



Final Status Survey Final Report Phase II

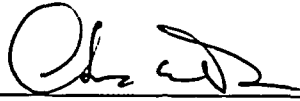
Appendix A12

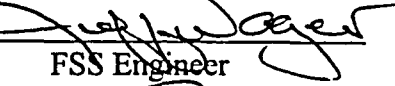
***Survey Unit Release Record
9536-0000, Construction Piles Near
Rifle Range***


February 2005



CYAPCO
FINAL STATUS SURVEY RELEASE RECORD
CONSTRUCTION PILES NEAR THE RIFLE RANGE AREA
SURVEY UNIT 9536-0000

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1. SURVEY UNIT DESCRIPTION

Survey Unit (SU) 9536-0000, (Construction Piles near the Rifle Range Area) is designated as Final Status Survey (FSS) Class 2 and consists of approximately 1,536 m² (0.38 acres) of open land area located approximately 0.85 miles from the center of the Haddam Neck Plant (HNP) Containment Building (see Attachment 1-Figure 1). Survey Unit 9536-0000 is at the south end of an excavated sandpit and adjacent to SU 9537-0000. The area topography was altered and graded to what was assumed the original grade. The area slopes upward to a wooded area (SU 9523-0000) and was cleared of all scrub growth and reseeded to prevent erosion.

The reference coordinates associated with the Construction Piles near the Rifle Range Area are E044 through E047 by S132 through S135 (refer to License Termination Plan Section 5.4.4). The reference coordinates provide the maximum dimensions of a rectangle containing this survey unit. Some areas contained in this rectangle may not be part of this survey unit. The boundary of the survey unit was defined using a Global Positioning System (GPS).

The historic files indicate the area was used to store spoils from construction activities conducted within the site boundary. Records show that soil and spoils were transported to the general vicinity as early as 1976. Specific details relevant to date or time period and exact location of placement were not available.

Excavation and trenching prior to FSS was performed in this survey unit for the purposes of removing materials and spoils (e.g., concrete, asphalt, metal, etc.). Radiological surveys for contamination did not identify radioactive material on these items.

2. CLASSIFICATION BASIS

The survey unit was classified in accordance with Procedure RPM 5.1-10, "*Survey Unit Classification*". The historical information and scoping analyses results provide sufficient data to designate SU 9536-0000 as Class 2 in August 2001.

The "*Classification Basis Summary*" conducted for SU 9523-0000 consisted of:

- a) A review of the 10CFR50.75 (g) (1) database,
- b) A review of the "*Initial Characterization Report*" and "*Historic Site Assessment Supplement*,"
- c) Historic and current survey records review,
- d) Personal interviews,
- e) Visual inspections and a "walk down."

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A review of the 10CFR50.75 (g) (1) database report identifies no events that might have impacted this survey unit.

A review of the "Initial and Supplemental Characterization Reports" as well as the previous "Classification Basis Summaries" provided no additional information relevant to final classification. The classification verification performed in August 2001 references scoping survey data obtained in 1997. According to the classification basis summary, seventy-nine (79) samples were obtained through biased sampling in the area. The samples were analyzed off-site by Yankee Atomic Electric Laboratory using gamma spectroscopy. The only plant-related radionuclide identified in the samples was Cs-137 at very low levels.

A Survey Sampling Work Plan (SSWP №. BCY-SSWP-03-08-003) was developed and implemented during September 2003 to obtain the necessary data of sufficient data quality for FSS planning purposes. Forty-five (45) samples were obtained from biased sampling throughout the area. The samples were analyzed at the HNP using gamma spectroscopy which identified Cs-137 and Co-60 at very low levels (refer to Table 1). The concentrations of Cs-137 found in the soil were below those concentrations determined from off-site locations as documented by Health Physics Technical Support Document (TSD) BCY-HP-0063, "Background Cs-137 Concentration in Soil."

Table 1 – Basis Statistical Quantities for
Cesium-137 and Cobalt-60 from the Characterization Survey

Parameter	Cesium-137 (pCi/g)	Cobalt-60 (pCi/g)
Minimum Value:	-0.010	-0.012
Maximum Value:	0.105	0.086
Mean:	0.033	0.011
Median:	0.018	0.010
Standard Deviation:	0.033	0.017
Measured Standard Deviation of the weighted sum ⁽¹⁾ :	0.0152	

(1) MARSSIM Section I.11.3 describes the use of the measured standard deviation of the weighted sum when measured concentrations of the various radionuclides are assumed to be uncorrelated (i.e., there is no fixed ratio between the concentrations).

Haddam Neck Plant staff conducted personnel interviews during the historical site assessment to ascertain the history of the Construction Piles near the Rifle Range Area. Individuals responding to the questionnaire stated that spoils originating from construction activities such as new building construction, addition to existing buildings and general site maintenance and repairs were brought to the shooting range landfill.

FSS Engineers performed a walkdown of the area. The FSS staff indicated that the area shows evidence of concrete, asphalt, metal, wood, sand, and soils. The origin of the materials and timeframe of placement is unknown. These spoils are believed to have originated from construction activities such as new

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building construction, addition to existing buildings and general site maintenance and repairs to the site and facilities based upon documented interviews with plant personnel and the soil relocation files. Prior to FSS, these materials were removed from the area.

At the time of FSS, the dose impact from groundwater contamination was not considered. The characterization data would have been sufficient to justify final designation as Class 3. Nevertheless, the survey design maintained the initial designation as a Class 2 to be prudent.

3. **DATA QUALITY OBJECTIVES (DQO)**

The primary objective of the Final Status Survey Plan (FSSP) was to demonstrate that the level of residual radioactivity in Survey Unit 9536-0000 did not exceed the release criteria specified in the License Termination Plan (LTP), was below the 10 mrem/yr Administrative Level Derived Concentration Guideline Level (DCGL), and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

FSS design and planning endorsed the use of the Data Quality Objective (DQO) process as described by the LTP, Procedure RPM 5.1-11, "*Preparation of Final Status Survey Plan*," and the "*Multi-Agency Radiation Survey and Site Investigation Manual*" (MARSSIM). A summary of the main features of the DQO process are provided herein.

The DQO process incorporated hypothesis testing and probabilistic sampling distributions to control decision errors during data analysis. Hypothesis testing is a process based on the scientific method that compares a baseline condition to an alternate condition. The baseline condition is technically known as the null hypothesis. Hypothesis testing rests on the premise that the null hypothesis is true and that sufficient evidence must be provided for rejection. In designing the survey plan, the underlying assumption, or null hypothesis was that residual activity in the survey unit exceeded the release criteria. Rejection of the null hypothesis would satisfy the release criteria objective of the FSS.

Characterization efforts in nearby areas have included analysis for Hard-to-Detect (HTD) radionuclides. In some cases, HTD radionuclides were reported above the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty- 2σ). Comparing reported maximum concentrations to the soil DCGLs shows no impact on FSS design. This conclusion was based on the very low percentage of the HTD radionuclide to the soil DCGL.

The DQO process determined that Cs-137 and Co-60 would be the radionuclides of concern during the 9536-0000 FSS process. Additionally, to provide conservatism, the Base Case DCGLs for radionuclides in soil was reduced by 60% to establish the Administrative Level DCGL. As multiple radionuclides were assumed present, the "unity rule" or "sum of the fractions,"

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described by Equation 5-32 of the LTP, was used to show compliance with the release criteria.

Instrument DQOs included a verification of the ability of the survey instrument to detect the radiation(s) of interest relative to the DCGL. Survey instrument response checks were performed before issue and after the instrument had been used. Control and accountability of survey instruments were maintained to assure the quality and prevent the loss of data.

Laboratory DQOs and analysis results were reported as actual calculated results. Results reported as less than Minimum Detectable Concentration (<MDC) would not be accepted for FSS. Sample report summaries included unique sample identification, analytical method, radionuclide, result, and uncertainty of two standard deviations (2σ), laboratory data qualifiers, units, and the required and observed MDC (see Table 2).

**Table 2 – FSS DCGL Values and
Required Minimum Detectable Concentrations**

Radionuclide	Base Case Soil DCGL (pCi/g) ⁽¹⁾	Administrative Level DCGL (pCi/g) ⁽²⁾	Required MDC (pCi/g) ⁽³⁾
H-3	4.12E+02	1.65E+02	1.65E+01
C-14	5.66E+00	2.26E+00	2.26E-01
Mn-54	1.74E+01	6.96E+00	6.96E-01
Fe-55	2.74E+04	1.10E+04	1.10E+03
Co-60	3.81E+00	1.52E+00	1.52E-01
Ag-108m	7.14E+00	2.86E+00	2.86E-01
Ni-63	7.23E+02	2.89E+02	2.89E+01
Sr-90	1.55E+00	6.20E-01	6.20E-02
Nb-94	7.12E+00	2.85E+00	2.85E-01
Tc-99	1.26E+01	5.04E+00	5.04E-01
Cs-134	4.67E+00	1.87E+00	1.87E-01
Cs-137	7.91E+00	3.16E+00	3.16E-01
Eu-152	1.01E+01	4.04E+00	4.04E-01
Eu-154	9.29E+00	3.72E+00	3.72E-01
Eu-155	3.92E+02	1.57E+02	1.57E+01
Pu-238	2.96E+01	1.18E+01	1.18E+00
Pu-239/240	2.67E+01	1.07E+01	1.07E+00
Pu-241	8.70E+02	3.48E+02	3.48E+01
Am-241	2.58E+01	1.03E+01	1.03E+00
Cm-243/244	2.90E+01	1.16E+01	1.16E+00

(1) The Base Case DCGLs for soil are specified by the LTP in Chapter 6.

(2) The Administrative Level DCGL is 40% of the Base Case DCGL.

(3) The required MDC was 10% of the Administrative Level DCGL.

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4. SURVEY DESIGN

The level of effort associated with planning a survey is based on the complexity of the survey and nature of the hazards. To assist the FSS Engineers when preparing survey plans for FSS, guidance is provided in Procedure RPM 5.1-11. By design, the FSSP meets the ALARA criteria for soils as specified in Chapter 4 of the LTP.

The LTP specifies that scanning will be performed in a combination of systematic and judgmental measurement for a Class 2 land area and cover 10% to 100% of the area. The fraction of scanning coverage was determined during the DQO process with the total amount and location(s) based on the likelihood of finding elevated activity during FSS. Elevated areas of residual radioactivity were not considered likely based on characterization data. Nevertheless, given the historical use of the SU the decision was made to scan 100% of the area. The scan design consisted of fifty-six (56) evenly spaced strips oriented north to south. Scans were also prescribed for a one (1) meter radius around each random and biased Sample Measurement Location (SML).

Forty-five (45) data points were used to determine the radiological concentration variability in this survey unit. The samples were collected through biased sampling over a simple grid design.

Radionuclide-specific analyses of soil samples collected from this survey unit and adjacent land areas with similar history and physical characteristics have identified only a few radionuclides, principally Cs-137 and Co-60 infrequently. The data collected prior to FSS indicated that the remaining radionuclides listed in Table 2 would not be present in quantities greater than 5% of the applicable Base Case DCGL in this survey unit at the time of FSS. It was unlikely that the aggregate concentration of the remaining radionuclides would exceed 10%; therefore, only Cs-137 and Co-60 were used in the survey planning of SU 9536-0000. The use of the 5% and 10% rule is consistent with the development of surrogate ratio DCGLs as described in the LTP.

Since multiple radionuclides were assumed present, the "unity rule" or "sum of the fractions" was used to demonstrate compliance with the release criteria. Therefore, the Operational DCGL is considered "1."

Surrogate DCGLs are not required for this survey unit because of the radionuclide specific analysis and radionuclide de-selection in accordance with the 5% and 10% rule.

The Elevated Measurement Comparison (EMC) does not apply to this survey unit since discrete, elevated areas of contamination are not expected.

The Sign Test was selected as the non-parametric statistical test. The use of the Sign Test did not require the selection or use of a background reference area, which simplified survey design and implementation. This approach was conservative since it included background Cs-137 as part of the sample set.

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The number of soil samples for FSS was determined in accordance with Procedure RPM 5.1-12, "*Determination of the Number of Surface Samples for FSS.*" Survey design specified fifteen (15) surface soil samples for the Sign Test non-parametric statistical testing.

Four (4) Judgmental or biased "at depth" samples were selected in locations randomly using the Microsoft® Excel "RANDBETWEEN" function. The collection of the "at depth" samples was to account for soil disturbance because of material and spoils removal from the area prior to FSS. The four (4) samples were to be collected to the depth of the disturbance (two feet) or refusal, homogenized and analyzed by gamma spectroscopy. The number of judgmental samples represented 25% percent of the number of samples that would be used for non-parametric statistical testing.

Although Procedure RPM 5.1-11 only specified that 5% of the samples be selected for HTD analysis, two (2) soil samples or 13% were randomly selected for HTD radionuclide analysis by using the Microsoft® Excel "RANDBETWEEN" function. Each sample would be sent for a full suite analysis of the HTD radionuclides specified in the LTP, Table 2-12, "Radionuclides Potentially Present at Haddam Neck Plant."

The implementation of survey specific quality control measures as referenced by Procedure RPM 5.1-24, "*Split Sample Assessment for Final Status Survey,*" included the collection of two (2) soil samples for "split sample" analysis by the off site laboratory. This location was selected randomly using the Microsoft® Excel "RANDBETWEEN" function. The number of quality control soil samples was determined to be 13% of fifteen (15) samples, rounded up to the next whole number.

The grid pattern and locations of the soil samples were determined using Visual Sample Plan (VSP) in accordance with Procedure RPM 5.1-14, "*Identifying and Marking Surface Sample Locations for FSS.*" Visual Sample Plan was created by Pacific Northwest National Laboratory (PNNL) for the United States Department of Energy. A systematic triangular grid pattern with a random starting point was selected for sample design, which is appropriate for a Class 2 area.

Sample location and scan areas were identified using AutoCAD-Li[®] a commercially available plotting software with coordinates consistent with the Connecticut State Plane System. These coordinates were integrated with a GPS to locate sample and scan locations in the field. Sample Measurement Locations for the design are listed with the GPS coordinates in Table 3.

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Table 3 -Sample Measurement
Locations (SML) with Associated GPS Coordinates.

Designation	Northing	Easting
9536-0000-001	235738	673056.5
9536-0000-002	235738	673092.2
9536-0000-003	235738	673127.9
9536-0000-004	235707.1	673038.7
9536-0000-005	235707.1	673074.3
9536-0000-006	235707.1	673110
9536-0000-007	235676.2	673056.5
9536-0000-008	235676.2	673092.2
9536-0000-009	235676.2	673127.9
9536-0000-010	235645.3	673038.7
9536-0000-011	235645.3	673074.3
9536-0000-012	235645.3	673110
9536-0000-013	235614.4	673056.5
9536-0000-014	235614.4	673092.2
9536-0000-015	235583.5	673074.3

For this Class 2 survey unit, the "Investigation Level" for area scanning and soil sample measurement results are those levels specified in LTP, Table 5-8, "Investigation Levels."

The Lower Bound of the Gray Region (LBGR) was adjusted in accordance with Procedure RPM 5.1-11 to 0.97 of the Operational DCGL to maintain the relative shift (Δ/σ) in the range of 1 and 3. A Prospective Power Curve was generated using COMPASS, a software package developed under the sponsorship of the United States Nuclear Regulatory Commission (USNRC) for implementation of the MARSSIM in support of the decommissioning license termination rule (10 CFR 20, Subpart E). The result of the COMPASS computer run showed adequate power for the survey design.

Table 4 provides a synopsis of the survey design.

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Table 4 – Synopsis of the Survey Design

Feature	Design Criteria	Basis
Survey Unit Land Area	1,536 m ²	GPS measurements of area
Number of Measurements	15	Type I and Type 2 were 0.05, sigma was 0.0252, the LBGR was adjusted to 0.97 to maintain Relative Shift in the range of 1 and 3
Grid Spacing	10.87 m	Based on triangular grid
Interval Spacing	9.42 m	Based on triangular grid
DCGL	1	Operational DCGL applied to field data ⁽¹⁾
Scan Survey Area Coverage	100%	Based on historical use of landfill area
Scan Investigation Level	Detectable over background	Based on achieving the Administrative Level DCGL

(1) The Operational DCGL was based on achieving an administrative level that was 40% of the soil DCGL and assuming no impact from radioactive contamination in groundwater or from buried concrete debris.

5. SURVEY IMPLEMENTATION

Final status survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 24265-000-GEN-0000-00135-000. The WP&IR package included a detailed FSSP, job safety analysis, job planning checklist and related procedures for reference. Daily briefings were conducted to discuss the expectations for job performance and the safety aspects of the survey. The "Daily Survey Journal" was used to document field activities and other information pertaining to the FSS.

Survey activities occurred November 17 through November 21, 2003.

The scan areas were marked out using GPS coordinates consistent with the Connecticut State Plane System and scanned for elevated readings (see Attachment 2 for Scan Area Results). Scanning was performed with an Eberline E-600 using a SPA-3 sodium iodide detector. The E-600 was operated in the rate-meter mode and used with audio response. The probe was positioned as close to the ground as possible and was moved at a scan speed of about 0.5 meters per second.

Using GPS coordinates, SMLs were identified and marked with a surveyor's flag for identification. At each SML, a one (1) meter radius around the sample flag was scanned for elevated radiation levels.

Fifteen (15) surface soil samples were collected in random locations and packaged in accordance with HNP Procedure RPM 5.1-3, "Collection of Surface and Subsurface Soil, Shoreline Sediment, Asphalt and Liquid samples for Scoping, Characterization, and Final Status Survey," and FSS design. Samples were controlled, transported, stored, and transferred to the off site

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laboratory using Chain-of-Custody (COC) protocol in accordance with Procedure RPM 5.1-5, "Chain of Custody for Scoping, Characterization and Final Status Survey Samples."

Two (2) samples (012F and 013F) were randomly selected for HTD radionuclide analysis.

Four (4) biased soil samples (001F02, 006F02, 009F02, and 015F02) were taken to the depth of the limit of disturbance where construction activities had occurred in the survey unit.

The implementation of survey specific quality control measures included the collection of samples 004F and 013F for "split sample" analysis by the off site laboratory.

6. SURVEY RESULTS

No elevated readings were identified during scanning the SMLs. Five (5) Scan Areas contained areas with elevated readings, which prompted the collection of investigation samples from these locations. The investigation results are discussed in Section 8 of this report. Table 5 provides an overview of the Scan Area survey. All scan area results are provided in Attachment 2.

Table 5- Scan Area Results

Scan Area	Highest Logged Reading (cpm)	Investigation Level (MDC-cpm)	Elevated Reading Identification	Investigation Sample
1	6,810	9,300	-	-
2	7,210	9,300	-	-
3	7,530	8,700	-	-
4	6,410	8,580	-	-
5	7,620	8,700	-	-
6	7,450	8,580	-	-
7	7,600	9,300	-	-
8	7,700	8,700	-	-
9	6,610	8,580	-	-
	8,870	8,580	ER-1	9536-0000-ER-1
	15,100	8,580	ER-3	9536-0000-ER-3
10	8,330	9,300	-	-
	13,600	9,300	ER-2	9536-0000-ER-2
11	8,380	9,300	-	-
12	8,260	8,580	-	-
13	6,430	8,700	-	-
14	7,440	9,300	-	-
15	7,080	8,580	-	-

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Scan Area	Highest Logged Reading (cpm)	Investigation Level (MDC-cpm)	Elevated Reading Identification	Investigation Sample
16	7,360	8,700	-	-
17	8,470	9,300	-	-
18	7,320	8,580	-	-
	9,560	8,580	ER-4	9536-0000-ER-4
19	8,120	8,700	-	-
20	8,790	9,300	-	-
21	8,110	9,300	-	-
22	8,080	8,580	-	-
23	7,520	8,700	-	-
24	8,270	9,300	-	-
25	7,670	8,580	-	-
26	6,860	8,700	-	-
27	8,120	9,300	-	-
28	7,860	8,580	-	-
29	7,990	8,700	-	-
30	8,400	9,300	-	-
31	8,040	8,580	-	-
32	8,140	8,700	-	-
33	8,140	9,300	-	-
34	7,980	8,580	-	-
35	8,260	8,700	-	-
36	7,510	9,300	-	-
	9,980	9,300	ER-5	9536-0000-ER-5
37	7,320	8,580	-	-
	10,600	8,580	ER-6	9536-0000-ER-6
38	8,050	8,700	-	-
39	8,570	9,300	-	-
40	8,070	8,580	-	-
41	7,690	8,700	-	-
42	7,680	9,300	-	-
43	7,230	8,580	-	-
44	7,840	8,700	-	-
45	8,590	9,300	-	-
46	8,120	8,580	-	-
47	7,210	8,700	-	-
48	8,290	9,300	-	-
49	8,050	8,580	-	-

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Scan Area	Highest Logged Reading (cpm)	Investigation Level (MDC-cpm)	Elevated Reading Identification	Investigation Sample
50	7,790	8,700	-	-
51	7,500	9,300	-	-
52	6,980	8,580	-	-
53	8,240	8,700	-	-
54	7,780	9,300	-	-
55	7,820	8,580	-	-
56	8,210	8,700	-	-

The off site laboratory employed for the radiological analyses of samples was STL-Richland, Richland, Washington. The laboratory analyzed the fifteen (15) samples taken for non-parametric statistical testing, the associated duplicates, and the biased samples using gamma spectroscopy. Gamma spectroscopy analysis was performed to the required MDC. Gamma spectroscopy results identified some radionuclides meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty-2 σ). The results of gamma spectrometry analysis for a majority of the samples indicated Cs-137 at levels consistent with concentrations of Cs-137 found in soil at offsite locations within the vicinity of the HNP as presented in the Health Physics TSD BCY-HP-0063.

The data shows that Co-60 was reported as less than 2% of the Administrative Level DCGL on all samples collected. Sample analysis did not indicate any anomalies requiring further investigation. A summary of the sample results is provided in Table 6.

Table 6- Summary of Soil Sample Results

Sample Number	Cs-137 pCi/g	Co-60 pCi/g	f-DCGL ⁽¹⁾
9536-0000-001F	0.0227	0.009	0.013
9536-0000-002F	0.0191	-0.006	0.006
9536-0000-003F	0.0091	-0.005	0.003
9536-0000-004F	0.005	0.0239	0.017
9536-0000-005F	0.0223	0.00325	0.009
9536-0000-006F	-0.002	-0.014	0.000
9536-0000-007F	0.119	-0.006	0.038
9536-0000-008F	0.0137	-0.026	0.004
9536-0000-009F	0.0157	-0.0014	0.005
9536-0000-010F	0.0292	0.0288	0.028
9536-0000-011F	0.0134	0.0266	0.022
9536-0000-012F	0.152	-0.00782	0.048
9536-0000-013F	0.148	-0.0981	0.047
9536-0000-014F	0.215	0.00951	0.074
9536-0000-015F	0.565	0.0112	0.186

(1) f-DCGL-fraction of the Operational DCGL.

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The offsite laboratory processed two (2) samples for HTD analysis as required by the sample plan. The requested analyses including alpha spectroscopy, gas proportional counting, and liquid scintillation depending on the radionuclide and the measurement method. Most analyses met the required MDC with the exception of Sr-90 and C-14. This topic is discussed further in Section 10 and Section 12.

In combination with Cs-137 and Co-60, the maximum f-DCGL in the sample set was 0.32 (32%) for SML 013F. No further action or investigations were required (see Table 7).

Table 7-Hard-to-Detect Sample Results pCi/g

Sample	Am-241	Fe-55	H-3	Pu-241	Sr-90	Tc-99	F-DCGL ⁽¹⁾
9536-0000-012F	0.157	11.8	-	-	0.0637	0.24	0.176
9536-0000-013F		6.26	0.0557	9.14	0.136	0.167	0.27

(1) f-DCGL-fraction of the Administrative Level DCGL.

Four (4) biased samples were collected at locations where construction activities had occurred or had the potential to impact local soils. The offsite laboratory processed the samples for gamma spectroscopy analysis as required by the sample plan. Gamma spectroscopy analysis was performed to the specified MDC. No gamma-emitting radionuclides were detected greater than the required MDC. Gamma spectroscopy results identified some radionuclides meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty-2 σ). Cesium-137 was identified in two (2) of the four (4) samples (50%), and Co-60 was identified in none of the four (4) samples (0%). Review of the sample analysis results did not identify elevated results. No further action or investigations were required (see Table 8).

Table 8-Biased Sample Results

Sample Number	Cs-137 pCi/g	Co-60 pCi/g	f-DCGL ⁽¹⁾
9536-0000-001F02	0.0218	-0.02	0.007
9536-0000-006F02	0.0292	-0.01	0.009
9536-0000-009F02	0.0233	-0.001	0.007
9536-0000-015F02	-0.00018	-0.004	0

(1) f-DCGL-fraction of the Operational DCGL.

7. QUALITY CONTROL

The off site laboratory processed the split samples and performed gamma spectroscopy analysis. Thirteen percent (13%) of the samples were selected for analysis, which exceeds the 5% minimum required by the LTP. The data were evaluated using USNRC acceptance criteria specified in Inspection Procedure 84750 as detailed in HNP Procedure RPM 5.1-24, "Split Sample Assessment for Final Status Survey." There was acceptable agreement between field split results. The sample analysis vendor, STL-Richland, Richland, Washington,

CONSTRUCTION PILES NEAR THE RIFLE RANGE AREA
SURVEY UNIT 9536-0000

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maintains quality control and quality assurance plans as part of normal operation. Refer to Attachment 2 for data and data quality analysis results.

8. INVESTIGATIONS AND RESULTS

Six (6) localized areas were identified above the investigation level during the scan survey. Soil samples were analyzed at the offsite laboratory using gamma spectroscopy. Gamma spectroscopy analysis was performed to the specified MDC. Only Cs-137 was reported at a concentration greater than the required MDC. Gamma spectroscopy results identified some radionuclides meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty- 2σ). Cesium-137 was identified in two (2) of the six samples (33%), and Co-60 was identified in none of the six samples (0%). Review of the sample analysis results did not identify elevated results. No further investigation was required (see Table 9).

Table 9-Investigation Samples Collected in Scan Areas

Scan Area	Sample Number	Cs-137 pCi/g	Co-60 pCi/g	f-DCGL ⁽¹⁾
9	9536-0000-ER-1	-0.0158	0.0143	0.009
10	9536-0000-ER-2	0.00221	0.022	0.015
9	9536-0000-ER-3	0.00731	-0.006	0.002
18	9536-0000-ER-4	0.011	-0.017	0.003
36	9536-0000-ER-5	0.397	0.00974	0.132
37	9536-0000-ER-6	0.0639	-0.0123	0.020

(1) f-DCGL-fraction of the Operational DCGL.

9. REMEDIATION AND RESULTS

Historically, no remediation was performed in this survey unit prior to or because of the FSS. Health Physics TSD BCY-HP-0078, "ALARA Evaluation of Soil Remediation in Support of Final Status Survey," determined that remediation beyond that required to meet the release criteria to be unnecessary and that the remaining residual radioactivity in soil was ALARA.

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

The change made from the LTP, prior to this FSS, was a decrease in the concentrations for the Base Case DCGL_{soils}. The LTP presents DCGLs that correspond to a Total Effective Dose Equivalent (TEDE) of 25 mrem/yr. This survey unit was evaluated against Administrative Level DCGLs that correspond to 10 mrem/yr.

CONSTRUCTION PILES NEAR THE RIFLE RANGE AREA
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The required MDCs for Sr-90 and C-14 could not be reasonably achieved. The data quality objectives recognized that certain analytical methods might not meet MDC requirements (e.g., C-14 in soil). The MDC were set at 4% of the soil DCGL to be as far below the DCGL as practical. In accordance with the LTP, a value at 10% of the soil DCGL would have been the desired level of sensitivity.

Review of the data shows C-14 and Sr-90 MDCs to be well below the desired level of sensitivity specified by Section 5.5 of the LTP (i.e., <10% of the applicable soil DCGL) and are therefore acceptable.

11. DATA QUALITY ASSESSMENT (DQA)

The DQO sample design and data were reviewed in accordance with Procedure RPM 5.1-23, "*Data Quality Assessment*," for completeness and consistency. The sampling design had adequate power as indicated by the Retrospective Power Curve. The Sign Test was performed on the data and compared to the original assumptions of the DQOs. All sample results were less than the release criteria. Therefore, the Sign Test shows that the survey unit passes FSS.

Documentation was complete and legible. Surveys and sample collection were consistent with the DQOs and were sufficient to ensure that the survey unit was properly designated as Class 2.

The preliminary data review consisted of converting the data into units relative to the release criteria (i.e., pCi/g) and calculating basic statistical quantities (e.g., mean, median, standard deviation).

The range of Cs-137 data, about 3.6 standard deviations, was not unusually large. The difference between the Cs-137 mean and median was 30% of the standard deviation. The difference is enough to indicate a positive skew in the data. Cobalt-60 data showed a negative bias, that is, nine (9) of the fifteen (15) reported results were negative.

The data was represented graphically through posting plots. No trends or elevated areas were identified. The data follows a relatively normal distribution about the mean value with positive skewness.

All data, assessments, and graphical representations are provided in Attachment 2.

12. ANOMALIES

All data is considered valid including negative values, zeros, values reported below the MDC and values reported with uncertainties greater than two standard deviations (2σ). Some radionuclides have been reported at low concentrations that are statistically significant at the 95% confidence level, but with a relatively high level of uncertainty.

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Gamma spectroscopy results identified several radionuclides meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty- 2σ). Cesium-134 was frequently identified in sample results. Other radionuclides, such as Ag-108m, Am-241 and Eu-152, Eu-154, Eu-155 and Nb-94, were identified sporadically. The offsite laboratory data qualifier unit shows that these radionuclides were analyzed for, however, either the result was less than the MDC or the gamma software did not identify the radionuclide. These very low-level "detections" may be attributed to false positive noise at the lower limit of the measuring technique.

Two (2) samples were submitted to the offsite laboratory and analyzed for HTD radionuclides. Hard-to-detect analyses results identified several radionuclides meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty- 2σ). Iron-55 and Sr-90 were identified in two (2) out of two (2) samples (100%). Hydrogen-3 (i.e., tritium), Tc-99 and Pu-241 were identified in one of the two (2) samples (50%). In almost all cases, the magnitude of the analytical bias was less than sample specific MDC. Additionally, reported MDCs were less than the required MDCs by factors of two (2) up to 240 (with the exception of Sr-90 as described in a Section 10). These very low-level "detections" may be attributed to false positive noise at the lower limit of the measuring technique.

The analysis indicates that Sr-90 was identified in both of the samples. Typically, the levels and geographical locations of the Sr-90, along with Cs-137, found in the analysis are associated with weapons testing and atmospheric fallout. The amounts identified in the report suggest that this is the origin of the Sr-90 along with certain amounts of Cs-137. The Sr-90 value compares favorably with research conducted in other regional areas concerning fallout resultant from nuclear testing in the past as referenced in EPRI Technical Report 1003030, *"Determining Background Radiation Levels in Support of Decommissioning Nuclear Power Plants."*

Plutonium was detected in one (1) of the HTD samples. The likely source of Pu-241 is the release of plutonium from past atmospheric nuclear weapons testing and burn-up and vaporization of the United States SNAP 17A satellite in the atmosphere given the extremely low levels reported.

These HTD radionuclides do not represent quantities that would increase the requisite number of samples for non-parametric statistical sampling or cause the survey unit to fail to meet the release criteria. Sample analysis did not indicate any anomalies requiring further investigation. The analytical data shows that all the identified HTD radionuclides were reported as a small fraction of the corresponding soil DCGL. Most radionuclides were reported at levels well below the required MDC.

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13. CONCLUSION

Survey Unit 9536-0000 has met the DQOs of the FSS. For this survey unit, the ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison and remediation was not required.

The sample data passed the Sign Test. The null hypothesis was rejected. Evaluation of the data shows that none of the FSS design radionuclides or HTD soil concentration values exceeded the Operational DCGL or unity. There were no elevated areas based on sample measurements results. No large anomalies were observed in the graphical representation of the data. The survey unit was properly designated as Class 2. The Retrospective Power Curve generated using COMPASS shows adequate power was achieved.

