6.1716E-02	6.1874E-02	0.904E-01
EU-154	F	1.1981E-01	8.6649E-02	8.7047E-02	0.649E-01
K-40		1.2199E+01	1.5591E+00	1.7325E+00	0.239E+00
Pa-234	F	1.7781E-01	8.2398E-02	8.3437E-02	0.969E-01
Pb-210	#F	1.1601E+00	8.4139E-01	8.4398E-01	0.589E+00
Pb-212	F	4.4313E-01	1.0182E-01	1.0567E-01	0.671E-01
PB-214	F	4.1079E-01	1.1691E-01	1.1963E-01	0.724E-01
RA-226	B	1.6212E-01	9.3676E-01	9.3681E-01	0.781E+00
Th-230	#B	-5.6135E+00	2.7122E+01	2.7131E+01	0.730E+01
Th-234	B	6.2595E-01	6.2709E-01	6.3007E-01	0.639E+00
Tl-208	#F	2.9593E-01	7.5001E-02	7.7054E-02	0.253E-01
U-235	F	5.4949E-02	6.0565E-02	6.0667E-02	0.472E-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 (39.2 to 2494.4 keV) 1.633E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 12:47:05
New World Technology Spectrum name: 2N000824.An1

Sample description
Parcel G 18-PG-C0199-30 393g
5/26/09 11:00

Acquisition information
Start time: 22-Jun-2009 11:29:06
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	F	1.2912E+00	2.0807E-01	2.2277E-01	0.120E+00
AM-241	#B	6.7926E-02	1.2167E-01	1.2176E-01	0.850E-01
Bi-212	F	9.4210E-01	4.3213E-01	4.3592E-01	0.339E+00
BI-214	F	9.7123E-01	1.9053E-01	1.9921E-01	0.641E-01
CO-60	#F	3.9055E-02	2.1286E-02	2.1419E-02	0.185E-01
CS-137	F	4.6598E-02	5.1345E-02	5.1422E-02	0.383E-01
EU-152	F	1.2531E-01	1.1700E-01	1.1733E-01	0.955E-01
EU-154	F	1.9585E-01	1.3004E-01	1.3074E-01	0.733E-01
K-40		1.2385E+01	1.4979E+00	1.6829E+00	0.105E+00
Pa-234	#F	2.3211E-01	1.3539E-01	1.3647E-01	0.926E-01
Pb-210	B	6.8536E-02	8.4599E-01	8.4600E-01	0.752E+00
Pb-212	F	1.1940E+00	1.4809E-01	1.6657E-01	0.827E-01
PB-214		1.0243E+00	1.8053E-01	1.9128E-01	0.717E-01
RA-226	F	1.0540E+00	1.1691E+00	1.1710E+00	0.936E+00
Th-230	#B	-7.2330E-01	8.1674E+00	8.1679E+00	0.555E+01
Th-234		1.4116E+00	8.5070E-01	8.6185E-01	0.799E+00
Tl-208	#F	4.0380E-01	1.0507E-01	1.0780E-01	0.550E-01
U-235	F	1.4712E-01	1.2390E-01	1.2426E-01	0.662E-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 (40.6 to 2591.2 keV) 1.977E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 13:34:50
New World Technology Spectrum name: 7N000510.An1

Sample description
Parcel G 18-PG-C0199-31 392g
5/26/09 11:02

Acquisition information
Start time: 22-Jun-2009 12:48:34
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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	8.9665E-01	2.8862E-01	3.0029E-01	0.146E+00
AM-241	#A	-2.1825E-02	3.8096E-01	3.8096E-01	0.646E-01
Bi-212	F	9.5346E-01	7.6419E-01	7.6915E-01	0.272E+00
BI-214		8.4543E-01	2.1634E-01	2.2930E-01	0.590E-01
CO-60	#F	8.1944E-02	6.7422E-02	6.7838E-02	0.202E-01
CS-137	B	1.9621E-02	5.6136E-02	5.6164E-02	0.285E-01
EU-152	F	9.5177E-02	1.0792E-01	1.0838E-01	0.899E-01
EU-154	#F	6.2337E-02	4.7016E-02	4.7462E-02	0.615E-01
K-40		9.9153E+00	1.9673E+00	2.1723E+00	0.374E+00
Pa-234	#F	2.3997E-01	2.5096E-01	2.5237E-01	0.932E-01
Pb-210	F	6.9191E-01	1.1649E+00	1.1664E+00	0.621E+00
Pb-212	F	9.0123E-01	1.8774E-01	2.0664E-01	0.740E-01
PB-214	F	6.8265E-01	2.2220E-01	2.3101E-01	0.699E-01
RA-226	B	7.3497E-01	1.4523E+00	1.4540E+00	0.786E+00
Th-230	#B	7.8072E-02	1.3611E+01	1.3611E+01	0.686E+01
Th-234	#B	5.2782E-01	1.1601E+00	1.1627E+00	0.705E+00
Tl-208	F	2.0429E-01	1.0197E-01	1.0911E-01	0.729E-01
U-235	F	6.5034E-02	1.0211E-01	1.0230E-01	0.534E-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 (32.9 to 2616.0 keV) 1.448E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 13:42:20
New World Technology Spectrum name: 1N001071.An1

Sample description
Parcel G 18-PG-C0199-32 389g
5/26/09 11:04

Acquisition information
Start time: 22-Jun-2009 12:43:41
Live time: 2700
Real time: 2701

- -

***** 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	F	6.7917E-01	1.9560E-01	2.0004E-01	0.106E+00
AM-241	#A	-7.8439E-03	1.0053E-01	1.0053E-01	0.242E-01
Bi-212	F	5.4638E-01	3.6497E-01	3.6649E-01	0.227E+00
BI-214	F	5.2247E-01	1.1392E-01	1.1814E-01	0.484E-01
CO-60	#B	-2.9712E-03	3.7880E-02	3.7881E-02	0.157E-01
CS-137	B	1.1006E-02	1.9475E-02	1.9486E-02	0.135E-01
EU-152	#A	7.2673E-03	2.1168E-02	2.1174E-02	0.442E-01
EU-154	#A	3.3975E-02	2.2650E-02	2.2772E-02	0.342E-01
K-40		7.8243E+00	1.1653E+00	1.2627E+00	0.202E+00
Pa-234	#F	1.2998E-01	1.1954E-01	1.1993E-01	0.594E-01
Pb-210	#F	1.0377E+00	9.4345E-01	9.4530E-01	0.612E+00
Pb-212	F	5.7206E-01	1.0015E-01	1.0661E-01	0.563E-01
Pb-214		7.0218E-01	1.3705E-01	1.4374E-01	0.468E-01
RA-226		1.0381E+00	7.9315E-01	7.9592E-01	0.615E+00
Th-230	#B	-7.1035E-01	9.7862E+00	9.7866E+00	0.615E+01
Th-234	#B	3.1490E-01	7.3864E-01	7.3929E-01	0.599E+00
Tl-208	F	2.3472E-01	7.0173E-02	7.1560E-02	0.271E-01
U-235	B	3.3999E-02	7.2138E-02	7.2174E-02	0.190E+00

- 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 (39.4 to 2490.5 keV) 1.316E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 15:40:27
New World Technology Spectrum name: 2N000825.An1

Sample description
Parcel G 18-PG-C0199-33 395g
5/26/09 11:06

Acquisition information
Start time: 22-Jun-2009 12:49:43
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 Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
Ac-228	F	8.9074E-01	2.8315E-01	2.8842E-01	0.137E+00
AM-241	B	1.1414E-02	1.0759E-01	1.0759E-01	0.888E-01
Bi-212	F	9.3928E-01	4.2692E-01	4.3074E-01	0.295E+00
BI-214	F	8.9927E-01	1.6410E-01	1.7272E-01	0.588E-01
CO-60	#B	2.9803E-02	1.6244E-02	1.6345E-02	0.422E-01
CS-137		8.7396E-02	4.5106E-02	4.5413E-02	0.269E-01
EU-152	#F	9.8301E-02	9.8885E-02	9.9121E-02	0.800E-01
EU-154	B	2.7735E-02	5.1559E-02	5.1594E-02	0.579E-01
K-40		1.3178E+01	1.5411E+00	1.7439E+00	0.105E+00
Pa-234	#F	2.4491E-01	1.3350E-01	1.3472E-01	0.924E-01
Pb-210	B	2.6221E-01	8.4491E-01	8.4505E-01	0.742E+00
Pb-212	F	9.2635E-01	1.3501E-01	1.4740E-01	0.788E-01
PB-214		7.7907E-01	1.6042E-01	1.6747E-01	0.716E-01
RA-226	B	7.0707E-01	1.1688E+00	1.1697E+00	0.950E+00
Th-230	#B	-1.7128E+00	2.0242E+01	2.0243E+01	0.823E+01
Th-234	F	1.7917E+00	1.0164E+00	1.0314E+00	0.757E+00
Tl-208	F	2.7949E-01	8.8840E-02	9.0394E-02	0.499E-01
U-235	F	9.8494E-02	8.8270E-02	8.8495E-02	0.559E-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 (40.6 to 2591.2 keV) 2.011E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 12:42:07
New World Technology Spectrum name: 1N001070.An1

Sample description
Parcel G 18-PG-C0199-34 393g
5/26/09 11:08

Acquisition information
Start time: 22-Jun-2009 11:41:19
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	F	8.3557E-01	1.8980E-01	1.9669E-01	0.134E+00
AM-241	#A	-5.1911E-03	7.5462E-02	7.5463E-02	0.317E-01
Bi-212	#F	9.1081E-01	3.4760E-01	3.5201E-01	0.197E+00
BI-214	F	8.8085E-01	1.6199E-01	1.7037E-01	0.497E-01
CO-60	#F	1.8449E-02	1.4886E-02	1.4929E-02	0.788E-02
CS-137	#B	1.1331E-02	2.5143E-02	2.5152E-02	0.180E-01
EU-152	C	1.2325E-01	1.0388E-01	1.0423E-01	0.574E-01
EU-154	A	3.0233E-02	5.5830E-02	5.5870E-02	0.506E-01
K-40	#	8.4339E+00	1.2334E+00	1.3401E+00	0.260E+00
Pa-234	#F	1.4732E-01	8.4432E-02	8.5129E-02	0.708E-01
Pb-210	#F	8.9663E-01	8.2877E-01	8.3035E-01	0.606E+00
Pb-212	F	1.0625E+00	1.3135E-01	1.4785E-01	0.738E-01
Pb-214		9.4136E-01	1.6072E-01	1.7090E-01	0.629E-01
RA-226	B	5.0460E-01	9.7423E-01	9.7476E-01	0.796E+00
Th-230	#B	-6.4405E+00	1.1753E+02	1.1754E+02	0.776E+01
Th-234	F	1.0144E+00	6.7238E-01	6.7968E-01	0.668E+00
Tl-208	#F	4.9236E-01	9.2705E-02	9.7258E-02	0.310E-01
U-235	B	1.0506E-01	4.9363E-02	4.9866E-02	0.219E+00

- 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 (39.4 to 2490.5 keV) 1.460E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 13:53:25
New World Technology Spectrum name: 3N001062.An1

Sample description
Parcel G 18-PG-C0199-35 397g
5/26/09 11:10

Acquisition information
Start time: 22-Jun-2009 12:53:23
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		1.4640E+00	3.4028E-01	3.5203E-01	0.111E+00
AM-241	F	9.8620E-02	1.0613E-01	1.0633E-01	0.746E-01
Bi-212	F	5.8932E-01	4.3590E-01	4.3738E-01	0.270E+00
BI-214	F	7.8089E-01	1.4635E-01	1.5365E-01	0.557E-01
CO-60	#F	3.2122E-02	4.3513E-02	4.3557E-02	0.250E-01
CS-137	B	3.0274E-02	4.6539E-02	4.6575E-02	0.360E-01
EU-152	#B	3.3617E-02	5.5016E-02	5.5066E-02	0.932E-01
EU-154	B	1.4059E-02	2.9272E-02	2.9288E-02	0.658E-01
K-40		1.2285E+01	1.4530E+00	1.6401E+00	0.100E+00
Pa-234	F	1.5778E-01	9.6692E-02	9.7391E-02	0.826E-01
Pb-210		1.3153E+00	1.0728E+00	1.0755E+00	0.709E+00
Pb-212		1.0018E+00	1.2762E-01	1.4276E-01	0.705E-01
PB-214	F	8.4081E-01	1.5285E-01	1.6142E-01	0.793E-01
RA-226		1.9730E+00	9.9362E-01	1.0016E+00	0.747E+00
Th-230	B	5.5356E-01	9.5331E+00	9.5334E+00	0.821E+01
Th-234		1.5104E+00	8.9002E-01	9.0222E-01	0.671E+00
Tl-208	F	3.9192E-01	7.7324E-02	8.0788E-02	0.246E-01
U-235	F	9.6775E-02	7.9870E-02	8.0109E-02	0.573E-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 (39.2 to 2494.4 keV) 2.215E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 22-JUN-2009 13:37:51
New World Technology Spectrum name: 6N000862.An1

Sample description
Parcel G 18-PG-C0199-36 373g
5/26/09 11:12

Acquisition information
Start time: 22-Jun-2009 12:52:37
Live time: 2700
Real time: 2706

- -

***** 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 uCi/g	Uncertainty Counting uCi/g	3 Sigma Total uCi/g	MDA uCi/g
Ac-228	F	7.4506E-01	3.3121E-01	3.3830E-01	0.136E+00
AM-241	#A	1.3541E-02	6.7689E-02	6.7703E-02	0.404E-01
Bi-212	F	4.8090E-01	5.4171E-01	5.4349E-01	0.251E+00
BI-214		5.3006E-01	2.4446E-01	2.4906E-01	0.704E-01
CO-60	#B	2.1792E-02	7.8844E-02	7.8869E-02	0.302E-01
CS-137		5.6557E-02	6.0898E-02	6.1113E-02	0.268E-01
EU-152	B	4.0223E-02	1.0333E-01	1.0341E-01	0.689E-01
EU-154	B	2.1116E-02	8.5961E-02	8.5989E-02	0.494E-01
K-40		1.2612E+01	2.1807E+00	2.4756E+00	0.201E+00
Pa-234	F	1.0074E-01	1.9939E-01	1.9970E-01	0.825E-01
Pb-210	B	1.0046E-01	1.2584E+00	1.2585E+00	0.732E+00
Pb-212	F	5.2606E-01	1.4901E-01	1.5730E-01	0.640E-01
PB-214	F	6.1222E-01	2.6987E-01	2.7576E-01	0.727E-01
RA-226	B	5.1587E-01	1.4126E+00	1.4134E+00	0.767E+00
Th-230	B	3.5277E+00	1.1662E+01	1.1681E+01	0.633E+01
Th-234	B	-1.8413E-01	2.2689E-01	2.2850E-01	0.741E+00
Tl-208	F	2.3179E-01	9.7583E-02	1.0706E-01	0.157E-01
U-235	F	6.9048E-02	9.3178E-02	9.3412E-02	0.483E-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 2659.0 keV) 1.586E+01 uCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 29-JUN-2009 10:49:33
New World Technology Spectrum name: 1N001132.An1

Sample description
Parcel G 18-PG-C0199-37 381g
6/26/09 07:51

Acquisition information
Start time: 26-Jun-2009 20:30:22
Live time: 2700
Real time: 2701

- -

***** 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	F	4.7003E-01	1.7295E-01	1.7536E-01	0.164E+00
AM-241		7.5327E-02	7.8766E-02	7.8922E-02	0.541E-01
Bi-212	F	2.1900E-01	2.4865E-01	2.4901E-01	0.213E+00
BI-214	F	6.2996E-01	1.3968E-01	1.4469E-01	0.408E-01
CO-60	B	3.7202E-03	2.6797E-02	2.6798E-02	0.215E-01
CS-137	F	2.7195E-02	3.3126E-02	3.3167E-02	0.235E-01
EU-152	C	1.5719E-01	8.8869E-02	8.9538E-02	0.515E-01
EU-154	#A	-5.3710E-03	5.3792E-02	5.3794E-02	0.431E-01
K-40		8.7833E+00	1.2727E+00	1.3849E+00	0.265E+00
Pa-234	#F	1.2903E-01	7.8983E-02	7.9555E-02	0.615E-01
Pb-210	#F	5.8440E-01	7.8087E-01	7.8158E-01	0.562E+00
Pb-212	F	4.7977E-01	9.5138E-02	9.9952E-02	0.598E-01
Pb-214		4.8758E-01	1.0667E-01	1.1083E-01	0.612E-01
RA-226	B	4.5853E-01	8.8289E-01	8.8338E-01	0.722E+00
Th-230	#B	3.6703E+00	9.9395E+00	9.9501E+00	0.646E+01
Th-234	F	1.3051E+00	9.1653E-01	9.2539E-01	0.624E+00
Tl-208	F	2.1193E-01	6.9019E-02	7.0170E-02	0.271E-01
U-235	B	1.1029E-01	3.9941E-02	4.0623E-02	0.190E+00

- 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 (39.4 to 2490.5 keV) 1.250E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 29-JUN-2009 10:50:36
New World Technology Spectrum name: 1N001133.An1

Sample description
Parcel G 18-PG-C0199-38 375g
6/26/09 07:53

Acquisition information
Start time: 26-Jun-2009 21:21:24
Live time: 2700
Real time: 2701

- -

***** 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	F	4.0105E-01	1.4839E-01	1.5044E-01	0.219E+00
AM-241		8.2123E-02	7.3425E-02	7.3624E-02	0.561E-01
Bi-212	F	9.2597E-01	3.8377E-01	3.8790E-01	0.275E+00
BI-214	F	7.0094E-01	1.4655E-01	1.5246E-01	0.434E-01
CO-60	#F	1.0380E-02	1.5262E-02	1.5275E-02	0.854E-02
CS-137	F	3.0352E-02	3.7466E-02	3.7511E-02	0.271E-01
EU-152	A	6.2199E-02	7.1765E-02	7.1895E-02	0.631E-01
EU-154	A	2.3605E-02	3.7005E-02	3.7041E-02	0.414E-01
K-40		8.4371E+00	1.3522E+00	1.4503E+00	0.318E+00
Pa-234	#F	9.0935E-02	8.4335E-02	8.4602E-02	0.666E-01
Pb-210	B	5.4477E-01	8.0201E-01	8.0261E-01	0.661E+00
Pb-212	F	8.2246E-01	1.1332E-01	1.2491E-01	0.603E-01
Pb-214		6.8197E-01	1.4953E-01	1.5535E-01	0.627E-01
RA-226		1.1777E+00	9.2710E-01	9.3015E-01	0.724E+00
Th-230	#B	-3.8772E+00	2.1555E+01	2.1561E+01	0.657E+01
Th-234	F	8.6524E-01	7.2000E-01	7.2496E-01	0.614E+00
Tl-208	F	2.9390E-01	7.0676E-02	7.2824E-02	0.246E-01
U-235	B	7.8491E-02	4.7608E-02	4.7900E-02	0.207E+00

- 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 (39.4 to 2490.5 keV) 1.312E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 09:01:46
New World Technology Spectrum name: 7N000630.An1

Sample description
Parcel G 18-PG-C0199-39 393g
7/07/09 13:00

Acquisition information
Start time: 08-Jul-2009 08:15:14
Live time: 2700
Real time: 2706

- -

***** 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	F	5.1261E-01	1.9494E-01	1.9748E-01	0.150E+00
AM-241	#A	-2.6381E-02	2.5950E-01	2.5951E-01	0.518E-01
Bi-212	F	4.4321E-01	2.9311E-01	2.9435E-01	0.250E+00
BI-214		5.9766E-01	1.6638E-01	1.7019E-01	0.613E-01
CO-60	#B	7.3024E-03	1.4455E-02	1.4462E-02	0.152E-01
CS-137		6.1944E-02	3.8917E-02	3.9097E-02	0.241E-01
EU-152	F	1.1237E-01	9.0483E-02	9.0820E-02	0.707E-01
EU-154	F	7.0318E-02	5.1493E-02	5.1724E-02	0.542E-01
K-40		1.1430E+01	1.3984E+00	1.5674E+00	0.375E+00
Pa-234	B	1.6901E-02	2.3114E-02	2.3148E-02	0.499E-01
Pb-210	B	4.8237E-01	8.0900E-01	8.0946E-01	0.584E+00
Pb-212	F	3.6412E-01	1.0449E-01	1.0705E-01	0.765E-01
PB-214	F	4.0049E-01	1.4132E-01	1.4346E-01	0.831E-01
RA-226	B	3.7636E-01	8.9222E-01	8.9255E-01	0.733E+00
Th-230	#B	-6.0007E+00	2.6857E+02	2.6857E+02	0.608E+01
Th-234	B	5.2610E-01	5.0655E-01	5.0916E-01	0.629E+00
Tl-208	F	1.0610E-01	5.3024E-02	5.4700E-02	0.791E-01
U-235	F	6.5966E-02	5.3094E-02	5.3261E-02	0.402E-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 (32.9 to 2616.0 keV) 1.388E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 11:02:30
New World Technology Spectrum name: 7N000632.An1

Sample description
Parcel G 18-PG-C0199-39DUP 393g
7/07/09 13:00

Acquisition information
Start time: 08-Jul-2009 10:13:43
Live time: 2700
Real time: 2706

- -

***** 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	F	4.2463E-01	1.4225E-01	1.4464E-01	0.187E+00
AM-241	#A	-1.2545E-02	1.3290E-01	1.3290E-01	0.594E-01
Bi-212	F	2.7329E-01	3.1935E-01	3.1978E-01	0.258E+00
BI-214		4.1233E-01	1.1874E-01	1.2128E-01	0.684E-01
CO-60	#F	2.2762E-02	3.0443E-02	3.0475E-02	0.203E-01
CS-137	B	8.4078E-03	2.7651E-02	2.7656E-02	0.215E-01
EU-152	F	1.3481E-01	1.0947E-01	1.0987E-01	0.779E-01
EU-154	B	2.1881E-02	4.3306E-02	4.3332E-02	0.585E-01
K-40		1.3118E+01	1.4344E+00	1.6485E+00	0.323E+00
Pa-234	F	1.2792E-01	1.0008E-01	1.0052E-01	0.853E-01
Pb-210	B	3.0089E-01	7.7933E-01	7.7952E-01	0.642E+00
Pb-212	F	3.2249E-01	1.0594E-01	1.0792E-01	0.754E-01
PB-214	F	2.6244E-01	1.6425E-01	1.6504E-01	0.938E-01
RA-226	F	7.6445E-01	8.8437E-01	8.8572E-01	0.708E+00
Th-230	#B	-2.7257E+00	1.6731E+01	1.6734E+01	0.567E+01
Th-234	F	9.0354E-01	6.2584E-01	6.3206E-01	0.579E+00
Tl-208	#F	1.5373E-01	6.3490E-02	6.6408E-02	0.851E-01
U-235	B	3.6300E-02	6.3619E-02	6.3661E-02	0.508E-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 (32.9 to 2616.0 keV) 1.411E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 09:16:26
New World Technology Spectrum name: 6N000973.An1

Sample description
Parcel G 18-PG-C0199-40 390g
7/07/09 13:03

Acquisition information
Start time: 08-Jul-2009 08:25:21
Live time: 2700
Real time: 2707

- -

***** 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	F	5.9095E-01	1.6174E-01	1.6579E-01	0.148E+00
AM-241	#A	5.0017E-02	6.9291E-02	6.9369E-02	0.532E-01
Bi-212	F	3.2627E-01	3.3859E-01	3.3917E-01	0.248E+00
BI-214		5.6732E-01	1.3264E-01	1.3693E-01	0.514E-01
CO-60	#B	4.3491E-04	7.2683E-03	7.2683E-03	0.779E-02
CS-137	F	3.5636E-02	4.4631E-02	4.4683E-02	0.333E-01
EU-152	F	1.5592E-01	1.1214E-01	1.1267E-01	0.806E-01
EU-154	F	8.0120E-02	6.9801E-02	7.0023E-02	0.463E-01
K-40		1.1626E+01	1.4590E+00	1.6270E+00	0.320E+00
Pa-234	F	1.3272E-01	1.0875E-01	1.0919E-01	0.725E-01
Pb-210	B	2.0632E-01	8.5731E-01	8.5739E-01	0.739E+00
Pb-212	F	5.0220E-01	9.5887E-02	1.0111E-01	0.605E-01
PB-214	F	4.6675E-01	1.2058E-01	1.2398E-01	0.694E-01
RA-226	F	7.6867E-01	9.4246E-01	9.4374E-01	0.758E+00
Th-230		1.0831E+01	9.4428E+00	9.5395E+00	0.606E+01
Th-234	#B	-6.6818E-01	1.6244E+00	1.6257E+00	0.703E+00
Tl-208	#F	7.5145E-02	5.7540E-02	5.8322E-02	0.603E-01
U-235	F	8.9671E-02	5.9641E-02	5.9915E-02	0.447E-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 2659.0 keV) 2.467E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 10:12:25
New World Technology Spectrum name: 7N000631.An1

Sample description
Parcel G 18-PG-C0199-41 386g
7/07/09 13:06

Acquisition information
Start time: 08-Jul-2009 09:03:18
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	F	6.1175E-01	1.9922E-01	2.0276E-01	0.130E+00
AM-241	A	3.1738E-02	9.4887E-02	9.4910E-02	0.786E-01
Bi-212	B	1.0139E-01	2.6540E-01	2.6547E-01	0.333E+00
BI-214		6.4753E-01	1.3250E-01	1.3806E-01	0.415E-01
CO-60	#F	1.5195E-02	1.4942E-02	1.4970E-02	0.151E-01
CS-137		4.1519E-02	3.4763E-02	3.4854E-02	0.228E-01
EU-152	F	1.5078E-01	7.7864E-02	7.8566E-02	0.602E-01
EU-154	F	1.2069E-01	7.9073E-02	7.9516E-02	0.604E-01
K-40		1.1972E+01	1.3857E+00	1.5716E+00	0.329E+00
Pa-234	F	1.9149E-01	1.3358E-01	1.3433E-01	0.891E-01
Pb-210	#	1.2556E+00	1.0899E+00	1.0922E+00	0.684E+00
Pb-212	F	3.3426E-01	1.1880E-01	1.2070E-01	0.797E-01
PB-214	F	6.2137E-01	1.3579E-01	1.4110E-01	0.609E-01
RA-226	B	7.4358E-02	8.1211E-01	8.1212E-01	0.682E+00
Th-230	#B	-2.8237E+00	2.1795E+01	2.1798E+01	0.734E+01
Th-234	B	4.2276E-01	3.7542E-01	3.7770E-01	0.631E+00
Tl-208	F	1.2151E-01	6.8494E-02	7.0201E-02	0.734E-01
U-235	B	2.6711E-02	4.6287E-02	4.6319E-02	0.365E-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 (32.9 to 2616.0 keV) 1.548E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 10:07:35
New World Technology Spectrum name: 6N000974.An1

Sample description
Parcel G 18-PG-C0199-42 387g
7/07/09 13:08

Acquisition information
Start time: 08-Jul-2009 09:18:38
Live time: 2700
Real time: 2707

- -

***** 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	F	7.6235E-01	2.3966E-01	2.4422E-01	0.138E+00
AM-241	#A	3.7354E-02	1.1184E-01	1.1187E-01	0.769E-01
Bi-212	F	3.1858E-01	3.4681E-01	3.4735E-01	0.256E+00
BI-214		7.0690E-01	1.5564E-01	1.6130E-01	0.510E-01
CO-60	#B	4.3828E-04	7.8634E-03	7.8635E-03	0.786E-02
CS-137	B	3.5861E-03	3.1283E-02	3.1284E-02	0.253E-01
EU-152	#F	1.2116E-01	9.1487E-02	9.1873E-02	0.809E-01
EU-154	F	1.0484E-01	8.4064E-02	8.4378E-02	0.531E-01
K-40		1.2532E+01	1.4973E+00	1.6865E+00	0.286E+00
Pa-234	#F	1.0085E-01	7.0920E-02	7.1310E-02	0.869E-01
Pb-210	#B	-1.8819E-01	1.4613E+00	1.4613E+00	0.744E+00
Pb-212	F	4.6815E-01	9.3141E-02	9.7822E-02	0.602E-01
PB-214	F	5.9674E-01	1.6270E-01	1.6682E-01	0.726E-01
RA-226	F	8.5875E-01	9.3105E-01	9.3267E-01	0.745E+00
Th-230	B	3.4936E+00	7.7698E+00	7.7821E+00	0.632E+01
Th-234	B	2.9242E-01	1.0847E+00	1.0851E+00	0.761E+00
Tl-208	F	3.2684E-01	9.2624E-02	1.0145E-01	0.151E-01
U-235	F	1.0930E-01	5.8489E-02	5.8905E-02	0.434E-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 2659.0 keV) 1.550E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 10:20:56
New World Technology Spectrum name: 5N000825.An1

Sample description
Parcel G 18-PG-C0199-43 377g
7/07/09 13:10

Acquisition information
Start time: 08-Jul-2009 09:29:40
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	5.8078E-01	2.1557E-01	2.1852E-01	0.142E+00
AM-241	#B	-4.8642E-03	9.0580E-02	9.0581E-02	0.560E-01
Bi-212	F	2.6725E-01	3.0256E-01	3.0300E-01	0.246E+00
BI-214	F	7.1797E-01	1.6140E-01	1.6703E-01	0.548E-01
CO-60	#B	-2.5786E-02	2.8846E-01	2.8847E-01	0.249E-01
CS-137		8.4991E-02	3.6987E-02	3.7342E-02	0.158E-01
EU-152	#B	5.9259E-02	5.9259E-02	5.9402E-02	0.863E-01
EU-154	F	9.6939E-02	7.3837E-02	7.4143E-02	0.610E-01
K-40		1.2698E+01	1.4929E+00	1.6873E+00	0.341E+00
Pa-234	#F	1.0445E-01	8.2008E-02	8.2370E-02	0.771E-01
Pb-210	#B	3.9731E-02	8.5688E-01	8.5688E-01	0.733E+00
Pb-212		5.6082E-01	1.0679E-01	1.1264E-01	0.671E-01
Pb-214	F	6.6942E-01	1.6240E-01	1.6757E-01	0.677E-01
RA-226	B	1.3776E-02	9.2231E-01	9.2231E-01	0.776E+00
Th-230	#F	9.8302E+00	9.0426E+00	9.1259E+00	0.585E+01
Th-234	B	6.7631E-01	8.8909E-01	8.9155E-01	0.716E+00
Tl-208	F	2.2210E-01	7.9911E-02	8.1004E-02	0.384E-01
U-235	F	1.5796E-01	5.7170E-02	5.8055E-02	0.354E-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 2445.3 keV) 2.552E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 10:58:40
New World Technology Spectrum name: 6N000975.An1

Sample description
Parcel G 18-PG-C0199-44 397g
7/07/09 13:12

Acquisition information
Start time: 08-Jul-2009 10:10:02
Live time: 2700
Real time: 2707

- -

***** 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	F	3.7024E-01	1.9663E-01	1.9795E-01	0.148E+00
AM-241	#A	3.9703E-02	6.1330E-02	6.1385E-02	0.495E-01
Bi-212	F	4.5691E-01	2.4423E-01	2.4581E-01	0.343E+00
BI-214		5.2535E-01	1.2402E-01	1.2796E-01	0.471E-01
CO-60	#B	6.5219E-03	1.4523E-02	1.4528E-02	0.125E-01
CS-137	F	4.5351E-02	4.8489E-02	4.8566E-02	0.360E-01
EU-152	F	1.5360E-01	8.1827E-02	8.2521E-02	0.605E-01
EU-154	F	7.3302E-02	5.9523E-02	5.9740E-02	0.474E-01
K-40		1.1672E+01	1.3544E+00	1.5352E+00	0.187E+00
Pa-234	#F	7.1548E-02	9.0871E-02	9.1024E-02	0.610E-01
Pb-210	#B	-3.5506E-01	1.4871E+00	1.4872E+00	0.629E+00
Pb-212	F	3.8875E-01	8.9817E-02	9.3185E-02	0.605E-01
PB-214	F	4.8115E-01	1.1660E-01	1.2032E-01	0.621E-01
RA-226		8.4872E-01	8.1299E-01	8.1480E-01	0.645E+00
Th-230	#B	5.5299E+00	7.8132E+00	7.8438E+00	0.554E+01
Th-234	B	-5.3814E-02	7.2507E-02	7.2698E-02	0.651E+00
Tl-208	F	3.0597E-01	8.8503E-02	9.6613E-02	0.147E-01
U-235	F	5.4243E-02	6.6432E-02	6.6522E-02	0.416E-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 2659.0 keV) 1.459E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 11:06:48
New World Technology Spectrum name: 4N000774.An1

Sample description
Parcel G 18-PG-C0199-45 396g
7/07/09 13:14

Acquisition information
Start time: 08-Jul-2009 10:19:42
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	F	9.7303E-01	2.3447E-01	2.4201E-01	0.155E+00
AM-241	F	4.6101E-01	5.0483E-01	5.0575E-01	0.341E+00
Bi-212	#B	2.4199E-01	3.4142E-01	3.4174E-01	0.305E+00
BI-214	F	8.9813E-01	1.6822E-01	1.7662E-01	0.594E-01
CO-60	#B	3.2738E-03	1.7188E-02	1.7189E-02	0.144E-01
CS-137	B	1.2691E-03	3.3846E-02	3.3846E-02	0.278E-01
EU-152	F	1.4632E-01	1.2324E-01	1.2366E-01	0.127E+00
EU-154	F	1.3893E-01	1.4171E-01	1.4203E-01	0.943E-01
K-40		1.7271E+01	1.6881E+00	1.9985E+00	0.215E+00
Pa-234	#B	5.5337E-02	5.6639E-02	5.6786E-02	0.147E+00
Pb-210	#F	0.0000E+00	5.3188E+00	5.3188E+00	0.000E+00
Pb-212	F	4.8458E-01	1.3135E-01	1.3495E-01	0.940E-01
Pb-214	F	8.0817E-01	1.9787E-01	2.0406E-01	0.881E-01
RA-226	B	1.1001E-01	1.2538E+00	1.2538E+00	0.104E+01
Th-230	#B	-1.9043E+01	1.3344E+02	1.3346E+02	0.242E+02
Th-234	#B	1.2149E+00	3.3673E+00	3.3694E+00	0.253E+01
Tl-208	F	2.3508E-01	7.3964E-02	7.5284E-02	0.407E-01
U-235	F	8.5780E-02	1.2138E-01	1.2150E-01	0.642E-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 (40.4 to 2575.8 keV) 2.067E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 11:09:16
New World Technology Spectrum name: 5N000826.An1

Sample description
Parcel G 18-PG-C0199-46 393g
7/07/09 13:18

Acquisition information
Start time: 08-Jul-2009 10:23:08
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	F	6.7980E-01	1.8995E-01	1.9452E-01	0.787E-01
AM-241		2.8822E-01	1.6100E-01	1.6211E-01	0.105E+00
Bi-212	#F	5.4230E-01	3.8001E-01	3.8144E-01	0.235E+00
BI-214	F	4.7655E-01	1.3708E-01	1.4003E-01	0.798E-01
CO-60	#B	-2.2521E-02	1.5411E-01	1.5411E-01	0.245E-01
CS-137		6.0480E-02	3.3495E-02	3.3693E-02	0.173E-01
EU-152	B	4.9848E-02	6.2868E-02	6.2964E-02	0.631E-01
EU-154	#B	-5.0847E-02	5.0642E-02	5.0642E-02	0.235E-01
K-40		1.1574E+01	1.3973E+00	1.5705E+00	0.327E+00
Pa-234	#B	4.1593E-02	5.7109E-02	5.7191E-02	0.776E-01
Pb-210	#B	7.7657E-01	1.2154E+00	1.2162E+00	0.820E+00
Pb-212		3.7810E-01	9.9476E-02	1.0236E-01	0.707E-01
Pb-214	F	4.3036E-01	1.5911E-01	1.6131E-01	0.902E-01
RA-226	F	8.4650E-01	1.0327E+00	1.0341E+00	0.830E+00
Th-230	#B	-5.7177E-02	7.9687E+00	7.9687E+00	0.493E+00
Th-234	B	5.2587E-01	6.7436E-01	6.7632E-01	0.786E+00
Tl-208	F	1.9735E-01	7.2777E-02	7.3725E-02	0.360E-01
U-235	F	1.6369E-01	6.3593E-02	6.4447E-02	0.420E-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 2445.3 keV) 1.479E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 11:56:21
New World Technology Spectrum name: 4N000775.An1

Sample description
Parcel G 18-PG-C0199-47 361g
7/07/09 13:20

Acquisition information
Start time: 08-Jul-2009 11:08:03
Live time: 2700
Real time: 2706

- -

***** 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	F	8.7701E-01	2.0360E-01	2.1065E-01	0.842E-01
AM-241	#B	-9.9542E-02	5.1794E+00	5.1794E+00	0.336E+00
Bi-212	F	4.5629E-01	3.4114E-01	3.4227E-01	0.407E+00
BI-214	F	7.3779E-01	1.7329E-01	1.7884E-01	0.723E-01
CO-60	#B	4.7497E-03	1.7696E-02	1.7698E-02	0.150E-01
CS-137	B	3.3775E-02	5.1891E-02	5.1931E-02	0.393E-01
EU-152	B	6.2114E-02	9.6551E-02	9.6648E-02	0.140E+00
EU-154	F	1.1892E-01	8.4092E-02	8.4496E-02	0.994E-01
K-40		2.0058E+01	1.8321E+00	2.2135E+00	0.974E-01
Pa-234	B	9.2783E-02	7.4975E-02	7.5288E-02	0.121E+00
Pb-210	#F	0.0000E+00	2.3159E+00	2.3159E+00	0.000E+00
Pb-212	F	6.0754E-01	1.4096E-01	1.4620E-01	0.982E-01
Pb-214	F	7.2642E-01	2.0618E-01	2.1100E-01	0.103E+00
RA-226	B	9.1567E-01	1.3272E+00	1.3285E+00	0.107E+01
Th-230	#B	-2.8752E+01	3.5205E+02	3.5206E+02	0.181E+02
Th-234	#B	-4.0009E+00	2.8269E+01	2.8272E+01	0.295E+01
Tl-208	F	1.5998E-01	7.7832E-02	7.8416E-02	0.590E-01
U-235	B	6.5079E-02	1.0593E-01	1.0601E-01	0.761E-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 (40.4 to 2575.8 keV) 2.317E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 11:48:18
New World Technology Spectrum name: 6N000976.An1

Sample description
Parcel G 18-PG-C0199-48 398g
7/07/09 13:24

Acquisition information
Start time: 08-Jul-2009 11:00:45
Live time: 2700
Real time: 2707

- -

***** 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	F	1.0924E+00	2.2017E-01	2.3023E-01	0.171E+00
AM-241	#A	-2.6256E-03	9.0321E-02	9.0321E-02	0.558E-02
Bi-212	F	5.1382E-01	3.8493E-01	3.8620E-01	0.299E+00
BI-214		1.0148E+00	1.9116E-01	2.0059E-01	0.748E-01
CO-60	#F	7.1892E-02	5.7143E-02	5.7311E-02	0.276E-01
CS-137	F	2.6616E-02	3.5699E-02	3.5735E-02	0.262E-01
EU-152	F	1.7822E-01	1.3164E-01	1.3223E-01	0.837E-01
EU-154	B	4.0264E-02	6.8489E-02	6.8546E-02	0.580E-01
K-40		1.5210E+01	1.7057E+00	1.9485E+00	0.391E+00
Pa-234	#F	1.6674E-01	1.2492E-01	1.2553E-01	0.867E-01
Pb-210	#B	-1.0625E+00	9.3290E-01	9.3290E-01	0.337E+00
Pb-212		1.0735E+00	1.1922E-01	1.3752E-01	0.656E-01
PB-214	F	8.5146E-01	1.3943E-01	1.4900E-01	0.653E-01
RA-226	B	7.3155E-01	9.6611E-01	9.6724E-01	0.779E+00
Th-230	B	1.2695E+00	8.8230E+00	8.8244E+00	0.727E+01
Th-234	B	8.8058E-02	7.9224E-01	7.9228E-01	0.713E+00
Tl-208	F	5.1135E-01	7.1052E-02	9.6136E-02	0.147E-01
U-235	F	7.7459E-02	7.9220E-02	7.9375E-02	0.480E-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 2659.0 keV) 2.034E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 11:51:16
New World Technology Spectrum name: 7N000633.An1

Sample description
Parcel G 18-PG-C0199-49 379g
7/07/09 13:25

Acquisition information
Start time: 08-Jul-2009 11:04:18
Live time: 2700
Real time: 2707

- -

***** 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	F	7.4598E-01	2.4206E-01	2.4638E-01	0.164E+00
AM-241	A	4.4250E-02	9.3611E-02	9.3656E-02	0.770E-01
Bi-212	F	4.0937E-01	4.1051E-01	4.1126E-01	0.323E+00
BI-214		5.7942E-01	1.6598E-01	1.6957E-01	0.101E+00
CO-60	#B	7.1527E-03	1.9509E-02	1.9514E-02	0.167E-01
CS-137	B	2.6021E-02	4.6665E-02	4.6691E-02	0.359E-01
EU-152	B	4.1406E-02	4.5258E-02	4.5349E-02	0.687E-01
EU-154	F	6.8540E-02	7.8348E-02	7.8492E-02	0.462E-01
K-40		1.3015E+01	1.4562E+00	1.6644E+00	0.335E+00
Pa-234	F	1.0929E-01	1.1256E-01	1.1285E-01	0.956E-01
Pb-210	#	9.7096E-01	9.2689E-01	9.2853E-01	0.631E+00
Pb-212	F	6.0405E-01	1.2969E-01	1.3531E-01	0.899E-01
PB-214	F	7.1378E-01	1.5101E-01	1.5730E-01	0.715E-01
RA-226	B	5.1029E-01	1.0513E+00	1.0518E+00	0.859E+00
Th-230	#B	-3.7390E+00	3.1007E+01	3.1010E+01	0.736E+01
Th-234	B	6.5327E-01	6.9437E-01	6.9730E-01	0.669E+00
Tl-208	F	1.4104E-01	8.7629E-02	8.9431E-02	0.780E-01
U-235	F	6.4190E-02	6.9910E-02	7.0030E-02	0.551E-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 (32.9 to 2616.0 keV) 1.677E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 13:41:54
New World Technology Spectrum name: 6N000978.An1

Sample description
Parcel G 18-PG-C0199-50 378g
7/07/09 13:27

Acquisition information
Start time: 08-Jul-2009 12:55:07
Live time: 2700
Real time: 2707

- -

***** 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	F	8.4457E-01	1.8587E-01	1.9302E-01	0.153E+00
AM-241	A	4.5747E-02	1.1010E-01	1.1014E-01	0.892E-01
Bi-212	F	1.0752E+00	3.9051E-01	3.9597E-01	0.215E+00
BI-214		8.3111E-01	2.1313E-01	2.1887E-01	0.853E-01
CO-60	#B	-1.9675E-03	1.9329E-02	1.9330E-02	0.804E-02
CS-137		4.7683E-02	4.5981E-02	4.6071E-02	0.332E-01
EU-152	B	2.4604E-02	1.0140E-01	1.0141E-01	0.828E-01
EU-154	B	6.7219E-02	4.4750E-02	4.4993E-02	0.697E-01
K-40		1.2831E+01	1.4921E+00	1.6905E+00	0.265E+00
Pa-234	#F	2.9243E-01	1.4162E-01	1.4326E-01	0.106E+00
Pb-210	#B	2.0096E-01	9.4312E-01	9.4319E-01	0.720E+00
Pb-212		8.6716E-01	1.1276E-01	1.2562E-01	0.629E-01
PB-214	F	6.9756E-01	1.2997E-01	1.3692E-01	0.675E-01
RA-226	F	8.3327E-01	1.0082E+00	1.0096E+00	0.811E+00
Th-230	B	6.2262E+00	8.9780E+00	9.0117E+00	0.724E+01
Th-234	#B	-1.1614E-01	9.2358E-01	9.2365E-01	0.754E+00
Tl-208	F	1.9990E-01	5.2447E-02	5.8237E-02	0.547E-01
U-235	F	9.2929E-02	6.7153E-02	6.7415E-02	0.517E-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 2659.0 keV) 1.758E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 11:57:38
New World Technology Spectrum name: 5N000827.An1