This survey unit is not considered impacted by radioactive contamination in groundwater based on location, topography and current hydro-geologic sampling data as referenced in Health Physics TSD CY-HP-0193, "*Assessment of Existing Groundwater Dose for Phase II Release Areas of the Final Status Survey Report.*"

14. ATTACHMENTS

14.1 Attachment 1 – Figures

14.2 Attachment 2 – Sample and Statistical Data

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 1
Figures

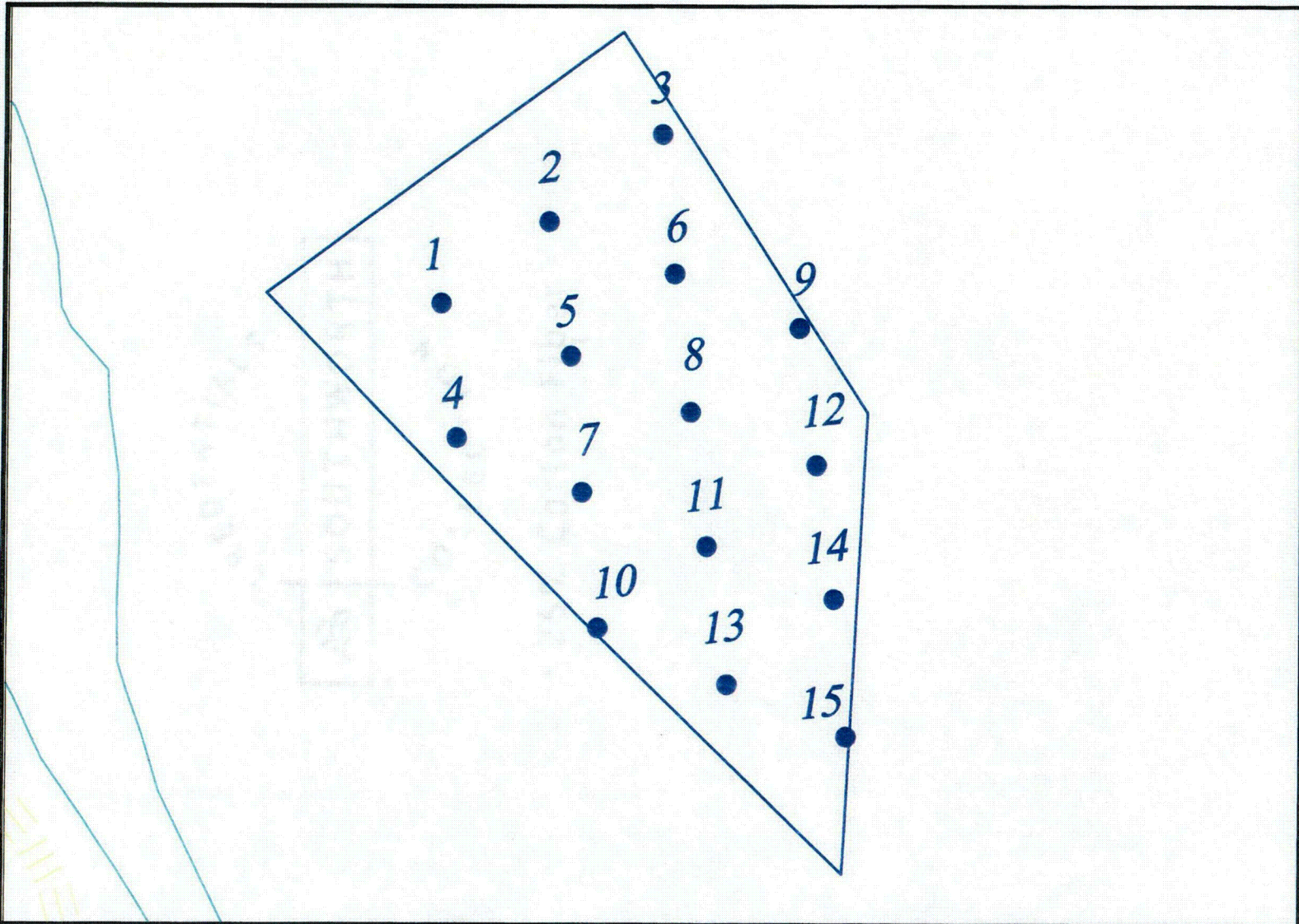


Figure 1



Connecticut Yankee Atomic Power Company
 Site Map With Reference To Survey Unit 9536-0000

Date	Rev
March 2004	0



Legend

● = Sample Location

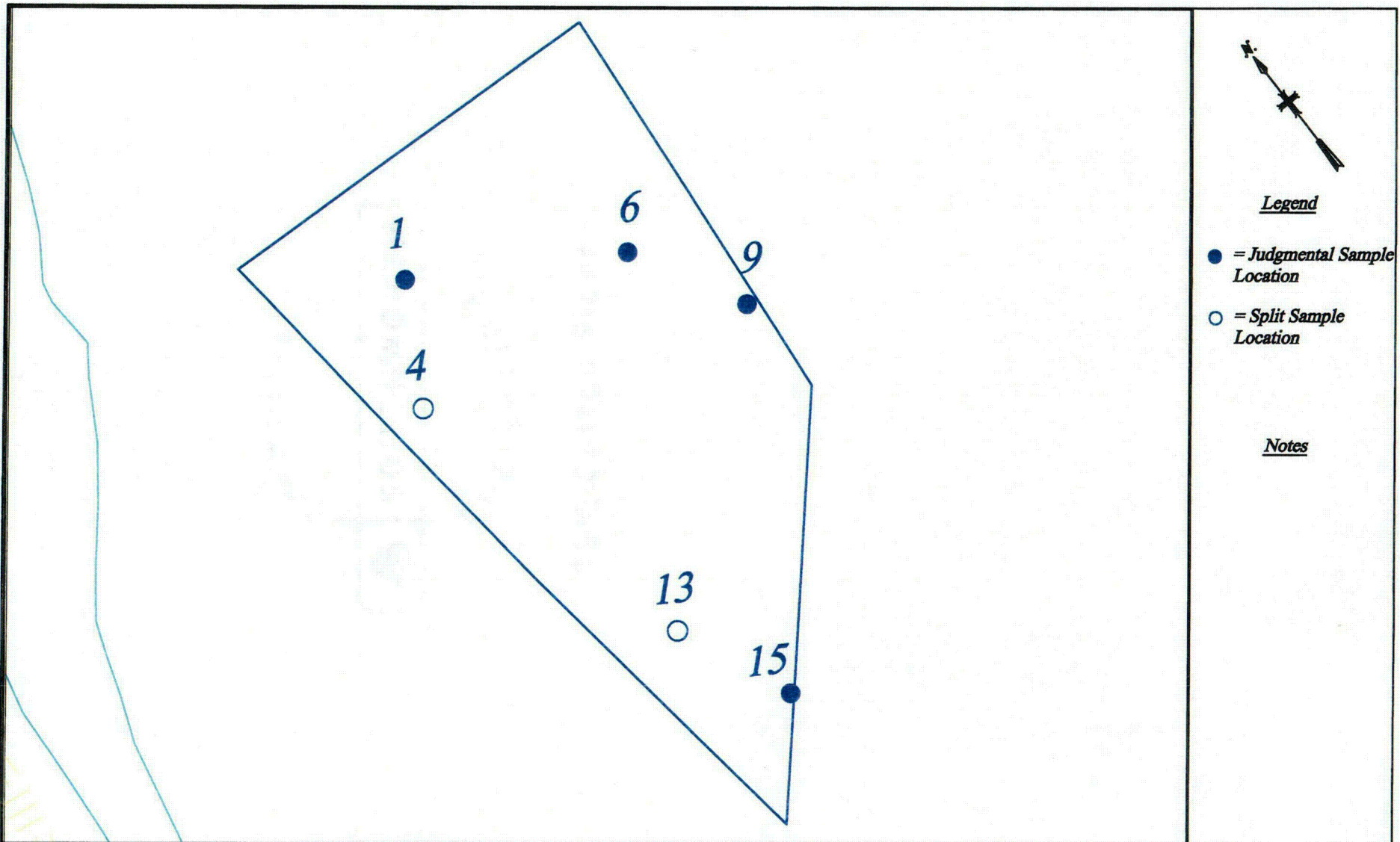
Notes

Figure 2



Connecticut Yankee Atomic Power Company
 9536-000 Final Status Survey Design

Date	Rev
March 2004	0



Legend

- = Judgmental Sample Location
- = Split Sample Location

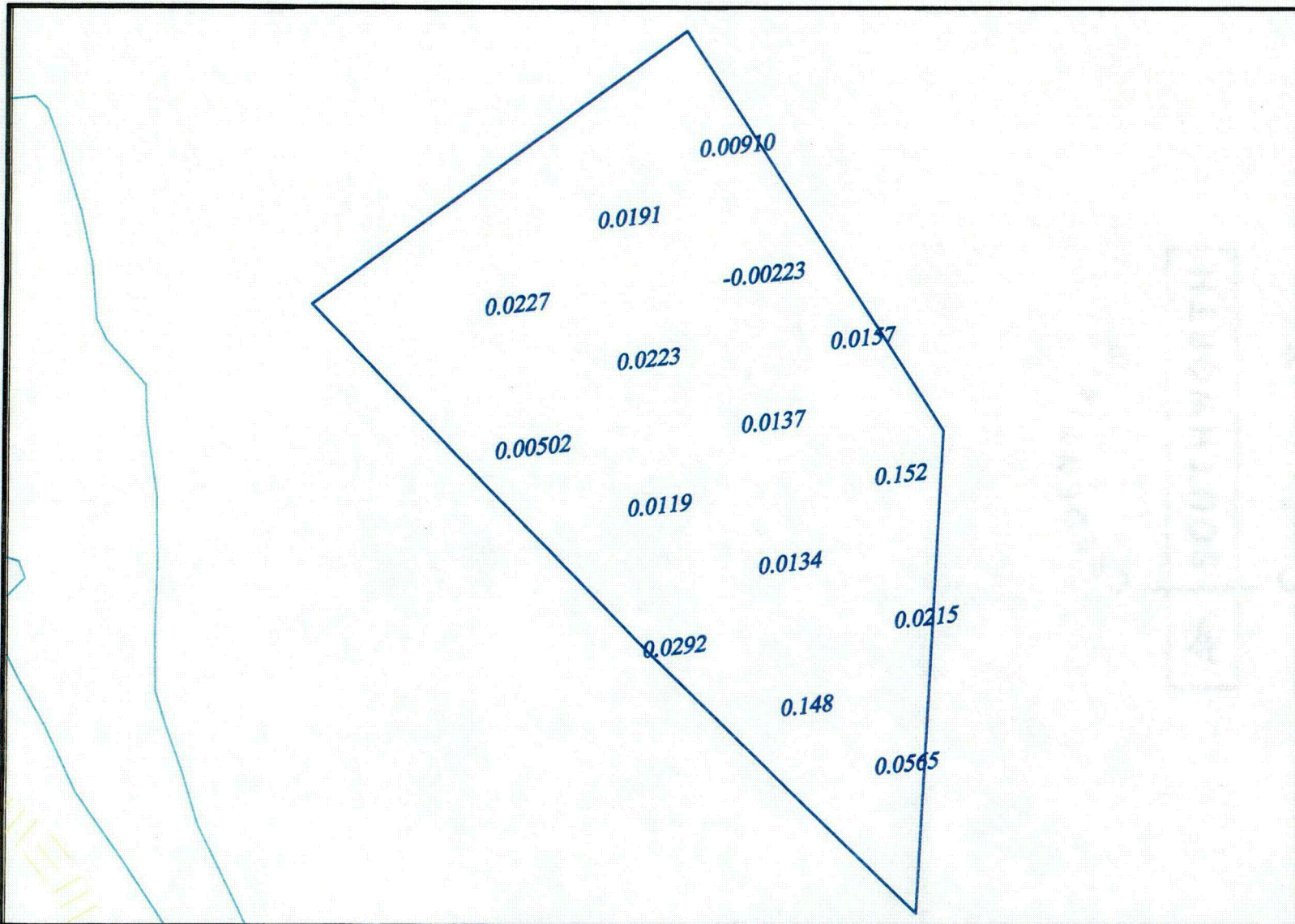
Notes

Figure 3



Connecticut Yankee Atomic Power Company
 9536-000 Final Status Survey Design

Date	Rev
March 2004	0



Notes
 Reported cesium-137 concentrations in pCi/g
 Base Case DCGL for cesium-137 in soil is 7.91 pCi/g

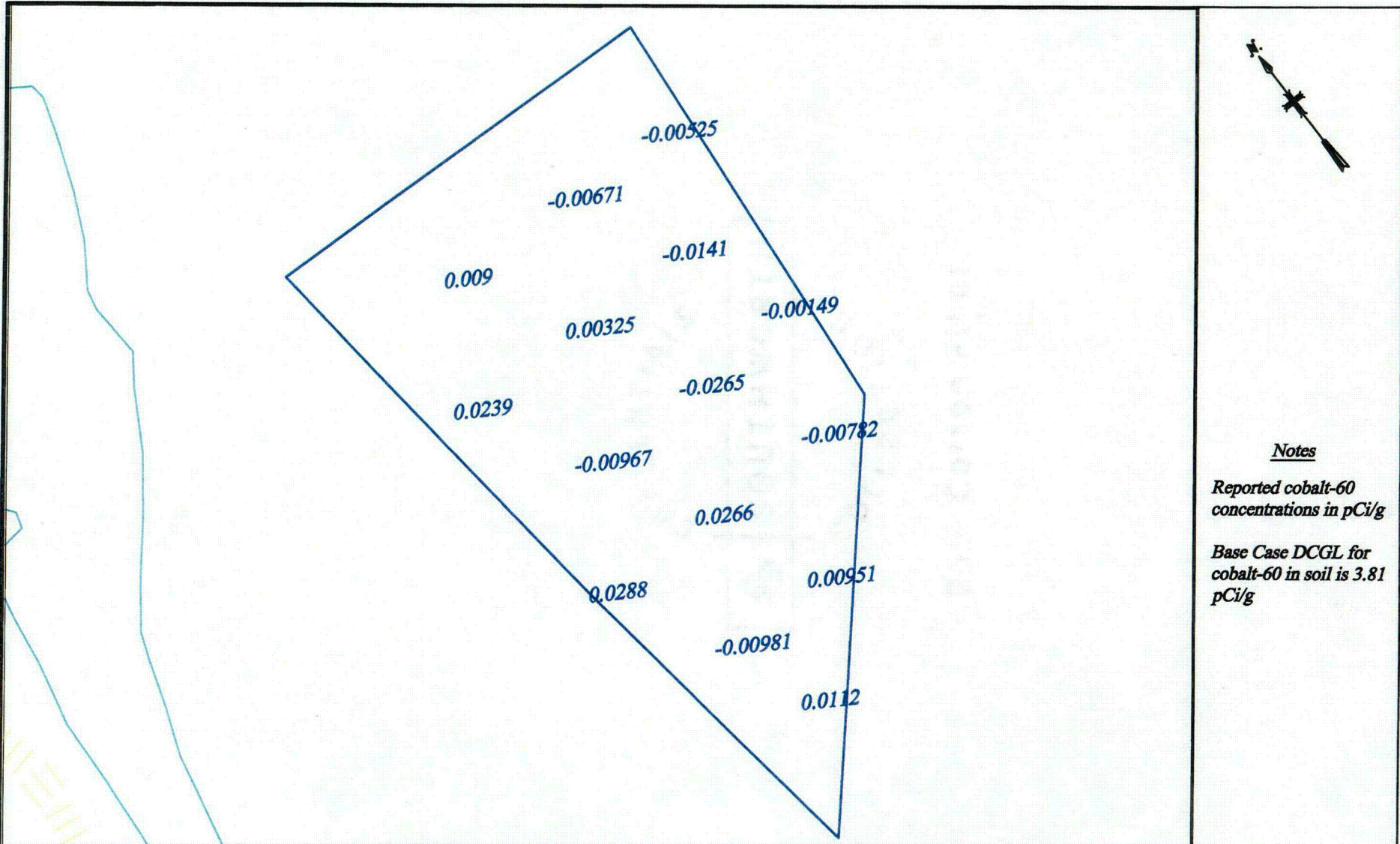
Figure 4



Connecticut Yankee Atomic Power Company
 9536-0000 Final Status Survey Cesium-137
 Posting Plot

Date	Rev
March 2004	0

COF



Notes
 Reported cobalt-60 concentrations in pCi/g
 Base Case DCGL for cobalt-60 in soil is 3.81 pCi/g

Figure 5



Connecticut Yankee Atomic Power Company
 9536-0000 Final Status Survey Cobalt-60
 Posting Plot

Date	Rev
March 2004	0

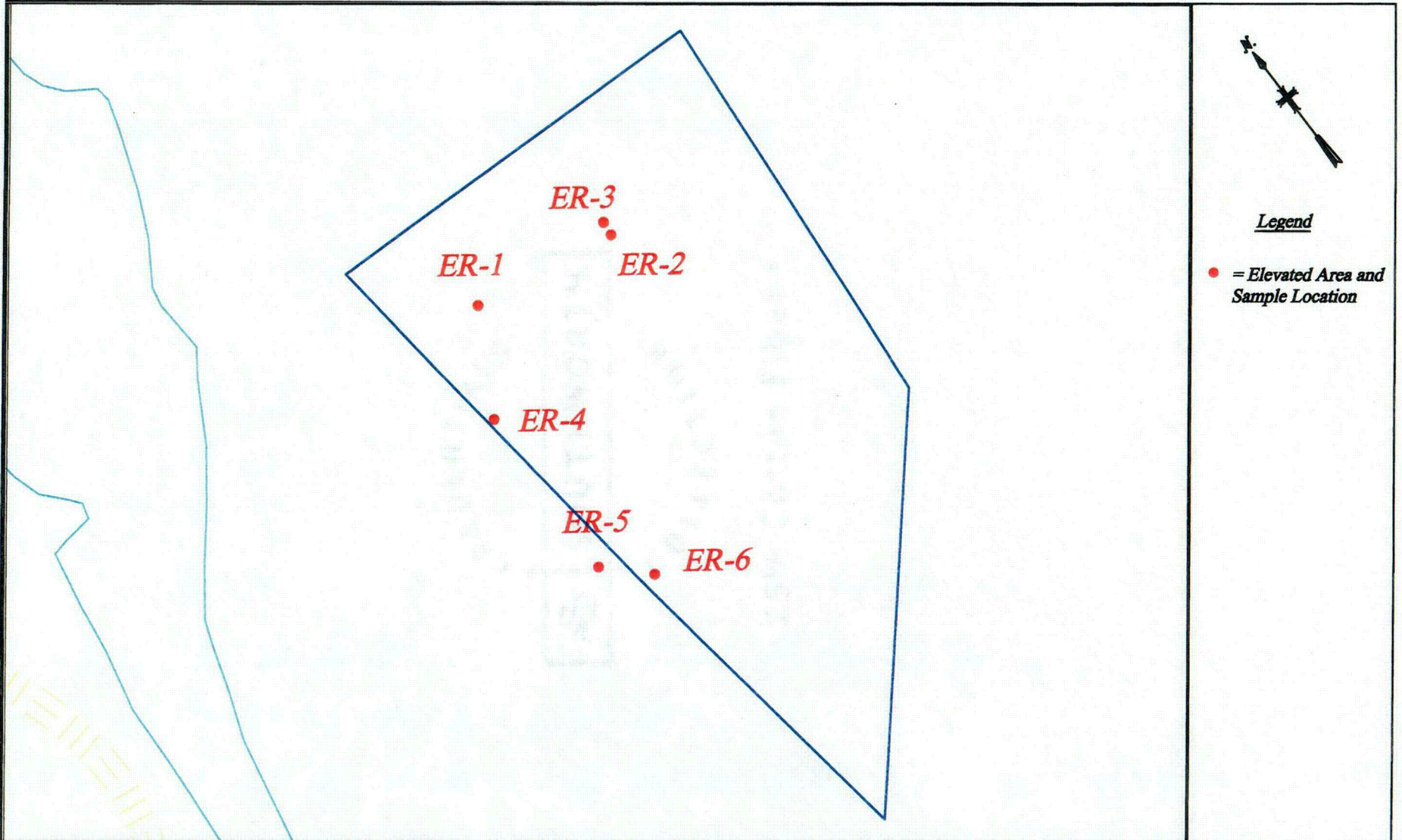


Figure 6



Connecticut Yankee Atomic Power Company
 9536-0000 Final Status Survey Elevated Areas

Date	Rev
March 2004	0



Legend

● = Elevated Area Reading in kcpm as determined by an E-600 with SPA-3 Probe

Notes

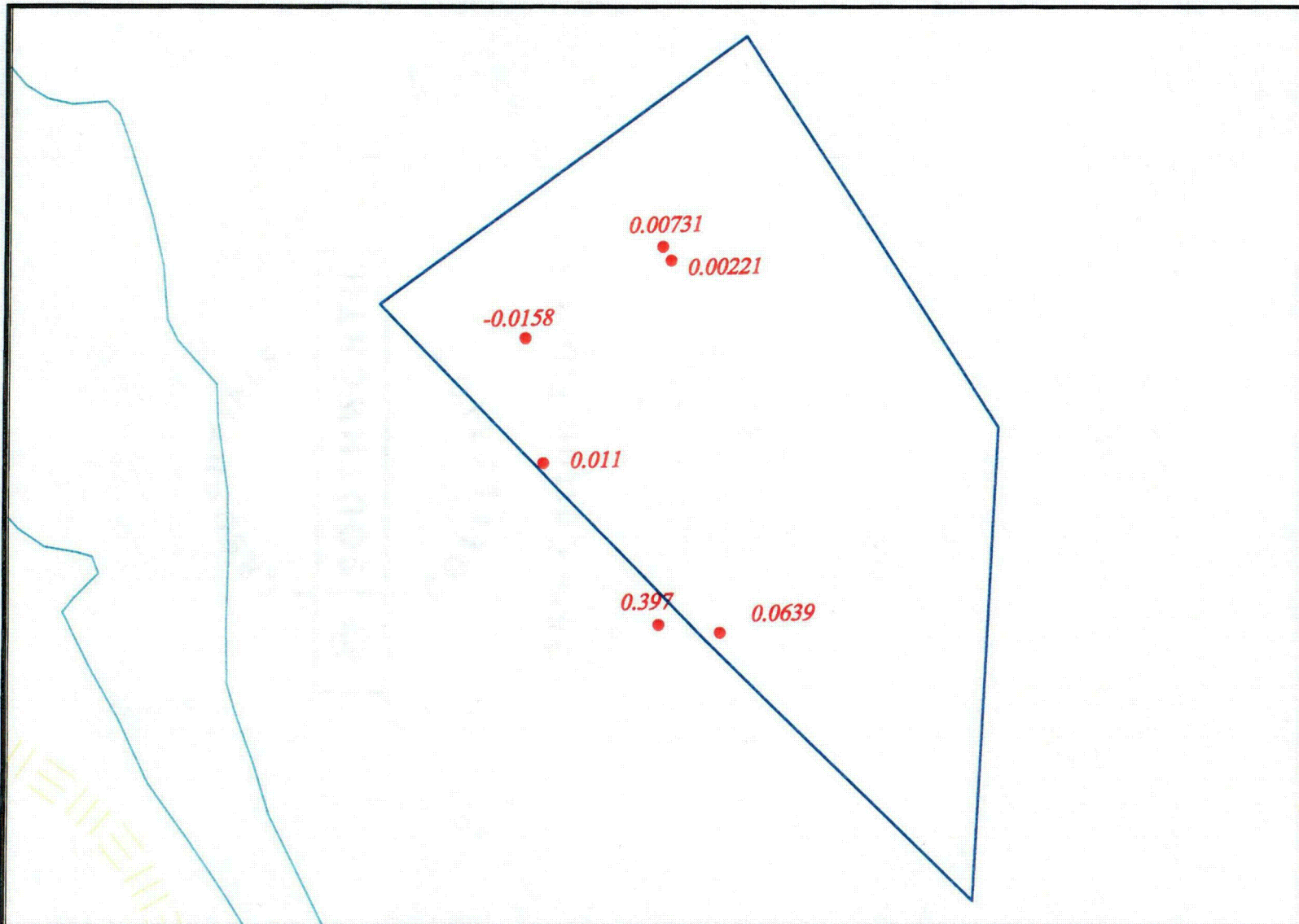
Background ranged from 7.36 kcpm to 8.02 kcpm as determined by an E-600 with SPA-3 Probe

Figure 7



**Connecticut Yankee Atomic Power Company
9536-0000 Final Status Survey Elevated Area
Posting Plot**

Date	Rev
March 2004	0



Legend

Notes

Reported cesium-137 concentrations in pCi/g

Base Case DCGL for cesium-137 in soil is 7.91 pCi/g

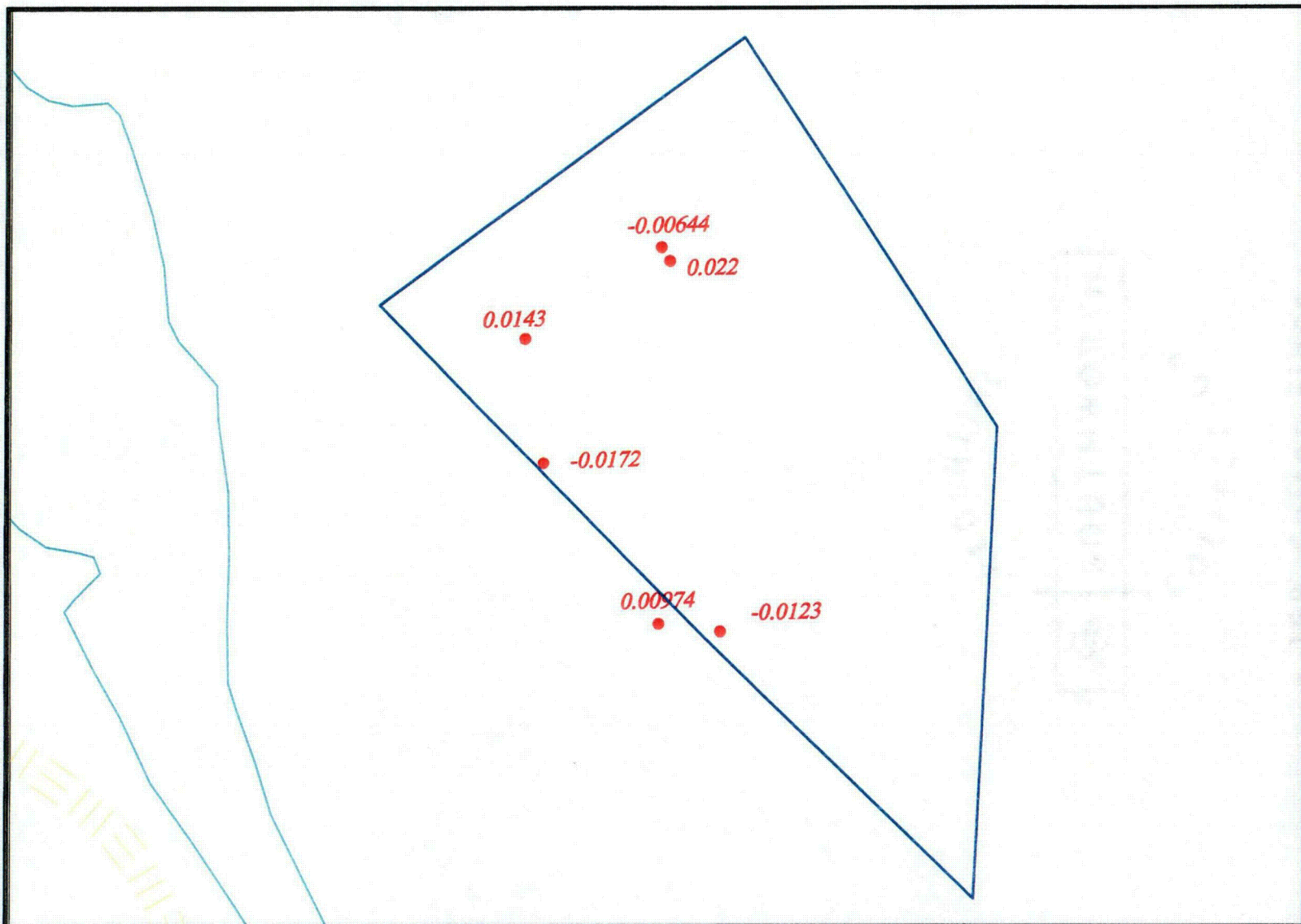
Figure 8



Connecticut Yankee Atomic Power Company
 9536-0000 Final Status Survey Elevated Area
 Cesium-137 Posting Plot

Date	Rev
March 2004	0

COB



Legend

Notes

Reported cobalt-60 concentrations in pCi/g

Base Case DCGL for cobalt-60 in soil is 3.81 pCi/g

Figure 9



Connecticut Yankee Atomic Power Company
 9536-0000 Final Status Survey Elevated Area
 Cobalt-60 Posting Plot

Date	Rev
March 2004	0

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 2
Sample and Statistical Data

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

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Attachment 2a
Gamma Spectroscopy Data
(90 Pages)

Analytical Data Package Prepared For

Connecticut Yankee

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99352, (509)-375-3131.

Assigned Laboratory Code: STL R

Data Package Contains 90 Pages

Report No.: 24554

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
24641		9536-0000-001F01	J3L030200-1	F5XCQ1AA	9F5XCQ10	3339267
		9536-0000-001F02	J3L030200-2	F5XC41AA	9F5XC410	3339267
		9536-0000-002F	J3L030200-3	F5XC71AA	9F5XC710	3339267
		9536-0000-003F	J3L030200-4	F5XDA1AA	9F5XDA10	3339267
		9536-0000-004F	J3L030200-5	F5XDD1AA	9F5XDD10	3339267
		9536-0000-004FS	J3L030200-6	F5XDJ1AA	9F5XDJ10	3339267
		9536-0000-005F	J3L030200-7	F5XDN1AA	9F5XDN10	3339267
		9536-0000-006F01	J3L030200-8	F5XDR1AA	9F5XDR10	3339267
		9536-0000-006F02	J3L030200-9	F5XDV1AA	9F5XDV10	3339267
		9536-0000-007F	J3L030200-10	F5XDX1AA	9F5XDX10	3339267
		9536-0000-008F	J3L030200-11	F5XD11AA	9F5XD110	3339267
		9536-0000-009F01	J3L030200-12	F5XD31AA	9F5XD310	3339267
		9536-0000-009F02	J3L030200-13	F5XD41AA	9F5XD410	3339267
		9536-0000-010F	J3L030200-14	F5XD51AA	9F5XD510	3339267
		9536-0000-011F	J3L030200-15	F5XD61AA	9F5XD610	3339269
		9536-0000-012F	J3L030200-16	F5XD71AA	9F5XD710	3339269
		9536-0000-013F	J3L030200-17	F5XD81AA	9F5XD810	3339269
		9536-0000-013FS	J3L030200-18	F5XD91AA	9F5XD910	3339269
		9536-0000-014F	J3L030200-19	F5XEA1AA	9F5XEA10	3339269
		9536-0000-015F01	J3L030200-20	F5XEE1AA	9F5XEE10	3339269
		9536-0000-015F02	J3L030200-21	F5XEJ1AA	9F5XEJ10	3339269
		9536-0000-016FI	J3L030200-22	F5XEL1AA	9F5XEL10	3339269
		9536-0000-017FI	J3L030200-23	F5XEP1AA	9F5XEP10	3339269
		9536-0000-018FI	J3L030200-24	F5XEQ1AA	9F5XEQ10	3339269
		9536-0000-019FI	J3L030200-25	F5XEV1AA	9F5XEV10	3339269
		9536-0000-020FI	J3L030200-26	F5XEW1AA	9F5XEW10	3339269

Report No.: 24554

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
24641		9536-0000-021F1	J3L030200-27	F5XE91AA	9F5XE910	3339269



STL

STL Richland
2800 George Washington Way
Richland, WA 99352

Tel: 509 375 3131 Fax: 509 375 5590
www.stl-inc.com

Certificate of Analysis

Connecticut Yankee Atomic Power
362 Injun Hollow Road
East Hampton, CT 06424

December 30, 2003

Attention: Pete Hollenbeck

Date Received in Lab	:	December 1, 2003
Sample Type	:	Twenty seven (27) Soil
SDG Number	:	24641
Project Name/Number	:	Haddam Neck Decommissioning
COC Number	:	238, 239, 240

CASE NARRATIVE

I. Introduction

On December 30, 2003, twenty seven soil samples were received at the STL Richland (STLR) laboratory. Upon receipt, the samples were assigned the STLR identification numbers as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J3L030200.

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analysis was:

Gamma Spectroscopy

Gamma Spec by method RICH-RC-5017



IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Gamma Spec by method RICH-RC-5017:

The following results may be false positives as the key-line activity is greater than the MDA but the identification of the radionuclide was rejected by the abundance criteria of the software.

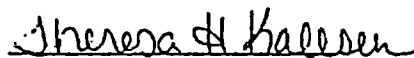
<u>Isotopes</u>	<u>Affected Samples</u>
Cs-134, Tl-208, Bi-214	F5XD6
Tl-208, Bi-214	F5XD6-DUP
Bi-214	F5XD7, F5XC4, F5XDA
Bi-212, Bi-214	F5XD9, F5XEQ, F5XDX
Bi-212	F5XEA, F5XDN
Bi-212, Bi-214, Ra-226	F5XEE, F5XEL
Tl-208, Ac-228	F5XEJ
Tl-208, Bi-212	F5XEP, F5XE9
Bi-214, Ra-226	F5XEV, F5XDR
Bi-212, Bi-214, Ra-226, Ac-228	F5XEW
Bi-214, Ac-228	F5XCQ-DUP
Tl-208, Bi-214, Ra-226	F5XC7
Cs-134, Bi-214	F5XDD, F5XD5
Tl-208	F5XDJ, F5XD4
Bi-212, Bi-214, Ac-228	F5XDV
Tl-208, Bi-214, Ac-228	F5XD1
Tl-208, Bi-214, Ra-226	F5XD3

Insufficient sample volume was received in order to generate a duplicate therefore a precision determination was achieved by recounting the sample on a different detector.

Except as noted, the LCS, batch blank, sample, and sample duplicate results are within required limits.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:



Theresa H. Kallsen
Project Management Assistant

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,\dots)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c - Combined Uncertainty.</i>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c</i> , the combined uncertainty. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC/MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339267 RICHRC5017										
9536-0000-001F01										
	F5XCQ1AA	AC-228		5.75E-01 +- 1.96E-01		pCi/g		1.59E-01		
		AG-108M		1.73E-02 +- 1.99E-02	U	pCi/g		3.72E-02	2.86E-01	
		AM-241		-5.04E-02 +- 1.47E-01	U	pCi/g		2.46E-01	1.03E+00	
		BI-212		6.26E-01 +- 4.00E-01	U	pCi/g		7.87E-01		
		BI-214		5.43E-01 +- 1.44E-01		pCi/g		8.80E-02		
		CO-60		9.00E-03 +- 2.74E-02	U	pCi/g		5.28E-02	1.50E-01	
		CS-134		3.49E-02 +- 2.93E-02	U	pCi/g		5.78E-02	1.90E-01	
		CS-137		2.27E-02 +- 2.93E-02	U	pCi/g		5.43E-02	3.20E-01	
		EU-152		3.45E-02 +- 6.43E-02	U	pCi/g		1.18E-01	4.04E-01	
		EU-154		-1.47E-02 +- 8.37E-02	U	pCi/g		1.50E-01	3.70E-01	
		EU-155		5.82E-02 +- 7.72E-02	U	pCi/g		1.38E-01	1.57E+01	
		K-40		9.40E+00 +- 1.57E+00		pCi/g		4.22E-01		
		MN-54		1.15E-02 +- 2.73E-02	U	pCi/g		5.07E-02	6.96E-01	
		NB-94		-3.25E-03 +- 2.47E-02	U	pCi/g		4.36E-02	2.85E-01	
		PB-212		6.52E-01 +- 1.32E-01		pCi/g		9.93E-02		
		PB-214		7.03E-01 +- 1.44E-01		pCi/g		8.46E-02		
		RA-226		5.43E-01 +- 1.44E-01		pCi/g		8.80E-02		
		TL-208		1.64E-01 +- 6.91E-02		pCi/g		4.29E-02		
9536-0000-001F01 DUP										
	F5XCQ1AC	AC-228		7.50E-01 +- 1.90E-01	U	pCi/g		3.26E-01		
		AG-108M		1.50E-02 +- 1.91E-02	U	pCi/g		3.58E-02	2.86E-01	
		AM-241		-3.98E-02 +- 9.18E-02	U	pCi/g		1.52E-01	1.03E+00	
		BI-212		7.69E-01 +- 4.14E-01	U	pCi/g		8.13E-01		
		BI-214		5.77E-01 +- 1.48E-01	U	pCi/g		1.98E-01		
		CO-60		7.69E-03 +- 2.72E-02	U	pCi/g		5.25E-02	1.50E-01	
		CS-134		2.34E-03 +- 2.73E-02	U	pCi/g		4.99E-02	1.90E-01	
		CS-137		2.70E-02 +- 2.95E-02	U	pCi/g		5.55E-02	3.20E-01	
		EU-152		-2.06E-02 +- 6.59E-02	U	pCi/g		1.14E-01	4.04E-01	
		EU-154		-6.29E-02 +- 8.04E-02	U	pCi/g		1.30E-01	3.70E-01	
		EU-155		3.66E-02 +- 7.18E-02	U	pCi/g		1.27E-01	1.57E+01	
		K-40		1.14E+01 +- 1.73E+00		pCi/g		2.80E-01		
		MN-54		4.43E-03 +- 2.67E-02	U	pCi/g		4.88E-02	6.96E-01	
		NB-94		1.59E-02 +- 2.55E-02	U	pCi/g		4.84E-02	2.85E-01	
		PB-212		7.01E-01 +- 1.31E-01		pCi/g		6.55E-02		
		PB-214		6.80E-01 +- 1.33E-01		pCi/g		8.85E-02		
		RA-226		5.77E-01 +- 1.48E-01		pCi/g		7.89E-02		

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPuD))] as defined by ICPT BOA.