Sample description
Parcel G 18-PG-C0199-51 370g
7/07/09 13:30

Acquisition information
Start time: 08-Jul-2009 11:11:21
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 2 Sigma Counting pCi/g	Total pCi/g	MDA pCi/g
Ac-228	F	5.7222E-01	1.7025E-01	1.7386E-01	0.930E-01
AM-241	#B	-3.0271E-02	1.0219E-01	1.0219E-01	0.215E-01
Bi-212	F	3.9581E-01	3.2643E-01	3.2732E-01	0.264E+00
BI-214	F	5.8167E-01	1.3045E-01	1.3503E-01	0.441E-01
CO-60	#F	3.4891E-02	3.1366E-02	3.1439E-02	0.243E-01
CS-137	B	6.9805E-03	3.5937E-02	3.5939E-02	0.287E-01
EU-152	#B	-1.4629E-02	5.4073E-02	5.4082E-02	0.703E-01
EU-154	F	8.5376E-02	8.6003E-02	8.6207E-02	0.635E-01
K-40		1.2495E+01	1.5762E+00	1.7560E+00	0.417E+00
Pa-234	B	9.6935E-02	6.3722E-02	6.4123E-02	0.112E+00
Pb-210	#B	6.2243E-01	1.0650E+00	1.0656E+00	0.783E+00
Pb-212		4.8140E-01	1.0962E-01	1.1385E-01	0.807E-01
Pb-214	F	5.9981E-01	1.4419E-01	1.4886E-01	0.639E-01
RA-226		1.1434E+00	1.0620E+00	1.0645E+00	0.841E+00
Th-230	#F	7.7219E+00	9.1199E+00	9.1709E+00	0.619E+01
Th-234	#B	7.0327E-01	9.2289E-01	9.2545E-01	0.761E+00
Tl-208	F	2.2202E-01	6.1507E-02	6.2919E-02	0.344E-01
U-235	F	1.0502E-01	7.2799E-02	7.3108E-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 (38.2 to 2445.3 keV) 1.663E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 13:01:21
New World Technology Spectrum name: 7N000634.An1

Sample description
Parcel G 18-PG-C0199-52 388g
7/07/09 13:34

Acquisition information
Start time: 08-Jul-2009 11:53:43
Live time: 2700
Real time: 2706

- -

***** 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	F	5.9988E-01	2.3370E-01	2.3661E-01	0.164E+00
AM-241	#A	4.2592E-03	8.1862E-02	8.1863E-02	0.664E-01
Bi-212	F	3.8613E-01	2.6461E-01	2.6566E-01	0.241E+00
BI-214		4.9231E-01	1.6612E-01	1.6872E-01	0.739E-01
CO-60	#F	1.2191E-01	5.4337E-02	5.4843E-02	0.217E-01
CS-137	#B	-8.5115E-04	2.5493E-02	2.5493E-02	0.633E-02
EU-152	B	6.1742E-02	3.5646E-02	3.5904E-02	0.654E-01
EU-154	F	8.5943E-02	1.1189E-01	1.1205E-01	0.653E-01
K-40		9.0114E+00	1.5079E+00	1.6078E+00	0.813E+00
Pa-234	F	1.1318E-01	5.6052E-02	5.6671E-02	0.632E-01
Pb-210		1.2801E+00	1.0697E+00	1.0722E+00	0.680E+00
Pb-212	F	4.6840E-01	1.1317E-01	1.1705E-01	0.824E-01
PB-214	F	6.1908E-01	1.6828E-01	1.7256E-01	0.750E-01
RA-226		9.7838E-01	9.1210E-01	9.1424E-01	0.722E+00
Th-230	#B	-1.1832E+00	9.6867E+00	9.6879E+00	0.563E+01
Th-234	B	1.8539E-02	4.5392E-02	4.5429E-02	0.573E+00
Tl-208	F	2.6888E-01	1.4722E-01	1.5111E-01	0.786E-01
U-235	B	1.5676E-02	6.0247E-02	6.0255E-02	0.489E-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 (32.9 to 2616.0 keV) 1.423E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 12:53:38
New World Technology Spectrum name: 6N000977.An1

Sample description
Parcel G 18-PG-C0199-53 388g
7/07/09 13:40

Acquisition information
Start time: 08-Jul-2009 11:49:32
Live time: 2700
Real time: 2706

- -

***** 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	F	4.8411E-01	2.4419E-01	2.4600E-01	0.155E+00
AM-241	#A	5.4988E-02	1.0295E-01	1.0301E-01	0.714E-01
Bi-212	F	7.6612E-01	3.1607E-01	3.1950E-01	0.168E+00
BI-214		6.1003E-01	1.4652E-01	1.5101E-01	0.556E-01
CO-60	#F	1.5580E-01	6.0589E-02	6.1329E-02	0.187E-01
CS-137	B	1.5374E-02	3.8220E-02	3.8232E-02	0.298E-01
EU-152	B	1.1517E-02	5.6885E-02	5.6891E-02	0.687E-01
EU-154	F	1.1437E-01	7.9522E-02	7.9917E-02	0.606E-01
K-40		9.4180E+00	1.2978E+00	1.4229E+00	0.440E+00
Pa-234	F	1.1692E-01	1.4165E-01	1.4191E-01	0.873E-01
Pb-210	B	4.5210E-01	1.1235E+00	1.1238E+00	0.766E+00
Pb-212		4.8589E-01	9.3546E-02	9.8558E-02	0.598E-01
PB-214	F	5.5566E-01	1.4538E-01	1.4937E-01	0.694E-01
RA-226		1.0914E+00	9.5316E-01	9.5570E-01	0.754E+00
Th-230	#B	-1.2039E-01	7.0665E+00	7.0665E+00	0.485E+01
Th-234	B	2.2081E-01	3.4132E-01	3.4200E-01	0.768E+00
Tl-208	F	1.2631E-01	3.3409E-02	3.7041E-02	0.286E-01
U-235	F	8.0293E-02	6.4410E-02	6.4614E-02	0.499E-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 2659.0 keV) 1.365E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 13:54:05
New World Technology Spectrum name: 1N001211.An1

Sample description
Parcel G 18-PG-C0199-54 381g
7/07/09 13:42

Acquisition information
Start time: 08-Jul-2009 12:23:55
Live time: 5400
Real time: 5403

- -

***** 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	F	3.8453E-01	1.5003E-01	1.5190E-01	0.114E+00
AM-241	A	2.4988E-02	6.0400E-02	6.0423E-02	0.493E-01
Bi-212		4.4184E-01	2.4746E-01	2.4892E-01	0.192E+00
BI-214	F	7.8821E-01	1.2591E-01	1.3448E-01	0.438E-01
CO-60	#B	8.4731E-03	1.5303E-02	1.5311E-02	0.109E-01
CS-137	B	7.0111E-03	1.9514E-02	1.9518E-02	0.153E-01
EU-152	C	9.5494E-02	7.9143E-02	7.9421E-02	0.453E-01
EU-154	A	-4.7515E-03	1.1849E-02	1.1854E-02	0.288E-01
K-40		9.2566E+00	9.2489E-01	1.0892E+00	0.179E+00
Pa-234	B	2.3156E-02	5.0311E-02	5.0340E-02	0.403E-01
Pb-210	#B	-5.4883E-01	5.7042E-01	5.7042E-01	0.195E+00
Pb-212	F	7.8703E-01	7.9057E-02	9.3690E-02	0.430E-01
Pb-214		6.5573E-01	8.5693E-02	9.4770E-02	0.429E-01
RA-226		1.1797E+00	6.5078E-01	6.5513E-01	0.508E+00
Th-230	#F	6.9449E+00	7.1533E+00	7.2059E+00	0.480E+01
Th-234	F	1.1167E+00	7.6395E-01	7.7173E-01	0.501E+00
Tl-208		3.2201E-01	6.2671E-02	6.5556E-02	0.239E-01
U-235	B	5.0474E-02	1.9990E-02	2.0276E-02	0.155E+00

- 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 (39.4 to 2490.5 keV) 1.493E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 09-JUL-2009 10:32:36
New World Technology Spectrum name: 2N000920.An1

Sample description
Parcel G 18-PG-C0199-55 379g
7/07/09 13:47

Acquisition information
Start time: 08-Jul-2009 12:19:36
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	F	6.6284E-01	1.8747E-01	1.9187E-01	0.960E-01
AM-241	#B	3.6192E-02	9.2824E-02	9.2855E-02	0.693E-01
Bi-212	B	-2.5330E-02	4.8747E-01	4.8747E-01	0.365E+00
BI-214	#F	7.1401E-01	1.6526E-01	1.7070E-01	0.575E-01
CO-60	#B	1.8422E-02	1.3482E-02	1.3528E-02	0.254E-01
CS-137	B	2.1690E-02	6.1827E-02	6.1841E-02	0.498E-01
EU-152	B	8.0238E-02	1.4044E-01	1.4055E-01	0.866E-01
EU-154	F	9.3451E-02	6.6080E-02	6.6397E-02	0.676E-01
K-40		1.1557E+01	1.5176E+00	1.6779E+00	0.209E+00
Pa-234	F	1.3669E-01	1.2763E-01	1.2803E-01	0.963E-01
Pb-210	B	5.6266E-01	1.0938E+00	1.0943E+00	0.788E+00
Pb-212	F	4.5404E-01	1.0686E-01	1.1072E-01	0.761E-01
PB-214	F	4.2545E-01	1.2939E-01	1.3202E-01	0.813E-01
RA-226	B	7.4801E-01	1.0581E+00	1.0592E+00	0.855E+00
Th-230	#B	-3.0182E+00	3.3622E+01	3.3624E+01	0.736E+01
Th-234	F	1.2320E+00	5.6398E-01	5.7673E-01	0.651E+00
Tl-208	F	1.1583E-01	7.6225E-02	7.6538E-02	0.464E-01
U-235	F	9.1908E-02	9.6993E-02	9.7171E-02	0.568E-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 (40.6 to 2591.2 keV) 1.393E+01 pCi/g

Laboratory: New World Technology

ORTEC g v - i (3263) Npp32 G53W3.10 08-JUL-2009 13:07:29
New World Technology Spectrum name: 3N001204.An1

Sample description
Parcel G 18-PG-C0199-56 398g
7/07/09 13:54

Acquisition information
Start time: 08-Jul-2009 12:22:19
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	F	7.3553E-01	2.3049E-01	2.3491E-01	0.105E+00
AM-241	#	3.2688E-01	1.8125E-01	1.8252E-01	0.107E+00
Bi-212	B	9.5862E-02	3.9241E-01	3.9245E-01	0.324E+00
BI-214	F	6.0407E-01	1.3541E-01	1.4016E-01	0.476E-01
CO-60	#B	-8.7364E-05	2.3881E-04	2.3887E-04	0.184E-01
CS-137		6.7167E-02	4.3147E-02	4.3337E-02	0.283E-01
EU-152	F	1.3358E-01	5.6958E-02	5.7710E-02	0.839E-01
EU-154	F	9.5979E-02	4.8420E-02	4.8876E-02	0.614E-01
K-40		1.0150E+01	1.4030E+00	1.5374E+00	0.226E+00
Pa-234	F	1.0181E-01	7.1989E-02	7.2381E-02	0.451E-01
Pb-210	#F	1.4015E+00	1.1130E+00	1.1159E+00	0.703E+00
Pb-212		4.3139E-01	9.7013E-02	1.0085E-01	0.642E-01
PB-214		5.9426E-01	1.3895E-01	1.4371E-01	0.546E-01
RA-226	B	2.0380E-01	9.5398E-01	9.5407E-01	0.792E+00
Th-230	#B	-1.0262E+01	2.3741E+02	2.3742E+02	0.757E+01
Th-234	F	8.1938E-01	7.3948E-01	7.4382E-01	0.785E+00
Tl-208	#F	1.6915E-01	6.6810E-02	6.7569E-02	0.290E-01
U-235	F	7.6988E-02	6.0815E-02	6.1014E-02	0.458E-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 (39.2 to 2494.4 keV) 1.456E+01 pCi/g

Laboratory: New World Technology

ATTACHMENT 5

EXCAVATED SOIL UNIT ^{90}SR RESULTS
(on CD only)

This page intentionally left blank.

Tetra Tech EC, Inc.

Client Sample ID: 18-PG-C0199-52

Radiochemistry

Lab Sample ID: F9G150339-011
Work Order: LGJTK
Matrix: SOLID

Date Collected: 07/07/09 1334
Date Received: 07/15/09 0930

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 9196497**		**Yld % 77**
Strontium 90	0.02	U	0.21	0.33	0.22	200	07/15/09	07/30/09

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-PG-C0199-53

Radiochemistry

Lab Sample ID: F9H100142-003
Work Order: LHWKM
Matrix: SOLID

Date Collected: 07/07/09 1340
Date Received: 08/10/09 1000

Parameter	Result	Qual	Total Uncert. (2 σ+/-)	RL	MDL	Count Time	Prep Date	Analysis Date
Strontium-90 by GFPC DOE SR-03-RC MOD				**pCi/g**		**Batch # 9223331**		**Yld % 59**
Strontium 90	0.17	U	0.28	0.32	0.28	200	08/11/09	08/21/09

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

QUALITY ASSURANCE SAMPLE RESULTS
(on CD only)

This page intentionally left blank.

Tetra Tech EC, Inc.

Client Sample ID: 70-PDT-124-04

Radiochemistry

Lab Sample ID: F9C060154-005
Work Order: K75QF
Matrix: SOLID

Date Collected: 01/29/09 0950
Date Received: 03/06/09 0910

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 # 9068191		Yld %
Actinium 228	**1.66**		**0.19**		**0.07**	90	03/09/09	03/19/09
Americium 241	0.002	U	0.090		0.074	90	03/09/09	03/19/09
Bismuth 212	**1.19**		**0.31**		**0.13**	90	03/09/09	03/19/09
Bismuth 214	**0.87**		**0.12**		**0.05**	90	03/09/09	03/19/09
Cesium 137	0.0	U	0.036	0.070	0.029	90	03/09/09	03/19/09
Cobalt 60	0.0	U	0.036		0.029	90	03/09/09	03/19/09
Europium 152	-0.01	U	0.097		0.079	90	03/09/09	03/19/09
Europium 154	0.05	U	0.18		0.14	90	03/09/09	03/19/09
Lead 210	**0.80**	**J**	**0.91**	1.50	**0.63**	90	03/09/09	03/19/09
Lead 212	**1.80**		**0.16**		**0.05**	90	03/09/09	03/19/09
Lead 214	**1.07**		**0.13**		**0.04**	90	03/09/09	03/19/09
Potassium 40	**4.69**		**0.73**		**0.35**	90	03/09/09	03/19/09
Protactinium 234	-0.03	U	0.13		0.10	90	03/09/09	03/19/09
Radium (226)	**0.87**		**0.12**	0.70	**0.05**	90	03/09/09	03/19/09
Thallium 208	**0.539**		**0.068**		**0.022**	90	03/09/09	03/19/09
Thorium 232	**1.66**		**0.19**		**0.07**	90	03/09/09	03/19/09
Thorium 234	**1.64**		**0.96**		**0.66**	90	03/09/09	03/19/09
Uranium 235	0.08	U	0.21		0.17	90	03/09/09	03/19/09

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: 70-PDT-124-06

Radiochemistry

Lab Sample ID: F9C060154-015
Work Order: K75RQ
Matrix: SOLID

Date Collected: 01/29/09 1000
Date Received: 03/06/09 0910

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 # 9068191		Yld %
Actinium 228	**1.60**		**0.25**		**0.07**	90	03/09/09	03/20/09
Americium 241	-0.02	U	0.11		0.09	90	03/09/09	03/20/09
Bismuth 212	**1.58**		**0.49**		**0.18**	90	03/09/09	03/20/09
Bismuth 214	**0.98**		**0.16**		**0.06**	90	03/09/09	03/20/09
Cesium 137	-0.006	U	0.040	0.070	0.033	90	03/09/09	03/20/09
Cobalt 60	0.019	U	0.039		0.030	90	03/09/09	03/20/09
Europium 152	0.08	U	0.11		0.09	90	03/09/09	03/20/09
Europium 154	0.09	U	0.26		0.20	90	03/09/09	03/20/09
Lead 210	**1.3**	**J**	**1.1**	1.5	**0.7**	90	03/09/09	03/20/09
Lead 212	**1.69**		**0.18**		**0.06**	90	03/09/09	03/20/09
Lead 214	**1.19**		**0.15**		**0.05**	90	03/09/09	03/20/09
Potassium 40	**7.9**		**1.2**		**0.3**	90	03/09/09	03/20/09
Protactinium 234	**0.12**		**0.13**		**0.11**	90	03/09/09	03/20/09
Radium (226)	**0.98**		**0.16**	0.70	**0.06**	90	03/09/09	03/20/09
Thallium 208	**0.564**		**0.085**		**0.025**	90	03/09/09	03/20/09
Thorium 232	**1.60**		**0.25**		**0.07**	90	03/09/09	03/20/09
Thorium 234	**1.6**		**1.0**		**0.7**	90	03/09/09	03/20/09
Uranium 235	0.07	U	0.25		0.20	90	03/09/09	03/20/09

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: 70-PDT-124-09

Radiochemistry

Lab Sample ID: F9C060154-021
Work Order: K75TC
Matrix: SOLID

Date Collected: 01/29/09 1012
Date Received: 03/06/09 0910

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 # 9068192		Yld %
Actinium 228	**1.77**		**0.21**		**0.07**	90	03/09/09	04/07/09
Americium 241	0.059	U	0.092		0.074	90	03/09/09	04/07/09
Bismuth 212	**1.31**		**0.44**		**0.18**	90	03/09/09	04/07/09
Bismuth 214	**1.16**		**0.17**		**0.06**	90	03/09/09	04/07/09
Cesium 137	-0.03	U	3.0	0.07	0.03	90	03/09/09	04/07/09
Cobalt 60	0.007	U	0.035		0.028	90	03/09/09	04/07/09
Europium 152	0.021	U	0.077		0.062	90	03/09/09	04/07/09
Europium 154	-0.02	U	0.23		0.19	90	03/09/09	04/07/09
Lead 210	**1.1**	J	**1.0**	1.5	**0.6**	90	03/09/09	04/07/09
Lead 212	**1.90**		**0.28**		**0.05**	90	03/09/09	04/07/09
Lead 214	**1.16**		**0.15**		**0.06**	90	03/09/09	04/07/09
Potassium 40	**6.0**		**1.0**		**0.3**	90	03/09/09	04/07/09
Protactinium 234	-0.03	U	0.14		0.11	90	03/09/09	04/07/09
Radium (226)	**1.16**		**0.17**	0.70	**0.06**	90	03/09/09	04/07/09
Thallium 208	**0.664**		**0.092**		**0.030**	90	03/09/09	04/07/09
Thorium 232	**1.77**		**0.21**		**0.07**	90	03/09/09	04/07/09
Thorium 234	**0.99**		**0.99**		**0.67**	90	03/09/09	04/07/09
Uranium 235	0.006	U	0.23		0.19	90	03/09/09	04/07/09

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: 70-PDT-124-09 DUP

Radiochemistry

Lab Sample ID: F9C060154-021X
Work Order: K75TC
Matrix: SOLID

Date Collected: 01/29/09 1012
Date Received: 03/06/09 0910

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 # 9068192		Yld %
Actinium 228	1.77		0.19		0.07	90	03/09/09	04/07/09
Americium 241	0.023	U	0.089		0.072	90	03/09/09	04/07/09
Bismuth 212	1.62		0.42		0.17	90	03/09/09	04/07/09
Bismuth 214	1.18		0.17		0.06	90	03/09/09	04/07/09
Cesium 137	0.003	U	0.035	0.070	0.029	90	03/09/09	04/07/09
Cobalt 60	0.007	U	0.026		0.021	90	03/09/09	04/07/09
Europium 152	0.003	U	0.10		0.09	90	03/09/09	04/07/09
Europium 154	0.01	U	0.22		0.18	90	03/09/09	04/07/09
Lead 210	0.53	U	0.65	1.50	0.55	90	03/09/09	04/07/09
Lead 212	1.84		0.16		0.05	90	03/09/09	04/07/09
Lead 214	1.23		0.14		0.05	90	03/09/09	04/07/09
Potassium 40	7.06		0.88		0.29	90	03/09/09	04/07/09
Protactinium 234	0.0008	U	0.14		0.12	90	03/09/09	04/07/09
Radium (226)	1.18		0.17	0.70	0.06	90	03/09/09	04/07/09
Thallium 208	0.653		0.083		0.028	90	03/09/09	04/07/09
Thorium 232	1.77		0.19		0.07	90	03/09/09	04/07/09
Thorium 234	1.3		1.1		0.7	90	03/09/09	04/07/09
Uranium 235	0.12	U	0.23		0.19	90	03/09/09	04/07/09

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: 70-PDT-124-25

Radiochemistry

Lab Sample ID: F9C060154-026
Work Order: K75TL
Matrix: SOLID

Date Collected: 01/29/09 1300
Date Received: 03/06/09 0910

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 # 9068192		Yld %
Actinium 228	**1.30**		0.16		0.07	90	03/09/09	03/22/09
Americium 241	0.044	U	0.085		0.069	90	03/09/09	03/22/09
Bismuth 212	**0.92**		0.29		0.18	90	03/09/09	03/22/09
Bismuth 214	**0.91**		0.13		0.05	90	03/09/09	03/22/09
Cesium 137	0.0	U	0.040	0.070	0.033	90	03/09/09	03/22/09
Cobalt 60	-0.005	U	0.032		0.026	90	03/09/09	03/22/09
Europium 152	-0.023	U	0.097		0.079	90	03/09/09	03/22/09
Europium 154	-0.001	U	0.23		0.19	90	03/09/09	03/22/09
Lead 210	**1.17**	J	0.87	1.50	0.58	90	03/09/09	03/22/09
Lead 212	**1.57**		0.15		0.05	90	03/09/09	03/22/09
Lead 214	**1.02**		0.13		0.05	90	03/09/09	03/22/09
Potassium 40	**5.80**		0.82		0.29	90	03/09/09	03/22/09
Protactinium 234	-0.03	U	0.14		0.11	90	03/09/09	03/22/09
Radium (226)	**0.91**		0.13	0.70	0.05	90	03/09/09	03/22/09
Thallium 208	**0.525**		0.071		0.025	90	03/09/09	03/22/09
Thorium 232	**1.30**		0.16		0.07	90	03/09/09	03/22/09
Thorium 234	**1.50**		0.47		0.71	90	03/09/09	03/22/09
Uranium 235	0.09	U	0.22		0.18	90	03/09/09	03/22/09

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: 70-PDT-124-45

Radiochemistry

Lab Sample ID: F9C060154-019
Work Order: K75R7
Matrix: SOLID

Date Collected: 02/02/09 1257
Date Received: 03/06/09 0910

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 # 9068191		Yld %
Actinium 228	1.22		0.19		0.05	90	03/09/09	03/21/09
Americium 241	0.007	U	0.098		0.081	90	03/09/09	03/21/09
Bismuth 212	0.85		0.31		0.12	90	03/09/09	03/21/09
Bismuth 214	0.82		0.14		0.05	90	03/09/09	03/21/09
Cesium 137	-0.008	U	0.038	0.070	0.031	90	03/09/09	03/21/09
Cobalt 60	0.0	U	0.045		0.037	90	03/09/09	03/21/09
Europium 152	-0.07	U	0.11		0.09	90	03/09/09	03/21/09
Europium 154	0.11	U	0.23		0.18	90	03/09/09	03/21/09
Lead 210	1.2	J	1.1	1.5	0.7	90	03/09/09	03/21/09
Lead 212	1.27		0.16		0.06	90	03/09/09	03/21/09
Lead 214	0.96		0.14		0.05	90	03/09/09	03/21/09
Potassium 40	6.1		1.0		0.3	90	03/09/09	03/21/09
Protactinium 234	0.12		0.12		0.09	90	03/09/09	03/21/09
Radium (226)	0.82		0.14	0.70	0.05	90	03/09/09	03/21/09
Thallium 208	0.416		0.080		0.029	90	03/09/09	03/21/09
Thorium 232	1.22		0.19		0.05	90	03/09/09	03/21/09
Thorium 234	1.99		0.97		0.75	90	03/09/09	03/21/09
Uranium 235	0.07	U	0.22		0.18	90	03/09/09	03/21/09

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: 70-PDT-124-48

Radiochemistry

Lab Sample ID: F9C060154-018
Work Order: K75R2
Matrix: SOLID

Date Collected: 02/02/09 1315
Date Received: 03/06/09 0910

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 # 9068191		Yld %
Actinium 228	**1.67**		**0.19**		**0.08**	90	03/09/09	03/21/09
Americium 241	-0.014	U	0.087		0.071	90	03/09/09	03/21/09
Bismuth 212	**1.52**		**0.37**		**0.13**	90	03/09/09	03/21/09
Bismuth 214	**1.06**		**0.16**		**0.06**	90	03/09/09	03/21/09
Cesium 137	0.010	U	0.032	0.070	0.026	90	03/09/09	03/21/09
Cobalt 60	0.013	U	0.028		0.021	90	03/09/09	03/21/09
Europium 152	-0.027	U	0.097		0.079	90	03/09/09	03/21/09
Europium 154	0.10	U	0.22		0.17	90	03/09/09	03/21/09
Lead 210	**0.78**	**J**	**0.89**	1.50	**0.62**	90	03/09/09	03/21/09
Lead 212	**1.77**		**0.16**		**0.05**	90	03/09/09	03/21/09
Lead 214	**1.12**		**0.15**		**0.06**	90	03/09/09	03/21/09
Potassium 40	**7.05**		**0.95**		**0.32**	90	03/09/09	03/21/09
Protactinium 234	-0.1	U	0.13		0.10	90	03/09/09	03/21/09
Radium (226)	**1.06**		**0.16**	0.70	**0.06**	90	03/09/09	03/21/09
Thallium 208	**0.670**		**0.084**		**0.027**	90	03/09/09	03/21/09
Thorium 232	**1.67**		**0.19**		**0.08**	90	03/09/09	03/21/09
Thorium 234	**1.11**		**0.82**		**0.62**	90	03/09/09	03/21/09
Uranium 235	0.14	U	0.21		0.17	90	03/09/09	03/21/09

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: 70-PDT-124-54

Radiochemistry

Lab Sample ID: F9C060154-007
Work Order: K75QP
Matrix: SOLID

Date Collected: 02/03/09 0805
Date Received: 03/06/09 0910

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 # 9068191		Yld %
Actinium 228	**3.40**		**0.33**		**0.09**	90	03/09/09	03/19/09
Americium 241	0.01	U	0.11		0.09	90	03/09/09	03/19/09
Bismuth 212	**2.37**		**0.60**		**0.24**	90	03/09/09	03/19/09
Bismuth 214	**2.01**		**0.21**		**0.05**	90	03/09/09	03/19/09
Cesium 137	0.016	U	0.049	0.070	0.039	90	03/09/09	03/19/09
Cobalt 60	0.019	U	0.036		0.028	90	03/09/09	03/19/09
Europium 152	-0.03	U	0.13		0.10	90	03/09/09	03/19/09
Europium 154	-0.01	U	0.32		0.27	90	03/09/09	03/19/09
Lead 210	**1.1**	**J**	**1.1**	1.5	**0.7**	90	03/09/09	03/19/09
Lead 212	**3.58**		**0.50**		**0.05**	90	03/09/09	03/19/09
Lead 214	**2.10**		**0.25**		**0.08**	90	03/09/09	03/19/09
Potassium 40	**7.87**		**0.99**		**0.18**	90	03/09/09	03/19/09
Protactinium 234	-0.18	U	0.17		0.13	90	03/09/09	03/19/09
Radium (226)	**2.01**		**0.21**	0.70	**0.05**	90	03/09/09	03/19/09
Thallium 208	**1.09**		**0.13**		**0.04**	90	03/09/09	03/19/09
Thorium 232	**3.40**		**0.33**		**0.09**	90	03/09/09	03/19/09
Thorium 234	**1.55**		**0.59**		**0.73**	90	03/09/09	03/19/09
Uranium 235	0.005	U	0.23		0.19	90	03/09/09	03/19/09

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: 70-PDT-124-90

Radiochemistry

Lab Sample ID: F9C060154-013
Work Order: K75RH
Matrix: SOLID

Date Collected: 02/03/09 1025
Date Received: 03/06/09 0910

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 # 9068191		Yld %
Actinium 228	1.08		0.18		0.06	90	03/09/09	03/20/09
Americium 241	0.023	U	0.071		0.058	90	03/09/09	03/20/09
Bismuth 212	0.87		0.40		0.17	90	03/09/09	03/20/09
Bismuth 214	0.67		0.11		0.04	90	03/09/09	03/20/09
Cesium 137	-0.008	U	0.032	0.070	0.026	90	03/09/09	03/20/09
Cobalt 60	0.0	U	0.0068		0.005	90	03/09/09	03/20/09
Europium 152	-0.020	U	0.086		0.069	90	03/09/09	03/20/09
Europium 154	0.04	U	0.22		0.18	90	03/09/09	03/20/09
Lead 210	1.09	J	0.78	1.50	0.52	90	03/09/09	03/20/09
Lead 212	1.0		0.16		0.04	90	03/09/09	03/20/09
Lead 214	0.87		0.12		0.04	90	03/09/09	03/20/09
Potassium 40	6.18		0.87		0.19	90	03/09/09	03/20/09
Protactinium 234	-0.031	U	0.095		0.077	90	03/09/09	03/20/09
Radium (226)	0.67	J	0.11	0.70	0.04	90	03/09/09	03/20/09
Thallium 208	0.360		0.066		0.024	90	03/09/09	03/20/09
Thorium 232	1.08		0.18		0.06	90	03/09/09	03/20/09
Thorium 234	1.15		0.76		0.51	90	03/09/09	03/20/09
Uranium 235	-0.06	U	2.6		0.1	90	03/09/09	03/20/09

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: 70-PDT-124-98

Radiochemistry

Lab Sample ID: F9C060154-041
Work Order: K750R
Matrix: SOLID

Date Collected: 02/03/09 1120
Date Received: 03/06/09 0910

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 # 9068193		Yld %
Actinium 228	**1.11**		**0.14**		**0.04**	90	03/09/09	03/19/09
Americium 241	0.026	U	0.081		0.066	90	03/09/09	03/19/09
Bismuth 212	**0.77**		**0.31**		**0.14**	90	03/09/09	03/19/09
Bismuth 214	**0.71**		**0.14**		**0.06**	90	03/09/09	03/19/09
Cesium 137	0.002	U	0.025	0.070	0.020	90	03/09/09	03/19/09
Cobalt 60	0.004	U	0.027		0.022	90	03/09/09	03/19/09
Europium 152	0.041	U	0.083		0.066	90	03/09/09	03/19/09
Europium 154	-0.06	U	0.21		0.17	90	03/09/09	03/19/09
Lead 210	**1.0**	**J**	**0.97**	1.50	**0.64**	90	03/09/09	03/19/09
Lead 212	**0.96**		**0.12**		**0.05**	90	03/09/09	03/19/09
Lead 214	**0.77**		**0.11**		**0.05**	90	03/09/09	03/19/09
Potassium 40	**6.09**		**0.86**		**0.31**	90	03/09/09	03/19/09
Protactinium 234	-0.025	U	0.095		0.077	90	03/09/09	03/19/09
Radium (226)	**0.71**		**0.14**	0.70	**0.06**	90	03/09/09	03/19/09
Thallium 208	**0.329**		**0.066**		**0.028**	90	03/09/09	03/19/09
Thorium 232	**1.11**		**0.14**		**0.04**	90	03/09/09	03/19/09
Thorium 234	**0.98**		**0.89**		**0.64**	90	03/09/09	03/19/09
Uranium 235	-0.009	U	0.26		0.16	90	03/09/09	03/19/09

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: 70-PGT-124-179

Radiochemistry

Lab Sample ID: F9G150346-011
Work Order: LGJX0
Matrix: SOLID

Date Collected: 07/06/09 1044
Date Received: 07/15/09 0930

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 # 9197429**		**Yld %**
Actinium 228	**0.70**		**0.26**		**0.13**	30	**07/16/09**	**08/01/09**
Americium 241	0.008	U	0.13		0.10	30	07/16/09	08/01/09
Bismuth 212	**0.86**		**0.32**		**0.07**	30	**07/16/09**	**08/01/09**
Bismuth 214	**0.70**		**0.17**		**0.07**	30	**07/16/09**	**08/01/09**
Cesium 137	0.0	U	0.067	0.070	0.055	30	07/16/09	08/01/09
Cobalt 60	-0.022	U	0.062		0.048	30	07/16/09	08/01/09
Europium 152	0.06	U	0.12		0.1	30	07/16/09	08/01/09
Europium 154	0.005	U	0.43		0.35	30	07/16/09	08/01/09
Lead 210	0.6	U	1.2	1.5	1.0	30	07/16/09	08/01/09
Lead 212	**0.94**		**0.18**		**0.07**	30	**07/16/09**	**08/01/09**
Lead 214	**0.85**		**0.17**		**0.08**	30	**07/16/09**	**08/01/09**
Potassium 40	**10.8**		**1.7**		**0.4**	30	**07/16/09**	**08/01/09**
Protactinium 234	-0.04	U	0.19		0.15	30	07/16/09	08/01/09
Radium (226)	**0.70**		**0.17**	0.70	**0.07**	30	**07/16/09**	**08/01/09**
Thallium 208	**0.206**		**0.076**		**0.046**	30	**07/16/09**	**08/01/09**
Thorium 232	**0.70**		**0.26**		**0.13**	30	**07/16/09**	**08/01/09**
Thorium 234	**1.2**		**1.3**		**1**	30	**07/16/09**	**08/01/09**
Uranium 235	0.13	U	0.30		0.24	30	07/16/09	08/01/09

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: 70-PGT-124-183

Radiochemistry

Lab Sample ID: F9G150346-012
Work Order: LGJX1
Matrix: SOLID

Date Collected: 07/06/09 1116
Date Received: 07/15/09 0930

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 # 9197429**		**Yld %**
Actinium 228	**0.47**		**0.27**		**0.13**	30	**07/16/09**	**08/01/09**
Americium 241	0.03	U	0.11		0.09	30	07/16/09	08/01/09
Bismuth 212	**0.51**		**0.45**		**0.25**	30	**07/16/09**	**08/01/09**
Bismuth 214	**0.35**		**0.16**		**0.08**	30	**07/16/09**	**08/01/09**
Cesium 137	0.0	U	0.013	0.070	0.015	30	07/16/09	08/01/09
Cobalt 60	0.0	U	0.16		0.13	30	07/16/09	08/01/09
Europium 152	0.0	U	0.025		0.029	30	07/16/09	08/01/09
Europium 154	0.03	U	0.39		0.31	30	07/16/09	08/01/09
Lead 210	-0.2	U	1.6	1.5	1.0	30	07/16/09	08/01/09
Lead 212	**0.43**		**0.16**		**0.08**	30	**07/16/09**	**08/01/09**
Lead 214	**0.19**		**0.13**		**0.1**	30	**07/16/09**	**08/01/09**
Potassium 40	**3.3**		**1.4**		**0.7**	30	**07/16/09**	**08/01/09**
Protactinium 234	0.03	U	0.15		0.12	30	07/16/09	08/01/09
Radium (226)	**0.35**	**J**	**0.16**	0.70	**0.08**	30	**07/16/09**	**08/01/09**
Thallium 208	**0.109**		**0.078**		**0.053**	30	**07/16/09**	**08/01/09**
Thorium 232	**0.47**		**0.27**		**0.13**	30	**07/16/09**	**08/01/09**
Thorium 234	0.9	U	1.2		0.9	30	07/16/09	08/01/09
Uranium 235	-0.04	U	7.5		0.2	30	07/16/09	08/01/09

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-PG-C0199-51

Radiochemistry

Lab Sample ID: F9G150339-001
Work Order: LGJR4
Matrix: SOLID

Date Collected: 07/07/09 1330
Date Received: 07/15/09 0930

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 # 9197425**		**Yld %**
Actinium 228	0.004	U	0.28		0.23	30	07/16/09	07/31/09
Americium 241	0.031	U	0.089		0.073	30	07/16/09	07/31/09
Bismuth 212	**0.38**		**0.48**		**0.34**	30	**07/16/09**	**07/31/09**
Bismuth 214	**0.60**		**0.19**		**0.08**	30	**07/16/09**	**07/31/09**
Cesium 137	-0.03	U	0.29	0.07	0.06	30	07/16/09	07/31/09
Cobalt 60	-0.03	U	1.0		0.08	30	07/16/09	07/31/09
Europium 152	0.01	U	0.13		0.10	30	07/16/09	07/31/09
Europium 154	0.03	U	0.47		0.38	30	07/16/09	07/31/09
Lead 210	-0.3	U	2.1	1.5	1.1	30	07/16/09	07/31/09
Lead 212	**0.67**		**0.17**		**0.05**	30	**07/16/09**	**07/31/09**
Lead 214	**0.56**		**0.17**		**0.08**	30	**07/16/09**	**07/31/09**
Potassium 40	**8.2**		**1.8**		**0.5**	30	**07/16/09**	**07/31/09**
Protactinium 234	-0.0001	U	0.16		0.13	30	07/16/09	07/31/09
Radium (226)	**0.60**	**J**	**0.19**	0.70	**0.08**	30	**07/16/09**	**07/31/09**
Thallium 208	**0.277**		**0.089**		**0.024**	30	**07/16/09**	**07/31/09**
Thorium 232	0.004	U	0.28		0.23	30	07/16/09	07/31/09
Thorium 234	**1.5**		**1.2**		**0.8**	30	**07/16/09**	**07/31/09**
Uranium 235	0.02	U	0.19		0.15	30	07/16/09	07/31/09

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-PG-C0199-54

Radiochemistry

Lab Sample ID: F9G150339-002
Work Order: LGJR8
Matrix: SOLID

Date Collected: 07/07/09 1342
Date Received: 07/15/09 0930

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 # 9197425**		**Yld %**
Actinium 228	**0.94**		**0.18**		**0.05**	30	**07/16/09**	**07/31/09**
Americium 241	0.02	U	0.11		0.09	30	07/16/09	07/31/09
Bismuth 212	0.29	U	0.41		0.30	30	07/16/09	07/31/09
Bismuth 214	**0.71**		**0.16**		**0.06**	30	**07/16/09**	**07/31/09**
Cesium 137	0.024	U	0.055	0.070	0.042	30	07/16/09	07/31/09
Cobalt 60	0.023	U	0.045		0.032	30	07/16/09	07/31/09
Europium 152	0.06	U	0.13		0.10	30	07/16/09	07/31/09
Europium 154	0.03	U	0.31		0.25	30	07/16/09	07/31/09
Lead 210	**1.7**		**1.6**	1.5	**1**	30	**07/16/09**	**07/31/09**
Lead 212	**0.98**		**0.18**		**0.08**	30	**07/16/09**	**07/31/09**
Lead 214	**0.83**		**0.19**		**0.09**	30	**07/16/09**	**07/31/09**
Potassium 40	**7.8**		**1.5**		**0.6**	30	**07/16/09**	**07/31/09**
Protactinium 234	0.03	U	0.14		0.11	30	07/16/09	07/31/09
Radium (226)	**0.71**		**0.16**	0.70	**0.06**	30	**07/16/09**	**07/31/09**
Thallium 208	**0.243**		**0.091**		**0.044**	30	**07/16/09**	**07/31/09**
Thorium 232	**0.94**		**0.18**		**0.05**	30	**07/16/09**	**07/31/09**
Thorium 234	**2.0**		**1.5**		**1**	30	**07/16/09**	**07/31/09**
Uranium 235	-0.002	U	0.36		0.27	30	07/16/09	07/31/09

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 7

BACKFILL MATERIAL RESRAD REPORT (on CD only)

This page intentionally left blank.

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary 4
Summary of Pathway Selections 8
Contaminated Zone and Total Dose Summary 9
Total Dose Components
Time = 0.000E+00 10
Time = 1.000E+00 11
Time = 3.000E+00 12
Time = 1.000E+01 13
Time = 3.000E+01 14
Time = 1.000E+02 15
Time = 3.000E+02 16
Time = 1.000E+03 17
Dose/Source Ratios Summed Over All Pathways 18
Single Radionuclide Soil Guidelines 18
Dose Per Nuclide Summed Over All Pathways 19
Soil Concentration Per Nuclide 19

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	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(1)
A-1	Ba-137m (Source: FGR 12)	3.606E+00	3.606E+00	DCF1(2)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(3)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(4)
A-1	Cs-137 (Source: FGR 12)	7.510E-04	7.510E-04	DCF1(5)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(6)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(7)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(8)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(9)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(10)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(11)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(12)
A-1	Sr-90 (Source: FGR 12)	7.043E-04	7.043E-04	DCF1(13)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(14)
A-1	Y-90 (Source: FGR 12)	2.391E-02	2.391E-02	DCF1(15)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Cs-137+D	3.190E-05	3.190E-05	DCF2(1)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(2)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(3)
B-1	Sr-90+D	1.308E-03	1.300E-03	DCF2(4)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Cs-137+D	5.000E-05	5.000E-05	DCF3(1)
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(2)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(3)
D-1	Sr-90+D	1.528E-04	1.420E-04	DCF3(4)
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	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(2,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(2,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,3)
D-34				
D-34	Sr-90+D , plant/soil concentration ratio, dimensionless	3.000E-01	3.000E-01	RTF(4,1)
D-34	Sr-90+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-03	8.000E-03	RTF(4,2)
D-34	Sr-90+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-03	2.000E-03	RTF(4,3)
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				

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(2,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(2,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(3,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(3,2)
D-5				
D-5	Sr-90+D , fish	6.000E+01	6.000E+01	BIOFAC(4,1)
D-5	Sr-90+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(4,2)

#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)	4.770E+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)	2.184E+01	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	4.700E-02	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Pb-210	2.740E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Ra-226	2.740E-01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Sr-90	1.600E-01	0.000E+00	---	S1(4)
R012	Concentration in groundwater (pCi/L): Cs-137	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L): Sr-90	not used	0.000E+00	---	W1(4)
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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
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 Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.663E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.374E-03	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Sr-90				
R016	Contaminated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.516E-03	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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)
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	0.239E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.238E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.238E-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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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)
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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
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:	477.00 square meters	Cs-137	4.700E-02
Thickness:	2.00 meters	Pb-210	2.740E-01
Cover Depth:	0.00 meters	Ra-226	2.740E-01
		Sr-90	1.600E-01

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):	3.477E+00	3.459E+00	3.422E+00	3.303E+00	3.021E+00	2.375E+00	1.341E+00	2.291E+00
M(t):	1.391E-01	1.383E-01	1.369E-01	1.321E-01	1.208E-01	9.498E-02	5.364E-02	9.165E-02

Maximum TDOSE(t): 3.477E+00 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	8.262E-02	0.0238	6.910E-08	0.0000	0.000E+00	0.0000	3.856E-03	0.0011	3.372E-04	0.0001	1.101E-04	0.0000	3.033E-05	0.0000
Pb-210	8.833E-04	0.0003	2.915E-04	0.0001	0.000E+00	0.0000	8.141E-01	0.2341	2.783E-03	0.0008	1.356E-03	0.0004	2.561E-02	0.0074
Ra-226	1.610E+00	0.4632	1.142E-04	0.0000	0.000E+00	0.0000	6.150E-01	0.1769	1.819E-03	0.0005	2.171E-03	0.0006	5.119E-03	0.0015
Sr-90	2.034E-03	0.0006	9.619E-06	0.0000	0.000E+00	0.0000	3.000E-01	0.0863	6.058E-03	0.0017	1.798E-03	0.0005	3.146E-04	0.0001
Total	1.696E+00	0.4878	4.154E-04	0.0001	0.000E+00	0.0000	1.733E+00	0.4984	1.100E-02	0.0032	5.435E-03	0.0016	3.108E-02	0.0089

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	8.695E-02	0.0250
Pb-210	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	8.450E-01	0.2430
Ra-226	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	2.235E+00	0.6427
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	3.102E-01	0.0892
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	3.477E+00	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	8.073E-02	0.0233	6.752E-08	0.0000	0.000E+00	0.0000	3.768E-03	0.0011	3.295E-04	0.0001	1.076E-04	0.0000	2.964E-05	0.0000
Pb-210	8.548E-04	0.0002	2.821E-04	0.0001	0.000E+00	0.0000	7.879E-01	0.2278	2.694E-03	0.0008	1.312E-03	0.0004	2.479E-02	0.0072
Ra-226	1.606E+00	0.4643	1.228E-04	0.0000	0.000E+00	0.0000	6.386E-01	0.1846	1.903E-03	0.0006	2.208E-03	0.0006	5.887E-03	0.0017
Sr-90	1.975E-03	0.0006	9.341E-06	0.0000	0.000E+00	0.0000	2.913E-01	0.0842	5.884E-03	0.0017	1.747E-03	0.0005	3.055E-04	0.0001
Total	1.689E+00	0.4885	4.143E-04	0.0001	0.000E+00	0.0000	1.722E+00	0.4978	1.081E-02	0.0031	5.374E-03	0.0016	3.101E-02	0.0090