U Qual - Analyzed for, but the result is less than the Mdc/Mda[Total Uncert or gamma scan software did not identify the nuclide.

rptSTLRehSaSummary2 V4.05 A97

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339267 RICHRC5017										
9536-0000-001F01 DUP										
	F5XCQ1AC	TL-208		1.82E-01 +- 6.61E-02		pCi/g		4.69E-02		
9536-0000-001F02										
	F5XC41AA	AC-228		7.26E-01 +- 2.05E-01		pCi/g		1.71E-01		
		AG-108M		-1.79E-02 +- 2.17E-02	U	pCi/g		3.53E-02	2.86E-01	
		AM-241		5.32E-02 +- 5.31E-02	U	pCi/g		9.07E-02	1.03E+00	
		BI-212		7.35E-01 +- 4.29E-01	U	pCi/g		8.46E-01		
		BI-214		7.37E-01 +- 1.58E-01	U	pCi/g		2.18E-01		
		CO-60		-1.83E-02 +- 2.68E-02	U	pCi/g		4.48E-02	1.50E-01	
		CS-134		3.69E-02 +- 3.55E-02	U	pCi/g		6.76E-02	1.90E-01	
		CS-137		2.18E-02 +- 3.13E-02	U	pCi/g		5.85E-02	3.20E-01	
		EU-152		3.75E-02 +- 7.79E-02	U	pCi/g		1.41E-01	4.04E-01	
		EU-154		5.12E-02 +- 9.09E-02	U	pCi/g		1.76E-01	3.70E-01	
		EU-155		2.10E-02 +- 6.92E-02	U	pCi/g		1.19E-01	1.57E+01	
		K-40		9.94E+00 +- 1.56E+00		pCi/g		2.50E-01		
		MN-54		-3.14E-03 +- 2.88E-02	U	pCi/g		5.04E-02	6.96E-01	
		NB-94		2.22E-03 +- 2.45E-02	U	pCi/g		4.52E-02	2.85E-01	
		PB-212		5.81E-01 +- 1.24E-01		pCi/g		7.26E-02		
		PB-214		6.61E-01 +- 1.57E-01		pCi/g		9.03E-02		
		RA-226		7.37E-01 +- 1.58E-01		pCi/g		8.58E-02		
		TL-208		2.33E-01 +- 6.98E-02		pCi/g		5.11E-02		
9536-0000-002F										
	F5XC71AA	AC-228		6.73E-01 +- 1.75E-01		pCi/g		1.54E-01		
		AG-108M		4.24E-03 +- 2.11E-02	U	pCi/g		3.72E-02	2.86E-01	
		AM-241		-2.50E-03 +- 7.57E-02	U	pCi/g		1.32E-01	1.03E+00	
		BI-212		4.62E-01 +- 4.10E-01	U	pCi/g		7.81E-01		
		BI-214		5.46E-01 +- 1.23E-01	U	pCi/g		1.89E-01		
		CO-60		-6.71E-03 +- 2.98E-02	U	pCi/g		5.33E-02	1.50E-01	
		CS-134		4.26E-02 +- 3.36E-02	U	pCi/g		6.47E-02	1.90E-01	
		CS-137		1.91E-02 +- 2.86E-02	U	pCi/g		5.35E-02	3.20E-01	
		EU-152		-4.72E-02 +- 7.09E-02	U	pCi/g		1.14E-01	4.04E-01	
		EU-154		9.37E-02 +- 8.38E-02	U	pCi/g		1.72E-01	3.70E-01	
		EU-155		5.83E-02 +- 6.86E-02	U	pCi/g		1.20E-01	1.57E+01	
		K-40		1.06E+01 +- 1.66E+00		pCi/g		4.20E-01		
		MN-54		-5.39E-03 +- 2.85E-02	U	pCi/g		5.03E-02	6.96E-01	
		NB-94		-1.22E-02 +- 2.52E-02	U	pCi/g		4.31E-02	2.85E-01	
		PB-212		5.74E-01 +- 1.25E-01		pCi/g		9.06E-02		
		PB-214		5.56E-01 +- 1.36E-01		pCi/g		8.35E-02		

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRichSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Batch	Client Id Work Order	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339267	RICHRC5017								
	9536-0000-002F								
	F5XC71AA	RA-226	5.46E-01 ± 1.23E-01	U	pCi/g		1.89E-01		
		TL-208	1.47E-01 ± 6.43E-02	U	pCi/g		8.50E-02		
	9536-0000-003F								
	F5XDA1AA	AC-228	6.72E-01 ± 1.85E-01		pCi/g		1.91E-01		
		AG-108M	7.36E-03 ± 2.16E-02	U	pCi/g		3.91E-02	2.86E-01	
		AM-241	-8.72E-02 ± 9.65E-02	U	pCi/g		1.55E-01	1.03E+00	
		BI-212	3.41E-01 ± 4.23E-01	U	pCi/g		7.91E-01		
		BI-214	4.65E-01 ± 1.24E-01	U	pCi/g		1.90E-01		
		CO-60	-9.61E-03 ± 2.68E-02	U	pCi/g		4.79E-02	1.50E-01	
		CS-134	3.21E-02 ± 2.96E-02	U	pCi/g		5.90E-02	1.90E-01	
		CS-137	2.97E-02 ± 3.61E-02	U	pCi/g		4.67E-02	3.20E-01	
		EU-152	2.18E-02 ± 6.86E-02	U	pCi/g		1.24E-01	4.04E-01	
		EU-154	-3.16E-02 ± 8.91E-02	U	pCi/g		1.54E-01	3.70E-01	
		EU-155	3.70E-02 ± 7.38E-02	U	pCi/g		1.31E-01	1.57E+01	
		K-40	1.05E+01 ± 1.64E+00		pCi/g		3.06E-01		
		MN-54	1.95E-02 ± 2.72E-02	U	pCi/g		5.27E-02	6.96E-01	
		NB-94	2.17E-02 ± 2.28E-02	U	pCi/g		4.60E-02	2.85E-01	
		PB-212	5.12E-01 ± 1.18E-01		pCi/g		1.01E-01		
		PB-214	6.08E-01 ± 1.34E-01		pCi/g		8.41E-02		
		RA-226	4.65E-01 ± 1.24E-01		pCi/g		7.72E-02		
		TL-208	2.23E-01 ± 5.04E-02		pCi/g		4.80E-02		
	9536-0000-004F								
	F5XDD1AA	AC-228	7.03E-01 ± 2.15E-01		pCi/g		1.49E-01		
		AG-108M	-6.07E-03 ± 1.89E-02	U	pCi/g		3.24E-02	2.86E-01	
		AM-241	8.49E-03 ± 5.49E-02	U	pCi/g		9.18E-02	1.03E+00	
		BI-212	6.64E-01 ± 3.73E-01	U	pCi/g		7.49E-01		
		BI-214	6.09E-01 ± 1.31E-01	U	pCi/g		2.00E-01		
		CO-60	-5.25E-03 ± 2.37E-02	U	pCi/g		4.32E-02	1.50E-01	
		CS-134	5.80E-02 ± 3.15E-02	U	pCi/g		5.67E-02	1.90E-01	
		CS-137	9.10E-03 ± 2.73E-02	U	pCi/g		5.03E-02	3.20E-01	
		EU-152	3.77E-02 ± 6.48E-02	U	pCi/g		1.18E-01	4.04E-01	
		EU-154	-2.63E-02 ± 7.33E-02	U	pCi/g		1.30E-01	3.70E-01	
		EU-155	2.58E-02 ± 6.57E-02	U	pCi/g		1.15E-01	1.57E+01	
		K-40	1.17E+01 ± 1.74E+00		pCi/g		4.74E-01		
		MN-54	4.95E-04 ± 2.41E-02	U	pCi/g		4.38E-02	6.96E-01	
		NB-94	5.75E-05 ± 2.11E-02	U	pCi/g		3.85E-02	2.85E-01	
		PB-212	4.76E-01 ± 1.23E-01		pCi/g		8.40E-02		

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
 rptSTLRchSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda[Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result + Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339267 RICHRC5017										
9536-0000-004F										
	F5XDD1AA	PB-214		6.85E-01 +- 1.38E-01		pCi/g		7.34E-02		
		RA-226		6.09E-01 +- 1.31E-01		pCi/g		7.72E-02		
		TL-208		2.09E-01 +- 6.93E-02		pCi/g		4.07E-02		
9536-0000-004FS										
	F5XDJ1AA	AC-228		5.97E-01 +- 2.07E-01		pCi/g		1.69E-01		
		AG-108M		-7.31E-03 +- 1.98E-02	U	pCi/g		3.35E-02	2.86E-01	
		AM-241		-3.67E-02 +- 1.44E-01	U	pCi/g		2.41E-01	1.03E+00	
		BI-212		6.62E-01 +- 3.99E-01	U	pCi/g		7.82E-01		
		BI-214		5.23E-01 +- 1.25E-01		pCi/g		8.00E-02		
		CO-60		2.39E-02 +- 2.65E-02	U	pCi/g		5.40E-02	1.50E-01	
		CS-134		7.93E-03 +- 2.65E-02	U	pCi/g		4.90E-02	1.90E-01	
		CS-137		5.02E-03 +- 2.81E-02	U	pCi/g		4.98E-02	3.20E-01	
		EU-152		2.12E-02 +- 6.75E-02	U	pCi/g		1.21E-01	4.04E-01	
		EU-154		4.07E-03 +- 7.86E-02	U	pCi/g		1.45E-01	3.70E-01	
		EU-155		6.28E-02 +- 7.39E-02	U	pCi/g		1.33E-01	1.57E+01	
		K-40		1.04E+01 +- 1.63E+00		pCi/g		2.61E-01		
		MN-54		-2.60E-02 +- 2.75E-02	U	pCi/g		4.40E-02	6.96E-01	
		NB-94		1.21E-02 +- 2.29E-02	U	pCi/g		4.32E-02	2.85E-01	
		PB-212		5.93E-01 +- 1.25E-01		pCi/g		8.97E-02		
		PB-214		6.76E-01 +- 1.47E-01		pCi/g		7.80E-02		
		RA-226		5.23E-01 +- 1.25E-01		pCi/g		8.00E-02		
		TL-208		2.03E-01 +- 5.71E-02	U	pCi/g		8.51E-02		
9536-0000-005F										
	F5XDN1AA	AC-228		5.63E-01 +- 1.84E-01		pCi/g		1.37E-01		
		AG-108M		1.33E-02 +- 2.28E-02	U	pCi/g		4.18E-02	2.86E-01	
		AM-241		-8.69E-03 +- 5.93E-02	U	pCi/g		9.10E-02	1.03E+00	
		BI-212		9.63E-01 +- 4.40E-01	U	pCi/g		8.90E-01		
		BI-214		6.78E-01 +- 1.41E-01		pCi/g		9.66E-02		
		CO-60		3.25E-03 +- 2.57E-02	U	pCi/g		4.94E-02	1.50E-01	
		CS-134		3.05E-02 +- 3.26E-02	U	pCi/g		6.29E-02	1.90E-01	
		CS-137		2.23E-02 +- 3.15E-02	U	pCi/g		5.91E-02	3.20E-01	
		EU-152		-4.98E-02 +- 7.46E-02	U	pCi/g		1.25E-01	4.04E-01	
		EU-154		-3.76E-02 +- 8.89E-02	U	pCi/g		1.55E-01	3.70E-01	
		EU-155		2.19E-02 +- 7.10E-02	U	pCi/g		1.22E-01	1.57E+01	
		K-40		1.17E+01 +- 1.78E+00		pCi/g		4.07E-01		
		MN-54		8.08E-03 +- 3.09E-02	U	pCi/g		5.60E-02	6.96E-01	
		NB-94		1.16E-02 +- 2.29E-02	U	pCi/g		4.47E-02	2.85E-01	

STL Richland RER2 - Replicate Error Ratio = $(S-D)/(\sqrt{(sq(TPUs)+sq(TPUD))})$ as defined by ICPT BOA.

rptSTLRechSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result + Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339267 RICHRC5017										
9536-0000-005F										
	F5XDN1AA	PB-212		5.46E-01 +- 1.28E-01		pCi/g		1.11E-01		
		PB-214		5.99E-01 +- 1.60E-01		pCi/g		8.40E-02		
		RA-226		6.78E-01 +- 1.42E-01		pCi/g		9.66E-02		
		TL-208		2.46E-01 +- 6.77E-02		pCi/g		5.22E-02		
9536-0000-006F01										
	F5XDR1AA	AC-228		6.97E-01 +- 1.83E-01		pCi/g		1.43E-01		
		AG-108M		-1.12E-03 +- 1.98E-02	U	pCi/g		3.44E-02	2.86E-01	
		AM-241		-4.50E-02 +- 9.25E-02	U	pCi/g		1.35E-01	1.03E+00	
		BI-212		6.42E-01 +- 4.46E-01	U	pCi/g		8.52E-01		
		BI-214		6.35E-01 +- 1.45E-01	U	pCi/g		2.04E-01		
		CO-60		-1.41E-02 +- 2.68E-02	U	pCi/g		4.61E-02	1.50E-01	
		CS-134		6.96E-02 +- 3.47E-02	U	pCi/g		6.91E-02	1.90E-01	
		CS-137		-2.30E-02 +- 2.99E-02	U	pCi/g		4.94E-02	3.20E-01	
		EU-152		-5.99E-02 +- 7.02E-02	U	pCi/g		1.15E-01	4.04E-01	
		EU-154		-1.94E-02 +- 9.26E-02	U	pCi/g		1.65E-01	3.70E-01	
		EU-155		2.21E-03 +- 7.02E-02	U	pCi/g		1.18E-01	1.57E+01	
		K-40		1.14E+01 +- 1.79E+00		pCi/g		5.12E-01		
		MN-54		5.68E-03 +- 2.86E-02	U	pCi/g		5.23E-02	6.96E-01	
		NB-94		1.33E-02 +- 2.57E-02	U	pCi/g		4.85E-02	2.85E-01	
		PB-212		7.26E-01 +- 1.45E-01		pCi/g		6.61E-02		
		PB-214		7.03E-01 +- 1.76E-01		pCi/g		7.83E-02		
		RA-226		6.35E-01 +- 1.45E-01	U	pCi/g		2.04E-01		
		TL-208		2.31E-01 +- 5.61E-02		pCi/g		4.61E-02		
9536-0000-006F02										
	F5XDV1AA	AC-228		7.41E-01 +- 2.03E-01	U	pCi/g		3.36E-01		
		AG-108M		-6.89E-03 +- 2.16E-02	U	pCi/g		3.70E-02	2.86E-01	
		AM-241		2.90E-02 +- 6.02E-02	U	pCi/g		9.14E-02	1.03E+00	
		BI-212		8.06E-01 +- 3.97E-01	U	pCi/g		7.99E-01		
		BI-214		6.56E-01 +- 1.33E-01	U	pCi/g		1.97E-01		
		CO-60		-1.19E-02 +- 2.68E-02	U	pCi/g		4.67E-02	1.50E-01	
		CS-134		4.47E-02 +- 3.07E-02	U	pCi/g		6.13E-02	1.90E-01	
		CS-137		2.92E-02 +- 2.46E-02	U	pCi/g		4.87E-02	3.20E-01	
		EU-152		-2.35E-02 +- 6.54E-02	U	pCi/g		1.10E-01	4.04E-01	
		EU-154		-6.48E-02 +- 7.19E-02	U	pCi/g		1.16E-01	3.70E-01	
		EU-155		6.62E-02 +- 6.97E-02	U	pCi/g		1.23E-01	1.57E+01	
		K-40		1.21E+01 +- 1.78E+00		pCi/g		3.40E-01		
		MN-54		1.79E-02 +- 2.45E-02	U	pCi/g		4.76E-02	6.96E-01	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLrchSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STLR

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339257 RICHRC5017										
9536-0000-006F02										
F5XDV1AA		NB-94		2.77E-03 ± 1.98E-02	U	pCi/g		3.71E-02	2.85E-01	
		PB-212		7.57E-01 ± 1.44E-01		pCi/g		6.56E-02		
		PB-214		6.88E-01 ± 1.53E-01		pCi/g		8.04E-02		
		RA-226		6.56E-01 ± 1.33E-01		pCi/g		7.32E-02		
		TL-208		2.80E-01 ± 6.52E-02		pCi/g		4.16E-02		
9536-0000-007F										
F5DXD1AA		AC-228		8.40E-01 ± 2.65E-01		pCi/g		1.42E-01		
		AG-108M		1.13E-02 ± 2.18E-02	U	pCi/g		4.01E-02	2.86E-01	
		AM-241		1.37E-02 ± 6.27E-02	U	pCi/g		9.95E-02	1.03E+00	
		BI-212		1.66E+00 ± 5.19E-01	U	pCi/g		9.54E-01		
		BI-214		6.99E-01 ± 1.56E-01	U	pCi/g		2.18E-01		
		CO-60		-9.67E-03 ± 2.85E-02	U	pCi/g		4.98E-02	1.50E-01	
		CS-134		2.92E-02 ± 3.61E-02	U	pCi/g		6.84E-02	1.90E-01	
		CS-137		1.19E-02 ± 2.80E-02	U	pCi/g		5.24E-02	3.20E-01	
		EU-152		1.27E-02 ± 8.83E-02	U	pCi/g		1.39E-01	4.04E-01	
		EU-154		-1.29E-02 ± 8.58E-02	U	pCi/g		1.53E-01	3.70E-01	
		EU-155		1.04E-02 ± 7.51E-02	U	pCi/g		1.27E-01	1.57E+01	
		K-40		1.21E+01 ± 1.84E+00		pCi/g		3.00E-01		
		MN-54		-6.64E-03 ± 3.24E-02	U	pCi/g		5.64E-02	6.96E-01	
		NB-94		4.12E-04 ± 2.90E-02	U	pCi/g		5.17E-02	2.85E-01	
		PB-212		7.10E-01 ± 1.45E-01		pCi/g		7.78E-02		
		PB-214		6.70E-01 ± 1.69E-01		pCi/g		9.43E-02		
		RA-226		6.99E-01 ± 1.56E-01		pCi/g		9.05E-02		
		TL-208		1.87E-01 ± 7.22E-02		pCi/g		5.60E-02		
9536-0000-008F										
F5XD11AA		AC-228		5.43E-01 ± 1.85E-01	U	pCi/g		3.00E-01		
		AG-108M		8.81E-03 ± 1.96E-02	U	pCi/g		3.59E-02	2.86E-01	
		AM-241		1.38E-02 ± 7.47E-02	U	pCi/g		1.29E-01	1.03E+00	
		BI-212		5.54E-01 ± 3.81E-01	U	pCi/g		7.35E-01		
		BI-214		5.29E-01 ± 1.40E-01	U	pCi/g		1.89E-01		
		CO-60		-2.65E-02 ± 2.68E-02	U	pCi/g		4.24E-02	1.50E-01	
		CS-134		3.69E-02 ± 2.97E-02	U	pCi/g		5.82E-02	1.90E-01	
		CS-137		1.37E-02 ± 2.83E-02	U	pCi/g		5.18E-02	3.20E-01	
		EU-152		2.25E-02 ± 6.47E-02	U	pCi/g		1.15E-01	4.04E-01	
		EU-154		7.76E-03 ± 8.15E-02	U	pCi/g		1.50E-01	3.70E-01	
		EU-155		-2.56E-02 ± 6.20E-02	U	pCi/g		1.05E-01	1.57E+01	
		K-40		1.03E+01 ± 1.65E+00		pCi/g		3.96E-01		

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
 rptSTLRchSaSum U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
 mary2 V4.05 A97

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339267 RICHRC5017										
9536-0000-008F										
F5XD11AA		MN-54		-3.82E-03 +- 2.73E-02	U	pCi/g		4.83E-02	6.96E-01	
		NB-94		1.53E-02 +- 2.50E-02	U	pCi/g		4.71E-02	2.85E-01	
		PB-212		6.45E-01 +- 1.30E-01		pCi/g		6.07E-02		
		PB-214		7.31E-01 +- 1.62E-01		pCi/g		7.88E-02		
		RA-226		5.30E-01 +- 1.40E-01		pCi/g		8.60E-02		
		TL-208		2.06E-01 +- 6.33E-02	U	pCi/g		8.24E-02		
9536-0000-009F01										
F5XD31AA		AC-228		6.19E-01 +- 2.20E-01		pCi/g		1.66E-01		
		AG-108M		-1.30E-02 +- 2.05E-02	U	pCi/g		3.43E-02	2.86E-01	
		AM-241		-6.91E-02 +- 8.94E-02	U	pCi/g		1.47E-01	1.03E+00	
		BI-212		5.11E-01 +- 4.02E-01	U	pCi/g		7.78E-01		
		BI-214		5.58E-01 +- 1.20E-01	U	pCi/g		1.89E-01		
		CO-60		-1.49E-03 +- 2.81E-02	U	pCi/g		5.14E-02	1.50E-01	
		CS-134		3.83E-02 +- 3.71E-02	U	pCi/g		6.27E-02	1.90E-01	
		CS-137		1.57E-02 +- 2.78E-02	U	pCi/g		5.19E-02	3.20E-01	
		EU-152		1.13E-02 +- 6.45E-02	U	pCi/g		1.14E-01	4.04E-01	
		EU-154		5.75E-02 +- 7.76E-02	U	pCi/g		1.56E-01	3.70E-01	
		EU-155		6.46E-02 +- 6.75E-02	U	pCi/g		1.23E-01	1.57E+01	
		K-40		1.04E+01 +- 1.61E+00		pCi/g		3.76E-01		
		MN-54		-7.99E-03 +- 2.56E-02	U	pCi/g		4.51E-02	6.96E-01	
		NB-94		9.71E-03 +- 2.13E-02	U	pCi/g		4.12E-02	2.85E-01	
		PB-212		6.68E-01 +- 1.30E-01		pCi/g		6.99E-02		
		PB-214		6.16E-01 +- 1.35E-01		pCi/g		8.51E-02		
		RA-226		5.58E-01 +- 1.20E-01	U	pCi/g		1.89E-01		
		TL-208		2.05E-01 +- 5.30E-02	U	pCi/g		8.54E-02		
9536-0000-009F02										
F5XD41AA		AC-228		5.62E-01 +- 1.52E-01		pCi/g		1.31E-01		
		AG-108M		9.42E-03 +- 1.69E-02	U	pCi/g		3.11E-02	2.86E-01	
		AM-241		-9.72E-03 +- 4.80E-02	U	pCi/g		7.96E-02	1.03E+00	
		BI-212		8.79E-01 +- 4.56E-01	U	pCi/g		6.70E-01		
		BI-214		5.61E-01 +- 1.17E-01		pCi/g		6.65E-02		
		CO-60		-1.24E-03 +- 2.00E-02	U	pCi/g		3.75E-02	1.50E-01	
		CS-134		4.13E-02 +- 2.73E-02	U	pCi/g		5.45E-02	1.90E-01	
		CS-137		2.33E-02 +- 2.31E-02	U	pCi/g		4.47E-02	3.20E-01	
		EU-152		1.92E-02 +- 5.62E-02	U	pCi/g		9.98E-02	4.04E-01	
		EU-154		-1.87E-02 +- 7.19E-02	U	pCi/g		1.27E-01	3.70E-01	
		EU-155		1.75E-02 +- 5.75E-02	U	pCi/g		1.01E-01	1.57E+01	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRchSaSummary2 V4.05 AS7 U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339267 RICHRC5017										
9536-0000-009F02										
	F5XD41AA	K-40		1.13E+01 ± 1.63E+00		pCi/g		3.63E-01		
		MN-54		-2.59E-03 ± 2.34E-02	U	pCi/g		4.14E-02	6.96E-01	
		NB-94		1.23E-02 ± 1.89E-02	U	pCi/g		3.68E-02	2.85E-01	
		PB-212		5.64E-01 ± 1.22E-01		pCi/g		8.96E-02		
		PB-214		6.64E-01 ± 1.30E-01		pCi/g		6.49E-02		
		RA-226		5.61E-01 ± 1.17E-01		pCi/g		6.65E-02		
		TL-208		2.28E-01 ± 5.27E-02		pCi/g		3.49E-02		
9536-0000-010F										
	F5XD51AA	AC-228		9.21E-01 ± 2.28E-01		pCi/g		1.53E-01		
		AG-108M		1.43E-02 ± 2.59E-02	U	pCi/g		4.69E-02	2.86E-01	
		AM-241		6.39E-02 ± 6.71E-02	U	pCi/g		1.02E-01	1.03E+00	
		BI-212		6.54E-01 ± 5.58E-01	U	pCi/g		9.07E-01		
		BI-214		7.70E-01 ± 1.53E-01	U	pCi/g		2.23E-01		
		CO-60		2.88E-02 ± 2.75E-02	U	pCi/g		5.76E-02	1.50E-01	
		CS-134		8.95E-02 ± 4.86E-02	U	pCi/g		6.72E-02	1.90E-01	
		CS-137		2.92E-03 ± 3.51E-02	U	pCi/g		6.25E-02	3.20E-01	
		EU-152		4.37E-02 ± 8.19E-02	U	pCi/g		1.36E-01	4.04E-01	
		EU-154		-2.66E-02 ± 7.83E-02	U	pCi/g		1.37E-01	3.70E-01	
		EU-155		4.73E-02 ± 7.68E-02	U	pCi/g		1.32E-01	1.57E+01	
		K-40		1.15E+01 ± 1.80E+00		pCi/g		5.08E-01		
		MN-54		-1.42E-02 ± 3.43E-02	U	pCi/g		5.82E-02	6.96E-01	
		NB-94		-1.55E-02 ± 2.26E-02	U	pCi/g		3.71E-02	2.85E-01	
		PB-212		7.77E-01 ± 1.54E-01		pCi/g		7.63E-02		
		PB-214		8.06E-01 ± 1.80E-01		pCi/g		9.64E-02		
		RA-226		7.70E-01 ± 1.53E-01		pCi/g		9.08E-02		
		TL-208		2.37E-01 ± 6.79E-02		pCi/g		4.89E-02		
3339269 RICHRC5017										
9536-0000-011F										
	F5XD61AA	AC-228		6.72E-01 ± 1.89E-01		pCi/g		1.38E-01		
		AG-108M		9.59E-03 ± 2.01E-02	U	pCi/g		3.61E-02	2.86E-01	
		AM-241		6.15E-03 ± 1.43E-01	U	pCi/g		2.45E-01	1.03E+00	
		BI-212		7.26E-01 ± 3.98E-01	U	pCi/g		7.75E-01		
		BI-214		6.97E-01 ± 1.40E-01	U	pCi/g		1.92E-01		
		CO-60		2.66E-02 ± 2.80E-02	U	pCi/g		5.59E-02	1.50E-01	
		CS-134		6.31E-02 ± 2.92E-02	U	pCi/g		5.93E-02	1.90E-01	
		CS-137		1.34E-02 ± 2.77E-02	U	pCi/g		4.98E-02	3.20E-01	
		EU-152		-4.31E-03 ± 6.45E-02	U	pCi/g		1.13E-01	4.04E-01	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRichSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339269 RICHRC5017										
9536-0000-011F										
F5XD61AA		EU-154		-5.68E-03 + 7.05E-02	U	pCi/g		1.28E-01	3.70E-01	
		EU-155		8.98E-02 + 7.58E-02	U	pCi/g		1.37E-01	1.57E+01	
		K-40		9.94E+00 + 1.56E+00		pCi/g		2.06E-01		
		MN-54		1.39E-02 + 2.44E-02	U	pCi/g		4.56E-02	6.96E-01	
		NB-94		-1.46E-02 + 2.35E-02	U	pCi/g		3.87E-02	2.85E-01	
		PB-212		6.70E-01 + 1.29E-01		pCi/g		6.53E-02		
		PB-214		7.12E-01 + 1.52E-01		pCi/g		7.16E-02		
		RA-226		6.97E-01 + 1.40E-01		pCi/g		7.62E-02		
		TL-208		2.21E-01 + 6.00E-02	U	pCi/g		8.54E-02		
9536-0000-011F DUP										
F5XD61AC		AC-228		4.56E-01 + 2.37E-01		pCi/g		1.57E-01		
		AG-108M		2.63E-03 + 2.00E-02	U	pCi/g		3.55E-02	2.86E-01	
		AM-241		8.43E-03 + 4.94E-02	U	pCi/g		8.16E-02	1.03E+00	
		BI-212		6.66E-01 + 3.88E-01	U	pCi/g		7.54E-01		
		BI-214		5.63E-01 + 1.28E-01	U	pCi/g		1.83E-01		
		CO-60		4.78E-03 + 2.18E-02	U	pCi/g		4.21E-02	1.50E-01	
		CS-134		5.10E-02 + 2.96E-02	U	pCi/g		5.86E-02	1.90E-01	
		CS-137		3.70E-02 + 2.66E-02	U	pCi/g		5.16E-02	3.20E-01	
		EU-152		-9.87E-03 + 6.24E-02	U	pCi/g		1.09E-01	4.04E-01	
		EU-154		3.86E-02 + 7.05E-02	U	pCi/g		1.36E-01	3.70E-01	
		EU-155		6.60E-02 + 6.09E-02	U	pCi/g		1.07E-01	1.57E+01	
		K-40		1.01E+01 + 1.53E+00		pCi/g		3.26E-01		
		MN-54		1.60E-03 + 2.62E-02	U	pCi/g		4.66E-02	6.96E-01	
		NB-94		-1.86E-03 + 2.04E-02	U	pCi/g		3.62E-02	2.85E-01	
		PB-212		6.13E-01 + 1.23E-01		pCi/g		5.94E-02		
		PB-214		5.65E-01 + 1.57E-01		pCi/g		7.52E-02		
		RA-226		5.63E-01 + 1.28E-01		pCi/g		7.50E-02		
		TL-208		2.50E-01 + 5.93E-02	U	pCi/g		8.40E-02		
9536-0000-012F										
F5XD71AA		AC-228		5.83E-01 + 1.87E-01		pCi/g		1.54E-01		
		AG-108M		2.14E-02 + 2.03E-02	U	pCi/g		3.74E-02	2.86E-01	
		AM-241		1.61E-02 + 7.14E-02	U	pCi/g		1.25E-01	1.03E+00	
		BI-212		7.33E-01 + 4.46E-01	U	pCi/g		7.75E-01		
		BI-214		6.08E-01 + 1.26E-01	U	pCi/g		1.82E-01		
		CO-60		-7.82E-03 + 2.50E-02	U	pCi/g		4.42E-02	1.50E-01	
		CS-134		1.93E-02 + 2.94E-02	U	pCi/g		5.54E-02	1.90E-01	
		CS-137		1.52E-01 + 6.40E-02	J	pCi/g		3.84E-02	3.20E-01	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRichSaSum J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 mary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda[Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result + Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339269 RICHRC5017										
9536-0000-012F										
F5XD71AA		EU-152		-6.76E-02 +- 6.64E-02	U	pCi/g		1.02E-01	4.04E-01	
		EU-154		-4.59E-02 +- 8.11E-02	U	pCi/g		1.38E-01	3.70E-01	
		EU-155		2.42E-02 +- 6.18E-02	U	pCi/g		1.06E-01	1.57E+01	
		K-40		9.68E+00 +- 1.55E+00		pCi/g		4.29E-01		
		MN-54		-2.93E-02 +- 2.68E-02	U	pCi/g		4.24E-02	6.96E-01	
		NB-94		1.69E-02 +- 2.17E-02	U	pCi/g		4.22E-02	2.85E-01	
		PB-212		6.28E-01 +- 1.30E-01		pCi/g		6.39E-02		
		PB-214		6.06E-01 +- 1.52E-01		pCi/g		8.14E-02		
		RA-226		6.08E-01 +- 1.26E-01		pCi/g		7.96E-02		
		TL-208		2.49E-01 +- 5.72E-02		pCi/g		4.65E-02		
9536-0000-013F										
F5XD81AA		AC-228		6.58E-01 +- 2.07E-01		pCi/g		1.60E-01		
		AG-108M		3.86E-03 +- 2.12E-02	U	pCi/g		3.82E-02	2.86E-01	
		AM-241		-8.22E-02 +- 1.01E-01	U	pCi/g		1.52E-01	1.03E+00	
		BI-212		3.25E-01 +- 4.03E-01	U	pCi/g		7.64E-01		
		BI-214		7.07E-01 +- 1.46E-01		pCi/g		8.22E-02		
		CO-60		-9.81E-03 +- 2.39E-02	U	pCi/g		4.23E-02	1.50E-01	
		CS-134		5.75E-04 +- 3.21E-02	U	pCi/g		5.71E-02	1.90E-01	
		CS-137		1.48E-01 +- 4.65E-02	J	pCi/g		4.80E-02	3.20E-01	
		EU-152		1.08E-01 +- 7.29E-02	U	pCi/g		1.37E-01	4.04E-01	
		EU-154		-2.19E-02 +- 8.61E-02	U	pCi/g		1.53E-01	3.70E-01	
		EU-155		2.31E-02 +- 7.57E-02	U	pCi/g		1.33E-01	1.57E+01	
		K-40		1.09E+01 +- 1.69E+00		pCi/g		4.77E-01		
		MN-54		-3.27E-02 +- 3.10E-02	U	pCi/g		4.81E-02	6.96E-01	
		NB-94		-1.82E-03 +- 2.46E-02	U	pCi/g		4.48E-02	2.85E-01	
		PB-212		5.92E-01 +- 1.34E-01		pCi/g		1.07E-01		
		PB-214		6.62E-01 +- 1.61E-01		pCi/g		8.22E-02		
		RA-226		7.07E-01 +- 1.46E-01		pCi/g		8.22E-02		
		TL-208		1.91E-01 +- 6.25E-02		pCi/g		4.54E-02		
9536-0000-013FS										
F5XD91AA		AC-228		4.27E-01 +- 1.80E-01		pCi/g		1.39E-01		
		AG-108M		-4.53E-03 +- 1.90E-02	U	pCi/g		3.29E-02	2.86E-01	
		AM-241		4.41E-02 +- 5.02E-02	U	pCi/g		8.04E-02	1.03E+00	
		BI-212		8.84E-01 +- 4.11E-01	U	pCi/g		8.07E-01		
		BI-214		5.85E-01 +- 1.21E-01	U	pCi/g		1.85E-01		
		CO-60		-4.34E-03 +- 2.31E-02	U	pCi/g		4.21E-02	1.50E-01	
		CS-134		3.25E-02 +- 2.86E-02	U	pCi/g		5.54E-02	1.90E-01	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRehSaSummary2 V4.05 A97 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STLR

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339269 RICHRC5017										
9536-0000-013FS										
F5XD91AA		CS-137		1.87E-02 +- 2.86E-02	U	pCi/g		5.28E-02	3.20E-01	
		EU-152		-7.49E-03 +- 6.34E-02	U	pCi/g		1.11E-01	4.04E-01	
		EU-154		5.02E-02 +- 7.12E-02	U	pCi/g		1.40E-01	3.70E-01	
		EU-155		2.07E-02 +- 6.31E-02	U	pCi/g		1.08E-01	1.57E+01	
		K-40		9.09E+00 +- 1.43E+00		pCi/g		3.80E-01		
		MN-54		2.37E-03 +- 2.48E-02	U	pCi/g		4.44E-02	6.96E-01	
		NB-94		-3.53E-03 +- 2.12E-02	U	pCi/g		3.71E-02	2.85E-01	
		PB-212		6.08E-01 +- 1.30E-01		pCi/g		9.18E-02		
		PB-214		7.10E-01 +- 1.45E-01		pCi/g		8.06E-02		
		RA-226		5.85E-01 +- 1.21E-01		pCi/g		6.79E-02		
		TL-208		2.41E-01 +- 5.82E-02		pCi/g		4.22E-02		
9536-0000-014F										
F5XEA1AA		AC-228		7.16E-01 +- 2.05E-01		pCi/g		1.37E-01		
		AG-108M		1.26E-02 +- 1.89E-02	U	pCi/g		3.48E-02	2.86E-01	
		AM-241		-6.51E-02 +- 1.46E-01	U	pCi/g		2.42E-01	1.03E+00	
		BI-212		9.78E-01 +- 4.41E-01	U	pCi/g		8.62E-01		
		BI-214		5.50E-01 +- 1.24E-01		pCi/g		7.91E-02		
		CO-60		9.51E-03 +- 2.50E-02	U	pCi/g		4.84E-02	1.50E-01	
		CS-134		4.09E-02 +- 3.27E-02	U	pCi/g		6.40E-02	1.90E-01	
		CS-137		2.15E-02 +- 2.86E-02	U	pCi/g		5.24E-02	3.20E-01	
		EU-152		-3.92E-02 +- 6.04E-02	U	pCi/g		1.01E-01	4.04E-01	
		EU-154		6.74E-02 +- 7.99E-02	U	pCi/g		1.58E-01	3.70E-01	
		EU-155		9.77E-02 +- 7.80E-02	U	pCi/g		1.41E-01	1.57E+01	
		K-40		1.16E+01 +- 1.74E+00		pCi/g		3.94E-01		
		MN-54		-2.49E-02 +- 2.88E-02	U	pCi/g		4.62E-02	6.96E-01	
		NB-94		3.09E-02 +- 2.29E-02	U	pCi/g		4.58E-02	2.85E-01	
		PB-212		7.35E-01 +- 1.40E-01		pCi/g		6.35E-02		
		PB-214		6.46E-01 +- 1.39E-01		pCi/g		7.48E-02		
		RA-226		5.50E-01 +- 1.24E-01		pCi/g		7.91E-02		
		TL-208		2.55E-01 +- 6.41E-02		pCi/g		4.13E-02		
9536-0000-015F01										
F5XEE1AA		AC-228		5.57E-01 +- 1.70E-01		pCi/g		1.38E-01		
		AG-108M		9.62E-04 +- 1.88E-02	U	pCi/g		3.28E-02	2.86E-01	
		AM-241		-3.22E-02 +- 6.79E-02	U	pCi/g		1.16E-01	1.03E+00	
		BI-212		1.08E+00 +- 5.32E-01	U	pCi/g		8.27E-01		
		BI-214		4.41E-01 +- 1.26E-01	U	pCi/g		1.74E-01		
		CO-60		1.12E-02 +- 2.59E-02	U	pCi/g		5.03E-02	1.50E-01	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRchSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result ± Uncertainty (2σ)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339269 RICHRC5017										
9536-0000-015F01										
	F5XEE1AA	CS-134		4.58E-02 ± 2.97E-02	U	pCi/g		5.92E-02	1.90E-01	
		CS-137		5.65E-02 ± 3.85E-02	J	pCi/g		4.56E-02	3.20E-01	
		EU-152		-2.37E-02 ± 6.29E-02	U	pCi/g		9.89E-02	4.04E-01	
		EU-154		-9.27E-03 ± 8.63E-02	U	pCi/g		1.55E-01	3.70E-01	
		EU-155		2.43E-02 ± 5.95E-02	U	pCi/g		1.02E-01	1.57E+01	
		K-40		8.35E+00 ± 1.45E+00		pCi/g		4.00E-01		
		MN-54		9.77E-03 ± 2.38E-02	U	pCi/g		4.46E-02	6.96E-01	
		NB-94		3.15E-03 ± 2.46E-02	U	pCi/g		4.46E-02	2.85E-01	
		PB-212		6.10E-01 ± 1.22E-01		pCi/g		5.75E-02		
		PB-214		5.76E-01 ± 1.24E-01		pCi/g		7.84E-02		
		RA-226		4.41E-01 ± 1.26E-01	U	pCi/g		1.74E-01		
		TL-208		1.89E-01 ± 6.01E-02		pCi/g		4.07E-02		
9536-0000-015F02										
	F5XEJ1AA	AC-228		5.96E-01 ± 1.73E-01	U	pCi/g		2.89E-01		
		AG-108M		-1.00E-02 ± 1.76E-02	U	pCi/g		2.97E-02	2.86E-01	
		AM-241		2.24E-02 ± 8.25E-02	U	pCi/g		1.33E-01	1.03E+00	
		BI-212		4.09E-01 ± 3.43E-01	U	pCi/g		6.67E-01		
		BI-214		5.52E-01 ± 1.38E-01		pCi/g		7.32E-02		
		CO-60		-3.87E-03 ± 2.04E-02	U	pCi/g		3.75E-02	1.50E-01	
		CS-134		3.22E-02 ± 2.79E-02	U	pCi/g		5.44E-02	1.90E-01	
		CS-137		-1.87E-04 ± 2.31E-02	U	pCi/g		4.14E-02	3.20E-01	
		EU-152		1.93E-02 ± 6.14E-02	U	pCi/g		1.08E-01	4.04E-01	
		EU-154		-8.81E-03 ± 6.68E-02	U	pCi/g		1.22E-01	3.70E-01	
		EU-155		4.14E-02 ± 6.27E-02	U	pCi/g		1.12E-01	1.57E+01	
		K-40		1.05E+01 ± 1.59E+00		pCi/g		4.38E-01		
		MN-54		-1.54E-02 ± 2.56E-02	U	pCi/g		4.22E-02	6.96E-01	
		NB-94		-2.70E-03 ± 2.01E-02	U	pCi/g		3.64E-02	2.85E-01	
		PB-212		5.65E-01 ± 1.19E-01		pCi/g		8.91E-02		
		PB-214		5.60E-01 ± 1.23E-01		pCi/g		7.90E-02		
		RA-226		5.52E-01 ± 1.38E-01		pCi/g		7.32E-02		
		TL-208		1.77E-01 ± 4.83E-02	U	pCi/g		7.61E-02		
9536-0000-016F1										
	F5XEL1AA	AC-228		7.18E-01 ± 1.76E-01		pCi/g		1.19E-01		
		AG-108M		-6.56E-04 ± 1.80E-02	U	pCi/g		3.12E-02	2.86E-01	
		AM-241		4.69E-02 ± 4.93E-02	U	pCi/g		8.47E-02	1.03E+00	
		BI-212		1.18E+00 ± 3.99E-01	U	pCi/g		7.59E-01		
		BI-214		5.60E-01 ± 1.15E-01	U	pCi/g		1.76E-01		