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	8.497E-02	0.0246
Pb-210	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	8.178E-01	0.2365
Ra-226	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	2.255E+00	0.6519
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	3.013E-01	0.0871
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	3.459E+00	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	7.708E-02	0.0225	6.447E-08	0.0000	0.000E+00	0.0000	3.598E-03	0.0011	3.146E-04	0.0001	1.027E-04	0.0000	2.830E-05	0.0000
Pb-210	8.006E-04	0.0002	2.643E-04	0.0001	0.000E+00	0.0000	7.379E-01	0.2156	2.523E-03	0.0007	1.229E-03	0.0004	2.322E-02	0.0068
Ra-226	1.597E+00	0.4666	1.390E-04	0.0000	0.000E+00	0.0000	6.823E-01	0.1994	2.054E-03	0.0006	2.274E-03	0.0007	7.341E-03	0.0021
Sr-90	1.863E-03	0.0005	8.809E-06	0.0000	0.000E+00	0.0000	2.748E-01	0.0803	5.549E-03	0.0016	1.647E-03	0.0005	2.881E-04	0.0001
Total	1.677E+00	0.4899	4.122E-04	0.0001	0.000E+00	0.0000	1.699E+00	0.4963	1.044E-02	0.0031	5.253E-03	0.0015	3.087E-02	0.0090

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	8.112E-02	0.0237
Pb-210	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	7.660E-01	0.2238
Ra-226	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	2.291E+00	0.6695
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	2.841E-01	0.0830
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	3.422E+00	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	6.555E-02	0.0198	5.483E-08	0.0000	0.000E+00	0.0000	3.060E-03	0.0009	2.675E-04	0.0001	8.736E-05	0.0000	2.407E-05	0.0000
Pb-210	6.366E-04	0.0002	2.101E-04	0.0001	0.000E+00	0.0000	5.868E-01	0.1776	2.006E-03	0.0006	9.774E-04	0.0003	1.846E-02	0.0056
Ra-226	1.566E+00	0.4741	1.872E-04	0.0001	0.000E+00	0.0000	8.110E-01	0.2455	2.500E-03	0.0008	2.466E-03	0.0007	1.167E-02	0.0035
Sr-90	1.517E-03	0.0005	7.175E-06	0.0000	0.000E+00	0.0000	2.238E-01	0.0677	4.519E-03	0.0014	1.342E-03	0.0004	2.347E-04	0.0001
Total	1.634E+00	0.4946	4.045E-04	0.0001	0.000E+00	0.0000	1.625E+00	0.4918	9.292E-03	0.0028	4.873E-03	0.0015	3.039E-02	0.0092

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	6.899E-02	0.0209
Pb-210	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	6.091E-01	0.1844
Ra-226	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	2.394E+00	0.7247
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	2.314E-01	0.0700
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	3.303E+00	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	4.127E-02	0.0137	3.451E-08	0.0000	0.000E+00	0.0000	1.926E-03	0.0006	1.684E-04	0.0001	5.499E-05	0.0000	1.515E-05	0.0000
Pb-210	3.307E-04	0.0001	1.092E-04	0.0000	0.000E+00	0.0000	3.048E-01	0.1009	1.042E-03	0.0003	5.078E-04	0.0002	9.590E-03	0.0032
Ra-226	1.481E+00	0.4902	2.699E-04	0.0001	0.000E+00	0.0000	1.026E+00	0.3397	3.250E-03	0.0011	2.764E-03	0.0009	1.919E-02	0.0064
Sr-90	8.439E-04	0.0003	3.992E-06	0.0000	0.000E+00	0.0000	1.245E-01	0.0412	2.514E-03	0.0008	7.464E-04	0.0002	1.305E-04	0.0000
Total	1.523E+00	0.5042	3.831E-04	0.0001	0.000E+00	0.0000	1.457E+00	0.4824	6.975E-03	0.0023	4.073E-03	0.0013	2.893E-02	0.0096

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	4.343E-02	0.0144
Pb-210	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	3.164E-01	0.1047
Ra-226	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	2.533E+00	0.8383
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	1.287E-01	0.0426
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	3.021E+00	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	8.167E-03	0.0034	6.831E-09	0.0000	0.000E+00	0.0000	3.812E-04	0.0002	3.333E-05	0.0000	1.088E-05	0.0000	2.999E-06	0.0000
Pb-210	3.342E-05	0.0000	1.103E-05	0.0000	0.000E+00	0.0000	3.080E-02	0.0130	1.053E-04	0.0000	5.130E-05	0.0000	9.690E-04	0.0004
Ra-226	1.217E+00	0.5125	3.034E-04	0.0001	0.000E+00	0.0000	1.071E+00	0.4511	3.450E-03	0.0015	2.651E-03	0.0011	2.294E-02	0.0097
Sr-90	1.084E-04	0.0000	5.127E-07	0.0000	0.000E+00	0.0000	1.599E-02	0.0067	3.229E-04	0.0001	9.586E-05	0.0000	1.677E-05	0.0000
Total	1.225E+00	0.5160	3.149E-04	0.0001	0.000E+00	0.0000	1.118E+00	0.4710	3.912E-03	0.0016	2.809E-03	0.0012	2.393E-02	0.0101

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	8.596E-03	0.0036
Pb-210	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	3.197E-02	0.0135
Ra-226	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	2.317E+00	0.9760
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	1.653E-02	0.0070
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	2.375E+00	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	7.981E-05	0.0001	6.675E-11	0.0000	0.000E+00	0.0000	3.725E-06	0.0000	3.257E-07	0.0000	1.064E-07	0.0000	2.930E-08	0.0000
Pb-210	4.783E-08	0.0000	1.579E-08	0.0000	0.000E+00	0.0000	4.408E-05	0.0000	1.507E-07	0.0000	7.343E-08	0.0000	1.387E-06	0.0000
Ra-226	6.942E-01	0.5176	1.796E-04	0.0001	0.000E+00	0.0000	6.292E-01	0.4692	2.030E-03	0.0015	1.542E-03	0.0012	1.366E-02	0.0102
Sr-90	3.078E-07	0.0000	1.456E-09	0.0000	0.000E+00	0.0000	4.541E-05	0.0000	9.171E-07	0.0000	2.723E-07	0.0000	4.762E-08	0.0000
Total	6.943E-01	0.5177	1.796E-04	0.0001	0.000E+00	0.0000	6.293E-01	0.4693	2.032E-03	0.0015	1.543E-03	0.0012	1.366E-02	0.0102

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	8.400E-05	0.0001
Pb-210	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	4.576E-05	0.0000
Ra-226	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	1.341E+00	0.9998
Sr-90	5.558E-05	0.0000	1.971E-08	0.0000	0.000E+00	0.0000	2.197E-06	0.0000	2.283E-07	0.0000	1.246E-07	0.0000	1.051E-04	0.0001
Total	5.558E-05	0.0000	1.971E-08	0.0000	0.000E+00	0.0000	2.197E-06	0.0000	2.283E-07	0.0000	1.246E-07	0.0000	1.341E+00	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	7.362E-12	0.0000	6.158E-18	0.0000	0.000E+00	0.0000	3.436E-13	0.0000	3.005E-14	0.0000	9.812E-15	0.0000	2.703E-15	0.0000
Pb-210	5.305E-18	0.0000	1.751E-18	0.0000	0.000E+00	0.0000	4.890E-15	0.0000	1.672E-17	0.0000	8.145E-18	0.0000	1.538E-16	0.0000
Ra-226	9.731E-02	0.0425	2.518E-05	0.0000	0.000E+00	0.0000	8.821E-02	0.0385	2.846E-04	0.0001	2.162E-04	0.0001	1.915E-03	0.0008
Sr-90	3.759E-16	0.0000	1.778E-18	0.0000	0.000E+00	0.0000	5.545E-14	0.0000	1.120E-15	0.0000	3.324E-16	0.0000	5.815E-17	0.0000
Total	9.731E-02	0.0425	2.518E-05	0.0000	0.000E+00	0.0000	8.821E-02	0.0385	2.846E-04	0.0001	2.162E-04	0.0001	1.915E-03	0.0008

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	7.749E-12	0.0000
Pb-210	4.041E-14	0.0000	5.918E-17	0.0000	0.000E+00	0.0000	1.486E-15	0.0000	1.651E-17	0.0000	1.355E-17	0.0000	4.706E-14	0.0000
Ra-226	2.024E+00	0.8835	2.532E-03	0.0011	0.000E+00	0.0000	7.457E-02	0.0325	8.714E-04	0.0004	1.005E-03	0.0004	2.291E+00	1.0000
Sr-90	2.110E-13	0.0000	7.483E-17	0.0000	0.000E+00	0.0000	8.345E-15	0.0000	8.683E-16	0.0000	4.734E-16	0.0000	2.781E-13	0.0000
Total	2.024E+00	0.8835	2.532E-03	0.0011	0.000E+00	0.0000	7.457E-02	0.0325	8.714E-04	0.0004	1.005E-03	0.0004	2.291E+00	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	1.850E+00	1.808E+00	1.726E+00	1.468E+00	9.240E-01	1.829E-01	1.787E-03	1.649E-10
Pb-210+D	Pb-210+D	1.000E+00	3.084E+00	2.985E+00	2.795E+00	2.223E+00	1.155E+00	1.167E-01	1.670E-04	1.718E-13
Ra-226+D	Ra-226+D	1.000E+00	8.099E+00	8.076E+00	8.031E+00	7.875E+00	7.445E+00	6.117E+00	3.489E+00	2.065E+00
Ra-226+D	Pb-210+D	1.000E+00	5.678E-02	1.523E-01	3.305E-01	8.621E-01	1.798E+00	2.341E+00	1.404E+00	6.297E+00
Ra-226+D	∑DSR(j)		8.156E+00	8.229E+00	8.362E+00	8.737E+00	9.243E+00	8.458E+00	4.894E+00	8.362E+00
Sr-90+D	Sr-90+D	1.000E+00	1.939E+00	1.883E+00	1.776E+00	1.446E+00	8.046E-01	1.033E-01	6.570E-04	1.738E-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	1.351E+01	1.383E+01	1.448E+01	1.703E+01	2.706E+01	1.367E+02	1.399E+04	1.516E+11
Pb-210	8.106E+00	8.376E+00	8.943E+00	1.125E+01	2.165E+01	2.143E+02	1.497E+05	*7.634E+13
Ra-226	3.065E+00	3.038E+00	2.990E+00	2.861E+00	2.705E+00	2.956E+00	5.109E+00	2.990E+00
Sr-90	1.289E+01	1.328E+01	1.408E+01	1.729E+01	3.107E+01	2.419E+02	3.805E+04	1.438E+13

*At specific activity limit

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	4.700E-02	0.000E+00	1.850E+00	1.351E+01	1.850E+00	1.351E+01
Pb-210	2.740E-01	0.000E+00	3.084E+00	8.106E+00	3.084E+00	8.106E+00
Ra-226	2.740E-01	39.75 ± 0.08	9.289E+00	2.691E+00	8.156E+00	3.065E+00
Sr-90	1.600E-01	0.000E+00	1.939E+00	1.289E+01	1.939E+00	1.289E+01

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	8.695E-02	8.497E-02	8.112E-02	6.899E-02	4.343E-02	8.596E-03	8.400E-05	7.749E-12
Pb-210	Pb-210	1.000E+00	8.450E-01	8.178E-01	7.660E-01	6.091E-01	3.164E-01	3.197E-02	4.576E-05	4.706E-14
Pb-210	Ra-226	1.000E+00	1.556E-02	4.172E-02	9.056E-02	2.362E-01	4.927E-01	6.415E-01	3.848E-01	1.726E+00
Pb-210	∑DOSE(j)		8.606E-01	8.595E-01	8.565E-01	8.453E-01	8.090E-01	6.734E-01	3.848E-01	1.726E+00
Ra-226	Ra-226	1.000E+00	2.219E+00	2.213E+00	2.201E+00	2.158E+00	2.040E+00	1.676E+00	9.560E-01	5.658E-01
Sr-90	Sr-90	1.000E+00	3.102E-01	3.013E-01	2.841E-01	2.314E-01	1.287E-01	1.653E-02	1.051E-04	2.781E-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	4.700E-02	4.592E-02	4.385E-02	3.729E-02	2.347E-02	4.646E-03	4.540E-05	4.188E-12
Pb-210	Pb-210	1.000E+00	2.740E-01	2.652E-01	2.484E-01	1.975E-01	1.026E-01	1.037E-02	1.484E-05	1.646E-15
Pb-210	Ra-226	1.000E+00	0.000E+00	8.367E-03	2.423E-02	7.156E-02	1.550E-01	2.041E-01	1.225E-01	1.718E-02
Pb-210	∑S(j):		2.740E-01	2.735E-01	2.726E-01	2.690E-01	2.576E-01	2.145E-01	1.226E-01	1.718E-02
Ra-226	Ra-226	1.000E+00	2.740E-01	2.732E-01	2.717E-01	2.664E-01	2.519E-01	2.069E-01	1.180E-01	1.655E-02
Sr-90	Sr-90	1.000E+00	1.600E-01	1.554E-01	1.465E-01	1.193E-01	6.639E-02	8.527E-03	2.422E-05	2.957E-14

THF(i) is the thread fraction of the parent nuclide.

RESCALC.EXE execution time = 2.94 seconds

Table of Contents

Part III: Intake Quantities and Health Risk Factors

Cancer Risk Slope Factors 2
Risk Slope and ETFG for the Ground Pathway 3
Amount of Intake Quantities and Excess Cancer Risks
Time= 0.000E+00 4
Time= 1.000E+00 7
Time= 3.000E+00 10
Time= 1.000E+01 13
Time= 3.000E+01 16
Time= 1.000E+02 19
Time= 3.000E+02 22
Time= 1.000E+03 25

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	Pb-210+D	4.21E-09	1.41E-09	SLPF(2,1)
Sf-1	Ra-226+D	8.49E-06	2.29E-08	SLPF(3,1)
Sf-1	Sr-90+D	1.96E-08	4.82E-10	SLPF(4,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Cs-137+D	1.12E-10	1.12E-10	SLPF(1,2)
Sf-2	Pb-210+D	3.08E-08	1.58E-08	SLPF(2,2)
Sf-2	Ra-226+D	2.83E-08	2.82E-08	SLPF(3,2)
Sf-2	Sr-90+D	4.33E-10	4.25E-10	SLPF(4,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,3)
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(2,3)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(3,3)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(4,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.04E-11	3.04E-11	SLPF(1,4)
Sf-3	Pb-210+D	2.66E-09	8.81E-10	SLPF(2,4)
Sf-3	Ra-226+D	3.86E-10	3.85E-10	SLPF(3,4)
Sf-3	Sr-90+D	7.40E-11	5.59E-11	SLPF(4,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,5)
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(2,5)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(3,5)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(4,5)
Sf-Rn	Radon Inhalation slope factors, 1/(pCi):			
Sf-Rn	Rn-222	1.80E-12	1.80E-12	SLPFRN(1,1)
Sf-Rn	Po-218	3.70E-12	3.70E-12	SLPFRN(1,2)
Sf-Rn	Pb-214	6.20E-12	6.20E-12	SLPFRN(1,3)
Sf-Rn	Bi-214	1.50E-11	1.50E-11	SLPFRN(1,4)
Sf-Rn	Radon K factors, (mrem/WLM):			
Sf-Rn	Rn-222 Indoor	7.60E+02	7.60E+02	KFACTR(1,1)
Sf-Rn	Rn-222 Outdoor	5.70E+02	5.70E+02	KFACTR(1,2)

*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
At-218	3.570E-09	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01
Ba-137m	2.690E-06	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01
Bi-210	2.760E-09	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01
Bi-214	7.480E-06	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01
Cs-137	5.320E-10	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01
Pb-210	1.410E-09	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01
Pb-214	9.820E-07	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01
Po-210	3.950E-11	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01
Po-214	3.860E-10	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01
Po-218	4.260E-11	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01
Ra-226	2.290E-08	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01
Rn-222	1.740E-09	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01
Sr-90	4.820E-10	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01
Tl-210	0.000E+00	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01
Y-90	1.910E-08	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-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	2.191E-03	7.802E+01	6.822E+00	2.228E+00	6.137E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.768E+01
Pb-210	1.278E-02	1.137E+02	3.887E-01	1.894E-01	3.578E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.179E+02
Ra-226	1.278E-02	4.548E+02	1.326E+00	1.623E+00	3.578E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.614E+02
Sr-90	7.460E-03	1.992E+03	4.020E+01	1.194E+01	2.089E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.046E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.349E-06	0.0227	5.309E-12	0.0000	6.312E-08	0.0011	5.519E-09	0.0001	1.802E-09	0.0000	4.965E-10	0.0000
Pb-210	1.801E-08	0.0003	1.145E-08	0.0002	1.144E-05	0.1930	3.939E-08	0.0007	1.912E-08	0.0003	3.590E-07	0.0061
Ra-226	3.521E-05	0.5939	1.039E-08	0.0002	6.737E-06	0.1136	1.964E-08	0.0003	2.405E-08	0.0004	5.299E-08	0.0009
Sr-90	3.276E-08	0.0006	6.452E-11	0.0000	3.789E-06	0.0639	7.650E-08	0.0013	2.271E-08	0.0004	3.973E-09	0.0001
Total	3.661E-05	0.6175	2.191E-08	0.0004	2.203E-05	0.3716	1.411E-07	0.0024	6.768E-08	0.0011	4.164E-07	0.0070

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	1.420E-06	0.0239
Pb-210	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	1.189E-05	0.2006
Ra-226	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	4.205E-05	0.7093
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	3.925E-06	0.0662
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	5.929E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.349E-06	0.0227	5.309E-12	0.0000	0.000E+00	0.0000	6.312E-08	0.0011	5.519E-09	0.0001	1.802E-09	0.0000	4.965E-10	0.0000
Pb-210	1.181E-08	0.0002	7.506E-09	0.0001	0.000E+00	0.0000	7.480E-06	0.1262	2.557E-08	0.0004	1.246E-08	0.0002	2.353E-07	0.0040
Ra-226	3.522E-05	0.5940	1.434E-08	0.0002	0.000E+00	0.0000	1.070E-05	0.1805	3.345E-08	0.0006	3.071E-08	0.0005	1.766E-07	0.0030
Sr-90	3.276E-08	0.0006	6.452E-11	0.0000	0.000E+00	0.0000	3.789E-06	0.0639	7.650E-08	0.0013	2.271E-08	0.0004	3.973E-09	0.0001
Total	3.661E-05	0.6175	2.191E-08	0.0004	0.000E+00	0.0000	2.203E-05	0.3716	1.411E-07	0.0024	6.768E-08	0.0011	4.164E-07	0.0070

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	1.420E-06	0.0239
Pb-210	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	7.773E-06	0.1311
Ra-226	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	4.617E-05	0.7788
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	3.925E-06	0.0662
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	5.929E-05	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	2.141E-03	7.624E+01	6.666E+00	2.177E+00	5.997E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.568E+01
Pb-210	1.275E-02	1.139E+02	3.923E-01	1.904E-01	3.572E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.181E+02
Ra-226	1.274E-02	4.536E+02	1.323E+00	1.619E+00	3.568E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.601E+02
Sr-90	7.245E-03	1.935E+03	3.907E+01	1.160E+01	2.029E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.987E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.318E-06	0.0223	5.187E-12	0.0000	6.167E-08	0.0010	5.393E-09	0.0001	1.761E-09	0.0000	4.851E-10	0.0000
Pb-210	1.798E-08	0.0003	1.143E-08	0.0002	1.142E-05	0.1936	3.934E-08	0.0007	1.909E-08	0.0003	3.582E-07	0.0061
Ra-226	3.511E-05	0.5951	1.036E-08	0.0002	6.718E-06	0.1139	1.959E-08	0.0003	2.398E-08	0.0004	5.284E-08	0.0009
Sr-90	3.181E-08	0.0005	6.265E-11	0.0000	3.679E-06	0.0624	7.430E-08	0.0013	2.206E-08	0.0004	3.858E-09	0.0001
Total	3.648E-05	0.6182	2.186E-08	0.0004	2.188E-05	0.3709	1.386E-07	0.0023	6.689E-08	0.0011	4.154E-07	0.0070

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	1.387E-06	0.0235
Pb-210	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	1.187E-05	0.2012
Ra-226	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	4.194E-05	0.7107
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	3.811E-06	0.0646
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	5.900E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.318E-06	0.0223	5.187E-12	0.0000	0.000E+00	0.0000	6.167E-08	0.0010	5.393E-09	0.0001	1.761E-09	0.0000	4.851E-10	0.0000
Pb-210	1.143E-08	0.0002	7.265E-09	0.0001	0.000E+00	0.0000	7.239E-06	0.1227	2.475E-08	0.0004	1.206E-08	0.0002	2.278E-07	0.0039
Ra-226	3.512E-05	0.5952	1.452E-08	0.0002	0.000E+00	0.0000	1.090E-05	0.1848	3.418E-08	0.0006	3.101E-08	0.0005	1.833E-07	0.0031
Sr-90	3.181E-08	0.0005	6.265E-11	0.0000	0.000E+00	0.0000	3.679E-06	0.0624	7.430E-08	0.0013	2.206E-08	0.0004	3.858E-09	0.0001
Total	3.648E-05	0.6182	2.186E-08	0.0004	0.000E+00	0.0000	2.188E-05	0.3709	1.386E-07	0.0023	6.689E-08	0.0011	4.154E-07	0.0070

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	1.387E-06	0.0235
Pb-210	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	7.523E-06	0.1275
Ra-226	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	4.628E-05	0.7844
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	3.811E-06	0.0646
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	5.900E-05	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	2.044E-03	7.279E+01	6.365E+00	2.078E+00	5.726E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.180E+01
Pb-210	1.271E-02	1.135E+02	3.909E-01	1.897E-01	3.559E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.177E+02
Ra-226	1.267E-02	4.511E+02	1.315E+00	1.610E+00	3.548E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.575E+02
Sr-90	6.832E-03	1.825E+03	3.685E+01	1.094E+01	1.913E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.874E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.258E-06	0.0215	4.953E-12	0.0000	5.888E-08	0.0010	5.149E-09	0.0001	1.681E-09	0.0000	4.632E-10	0.0000
Pb-210	1.790E-08	0.0003	1.138E-08	0.0002	1.138E-05	0.1947	3.917E-08	0.0007	1.901E-08	0.0003	3.567E-07	0.0061
Ra-226	3.491E-05	0.5974	1.030E-08	0.0002	6.680E-06	0.1143	1.948E-08	0.0003	2.385E-08	0.0004	5.254E-08	0.0009
Sr-90	3.000E-08	0.0005	5.908E-11	0.0000	3.470E-06	0.0594	7.007E-08	0.0012	2.080E-08	0.0004	3.639E-09	0.0001
Total	3.622E-05	0.6198	2.175E-08	0.0004	2.158E-05	0.3694	1.339E-07	0.0023	6.534E-08	0.0011	4.134E-07	0.0071

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	1.324E-06	0.0227
Pb-210	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	1.182E-05	0.2023
Ra-226	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	4.170E-05	0.7136
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	3.594E-06	0.0615
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	5.844E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.258E-06	0.0215	4.953E-12	0.0000	0.000E+00	0.0000	5.888E-08	0.0010	5.149E-09	0.0001	1.681E-09	0.0000	4.632E-10	0.0000
Pb-210	1.070E-08	0.0002	6.804E-09	0.0001	0.000E+00	0.0000	6.780E-06	0.1160	2.318E-08	0.0004	1.129E-08	0.0002	2.133E-07	0.0037
Ra-226	3.492E-05	0.5976	1.488E-08	0.0003	0.000E+00	0.0000	1.128E-05	0.1929	3.547E-08	0.0006	3.156E-08	0.0005	1.960E-07	0.0034
Sr-90	3.000E-08	0.0005	5.908E-11	0.0000	0.000E+00	0.0000	3.470E-06	0.0594	7.007E-08	0.0012	2.080E-08	0.0004	3.639E-09	0.0001
Total	3.622E-05	0.6198	2.175E-08	0.0004	0.000E+00	0.0000	2.158E-05	0.3694	1.339E-07	0.0023	6.534E-08	0.0011	4.134E-07	0.0071

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	1.324E-06	0.0227
Pb-210	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	7.046E-06	0.1206
Ra-226	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	4.647E-05	0.7953
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	3.594E-06	0.0615
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	5.844E-05	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	1.739E-03	6.190E+01	5.413E+00	1.768E+00	4.869E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.957E+01
Pb-210	1.254E-02	1.120E+02	3.858E-01	1.872E-01	3.513E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.161E+02
Ra-226	1.242E-02	4.423E+02	1.290E+00	1.579E+00	3.479E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.486E+02
Sr-90	5.564E-03	1.486E+03	3.001E+01	8.909E+00	1.558E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.527E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.070E-06	0.0189	4.212E-12	0.0000	5.008E-08	0.0009	4.379E-09	0.0001	1.430E-09	0.0000	3.939E-10	0.0000
Pb-210	1.763E-08	0.0003	1.120E-08	0.0002	1.120E-05	0.1980	3.858E-08	0.0007	1.872E-08	0.0003	3.513E-07	0.0062
Ra-226	3.423E-05	0.6050	1.010E-08	0.0002	6.550E-06	0.1158	1.910E-08	0.0003	2.338E-08	0.0004	5.152E-08	0.0009
Sr-90	2.443E-08	0.0004	4.812E-11	0.0000	2.826E-06	0.0499	5.707E-08	0.0010	1.694E-08	0.0003	2.963E-09	0.0001
Total	3.535E-05	0.6247	2.136E-08	0.0004	2.063E-05	0.3646	1.191E-07	0.0021	6.048E-08	0.0011	4.062E-07	0.0072

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	1.126E-06	0.0199
Pb-210	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	1.164E-05	0.2057
Ra-226	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	4.089E-05	0.7226
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	2.927E-06	0.0517
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	5.658E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.070E-06	0.0189	4.212E-12	0.0000	0.000E+00	0.0000	5.008E-08	0.0009	4.379E-09	0.0001	1.430E-09	0.0000	3.939E-10	0.0000
Pb-210	8.511E-09	0.0002	5.410E-09	0.0001	0.000E+00	0.0000	5.392E-06	0.0953	1.843E-08	0.0003	8.981E-09	0.0002	1.696E-07	0.0030
Ra-226	3.424E-05	0.6052	1.590E-08	0.0003	0.000E+00	0.0000	1.236E-05	0.2185	3.924E-08	0.0007	3.312E-08	0.0006	2.332E-07	0.0041
Sr-90	2.443E-08	0.0004	4.812E-11	0.0000	0.000E+00	0.0000	2.826E-06	0.0499	5.707E-08	0.0010	1.694E-08	0.0003	2.963E-09	0.0001
Total	3.535E-05	0.6247	2.136E-08	0.0004	0.000E+00	0.0000	2.063E-05	0.3646	1.191E-07	0.0021	6.048E-08	0.0011	4.062E-07	0.0072

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	1.126E-06	0.0199
Pb-210	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	5.602E-06	0.0990
Ra-226	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	4.693E-05	0.8293
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	2.927E-06	0.0517
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	5.658E-05	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	1.095E-03	3.897E+01	3.408E+00	1.113E+00	3.065E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.379E+01
Pb-210	1.201E-02	1.073E+02	3.693E-01	1.792E-01	3.363E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.112E+02
Ra-226	1.174E-02	4.181E+02	1.219E+00	1.493E+00	3.289E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.241E+02
Sr-90	3.096E-03	8.267E+02	1.670E+01	4.957E+00	8.670E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.493E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	6.736E-07	0.0129	2.652E-12	0.0000	3.152E-08	0.0006	2.757E-09	0.0001	9.001E-10	0.0000	2.480E-10	0.0000
Pb-210	1.680E-08	0.0003	1.068E-08	0.0002	1.068E-05	0.2050	3.677E-08	0.0007	1.785E-08	0.0003	3.349E-07	0.0064
Ra-226	3.237E-05	0.6213	9.552E-09	0.0002	6.193E-06	0.1189	1.806E-08	0.0003	2.211E-08	0.0004	4.871E-08	0.0009
Sr-90	1.359E-08	0.0003	2.677E-11	0.0000	1.572E-06	0.0302	3.175E-08	0.0006	9.426E-09	0.0002	1.649E-09	0.0000
Total	3.307E-05	0.6349	2.026E-08	0.0004	1.848E-05	0.3547	8.933E-08	0.0017	5.028E-08	0.0010	3.855E-07	0.0074

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	7.090E-07	0.0136
Pb-210	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	1.110E-05	0.2130
Ra-226	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	3.866E-05	0.7421
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	1.629E-06	0.0313
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	5.209E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	6.736E-07	0.0129	2.652E-12	0.0000	0.000E+00	0.0000	3.152E-08	0.0006	2.757E-09	0.0001	9.001E-10	0.0000	2.480E-10	0.0000
Pb-210	4.421E-09	0.0001	2.811E-09	0.0001	0.000E+00	0.0000	2.801E-06	0.0538	9.575E-09	0.0002	4.665E-09	0.0001	8.812E-08	0.0017
Ra-226	3.238E-05	0.6216	1.742E-08	0.0003	0.000E+00	0.0000	1.407E-05	0.2701	4.525E-08	0.0009	3.529E-08	0.0007	2.955E-07	0.0057
Sr-90	1.359E-08	0.0003	2.677E-11	0.0000	0.000E+00	0.0000	1.572E-06	0.0302	3.175E-08	0.0006	9.426E-09	0.0002	1.649E-09	0.0000
Total	3.307E-05	0.6349	2.026E-08	0.0004	0.000E+00	0.0000	1.848E-05	0.3547	8.933E-08	0.0017	5.028E-08	0.0010	3.855E-07	0.0074

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	7.090E-07	0.0136
Pb-210	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	2.910E-06	0.0559
Ra-226	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	4.684E-05	0.8993
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	1.629E-06	0.0313
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	5.209E-05	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	2.166E-04	7.713E+00	6.744E-01	2.202E-01	6.067E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.668E+00
Pb-210	9.999E-03	8.929E+01	3.074E-01	1.492E-01	2.800E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.255E+01
Ra-226	9.649E-03	3.436E+02	1.002E+00	1.226E+00	2.702E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.485E+02
Sr-90	3.976E-04	1.062E+02	2.144E+00	6.366E-01	1.113E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.091E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.333E-07	0.0032	5.248E-13	0.0000	6.239E-09	0.0002	5.456E-10	0.0000	1.781E-10	0.0000	4.908E-11	0.0000
Pb-210	1.393E-08	0.0003	8.853E-09	0.0002	8.851E-06	0.2143	3.047E-08	0.0007	1.479E-08	0.0004	2.776E-07	0.0067
Ra-226	2.659E-05	0.6438	7.848E-09	0.0002	5.088E-06	0.1232	1.484E-08	0.0004	1.816E-08	0.0004	4.002E-08	0.0010
Sr-90	1.746E-09	0.0000	3.438E-12	0.0000	2.019E-07	0.0049	4.078E-09	0.0001	1.211E-09	0.0000	2.117E-10	0.0000
Total	2.674E-05	0.6474	1.671E-08	0.0004	1.415E-05	0.3425	4.993E-08	0.0012	3.434E-08	0.0008	3.179E-07	0.0077

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	1.403E-07	0.0034
Pb-210	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	9.196E-06	0.2226
Ra-226	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	3.176E-05	0.7689
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	2.092E-07	0.0051
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	4.131E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.333E-07	0.0032	5.248E-13	0.0000	0.000E+00	0.0000	6.239E-09	0.0002	5.456E-10	0.0000	1.781E-10	0.0000	4.908E-11	0.0000
Pb-210	4.467E-10	0.0000	2.840E-10	0.0000	0.000E+00	0.0000	2.830E-07	0.0069	9.675E-10	0.0000	4.714E-10	0.0000	8.903E-09	0.0002
Ra-226	2.661E-05	0.6441	1.642E-08	0.0004	0.000E+00	0.0000	1.366E-05	0.3306	4.434E-08	0.0011	3.248E-08	0.0008	3.087E-07	0.0075
Sr-90	1.746E-09	0.0000	3.438E-12	0.0000	0.000E+00	0.0000	2.019E-07	0.0049	4.078E-09	0.0001	1.211E-09	0.0000	2.117E-10	0.0000
Total	2.674E-05	0.6474	1.671E-08	0.0004	0.000E+00	0.0000	1.415E-05	0.3425	4.993E-08	0.0012	3.434E-08	0.0008	3.179E-07	0.0077

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	1.403E-07	0.0034
Pb-210	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	2.941E-07	0.0071
Ra-226	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	4.066E-05	0.9844
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	2.092E-07	0.0051
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	4.131E-05	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	2.117E-06	7.537E-02	6.591E-03	2.152E-03	5.929E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.470E-02
Pb-210	5.714E-03	5.103E+01	1.757E-01	8.527E-02	1.600E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.289E+01
Ra-226	5.504E-03	1.960E+02	5.714E-01	6.996E-01	1.541E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.988E+02
Sr-90	1.129E-06	3.016E-01	6.090E-03	1.808E-03	3.162E-04	3.669E-01	1.301E-04	1.451E-02	1.507E-03	8.227E-04	6.937E-01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.303E-09	0.0001	5.128E-15	0.0000	6.097E-11	0.0000	5.331E-12	0.0000	1.741E-12	0.0000	4.796E-13	0.0000
Pb-210	7.954E-09	0.0003	5.056E-09	0.0002	5.055E-06	0.2163	1.740E-08	0.0007	8.447E-09	0.0004	1.585E-07	0.0068
Ra-226	1.517E-05	0.6490	4.477E-09	0.0002	2.902E-06	0.1242	8.462E-09	0.0004	1.036E-08	0.0004	2.283E-08	0.0010
Sr-90	4.958E-12	0.0000	9.766E-15	0.0000	5.735E-10	0.0000	1.158E-11	0.0000	3.438E-12	0.0000	6.014E-13	0.0000
Total	1.518E-05	0.6494	9.533E-09	0.0004	7.958E-06	0.3405	2.588E-08	0.0011	1.881E-08	0.0008	1.814E-07	0.0078

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	1.371E-09	0.0001
Pb-210	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	5.252E-06	0.2247
Ra-226	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	1.812E-05	0.7752
Sr-90	6.297E-10	0.0000	2.875E-13	0.0000	3.206E-11	0.0000	3.331E-12	0.0000	1.818E-12	0.0000	1.261E-09	0.0001
Total	6.297E-10	0.0000	2.875E-13	0.0000	3.206E-11	0.0000	3.331E-12	0.0000	1.818E-12	0.0000	2.337E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.303E-09	0.0001	5.128E-15	0.0000	0.000E+00	0.0000	6.097E-11	0.0000	5.331E-12	0.0000	1.741E-12	0.0000	4.796E-13	0.0000
Pb-210	6.394E-13	0.0000	4.065E-13	0.0000	0.000E+00	0.0000	4.051E-10	0.0000	1.385E-12	0.0000	6.747E-13	0.0000	1.274E-11	0.0000
Ra-226	1.518E-05	0.6494	9.533E-09	0.0004	0.000E+00	0.0000	7.957E-06	0.3404	2.587E-08	0.0011	1.881E-08	0.0008	1.813E-07	0.0078
Sr-90	4.958E-12	0.0000	9.766E-15	0.0000	0.000E+00	0.0000	5.735E-10	0.0000	1.158E-11	0.0000	3.438E-12	0.0000	6.014E-13	0.0000
Total	1.518E-05	0.6494	9.533E-09	0.0004	0.000E+00	0.0000	7.958E-06	0.3405	2.588E-08	0.0011	1.881E-08	0.0008	1.814E-07	0.0078

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	1.371E-09	0.0001
Pb-210	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	4.209E-10	0.0000
Ra-226	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	2.337E-05	0.9999
Sr-90	6.297E-10	0.0000	2.875E-13	0.0000	0.000E+00	0.0000	3.206E-11	0.0000	3.331E-12	0.0000	1.818E-12	0.0000	1.261E-09	0.0001
Total	6.297E-10	0.0000	2.875E-13	0.0000	0.000E+00	0.0000	3.206E-11	0.0000	3.331E-12	0.0000	1.818E-12	0.0000	2.337E-05	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	1.953E-13	6.952E-09	6.080E-10	1.985E-10	5.469E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.814E-09
Pb-210	8.010E-04	7.153E+00	2.463E-02	1.195E-02	2.243E-01	2.211E+02	3.236E-01	8.130E+00	9.055E-02	7.419E-02	2.371E+02
Ra-226	7.715E-04	2.747E+01	8.009E-02	9.806E-02	2.161E-01	3.145E+02	1.333E-01	1.165E+01	1.607E-01	3.517E-01	3.547E+02
Sr-90	1.379E-15	3.682E-10	7.437E-12	2.208E-12	3.862E-13	1.402E-09	4.971E-13	5.543E-11	5.768E-12	3.145E-12	1.845E-09

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.202E-16	0.0000	4.731E-22	0.0000	5.624E-18	0.0000	4.918E-19	0.0000	1.606E-19	0.0000	4.424E-20	0.0000
Pb-210	1.115E-09	0.0000	7.088E-10	0.0000	7.086E-07	0.0275	2.440E-09	0.0001	1.184E-09	0.0000	2.222E-08	0.0009
Ra-226	2.126E-06	0.0825	6.276E-10	0.0000	4.068E-07	0.0158	1.186E-09	0.0000	1.452E-09	0.0001	3.200E-09	0.0001
Sr-90	6.054E-21	0.0000	1.192E-23	0.0000	7.003E-19	0.0000	1.414E-20	0.0000	4.198E-21	0.0000	7.343E-22	0.0000
Total	2.127E-06	0.0825	1.336E-09	0.0001	1.115E-06	0.0433	3.626E-09	0.0001	2.636E-09	0.0001	2.542E-08	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+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	1.265E-16	0.0000
Pb-210	1.775E-05	0.6888	3.364E-08	0.0013	8.452E-07	0.0328	9.414E-09	0.0004	7.713E-09	0.0003	1.939E-05	0.7521
Ra-226	3.660E-06	0.1420	2.072E-09	0.0001	1.810E-07	0.0070	2.497E-09	0.0001	5.463E-09	0.0002	6.390E-06	0.2479
Sr-90	2.058E-18	0.0000	9.398E-22	0.0000	1.048E-19	0.0000	1.091E-20	0.0000	5.946E-21	0.0000	2.906E-18	0.0000
Total	2.141E-05	0.8307	3.572E-08	0.0014	1.026E-06	0.0398	1.191E-08	0.0005	1.318E-08	0.0005	2.578E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.202E-16	0.0000	4.731E-22	0.0000	0.000E+00	0.0000	5.624E-18	0.0000	4.918E-19	0.0000	1.606E-19	0.0000	4.424E-20	0.0000
Pb-210	7.093E-23	0.0000	4.509E-23	0.0000	0.000E+00	0.0000	4.493E-20	0.0000	1.536E-22	0.0000	7.484E-23	0.0000	1.414E-21	0.0000
Ra-226	2.127E-06	0.0825	1.336E-09	0.0001	0.000E+00	0.0000	1.115E-06	0.0433	3.626E-09	0.0001	2.636E-09	0.0001	2.542E-08	0.0010
Sr-90	6.054E-21	0.0000	1.192E-23	0.0000	0.000E+00	0.0000	7.003E-19	0.0000	1.414E-20	0.0000	4.198E-21	0.0000	7.343E-22	0.0000
Total	2.127E-06	0.0825	1.336E-09	0.0001	0.000E+00	0.0000	1.115E-06	0.0433	3.626E-09	0.0001	2.636E-09	0.0001	2.542E-08	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+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	1.265E-16	0.0000
Pb-210	3.017E-19	0.0000	5.719E-22	0.0000	0.000E+00	0.0000	1.436E-20	0.0000	1.595E-22	0.0000	1.309E-22	0.0000	3.636E-19	0.0000
Ra-226	2.141E-05	0.8307	3.572E-08	0.0014	0.000E+00	0.0000	1.026E-06	0.0398	1.191E-08	0.0005	1.318E-08	0.0005	2.578E-05	1.0000
Sr-90	2.058E-18	0.0000	9.398E-22	0.0000	0.000E+00	0.0000	1.048E-19	0.0000	1.091E-20	0.0000	5.946E-21	0.0000	2.906E-18	0.0000
Total	2.141E-05	0.8307	3.572E-08	0.0014	0.000E+00	0.0000	1.026E-06	0.0398	1.191E-08	0.0005	1.318E-08	0.0005	2.578E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

ATTACHMENT 8

TRENCH UNIT
RESRAD REPORT
(on CD only)

This page intentionally left blank.

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary ... 2
Site-Specific Parameter Summary 4
Summary of Pathway Selections 8
Contaminated Zone and Total Dose Summary 9
Total Dose Components
Time = 0.000E+00 10
Time = 1.000E+00 11
Time = 3.000E+00 12
Time = 1.000E+01 13
Time = 3.000E+01 14
Time = 1.000E+02 15
Time = 3.000E+02 16
Time = 1.000E+03 17
Dose/Source Ratios Summed Over All Pathways 18
Single Radionuclide Soil Guidelines 18
Dose Per Nuclide Summed Over All Pathways 19
Soil Concentration Per Nuclide 19

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	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(1)
A-1	Ba-137m (Source: FGR 12)	3.606E+00	3.606E+00	DCF1(2)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(3)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(4)
A-1	Cs-137 (Source: FGR 12)	7.510E-04	7.510E-04	DCF1(5)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(6)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(7)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(8)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(9)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(10)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(11)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(12)
A-1	Sr-90 (Source: FGR 12)	7.043E-04	7.043E-04	DCF1(13)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(14)
A-1	Y-90 (Source: FGR 12)	2.391E-02	2.391E-02	DCF1(15)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Cs-137+D	3.190E-05	3.190E-05	DCF2(1)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(2)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(3)
B-1	Sr-90+D	1.308E-03	1.300E-03	DCF2(4)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Cs-137+D	5.000E-05	5.000E-05	DCF3(1)
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(2)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(3)
D-1	Sr-90+D	1.528E-04	1.420E-04	DCF3(4)
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	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(2,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(2,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(3,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(3,3)
D-34				
D-34	Sr-90+D , plant/soil concentration ratio, dimensionless	3.000E-01	3.000E-01	RTF(4,1)
D-34	Sr-90+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-03	8.000E-03	RTF(4,2)
D-34	Sr-90+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-03	2.000E-03	RTF(4,3)
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				

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(2,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(2,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(3,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(3,2)
D-5				
D-5	Sr-90+D , fish	6.000E+01	6.000E+01	BIOFAC(4,1)
D-5	Sr-90+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(4,2)

#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)	4.770E+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)	2.184E+01	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	4.000E-02	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Pb-210	1.460E-01	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Ra-226	1.460E-01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Sr-90	3.050E-01	0.000E+00	---	S1(4)
R012	Concentration in groundwater (pCi/L): Cs-137	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L): Sr-90	not used	0.000E+00	---	W1(4)
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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
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 Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.663E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.374E-03	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Sr-90				
R016	Contaminated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	3.000E+01	3.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.516E-03	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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)
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	0.239E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.238E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.238E-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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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)
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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
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:	477.00 square meters	Cs-137	4.000E-02
Thickness:	2.00 meters	Pb-210	1.460E-01
Cover Depth:	0.00 meters	Ra-226	1.460E-01
		Sr-90	3.050E-01

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):	2.306E+00	2.284E+00	2.240E+00	2.100E+00	1.800E+00	1.291E+00	7.147E-01	1.221E+00
M(t):	9.225E-02	9.135E-02	8.958E-02	8.400E-02	7.202E-02	5.163E-02	2.859E-02	4.884E-02

Maximum TDOSE(t): 2.306E+00 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	7.032E-02	0.0305	5.881E-08	0.0000	0.000E+00	0.0000	3.282E-03	0.0014	2.870E-04	0.0001	9.371E-05	0.0000	2.582E-05	0.0000
Pb-210	4.706E-04	0.0002	1.553E-04	0.0001	0.000E+00	0.0000	4.338E-01	0.1881	1.483E-03	0.0006	7.226E-04	0.0003	1.365E-02	0.0059
Ra-226	8.581E-01	0.3721	6.085E-05	0.0000	0.000E+00	0.0000	3.277E-01	0.1421	9.690E-04	0.0004	1.157E-03	0.0005	2.728E-03	0.0012
Sr-90	3.877E-03	0.0017	1.834E-05	0.0000	0.000E+00	0.0000	5.719E-01	0.2480	1.155E-02	0.0050	3.428E-03	0.0015	5.997E-04	0.0003
Total	9.328E-01	0.4044	2.346E-04	0.0001	0.000E+00	0.0000	1.337E+00	0.5796	1.429E-02	0.0062	5.401E-03	0.0023	1.700E-02	0.0074