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRchSaSum J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 mary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda[Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339269 RICHRC5017										
9536-0000-016F1										
F5XEL1AA		CO-60		1.43E-02 +- 2.37E-02	U	pCi/g		4.73E-02	1.50E-01	
		CS-134		2.81E-02 +- 2.85E-02	U	pCi/g		5.42E-02	1.90E-01	
		CS-137		-1.58E-02 +- 2.69E-02	U	pCi/g		4.48E-02	3.20E-01	
		EU-152		-6.12E-02 +- 6.05E-02	U	pCi/g		9.69E-02	4.04E-01	
		EU-154		-1.60E-02 +- 7.39E-02	U	pCi/g		1.32E-01	3.70E-01	
		EU-155		2.58E-02 +- 6.34E-02	U	pCi/g		1.10E-01	1.57E+01	
		K-40		1.11E+01 +- 1.61E+00		pCi/g		3.27E-01		
		MN-54		-1.07E-02 +- 2.20E-02	U	pCi/g		3.80E-02	6.96E-01	
		NB-94		3.18E-03 +- 2.00E-02	U	pCi/g		3.72E-02	2.85E-01	
		PB-212		6.54E-01 +- 1.24E-01		pCi/g		6.08E-02		
		PB-214		6.33E-01 +- 1.29E-01		pCi/g		6.26E-02		
		RA-226		5.60E-01 +- 1.15E-01	U	pCi/g		1.76E-01		
		TL-208		2.24E-01 +- 5.75E-02		pCi/g		3.92E-02		
9536-0000-017F1										
F5XEP1AA		AC-228		5.07E-01 +- 1.98E-01		pCi/g		1.52E-01		
		AG-108M		-1.64E-03 +- 1.61E-02	U	pCi/g		2.80E-02	2.86E-01	
		AM-241		-6.13E-02 +- 1.34E-01	U	pCi/g		2.22E-01	1.03E+00	
		BI-212		8.92E-01 +- 5.28E-01	U	pCi/g		7.83E-01		
		BI-214		4.97E-01 +- 1.20E-01		pCi/g		7.80E-02		
		CO-60		2.20E-02 +- 2.35E-02	U	pCi/g		4.84E-02	1.50E-01	
		CS-134		4.70E-02 +- 3.17E-02	U	pCi/g		6.13E-02	1.90E-01	
		CS-137		2.21E-03 +- 2.62E-02	U	pCi/g		4.58E-02	3.20E-01	
		EU-152		4.04E-02 +- 5.91E-02	U	pCi/g		1.09E-01	4.04E-01	
		EU-154		4.98E-03 +- 6.99E-02	U	pCi/g		1.29E-01	3.70E-01	
		EU-155		1.15E-02 +- 7.00E-02	U	pCi/g		1.23E-01	1.57E+01	
		K-40		9.10E+00 +- 1.42E+00		pCi/g		3.40E-01		
		MN-54		8.91E-03 +- 2.39E-02	U	pCi/g		4.40E-02	6.96E-01	
		NB-94		3.25E-03 +- 2.13E-02	U	pCi/g		3.86E-02	2.85E-01	
		PB-212		5.96E-01 +- 1.19E-01		pCi/g		5.92E-02		
		PB-214		5.48E-01 +- 1.31E-01		pCi/g		7.12E-02		
		RA-226		4.97E-01 +- 1.20E-01		pCi/g		7.80E-02		
		TL-208		1.86E-01 +- 4.95E-02	U	pCi/g		7.75E-02		
9536-0000-018F1										
F5XEQ1AA		AC-228		8.46E-01 +- 1.93E-01		pCi/g		1.49E-01		
		AG-108M		3.41E-03 +- 2.02E-02	U	pCi/g		3.62E-02	2.86E-01	
		AM-241		1.20E-02 +- 5.46E-02	U	pCi/g		9.04E-02	1.03E+00	
		BI-212		9.66E-01 +- 4.42E-01	U	pCi/g		8.75E-01		

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRichSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STLR

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339269 RICHRC5017										
9536-0000-018FI										
F5XEQ1AA	BI-214			6.22E-01 +- 1.40E-01	U	pCi/g		2.07E-01		
	CO-60			-6.44E-03 +- 2.44E-02	U	pCi/g		4.41E-02	1.50E-01	
	CS-134			3.36E-02 +- 3.33E-02	U	pCi/g		6.36E-02	1.90E-01	
	CS-137			7.31E-03 +- 3.03E-02	U	pCi/g		5.47E-02	3.20E-01	
	EU-152			-1.24E-02 +- 7.01E-02	U	pCi/g		1.22E-01	4.04E-01	
	EU-154			3.75E-02 +- 8.78E-02	U	pCi/g		1.65E-01	3.70E-01	
	EU-155			3.46E-02 +- 7.09E-02	U	pCi/g		1.22E-01	1.57E+01	
	K-40			9.89E+00 +- 1.63E+00		pCi/g		4.79E-01		
	MN-54			5.54E-03 +- 2.88E-02	U	pCi/g		5.19E-02	6.96E-01	
	NB-94			-1.85E-02 +- 2.20E-02	U	pCi/g		3.51E-02	2.85E-01	
	PB-212			7.33E-01 +- 1.45E-01		pCi/g		6.59E-02		
	PB-214			6.44E-01 +- 1.57E-01		pCi/g		8.70E-02		
	RA-226			6.22E-01 +- 1.40E-01		pCi/g		8.54E-02		
	TL-208			2.56E-01 +- 7.28E-02		pCi/g		3.71E-02		
9536-0000-019FI										
F5XEV1AA	AC-228			5.66E-01 +- 1.98E-01		pCi/g		1.56E-01		
	AG-108M			4.47E-03 +- 2.15E-02	U	pCi/g		3.79E-02	2.86E-01	
	AM-241			4.40E-03 +- 7.64E-02	U	pCi/g		1.34E-01	1.03E+00	
	BI-212			8.45E-01 +- 4.68E-01	U	pCi/g		9.04E-01		
	BI-214			4.23E-01 +- 1.17E-01	U	pCi/g		1.89E-01		
	CO-60			-1.72E-02 +- 3.00E-02	U	pCi/g		5.07E-02	1.50E-01	
	CS-134			5.20E-02 +- 3.16E-02	U	pCi/g		6.39E-02	1.90E-01	
	CS-137			1.10E-02 +- 2.88E-02	U	pCi/g		5.27E-02	3.20E-01	
	EU-152			-8.92E-02 +- 6.89E-02	U	pCi/g		1.05E-01	4.04E-01	
	EU-154			4.59E-03 +- 8.51E-02	U	pCi/g		1.57E-01	3.70E-01	
	EU-155			-4.18E-03 +- 6.76E-02	U	pCi/g		1.13E-01	1.57E+01	
	K-40			9.94E+00 +- 1.62E+00		pCi/g		4.17E-01		
	MN-54			-9.12E-03 +- 2.68E-02	U	pCi/g		4.66E-02	6.96E-01	
	NB-94			1.47E-02 +- 2.16E-02	U	pCi/g		4.25E-02	2.85E-01	
	PB-212			6.17E-01 +- 1.33E-01		pCi/g		8.98E-02		
	PB-214			6.58E-01 +- 1.39E-01		pCi/g		7.73E-02		
	RA-226			4.23E-01 +- 1.17E-01	U	pCi/g		1.89E-01		
	TL-208			2.15E-01 +- 6.32E-02		pCi/g		4.19E-02		
9536-0000-020FI										
F5XEW1AA	AC-228			8.11E-01 +- 2.44E-01	U	pCi/g		4.03E-01		
	AG-108M			2.60E-03 +- 2.57E-02	U	pCi/g		4.62E-02	2.86E-01	
	AM-241			3.76E-02 +- 1.08E-01	U	pCi/g		1.86E-01	1.03E+00	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by JCPT BOA.
 rptSTLRchSaSummary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 30-Dec-03

STL Richland STL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24554

SDG No: 24641

Client Id	Batch	Work Order	Parameter	Result +/- Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
3339269 RICHRC5017										
9536-0000-020FI										
	FSXEW1AA	BI-212		1.25E+00 +- 5.41E-01	U	pCi/g		1.10E+00		
		BI-214		5.95E-01 +- 1.59E-01	U	pCi/g		2.37E-01		
		CO-60		9.74E-03 +- 2.63E-02	U	pCi/g		5.42E-02	1.50E-01	
		CS-134		2.41E-02 +- 3.49E-02	U	pCi/g		6.75E-02	1.90E-01	
		CS-137		3.97E-01 +- 8.51E-02		pCi/g		6.11E-02	3.20E-01	
		EU-152		-6.09E-02 +- 8.54E-02	U	pCi/g		1.38E-01	4.04E-01	
		EU-154		-5.88E-04 +- 9.32E-02	U	pCi/g		1.74E-01	3.70E-01	
		EU-155		1.35E-02 +- 8.51E-02	U	pCi/g		1.50E-01	1.57E+01	
		K-40		1.03E+01 +- 1.76E+00		pCi/g		4.82E-01		
		MN-54		2.11E-03 +- 3.24E-02	U	pCi/g		5.85E-02	6.96E-01	
		NB-94		-1.08E-03 +- 2.59E-02	U	pCi/g		4.81E-02	2.85E-01	
		PB-212		8.01E-01 +- 1.55E-01		pCi/g		7.94E-02		
		PB-214		8.00E-01 +- 1.85E-01		pCi/g		1.12E-01		
		RA-226		5.95E-01 +- 1.59E-01	U	pCi/g		2.37E-01		
		TL-208		2.80E-01 +- 6.72E-02	U	pCi/g		1.10E-01		
9536-0000-021FI										
	FSXE91AA	AC-228		8.04E-01 +- 1.94E-01		pCi/g		1.59E-01		
		AG-108M		-4.68E-04 +- 2.17E-02	U	pCi/g		3.76E-02	2.86E-01	
		AM-241		9.28E-02 +- 6.49E-02	U	pCi/g		9.86E-02	1.03E+00	
		BI-212		9.95E-01 +- 5.43E-01	U	pCi/g		7.81E-01		
		BI-214		7.77E-01 +- 1.43E-01		pCi/g		8.69E-02		
		CO-60		-1.23E-02 +- 2.76E-02	U	pCi/g		4.81E-02	1.50E-01	
		CS-134		3.80E-02 +- 2.96E-02	U	pCi/g		5.83E-02	1.90E-01	
		CS-137		6.39E-02 +- 4.48E-02	J	pCi/g		4.57E-02	3.20E-01	
		EU-152		-5.31E-03 +- 7.11E-02	U	pCi/g		1.17E-01	4.04E-01	
		EU-154		3.55E-02 +- 8.35E-02	U	pCi/g		1.61E-01	3.70E-01	
		EU-155		5.48E-02 +- 7.04E-02	U	pCi/g		1.24E-01	1.57E+01	
		K-40		1.11E+01 +- 1.68E+00		pCi/g		4.24E-01		
		MN-54		-5.35E-03 +- 2.47E-02	U	pCi/g		4.41E-02	6.96E-01	
		NB-94		8.59E-03 +- 2.29E-02	U	pCi/g		4.35E-02	2.85E-01	
		PB-212		7.45E-01 +- 1.41E-01		pCi/g		7.09E-02		
		PB-214		8.49E-01 +- 1.58E-01		pCi/g		8.15E-02		
		RA-226		7.77E-01 +- 1.43E-01		pCi/g		8.69E-02		
		TL-208		3.21E-01 +- 7.08E-02	U	pCi/g		9.62E-02		

No. of Results: 522

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRchSaSum J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 mary2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

QC Results Summary
STL Richland STLR
 Ordered by Method, Batch No, QC Type,.

Date: 30-Dec-03

Report No. : 24554

SDG No.: 24641

Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
RICHRC5017									
3339257 BLANK QC									
	F53WC1AA	AC-228	2.04E-02 +- 1.49E-01	U	pCi/g				2.80E-01
		AG-108M	2.86E-02 +- 2.64E-02	U	pCi/g				5.34E-02
		AM-241	-2.07E-02 +- 6.94E-02	U	pCi/g				1.20E-01
		BI-212	-1.83E-02 +- 4.51E-01	U	pCi/g				8.29E-01
		BI-214	7.66E-02 +- 8.71E-02	U	pCi/g				1.61E-01
		CO-60	-5.65E-03 +- 4.18E-02	U	pCi/g				7.79E-02
		CS-134	6.12E-03 +- 3.48E-02	U	pCi/g				6.76E-02
		CS-137	-1.13E-03 +- 3.35E-02	U	pCi/g				6.20E-02
		EU-152	-1.59E-02 +- 7.83E-02	U	pCi/g				1.38E-01
		EU-154	-7.39E-03 +- 9.19E-02	U	pCi/g				1.78E-01
		EU-155	4.67E-02 +- 6.25E-02	U	pCi/g				1.19E-01
		K-40	-1.53E-01 +- 8.09E-01	U	pCi/g				1.79E+00
		MN-54	1.62E-03 +- 3.79E-02	U	pCi/g				7.03E-02
		NB-94	-3.70E-02 +- 3.71E-02	U	pCi/g				5.84E-02
		PB-212	-1.79E-02 +- 4.55E-02	U	pCi/g				7.80E-02
		PB-214	6.98E-02 +- 7.58E-02	U	pCi/g				1.41E-01
		RA-226	7.66E-02 +- 8.71E-02	U	pCi/g				1.61E-01
		TL-208	1.91E-02 +- 3.41E-02	U	pCi/g				6.76E-02
3339267 LCS									
	F53WC1AC	CS-137	1.22E+00 +- 1.94E-01		pCi/g		120%	0.2	6.68E-02
RICHRC5017									
3339269 BLANK QC									
	F53WR1AA	AC-228	3.24E-03 +- 1.32E-01	U	pCi/g				2.61E-01
		AG-108M	-6.89E-04 +- 2.33E-02	U	pCi/g				4.19E-02
		AM-241	2.70E-02 +- 7.01E-02	U	pCi/g				1.31E-01
		BI-212	-6.45E-02 +- 4.16E-01	U	pCi/g				7.52E-01
		BI-214	-7.78E-02 +- 6.82E-02	U	pCi/g				1.19E-01
		CO-60	3.81E-03 +- 2.88E-02	U	pCi/g				5.91E-02
		CS-134	-1.45E-02 +- 2.90E-02	U	pCi/g				5.08E-02
		CS-137	7.89E-03 +- 2.78E-02	U	pCi/g				5.44E-02
		EU-152	7.05E-02 +- 7.27E-02	U	pCi/g				1.45E-01
		EU-154	2.43E-02 +- 8.55E-02	U	pCi/g				1.78E-01
		EU-155	1.23E-02 +- 6.16E-02	U	pCi/g				1.10E-01
		K-40	-1.42E+00 +- 6.51E-01	U	pCi/g				1.38E+00
		MN-54	-2.77E-02 +- 2.58E-02	U	pCi/g				3.92E-02
		NB-94	-2.50E-02 +- 3.16E-02	U	pCi/g				5.15E-02
		PB-212	-3.12E-02 +- 4.73E-02	U	pCi/g				8.07E-02

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchQcSummary V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

QC Results Summary
STL Richland STLR
 Ordered by Method, Batch No, QC Type,.

Date: 30-Dec-03

Report No. : 24554

SDG No.: 24641

Batch	Work Order	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
	F53WR1AA	PB-214	-3.02E-02 +- 6.48E-02	U	pCi/g				1.09E-01
		RA-226	-7.80E-02 +- 6.82E-02	U	pCi/g				1.19E-01
		TL-208	-2.52E-02 +- 3.07E-02	U	pCi/g				5.53E-02
3339269	LCS								
	F53WR1AC	CS-137	1.12E+00 +- 1.70E-01		pCi/g		110%	0.1	4.92E-02
No. of Results:		38							

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLRchQcSummary V4.05 AS7 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

Date: 30-Dec-03

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/20/2003 2:05:00 PM

Lot-Sample No.: J3L030200-1

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-001F01

COC No.: 2003-00238

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs UMDC, Rs V Tot Ucert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
Batch: 3339267	RICHRC5017				Work Order: F5XCQ1AA		Report DB ID: 9F5XCQ10					
AC-228	5.75E-01		1.96E-01	1.96E-01	1.59E-01	pCi/g		(3.6) (5.9)	12/27/03 09:35 a	388.8	g	GER4:
AG-108M	1.73E-02	U	1.99E-02	1.99E-02	3.72E-02	pCi/g	2.86E-01	0.47 (1.7)	12/27/03 09:35 a	388.8	g	GER4:
AM-241	-5.04E-02	U	1.47E-01	1.47E-01	2.46E-01	pCi/g	1.03E+00	-0.21 -0.68	12/27/03 09:35 a	388.8	g	GER4:
BI-212	6.26E-01	U	4.00E-01	4.00E-01	7.87E-01	pCi/g		0.8 (3.1)	12/27/03 09:35 a	388.8	g	GER4:
BI-214	5.43E-01		1.44E-01	1.44E-01	8.80E-02	pCi/g		(6.2) (7.5)	12/27/03 09:35 a	388.8	g	GER4:
CO-60	9.00E-03	U	2.74E-02	2.74E-02	5.28E-02	pCi/g	1.50E-01	0.17 0.66	12/27/03 09:35 a	388.8	g	GER4:
CS-134	3.49E-02	U	2.93E-02	2.93E-02	5.78E-02	pCi/g	1.90E-01	0.6 (2.4)	12/27/03 09:35 a	388.8	g	GER4:
CS-137	2.27E-02	U	2.93E-02	2.93E-02	5.43E-02	pCi/g	3.20E-01	0.42 (1.5)	12/27/03 09:35 a	388.8	g	GER4:
EU-152	3.45E-02	U	6.43E-02	6.43E-02	1.18E-01	pCi/g	4.04E-01	0.29 (1.1)	12/27/03 09:35 a	388.8	g	GER4:
EU-154	-1.47E-02	U	8.37E-02	8.37E-02	1.50E-01	pCi/g	3.70E-01	-0.1 -0.35	12/27/03 09:35 a	388.8	g	GER4:

STL Richland
rptSTLRchSample
V4.05 A97MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-1
Client Sample ID: 9536-0000-001F01

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/20/2003 2:05:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs /MDC, Rs /TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primor Detecto
EU-155	5.82E-02	U	7.72E-02	7.72E-02	1.38E-01	pC g		0.42 (1.5)	12/27/03 09:35 a	388.8	388.8	GER4!
							1.57E+01				g	
K-40	9.40E+00		1.57E+00	1.57E+00	4.22E-01	pC g		(22.3) (12.)	12/27/03 09:35 a	388.8	388.8	GER4!
											g	
MN-54	1.15E-02	U	2.73E-02	2.73E-02	5.07E-02	pC g		0.23 6.96E-01 0.85	12/27/03 09:35 a	388.8	388.8	GER4!
											g	
NB-94	-3.25E-03	U	2.47E-02	2.47E-02	4.36E-02	pC g		-0.07 2.85E-01 -0.26	12/27/03 09:35 a	388.8	388.8	GER4!
											g	
PB-212	6.52E-01		1.32E-01	1.32E-01	9.93E-02	pC g		(6.6) (9.9)	12/27/03 09:35 a	388.8	388.8	GER4!
											g	
PB-214	7.03E-01		1.44E-01	1.44E-01	8.46E-02	pC g		(8.3) (9.7)	12/27/03 09:35 a	388.8	388.8	GER4!
											g	
RA-228	5.43E-01		1.44E-01	1.44E-01	8.80E-02	pC g		(6.2) (7.5)	12/27/03 09:35 a	388.8	388.8	GER4!
											g	
TL-208	1.64E-01		6.91E-02	6.91E-02	4.29E-02	pC g		(3.8) (4.7)	12/27/03 09:35 a	388.8	388.8	GER4!
											g	

No. of Results: 18

Comments:

STL Richland
rpt(STLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc|MdajTotal Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-2
Client Sample ID: 9536-0000-001F02

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/20/2003 2:14:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detect
EU-155	2.10E-02	U	6.92E-02	6.92E-02	1.19E-01	pCi/g		0.18	12/27/03 09:34 a		356.0	GER5:
							1.57E+01	0.61			g	
K-40	9.94E+00		1.56E+00	1.56E+00	2.50E-01	pCi/g		(39.8)	12/27/03 09:34 a		356.0	GER5:
								(12.7)			g	
MN-54	-3.14E-03	U	2.88E-02	2.88E-02	5.04E-02	pCi/g		-0.06	12/27/03 09:34 a		356.0	GER5:
							6.96E-01	-0.22			g	
NB-94	2.22E-03	U	2.45E-02	2.45E-02	4.52E-02	pCi/g		0.05	12/27/03 09:34 a		356.0	GER5:
							2.85E-01	0.18			g	
PB-212	5.81E-01		1.24E-01	1.24E-01	7.26E-02	pCi/g		(8.)	12/27/03 09:34 a		356.0	GER5:
								(9.4)			g	
PB-214	6.61E-01		1.57E-01	1.57E-01	9.03E-02	pCi/g		(7.3)	12/27/03 09:34 a		356.0	GER5:
								(8.4)			g	
RA-226	7.37E-01		1.58E-01	1.58E-01	8.58E-02	pCi/g		(8.6)	12/27/03 09:34 a		356.0	GER5:
								(9.3)			g	
TL-208	2.33E-01		6.98E-02	6.98E-02	5.11E-02	pCi/g		(4.6)	12/27/03 09:34 a		356.0	GER5:
								(6.7)			g	

No. of Results: 18

Comments:

STL Richland MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRichSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-3
Client Sample ID: 9536-0000-002F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:00:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst UMDC, Rst Tot Ucert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detectr
Batch: 3339267	RICHRC5017				Work Order: F5XC71AA		Report DB ID: 9F5XC710					
AC-228	6.73E-01		1.75E-01	1.75E-01	1.54E-01	pCi/g		(4.4) (7.7)	12/27/03 09:35 a		361.5 g	GER6:
AG-108M	4.24E-03	U	2.11E-02	2.11E-02	3.72E-02	pCi/g	2.86E-01	0.11 0.4	12/27/03 09:35 a		361.5 g	GER6:
AM-241	-2.50E-03	U	7.57E-02	7.57E-02	1.32E-01	pCi/g	1.03E+00	-0.02 -0.07	12/27/03 09:35 a		361.5 g	GER6:
BI-212	4.62E-01	U	4.10E-01	4.10E-01	7.81E-01	pCi/g		0.59 (2.3)	12/27/03 09:35 a		361.5 g	GER6:
BI-214	5.46E-01	U	1.23E-01	1.23E-01	1.89E-01	pCi/g		(2.9) (8.9)	12/27/03 09:35 a		361.5 g	GER6:
CO-60	-6.71E-03	U	2.98E-02	2.98E-02	5.33E-02	pCi/g	1.50E-01	-0.13 -0.45	12/27/03 09:35 a		361.5 g	GER6:
CS-134	4.26E-02	U	3.36E-02	3.36E-02	6.47E-02	pCi/g	1.90E-01	0.66 (2.5)	12/27/03 09:35 a		361.5 g	GER6:
CS-137	1.91E-02	U	2.86E-02	2.86E-02	5.35E-02	pCi/g	3.20E-01	0.36 (1.3)	12/27/03 09:35 a		361.5 g	GER6:
EU-152	-4.72E-02	U	7.09E-02	7.09E-02	1.14E-01	pCi/g	4.04E-01	-0.41 -(1.3)	12/27/03 09:35 a		361.5 g	GER6:
EU-154	9.37E-02	U	8.38E-02	8.38E-02	1.72E-01	pCi/g	3.70E-01	0.55 (2.2)	12/27/03 09:35 a		361.5 g	GER6:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-3
Client Sample ID: 9536-0000-002F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:00:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs VMDC, Rst Tot Uncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detectc
EU-155	5.83E-02	U	6.86E-02	6.86E-02	1.20E-01	pCi/g		0.49 (1.7)	12/27/03 09:35 a		361.5 g	GER6!
K-40	1.06E+01		1.66E+00	1.66E+00	4.20E-01	pCi/g	1.57E+01	(25.3) (12.8)	12/27/03 09:35 a		361.5 g	GER6!
MN-54	-5.39E-03	U	2.85E-02	2.85E-02	5.03E-02	pCi/g		-0.11 6.96E-01 -0.38	12/27/03 09:35 a		361.5 g	GER6!
NB-94	-1.22E-02	U	2.52E-02	2.52E-02	4.31E-02	pCi/g		-0.28 2.85E-01 -0.97	12/27/03 09:35 a		361.5 g	GER6!
PB-212	5.74E-01		1.25E-01	1.25E-01	9.06E-02	pCi/g		(6.3) (9.2)	12/27/03 09:35 a		361.5 g	GER6!
PB-214	5.56E-01		1.36E-01	1.36E-01	8.35E-02	pCi/g		(6.7) (8.2)	12/27/03 09:35 a		361.5 g	GER6!
RA-226	5.46E-01	U	1.23E-01	1.23E-01	1.89E-01	pCi/g		(2.9) (8.9)	12/27/03 09:35 a		361.5 g	GER6!
TL-208	1.47E-01	U	6.43E-02	6.43E-02	8.50E-02	pCi/g		(1.7) (4.6)	12/27/03 09:35 a		361.5 g	GER6!

No. of Results: 18

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-4
Client Sample ID: 9536-0000-003F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:05:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
Batch: 3339267	RICHRC5017			Work Order: F5XDA1AA		Report DB ID: 9F5XDA10						
AC-228	6.72E-01		1.85E-01	1.85E-01	1.91E-01	pCl/g		(3.5) (7.3)	12/27/03 09:36 a	355.9	g	GER7:
AG-108M	7.36E-03	U	2.16E-02	2.16E-02	3.91E-02	pCl/g	2.86E-01	0.19 0.68	12/27/03 09:36 a	355.9	g	GER7:
AM-241	-8.72E-02	U	9.65E-02	9.65E-02	1.55E-01	pCl/g	1.03E+00	-0.56 -(1.8)	12/27/03 09:36 a	355.9	g	GER7:
BI-212	3.41E-01	U	4.23E-01	4.23E-01	7.91E-01	pCl/g		0.43 (1.6)	12/27/03 09:36 a	355.9	g	GER7:
BI-214	4.65E-01	U	1.24E-01	1.24E-01	1.90E-01	pCl/g		(2.5) (7.5)	12/27/03 09:36 a	355.9	g	GER7:
CO-60	-9.61E-03	U	2.68E-02	2.68E-02	4.79E-02	pCl/g	1.50E-01	-0.2 -0.72	12/27/03 09:36 a	355.9	g	GER7:
CS-134	3.21E-02	U	2.96E-02	2.96E-02	5.90E-02	pCl/g	1.90E-01	0.54 (2.2)	12/27/03 09:36 a	355.9	g	GER7:
CS-137	2.97E-02	U	3.61E-02	3.61E-02	4.67E-02	pCl/g	3.20E-01	0.64 (1.6)	12/27/03 09:36 a	355.9	g	GER7:
EU-152	2.18E-02	U	6.86E-02	6.86E-02	1.24E-01	pCl/g	4.04E-01	0.18 0.64	12/27/03 09:36 a	355.9	g	GER7:
EU-154	-3.16E-02	U	8.91E-02	8.91E-02	1.54E-01	pCl/g	3.70E-01	-0.21 -0.71	12/27/03 09:36 a	355.9	g	GER7:

STL Richland
rptSTLrchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-4
Client Sample ID: 9536-0000-003F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:05:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar, Detecto
EU-155	3.70E-02	U	7.38E-02	7.38E-02	1.31E-01	pCi/g		0.28 (1.)	12/27/03 09:36 a		355.9 g	GER7:
							1.57E+01	(34.2)	12/27/03 09:36 a		355.9 g	GER7:
K-40	1.05E+01		1.64E+00	1.64E+00	3.06E-01	pCi/g		(12.8)	12/27/03 09:36 a		355.9 g	GER7:
MN-54	1.95E-02	U	2.72E-02	2.72E-02	5.27E-02	pCi/g		0.37 (1.4)	12/27/03 09:36 a		355.9 g	GER7:
							6.96E-01	(0.47)	12/27/03 09:36 a		355.9 g	GER7:
NB-94	2.17E-02	U	2.28E-02	2.28E-02	4.60E-02	pCi/g		0.47 (1.9)	12/27/03 09:36 a		355.9 g	GER7:
							2.85E-01	(5.1)	12/27/03 09:36 a		355.9 g	GER7:
PB-212	5.12E-01		1.18E-01	1.18E-01	1.01E-01	pCi/g		(8.7)	12/27/03 09:36 a		355.9 g	GER7:
								(7.2)	12/27/03 09:36 a		355.9 g	GER7:
PB-214	6.08E-01		1.34E-01	1.34E-01	8.41E-02	pCi/g		(9.1)	12/27/03 09:36 a		355.9 g	GER7:
								(6.)	12/27/03 09:36 a		355.9 g	GER7:
RA-226	4.85E-01		1.24E-01	1.24E-01	7.72E-02	pCi/g		(7.5)	12/27/03 09:36 a		355.9 g	GER7:
								(4.6)	12/27/03 09:36 a		355.9 g	GER7:
TL-208	2.23E-01		5.04E-02	5.04E-02	4.80E-02	pCi/g		(8.9)	12/27/03 09:36 a		355.9 g	GER7:

No. of Results: 18 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRichSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-5
Client Sample ID: 9536-0000-004F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:10:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs VMDC, Rs VTotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detectc
Batch: 3339267	RICHRC5017			Work Order: F5XDD1AA			Report DB ID: 9F5XDD10					
AC-228	7.03E-01		2.15E-01	2.15E-01	1.49E-01	pCi/g		(4.7) (6.5)	12/27/03 09:36 a	357.7	g	GER85
AG-108M	-6.07E-03	U	1.89E-02	1.89E-02	3.24E-02	pCi/g	2.86E-01	-0.19 -0.64	12/27/03 09:36 a	357.7	g	GER85
AM-241	8.49E-03	U	5.49E-02	5.49E-02	9.18E-02	pCi/g	1.03E+00	0.09 0.31	12/27/03 09:36 a	357.7	g	GER85
BI-212	6.64E-01	U	3.73E-01	3.73E-01	7.49E-01	pCi/g		0.89 (3.6)	12/27/03 09:36 a	357.7	g	GER85
BI-214	6.09E-01	U	1.31E-01	1.31E-01	2.00E-01	pCi/g		(3.) (9.3)	12/27/03 09:36 a	357.7	g	GER85
CO-60	-5.25E-03	U	2.37E-02	2.37E-02	4.32E-02	pCi/g	1.50E-01	-0.12 -0.44	12/27/03 09:36 a	357.7	g	GER85
CS-134	5.80E-02	U	3.15E-02	3.15E-02	5.67E-02	pCi/g	1.90E-01	(1.) (3.7)	12/27/03 09:36 a	357.7	g	GER85
CS-137	9.10E-03	U	2.73E-02	2.73E-02	5.03E-02	pCi/g	3.20E-01	0.18 0.67	12/27/03 09:36 a	357.7	g	GER85
EU-152	3.77E-02	U	6.48E-02	6.48E-02	1.18E-01	pCi/g	4.04E-01	0.32 (1.2)	12/27/03 09:36 a	357.7	g	GER85
EU-154	-2.63E-02	U	7.33E-02	7.33E-02	1.30E-01	pCi/g	3.70E-01	-0.2 -0.72	12/27/03 09:36 a	357.7	g	GER85

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-5
Client Sample ID: 9536-0000-004F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:10:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
EU-155	2.58E-02	U	6.57E-02	6.57E-02	1.15E-01	pCi/g		0.22	12/27/03 09:36 a		357.7	GER8:
							1.57E+01	0.79			g	
K-40	1.17E+01		1.74E+00	1.74E+00	4.74E-01	pCi/g		(24.7)	12/27/03 09:36 a		357.7	GER8:
								(13.4)			g	
MN-54	4.95E-04	U	2.41E-02	2.41E-02	4.38E-02	pCi/g		0.01	12/27/03 09:36 a		357.7	GER8:
							6.96E-01	0.04			g	
NB-94	5.75E-05	U	2.11E-02	2.11E-02	3.85E-02	pCi/g		0.	12/27/03 09:36 a		357.7	GER8:
							2.85E-01	0.01			g	
PB-212	4.76E-01		1.23E-01	1.23E-01	8.40E-02	pCi/g		(5.7)	12/27/03 09:36 a		357.7	GER8:
								(7.7)			g	
PB-214	6.85E-01		1.38E-01	1.38E-01	7.34E-02	pCi/g		(9.3)	12/27/03 09:36 a		357.7	GER8:
								(9.9)			g	
RA-226	6.09E-01		1.31E-01	1.31E-01	7.72E-02	pCi/g		(7.9)	12/27/03 09:36 a		357.7	GER8:
								(9.3)			g	
TL-208	2.09E-01		6.93E-02	6.93E-02	4.07E-02	pCi/g		(5.1)	12/27/03 09:36 a		357.7	GER8:
								(6.)			g	

No. of Results: 18 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I

Date: 30-Dec-03

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: J3L030200-6
 Client Sample ID: 9536-0000-004FS

SDG: 24641
 Report No.: 24554
 COC No.: 2003-00238

Collection Date: 11/21/2003 9:10:00 AM
 Received Date: 12/1/2003 10:50:00 AM
 Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rs/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
Batch: 3339267	RICHRCS017				Work Order: F5XDJ1AA		Report DB ID: 9F5XDJ10					
AC-228	5.97E-01		2.07E-01	2.07E-01	1.69E-01	pCi/g		(3.5) (5.8)	12/27/03 01:14 p		412.7 g	GER4!
AG-108M	-7.31E-03	U	1.98E-02	1.98E-02	3.35E-02	pCi/g	2.86E-01	-0.22 -0.74	12/27/03 01:14 p		412.7 g	GER4!
AM-241	-3.67E-02	U	1.44E-01	1.44E-01	2.41E-01	pCi/g	1.03E+00	-0.15 -0.51	12/27/03 01:14 p		412.7 g	GER4!
BI-212	6.62E-01	U	3.99E-01	3.99E-01	7.82E-01	pCi/g		0.85 (3.3)	12/27/03 01:14 p		412.7 g	GER4!
BI-214	5.23E-01		1.25E-01	1.25E-01	8.00E-02	pCi/g		(6.5) (8.4)	12/27/03 01:14 p		412.7 g	GER4!
CO-60	2.39E-02	U	2.65E-02	2.65E-02	5.40E-02	pCi/g	1.50E-01	0.44 (1.8)	12/27/03 01:14 p		412.7 g	GER4!
CS-134	7.93E-03	U	2.65E-02	2.65E-02	4.90E-02	pCi/g	1.90E-01	0.16 0.6	12/27/03 01:14 p		412.7 g	GER4!
CS-137	5.02E-03	U	2.81E-02	2.81E-02	4.98E-02	pCi/g	3.20E-01	0.1 0.36	12/27/03 01:14 p		412.7 g	GER4!
EU-152	2.12E-02	U	6.75E-02	6.75E-02	1.21E-01	pCi/g	4.04E-01	0.18 0.63	12/27/03 01:14 p		412.7 g	GER4!
EU-154	4.07E-03	U	7.86E-02	7.86E-02	1.45E-01	pCi/g	3.70E-01	0.03 0.1	12/27/03 01:14 p		412.7 g	GER4!

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
 V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-6
Client Sample ID: 9536-0000-004FS

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:10:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst Tot Ucert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detect
EU-155	6.28E-02	U	7.39E-02	7.39E-02	1.33E-01	pCi/g		0.47 (1.7)	12/27/03 01:14 p		412.7 g	GER4!
K-40	1.04E+01		1.63E+00	1.63E+00	2.61E-01	pCi/g	1.57E+01	(39.7) (12.7)	12/27/03 01:14 p		412.7 g	GER4!
MN-54	-2.60E-02	U	2.75E-02	2.75E-02	4.40E-02	pCi/g		-0.59 (1.9)	12/27/03 01:14 p		412.7 g	GER4!
NB-94	1.21E-02	U	2.29E-02	2.29E-02	4.32E-02	pCi/g	6.96E-01	0.28 (1.1)	12/27/03 01:14 p		412.7 g	GER4!
PB-212	5.93E-01		1.25E-01	1.25E-01	8.97E-02	pCi/g	2.85E-01	(6.6) (9.5)	12/27/03 01:14 p		412.7 g	GER4!
PB-214	6.76E-01		1.47E-01	1.47E-01	7.80E-02	pCi/g		(8.7) (9.2)	12/27/03 01:14 p		412.7 g	GER4!
RA-226	5.23E-01		1.25E-01	1.25E-01	8.00E-02	pCi/g		(6.5) (8.4)	12/27/03 01:14 p		412.7 g	GER4!
TL-208	2.03E-01	U	5.71E-02	5.71E-02	8.51E-02	pCi/g		(2.4) (7.1)	12/27/03 01:14 p		412.7 g	GER4!

No. of Results: 18

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-7
Client Sample ID: 9536-0000-005F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:18:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Actlon Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Priman Detecto
Batch: 3339267	RICHRC5017				Work Order: F5XDN1AA		Report DB ID: 9F5XDN10					
AC-228	5.63E-01		1.84E-01	1.84E-01	1.37E-01	pCi/g		(4.1) (6.1)	12/27/03 01:16 p		341.3 g	GER5
AG-108M	1.33E-02	U	2.28E-02	2.28E-02	4.18E-02	pCi/g	2.86E-01	0.32 (1.2)	12/27/03 01:16 p		341.3 g	GER5
AM-241	-8.69E-03	U	5.93E-02	5.93E-02	9.10E-02	pCi/g	1.03E+00	-0.1 -0.29	12/27/03 01:16 p		341.3 g	GER5
BI-212	9.63E-01	U	4.40E-01	4.40E-01	8.90E-01	pCi/g		(1.1) (4.4)	12/27/03 01:16 p		341.3 g	GER5
BI-214	6.78E-01		1.41E-01	1.41E-01	9.66E-02	pCi/g		(7.) (9.6)	12/27/03 01:16 p		341.3 g	GER5
CO-60	3.25E-03	U	2.57E-02	2.57E-02	4.94E-02	pCi/g	1.50E-01	0.07 0.25	12/27/03 01:16 p		341.3 g	GER5
CS-134	3.05E-02	U	3.26E-02	3.26E-02	6.29E-02	pCi/g	1.90E-01	0.49 (1.9)	12/27/03 01:16 p		341.3 g	GER5
CS-137	2.23E-02	U	3.15E-02	3.15E-02	5.91E-02	pCi/g	3.20E-01	0.38 (1.4)	12/27/03 01:16 p		341.3 g	GER5
EU-152	-4.98E-02	U	7.46E-02	7.46E-02	1.25E-01	pCi/g	4.04E-01	-0.4 -(1.3)	12/27/03 01:16 p		341.3 g	GER5
EU-154	-3.76E-02	U	8.89E-02	8.89E-02	1.55E-01	pCi/g	3.70E-01	-0.24 -0.85	12/27/03 01:16 p		341.3 g	GER5

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRichSample V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-7
Client Sample ID: 9536-0000-005F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:18:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detecto
EU-155	2.19E-02	U	7.10E-02	7.10E-02	1.22E-01	pCl/g		0.18	12/27/03 01:16 p		341.3	GER5:
							1.57E+01	0.62			g	
K-40	1.17E+01		1.78E+00	1.78E+00	4.07E-01	pCl/g		(28.6)	12/27/03 01:16 p		341.3	GER5:
								(13.1)			g	
MN-54	8.08E-03	U	3.09E-02	3.09E-02	5.60E-02	pCl/g		0.14	12/27/03 01:16 p		341.3	GER5:
							6.96E-01	0.52			g	
NB-94	1.16E-02	U	2.29E-02	2.29E-02	4.47E-02	pCl/g		0.26	12/27/03 01:16 p		341.3	GER5:
							2.85E-01	(1.)			g	
PB-212	5.46E-01		1.28E-01	1.28E-01	1.11E-01	pCl/g		(4.9)	12/27/03 01:16 p		341.3	GER5:
								(8.5)			g	
PB-214	5.99E-01		1.60E-01	1.60E-01	8.40E-02	pCl/g		(7.1)	12/27/03 01:16 p		341.3	GER5:
								(7.5)			g	
RA-226	6.78E-01		1.42E-01	1.42E-01	9.66E-02	pCl/g		(7.)	12/27/03 01:16 p		341.3	GER5:
								(9.6)			g	
TL-208	2.46E-01		6.77E-02	6.77E-02	5.22E-02	pCl/g		(4.7)	12/27/03 01:16 p		341.3	GER5:
								(7.3)			g	

No. of Results: 18

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-8
Client Sample ID: 9536-0000-006F01

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:02:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar, Detecto
Batch: 3339267	RICHRC5017		Work Order: F5XDR1AA		Report DB ID: 9F5XDR10							
AC-228	6.97E-01		1.83E-01	1.83E-01	1.43E-01	pCi/g		(4.9) (7.6)	12/27/03 01:17 p	363.5	g	GER6:
AG-108M	-1.12E-03	U	1.98E-02	1.98E-02	3.44E-02	pCi/g	2.86E-01	-0.03 -0.11	12/27/03 01:17 p	363.5	g	GER6:
AM-241	-4.50E-02	U	9.25E-02	9.25E-02	1.35E-01	pCi/g	1.03E+00	-0.33 -0.97	12/27/03 01:17 p	363.5	g	GER6:
BI-212	6.42E-01	U	4.46E-01	4.46E-01	8.52E-01	pCi/g		0.75 (2.9)	12/27/03 01:17 p	363.5	g	GER6:
BI-214	6.35E-01	U	1.45E-01	1.45E-01	2.04E-01	pCi/g		(3.1) (8.8)	12/27/03 01:17 p	363.5	g	GER6:
CO-60	-1.41E-02	U	2.68E-02	2.68E-02	4.61E-02	pCi/g	1.50E-01	-0.31 -(1.1)	12/27/03 01:17 p	363.5	g	GER6:
CS-134	6.96E-02	U	3.47E-02	3.47E-02	6.91E-02	pCi/g	1.90E-01	(1.) (4.)	12/27/03 01:17 p	363.5	g	GER6:
CS-137	-2.30E-02	U	2.99E-02	2.99E-02	4.94E-02	pCi/g	3.20E-01	-0.47 -(1.5)	12/27/03 01:17 p	363.5	g	GER6:
EU-152	-5.99E-02	U	7.02E-02	7.02E-02	1.15E-01	pCi/g	4.04E-01	-0.52 -(1.7)	12/27/03 01:17 p	363.5	g	GER6:
EU-154	-1.94E-02	U	9.26E-02	9.26E-02	1.65E-01	pCi/g	3.70E-01	-0.12 -0.42	12/27/03 01:17 p	363.5	g	GER6:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-8
Client Sample ID: 9536-0000-006F01

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:02:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Prman Detecto
EU-155	2.21E-03	U	7.02E-02	7.02E-02	1.18E-01	pCi/g		0.02	12/27/03 01:17 p		363.5	GER6:
							1.57E+01	0.06			g	
K-40	1.14E+01		1.79E+00	1.79E+00	5.12E-01	pCi/g		(22.2)	12/27/03 01:17 p		363.5	GER6:
								(12.7)			g	
MN-54	5.68E-03	U	2.86E-02	2.86E-02	5.23E-02	pCi/g		0.11	12/27/03 01:17 p		363.5	GER6:
							6.96E-01	0.4			g	
NB-94	1.33E-02	U	2.57E-02	2.57E-02	4.85E-02	pCi/g		0.27	12/27/03 01:17 p		363.5	GER6:
							2.85E-01	(1.)			g	
PB-212	7.26E-01		1.45E-01	1.45E-01	6.61E-02	pCi/g		(11.)	12/27/03 01:17 p		363.5	GER6:
								(10.)			g	
PB-214	7.03E-01		1.76E-01	1.76E-01	7.83E-02	pCi/g		(9.)	12/27/03 01:17 p		363.5	GER6:
								(8.)			g	
RA-226	6.35E-01	U	1.45E-01	1.45E-01	2.04E-01	pCi/g		(3.1)	12/27/03 01:17 p		363.5	GER6:
								(8.8)			g	
TL-208	2.31E-01		5.61E-02	5.61E-02	4.61E-02	pCi/g		(5.)	12/27/03 01:17 p		363.5	GER6:
								(8.2)			g	

No. of Results: 18 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-9
Client Sample ID: 9536-0000-006F02

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:13:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs VMDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
Batch: 3339267	RICHRC5017		Work Order: F5XDV1AA		Report DB ID: 9F5XDV10							
AC-228	7.41E-01	U	2.03E-01	2.03E-01	3.36E-01	pCi/g		(2.2) (7.3)	12/27/03 01:18 p		353.5 g	GER8:
AG-108M	-6.89E-03	U	2.16E-02	2.16E-02	3.70E-02	pCi/g		-0.19 2.86E-01 -0.64	12/27/03 01:18 p		353.5 g	GER8:
AM-241	2.90E-02	U	6.02E-02	6.02E-02	9.14E-02	pCi/g		0.32 1.03E+00 0.96	12/27/03 01:18 p		353.5 g	GER8:
BI-212	8.06E-01	U	3.97E-01	3.97E-01	7.99E-01	pCi/g		(1.) (4.1)	12/27/03 01:18 p		353.5 g	GER8:
BI-214	6.56E-01	U	1.33E-01	1.33E-01	1.97E-01	pCi/g		(3.3) (9.8)	12/27/03 01:18 p		353.5 g	GER8:
CO-60	-1.19E-02	U	2.68E-02	2.68E-02	4.67E-02	pCi/g		-0.26 1.50E-01 -0.89	12/27/03 01:18 p		353.5 g	GER8:
CS-134	4.47E-02	U	3.07E-02	3.07E-02	6.13E-02	pCi/g		0.73 1.90E-01 (2.9)	12/27/03 01:18 p		353.5 g	GER8:
CS-137	2.92E-02	U	2.46E-02	2.46E-02	4.87E-02	pCi/g		0.6 3.20E-01 (2.4)	12/27/03 01:18 p		353.5 g	GER8:
EU-152	-2.35E-02	U	6.54E-02	6.54E-02	1.10E-01	pCi/g		-0.21 4.04E-01 -0.72	12/27/03 01:18 p		353.5 g	GER8:
EU-154	-6.48E-02	U	7.19E-02	7.19E-02	1.16E-01	pCi/g		-0.56 3.70E-01 -(1.8)	12/27/03 01:18 p		353.5 g	GER8:

STL Richland
rptSTLRichSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/21/2003 9:13:00 AM

Lot-Sample No.: J3L030200-9

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-006F02

COC No.: 2003-00238

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
EU-155	6.62E-02	U	6.97E-02	6.97E-02	1.23E-01	pCi/g		0.54 (1.9)	12/27/03 01:18 p		353.5 g	GER8:
							1.57E+01	(35.7)			353.5	GER8:
K-40	1.21E+01		1.78E+00	1.78E+00	3.40E-01	pCi/g		(13.6)	12/27/03 01:18 p		353.5 g	GER8:
MN-54	1.79E-02	U	2.45E-02	2.45E-02	4.76E-02	pCi/g		0.38 (1.5)	12/27/03 01:18 p		353.5 g	GER8:
							6.96E-01				353.5	GER8:
NB-94	2.77E-03	U	1.98E-02	1.98E-02	3.71E-02	pCi/g		0.07 (0.28)	12/27/03 01:18 p		353.5 g	GER8:
							2.85E-01				353.5	GER8:
PB-212	7.57E-01		1.44E-01	1.44E-01	6.56E-02	pCi/g		(11.5) (10.5)	12/27/03 01:18 p		353.5 g	GER8:
PB-214	8.88E-01		1.53E-01	1.53E-01	8.04E-02	pCi/g		(8.6) (9.)	12/27/03 01:18 p		353.5 g	GER8:
RA-226	6.56E-01		1.33E-01	1.33E-01	7.32E-02	pCi/g		(9.) (9.8)	12/27/03 01:18 p		353.5 g	GER8:
TL-208	2.80E-01		6.52E-02	6.52E-02	4.16E-02	pCi/g		(6.7) (8.6)	12/27/03 01:18 p		353.5 g	GER8:

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-10
Client Sample ID: 9536-0000-007F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:38:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detect
Batch: 3339267	RICHRC5017				Work Order: F5XDX1AA		Report DB ID: 9F5XDX10					
AC-228	8.40E-01		2.65E-01	2.65E-01	1.42E-01	pCi/g		(5.9) (6.3)	12/29/03 07:54 a		340.8 g	GER5
AG-108M	1.13E-02	U	2.18E-02	2.18E-02	4.01E-02	pCi/g	2.86E-01	0.28 (1.)	12/29/03 07:54 a		340.8 g	GER5
AM-241	1.37E-02	U	6.27E-02	6.27E-02	9.95E-02	pCi/g	1.03E+00	0.14 0.44	12/29/03 07:54 a		340.8 g	GER5
BI-212	1.66E+00	U	5.19E-01	5.19E-01	9.54E-01	pCi/g		(1.7) (6.4)	12/29/03 07:54 a		340.8 g	GER5
BI-214	6.99E-01	U	1.56E-01	1.56E-01	2.18E-01	pCi/g		(3.2) (9.)	12/29/03 07:54 a		340.8 g	GER5
CO-60	-9.67E-03	U	2.85E-02	2.85E-02	4.98E-02	pCi/g	1.50E-01	-0.19 -0.68	12/29/03 07:54 a		340.8 g	GER5
CS-134	2.92E-02	U	3.61E-02	3.61E-02	6.84E-02	pCi/g	1.90E-01	0.43 (1.6)	12/29/03 07:54 a		340.8 g	GER5
CS-137	1.19E-02	U	2.80E-02	2.80E-02	5.24E-02	pCi/g	3.20E-01	0.23 0.85	12/29/03 07:54 a		340.8 g	GER5
EU-152	1.27E-02	U	8.83E-02	8.83E-02	1.39E-01	pCi/g	4.04E-01	0.09 0.29	12/29/03 07:54 a		340.8 g	GER5
EU-154	-1.29E-02	U	8.58E-02	8.58E-02	1.53E-01	pCi/g	3.70E-01	-0.08 -0.3	12/29/03 07:54 a		340.8 g	GER5

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-10
Client Sample ID: 9536-0000-007F

SDG: 24641
Report No.: 24554
COC No.: 2003-00238

Collection Date: 11/21/2003 9:38:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Actlon Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectr
EU-155	1.04E-02	U	7.51E-02	7.51E-02	1.27E-01	pCi/g		0.08 1.57E+01 0.28	12/29/03 07:54 a	340.8	340.8	GER5:
K-40	1.21E+01		1.84E+00	1.84E+00	3.00E-01	pCi/g		(40.4) (13.2)	12/29/03 07:54 a	340.8	340.8	GER5:
MN-54	-6.64E-03	U	3.24E-02	3.24E-02	5.64E-02	pCi/g		-0.12 6.96E-01 -0.41	12/29/03 07:54 a	340.8	340.8	GER5:
NB-94	4.12E-04	U	2.90E-02	2.90E-02	5.17E-02	pCi/g		0.01 2.85E-01 0.03	12/29/03 07:54 a	340.8	340.8	GER5:
PB-212	7.10E-01		1.45E-01	1.45E-01	7.78E-02	pCi/g		(9.1) (9.8)	12/29/03 07:54 a	340.8	340.8	GER5:
PB-214	6.70E-01		1.69E-01	1.69E-01	9.43E-02	pCi/g		(7.1) (7.9)	12/29/03 07:54 a	340.8	340.8	GER5:
RA-226	6.99E-01		1.56E-01	1.56E-01	9.05E-02	pCi/g		(7.7) (9.)	12/29/03 07:54 a	340.8	340.8	GER5:
TL-208	1.87E-01		7.22E-02	7.22E-02	5.60E-02	pCi/g		(3.3) (5.2)	12/29/03 07:54 a	340.8	340.8	GER5:

No. of Results: 18

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-11
Client Sample ID: 9536-0000-008F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:28:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unlt, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detecto
Batch: 3339267	RICHRC5017				Work Order: F5XD11AA		Report DB ID: 9F5XD110					
AC-228	5.43E-01	U	1.85E-01	1.85E-01	3.00E-01	pCi/g		(1.8) (5.9)	12/29/03 07:53 a	394.5	g	GER6:
AG-108M	8.81E-03	U	1.96E-02	1.96E-02	3.59E-02	pCi/g	2.86E-01	0.25 0.9	12/29/03 07:53 a	394.5	g	GER6:
AM-241	1.38E-02	U	7.47E-02	7.47E-02	1.29E-01	pCi/g	1.03E+00	0.11 0.37	12/29/03 07:53 a	394.5	g	GER6:
BI-212	5.54E-01	U	3.81E-01	3.81E-01	7.35E-01	pCi/g		0.75 (2.9)	12/29/03 07:53 a	394.5	g	GER6:
BI-214	5.29E-01	U	1.40E-01	1.40E-01	1.89E-01	pCi/g		(2.8) (7.5)	12/29/03 07:53 a	394.5	g	GER6:
CO-60	-2.65E-02	U	2.68E-02	2.68E-02	4.24E-02	pCi/g	1.50E-01	-0.63 (-2.)	12/29/03 07:53 a	394.5	g	GER6:
CS-134	3.69E-02	U	2.97E-02	2.97E-02	5.82E-02	pCi/g	1.90E-01	0.63 (2.5)	12/29/03 07:53 a	394.5	g	GER6:
CS-137	1.37E-02	U	2.83E-02	2.83E-02	5.18E-02	pCi/g	3.20E-01	0.27 0.97	12/29/03 07:53 a	394.5	g	GER6
EU-152	2.25E-02	U	6.47E-02	6.47E-02	1.15E-01	pCi/g	4.04E-01	0.2 0.7	12/29/03 07:53 a	394.5	g	GER6
EU-154	7.76E-03	U	8.15E-02	8.15E-02	1.50E-01	pCi/g	3.70E-01	0.05 0.19	12/29/03 07:53 a	394.5	g	GER6

STL Richland
rptSTLRichSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-11
Client Sample ID: 9536-0000-008F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:28:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Actlon Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
EU-155	-2.56E-02	U	6.20E-02	6.20E-02	1.05E-01	pCi/g		-0.24	12/29/03 07:53 a		394.5	GER6:
							1.57E+01	-0.83			g	
K-40	1.03E+01		1.65E+00	1.65E+00	3.96E-01	pCi/g		(25.9)	12/29/03 07:53 a		394.5	GER6:
								(12.5)			g	
MN-54	-3.82E-03	U	2.73E-02	2.73E-02	4.83E-02	pCi/g		-0.08	12/29/03 07:53 a		394.5	GER6:
							6.96E-01	-0.28			g	
NB-94	1.53E-02	U	2.50E-02	2.50E-02	4.71E-02	pCi/g		0.32	12/29/03 07:53 a		394.5	GER6:
							2.85E-01	(1.2)			g	
PB-212	6.45E-01		1.30E-01	1.30E-01	6.07E-02	pCi/g		(10.6)	12/29/03 07:53 a		394.5	GER6:
								(9.9)			g	
PB-214	7.31E-01		1.62E-01	1.62E-01	7.88E-02	pCi/g		(9.3)	12/29/03 07:53 a		394.5	GER6:
								(9.)			g	
RA-226	5.30E-01		1.40E-01	1.40E-01	8.60E-02	pCi/g		(6.2)	12/29/03 07:53 a		394.5	GER6:
								(7.5)			g	
TL-208	2.06E-01	U	6.33E-02	6.33E-02	8.24E-02	pCi/g		(2.5)	12/29/03 07:53 a		394.5	GER6:
								(6.5)			g	

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-12
Client Sample ID: 9536-0000-009F01

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:33:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev.	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 3339267	RICHRC5017				Work Order: F5XD31AA		Report DB ID: 9F5XD310					
AC-228	6.19E-01		2.20E-01	2.20E-01	1.68E-01	pCi/g		(3.7) (5.6)	12/29/03 07:54 a		379.3 g	GER7:
AG-109M	-1.30E-02	U	2.05E-02	2.05E-02	3.43E-02	pCi/g	2.86E-01	-0.38 (-1.3)	12/29/03 07:54 a		379.3 g	GER7:
AM-241	-6.91E-02	U	8.94E-02	8.94E-02	1.47E-01	pCi/g	1.03E+00	-0.47 (-1.5)	12/29/03 07:54 a		379.3 g	GER7:
BI-212	5.11E-01	U	4.02E-01	4.02E-01	7.78E-01	pCi/g		0.66 (2.5)	12/29/03 07:54 a		379.3 g	GER7:
BI-214	5.58E-01	U	1.20E-01	1.20E-01	1.89E-01	pCi/g		(2.9) (9.3)	12/29/03 07:54 a		379.3 g	GER7:
CO-60	-1.49E-03	U	2.81E-02	2.81E-02	5.14E-02	pCi/g	1.50E-01	-0.03 -0.11	12/29/03 07:54 a		379.3 g	GER7:
CS-134	3.83E-02	U	3.71E-02	3.71E-02	6.27E-02	pCi/g	1.90E-01	0.61 (2.1)	12/29/03 07:54 a		379.3 g	GER7:
CS-137	1.57E-02	U	2.78E-02	2.78E-02	5.19E-02	pCi/g	3.20E-01	0.3 (1.1)	12/29/03 07:54 a		379.3 g	GER7:
EU-152	1.13E-02	U	6.45E-02	6.45E-02	1.14E-01	pCi/g	4.04E-01	0.1 0.35	12/29/03 07:54 a		379.3 g	GER7:
EU-154	5.75E-02	U	7.76E-02	7.76E-02	1.56E-01	pCi/g	3.70E-01	0.37 (1.5)	12/29/03 07:54 a		379.3 g	GER7:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rpISTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-12
Client Sample ID: 9536-0000-009F01

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:33:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectr
EU-155	6.46E-02	U	6.75E-02	6.75E-02	1.23E-01	pCi/g		0.53 (1.9)	12/29/03 07:54 a		379.3 g	GER7:
							1.57E+01	(27.8)	12/29/03 07:54 a		379.3 g	GER7:
K-40	1.04E+01		1.61E+00	1.61E+00	3.76E-01	pCi/g		(13.)	12/29/03 07:54 a		379.3 g	GER7:
MN-54	-7.99E-03	U	2.56E-02	2.56E-02	4.51E-02	pCi/g		-0.18 6.96E-01	12/29/03 07:54 a		379.3 g	GER7:
								-0.63	12/29/03 07:54 a		379.3 g	GER7:
NB-94	9.71E-03	U	2.13E-02	2.13E-02	4.12E-02	pCi/g		0.24 2.85E-01	12/29/03 07:54 a		379.3 g	GER7:
								0.91	12/29/03 07:54 a		379.3 g	GER7:
PB-212	6.68E-01		1.30E-01	1.30E-01	6.99E-02	pCi/g		(9.6) (10.3)	12/29/03 07:54 a		379.3 g	GER7:
								(7.2)	12/29/03 07:54 a		379.3 g	GER7:
PB-214	6.16E-01		1.35E-01	1.35E-01	8.51E-02	pCi/g		(9.1)	12/29/03 07:54 a		379.3 g	GER7:
								(2.9)	12/29/03 07:54 a		379.3 g	GER7:
RA-226	5.58E-01	U	1.20E-01	1.20E-01	1.89E-01	pCi/g		(9.3)	12/29/03 07:54 a		379.3 g	GER7:
								(2.4)	12/29/03 07:54 a		379.3 g	GER7:
TL-208	2.05E-01	U	5.30E-02	5.30E-02	8.54E-02	pCi/g		(7.7)	12/29/03 07:54 a		379.3 g	GER7:

No. of Results: 18

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
V4.05 A97

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-13
Client Sample ID: 9536-0000-009F02

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:53:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/ToiUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
Batch: 3339267	RICHRC5017				Work Order: F5XD41AA		Report DB ID: 9F5XD410					
AC-228	5.82E-01		1.52E-01	1.52E-01	1.31E-01	pCi/g		(4.3) (7.4)	12/29/03 07:54 a		403.9 g	GER8
AG-108M	9.42E-03	U	1.69E-02	1.69E-02	3.11E-02	pCi/g	2.86E-01	(1.1)	12/29/03 07:54 a		403.9 g	GER8
AM-241	-9.72E-03	U	4.80E-02	4.80E-02	7.96E-02	pCi/g	1.03E+00	-0.12 -0.4	12/29/03 07:54 a		403.9 g	GER8
BI-212	8.79E-01	U	4.56E-01	4.56E-01	6.70E-01	pCi/g		(1.3) (3.9)	12/29/03 07:54 a		403.9 g	GER8
BI-214	5.61E-01		1.17E-01	1.17E-01	6.65E-02	pCi/g		(8.4) (9.6)	12/29/03 07:54 a		403.9 g	GER8
CO-60	-1.24E-03	U	2.00E-02	2.00E-02	3.75E-02	pCi/g	1.50E-01	-0.03 -0.12	12/29/03 07:54 a		403.9 g	GER8
CS-134	4.13E-02	U	2.73E-02	2.73E-02	5.45E-02	pCi/g	1.90E-01	0.76 (3.)	12/29/03 07:54 a		403.9 g	GER8
CS-137	2.33E-02	U	2.31E-02	2.31E-02	4.47E-02	pCi/g	3.20E-01	0.52 (2.)	12/29/03 07:54 a		403.9 g	GER8
EU-152	1.92E-02	U	5.62E-02	5.62E-02	9.98E-02	pCi/g	4.04E-01	0.19 0.68	12/29/03 07:54 a		403.9 g	GER8
EU-154	-1.87E-02	U	7.19E-02	7.19E-02	1.27E-01	pCi/g	3.70E-01	-0.15 -0.52	12/29/03 07:54 a		403.9 g	GER8

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-13
Client Sample ID: 9536-0000-009F02

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:53:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
EU-155	1.75E-02	U	5.75E-02	5.75E-02	1.01E-01	pCl/g		0.17	12/29/03 07:54 a		403.9	GER8:
							1.57E+01	0.61			g	
K-40	1.13E+01		1.63E+00	1.63E+00	3.63E-01	pCl/g		(31.2)	12/29/03 07:54 a		403.9	GER8:
								(13.8)			g	
MN-54	-2.59E-03	U	2.34E-02	2.34E-02	4.14E-02	pCl/g		-0.06	12/29/03 07:54 a		403.9	GER8:
							6.96E-01	-0.22			g	
NB-94	1.23E-02	U	1.89E-02	1.89E-02	3.68E-02	pCl/g		0.33	12/29/03 07:54 a		403.9	GER8:
							2.85E-01	(1.3)			g	
PB-212	5.64E-01		1.22E-01	1.22E-01	8.96E-02	pCl/g		(6.3)	12/29/03 07:54 a		403.9	GER8:
								(9.3)			g	
PB-214	6.64E-01		1.30E-01	1.30E-01	6.49E-02	pCl/g		(10.2)	12/29/03 07:54 a		403.9	GER8:
								(10.2)			g	
RA-226	5.61E-01		1.17E-01	1.17E-01	6.65E-02	pCl/g		(8.4)	12/29/03 07:54 a		403.9	GER8:
								(9.6)			g	
TL-208	2.28E-01		5.27E-02	5.27E-02	3.49E-02	pCl/g		(6.5)	12/29/03 07:54 a		403.9	GER8:
								(8.6)			g	

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-14
Client Sample ID: 9536-0000-010F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:30:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert (2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs /MDC, Rs /TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
Batch: 3339267	RICHRC5017				Work Order: F5XD51AA		Report DB ID: 9F5XD510					
AC-228	9.21E-01		2.28E-01	2.28E-01	1.53E-01	pCi/g		(6.) (8.1)	12/29/03 10:54 a	348.3	g	GER5!
AG-108M	1.43E-02	U	2.59E-02	2.59E-02	4.69E-02	pCi/g	2.86E-01	0.3 (1.1)	12/29/03 10:54 a	348.3	g	GER5!
AM-241	6.39E-02	U	6.71E-02	6.71E-02	1.02E-01	pCi/g	1.03E+00	0.63 (1.9)	12/29/03 10:54 a	348.3	g	GER5!
BI-212	6.54E-01	U	5.58E-01	5.58E-01	9.07E-01	pCi/g		0.72 (2.3)	12/29/03 10:54 a	348.3	g	GER5!
BI-214	7.70E-01	U	1.53E-01	1.53E-01	2.23E-01	pCi/g		(3.5) (10.1)	12/29/03 10:54 a	348.3	g	GER5!
CO-60	2.88E-02	U	2.75E-02	2.75E-02	5.76E-02	pCi/g	1.50E-01	0.5 (2.1)	12/29/03 10:54 a	348.3	g	GER5!
CS-134	8.95E-02	U	4.86E-02	4.86E-02	6.72E-02	pCi/g	1.90E-01	(1.3) (3.7)	12/29/03 10:54 a	348.3	g	GER5!
CS-137	2.92E-03	U	3.51E-02	3.51E-02	6.25E-02	pCi/g	3.20E-01	0.05 0.17	12/29/03 10:54 a	348.3	g	GER5!
EU-152	4.37E-02	U	8.19E-02	8.19E-02	1.36E-01	pCi/g	4.04E-01	0.32 (1.1)	12/29/03 10:54 a	348.3	g	GER5!
EU-154	-2.66E-02	U	7.83E-02	7.83E-02	1.37E-01	pCi/g	3.70E-01	-0.19 -0.68	12/29/03 10:54 a	348.3	g	GER5!

STL Richland
rptSTLRechSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-14
Client Sample ID: 9536-0000-010F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:30:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Actlon Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectk
EU-155	4.73E-02	U	7.68E-02	7.68E-02	1.32E-01	pCi/g		0.36 (1.2)	12/29/03 10:54 a		348.3 g	GER5:
K-40	1.15E+01		1.80E+00	1.80E+00	5.08E-01	pCi/g	1.57E+01	(22.6) (12.7)	12/29/03 10:54 a		348.3 g	GER5:
MN-54	-1.42E-02	U	3.43E-02	3.43E-02	5.82E-02	pCi/g		-0.24 6.96E-01 -0.83	12/29/03 10:54 a		348.3 g	GER5:
NB-94	-1.55E-02	U	2.26E-02	2.26E-02	3.71E-02	pCi/g		-0.42 2.85E-01 -(1.4)	12/29/03 10:54 a		348.3 g	GER5:
PB-212	7.77E-01		1.54E-01	1.54E-01	7.63E-02	pCi/g		(10.2) (10.1)	12/29/03 10:54 a		348.3 g	GER5:
PB-214	8.06E-01		1.80E-01	1.80E-01	9.64E-02	pCi/g		(8.4) (9.)	12/29/03 10:54 a		348.3 g	GER5:
RA-226	7.70E-01		1.53E-01	1.53E-01	9.08E-02	pCi/g		(8.5) (10.1)	12/29/03 10:54 a		348.3 g	GER5:
TL-208	2.37E-01		6.79E-02	6.79E-02	4.89E-02	pCi/g		(4.8) (7.)	12/29/03 10:54 a		348.3 g	GER5:

No. of Results: 18

Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-15
Client Sample ID: 9536-0000-011F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:45:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Actlon Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs MDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectr
Batch: 3339269	RICHRC5017				Work Order: F5XD61AA		Report DB ID: 9F5XD610					
AC-228	6.72E-01		1.89E-01	1.89E-01	1.38E-01	pCi/g		(4.9) (7.1)	12/26/03 08:37 a	436.8	g	GER4:
AG-108M	9.59E-03	U	2.01E-02	2.01E-02	3.61E-02	pCi/g	2.86E-01	0.27 0.95	12/26/03 08:37 a	436.8	g	GER4:
AM-241	6.15E-03	U	1.43E-01	1.43E-01	2.45E-01	pCi/g	1.03E+00	0.03 0.09	12/26/03 08:37 a	436.8	g	GER4:
BI-212	7.26E-01	U	3.98E-01	3.98E-01	7.75E-01	pCi/g		0.94 (3.7)	12/26/03 08:37 a	436.8	g	GER4:
BI-214	6.97E-01	U	1.40E-01	1.40E-01	1.92E-01	pCi/g		(3.6) (10.)	12/26/03 08:37 a	436.8	g	GER4:
CO-60	2.66E-02	U	2.80E-02	2.80E-02	5.59E-02	pCi/g	1.50E-01	0.48 (1.9)	12/26/03 08:37 a	436.8	g	GER4:
CS-134	6.31E-02	U	2.92E-02	2.92E-02	5.93E-02	pCi/g	1.90E-01	(1.1) (4.3)	12/26/03 08:37 a	436.8	g	GER4:
CS-137	1.34E-02	U	2.77E-02	2.77E-02	4.98E-02	pCi/g	3.20E-01	0.27 0.97	12/26/03 08:37 a	436.8	g	GER4:
EU-152	-4.31E-03	U	6.45E-02	6.45E-02	1.13E-01	pCi/g	4.04E-01	-0.04 -0.13	12/26/03 08:37 a	436.8	g	GER4:
EU-154	-5.68E-03	U	7.05E-02	7.05E-02	1.28E-01	pCi/g	3.70E-01	-0.04 -0.16	12/26/03 08:37 a	436.8	g	GER4:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-15
Client Sample ID: 9536-0000-011F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:45:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectr
EU-155	8.98E-02	U	7.58E-02	7.58E-02	1.37E-01	pCi/g		0.66 (2.4)	12/26/03 08:37 a	436.8	436.8	GER4:
							1.57E+01				g	
K-40	9.94E+00		1.56E+00	1.56E+00	2.06E-01	pCi/g		(48.3) (12.8)	12/26/03 08:37 a	436.8	436.8	GER4:
											g	
MN-54	1.39E-02	U	2.44E-02	2.44E-02	4.56E-02	pCi/g		0.31 (1.1)	12/26/03 08:37 a	436.8	436.8	GER4:
							6.96E-01				g	
NB-94	-1.46E-02	U	2.35E-02	2.35E-02	3.87E-02	pCi/g		-0.38 (-1.2)	12/26/03 08:37 a	436.8	436.8	GER4:
							2.85E-01				g	
PB-212	6.70E-01		1.29E-01	1.29E-01	6.53E-02	pCi/g		(10.2) (10.3)	12/26/03 08:37 a	436.8	436.8	GER4:
											g	
PB-214	7.12E-01		1.52E-01	1.52E-01	7.16E-02	pCi/g		(10.) (9.4)	12/26/03 08:37 a	436.8	436.8	GER4:
											g	
RA-226	6.97E-01		1.40E-01	1.40E-01	7.62E-02	pCi/g		(9.2) (10.)	12/26/03 08:37 a	436.8	436.8	GER4:
											g	
TL-208	2.21E-01	U	6.00E-02	6.00E-02	8.54E-02	pCi/g		(2.6) (7.4)	12/26/03 08:37 a	436.8	436.8	GER4
											g	

No. of Results: 18 Comments:

STL Richland
rp1STLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-16
Client Sample ID: 9536-0000-012F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 10:12:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 3339269	RICHRC5017				Work Order: F5XD71AA		Report DB ID: 9F5XD710					
AC-228	5.83E-01		1.87E-01	1.87E-01	1.54E-01	pCi/g		(3.8) (6.2)	12/26/03 08:38 a	397.4	g	GER6
AG-108M	2.14E-02	U	2.03E-02	2.03E-02	3.74E-02	pCi/g	2.86E-01	0.57 (2.1)	12/26/03 08:38 a	397.4	g	GER6
AM-241	1.61E-02	U	7.14E-02	7.14E-02	1.25E-01	pCi/g	1.03E+00	0.13 0.45	12/26/03 08:38 a	397.4	g	GER6
BI-212	7.33E-01	U	4.46E-01	4.46E-01	7.75E-01	pCi/g		0.95 (3.3)	12/26/03 08:38 a	397.4	g	GER6
BI-214	6.08E-01	U	1.26E-01	1.26E-01	1.82E-01	pCi/g		(3.3) (9.6)	12/26/03 08:38 a	397.4	g	GER6
CO-60	-7.82E-03	U	2.50E-02	2.50E-02	4.42E-02	pCi/g	1.50E-01	-0.18 -0.63	12/26/03 08:38 a	397.4	g	GER6
CS-134	1.93E-02	U	2.94E-02	2.94E-02	5.54E-02	pCi/g	1.90E-01	0.35 (1.3)	12/26/03 08:38 a	397.4	g	GER6
CS-137	1.52E-01	J	6.40E-02	6.40E-02	3.84E-02	pCi/g	3.20E-01	(4.) (4.8)	12/26/03 08:38 a	397.4	g	GER6
EU-152	-6.76E-02	U	6.64E-02	6.64E-02	1.02E-01	pCi/g	4.04E-01	-0.66 -(2.)	12/26/03 08:38 a	397.4	g	GER6
EU-154	-4.59E-02	U	8.11E-02	8.11E-02	1.38E-01	pCi/g	3.70E-01	-0.33 -(1.1)	12/26/03 08:38 a	397.4	g	GER6

STL Richland

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample
V4.05 A97J Qual - No U|J|K qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-16
Client Sample ID: 9536-0000-012F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 10:12:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detecte
EU-155	2.42E-02	U	6.18E-02	6.18E-02	1.06E-01	pCi/g		0.23 1.57E+01 0.78	12/26/03 08:38 a		397.4 g	GER6!
K-40	9.68E+00		1.55E+00	1.55E+00	4.29E-01	pCi/g		(22.6) (12.5)	12/26/03 08:38 a		397.4 g	GER6!
MN-54	-2.93E-02	U	2.68E-02	2.68E-02	4.24E-02	pCi/g		-0.69 6.96E-01 -(2.2)	12/26/03 08:38 a		397.4 g	GER6!
NB-94	1.69E-02	U	2.17E-02	2.17E-02	4.22E-02	pCi/g		0.4 2.85E-01 (1.6)	12/26/03 08:38 a		397.4 g	GER6!
PB-212	6.28E-01		1.30E-01	1.30E-01	6.39E-02	pCi/g		(9.8) (9.6)	12/26/03 08:38 a		397.4 g	GER6!
PB-214	6.08E-01		1.52E-01	1.52E-01	8.14E-02	pCi/g		(7.4) (8.)	12/26/03 08:38 a		397.4 g	GER6!
RA-226	6.08E-01		1.26E-01	1.26E-01	7.96E-02	pCi/g		(7.6) (9.6)	12/26/03 08:38 a		397.4 g	GER6!
TL-208	2.49E-01		5.72E-02	5.72E-02	4.65E-02	pCi/g		(5.4) (8.7)	12/26/03 08:38 a		397.4 g	GER6!