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	7.400E-02	0.0321
Pb-210	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	4.503E-01	0.1952
Ra-226	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	1.191E+00	0.5163
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	5.914E-01	0.2564
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	2.306E+00	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	6.871E-02	0.0301	5.747E-08	0.0000	0.000E+00	0.0000	3.207E-03	0.0014	2.804E-04	0.0001	9.156E-05	0.0000	2.523E-05	0.0000
Pb-210	4.555E-04	0.0002	1.503E-04	0.0001	0.000E+00	0.0000	4.198E-01	0.1838	1.435E-03	0.0006	6.993E-04	0.0003	1.321E-02	0.0058
Ra-226	8.557E-01	0.3747	6.542E-05	0.0000	0.000E+00	0.0000	3.403E-01	0.1490	1.014E-03	0.0004	1.176E-03	0.0005	3.137E-03	0.0014
Sr-90	3.765E-03	0.0016	1.781E-05	0.0000	0.000E+00	0.0000	5.554E-01	0.2432	1.122E-02	0.0049	3.330E-03	0.0015	5.824E-04	0.0003
Total	9.286E-01	0.4066	2.336E-04	0.0001	0.000E+00	0.0000	1.319E+00	0.5774	1.395E-02	0.0061	5.297E-03	0.0023	1.695E-02	0.0074

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	7.231E-02	0.0317
Pb-210	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	4.358E-01	0.1908
Ra-226	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	1.201E+00	0.5261
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	5.743E-01	0.2515
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	2.284E+00	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	6.560E-02	0.0293	5.487E-08	0.0000	0.000E+00	0.0000	3.062E-03	0.0014	2.677E-04	0.0001	8.742E-05	0.0000	2.408E-05	0.0000
Pb-210	4.266E-04	0.0002	1.408E-04	0.0001	0.000E+00	0.0000	3.932E-01	0.1756	1.344E-03	0.0006	6.550E-04	0.0003	1.237E-02	0.0055
Ra-226	8.509E-01	0.3800	7.408E-05	0.0000	0.000E+00	0.0000	3.636E-01	0.1623	1.094E-03	0.0005	1.212E-03	0.0005	3.912E-03	0.0017
Sr-90	3.550E-03	0.0016	1.679E-05	0.0000	0.000E+00	0.0000	5.237E-01	0.2339	1.058E-02	0.0047	3.140E-03	0.0014	5.492E-04	0.0002
Total	9.205E-01	0.4110	2.317E-04	0.0001	0.000E+00	0.0000	1.284E+00	0.5731	1.328E-02	0.0059	5.094E-03	0.0023	1.686E-02	0.0075

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	6.904E-02	0.0308
Pb-210	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	4.081E-01	0.1822
Ra-226	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	1.221E+00	0.5451
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	5.416E-01	0.2418
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	2.240E+00	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	5.579E-02	0.0266	4.666E-08	0.0000	0.000E+00	0.0000	2.604E-03	0.0012	2.277E-04	0.0001	7.435E-05	0.0000	2.048E-05	0.0000
Pb-210	3.392E-04	0.0002	1.120E-04	0.0001	0.000E+00	0.0000	3.127E-01	0.1489	1.069E-03	0.0005	5.208E-04	0.0002	9.836E-03	0.0047
Ra-226	8.345E-01	0.3974	9.974E-05	0.0000	0.000E+00	0.0000	4.322E-01	0.2058	1.332E-03	0.0006	1.314E-03	0.0006	6.217E-03	0.0030
Sr-90	2.892E-03	0.0014	1.368E-05	0.0000	0.000E+00	0.0000	4.266E-01	0.2031	8.614E-03	0.0041	2.557E-03	0.0012	4.473E-04	0.0002
Total	8.935E-01	0.4255	2.254E-04	0.0001	0.000E+00	0.0000	1.174E+00	0.5591	1.124E-02	0.0054	4.467E-03	0.0021	1.652E-02	0.0079

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	5.872E-02	0.0280
Pb-210	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	3.245E-01	0.1545
Ra-226	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	1.276E+00	0.6074
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	4.411E-01	0.2100
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	2.100E+00	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	3.512E-02	0.0195	2.937E-08	0.0000	0.000E+00	0.0000	1.639E-03	0.0009	1.433E-04	0.0001	4.680E-05	0.0000	1.289E-05	0.0000
Pb-210	1.762E-04	0.0001	5.816E-05	0.0000	0.000E+00	0.0000	1.624E-01	0.0902	5.553E-04	0.0003	2.706E-04	0.0002	5.110E-03	0.0028
Ra-226	7.891E-01	0.4383	1.438E-04	0.0001	0.000E+00	0.0000	5.468E-01	0.3037	1.732E-03	0.0010	1.473E-03	0.0008	1.023E-02	0.0057
Sr-90	1.609E-03	0.0009	7.609E-06	0.0000	0.000E+00	0.0000	2.373E-01	0.1318	4.793E-03	0.0027	1.423E-03	0.0008	2.489E-04	0.0001
Total	8.260E-01	0.4588	2.096E-04	0.0001	0.000E+00	0.0000	9.482E-01	0.5267	7.223E-03	0.0040	3.213E-03	0.0018	1.560E-02	0.0087

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	3.696E-02	0.0205
Pb-210	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	1.686E-01	0.0936
Ra-226	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	1.349E+00	0.7495
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	2.454E-01	0.1363
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	1.800E+00	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	6.951E-03	0.0054	5.814E-09	0.0000	0.000E+00	0.0000	3.244E-04	0.0003	2.837E-05	0.0000	9.263E-06	0.0000	2.552E-06	0.0000
Pb-210	1.781E-05	0.0000	5.877E-06	0.0000	0.000E+00	0.0000	1.641E-02	0.0127	5.611E-05	0.0000	2.734E-05	0.0000	5.163E-04	0.0004
Ra-226	6.484E-01	0.5024	1.617E-04	0.0001	0.000E+00	0.0000	5.708E-01	0.4422	1.838E-03	0.0014	1.412E-03	0.0011	1.223E-02	0.0095
Sr-90	2.066E-04	0.0002	9.773E-07	0.0000	0.000E+00	0.0000	3.048E-02	0.0236	6.155E-04	0.0005	1.827E-04	0.0001	3.196E-05	0.0000
Total	6.556E-01	0.5079	1.685E-04	0.0001	0.000E+00	0.0000	6.180E-01	0.4788	2.538E-03	0.0020	1.632E-03	0.0013	1.278E-02	0.0099

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	7.316E-03	0.0057
Pb-210	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	1.703E-02	0.0132
Ra-226	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	1.235E+00	0.9567
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	3.152E-02	0.0244
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	1.291E+00	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	6.792E-05	0.0001	5.681E-11	0.0000	0.000E+00	0.0000	3.170E-06	0.0000	2.772E-07	0.0000	9.052E-08	0.0000	2.494E-08	0.0000
Pb-210	2.548E-08	0.0000	8.412E-09	0.0000	0.000E+00	0.0000	2.349E-05	0.0000	8.031E-08	0.0000	3.913E-08	0.0000	7.390E-07	0.0000
Ra-226	3.699E-01	0.5175	9.569E-05	0.0001	0.000E+00	0.0000	3.353E-01	0.4691	1.082E-03	0.0015	8.218E-04	0.0011	7.279E-03	0.0102
Sr-90	5.868E-07	0.0000	2.776E-09	0.0000	0.000E+00	0.0000	8.657E-05	0.0001	1.748E-06	0.0000	5.190E-07	0.0000	9.078E-08	0.0000
Total	3.700E-01	0.5176	9.570E-05	0.0001	0.000E+00	0.0000	3.354E-01	0.4692	1.084E-03	0.0015	8.225E-04	0.0012	7.279E-03	0.0102

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	7.149E-05	0.0001
Pb-210	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	2.438E-05	0.0000
Ra-226	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	7.145E-01	0.9996
Sr-90	1.060E-04	0.0001	3.757E-08	0.0000	0.000E+00	0.0000	4.189E-06	0.0000	4.352E-07	0.0000	2.376E-07	0.0000	2.004E-04	0.0003
Total	1.060E-04	0.0001	3.757E-08	0.0000	0.000E+00	0.0000	4.189E-06	0.0000	4.352E-07	0.0000	2.376E-07	0.0000	7.147E-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+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	6.266E-12	0.0000	5.241E-18	0.0000	0.000E+00	0.0000	2.925E-13	0.0000	2.557E-14	0.0000	8.350E-15	0.0000	2.300E-15	0.0000
Pb-210	2.827E-18	0.0000	9.331E-19	0.0000	0.000E+00	0.0000	2.606E-15	0.0000	8.908E-18	0.0000	4.340E-18	0.0000	8.197E-17	0.0000
Ra-226	5.185E-02	0.0425	1.341E-05	0.0000	0.000E+00	0.0000	4.700E-02	0.0385	1.517E-04	0.0001	1.152E-04	0.0001	1.020E-03	0.0008
Sr-90	7.166E-16	0.0000	3.389E-18	0.0000	0.000E+00	0.0000	1.057E-13	0.0000	2.135E-15	0.0000	6.337E-16	0.0000	1.108E-16	0.0000
Total	5.185E-02	0.0425	1.341E-05	0.0000	0.000E+00	0.0000	4.700E-02	0.0385	1.517E-04	0.0001	1.152E-04	0.0001	1.020E-03	0.0008

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	6.595E-12	0.0000
Pb-210	2.153E-14	0.0000	3.154E-17	0.0000	0.000E+00	0.0000	7.916E-16	0.0000	8.795E-18	0.0000	7.219E-18	0.0000	2.508E-14	0.0000
Ra-226	1.079E+00	0.8835	1.349E-03	0.0011	0.000E+00	0.0000	3.973E-02	0.0325	4.643E-04	0.0004	5.353E-04	0.0004	1.221E+00	1.0000
Sr-90	4.022E-13	0.0000	1.426E-16	0.0000	0.000E+00	0.0000	1.591E-14	0.0000	1.655E-15	0.0000	9.024E-16	0.0000	5.302E-13	0.0000
Total	1.079E+00	0.8835	1.349E-03	0.0011	0.000E+00	0.0000	3.973E-02	0.0325	4.643E-04	0.0004	5.353E-04	0.0004	1.221E+00	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	1.850E+00	1.808E+00	1.726E+00	1.468E+00	9.240E-01	1.829E-01	1.787E-03	1.649E-10
Pb-210+D	Pb-210+D	1.000E+00	3.084E+00	2.985E+00	2.795E+00	2.223E+00	1.155E+00	1.167E-01	1.670E-04	1.718E-13
Ra-226+D	Ra-226+D	1.000E+00	8.099E+00	8.076E+00	8.031E+00	7.875E+00	7.445E+00	6.117E+00	3.489E+00	2.065E+00
Ra-226+D	Pb-210+D	1.000E+00	5.678E-02	1.523E-01	3.305E-01	8.621E-01	1.798E+00	2.341E+00	1.404E+00	6.297E+00
Ra-226+D	∑DSR(j)		8.156E+00	8.229E+00	8.362E+00	8.737E+00	9.243E+00	8.458E+00	4.894E+00	8.362E+00
Sr-90+D	Sr-90+D	1.000E+00	1.939E+00	1.883E+00	1.776E+00	1.446E+00	8.046E-01	1.033E-01	6.570E-04	1.738E-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	1.351E+01	1.383E+01	1.448E+01	1.703E+01	2.706E+01	1.367E+02	1.399E+04	1.516E+11
Pb-210	8.106E+00	8.376E+00	8.943E+00	1.125E+01	2.165E+01	2.143E+02	1.497E+05	*7.634E+13
Ra-226	3.065E+00	3.038E+00	2.990E+00	2.861E+00	2.705E+00	2.956E+00	5.109E+00	2.990E+00
Sr-90	1.289E+01	1.328E+01	1.408E+01	1.729E+01	3.107E+01	2.419E+02	3.805E+04	1.438E+13

*At specific activity limit

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	4.000E-02	0.000E+00	1.850E+00	1.351E+01	1.850E+00	1.351E+01
Pb-210	1.460E-01	0.000E+00	3.084E+00	8.106E+00	3.084E+00	8.106E+00
Ra-226	1.460E-01	39.75 ± 0.08	9.289E+00	2.691E+00	8.156E+00	3.065E+00
Sr-90	3.050E-01	0.000E+00	1.939E+00	1.289E+01	1.939E+00	1.289E+01

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	7.400E-02	7.231E-02	6.904E-02	5.872E-02	3.696E-02	7.316E-03	7.149E-05	6.595E-12
Pb-210	Pb-210	1.000E+00	4.503E-01	4.358E-01	4.081E-01	3.245E-01	1.686E-01	1.703E-02	2.438E-05	2.508E-14
Pb-210	Ra-226	1.000E+00	8.290E-03	2.223E-02	4.825E-02	1.259E-01	2.625E-01	3.418E-01	2.050E-01	9.194E-01
Pb-210	∑DOSE(j)		4.586E-01	4.580E-01	4.564E-01	4.504E-01	4.311E-01	3.588E-01	2.051E-01	9.194E-01
Ra-226	Ra-226	1.000E+00	1.182E+00	1.179E+00	1.173E+00	1.150E+00	1.087E+00	8.931E-01	5.094E-01	3.015E-01
Sr-90	Sr-90	1.000E+00	5.914E-01	5.743E-01	5.416E-01	4.411E-01	2.454E-01	3.152E-02	2.004E-04	5.302E-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	4.000E-02	3.908E-02	3.732E-02	3.174E-02	1.998E-02	3.954E-03	3.864E-05	3.564E-12
Pb-210	Pb-210	1.000E+00	1.460E-01	1.413E-01	1.323E-01	1.052E-01	5.467E-02	5.524E-03	7.906E-06	8.769E-16
Pb-210	Ra-226	1.000E+00	0.000E+00	4.458E-03	1.291E-02	3.813E-02	8.258E-02	1.087E-01	6.529E-02	9.154E-03
Pb-210	∑S(j):		1.460E-01	1.458E-01	1.453E-01	1.434E-01	1.372E-01	1.143E-01	6.530E-02	9.154E-03
Ra-226	Ra-226	1.000E+00	1.460E-01	1.456E-01	1.448E-01	1.420E-01	1.342E-01	1.103E-01	6.290E-02	8.817E-03
Sr-90	Sr-90	1.000E+00	3.050E-01	2.962E-01	2.793E-01	2.275E-01	1.266E-01	1.625E-02	4.617E-05	5.637E-14

THF(i) is the thread fraction of the parent nuclide.

RESCALC.EXE execution time = 2.78 seconds

Table of Contents

Part III: Intake Quantities and Health Risk Factors

Cancer Risk Slope Factors 2
Risk Slope and ETFG for the Ground Pathway 3
Amount of Intake Quantities and Excess Cancer Risks
Time= 0.000E+00 4
Time= 1.000E+00 7
Time= 3.000E+00 10
Time= 1.000E+01 13
Time= 3.000E+01 16
Time= 1.000E+02 19
Time= 3.000E+02 22
Time= 1.000E+03 25

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	Pb-210+D	4.21E-09	1.41E-09	SLPF(2,1)
Sf-1	Ra-226+D	8.49E-06	2.29E-08	SLPF(3,1)
Sf-1	Sr-90+D	1.96E-08	4.82E-10	SLPF(4,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Cs-137+D	1.12E-10	1.12E-10	SLPF(1,2)
Sf-2	Pb-210+D	3.08E-08	1.58E-08	SLPF(2,2)
Sf-2	Ra-226+D	2.83E-08	2.82E-08	SLPF(3,2)
Sf-2	Sr-90+D	4.33E-10	4.25E-10	SLPF(4,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,3)
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(2,3)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(3,3)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(4,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.04E-11	3.04E-11	SLPF(1,4)
Sf-3	Pb-210+D	2.66E-09	8.81E-10	SLPF(2,4)
Sf-3	Ra-226+D	3.86E-10	3.85E-10	SLPF(3,4)
Sf-3	Sr-90+D	7.40E-11	5.59E-11	SLPF(4,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Cs-137+D	3.74E-11	3.74E-11	SLPF(1,5)
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(2,5)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(3,5)
Sf-3	Sr-90+D	9.53E-11	6.88E-11	SLPF(4,5)
Sf-Rn	Radon Inhalation slope factors, 1/(pCi):			
Sf-Rn	Rn-222	1.80E-12	1.80E-12	SLPFRN(1,1)
Sf-Rn	Po-218	3.70E-12	3.70E-12	SLPFRN(1,2)
Sf-Rn	Pb-214	6.20E-12	6.20E-12	SLPFRN(1,3)
Sf-Rn	Bi-214	1.50E-11	1.50E-11	SLPFRN(1,4)
Sf-Rn	Radon K factors, (mrem/WLM):			
Sf-Rn	Rn-222 Indoor	7.60E+02	7.60E+02	KFACTR(1,1)
Sf-Rn	Rn-222 Outdoor	5.70E+02	5.70E+02	KFACTR(1,2)

*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
At-218	3.570E-09	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01	5.422E-01
Ba-137m	2.690E-06	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01
Bi-210	2.760E-09	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01	5.320E-01
Bi-214	7.480E-06	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01	5.255E-01
Cs-137	5.320E-10	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01	5.393E-01
Pb-210	1.410E-09	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01	5.439E-01
Pb-214	9.820E-07	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01	5.318E-01
Po-210	3.950E-11	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01
Po-214	3.860E-10	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01	5.212E-01
Po-218	4.260E-11	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01
Ra-226	2.290E-08	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01	5.419E-01
Rn-222	1.740E-09	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01	5.224E-01
Sr-90	4.820E-10	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01	5.417E-01
Tl-210	0.000E+00	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01
Y-90	1.910E-08	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-01	5.235E-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	1.865E-03	6.640E+01	5.806E+00	1.896E+00	5.223E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.462E+01
Pb-210	6.807E-03	6.059E+01	2.071E-01	1.009E-01	1.906E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.281E+01
Ra-226	6.807E-03	2.424E+02	7.064E-01	8.650E-01	1.906E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.458E+02
Sr-90	1.422E-02	3.797E+03	7.662E+01	2.275E+01	3.983E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.901E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.148E-06	0.0307	4.518E-12	0.0000	5.372E-08	0.0014	4.697E-09	0.0001	1.534E-09	0.0000	4.225E-10	0.0000
Pb-210	9.598E-09	0.0003	6.101E-09	0.0002	6.098E-06	0.1629	2.099E-08	0.0006	1.019E-08	0.0003	1.913E-07	0.0051
Ra-226	1.876E-05	0.5012	5.537E-09	0.0001	3.590E-06	0.0959	1.047E-08	0.0003	1.281E-08	0.0003	2.823E-08	0.0008
Sr-90	6.244E-08	0.0017	1.230E-10	0.0000	7.222E-06	0.1929	1.458E-07	0.0039	4.330E-08	0.0012	7.574E-09	0.0002
Total	1.998E-05	0.5338	1.177E-08	0.0003	1.696E-05	0.4532	1.820E-07	0.0049	6.783E-08	0.0018	2.275E-07	0.0061

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	1.208E-06	0.0323
Pb-210	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	6.336E-06	0.1693
Ra-226	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	2.241E-05	0.5986
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	7.481E-06	0.1999
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	3.743E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.148E-06	0.0307	4.518E-12	0.0000	0.000E+00	0.0000	5.372E-08	0.0014	4.697E-09	0.0001	1.534E-09	0.0000	4.225E-10	0.0000
Pb-210	6.292E-09	0.0002	4.000E-09	0.0001	0.000E+00	0.0000	3.986E-06	0.1065	1.363E-08	0.0004	6.639E-09	0.0002	1.254E-07	0.0033
Ra-226	1.876E-05	0.5013	7.638E-09	0.0002	0.000E+00	0.0000	5.702E-06	0.1523	1.783E-08	0.0005	1.636E-08	0.0004	9.411E-08	0.0025
Sr-90	6.244E-08	0.0017	1.230E-10	0.0000	0.000E+00	0.0000	7.222E-06	0.1929	1.458E-07	0.0039	4.330E-08	0.0012	7.574E-09	0.0002
Total	1.998E-05	0.5338	1.177E-08	0.0003	0.000E+00	0.0000	1.696E-05	0.4532	1.820E-07	0.0049	6.783E-08	0.0018	2.275E-07	0.0061

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	1.208E-06	0.0323
Pb-210	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	4.142E-06	0.1106
Ra-226	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	2.460E-05	0.6572
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	7.481E-06	0.1999
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	3.743E-05	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	1.822E-03	6.488E+01	5.673E+00	1.853E+00	5.104E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.292E+01
Pb-210	6.796E-03	6.070E+01	2.090E-01	1.014E-01	1.903E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.291E+01
Ra-226	6.788E-03	2.417E+02	7.047E-01	8.628E-01	1.901E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.452E+02
Sr-90	1.381E-02	3.688E+03	7.448E+01	2.211E+01	3.868E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.789E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.121E-06	0.0302	4.415E-12	0.0000	5.249E-08	0.0014	4.590E-09	0.0001	1.499E-09	0.0000	4.129E-10	0.0000
Pb-210	9.578E-09	0.0003	6.088E-09	0.0002	6.087E-06	0.1640	2.096E-08	0.0006	1.017E-08	0.0003	1.909E-07	0.0051
Ra-226	1.871E-05	0.5041	5.522E-09	0.0001	3.580E-06	0.0964	1.044E-08	0.0003	1.278E-08	0.0003	2.816E-08	0.0008
Sr-90	6.064E-08	0.0016	1.194E-10	0.0000	7.014E-06	0.1890	1.416E-07	0.0038	4.205E-08	0.0011	7.355E-09	0.0002
Total	1.990E-05	0.5362	1.173E-08	0.0003	1.673E-05	0.4508	1.776E-07	0.0048	6.650E-08	0.0018	2.268E-07	0.0061

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	1.180E-06	0.0318
Pb-210	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	6.325E-06	0.1704
Ra-226	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	2.235E-05	0.6020
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	7.265E-06	0.1958
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	3.712E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.121E-06	0.0302	4.415E-12	0.0000	0.000E+00	0.0000	5.249E-08	0.0014	4.590E-09	0.0001	1.499E-09	0.0000	4.129E-10	0.0000
Pb-210	6.090E-09	0.0002	3.871E-09	0.0001	0.000E+00	0.0000	3.857E-06	0.1039	1.319E-08	0.0004	6.426E-09	0.0002	1.214E-07	0.0033
Ra-226	1.871E-05	0.5042	7.739E-09	0.0002	0.000E+00	0.0000	5.809E-06	0.1565	1.821E-08	0.0005	1.653E-08	0.0004	9.768E-08	0.0026
Sr-90	6.064E-08	0.0016	1.194E-10	0.0000	0.000E+00	0.0000	7.014E-06	0.1890	1.416E-07	0.0038	4.205E-08	0.0011	7.355E-09	0.0002
Total	1.990E-05	0.5362	1.173E-08	0.0003	0.000E+00	0.0000	1.673E-05	0.4508	1.776E-07	0.0048	6.650E-08	0.0018	2.268E-07	0.0061