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-17
Client Sample ID: 9536-0000-013F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:40:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detecto
Batch: 3339269	RICHRC5017		Work Order: F5XD81AA		Report DB ID: 9F5XD810							
AC-228	6.58E-01		2.07E-01	2.07E-01	1.60E-01	pCl/g		(4.1) (6.4)	12/26/03 08:38 a		352.1 g	GER7:
AG-108M	3.86E-03	U	2.12E-02	2.12E-02	3.82E-02	pCl/g	2.86E-01	0.1 0.37	12/26/03 08:38 a		352.1 g	GER7:
AM-241	-8.22E-02	U	1.01E-01	1.01E-01	1.52E-01	pCl/g	1.03E+00	-0.54 (-1.6)	12/26/03 08:38 a		352.1 g	GER7:
BI-212	3.25E-01	U	4.03E-01	4.03E-01	7.64E-01	pCl/g		0.43 (1.6)	12/26/03 08:38 a		352.1 g	GER7:
BI-214	7.07E-01		1.46E-01	1.46E-01	8.22E-02	pCl/g		(8.6) (9.7)	12/26/03 08:38 a		352.1 g	GER7:
CO-60	-9.81E-03	U	2.39E-02	2.39E-02	4.23E-02	pCl/g	1.50E-01	-0.23 -0.82	12/26/03 08:38 a		352.1 g	GER7
CS-134	5.75E-04	U	3.21E-02	3.21E-02	5.71E-02	pCl/g	1.90E-01	0.01 0.04	12/26/03 08:38 a		352.1 g	GER7
CS-137	1.48E-01	J	4.65E-02	4.65E-02	4.80E-02	pCl/g	3.20E-01	(3.1) (6.4)	12/26/03 08:38 a		352.1 g	GER7
EU-152	1.08E-01	U	7.29E-02	7.29E-02	1.37E-01	pCl/g	4.04E-01	0.79 (3.)	12/26/03 08:38 a		352.1 g	GER7
EU-154	-2.19E-02	U	8.61E-02	8.61E-02	1.53E-01	pCl/g	3.70E-01	-0.14 -0.51	12/26/03 08:38 a		352.1 g	GER7

STL Richland
rptSTLRichSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-17
Client Sample ID: 9536-0000-013F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:40:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs MDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
EU-155	2.31E-02	U	7.57E-02	7.57E-02	1.33E-01	pCi/g		0.17	12/26/03 08:38 a		352.1	GER7:
							1.57E+01	0.61			g	
K-40	1.09E+01		1.69E+00	1.69E+00	4.77E-01	pCi/g		(22.0)	12/26/03 08:38 a		352.1	GER7:
								(12.8)			g	
MN-54	-3.27E-02	U	3.10E-02	3.10E-02	4.81E-02	pCi/g		-0.68	12/26/03 08:38 a		352.1	GER7:
							6.96E-01	-(2.1)			g	
NB-94	-1.82E-03	U	2.46E-02	2.46E-02	4.48E-02	pCi/g		-0.04	12/26/03 08:38 a		352.1	GER7:
							2.85E-01	-0.15			g	
PB-212	5.92E-01		1.34E-01	1.34E-01	1.07E-01	pCi/g		(5.5)	12/26/03 08:38 a		352.1	GER7:
								(8.8)			g	
PB-214	6.62E-01		1.81E-01	1.61E-01	8.22E-02	pCi/g		(8.)	12/26/03 08:38 a		352.1	GER7:
								(8.2)			g	
RA-228	7.07E-01		1.46E-01	1.46E-01	8.22E-02	pCi/g		(8.6)	12/26/03 08:38 a		352.1	GER7:
								(9.7)			g	
TL-208	1.91E-01		6.25E-02	6.25E-02	4.54E-02	pCi/g		(4.2)	12/26/03 08:38 a		352.1	GER7:
								(6.1)			g	

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qual|for has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc|Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-18
Client Sample ID: 9536-0000-013FS

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 9:40:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
Batch: 3339269	RICHRC5017		Work Order: F5XD91AA		Report DB ID: 9F5XD910							
AC-228	4.27E-01		1.80E-01	1.80E-01	1.39E-01	pCl/g		(3.1) (4.7)	12/26/03 08:38 a	424.8	g	GER5:
AG-108M	-4.53E-03	U	1.90E-02	1.90E-02	3.29E-02	pCl/g	2.86E-01	-0.14 -0.48	12/26/03 08:38 a	424.8	g	GER5:
AM-241	4.41E-02	U	5.02E-02	5.02E-02	8.04E-02	pCl/g	1.03E+00	0.55 (1.8)	12/26/03 08:38 a	424.8	g	GER5:
BI-212	8.84E-01	U	4.11E-01	4.11E-01	8.07E-01	pCl/g		(1.1) (4.3)	12/26/03 08:38 a	424.8	g	GER5:
BI-214	6.85E-01	U	1.21E-01	1.21E-01	1.85E-01	pCl/g		(3.2) (9.6)	12/26/03 08:38 a	424.8	g	GER5:
CO-60	-4.34E-03	U	2.31E-02	2.31E-02	4.21E-02	pCl/g	1.50E-01	-0.1 -0.38	12/26/03 08:38 a	424.8	g	GER5:
CS-134	3.25E-02	U	2.86E-02	2.86E-02	5.54E-02	pCl/g	1.90E-01	0.59 (2.3)	12/26/03 08:38 a	424.8	g	GER5:
CS-137	1.87E-02	U	2.86E-02	2.86E-02	5.28E-02	pCl/g	3.20E-01	0.35 (1.3)	12/26/03 08:38 a	424.8	g	GER5:
EU-152	-7.49E-03	U	6.34E-02	6.34E-02	1.11E-01	pCl/g	4.04E-01	-0.07 -0.24	12/26/03 08:38 a	424.8	g	GER5:
EU-154	5.02E-02	U	7.12E-02	7.12E-02	1.40E-01	pCl/g	3.70E-01	0.36 (1.4)	12/26/03 08:38 a	424.8	g	GER5:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/21/2003 9:40:00 AM

Lot-Sample No.: J3L030200-18

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-013FS

COC No.: 2003-00239

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotalUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
EU-155	2.07E-02	U	6.31E-02	6.31E-02	1.08E-01	pCi/g		0.19	12/26/03 08:38 a		424.8	GER5:
							1.57E+01	0.66			g	
K-40	9.09E+00		1.43E+00	1.43E+00	3.80E-01	pCi/g		(23.9)	12/26/03 08:38 a		424.8	GER5:
								(12.7)			g	
MN-54	2.37E-03	U	2.48E-02	2.48E-02	4.44E-02	pCi/g		0.05	12/26/03 08:38 a		424.8	GER5:
							6.96E-01	0.19			g	
NB-94	-3.53E-03	U	2.12E-02	2.12E-02	3.71E-02	pCi/g		-0.1	12/26/03 08:38 a		424.8	GER5:
							2.85E-01	-0.33			g	
PB-212	6.08E-01		1.30E-01	1.30E-01	9.18E-02	pCi/g		(6.6)	12/26/03 08:38 a		424.8	GER5:
								(9.4)			g	
PB-214	7.10E-01		1.45E-01	1.45E-01	8.06E-02	pCi/g		(8.8)	12/26/03 08:38 a		424.8	GER5:
								(9.8)			g	
RA-226	5.85E-01		1.21E-01	1.21E-01	6.79E-02	pCi/g		(8.6)	12/26/03 08:38 a		424.8	GER5:
								(9.6)			g	
TL-208	2.41E-01		5.82E-02	5.82E-02	4.22E-02	pCi/g		(5.7)	12/26/03 08:38 a		424.8	GER5:
								(8.3)			g	

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-19
Client Sample ID: 9536-0000-014F

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 10:20:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detecto
Batch: 3339269	RICHRC5017		Work Order: F5XEA1AA		Report DB ID: 9F5XEA10							
AC-228	7.16E-01		2.05E-01	2.05E-01	1.37E-01	pCl/g		(5.2) (7.)	12/26/03 10:22 a		417.2 g	GER4:
AG-108M	1.26E-02	U	1.89E-02	1.89E-02	3.48E-02	pCl/g	2.86E-01	0.36 (1.3)	12/26/03 10:22 a		417.2 g	GER4:
AM-241	-6.51E-02	U	1.46E-01	1.46E-01	2.42E-01	pCl/g	1.03E+00	-0.27 -0.89	12/26/03 10:22 a		417.2 g	GER4:
BI-212	9.78E-01	U	4.41E-01	4.41E-01	8.62E-01	pCl/g		(1.1) (4.4)	12/26/03 10:22 a		417.2 g	GER4:
BI-214	5.50E-01		1.24E-01	1.24E-01	7.91E-02	pCl/g		(7.) (8.8)	12/26/03 10:22 a		417.2 g	GER4:
CO-60	9.51E-03	U	2.50E-02	2.50E-02	4.84E-02	pCl/g	1.50E-01	0.2 0.76	12/26/03 10:22 a		417.2 g	GER4:
CS-134	4.09E-02	U	3.27E-02	3.27E-02	6.40E-02	pCl/g	1.90E-01	0.64 (2.5)	12/26/03 10:22 a		417.2 g	GER4:
CS-137	2.15E-02	U	2.86E-02	2.86E-02	5.24E-02	pCl/g	3.20E-01	0.41 (1.5)	12/26/03 10:22 a		417.2 g	GER4:
EU-152	-3.92E-02	U	6.04E-02	6.04E-02	1.01E-01	pCl/g	4.04E-01	-0.39 -(1.3)	12/26/03 10:22 a		417.2 g	GER4:
EU-154	6.74E-02	U	7.99E-02	7.99E-02	1.58E-01	pCl/g	3.70E-01	0.43 (1.7)	12/26/03 10:22 a		417.2 g	GER4:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

Date: 30-Dec-03

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: J3L030200-19
 Client Sample ID: 9536-0000-014F

SDG: 24641
 Report No.: 24554
 COC No.: 2003-00239

Collection Date: 11/21/2003 10:20:00 AM
 Received Date: 12/1/2003 10:50:00 AM
 Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detectc
EU-155	9.77E-02	U	7.80E-02	7.80E-02	1.41E-01	pCi/g		0.69 (2.5)	12/26/03 10:22 a		417.2 g	GER4!
K-40	1.16E+01		1.74E+00	1.74E+00	3.94E-01	pCi/g	1.57E+01	(29.4) (13.2)	12/26/03 10:22 a		417.2 g	GER4!
MN-54	-2.49E-02	U	2.88E-02	2.88E-02	4.62E-02	pCi/g		-0.54 (1.7)	12/26/03 10:22 a		417.2 g	GER4!
NB-94	3.09E-02	U	2.29E-02	2.29E-02	4.58E-02	pCi/g	6.96E-01	0.67 (2.7)	12/26/03 10:22 a		417.2 g	GER4!
PB-212	7.35E-01		1.40E-01	1.40E-01	6.35E-02	pCi/g	2.85E-01	(11.6) (10.5)	12/26/03 10:22 a		417.2 g	GER4!
PB-214	6.46E-01		1.39E-01	1.39E-01	7.48E-02	pCi/g		(8.6) (9.3)	12/26/03 10:22 a		417.2 g	GER4!
RA-226	5.50E-01		1.24E-01	1.24E-01	7.91E-02	pCi/g		(6.9) (8.8)	12/26/03 10:22 a		417.2 g	GER4!
TL-208	2.55E-01		6.41E-02	6.41E-02	4.13E-02	pCi/g		(6.2) (7.9)	12/26/03 10:22 a		417.2 g	GER4!

No. of Results: 18

Comments:

STL Richland
 rptSTLRchSample
 V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-20
Client Sample ID: 9536-0000-015F01

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 10:15:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs UMDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
Batch: 3339269	RICHRC5017		Work Order: F5XEE1AA		Report DB ID: 9F5XEE10							
AC-228	5.57E-01		1.70E-01	1.70E-01	1.38E-01	pCl/g		(4.) (6.6)	12/26/03 10:22 a	393.4	g	GER6
AG-108M	9.62E-04	U	1.88E-02	1.88E-02	3.28E-02	pCl/g	2.86E-01	0.03 0.1	12/26/03 10:22 a	393.4	g	GER6
AM-241	-3.22E-02	U	6.79E-02	6.79E-02	1.16E-01	pCl/g	1.03E+00	-0.28 -0.95	12/26/03 10:22 a	393.4	g	GER6
BI-212	1.08E+00	U	5.32E-01	5.32E-01	8.27E-01	pCl/g		(1.3) (4.1)	12/26/03 10:22 a	393.4	g	GER6
BI-214	4.41E-01	U	1.26E-01	1.26E-01	1.74E-01	pCl/g		(2.5) (7.)	12/26/03 10:22 a	393.4	g	GER6
CO-60	1.12E-02	U	2.59E-02	2.59E-02	5.03E-02	pCl/g		0.22 0.86	12/26/03 10:22 a	393.4	g	GER6
CS-134	4.58E-02	U	2.97E-02	2.97E-02	5.92E-02	pCl/g	1.50E-01	0.77 (3.1)	12/26/03 10:22 a	393.4	g	GER6
CS-137	5.65E-02	J	3.85E-02	3.85E-02	4.56E-02	pCl/g	1.90E-01	(1.2) (2.9)	12/26/03 10:22 a	393.4	g	GER6
EU-152	-2.37E-02	U	6.29E-02	6.29E-02	9.89E-02	pCl/g	3.20E-01	-0.24 -0.75	12/26/03 10:22 a	393.4	g	GER6
EU-154	-9.27E-03	U	8.63E-02	8.63E-02	1.55E-01	pCl/g	4.04E-01	-0.06 -0.21	12/26/03 10:22 a	393.4	g	GER6

STL Richland

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample
V4.05 A97

J Qual - No U|c qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-20
Client Sample ID: 9536-0000-015F01

SDG: 24641
Report No.: 24554
COC No.: 2003-00239

Collection Date: 11/21/2003 10:15:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotalUncert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detect
EU-155	2.43E-02	U	5.95E-02	5.95E-02	1.02E-01	pCl/g		0.24	12/26/03 10:22 a		393.4	GER6
							1.57E+01	0.82			g	
K-40	8.35E+00		1.45E+00	1.45E+00	4.00E-01	pCl/g		(20.9)	12/26/03 10:22 a		393.4	GER6
								(11.5)			g	
MN-54	9.77E-03	U	2.38E-02	2.38E-02	4.46E-02	pCl/g		0.22	12/26/03 10:22 a		393.4	GER6
							6.96E-01	0.82			g	
NB-94	3.15E-03	U	2.46E-02	2.46E-02	4.46E-02	pCl/g		0.07	12/26/03 10:22 a		393.4	GER6
							2.85E-01	0.26			g	
PB-212	6.10E-01		1.22E-01	1.22E-01	5.75E-02	pCl/g		(10.6)	12/26/03 10:22 a		393.4	GER6
								(10.)			g	
PB-214	5.76E-01		1.24E-01	1.24E-01	7.84E-02	pCl/g		(7.3)	12/26/03 10:22 a		393.4	GER6
								(9.3)			g	
RA-226	4.41E-01	U	1.26E-01	1.26E-01	1.74E-01	pCl/g		(2.5)	12/26/03 10:22 a		393.4	GER6
								(7.)			g	
TL-208	1.89E-01		6.01E-02	6.01E-02	4.07E-02	pCl/g		(4.6)	12/26/03 10:22 a		393.4	GER6
								(6.3)			g	

No. of Results: 18

Comments:

STL Richland

rptSTL RchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-21
Client Sample ID: 9536-0000-015F02

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/21/2003 10:28:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs /MDC, Rs /TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
Batch: 3339269	RICHRC5017				Work Order: F5XEJ1AA		Report DB ID: 9F5XEJ10					
AC-228	5.96E-01	U	1.73E-01	1.73E-01	2.89E-01	pCi/g		(2.1) (6.9)	12/26/03 10:22 a		415.6 g	GER7:
AG-108M	-1.00E-02	U	1.76E-02	1.76E-02	2.97E-02	pCi/g	2.86E-01	-0.34 (1.1)	12/26/03 10:22 a		415.6 g	GER7:
AM-241	2.24E-02	U	8.25E-02	8.25E-02	1.33E-01	pCi/g	1.03E+00	0.17 0.54	12/26/03 10:22 a		415.6 g	GER7:
BI-212	4.09E-01	U	3.43E-01	3.43E-01	6.67E-01	pCi/g		0.61 (2.4)	12/26/03 10:22 a		415.6 g	GER7:
BI-214	5.52E-01		1.38E-01	1.38E-01	7.32E-02	pCi/g		(7.5) (8.)	12/26/03 10:22 a		415.6 g	GER7:
CO-60	-3.87E-03	U	2.04E-02	2.04E-02	3.75E-02	pCi/g	1.50E-01	-0.1 -0.38	12/26/03 10:22 a		415.6 g	GER7:
CS-134	3.22E-02	U	2.79E-02	2.79E-02	5.44E-02	pCi/g	1.90E-01	0.59 (2.3)	12/26/03 10:22 a		415.6 g	GER7:
CS-137	-1.87E-04	U	2.31E-02	2.31E-02	4.14E-02	pCi/g	3.20E-01	0 -0.02	12/26/03 10:22 a		415.6 g	GER7:
EU-152	1.93E-02	U	6.14E-02	6.14E-02	1.08E-01	pCi/g	4.04E-01	0.18 0.63	12/26/03 10:22 a		415.6 g	GER7:
EU-154	-8.81E-03	U	6.68E-02	6.68E-02	1.22E-01	pCi/g	3.70E-01	-0.07 -0.26	12/26/03 10:22 a		415.6 g	GER7:

STL Richland
rptSTLRchSample
V4.05_A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-21
Client Sample ID: 9536-0000-015F02

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/21/2003 10:28:00 AM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs VMDC, Rs Tot Ucert	Analysis, Prop Date	Total Sa Size	Aliquot Size	Primar Detecto
EU-155	4.14E-02	U	6.27E-02	6.27E-02	1.12E-01	pCi/g		0.37 1.57E+01 (1.3)	12/26/03 10:22 a		415.6 g	GER7:
K-40	1.05E+01		1.59E+00	1.59E+00	4.38E-01	pCi/g		(24.) (13.2)	12/26/03 10:22 a		415.6 g	GER7:
MN-54	-1.54E-02	U	2.56E-02	2.56E-02	4.22E-02	pCi/g		-0.36 6.96E-01 -(1.2)	12/26/03 10:22 a		415.6 g	GER7:
NB-94	-2.70E-03	U	2.01E-02	2.01E-02	3.64E-02	pCi/g		-0.07 2.85E-01 -0.27	12/26/03 10:22 a		415.6 g	GER7:
PB-212	5.65E-01		1.19E-01	1.19E-01	8.91E-02	pCi/g		(6.3) (9.5)	12/26/03 10:22 a		415.6 g	GER7:
PB-214	5.60E-01		1.23E-01	1.23E-01	7.90E-02	pCi/g		(7.1) (9.1)	12/26/03 10:22 a		415.6 g	GER7:
RA-226	5.52E-01		1.38E-01	1.38E-01	7.32E-02	pCi/g		(7.5) (8.)	12/26/03 10:22 a		415.6 g	GER7:
TL-208	1.77E-01	U	4.83E-02	4.83E-02	7.61E-02	pCi/g		(2.3) (7.3)	12/26/03 10:22 a		415.6 g	GER7:

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-22
Client Sample ID: 9536-0000-016FI

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:32:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detecto
Batch: 3339269	RICHRC5017				Work Order: F5XEL1AA		Report DB ID: 9F5XEL10					
AC-228	7.18E-01		1.76E-01	1.76E-01	1.19E-01	pCi/g		(6.) (8.2)	12/26/03 10:23 a	400.6	g	GER8:
AG-108M	-6.56E-04	U	1.80E-02	1.80E-02	3.12E-02	pCi/g	2.86E-01	-0.02 -0.07	12/26/03 10:23 a	400.6	g	GER8:
AM-241	4.69E-02	U	4.93E-02	4.93E-02	8.47E-02	pCi/g	1.03E+00	0.55 (1.9)	12/26/03 10:23 a	400.6	g	GER8:
BI-212	1.18E+00	U	3.99E-01	3.99E-01	7.59E-01	pCi/g		(1.5) (5.9)	12/26/03 10:23 a	400.6	g	GER8:
BI-214	5.60E-01	U	1.15E-01	1.15E-01	1.76E-01	pCi/g		(3.2) (9.8)	12/26/03 10:23 a	400.6	g	GER8:
CO-60	1.43E-02	U	2.37E-02	2.37E-02	4.73E-02	pCi/g	1.50E-01	0.3 (1.2)	12/26/03 10:23 a	400.6	g	GER8:
CS-134	2.81E-02	U	2.85E-02	2.85E-02	5.42E-02	pCi/g	1.90E-01	0.52 (2.)	12/26/03 10:23 a	400.6	g	GER8:
CS-137	-1.58E-02	U	2.69E-02	2.69E-02	4.48E-02	pCi/g	3.20E-01	-0.35 -(1.2)	12/26/03 10:23 a	400.6	g	GER8:
EU-152	-6.12E-02	U	6.05E-02	6.05E-02	9.69E-02	pCi/g	4.04E-01	-0.63 -(2.)	12/26/03 10:23 a	400.6	g	GER8:
EU-154	-1.60E-02	U	7.39E-02	7.39E-02	1.32E-01	pCi/g	3.70E-01	-0.12 -0.43	12/26/03 10:23 a	400.6	g	GER8:

STL Richland
rpiSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-22
Client Sample ID: 9536-0000-016F1

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:32:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs UMDC, Rst Tot Ucert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detects
EU-155	2.58E-02	U	6.34E-02	6.34E-02	1.10E-01	pCi/g		0.23 1.57E+01 0.81	12/26/03 10:23 a	400.6	400.6	GER8:
K-40	1.11E+01		1.61E+00	1.61E+00	3.27E-01	pCi/g		(34.1) (13.8)	12/26/03 10:23 a	400.6	400.6	GER8:
MN-54	-1.07E-02	U	2.20E-02	2.20E-02	3.80E-02	pCi/g		-0.28 8.96E-01 -0.98	12/26/03 10:23 a	400.6	400.6	GER8:
NB-94	3.18E-03	U	2.00E-02	2.00E-02	3.72E-02	pCi/g		0.09 2.85E-01 0.32	12/26/03 10:23 a	400.6	400.6	GER8:
PB-212	6.54E-01		1.24E-01	1.24E-01	6.08E-02	pCi/g		(10.8) (10.6)	12/26/03 10:23 a	400.6	400.6	GER8:
PB-214	6.33E-01		1.29E-01	1.29E-01	6.26E-02	pCi/g		(10.1) (9.8)	12/26/03 10:23 a	400.6	400.6	GER8:
RA-228	5.60E-01	U	1.15E-01	1.15E-01	1.76E-01	pCi/g		(3.2) (9.8)	12/26/03 10:23 a	400.6	400.6	GER8:
TL-208	2.24E-01		5.75E-02	5.75E-02	3.92E-02	pCi/g		(5.7) (7.8)	12/26/03 10:23 a	400.6	400.6	GER8:

No. of Results: 18

Comments:

STL Richland
rptSTLrchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-23
Client Sample ID: 9536-0000-017FI

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:25:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs MDC, Rs TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
Batch: 3339269	RICHRC5017				Work Order: F5XEP1AA		Report DB ID: 9F5XEP10					
AC-228	5.07E-01		1.98E-01	1.98E-01	1.52E-01	pCi/g		(3.3)	12/26/03 12:05 p		441.7	GER4:
								(5.1)			g	
AG-108M	-1.64E-03	U	1.61E-02	1.61E-02	2.80E-02	pCi/g		-0.06	12/26/03 12:05 p		441.7	GER4:
							2.86E-01	-0.2			g	
AM-241	-6.13E-02	U	1.34E-01	1.34E-01	2.22E-01	pCi/g		-0.28	12/26/03 12:05 p		441.7	GER4:
							1.03E+00	-0.92			g	
BI-212	8.92E-01	U	5.28E-01	5.28E-01	7.83E-01	pCi/g		(1.1)	12/26/03 12:05 p		441.7	GER4:
								(3.4)			g	
BI-214	4.97E-01		1.20E-01	1.20E-01	7.80E-02	pCi/g		(6.4)	12/26/03 12:05 p		441.7	GER4:
								(8.3)			g	
CO-60	2.20E-02	U	2.35E-02	2.35E-02	4.84E-02	pCi/g		0.46	12/26/03 12:05 p		441.7	GER4:
							1.50E-01	(1.9)			g	
CS-134	4.70E-02	U	3.17E-02	3.17E-02	6.13E-02	pCi/g		0.77	12/26/03 12:05 p		441.7	GER4:
							1.90E-01	(3.)			g	
CS-137	2.21E-03	U	2.62E-02	2.62E-02	4.58E-02	pCi/g		0.05	12/26/03 12:05 p		441.7	GER4:
							3.20E-01	0.17			g	
EU-152	4.04E-02	U	5.91E-02	5.91E-02	1.09E-01	pCi/g		0.37	12/26/03 12:05 p		441.7	GER4:
							4.04E-01	(1.4)			g	
EU-154	4.98E-03	U	6.99E-02	6.99E-02	1.29E-01	pCi/g		0.04	12/26/03 12:05 p		441.7	GER4:
							3.70E-01	0.14			g	

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchSample V4.05 A97 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 U Qual - Analyzed for, but the result is less than the Mdc|Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-23
Client Sample ID: 9536-0000-017FI

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:25:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detecto
EU-155	1.15E-02	U	7.00E-02	7.00E-02	1.23E-01	pCi/g	1.57E+01	0.09 0.33	12/26/03 12:05 p	441.7	g	GER4:
K-40	9.10E+00		1.42E+00	1.42E+00	3.40E-01	pCi/g		(26.8) (12.8)	12/26/03 12:05 p	441.7	g	GER4:
MN-54	8.91E-03	U	2.39E-02	2.39E-02	4.40E-02	pCi/g	6.96E-01	0.2 0.75	12/26/03 12:05 p	441.7	g	GER4:
NB-94	3.25E-03	U	2.13E-02	2.13E-02	3.86E-02	pCi/g	2.85E-01	0.08 0.3	12/26/03 12:05 p	441.7	g	GER4:
PB-212	5.96E-01		1.19E-01	1.19E-01	5.92E-02	pCi/g		(10.1) (10.)	12/26/03 12:05 p	441.7	g	GER4:
PB-214	5.48E-01		1.31E-01	1.31E-01	7.12E-02	pCi/g		(7.7) (8.3)	12/26/03 12:05 p	441.7	g	GER4:
RA-228	4.97E-01		1.20E-01	1.20E-01	7.80E-02	pCi/g		(6.4) (8.3)	12/26/03 12:05 p	441.7	g	GER4:
TL-208	1.86E-01	U	4.95E-02	4.95E-02	7.75E-02	pCi/g		(2.4) (7.5)	12/26/03 12:05 p	441.7	g	GER4:

No. of Results: 18 Comments:

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRichSample V4.05 A97 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-24
Client Sample ID: 9536-0000-018FI

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:32:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs MDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar, Detecto
Batch: 3339269	RICHRC5017			Work Order: F5XEQ1AA			Report DB ID: 9F5XEQ10					
AC-228	8.46E-01		1.93E-01	1.93E-01	1.49E-01	pCi/g		(5.7) (8.7)	12/26/03 12:05 p		379.5 g	GER5:
AG-108M	3.41E-03	U	2.02E-02	2.02E-02	3.62E-02	pCi/g	2.86E-01	0.09 0.34	12/26/03 12:05 p		379.5 g	GER5:
AM-241	1.20E-02	U	5.46E-02	5.46E-02	9.04E-02	pCi/g	1.03E+00	0.13 0.44	12/26/03 12:05 p		379.5 g	GER5:
BI-212	9.66E-01	U	4.42E-01	4.42E-01	8.75E-01	pCi/g		(1.1) (4.4)	12/26/03 12:05 p		379.5 g	GER5:
BI-214	6.22E-01	U	1.40E-01	1.40E-01	2.07E-01	pCi/g		(3.) (8.9)	12/26/03 12:05 p		379.5 g	GER5:
CO-60	-6.44E-03	U	2.44E-02	2.44E-02	4.41E-02	pCi/g	1.50E-01	-0.15 -0.53	12/26/03 12:05 p		379.5 g	GER5:
CS-134	3.36E-02	U	3.33E-02	3.33E-02	6.36E-02	pCi/g	1.90E-01	0.53 (2.)	12/26/03 12:05 p		379.5 g	GER5:
CS-137	7.31E-03	U	3.03E-02	3.03E-02	5.47E-02	pCi/g	3.20E-01	0.13 0.48	12/26/03 12:05 p		379.5 g	GER5:
EU-152	-1.24E-02	U	7.01E-02	7.01E-02	1.22E-01	pCi/g	4.04E-01	-0.1 -0.35	12/26/03 12:05 p		379.5 g	GER5:
EU-154	3.75E-02	U	8.78E-02	8.78E-02	1.85E-01	pCi/g	3.70E-01	0.23 0.85	12/26/03 12:05 p		379.5 g	GER5:

STL Richland MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample V4.05 A97 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc|Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-24
Client Sample ID: 9536-0000-018FI

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:32:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primor Detecto
EU-155	3.46E-02	U	7.09E-02	7.09E-02	1.22E-01	pCi/g		0.28	12/26/03 12:05 p		379.5	GER51
							1.57E+01	0.98			g	
K-40	9.89E+00		1.63E+00	1.63E+00	4.79E-01	pCi/g		(20.6)	12/26/03 12:05 p		379.5	GER51
								(12.2)			g	
MN-54	5.54E-03	U	2.88E-02	2.88E-02	5.19E-02	pCi/g		0.11	12/26/03 12:05 p		379.5	GER51
							6.96E-01	0.39			g	
NB-94	-1.85E-02	U	2.20E-02	2.20E-02	3.51E-02	pCi/g		-0.53	12/26/03 12:05 p		379.5	GER51
							2.85E-01	-(1.7)			g	
PB-212	7.33E-01		1.45E-01	1.45E-01	6.59E-02	pCi/g		(11.1)	12/26/03 12:05 p		379.5	GER51
								(10.2)			g	
PB-214	6.44E-01		1.57E-01	1.57E-01	8.70E-02	pCi/g		(7.4)	12/26/03 12:05 p		379.5	GER51
								(8.2)			g	
RA-226	6.22E-01		1.40E-01	1.40E-01	8.54E-02	pCi/g		(7.3)	12/26/03 12:05 p		379.5	GER51
								(8.9)			g	
TL-208	2.56E-01		7.28E-02	7.28E-02	3.71E-02	pCi/g		(6.9)	12/26/03 12:05 p		379.5	GER51
								(7.)			g	

No. of Results: 18

Comments:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|c qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-25
Client Sample ID: 9536-0000-019FI

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:33:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs VMDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detect
Batch: 3339269	RICHRC5017				Work Order: F5XEVI1AA		Report DB ID: 9F5XEVI10					
AC-228	5.66E-01		1.98E-01	1.98E-01	1.56E-01	pCi/g		(3.6) (5.7)	12/26/03 12:05 p		354.3 g	GER6:
AG-108M	4.47E-03	U	2.15E-02	2.15E-02	3.79E-02	pCi/g		0.12 2.86E-01 0.42	12/26/03 12:05 p		354.3 g	GER6:
AM-241	4.40E-03	U	7.64E-02	7.64E-02	1.34E-01	pCi/g		0.03 1.03E+00 0.12	12/26/03 12:05 p		354.3 g	GER6:
BI-212	8.45E-01	U	4.68E-01	4.68E-01	9.04E-01	pCi/g		0.93 (3.6)	12/26/03 12:05 p		354.3 g	GER6:
BI-214	4.23E-01	U	1.17E-01	1.17E-01	1.89E-01	pCi/g		(2.2) (7.2)	12/26/03 12:05 p		354.3 g	GER6:
CO-60	-1.72E-02	U	3.00E-02	3.00E-02	5.07E-02	pCi/g		-0.34 1.50E-01 -(1.2)	12/26/03 12:05 p		354.3 g	GER6:
CS-134	5.20E-02	U	3.16E-02	3.16E-02	6.39E-02	pCi/g		0.81 1.90E-01 (3.3)	12/26/03 12:05 p		354.3 g	GER6:
CS-137	1.10E-02	U	2.88E-02	2.88E-02	5.27E-02	pCi/g		0.21 3.20E-01 0.76	12/26/03 12:05 p		354.3 g	GER6:
EU-152	-8.92E-02	U	6.89E-02	6.89E-02	1.05E-01	pCi/g		-0.85 4.04E-01 -(2.6)	12/26/03 12:05 p		354.3 g	GER6:
EU-154	4.59E-03	U	8.51E-02	8.51E-02	1.57E-01	pCi/g		0.03 3.70E-01 0.11	12/26/03 12:05 p		354.3 g	GER6:

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/20/2003 1:33:00 PM

Lot-Sample No.: J3L030200-25

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-019FI

COC No.: 2003-00240

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
EU-155	-4.18E-03	U	6.76E-02	6.76E-02	1.13E-01	pCl/g		-0.04	12/26/03 12:05 p		354.3	GER6!
							1.57E+01	-0.12			g	
K-40	9.94E+00		1.62E+00	1.62E+00	4.17E-01	pCl/g		(23.8)	12/26/03 12:05 p		354.3	GER6!
								(12.2)			g	
MN-54	-9.12E-03	U	2.68E-02	2.68E-02	4.66E-02	pCl/g		-0.2	12/26/03 12:05 p		354.3	GER6!
							6.96E-01	-0.68			g	
NB-94	1.47E-02	U	2.16E-02	2.16E-02	4.25E-02	pCl/g		0.35	12/26/03 12:05 p		354.3	GER6!
							2.85E-01	(1.4)			g	
PB-212	6.17E-01		1.33E-01	1.33E-01	8.98E-02	pCl/g		(6.9)	12/26/03 12:05 p		354.3	GER6!
								(9.3)			g	
PB-214	6.58E-01		1.39E-01	1.39E-01	7.73E-02	pCl/g		(8.5)	12/26/03 12:05 p		354.3	GER6!
								(9.5)			g	
RA-226	4.23E-01	U	1.17E-01	1.17E-01	1.89E-01	pCl/g		(2.2)	12/26/03 12:05 p		354.3	GER6!
								(7.2)			g	
TL-208	2.15E-01		6.32E-02	6.32E-02	4.19E-02	pCl/g		(5.1)	12/26/03 12:05 p		354.3	GER6!
								(6.8)			g	

No. of Results: 18

Comments:

STL Richland

rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/20/2003 1:39:00 PM

Lot-Sample No.: J3L030200-26

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-020FI

COC No.: 2003-00240

Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unll, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
Batch: 3339269	RICHRCS017				Work Order: F5XEW1AA		Report DB ID: 9F5XEW10					
AC-228	8.11E-01	U	2.44E-01	2.44E-01	4.03E-01	pCi/g		(2.) (6.6)	12/26/03 12:05 p		282.1	GER7!
AG-108M	2.60E-03	U	2.57E-02	2.57E-02	4.62E-02	pCi/g	2.86E-01	0.06	12/26/03 12:05 p		282.1	GER7!
AM-241	3.76E-02	U	1.08E-01	1.08E-01	1.86E-01	pCi/g	1.03E+00	0.2	12/26/03 12:05 p		282.1	GER7!
BI-212	1.25E+00	U	5.41E-01	5.41E-01	1.10E+00	pCi/g		(1.1) (4.6)	12/26/03 12:05 p		282.1	GER7!
BI-214	5.95E-01	U	1.59E-01	1.59E-01	2.37E-01	pCi/g		(2.5) (7.5)	12/26/03 12:05 p		282.1	GER7!
CO-60	9.74E-03	U	2.63E-02	2.63E-02	5.42E-02	pCi/g	1.50E-01	0.18	12/26/03 12:05 p		282.1	GER7!
CS-134	2.41E-02	U	3.49E-02	3.49E-02	6.75E-02	pCi/g	1.90E-01	0.36	12/26/03 12:05 p		282.1	GER7!
CS-137	3.97E-01		8.51E-02	8.51E-02	6.11E-02	pCi/g	3.20E-01	(6.5) (9.3)	12/26/03 12:05 p		282.1	GER7!
EU-152	-8.09E-02	U	8.54E-02	8.54E-02	1.38E-01	pCi/g		-0.44	12/26/03 12:05 p		282.1	GER7!
EU-154	-5.88E-04	U	9.32E-02	9.32E-02	1.74E-01	pCi/g	4.04E-01	-(1.4) 0.	12/26/03 12:05 p		282.1	GER7!
							3.70E-01	-0.01			g	

STL Richland

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample
V4.05 A97

J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-26
Client Sample ID: 9536-0000-020FI

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:39:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs MDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectc
EU-155	1.35E-02	U	8.51E-02	8.51E-02	1.50E-01	pCl/g		0.09	12/26/03 12:05 p		282.1	GER7:
							1.57E+01	0.32			g	
K-40	1.03E+01		1.76E+00	1.76E+00	4.82E-01	pCl/g		(21.3)	12/26/03 12:05 p		282.1	GER7:
								(11.7)			g	
MN-54	2.11E-03	U	3.24E-02	3.24E-02	5.85E-02	pCl/g		0.04	12/26/03 12:05 p		282.1	GER7:
							6.96E-01	0.13			g	
NB-94	-1.08E-03	U	2.59E-02	2.59E-02	4.81E-02	pCl/g		-0.02	12/26/03 12:05 p		282.1	GER7:
							2.85E-01	-0.08			g	
PB-212	8.01E-01		1.55E-01	1.55E-01	7.94E-02	pCl/g		(10.1)	12/26/03 12:05 p		282.1	GER7:
								(10.3)			g	
PB-214	8.00E-01		1.85E-01	1.85E-01	1.12E-01	pCl/g		(7.1)	12/26/03 12:05 p		282.1	GER7:
								(8.6)			g	
RA-228	5.95E-01	U	1.59E-01	1.59E-01	2.37E-01	pCl/g		(2.5)	12/26/03 12:05 p		282.1	GER7:
								(7.5)			g	
TL-208	2.80E-01	U	6.72E-02	6.72E-02	1.10E-01	pCl/g		(2.6)	12/26/03 12:05 p		282.1	GER7:
								(8.3)			g	

No. of Results: 18 Comments:

STL Richland MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-27
Client Sample ID: 9536-0000-021F1

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:40:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primr Detect
Batch: 3339269	RICHRC5017			Work Order: F5XE91AA			Report DB ID: 9F5XE910					
AC-228	8.04E-01		1.94E-01	1.94E-01	1.59E-01	pCi/g		(5.) (8.3)	12/26/03 12:06 p		349.3 g	GER81
AG-108M	-4.68E-04	U	2.17E-02	2.17E-02	3.76E-02	pCi/g	2.86E-01	-0.01 -0.04	12/26/03 12:06 p		349.3 g	GER81
AM-241	9.28E-02	U	6.49E-02	6.49E-02	9.86E-02	pCi/g	1.03E+00	0.94 (2.9)	12/26/03 12:06 p		349.3 g	GER81
BI-212	9.95E-01	U	5.43E-01	5.43E-01	7.81E-01	pCi/g		(1.3) (3.7)	12/26/03 12:06 p		349.3 g	GER81
BI-214	7.77E-01		1.43E-01	1.43E-01	8.69E-02	pCi/g		(8.9) (10.9)	12/26/03 12:06 p		349.3 g	GER81
CO-60	-1.23E-02	U	2.76E-02	2.76E-02	4.81E-02	pCi/g	1.50E-01	-0.26 -0.89	12/26/03 12:06 p		349.3 g	GER81
CS-134	3.80E-02	U	2.96E-02	2.96E-02	5.83E-02	pCi/g	1.90E-01	0.65 (2.6)	12/26/03 12:06 p		349.3 g	GER81
CS-137	6.39E-02	J	4.48E-02	4.48E-02	4.57E-02	pCi/g	3.20E-01	(1.4) (2.9)	12/26/03 12:06 p		349.3 g	GER81
EU-152	-5.31E-03	U	7.11E-02	7.11E-02	1.17E-01	pCi/g	4.04E-01	-0.05 -0.15	12/26/03 12:06 p		349.3 g	GER81
EU-154	3.55E-02	U	8.35E-02	8.35E-02	1.61E-01	pCi/g	3.70E-01	0.22 0.85	12/26/03 12:06 p		349.3 g	GER81

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample V4.05 A97 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I
SAMPLE RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Lot-Sample No.: J3L030200-27
Client Sample ID: 9536-0000-021F1

SDG: 24641
Report No.: 24554
COC No.: 2003-00240

Collection Date: 11/20/2003 1:40:00 PM
Received Date: 12/1/2003 10:50:00 AM
Matrix: SOIL

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detecto
EU-155	5.48E-02	U	7.04E-02	7.04E-02	1.24E-01	pCi/g		0.44	12/26/03 12:06 p		349.3	GER8:
							1.57E+01	(1.6)			g	
K-40	1.11E+01		1.68E+00	1.68E+00	4.24E-01	pCi/g		(26.2)	12/26/03 12:06 p		349.3	GER8:
								(13.2)			g	
MN-54	-5.35E-03	U	2.47E-02	2.47E-02	4.41E-02	pCi/g		-0.12	12/26/03 12:06 p		349.3	GER8:
							6.96E-01	-0.43			g	
NB-94	8.59E-03	U	2.29E-02	2.29E-02	4.35E-02	pCi/g		0.2	12/26/03 12:06 p		349.3	GER8:
							2.85E-01	0.75			g	
PB-212	7.45E-01		1.41E-01	1.41E-01	7.09E-02	pCi/g		(10.5)	12/26/03 12:06 p		349.3	GER8:
								(10.6)			g	
PB-214	8.49E-01		1.58E-01	1.58E-01	8.15E-02	pCi/g		(10.4)	12/26/03 12:06 p		349.3	GER8:
								(10.8)			g	
RA-226	7.77E-01		1.43E-01	1.43E-01	8.69E-02	pCi/g		(8.9)	12/26/03 12:06 p		349.3	GER8:
								(10.9)			g	
TL-208	3.21E-01	U	7.08E-02	7.08E-02	9.62E-02	pCi/g		(3.3)	12/26/03 12:06 p		349.3	GER8:
								(9.1)			g	

No. of Results: 18 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rptSTLRchSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

Date: 30-Dec-03

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/20/2003 1:40:00 PM

Lot-Sample No.: J3L030200-27

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-021FI

COC No.: 2003-00240

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Count Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primar Detect
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STL Richland

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample
V4.05 A97

J Qual - No U|c qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 30-Dec-03

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/20/2003 2:05:00 PM

Lot-Sample No.: J3L030200-1

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-001F01 DUP

COC No.: 2003-00238

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 3339267	RICHR5017				Work Order: F5XCQ1AC		Report DB ID: F5XCQ1CR		Orig Sa DB ID: 9F5XCQ10			
AC-228	7.50E-01	U	1.90E-01	1.90E-01	3.26E-01	pCi/g		(2.3)	12/27/03 01:14 p	388.8		GER7\$1
	5.75E-01	U	RER2 1.3					(7.9)			g	
AG-108M	1.50E-02	U	1.91E-02	1.91E-02	3.58E-02	pCi/g		0.42	12/27/03 01:14 p	388.8		GER7\$1
	1.73E-02	U	RER2 0.2			2.86E-01		(1.6)			g	
AM-241	-3.98E-02	U	9.18E-02	9.18E-02	1.52E-01	pCi/g		-0.26	12/27/03 01:14 p	388.8		GER7\$1
	-5.04E-02	U	RER2 0.1			1.03E+00		-0.87			g	
BI-212	7.69E-01	U	4.14E-01	4.14E-01	8.13E-01	pCi/g		0.94	12/27/03 01:14 p	388.8		GER7\$1
	6.26E-01	U	RER2 0.5					(3.7)			g	
BI-214	5.77E-01	U	1.48E-01	1.48E-01	1.98E-01	pCi/g		(2.9)	12/27/03 01:14 p	388.8		GER7\$1
	5.43E-01	U	RER2 0.3					(7.8)			g	
CO-60	7.69E-03	U	2.72E-02	2.72E-02	5.25E-02	pCi/g		0.15	12/27/03 01:14 p	388.8		GER7\$1
	9.00E-03	U	RER2 0.1			1.50E-01		0.57			g	
CS-134	2.34E-03	U	2.73E-02	2.73E-02	4.99E-02	pCi/g		0.05	12/27/03 01:14 p	388.8		GER7\$1
	3.49E-02	U	RER2 1.6			1.90E-01		0.17			g	
CS-137	2.70E-02	U	2.95E-02	2.95E-02	5.55E-02	pCi/g		0.49	12/27/03 01:14 p	388.8		GER7\$1
	2.27E-02	U	RER2 0.2			3.20E-01		(1.8)			g	
EU-152	-2.06E-02	U	6.59E-02	6.59E-02	1.14E-01	pCi/g		-0.18	12/27/03 01:14 p	388.8		GER7\$1
	3.45E-02	U	RER2 1.2			4.04E-01		-0.63			g	
EU-154	-6.29E-02	U	8.04E-02	8.04E-02	1.30E-01	pCi/g		-0.48	12/27/03 01:14 p	388.8		GER7\$1
	-1.47E-02	U	RER2 0.8			3.70E-01		-(1.6)			g	
EU-155	3.66E-02	U	7.18E-02	7.18E-02	1.27E-01	pCi/g		0.29	12/27/03 01:14 p	388.8		GER7\$1
	5.82E-02	U	RER2 0.4			1.57E+01		(1.)			g	

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt((sq(TPU_s)+sq(TPU_d)))] as defined by ICPT BOA.

rplSTLRchDupV4.0 MDC|MDA,Le - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

5 A97 U Qual - Analyzed for, but the result is less than the Mdc|Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 30-Dec-03

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/20/2003 2:05:00 PM

Lot-Sample No.: J3L030200-1

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-001F01 DUP

COC No.: 2003-00238

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst MDC, Rst/TotUcert	Analys, Prep Date	Total Sa Size	Allquot Size	Primary Detector
K-40	1.14E+01		1.73E+00	1.73E+00	2.80E-01	pCi/g		(40.7)	12/27/03 01:14 p	388.8	g	GER7\$1
	9.40E+00		RER2 1.7					(13.2)			g	
MN-54	4.43E-03	U	2.67E-02	2.67E-02	4.88E-02	pCi/g		0.09	12/27/03 01:14 p	388.8	g	GER7\$1
	1.15E-02	U	RER2 0.4			6.96E-01		0.33			g	
NB-94	1.59E-02	U	2.55E-02	2.55E-02	4.84E-02	pCi/g		0.33	12/27/03 01:14 p	388.8	g	GER7\$1
	-3.25E-03	U	RER2 1.1			2.85E-01		(1.2)			g	
PB-212	7.01E-01		1.31E-01	1.31E-01	6.55E-02	pCi/g		(10.7)	12/27/03 01:14 p	388.8	g	GER7\$1
	6.52E-01		RER2 0.5					(10.7)			g	
PB-214	6.80E-01		1.33E-01	1.33E-01	8.85E-02	pCi/g		(7.7)	12/27/03 01:14 p	388.8	g	GER7\$1
	7.03E-01		RER2 0.2					(10.2)			g	
RA-226	5.77E-01		1.48E-01	1.48E-01	7.89E-02	pCi/g		(7.3)	12/27/03 01:14 p	388.8	g	GER7\$1
	5.43E-01		RER2 0.3					(7.8)			g	
TL-208	1.82E-01		6.61E-02	6.61E-02	4.69E-02	pCi/g		(3.9)	12/27/03 01:14 p	388.8	g	GER7\$1
	1.64E-01		RER2 0.4					(5.5)			g	

No. of Results: 18 Comments:

STL Richland RER2 - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(\text{TPUs})+\text{sq}(\text{TPUd}))]$ as defined by ICPT BOA.

rptSTLRchDupV4.0 MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

5 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 30-Dec-03

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: 24641

Collection Date: 11/21/2003 9:45:00 AM

Lot-Sample No.: J3L030200-15

Report No.: 24554

Received Date: 12/1/2003 10:50:00 AM

Client Sample ID: 9536-0000-011F DUP

COC No.: 2003-00239

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 3339269	RICHRC5017				Work Order: F5XD61AC		Report DB ID: F5XD61CR		Orig Sa DB ID: 9F5XD610			
AC-228	4.56E-01		2.37E-01	2.37E-01	1.57E-01	pCi/g		(2.9)	12/26/03 10:22 a	436.8	g	GER5\$1
	6.72E-01		RER2 1.4					(3.9)		g		
AG-108M	2.63E-03	U	2.00E-02	2.00E-02	3.55E-02	pCi/g		0.07	12/26/03 10:22 a	436.8	g	GER5\$1
	9.59E-03	U	RER2 0.5			2.86E-01		0.26		g		
AM-241	8.43E-03	U	4.94E-02	4.94E-02	8.16E-02	pCi/g		0.1	12/26/03 10:22 a	436.8	g	GER5\$1
	6.15E-03	U	RER2 0.0			1.03E+00		0.34		g		
BI-212	6.66E-01	U	3.88E-01	3.88E-01	7.54E-01	pCi/g		0.88	12/26/03 10:22 a	436.8	g	GER5\$1
	7.26E-01	U	RER2 0.2					(3.4)		g		
BI-214	5.63E-01	U	1.28E-01	1.28E-01	1.83E-01	pCi/g		(3.1)	12/26/03 10:22 a	436.8	g	GER5\$1
	6.97E-01	U	RER2 1.4					(8.8)		g		
CO-60	4.78E-03	U	2.18E-02	2.18E-02	4.21E-02	pCi/g		0.11	12/26/03 10:22 a	436.8	g	GER5\$1
	2.66E-02	U	RER2 1.2			1.50E-01		0.44		g		
CS-134	5.10E-02	U	2.96E-02	2.96E-02	5.86E-02	pCi/g		0.87	12/26/03 10:22 a	436.8	g	GER5\$1
	6.31E-02	U	RER2 0.6			1.90E-01		(3.4)		g		
CS-137	3.70E-02	U	2.66E-02	2.66E-02	5.16E-02	pCi/g		0.72	12/26/03 10:22 a	436.8	g	GER5\$1
	1.34E-02	U	RER2 1.2			3.20E-01		(2.8)		g		
EU-152	-9.87E-03	U	6.24E-02	6.24E-02	1.09E-01	pCi/g		-0.09	12/26/03 10:22 a	436.8	g	GER5\$1
	-4.31E-03	U	RER2 0.1			4.04E-01		-0.32		g		
EU-154	3.86E-02	U	7.05E-02	7.05E-02	1.36E-01	pCi/g		0.28	12/26/03 10:22 a	436.8	g	GER5\$1
	-5.68E-03	U	RER2 0.9			3.70E-01		(1.1)		g		
EU-155	6.60E-02	U	6.09E-02	6.09E-02	1.07E-01	pCi/g		0.62	12/26/03 10:22 a	436.8	g	GER5\$1
	8.98E-02	U	RER2 0.5			1.57E+01		(2.2)		g		

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt((sq(TPU)) + sq(TPI/d))] as defined by ICPT R0A.

rptSTLRchDupV4.0 MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

5 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 30-Dec-03

DUPLICATE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: J3L030200-15
 Client Sample ID: 9536-0000-011F DUP

SDG: 24641
 Report No.: 24554
 COC No.: 2003-00239

Collection Date: 11/21/2003 9:45:00 AM
 Received Date: 12/1/2003 10:50:00 AM
 Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
K-40	1.01E+01		1.53E+00	1.53E+00	3.26E-01	pCi/g		(30.8)	12/26/03 10:22 a		436.8	GER5\$1
	9.94E+00		RER2 0.1					(13.2)			g	
MN-54	1.60E-03	U	2.62E-02	2.62E-02	4.66E-02	pCi/g		0.03	12/26/03 10:22 a		436.8	GER5\$1
	1.39E-02	U	RER2 0.7			6.96E-01		0.12			g	
NB-94	-1.86E-03	U	2.04E-02	2.04E-02	3.62E-02	pCi/g		-0.05	12/26/03 10:22 a		436.8	GER5\$1
	-1.46E-02	U	RER2 0.8			2.85E-01		-0.18			g	
PB-212	6.13E-01		1.23E-01	1.23E-01	5.94E-02	pCi/g		(10.3)	12/26/03 10:22 a		436.8	GER5\$1
	6.70E-01		RER2 0.6					(9.9)			g	
PB-214	5.65E-01		1.57E-01	1.57E-01	7.52E-02	pCi/g		(7.5)	12/26/03 10:22 a		436.8	GER5\$1
	7.12E-01		RER2 1.4					(7.2)			g	
RA-226	5.63E-01		1.28E-01	1.28E-01	7.50E-02	pCi/g		(7.5)	12/26/03 10:22 a		436.8	GER5\$1
	6.97E-01		RER2 1.4					(8.8)			g	
TL-208	2.50E-01	U	5.93E-02	5.93E-02	8.40E-02	pCi/g		(3.)	12/26/03 10:22 a		436.8	GER5\$1
	2.21E-01	U	RER2 0.7					(8.4)			g	

No. of Results: 18 Comments:

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt((sq(TPUs)+sq(TPUD)))] as defined by ICPT BOA.

rp|STLRchDupV4.0 MDC|MDA,Le - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

5 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II
BLANK RESULTS

Date: 30-Dec-03

Lab Name: STL Richland

SDG: 24641

Matrix: SOIL

Report No. : 24554

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
MN-54	1.62E-03	U	3.79E-02	3.79E-02	7.03E-02	pCi/g		0.02	12/29/03 10:54 a		200.1	GER6\$1
						6.96E-01		0.09			g	
NB-94	-3.70E-02	U	3.71E-02	3.71E-02	5.84E-02	pCi/g		-0.63	12/29/03 10:54 a		200.1	GER6\$1
						2.85E-01		-(2.)			g	
PB-212	-1.79E-02	U	4.55E-02	4.55E-02	7.80E-02	pCi/g		-0.23	12/29/03 10:54 a		200.1	GER6\$1
								-0.79			g	
PB-214	6.98E-02	U	7.58E-02	7.58E-02	1.41E-01	pCi/g		0.49	12/29/03 10:54 a		200.1	GER6\$1
								(1.8)			g	
RA-226	7.66E-02	U	8.71E-02	8.71E-02	1.61E-01	pCi/g		0.47	12/29/03 10:54 a		200.1	GER6\$1
								(1.8)			g	
TL-208	1.91E-02	U	3.41E-02	3.41E-02	6.76E-02	pCi/g		0.28	12/29/03 10:54 a		200.1	GER6\$1
								(1.1)			g	
Batch: 3339269	RICHRC5017				Work Order: F53WR1AA			Report DB ID: F53WR1AB				
AC-228	3.24E-03	U	1.32E-01	1.32E-01	2.61E-01	pCi/g		0.01	12/26/03 01:53 p		200.0	GER6\$1
								0.05			g	
AG-108M	-6.89E-04	U	2.33E-02	2.33E-02	4.19E-02	pCi/g		-0.02	12/26/03 01:53 p		200.0	GER6\$1
								-0.06			g	
AM-241	2.70E-02	U	7.01E-02	7.01E-02	1.31E-01	pCi/g		0.21	12/26/03 01:53 p		200.0	GER6\$1
								0.77			g	
BI-212	-6.45E-02	U	4.16E-01	4.16E-01	7.52E-01	pCi/g		-0.09	12/26/03 01:53 p		200.0	GER6\$1
								-0.31			g	
BI-214	-7.78E-02	U	6.82E-02	6.82E-02	1.19E-01	pCi/g		-0.65	12/26/03 01:53 p		200.0	GER6\$1
								-(2.3)			g	
CO-60	3.81E-03	U	2.88E-02	2.88E-02	5.91E-02	pCi/g		0.06	12/26/03 01:53 p		200.0	GER6\$1
						1.52E-01		0.26			g	

STL Richland
rptSTLRchBlank
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc|MDa|Total Uncert or gamma scan software did not identify the nuclide.

FORM II
BLANK RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Matrix: SOIL

SDG: 24641

Report No. : 24554

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, RsVTotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
CS-134	-1.45E-02	U	2.90E-02	2.90E-02	5.08E-02	pCi/g		-0.29	12/26/03 01:53 p		200.0	GER6\$1
						1.87E-01		-(1.)			g	
CS-137	7.89E-03	U	2.78E-02	2.78E-02	5.44E-02	pCi/g		0.14	12/26/03 01:53 p		200.0	GER6\$1
						3.16E-01		0.57			g	
EU-152	7.05E-02	U	7.27E-02	7.27E-02	1.45E-01	pCi/g		0.49	12/26/03 01:53 p		200.0	GER6\$1
						4.04E-01		(1.9)			g	
EU-154	2.43E-02	U	8.55E-02	8.55E-02	1.78E-01	pCi/g		0.14	12/26/03 01:53 p		200.0	GER6\$1
						3.72E-01		0.57			g	
EU-155	1.23E-02	U	6.16E-02	6.16E-02	1.10E-01	pCi/g		0.11	12/26/03 01:53 p		200.0	GER6\$1
						1.57E+01		0.4			g	
K-40	-1.42E+00	U	6.51E-01	6.51E-01	1.38E+00	pCi/g		-(1.)	12/26/03 01:53 p		200.0	GER6\$1
								-(4.4)			g	
MN-54	-2.77E-02	U	2.58E-02	2.58E-02	3.92E-02	pCi/g		-0.71	12/26/03 01:53 p		200.0	GER6\$1
						6.96E-01		-(2.1)			g	
NB-94	-2.50E-02	U	3.16E-02	3.16E-02	5.15E-02	pCi/g		-0.49	12/26/03 01:53 p		200.0	GER6\$1
						2.85E-01		-(1.6)			g	
PB-212	-3.12E-02	U	4.73E-02	4.73E-02	8.07E-02	pCi/g		-0.39	12/26/03 01:53 p		200.0	GER6\$1
								-(1.3)			g	
PB-214	-3.02E-02	U	6.48E-02	6.48E-02	1.09E-01	pCi/g		-0.28	12/26/03 01:53 p		200.0	GER6\$1
								-0.93			g	
RA-226	-7.80E-02	U	6.82E-02	6.82E-02	1.19E-01	pCi/g		-0.65	12/26/03 01:53 p		200.0	GER6\$1
								-(2.3)			g	
TL-208	-2.52E-02	U	3.07E-02	3.07E-02	5.53E-02	pCi/g		-0.46	12/26/03 01:53 p		200.0	GER6\$1
								-(1.6)			g	

STL Richland
rptSTLRchBlank
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

STL-RICHLAND

FORM II
BLANK RESULTS

Date: 30-Dec-03

Lab Name: STL Richland
Matrix: SOIL

SDG: 24641
Report No.: 24554

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
No. of Results: 36	Comments:											

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
rp|STLRchBlank
V4.05 A97

FORM II
LCS RESULTS

Date: 30-Dec-03

Lab Name: STL Richland

SDG: 24641

Matrix: SOIL

Report No.: 24554

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Allquot Size	Primary Detector
Batch: 3339287	RICHRC5017					Work Order: F53WC1AC		Report DB ID: F53WC1CS					
CS-137	1.22E+00		1.94E-01	1.94E-01	6.68E-02	pCi/g		1.02E+00	3.55E-02	120%	12/29/03 10:55 a	200.1	GER7\$1
							Rec Limits:	70	130	0.2		g	
Batch: 3339269	RICHRC5017					Work Order: F53WR1AC		Report DB ID: F53WR1CS					
CS-137	1.12E+00		1.70E-01	1.70E-01	4.92E-02	pCi/g		1.02E+00	3.55E-02	110%	12/26/03 01:54 p	200.0	GER8\$1
							Rec Limits:	70	130	0.1		g	
No. of Results: 2		Comments:											

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rptSTLrchLcs
V4.05 A97

Q-55733 (YA.1) 12.31

036030200 801 24641

Connecticut Yankee Atomic Power Company

362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556

Chain of Custody Form

No. 2003-00238

gamma only

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Pete Hollenbeck 860-267-3923						FSSGAM - gamma only	FSS ALL	FSSHID	FSSTRU	FSSOTHR	Comments: * = SAMPLES IN THIS COOLER 790483028637			
Analytical Lab (Name, City, State): Severn Trent Laboratories 2800 George Washington Way Richland, WA 99352														
Priority: <input checked="" type="checkbox"/> 45 D. <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input type="checkbox"/> 7 D. Other:														
Sample Designation	Date	Time								Comment, Preservation	Lab Sample ID			
* 9536-0000-001F01	11/20/03	1405	TS	G	BP	X					F5XLC0			
* 9536-0000-001F02	11/20/03	1414	TS	C	BP	X					F5XC4			
* 9536-0000-002F	11/21/03	0900	TS	C	BP	X					F5XC7			
* 9536-0000-003F	11/21/03	0905	TS	G	BP	X					F5XDA			
* 9536-0000-004F	11/21/03	0910	TS	G	BP	X					F5XDD			
* 9536-0000-004FS	11/21/03	0910	TS	G	BP	X					F5XDJ			
* 9536-0000-005F	11/21/03	0918	TS	G	BP	X					F5XDN			
* 9536-0000-006F01	11/21/03	0902	TS	G	BP	X					F5XDR			
* 9536-0000-006F02	11/21/03	0913	TS	C	BP	X					F5XDV			
* 9536-0000-007F	11/21/03	0938	TS	G	BP	X					F5XDX			
NOTES: PO #: 002133 MSR #: 03-1890 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA						Samples Shipped Via: <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other _____			Internal Container Temp.: _____ Deg. Custody Sealed? Y N Custody Seal Intact Y N					
1) Relinquished By: <i>[Signature]</i> Date/Time: 11/26/03 12:00			2) Received By: <i>[Signature]</i> Date/Time: 11/26/03 10:50			Bill of Lading # _____								
3) Relinquished By: _____ Date/Time: _____			4) Received By: _____ Date/Time: _____											
5) Relinquished By: _____ Date/Time: _____			6) Received By: _____ Date/Time: _____											

Connecticut Yankee Atomic Power Company

362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556

Chain of Custody Form

No. 2003-00239

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Pete Hollenbeck 860-267-3923						FSSGAM	FSS ALL	FSSHTD	FSSSTRU	FSSOTHR	Comments: 790483028637			
Analytical Lab (Name, City, State): Severn Trent Laboratories 2800 George Washington Way Richland, WA 99352														
Priority: <input checked="" type="checkbox"/> 45 D. <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input type="checkbox"/> 7 D. Other:														
Sample Designation	Date	Time								Comment, Preservation	Lab Sample ID			
9536-0000-008F	11/21/03	0928	TS	G	BP	X					F5XD1			
9536-0000-009F01	11/21/03	0933	TS	G	BP	X					F5XD3			
9536-0000-009F02	11/21/03	0953	TS	C	BP	X					F5XD4			
9536-0000-010F	11/21/03	0930	TS	G	BP	X					F5XD5			
9536-0000-011F	11/21/03	0945	TS	G	BP	X					F5XD6			
9536-0000-012F	11/21/03	1012	TS	G	BP	X					F5XD7			
9536-0000-013F	11/21/03	0940	TS	G	BP	X					F5XD8			
9536-0000-013FS	11/21/03	0940	TS	G	BP	X					F5XD9			
9536-0000-014F	11/21/03	1020	TS	G	BP	X					F5XEA			
9536-0000-015F01	11/21/03	1015	TS	G	BP	X					F5XEE			
NOTES: PO #: 002133 MSR #: 03-1890 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA						Samples Shipped Via: <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other _____			Internal Container Temp.: ____ Deg. Custody Sealed? Y N Custody Seal Intac Y N					
1) Relinquished By <i>John D. Smith</i>		Date/Time (2006) 11/26/03		2) Received By <i>[Signature]</i>		Date/Time 12/01/03 @ 10:50								
3) Relinquished By		Date/Time		4) Received By		Date/Time		Bill of Lading #						
5) Relinquished By		Date/Time		6) Received By		Date/Time								

Connecticut Yankee Atomic Power Company

362 Injun Hollow Road, East Hampton, CT 06424
860-267-2556

Chain of Custody Form

No. 2003-00240

Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested					Lab Use Only			
Contact Name & Phone: Pete Hollenbeck 860-267-3923						FSSGAM	FSS ALL	FSSHID	FSSSTRU	FSSOTHR	Comments: * = SAMPLES IN THIS COOLER 790483028637			
Analytical Lab (Name, City, State): Severn Trent Laboratories 2800 George Washington Way Richland, WA 99352														
Priority: <input checked="" type="checkbox"/> 45 D. <input type="checkbox"/> 30 D. <input type="checkbox"/> 15 D. <input type="checkbox"/> 7 D. Other:														
Sample Designation	Date	Time								Comment, Preservation	Lab Sample ID			
✓* 9536-0000-015F02	11/21/03	1028	TS	C	BP	X					F5XEJ			
✓* 9536-0000-016FI	11/20/03	1332	TS	G	BP	X					F5XEL			
✓* 9536-0000-017FI	11/20/03	1325	TS	G	BP	X					F5XEP			
✓* 9536-0000-018FI	11/20/03	1332	TS	G	BP	X					F5XEQ			
✓* 9536-0000-019FI	11/20/03	1333	TS	G	BP	X					F5XEV			
✓* 9536-0000-020FI	11/20/03	1339	TS	G	BP	X					F5XEW			
✓* 9536-0000-021FI	11/20/03	1340	TS	G	BP	X					F5XE9			
NOTES: PO #: 002133 MSR #: 03-1890 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA											Samples Shipped Via: <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other _____			
1) Relinquished By <i>[Signature]</i> Date/Time (260) 11/24/03			2) Received By <i>[Signature]</i> <i>1100 PL</i> Date/Time 12/01/03 10:50			Internal Container Temp.: _____ Deg. Custody Sealed? Y N Custody Seal Intact Y N Bill of Lading # _____								
3) Relinquished By _____ Date/Time _____			4) Received By _____ Date/Time _____											
5) Relinquished By _____ Date/Time _____			6) Received By _____ Date/Time _____											

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 2b
Hard-To-Detect Data
(31 Pages)

Received 2/19/04

Analytical Data Package Prepared For

Connecticut Yankee

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99352, (509)-375-3131.

Assigned Laboratory Code: STLR

Data Package Contains 31 Pages

Report No.: 24916

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
24921		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AK	9F7PRF10	4012334
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AE	9F7PRF10	4012336
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AF	9F7PRF10	4012337
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AG	9F7PRF10	4012340
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AH	9F7PRF10	4012341
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AC	9F7PRF10	4012343
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AJ	9F7PRF10	4012345
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF1AD	9F7PRF10	4012347
		9536-0000-012F (F5XD7)	J4A080282-1	F7PRF2AA	9F7PRF20	4022536
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AK	9F7PTD10	4012334
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AE	9F7PTD10	4012336
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AF	9F7PTD10	4012337
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AG	9F7PTD10	4012340
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AH	9F7PTD10	4012341
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AC	9F7PTD10	4012343
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AJ	9F7PTD10	4012345
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD1AD	9F7PTD10	4012347
		9536-0000-013F (F5XD8)	J4A080282-2	F7PTD2AA	9F7PTD20	4022536
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AK	9F7PTH10	4012334
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AE	9F7PTH10	4012336
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AF	9F7PTH10	4012337
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AG	9F7PTH10	4012340
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AH	9F7PTH10	4012341
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AC	9F7PTH10	4012343
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AJ	9F7PTH10	4012345
		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH1AD	9F7PTH10	4012347

Report No.: 24916

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
24921		9537-0000-001F (F5XFG)	J4A080282-3	F7PTH2AA	9F7PTH20	4022536
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AK	9F7PTJ10	4012334
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AE	9F7PTJ10	4012336
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AF	9F7PTJ10	4012337
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AG	9F7PTJ10	4012340
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AH	9F7PTJ10	4012341
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AC	9F7PTJ10	4012343
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AJ	9F7PTJ10	4012345
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ1AD	9F7PTJ10	4012347
		9537-0000-014F01 (F5XHM)	J4A080282-4	F7PTJ2AA	9F7PTJ20	4022536

STL Richland
2800 George Washington Way
Richland, WA 99352

Tel: 509 375 3131 Fax: 509 375 5590
www.stl-inc.com

Certificate of Analysis

Connecticut Yankee Atomic Power Company
362 Injun Hollow Road
East Hampton, CT 06424

February 16, 2004

Attention: Pete Hollenbeck

Date Received in Lab	:	January 7, 2003
Number of Samples	:	Four (4)
SDG Number	:	24921
Project Name/Number	:	Haddam Neck Decommissioning
COC Number	:	2003-00239, 241, 242
Purchase Order Number	:	002133 LTP QA
MSR	:	04-0307

CASE NARRATIVE

I. Introduction

On January 7, 2004, STL-Richland received a request to analyze four soil samples that had already been received at the STL Richland (STLR) laboratory. Upon receipt, the samples were assigned the STLR identification numbers as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J4A080282.

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Alpha Spectroscopy
Americium-241 by method RICH-RC-5080
Curium-243/244 by method RICH-RC-5080
Plutonium-238, -239/240 by method RICH-RC-5010
Gas Proportional Counting
Strontium-90 by method RICH-RC-5006

Liquid Scintillation Counting
Carbon-14 by method RICH-RC-5022
Iron-55 by method RICH-RC-5074
Nickel-63 by method RICH-RC-5069
Plutonium-241 by method RICH-RC-5010
Technetium-99 by method RICH-RC-5078
Tritium by method RICH-RC-5037

IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Americium-241 by method RICH-RC-5080:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Curium-243/244 by method RICH-RC-5080:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Plutonium-238, -239/240 by method RICH-RC-5010:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Strontium-90 by method RICH-RC-5006:

Samples 9536-0000-013F, 9537-0000-001F, and 9534-0000-014F01 MDA's do not meet the CRDL. Small aliquots were taken due to high radiation screens. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Carbon-14 by method RICH-RC-5022:

The aliquot taken for the samples was not larger enough in order for the MDA to meet the CRDL. The client was notified via e-mail about the error and the laboratory will reanalyze these samples at the client's request in order to meet the CRDL. Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Iron-55 by method RICH-RC-5074:

Samples 9536-0000-012F and 9537-0000-014F01 have tracer yields above 115% due to matrix effect (indigenous iron in the soil). Except as noted, the LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Nickel-63 by method RICH-RC-5069:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

Plutonium-241 by method RICH-RC-5010:

The LCS, batch blank, samples and sample duplicate results are within acceptance limits.

Technetium-99 by method RICH-RC-5078:

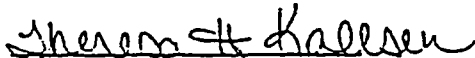
The LCS, batch blank, samples, sample duplicate and are within acceptance limits.

Tritium by method RICH-RC-5037:

The LCS, batch blank, sample and sample duplicate results are within acceptance limits.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:



Theresa H. Kallsen
Project Management Assistant

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Reference Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,\dots)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation $(\text{Result}/\text{Expected})-1$ as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c-Combined Uncertainty.</i>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c the combined uncertainty.</i> The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor CRDL (RL)	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations. Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgmdCnt}/\text{BkgmdCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgmdCnt}/\text{BkgmdCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number.
RER	The equation Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

Date: 16-Feb-04

STL Richland STLR

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24916

SDG No: 24921

Client Id	Work Order	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
12341 FBXZ									
9536-0000-012F (F5XD7)	F7PRF1AH	FE-55	1.18E+01 ± 5.68E+00	U	pCi/g	116%	1.92E+01	1.10E+03	
9536-0000-013F (F5XD8)	F7PTD1AH	FE-55	6.26E+00 ± 5.38E+00	U	pCi/g	75%	1.45E+01	1.10E+03	
9537-0000-001F (F5XFG)	F7PTH1AH	FE-55	7.19E+00 ± 4.98E+00	U	pCi/g	98%	1.48E+01	1.10E+03	
9537-0000-014F01 (F5XHM)	F7PTJ1AH	FE-55	1.45E+01 ± 6.06E+00	U	pCi/g	118%	1.94E+01	1.10E+03	
9537-0000-014F01 (F5XHM) DUP	F7PTJ1AM	FE-55	4.99E+00 ± 5.30E+00	U	pCi/g	90%	1.76E+01	1.10E+03	
12347 CMUD									
9536-0000-012F (F5XD7)	F7PRF1AD	SR-90	6.37E-02 ± 3.49E-02		pCi/g	69%	6.06E-02	6.00E-02	
9536-0000-013F (F5XD8)	F7PTD1AD	SR-90	1.36E-01 ± 7.82E-02	U	pCi/g	62%	1.38E-01	6.00E-02	
9537-0000-001F (F5XFG)	F7PTH1AD	SR-90	7.02E-02 ± 4.10E-02	U	pCi/g	63%	7.16E-02	6.00E-02	
9537-0000-014F01 (F5XHM)	F7PTJ1AD	SR-90	2.37E-02 ± 3.09E-02	U	pCi/g	67%	6.43E-02	6.00E-02	
9537-0000-014F01 (F5XHM) DUP	F7PTJ1AN	SR-90	2.73E-02 ± 3.38E-02	U	pCi/g	68%	7.03E-02	6.00E-02	
2334 RICHRC5080									
9536-0000-012F (F5XD7)	F7PRF1AK	AM-241	1.57E-01 ± 1.23E-01	J	pCi/g	80%	6.08E-02	1.03E+00	
		CM-242	0.00E+00 ± 7.42E-02	U	pCi/g	80%	8.21E-02		
		CM-243/244	2.26E-02 ± 4.54E-02	U	pCi/g	80%	6.12E-02	1.16E+00	
9536-0000-012F (F5XD7) DUP	F7PRF1AL	AM-241	4.36E-02 ± 6.23E-02	U	pCi/g	77%	5.90E-02	1.03E+00	
		CM-242	0.00E+00 ± 7.21E-02	U	pCi/g	77%	7.98E-02		
		CM-243/244	0.00E+00 ± 5.38E-02	U	pCi/g	77%	5.95E-02	1.16E+00	
9536-0000-013F (F5XD8)	F7PTD1AK	AM-241	-8.44E-03 ± 1.71E-02	U	pCi/g	70%	2.02E-01	1.03E+00	
		CM-242	0.00E+00 ± 1.40E-01	U	pCi/g	70%	1.54E-01		
		CM-243/244	0.00E+00 ± 1.04E-01	U	pCi/g	70%	1.15E-01	1.16E+00	
9537-0000-001F (F5XFG)	F7PTH1AK	AM-241	4.11E-02 ± 5.87E-02	U	pCi/g	70%	5.56E-02	1.03E+00	
		CM-242	0.00E+00 ± 7.00E-02	U	pCi/g	70%	7.74E-02		
		CM-243/244	0.00E+00 ± 5.07E-02	U	pCi/g	70%	5.61E-02	1.16E+00	
9537-0000-014F01 (F5XHM)									

L Richland RER2 - Replicate Error Ratio = (S-DV)/(sqrt(sq(TPUs)+sq(TPUD))) as defined by ICPT BOA.
 STL RichSaSum J Qual - No UJ< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 y2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.