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	1.180E-06	0.0318
Pb-210	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	4.008E-06	0.1080
Ra-226	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	2.466E-05	0.6644
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	7.265E-06	0.1958
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	3.712E-05	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	1.740E-03	6.195E+01	5.417E+00	1.769E+00	4.873E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.962E+01
Pb-210	6.772E-03	6.049E+01	2.083E-01	1.011E-01	1.897E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.269E+01
Ra-226	6.750E-03	2.403E+02	7.008E-01	8.580E-01	1.890E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.438E+02
Sr-90	1.302E-02	3.478E+03	7.024E+01	2.085E+01	3.647E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.573E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.071E-06	0.0293	4.215E-12	0.0000	5.011E-08	0.0014	4.382E-09	0.0001	1.431E-09	0.0000	3.942E-10	0.0000
Pb-210	9.538E-09	0.0003	6.063E-09	0.0002	6.062E-06	0.1661	2.087E-08	0.0006	1.013E-08	0.0003	1.901E-07	0.0052
Ra-226	1.860E-05	0.5097	5.491E-09	0.0002	3.560E-06	0.0975	1.038E-08	0.0003	1.271E-08	0.0003	2.800E-08	0.0008
Sr-90	5.719E-08	0.0016	1.126E-10	0.0000	6.614E-06	0.1812	1.336E-07	0.0037	3.965E-08	0.0011	6.936E-09	0.0002
Total	1.974E-05	0.5409	1.167E-08	0.0003	1.629E-05	0.4462	1.692E-07	0.0046	6.392E-08	0.0018	2.254E-07	0.0062

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	1.127E-06	0.0309
Pb-210	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	6.298E-06	0.1726
Ra-226	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	2.222E-05	0.6088
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	6.852E-06	0.1877
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	3.650E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.071E-06	0.0293	4.215E-12	0.0000	0.000E+00	0.0000	5.011E-08	0.0014	4.382E-09	0.0001	1.431E-09	0.0000	3.942E-10	0.0000
Pb-210	5.703E-09	0.0002	3.625E-09	0.0001	0.000E+00	0.0000	3.613E-06	0.0990	1.235E-08	0.0003	6.018E-09	0.0002	1.137E-07	0.0031
Ra-226	1.861E-05	0.5098	7.928E-09	0.0002	0.000E+00	0.0000	6.008E-06	0.1646	1.890E-08	0.0005	1.682E-08	0.0005	1.044E-07	0.0029
Sr-90	5.719E-08	0.0016	1.126E-10	0.0000	0.000E+00	0.0000	6.614E-06	0.1812	1.336E-07	0.0037	3.965E-08	0.0011	6.936E-09	0.0002
Total	1.974E-05	0.5409	1.167E-08	0.0003	0.000E+00	0.0000	1.629E-05	0.4462	1.692E-07	0.0046	6.392E-08	0.0018	2.254E-07	0.0062

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	1.127E-06	0.0309
Pb-210	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	3.754E-06	0.1029
Ra-226	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	2.476E-05	0.6785
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	6.852E-06	0.1877
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	3.650E-05	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	1.480E-03	5.268E+01	4.607E+00	1.504E+00	4.144E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.921E+01
Pb-210	6.684E-03	5.970E+01	2.056E-01	9.977E-02	1.872E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.187E+01
Ra-226	6.619E-03	2.357E+02	6.871E-01	8.413E-01	1.854E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.391E+02
Sr-90	1.061E-02	2.833E+03	5.721E+01	1.698E+01	2.971E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.910E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	9.106E-07	0.0264	3.585E-12	0.0000	4.262E-08	0.0012	3.727E-09	0.0001	1.217E-09	0.0000	3.352E-10	0.0000
Pb-210	9.393E-09	0.0003	5.971E-09	0.0002	5.969E-06	0.1729	2.056E-08	0.0006	9.976E-09	0.0003	1.872E-07	0.0054
Ra-226	1.824E-05	0.5283	5.384E-09	0.0002	3.490E-06	0.1011	1.018E-08	0.0003	1.246E-08	0.0004	2.745E-08	0.0008
Sr-90	4.657E-08	0.0013	9.173E-11	0.0000	5.387E-06	0.1560	1.088E-07	0.0032	3.230E-08	0.0009	5.649E-09	0.0002
Total	1.921E-05	0.5563	1.145E-08	0.0003	1.489E-05	0.4312	1.432E-07	0.0041	5.595E-08	0.0016	2.206E-07	0.0064

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	9.585E-07	0.0278
Pb-210	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	6.202E-06	0.1796
Ra-226	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	2.179E-05	0.6310
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	5.580E-06	0.1616
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	3.453E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	9.106E-07	0.0264	3.585E-12	0.0000	0.000E+00	0.0000	4.262E-08	0.0012	3.727E-09	0.0001	1.217E-09	0.0000	3.352E-10	0.0000
Pb-210	4.535E-09	0.0001	2.883E-09	0.0001	0.000E+00	0.0000	2.873E-06	0.0832	9.822E-09	0.0003	4.785E-09	0.0001	9.038E-08	0.0026
Ra-226	1.825E-05	0.5284	8.472E-09	0.0002	0.000E+00	0.0000	6.587E-06	0.1908	2.091E-08	0.0006	1.765E-08	0.0005	1.243E-07	0.0036
Sr-90	4.657E-08	0.0013	9.173E-11	0.0000	0.000E+00	0.0000	5.387E-06	0.1560	1.088E-07	0.0032	3.230E-08	0.0009	5.649E-09	0.0002
Total	1.921E-05	0.5563	1.145E-08	0.0003	0.000E+00	0.0000	1.489E-05	0.4312	1.432E-07	0.0041	5.595E-08	0.0016	2.206E-07	0.0064

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	9.585E-07	0.0278
Pb-210	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	2.985E-06	0.0865
Ra-226	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	2.500E-05	0.7242
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	5.580E-06	0.1616
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	3.453E-05	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	9.315E-04	3.316E+01	2.900E+00	9.469E-01	2.609E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.727E+01
Pb-210	6.399E-03	5.715E+01	1.968E-01	9.551E-02	1.792E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.923E+01
Ra-226	6.258E-03	2.228E+02	6.496E-01	7.954E-01	1.752E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.260E+02
Sr-90	5.901E-03	1.576E+03	3.183E+01	9.448E+00	1.653E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.619E+03

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	5.732E-07	0.0190	2.257E-12	0.0000	2.683E-08	0.0009	2.346E-09	0.0001	7.660E-10	0.0000	2.110E-10	0.0000
Pb-210	8.954E-09	0.0003	5.692E-09	0.0002	5.690E-06	0.1883	1.959E-08	0.0006	9.509E-09	0.0003	1.784E-07	0.0059
Ra-226	1.725E-05	0.5707	5.090E-09	0.0002	3.300E-06	0.1092	9.621E-09	0.0003	1.178E-08	0.0004	2.595E-08	0.0009
Sr-90	2.591E-08	0.0009	5.103E-11	0.0000	2.997E-06	0.0992	6.052E-08	0.0020	1.797E-08	0.0006	3.143E-09	0.0001
Total	1.785E-05	0.5908	1.083E-08	0.0004	1.201E-05	0.3976	9.208E-08	0.0030	4.002E-08	0.0013	2.077E-07	0.0069

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	6.034E-07	0.0200
Pb-210	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	5.912E-06	0.1957
Ra-226	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	2.060E-05	0.6816
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	3.105E-06	0.1027
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	3.022E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	5.732E-07	0.0190	2.257E-12	0.0000	0.000E+00	0.0000	2.683E-08	0.0009	2.346E-09	0.0001	7.660E-10	0.0000	2.110E-10	0.0000
Pb-210	2.356E-09	0.0001	1.498E-09	0.0000	0.000E+00	0.0000	1.492E-06	0.0494	5.102E-09	0.0002	2.486E-09	0.0001	4.695E-08	0.0016
Ra-226	1.725E-05	0.5709	9.284E-09	0.0003	0.000E+00	0.0000	7.497E-06	0.2481	2.411E-08	0.0008	1.880E-08	0.0006	1.574E-07	0.0052
Sr-90	2.591E-08	0.0009	5.103E-11	0.0000	0.000E+00	0.0000	2.997E-06	0.0992	6.052E-08	0.0020	1.797E-08	0.0006	3.143E-09	0.0001
Total	1.785E-05	0.5908	1.083E-08	0.0004	0.000E+00	0.0000	1.201E-05	0.3976	9.208E-08	0.0030	4.002E-08	0.0013	2.077E-07	0.0069

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	6.034E-07	0.0200
Pb-210	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	1.551E-06	0.0513
Ra-226	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	2.496E-05	0.8260
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	3.105E-06	0.1027
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	3.022E-05	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	1.844E-04	6.564E+00	5.740E-01	1.874E-01	5.163E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.377E+00
Pb-210	5.328E-03	4.758E+01	1.638E-01	7.951E-02	1.492E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.931E+01
Ra-226	5.141E-03	1.831E+02	5.337E-01	6.535E-01	1.440E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.857E+02
Sr-90	7.579E-04	2.024E+02	4.088E+00	1.213E+00	2.123E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.079E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.135E-07	0.0051	4.466E-13	0.0000	5.310E-09	0.0002	4.643E-10	0.0000	1.516E-10	0.0000	4.177E-11	0.0000
Pb-210	7.421E-09	0.0003	4.717E-09	0.0002	4.716E-06	0.2111	1.624E-08	0.0007	7.881E-09	0.0004	1.479E-07	0.0066
Ra-226	1.417E-05	0.6342	4.182E-09	0.0002	2.711E-06	0.1213	7.905E-09	0.0004	9.678E-09	0.0004	2.132E-08	0.0010
Sr-90	3.328E-09	0.0001	6.554E-12	0.0000	3.849E-07	0.0172	7.773E-09	0.0003	2.308E-09	0.0001	4.036E-10	0.0000
Total	1.429E-05	0.6398	8.906E-09	0.0004	7.818E-06	0.3499	3.238E-08	0.0014	2.002E-08	0.0009	1.697E-07	0.0076

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	1.194E-07	0.0053
Pb-210	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	4.900E-06	0.2193
Ra-226	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	1.692E-05	0.7575
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	3.987E-07	0.0178
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	2.234E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.135E-07	0.0051	4.466E-13	0.0000	0.000E+00	0.0000	5.310E-09	0.0002	4.643E-10	0.0000	1.516E-10	0.0000	4.177E-11	0.0000
Pb-210	2.380E-10	0.0000	1.513E-10	0.0000	0.000E+00	0.0000	1.508E-07	0.0067	5.155E-10	0.0000	2.512E-10	0.0000	4.744E-09	0.0002
Ra-226	1.418E-05	0.6345	8.748E-09	0.0004	0.000E+00	0.0000	7.276E-06	0.3257	2.363E-08	0.0011	1.731E-08	0.0008	1.645E-07	0.0074
Sr-90	3.328E-09	0.0001	6.554E-12	0.0000	0.000E+00	0.0000	3.849E-07	0.0172	7.773E-09	0.0003	2.308E-09	0.0001	4.036E-10	0.0000
Total	1.429E-05	0.6398	8.906E-09	0.0004	0.000E+00	0.0000	7.818E-06	0.3499	3.238E-08	0.0014	2.002E-08	0.0009	1.697E-07	0.0076

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	1.194E-07	0.0053
Pb-210	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	1.567E-07	0.0070
Ra-226	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	2.167E-05	0.9698
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	3.987E-07	0.0178
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	2.234E-05	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	1.802E-06	6.414E-02	5.609E-03	1.831E-03	5.046E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.209E-02
Pb-210	3.045E-03	2.719E+01	9.362E-02	4.544E-02	8.527E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.818E+01
Ra-226	2.933E-03	1.044E+02	3.045E-01	3.728E-01	8.213E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.059E+02
Sr-90	2.153E-06	5.749E-01	1.161E-02	3.447E-03	6.028E-04	6.995E-01	2.480E-04	2.765E-02	2.873E-03	1.568E-03	1.322E+00

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.109E-09	0.0001	4.365E-15	0.0000	5.189E-11	0.0000	4.537E-12	0.0000	1.482E-12	0.0000	4.082E-13	0.0000
Pb-210	4.238E-09	0.0003	2.694E-09	0.0002	2.693E-06	0.2162	9.274E-09	0.0007	4.501E-09	0.0004	8.447E-08	0.0068
Ra-226	8.083E-06	0.6489	2.385E-09	0.0002	1.546E-06	0.1242	4.509E-09	0.0004	5.521E-09	0.0004	1.216E-08	0.0010
Sr-90	9.452E-12	0.0000	1.862E-14	0.0000	1.093E-09	0.0001	2.208E-11	0.0000	6.554E-12	0.0000	1.146E-12	0.0000
Total	8.088E-06	0.6493	5.080E-09	0.0004	4.241E-06	0.3405	1.381E-08	0.0011	1.003E-08	0.0008	9.664E-08	0.0078

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	1.167E-09	0.0001
Pb-210	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	2.799E-06	0.2247
Ra-226	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	9.654E-06	0.7750
Sr-90	1.200E-09	0.0001	5.481E-13	0.0000	6.111E-11	0.0000	6.350E-12	0.0000	3.466E-12	0.0000	2.404E-09	0.0002
Total	1.200E-09	0.0001	5.481E-13	0.0000	6.111E-11	0.0000	6.350E-12	0.0000	3.466E-12	0.0000	1.246E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.109E-09	0.0001	4.365E-15	0.0000	0.000E+00	0.0000	5.189E-11	0.0000	4.537E-12	0.0000	1.482E-12	0.0000	4.082E-13	0.0000
Pb-210	3.407E-13	0.0000	2.166E-13	0.0000	0.000E+00	0.0000	2.158E-10	0.0000	7.379E-13	0.0000	3.595E-13	0.0000	6.790E-12	0.0000
Ra-226	8.087E-06	0.6492	5.079E-09	0.0004	0.000E+00	0.0000	4.240E-06	0.3404	1.378E-08	0.0011	1.002E-08	0.0008	9.663E-08	0.0078
Sr-90	9.452E-12	0.0000	1.862E-14	0.0000	0.000E+00	0.0000	1.093E-09	0.0001	2.208E-11	0.0000	6.554E-12	0.0000	1.146E-12	0.0000
Total	8.088E-06	0.6493	5.080E-09	0.0004	0.000E+00	0.0000	4.241E-06	0.3405	1.381E-08	0.0011	1.003E-08	0.0008	9.664E-08	0.0078

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	1.167E-09	0.0001
Pb-210	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	2.243E-10	0.0000
Ra-226	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	1.245E-05	0.9997
Sr-90	1.200E-09	0.0001	5.481E-13	0.0000	0.000E+00	0.0000	6.111E-11	0.0000	6.350E-12	0.0000	3.466E-12	0.0000	2.404E-09	0.0002
Total	1.200E-09	0.0001	5.481E-13	0.0000	0.000E+00	0.0000	6.111E-11	0.0000	6.350E-12	0.0000	3.466E-12	0.0000	1.246E-05	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	1.662E-13	5.917E-09	5.174E-10	1.689E-10	4.654E-11	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.650E-09
Pb-210	4.268E-04	3.811E+00	1.312E-02	6.369E-03	1.195E-01	1.178E+02	1.724E-01	4.332E+00	4.825E-02	3.953E-02	1.263E+02
Ra-226	4.111E-04	1.464E+01	4.268E-02	5.225E-02	1.151E-01	1.676E+02	7.105E-02	6.209E+00	8.565E-02	1.874E-01	1.890E+02
Sr-90	2.628E-15	7.020E-10	1.418E-11	4.208E-12	7.361E-13	2.672E-09	9.475E-13	1.057E-10	1.099E-11	5.994E-12	3.517E-09

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.023E-16	0.0000	4.026E-22	0.0000	4.787E-18	0.0000	4.186E-19	0.0000	1.367E-19	0.0000	3.765E-20	0.0000
Pb-210	5.941E-10	0.0000	3.777E-10	0.0000	3.776E-07	0.0275	1.300E-09	0.0001	6.310E-10	0.0000	1.184E-08	0.0009
Ra-226	1.133E-06	0.0825	3.344E-10	0.0000	2.168E-07	0.0158	6.321E-10	0.0000	7.739E-10	0.0001	1.705E-09	0.0001
Sr-90	1.154E-20	0.0000	2.273E-23	0.0000	1.335E-18	0.0000	2.696E-20	0.0000	8.003E-21	0.0000	1.400E-21	0.0000
Total	1.134E-06	0.0825	7.121E-10	0.0001	5.943E-07	0.0433	1.932E-09	0.0001	1.405E-09	0.0001	1.355E-08	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+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	1.077E-16	0.0000
Pb-210	9.460E-06	0.6888	1.793E-08	0.0013	4.504E-07	0.0328	5.016E-09	0.0004	4.110E-09	0.0003	1.033E-05	0.7521
Ra-226	1.950E-06	0.1420	1.104E-09	0.0001	9.646E-08	0.0070	1.331E-09	0.0001	2.911E-09	0.0002	3.405E-06	0.2479
Sr-90	3.923E-18	0.0000	1.792E-21	0.0000	1.998E-19	0.0000	2.079E-20	0.0000	1.133E-20	0.0000	5.539E-18	0.0000
Total	1.141E-05	0.8307	1.903E-08	0.0014	5.468E-07	0.0398	6.347E-09	0.0005	7.021E-09	0.0005	1.373E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

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	1.023E-16	0.0000	4.026E-22	0.0000	0.000E+00	0.0000	4.787E-18	0.0000	4.186E-19	0.0000	1.367E-19	0.0000	3.765E-20	0.0000
Pb-210	3.779E-23	0.0000	2.402E-23	0.0000	0.000E+00	0.0000	2.394E-20	0.0000	8.185E-23	0.0000	3.988E-23	0.0000	7.532E-22	0.0000
Ra-226	1.134E-06	0.0825	7.121E-10	0.0001	0.000E+00	0.0000	5.943E-07	0.0433	1.932E-09	0.0001	1.405E-09	0.0001	1.355E-08	0.0010
Sr-90	1.154E-20	0.0000	2.273E-23	0.0000	0.000E+00	0.0000	1.335E-18	0.0000	2.696E-20	0.0000	8.003E-21	0.0000	1.400E-21	0.0000
Total	1.134E-06	0.0825	7.121E-10	0.0001	0.000E+00	0.0000	5.943E-07	0.0433	1.932E-09	0.0001	1.405E-09	0.0001	1.355E-08	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+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	1.077E-16	0.0000
Pb-210	1.608E-19	0.0000	3.048E-22	0.0000	0.000E+00	0.0000	7.650E-21	0.0000	8.500E-23	0.0000	6.977E-23	0.0000	1.938E-19	0.0000
Ra-226	1.141E-05	0.8307	1.903E-08	0.0014	0.000E+00	0.0000	5.468E-07	0.0398	6.347E-09	0.0005	7.021E-09	0.0005	1.373E-05	1.0000
Sr-90	3.923E-18	0.0000	1.792E-21	0.0000	0.000E+00	0.0000	1.998E-19	0.0000	2.079E-20	0.0000	1.133E-20	0.0000	5.539E-18	0.0000
Total	1.141E-05	0.8307	1.903E-08	0.0014	0.000E+00	0.0000	5.468E-07	0.0398	6.347E-09	0.0005	7.021E-09	0.0005	1.373E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

ATTACHMENT 9

RESPONSE TO COMMENTS

This page intentionally left blank.

RESPONSE TO COMMENTS
DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 84, 124, 129, 151, AND 153 (WORK PACKAGE 32)
PARCEL G SANITARY SEWER AND STORM DRAIN REMOVAL PROJECT
HUNTERS POINT 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

The California Department of Public Health's Environmental Management Branch has also received and reviewed the Draft SUPRs and has no further comments.

Comments Dated: January 26, 2011

SPECIFIC COMMENTS TO ALL DRAFT SUPRs	RESPONSE
Comment 1. Section 1.2 – Background (apply only to Draft SUPRs for survey units 84 and 129). Please verify that the "reuse criteria" used to evaluate chemicals of concern associated with the applicable IR Sites were the remediation goals established in the 2009 Parcel G Record of Decision. Same comment also applies to text in Section 3.2.	**Response 1.** Information pertaining to chemicals of concern can be found in Section 3.3 and Table 3-10 of the Parcel G Removal Action Completion Report (RACR). Samples collected from the IR Program sites were evaluated against the remediation goals established in the 2009 Parcel G Record of Decision.
Comment 2. Section 3.2 – Survey Unit(s) (apply only to Draft SUPRs for survey units 84 and 129). The text states that the spoils of the excavation were not used for backfill because some of the chemicals of concern associated with applicable IR Sites were "above the reuse criteria." It is unclear if all soils with contaminants exceeding reuse criteria were removed. Any potentially impacted soils exceeding remediation goals established in the 2009 Parcel G Record of Decision that remain in place will need to be addressed and documented as a component of the forthcoming Parcel G Remedial Action Completion Report.	**Response 2.** All soils exceeding the reuse criteria for any chemicals of concern were not used as backfill. This material was properly disposed of as non-Low Level Radiological Waste after being surveyed and cleared of radiological concerns. Additional information can be found in Section 3.3 and Table 3-4 of the Parcel G RACR.

RESPONSE TO COMMENTS DRAFT SURVEY UNIT PROJECT REPORTS FOR SURVEY UNITS 84, 124, 129, 151, AND 153 (WORK PACKAGE 32) PARCEL G SANITARY SEWER AND STORM DRAIN REMOVAL PROJECT HUNTERS POINT SHIPYARD SAN FRANCISCO, CALIFORNIA	
Comment 3. Section 3.2.1 – Trench Survey Unit. (a) Please provide the dates of excavation, sampling, and backfilling at each Survey Unit.	**Response 3a.** A complete discussion of the radiological activities performed for each trench survey unit, including dates of excavation, sampling, and backfilling, is provided in the Parcel G RACR.
(b) The total volume of material that was remediated from each trench survey unit identified as having contamination present that exceeded the release criteria should be presented in the text.	**Response 3b.** The volume of remediated material for each trench survey unit is provided in the Parcel G RACR text and Table 3-8.
Comment 4. Section 3.2.2 – Excavated Soil Unit(s)/Import Fill Material. 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 4.** 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 Section 4.2 of the Sampling and Analysis Plan. The Navy has provided this information in the Survey Unit Project Report Abstract, Section 3.2.6.
Comment 5. General comment. 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 5.** A complete discussion of each trench survey unit, including sediment sample analyses, pipe survey results, and final disposition, is provided in the Parcel G RACR text for each trench survey unit and in Tables 3-5 and 3-6.