Sample Results Summary

Date: 16-Feb-04

STL Richland STLR

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24916

SDG No: 24921

Client Id	Work Order	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
12334 RICHRC5080	9537-0000-014F01 (F5XHM)								
	F7PTJ1AK	AM-241	0.00E+00 ± 4.69E-02	U	pCi/g	69%	5.19E-02	1.03E+00	
		CM-242	0.00E+00 ± 6.55E-02	U	pCi/g	69%	7.25E-02		
		CM-243/244	0.00E+00 ± 4.73E-02	U	pCi/g	69%	5.23E-02	1.16E+00	
12336 RICHRC5010	9536-0000-012F (F5XD7)								
	F7PRF1AE	PU-238	0.00E+00 ± 6.11E-02	U	pCi/g	60%	6.76E-02	1.18E+00	
		PU239/40	2.49E-02 ± 5.01E-02	U	pCi/g	60%	6.75E-02	1.07E+00	
	9536-0000-013F (F5XD8)								
	F7PTD1AE	PU-238	0.00E+00 ± 1.42E-01	U	pCi/g	52%	1.58E-01	1.18E+00	
		PU239/40	0.00E+00 ± 1.42E-01	U	pCi/g	52%	1.57E-01	1.07E+00	
	9536-0000-013F (F5XD8) DUP								
	F7PTD1AL	PU-238	0.00E+00 ± 1.39E-01	U	pCi/g	50%	1.54E-01	1.18E+00	
		PU239/40	0.00E+00 ± 1.39E-01	U	pCi/g	50%	1.54E-01	1.07E+00	
	9537-0000-001F (F5XFG)								
	F7PTH1AE	PU-238	1.92E-02 ± 4.92E-02	U	pCi/g	51%	1.15E-01	1.18E+00	
		PU239/40	2.40E-02 ± 4.83E-02	U	pCi/g	51%	6.51E-02	1.07E+00	
	9537-0000-014F01 (F5XHM)								
	F7PTJ1AE	PU-238	0.00E+00 ± 1.30E-01	U	pCi/g	21%	1.43E-01	1.18E+00	
		PU239/40	-1.06E-02 ± 2.13E-02	U	pCi/g	21%	2.53E-01	1.07E+00	
2337 RICHRC5010	9536-0000-012F (F5XD7)								
	F7PRF1AF	PU-241	3.77E-01 ± 3.03E+00	U	pCi/g	60%	5.96E+00	3.48E+01	
	9536-0000-013F (F5XD8)								
	F7PTD1AF	PU-241	2.83E+00 ± 7.15E+00	U	pCi/g	52%	1.38E+01	3.48E+01	
	9536-0000-013F (F5XD8) DUP								
	F7PTD1AM	PU-241	9.14E+00 ± 7.78E+00	U	pCi/g	50%	1.40E+01	3.48E+01	
	9537-0000-001F (F5XFG)								
	F7PTH1AF	PU-241	3.14E+00 ± 3.77E+00	U	pCi/g	51%	7.09E+00	3.48E+01	
	9537-0000-014F01 (F5XHM)								
	F7PTJ1AF	PU-241	1.33E+01 ± 9.45E+00	U	pCi/g	21%	1.68E+01	3.48E+01	
12340 RICHRC5069	9536-0000-012F (F5XD7)								
	F7PRF1AG	NI-63	-7.08E-02 ± 4.00E+00	U	pCi/g	91%	5.68E+00	2.89E+01	
	9536-0000-013F (F5XD8)								
	F7PTD1AG	NI-63	3.93E-01 ± 4.51E+00	U	pCi/g	83%	7.01E+00	2.89E+01	
	9537-0000-001F (F5XFG)								
	F7PTH1AG	NI-63	2.79E+00 ± 4.63E+00	U	pCi/g	86%	7.62E+00	2.89E+01	
	9537-0000-014F01 (F5XHM)								

L Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 STL RichSaSum U Qual - Analyzed for, but the result is less than the Mdc/Mda/Total Uncert or gamma scan software did not identify the nuclide.
 y2 V4.05 AS7

Sample Results Summary

Date: 16-Feb-04

STL Richland STLR

Ordered by Method, Batch No., Client Sample ID.

Report No. : 24916

SDG No: 24921

Client Id	Parameter	Result + Uncertainty (2s)	Qual	Units	Yield	MDC or MDA	CRDL	RER2
12340 RICHRC5069								
9537-0000-014F01 (F5XHM)								
F7PTJ1AG NI-63		2.63E+00 + 4.13E+00	U	pCi/g	92%	5.63E+00	2.89E+01	
9537-0000-014F01 (F5XHM) DUP								
F7PTJ1AL NI-63		3.86E+00 + 3.96E+00	U	pCi/g	99%	5.27E+00	2.89E+01	
12343 RICHRC5078								
9536-0000-012F (F5XD7)								
F7PRF1AC TC-99		2.40E-01 + 1.55E-01	U	pCi/g	100%	2.49E-01	5.04E-01	
9536-0000-012F (F5XD7) DUP								
F7PRF1AM TC-99		1.44E-01 + 1.50E-01	U	pCi/g	100%	2.48E-01	5.04E-01	
9536-0000-013F (F5XD8)								
F7PTD1AC TC-99		1.67E-01 + 1.51E-01	U	pCi/g	100%	2.48E-01	5.04E-01	
9537-0000-001F (F5XFG)								
F7PTH1AC TC-99		1.89E-01 + 1.52E-01	U	pCi/g	100%	2.49E-01	5.04E-01	
9537-0000-014F01 (F5XHM)								
F7PTJ1AC TC-99		1.18E-01 + 1.48E-01	U	pCi/g	100%	2.47E-01	5.04E-01	
2345 RICHRC5037								
9536-0000-012F (F5XD7)								
F7PRF1AJ H-3		2.43E-02 + 2.57E-02	U	pCi/g	100%	7.24E-02	1.65E+01	
9536-0000-013F (F5XD8)								
F7PTD1AJ H-3		5.57E-02 + 2.50E-02	U	pCi/g	100%	6.24E-02	1.65E+01	
9537-0000-001F (F5XFG)								
F7PTH1AJ H-3		2.12E-02 + 1.55E-02	U	pCi/g	100%	3.61E-02	1.65E+01	
9537-0000-001F (F5XFG) DUP								
F7PTH1AM H-3		1.87E-02 + 1.57E-02	U	pCi/g	100%	3.86E-02	1.65E+01	
9537-0000-014F01 (F5XHM)								
F7PTJ1AJ H-3		6.59E-02 + 1.68E-02	J	pCi/g	100%	2.97E-02	1.65E+01	
2536 RICHRC5022								
9536-0000-012F (F5XD7)								
F7PRF2AA C-14		3.96E-02 + 1.84E-01	U	pCi/g	100%	3.38E-01	2.26E-01	
9536-0000-013F (F5XD8)								
F7PTD2AA C-14		4.66E-02 + 1.83E-01	U	pCi/g	100%	3.37E-01	2.26E-01	
9537-0000-001F (F5XFG)								
F7PTH2AA C-14		1.79E-01 + 1.88E-01	U	pCi/g	100%	3.39E-01	2.26E-01	
9537-0000-001F (F5XFG) DUP								
F7PTH2AL C-14		1.47E-01 + 1.87E-01	U	pCi/g	100%	3.39E-01	2.26E-01	
9537-0000-014F01 (F5XHM)								
F7PTJ2AA C-14		-3.30E-02 + 1.82E-01	U	pCi/g	100%	3.39E-01	2.26E-01	

No. of Results: 60

L Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPuD))] as defined by ICPT BOA.
 TL RchSaSum J Qual - No U] < qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 y2 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda Total Uncert or gamma scan software did not identify the nuclide.

QC Results Summary
STL Richland STLR
 Ordered by Method, Batch No, QC Type..

Date: 16-Feb-04

Report No. : 24916

SDG No.: 24921

Batch	Work Order	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
UZ									
4012341 BLANK QC									
	F7VCX1AA	FE-55	7.88E+00 ± 5.48E+00	U	pCi/g	85%			1.48E+01
4012341 LCS									
	F7VCX1AC	FE-55	5.98E+01 ± 1.29E+01	J	pCi/g	85%	111%	0.1	1.49E+01
MUD									
4012347 BLANK QC									
	F7VC71AA	SR-90	6.59E-03 ± 1.71E-02	U	pCi/g	76%			3.74E-02
4012347 LCS									
	F7VC71AC	SR-90	5.01E-01 ± 8.57E-02		pCi/g	78%	109%	0.1	3.64E-02
CHRC5080									
4012334 BLANK QC									
	F7VCG1AA	AM-241	0.00E+00 ± 1.76E-02	U	pCi/g	66%			1.95E-02
		CM-242	0.00E+00 ± 2.37E-02	U	pCi/g	66%			2.63E-02
		CM-243/244	0.00E+00 ± 1.77E-02	U	pCi/g	66%			1.96E-02
4012334 LCS									
	F7VCG1AC	AM-241	4.27E+00 ± 8.16E-01		pCi/g	88%	94%	-0.1	1.38E-02
CHRC5010									
4012336 BLANK QC									
	F7VCM1AA	PU-238	0.00E+00 ± 2.16E-02	U	pCi/g	47%			2.38E-02
		PU239/40	-1.76E-03 ± 3.53E-03	U	pCi/g	47%			4.21E-02
4012336 LCS									
	F7VCM1AC	PU239/40	5.35E-01 ± 1.46E-01	J	pCi/g	54%	116%	0.2	1.65E-02
CHRC5010									
4012337 BLANK QC									
	F7VCN1AA	PU-241	1.46E+00 ± 1.25E+00	U	pCi/g	47%			2.30E+00
4012337 LCS									
	F7VCN1AC	PU-241	1.89E+01 ± 2.30E+00	J	pCi/g	54%	83%	-0.2	1.97E+00
CHRC5069									
4012340 BLANK QC									
	F7VCT1AA	NI-63	2.44E+00 ± 4.32E+00	U	pCi/g	90%			6.18E+00
4012340 LCS									
	F7VCT1AC	NI-63	4.80E+02 ± 7.58E+01		pCi/g	89%	95%	-0.1	6.61E+00
CHRC5078									
4012343 MATRIX SPIKE									
	F7PTD1AN	TC-99	2.51E+01 ± 1.65E+00		pCi/g	100%	92%	-0.1	2.49E-01
4012343 BLANK QC									
	F7VC11AA	TC-99	2.56E-01 ± 1.56E-01	J	pCi/g	100%			2.48E-01
4012343 LCS									
	F7VC11AC	TC-99	1.32E+01 ± 9.21E-01	J	pCi/g	100%	97%	0.0	2.49E-01
CHRC5037									
4012345 BLANK QC									
	F7VC31AA	H-3	6.13E-02 ± 1.23E-01	U	pCi/g	100%			2.65E-01
4012345 LCS									

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 STL Rich Qc Sum J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

QC Results Summary

Date: 16-Feb-04

STL Richland STLR

Ordered by Method, Batch No, QC Type,.

Report No. : 24916

SDG No.: 24921

Work Order	Parameter	Result ± Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC MDA
F7VC31AC	H-3	2.72E+00 + 2.44E-01	J	pCi/g	100%	99%	0.0	2.63E-01
HRC5022								
1022536 BLANK QC								
F7VCP2AA	C-14	2.73E-02 + 7.47E-02	U	pCi/g	100%			1.37E-01
J22536 LCS								
F7VCP2AC	C-14	7.34E+00 + 2.95E-01		pCi/g	100%	101%	0.0	1.37E-01
No. of Results: 22								

L Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 TLRchQcSum J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda]Total Uncert or gamma scan software did not identify the nuclide.

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/21/2003 10:12:00 AM

Lot-Sample No.: J4A080282-1

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9536-0000-012F (F5XD7)

COC No.: 2003-00239

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Prima Detect
Batch: 4012334	RICHRC5080				Work Order: F7PRF1AK		Report DB ID: 9F7PRF10					
AM-241	1.57E-01	J	1.19E-01	1.23E-01	6.08E-02	pCl/g	80%	(2.6)	1/31/04 04:30 a		0.6031	ALP1:
							1.03E+00	(2.5)			G	
CM-242	0.00E+00	U	0.00E+00	7.42E-02	8.21E-02	pCl/g	80%	0.	1/31/04 04:30 a		0.6031	ALP1:
								0.			G	
CM-243/244	2.26E-02	U	4.52E-02	4.54E-02	6.12E-02	pCl/g	80%	0.37	1/31/04 04:30 a		0.6031	ALP1:
							1.16E+00	0.99			G	
Batch: 4012336	RICHRC5010				Work Order: F7PRF1AE		Report DB ID: 9F7PRF10					
PU-238	0.00E+00	U	0.00E+00	6.11E-02	6.76E-02	pCl/g	60%	0.	2/2/04 03:27 p		0.6019	ALP1:
							1.18E+00	0.			G	
PU239/40	2.49E-02	U	4.98E-02	5.01E-02	6.75E-02	pCl/g	60%	0.37	2/2/04 03:27 p		0.6019	ALP1:
							1.07E+00	0.99			G	
Batch: 4012337	RICHRC5010				Work Order: F7PRF1AF		Report DB ID: 9F7PRF10					
PU-241	3.77E-01	U	2.43E+00	3.03E+00	5.96E+00	pCl/g	60%	0.06	2/6/04 06:27 p		0.6019	LSC:
							2.81E+00	3.48E+01			G	
Batch: 4012340	RICHRC5069				Work Order: F7PRF1AG		Report DB ID: 9F7PRF10					
NI-63	-7.08E-02	U	2.36E+00	4.00E+00	5.68E+00	pCl/g	91%	-0.01	1/29/04 08:01 p		0.2518	LSC:
							2.75E+00	2.89E+01			G	
Batch: 4012341	FBXZ				Work Order: F7PRF1AH		Report DB ID: 9F7PRF10					
FE-55	1.18E+01	U		5.68E+00	1.92E+01	pCl/g	116%	0.62	1/30/04 01:43 p		0.2518	LSC:
							9.12E+00	1.10E+03			G	

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|J< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/21/2003 10:12:00 AM

Lot-Sample No.: J4A080282-1

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9536-0000-012F (F5XD7)

COC No.: 2003-00239

Matrix: SOIL

Ordered by Client Sample ID, Batch N

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Prims Detec
Batch: 4012343	RICHRC5078				Work Order: F7PRF1AC	Report DB ID: 9F7PRF10						
TC-99	2.40E-01	U	1.10E-01	1.55E-01	2.49E-01	pCl/g	100%	0.96	2/6/04 11:07 a		5.0	LSC
							1.19E-01	5.04E-01			G	
Batch: 4012345	RICHRC5037				Work Order: F7PRF1AJ	Report DB ID: 9F7PRF10						
H-3	2.43E-02	U	2.40E-02	2.57E-02	7.24E-02	pCl/g	100%	0.34	1/20/04 01:11 a		100.1	LSC
							3.36E-02	1.65E+01			G	
Batch: 4012347	CMUD				Work Order: F7PRF1AD	Report DB ID: 9F7PRF10						
SR-90	6.37E-02		3.31E-02	3.49E-02	6.06E-02	pCl/g	69%	(1.1)	2/8/04 06:48 a		6.03	GPC:
							2.68E-02	6.00E-02			G	
Batch: 4022536	RICHRC5022				Work Order: F7PRF2AA	Report DB ID: 9F7PRF20						
C-14	3.96E-02	U	1.43E-01	1.84E-01	3.38E-01	pCl/g	100%	0.12	1/26/04 01:17 p		2.025	LSC
							1.66E-01	2.26E-01			G	

No. of Results: 12 Comments:

STL Richland
rptSTLRichSample
V4.05 A97

MDC|MDA, Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/21/2003 9:40:00 AM

Lot-Sample No.: J4A080282-2

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9536-0000-013F (F5XD8)

COC No.: 2003-00239

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detect
Batch: 4012334	RICHRC5080				Work Order: F7PTD1AK		Report DB ID: 9F7PTD10					
AM-241	-8.44E-03	U	1.69E-02	1.71E-02	2.02E-01	pCl/g	70%	-0.04	1/31/04 04:32 a		0.3016	ALP12
							4.39E-02	1.03E+00			G	
CM-242	0.00E+00	U	0.00E+00	1.40E-01	1.54E-01	pCl/g	70%	0.	1/31/04 04:32 a		0.3016	ALP12
								0.			G	
CM-243/244	0.00E+00	U	0.00E+00	1.04E-01	1.15E-01	pCl/g	70%	0.	1/31/04 04:32 a		0.3016	ALP12
							1.16E+00	0.			G	
Batch: 4012336	RICHRC5010				Work Order: F7PTD1AE		Report DB ID: 9F7PTD10					
PU-238	0.00E+00	U	0.00E+00	1.42E-01	1.58E-01	pCl/g	52%	0.	2/2/04 03:27 p		0.3014	ALP12
							1.18E+00	0.			G	
PU239/40	0.00E+00	U	0.00E+00	1.42E-01	1.57E-01	pCl/g	52%	0.	2/2/04 03:27 p		0.3014	ALP12
							1.07E+00	0.			G	
Batch: 4012337	RICHRC5010				Work Order: F7PTD1AF		Report DB ID: 9F7PTD10					
PU-241	2.83E+00	U	5.72E+00	7.15E+00	1.38E+01	pCl/g	52%	0.21	2/6/04 06:27 p		0.3014	LSC7
							6.50E+00	3.48E+01			G	
Batch: 4012340	RICHRC5069				Work Order: F7PTD1AG		Report DB ID: 9F7PTD10					
NI-63	3.93E-01	U	2.76E+00	4.51E+00	7.01E+00	pCl/g	83%	-0.06	1/29/04 09:43 p		0.2519	LSC3
							3.39E+00	2.89E+01			G	
Batch: 4012341	FBXZ				Work Order: F7PTD1AH		Report DB ID: 9F7PTD10					
FE-55	6.26E+00	U		5.38E+00	1.45E+01	pCl/g	75%	0.43	1/30/04 01:43 p		0.2519	LSC7
							6.89E+00	1.10E+03			G	

STL Richland
rptSTLRchSample
V4.05 A97MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/21/2003 9:40:00 AM

Lot-Sample No.: J4A080282-2

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9536-0000-013F (F5XD8)

COC No.: 2003-00239

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs UMDC, Rs TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectr
Batch: 4012343 TC-99	RICHRC5078 1.67E-01	U	1.07E-01	1.51E-01	2.48E-01	pCi/g	100%	0.67 (2.2)	2/6/04 01:12 p		5.0 G	LSC
Work Order: F7PTD1AC	Report DB ID: 9F7PTD10						1.19E-01	5.04E-01				
Batch: 4012345 H-3	RICHRC5037 5.57E-02	U	2.35E-02	2.50E-02	6.24E-02	pCi/g	100%	0.89 (4.5)	1/20/04 01:54 a		100.2 G	LSC
Work Order: F7PTD1AJ	Report DB ID: 9F7PTD10						2.90E-02	1.65E+01				
Batch: 4012347 SR-90	CMUD 1.36E-01	U	7.45E-02	7.82E-02	1.38E-01	pCi/g	62%	0.99 (3.5)	2/8/04 06:48 a		3.01 G	GPC3
Work Order: F7PTD1AD	Report DB ID: 9F7PTD10						6.12E-02	6.00E-02				
Batch: 4022538 C-14	RICHRC5022 4.66E-02	U	1.43E-01	1.83E-01	3.37E-01	pCi/g	100%	0.14 0.51	1/26/04 01:17 p		2.031 G	LSC
Work Order: F7PTD2AA	Report DB ID: 9F7PTD20						1.66E-01	2.26E-01				

No. of Results: 12 Comments:

STL Richland MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRichSample J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 V4.05 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: J4A080282-3
 Client Sample ID: 9537-0000-001F (F5XFG)

SDG: 24921
 Report No.: 24916
 COC No.: 2003-00241

Collection Date: 11/14/2003 10:45:00 AM
 Received Date: 1/8/2004 12:00:00 PM
 Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unll, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Prima Detect.
Batch: 4012334	RICHRC5080				Work Order: F7PTH1AK		Report DB ID: 9F7PTH10					
AM-241	4.11E-02	U	5.81E-02	5.87E-02	5.56E-02	pCl/g	70%	0.74	1/31/04 04:32 a		0.6013	ALP1:
							1.03E+00	(1.4)			G	
CM-242	0.00E+00	U	0.00E+00	7.00E-02	7.74E-02	pCl/g	70%	0.	1/31/04 04:32 a		0.6013	ALP1:
								0.			G	
CM-243/244	0.00E+00	U	0.00E+00	5.07E-02	5.61E-02	pCl/g	70%	0.	1/31/04 04:32 a		0.6013	ALP1:
							1.16E+00	0.			G	
Batch: 4012336	RICHRC5010				Work Order: F7PTH1AE		Report DB ID: 9F7PTH10					
PU-238	1.92E-02	U	4.91E-02	4.92E-02	1.15E-01	pCl/g	51%	0.17	2/2/04 06:42 p		0.6009	ALP1:
							2.51E-02	1.18E+00			G	
PU239/40	2.40E-02	U	4.80E-02	4.83E-02	6.51E-02	pCl/g	51%	0.37	2/2/04 06:42 p		0.6009	ALP1:
							1.07E+00	0.99			G	
Batch: 4012337	RICHRC5010				Work Order: F7PTH1AF		Report DB ID: 9F7PTH10					
PU-241	3.14E+00	U	3.02E+00	3.77E+00	7.09E+00	pCl/g	51%	0.44	2/6/04 06:27 p		0.6009	LSC7
							3.34E+00	3.48E+01			G	
Batch: 4012340	RICHRC5069				Work Order: F7PTH1AG		Report DB ID: 9F7PTH10					
NI-63	2.79E+00	U	2.90E+00	4.63E+00	7.62E+00	pCl/g	86%	0.37	1/29/04 11:26 p		0.2508	LSC3
							3.69E+00	2.89E+01			G	
Batch: 4012341	FBXZ				Work Order: F7PTH1AH		Report DB ID: 9F7PTH10					
FE-55	7.19E+00	U		4.98E+00	1.48E+01	pCl/g	98%	0.48	1/30/04 01:43 p		0.2508	LSC7
							7.06E+00	1.10E+03			G	

STL Richland
 rptSTLRchSample
 V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

SAMPLE RESULTS

Lab Name: STL Richland
 Lot-Sample No.: J4A080282-3
 Client Sample ID: 9537-0000-001F (F5XFG)

SDG: 24921
 Report No.: 24916
 COC No.: 2003-00241

Collection Date: 11/14/2003 10:45:00 AM
 Received Date: 1/8/2004 12:00:00 PM
 Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rsl/MDC, Rsl/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Prima Detect
Batch: 4012343 TC-99	RICHRC5078 1.89E-01	U	1.08E-01	1.52E-01	2.49E-01	pCi/g	100%	0.76 (2.5)	2/6/04 03:17 p		5.0 G	LSC
Work Order: F7PTH1AC	Report DB ID: 9F7PTH10											
Batch: 4012345 H-3	RICHRC5037 2.12E-02	U	1.43E-02	1.55E-02	3.61E-02	pCi/g	100%	0.59 (2.7)	1/20/04 02:36 a		100.1 G	LSC
Work Order: F7PTH1AJ	Report DB ID: 9F7PTH10											
Batch: 4012347 SR-90	CMUD 7.02E-02	U	4.03E-02	4.10E-02	7.16E-02	pCi/g	63%	0.98 (3.4)	2/8/04 06:48 a		6.01 G	GPC
Work Order: F7PTH1AD	Report DB ID: 9F7PTH10											
Batch: 4022536 C-14	RICHRC5022 1.79E-01	U	1.46E-01	1.88E-01	3.39E-01	pCi/g	100%	0.53 (1.9)	1/26/04 01:17 p		2.02 G	LSC
Work Order: F7PTH2AA	Report DB ID: 9F7PTH20											

No. of Results: 12 Comments:

STL Richland
 rptSTLRichSample
 V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 J Qual - No U|c qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
 U Qual - Analyzed for, but the result is less than the Mdc/Mda|ntal Uncert or gamma scan software did not identify the nuclide.

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/13/2003 10:45:00 AM

Lot-Sample No.: J4A080282-4

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9537-0000-014F01 (F5XHM)

COC No.: 2003-00241

Matrix: SOIL

Ordered by Client Sample ID, Batch N

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Actlon Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rs /MDC, Rs /TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Prima Detocl
Batch: 4012334	RICHRC5080				Work Order: F7PTJ1AK		Report DB ID: 9F7PTJ10					
AM-241	0.00E+00	U	0.00E+00	4.69E-02	5.19E-02	pCl/g	69%	0.	1/31/04 04:32 a		0.6026	ALP1
							1.03E+00	0.			G	
CM-242	0.00E+00	U	0.00E+00	6.55E-02	7.25E-02	pCl/g	69%	0.	1/31/04 04:32 a		0.6026	ALP1
								0.			G	
CM-243/244	0.00E+00	U	0.00E+00	4.73E-02	5.23E-02	pCl/g	69%	0.	1/31/04 04:32 a		0.6026	ALP1
							1.16E+00	0.			G	
Batch: 4012338	RICHRC5010				Work Order: F7PTJ1AE		Report DB ID: 9F7PTJ10					
PU-238	0.00E+00	U	0.00E+00	1.30E-01	1.43E-01	pCl/g	21%	0.	2/2/04 06:43 p		0.6019	ALP1.
							1.18E+00	0.			G	
PU239/40	-1.06E-02	U	2.11E-02	2.13E-02	2.53E-01	pCl/g	21%	-0.04	2/2/04 06:43 p		0.6019	ALP1:
							5.50E-02	1.07E+00			G	
Batch: 4012337	RICHRC5010				Work Order: F7PTJ1AF		Report DB ID: 9F7PTJ10					
PU-241	1.33E+01	U	7.52E+00	9.45E+00	1.68E+01	pCl/g	21%	0.79	2/6/04 06:27 p		0.6019	LSC:
							7.93E+00	3.48E+01			G	
Batch: 4012340	RICHRC5069				Work Order: F7PTJ1AG		Report DB ID: 9F7PTJ10					
NI-63	2.63E+00	U	2.41E+00	4.13E+00	5.63E+00	pCl/g	92%	0.47	1/30/04 01:08 a		0.2508	LSC:
							2.73E+00	2.89E+01			G	
Batch: 4012341	FBXZ				Work Order: F7PTJ1AH		Report DB ID: 9F7PTJ10					
FE-55	1.45E+01	U		6.06E+00	1.94E+01	pCl/g	118%	0.75	1/30/04 01:43 p		0.2508	LSC:
							9.25E+00	1.10E+03			G	

STL Richland
rptSTLRchSample
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM I

Date: 16-Feb-04

SAMPLE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/13/2003 10:45:00 AM

Lot-Sample No.: J4A080282-4

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9537-0000-014F01 (F5XHM)

COC No.: 2003-00241

Matrix: SOIL

Ordered by Client Sample ID, Batch No

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primat Detect
Batch: 4012343	RICHRC5078											
TC-99	1.18E-01	U	1.05E-01	1.48E-01	2.47E-01	pCi/g	100%	0.48	2/6/04 04:19 p		5.0	LSC
							1.18E-01	5.04E-01			G	
								(1.6)				
Batch: 4012345	RICHRC5037											
H-3	6.59E-02	J	1.53E-02	1.68E-02	2.97E-02	pCi/g	100%	(2.2)	1/20/04 04:01 a		100.1	LSC
							1.38E-02	1.65E+01			G	
								(7.9)				
Batch: 4012347	CMUD											
20 SR-90	2.37E-02	U	3.01E-02	3.09E-02	6.43E-02	pCi/g	67%	0.37	2/8/04 06:48 a		6.07	GPC3
							2.86E-02	6.00E-02			G	
								(1.5)				
Batch: 4022536	RICHRC5022											
C-14	-3.30E-02	U	1.43E-01	1.82E-01	3.39E-01	pCi/g	100%	-0.1	1/26/04 01:17 p		2.021	LSC
							1.66E-01	2.26E-01			G	
								-0.36				

No. of Results: 12 Comments:

STL Richland

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

rptSTLRchSample V4.05 A97

J Qual - No U|< qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.

U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/21/2003 9:40:00 AM

Lot-Sample No.: J4A080282-2

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9536-0000-013F (F5XD8) DUP

COC No.: 2003-00239

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUncert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primar Detectr
Batch: 4012336	RICHRC5010				Work Order: F7PTD1AL		Report DB ID: F7PTD1LR		Orig Sa DB ID: 9F7PTD10			
PU-238	0.00E+00	U	0.00E+00	1.39E-01	1.54E-01	pCi/g	50%	0.	2/2/04 03:28 p		0.3033	ALP12
	0.00E+00	U	RER2 0.0					1.18E+00			G	
PU239/40	0.00E+00	U	0.00E+00	1.39E-01	1.54E-01	pCi/g	50%	0.	2/2/04 03:28 p		0.3033	ALP12
	0.00E+00	U	RER2 0.0					1.07E+00			G	
Batch: 4012337	RICHRC5010				Work Order: F7PTD1AM		Report DB ID: F7PTD1MR		Orig Sa DB ID: 9F7PTD10			
22 PU-241	9.14E+00	U	6.17E+00	7.78E+00	1.40E+01	pCi/g	50%	0.65	2/6/04 06:27 p		0.3033	LSC7
	2.83E+00	U	RER2 1.2					3.48E+01	(2.4)		G	

No. of Results: 3 Comments:

STL Richland RER2 - Replicate Error Ratio = (S-D)/sqrt(sq(TPUs)+sq(TPUD)) as defined by ICPT DOA.

rptSTLRchDupV4.0 MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

5 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

DUPLICATE RESULTS

Lab Name: STL Richland SDG: 24921 Collection Date: 11/14/2003 10:45:00 AM
 Lot-Sample No.: J4A080282-3 Report No.: 24916 Received Date: 1/8/2004 12:00:00 PM
 Client Sample ID: 9537-0000-001F (F5XFG) DUP COC No.: 2003-00241 Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, ActIon Lev	Rpt Unit, CRDL	Yield	Rst MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 4012345	RICHRC5037		Work Order: F7PTH1AM		Report DB ID: F7PTH1MR		Orig Sa DB ID: 9F7PTH10					
H-3	1.87E-02	U	1.45E-02	1.57E-02	3.86E-02	pCi/g	100%	0.48	1/20/04 03:19 a		100.1	LSC4
	2.12E-02	U	RER2 0.2			1.65E+01		(2.4)			G	
Batch: 4022538	RICHRC5022		Work Order: F7PTH2AL		Report DB ID: F7PTH2LR		Orig Sa DB ID: 9F7PTH20					
C-14	1.47E-01	U	1.45E-01	1.87E-01	3.39E-01	pCi/g	100%	0.43	1/26/04 01:17 p		2.021	LSC5
	1.79E-01	U	RER2 0.2			2.26E-01		(1.6)			G	

23
 No. of Results: 2 Comments:

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.
 rptSTLRchDupV4.0 MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 5 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

DUPLICATE RESULTS

Lab Name: STL Richland

SDG: 24921

Collection Date: 11/13/2003 10:45:00 AM

Lot-Sample No.: J4A080282-4

Report No.: 24916

Received Date: 1/8/2004 12:00:00 PM

Client Sample ID: 9537-0000-014F01 (F5XHM) DUP

COC No.: 2003-00241

Matrix: SOIL

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Action Lev	Rpt Unit, CRDL	Yield	Rs MDC, Rst TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 4012340	RICHRC5069											
NI-63	3.86E+00	U	2.28E+00	3.96E+00	5.27E+00	pCi/g	99%	0.73	1/30/04 02:50 a		0.2519	LSC3
	2.63E+00	U	RER2 0.4			2.89E+01		(2.)			G	
Batch: 4012341	FBXZ											
FE-55	4.99E+00	U		5.30E+00	1.76E+01	pCi/g	90%	0.28	1/30/04 01:43 p		0.2519	LSC7
	1.45E+01	U	RER2 2.4			1.10E+03		(1.9)			G	
Batch: 4012347	CMUD											
SR-90	2.73E-02	U	3.30E-02	3.38E-02	7.03E-02	pCi/g	68%	0.39	2/8/04 06:49 a		6.07	GPC4A
	2.37E-02	U	RER2 0.2			6.00E-02		(1.6)			G	

No. of Results: 3 Comments:

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUD))] as defined by ICPT BOA.

rptSTLRichDupV4.0 MDC|MDA, Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.

5 A97 U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 16-Feb-04

BLANK RESULTS

Lab Name: STL Richland
Matrix: SOIL

SDG: 24921
Report No. : 24916

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rs MDC, Rs TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
Batch: 4022536	RICHRC5022				Work Order: F7VCP2AA	Report DB ID: F7VCP2AB						
C-14	2.73E-02	U	5.83E-02	7.47E-02	1.37E-01	pCi/g	100%	0.2	1/26/04 01:17 p		5.0	LSC5
					6.73E-02	2.26E-01		0.73			G	
Batch: 4012340	RICHRC5069				Work Order: F7VCT1AA	Report DB ID: F7VCT1AB						
NI-63	2.44E+00	U	2.55E+00	4.32E+00	6.18E+00	pCi/g	90%	0.4	1/30/04 04:33 a		0.25	LSC3
					2.99E+00	2.89E+01		(1.1)			G	
Batch: 4012334	RICHRC5080				Work Order: F7VCG1AA	Report DB ID: F7VCG1AB						
AM-241	0.00E+00	U	0.00E+00	1.76E-02	1.95E-02	pCi/g	66%	0.	1/31/04 04:33 a		2.0	ALP131
25						1.03E+00		0.			G	
	CM-242	0.00E+00	U	0.00E+00	2.37E-02	2.63E-02	pCi/g	66%	0.	1/31/04 04:33 a	2.0	ALP131
								0.			G	
CM-243/244	0.00E+00	U	0.00E+00	1.77E-02	1.96E-02	pCi/g	66%	0.	1/31/04 04:33 a		2.0	ALP131
						1.16E+00		0.			G	
Batch: 4012336	RICHRC5010				Work Order: F7VCM1AA	Report DB ID: F7VCM1AB						
PU-238	0.00E+00	U	0.00E+00	2.16E-02	2.38E-02	pCi/g	47%	0.	2/2/04 06:43 p		2.0	ALP131
						1.18E+00		0.			G	
PU239/40	-1.76E-03	U	3.52E-03	3.53E-03	4.21E-02	pCi/g	47%	-0.04	2/2/04 06:43 p		2.0	ALP131
					9.14E-03	1.07E+00		-1.			G	
Batch: 4012337	RICHRC5010				Work Order: F7VCN1AA	Report DB ID: F7VCN1AB						
PU-241	1.46E+00	U	1.00E+00	1.25E+00	2.30E+00	pCi/g	47%	0.64	2/6/04 06:27 p		2.0	LSC7
					1.08E+00	3.48E+01		(2.3)			G	
Batch: 4012343	RICHRC5078				Work Order: F7VC11AA	Report DB ID: F7VC11AB						

STL Richland MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
 rptSTLRchBlank U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.
 V4.05 A97

FORM II

Date: 16-Feb-04

BLANK RESULTS

Lab Name: STL Richland

SDG: 24921

Matrix: SOIL

Report No.: 24916

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Allquot Size	Primary Detector
TC-99	2.56E-01	J	1.10E-01	1.56E-01	2.48E-01 1.19E-01	pCi/g 2.00E+01	100%	(1.) (3.3)	2/6/04 05:21 p		5.0 G	LSC4
Batch: 4012345	RICHRC5037				Work Order: F7VC31AA			Report DB ID: F7VC31AB				
H-3	6.13E-02	U	1.09E-01	1.23E-01	2.65E-01 1.23E-01	pCi/g 1.65E+01	100%	0.23 (1.)	1/19/04 11:46 p		10.0 G	LSC4
Batch: 4012347	CMUD				Work Order: F7VC71AA			Report DB ID: F7VC71AB				
SR-90	6.59E-03	U	1.71E-02	1.71E-02	3.74E-02 1.68E-02	pCi/g 6.00E-02	76%	0.18 0.77	2/8/04 06:49 a		10.0 G	GPC4B
26												
Batch: 4012341	FBXZ				Work Order: F7VCX1AA			Report DB ID: F7VCX1AB				
FE-55	7.88E+00	U		5.48E+00	1.48E+01 7.05E+00	pCi/g 1.10E+03	85%	0.53 (2.9)	1/30/04 01:43 p		0.25 G	LSC7

No. of Results: 12 Comments:

STL Richland
rptSTLRchBlank
V4.05 A97

MDC|MDA,Lc - Detection, Decision Level based on Instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
J Qual - No U|c qualifier has been assigned and the result is below the Reporting Limit, RL (CRDL) or Report Value is Estimated.
U Qual - Analyzed for, but the result is less than the Mdc/Mda|Total Uncert or gamma scan software did not identify the nuclide.

FORM II

Date: 16-Feb-04

LCS RESULTS

Lab Name: STL Richland

SDG: 24921

Matrix: SOIL

Report No.: 24916

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Allquot Size	Prima Detect
Batch: 4022536	RICHRC5022												
C-14	7.34E+00		1.33E-01	2.95E-01	1.37E-01	pCi/g	100%	7.28E+00	2.35E-01	101%	1/26/04 01:17 p	5.0	LSC
							Rec Limits:	70	130	0.0		G	
Batch: 4012340	RICHRC5069												
NI-63	4.80E+02		8.94E+00	7.58E+01	6.61E+00	pCi/g	89%	5.08E+02	1.70E+01	95%	1/30/04 06:15 a	0.25	LSC
							Rec Limits:	70	130	-0.1		G	
Batch: 4012334	RICHRC5080												
27 AM-241	4.27E+00		2.95E-01	8.16E-01	1.38E-02	pCi/g	88%	4.54E+00	1.53E-01	94%	1/31/04 04:33 a	2.0	ALP1:
							Rec Limits:	70	130	-0.1		G	
Batch: 4012336	RICHRC5010												
PU239/40	5.35E-01		1.14E-01	1.46E-01	1.65E-02	pCi/g	54%	4.61E-01	2.32E-02	116%	2/2/04 06:44 p	2.0	ALP1:
							Rec Limits:	70	130	0.2		G	
Batch: 4012337	RICHRC5010												
PU-241	1.89E+01		1.49E+00	2.30E+00	1.97E+00	pCi/g	54%	2.28E+01	1.03E+00	83%	2/6/04 06:27 p	2.0	LSC7
							Rec Limits:	70	130	-0.2		G	
Batch: 4012343	RICHRC5078												
TC-99	1.32E+01		3.30E-01	9.21E-01	2.49E-01	pCi/g	100%	1.36E+01	3.04E-01	97%	2/6/04 06:24 p	5.0	LSC4
							Rec Limits:	70	130	0.0		G	
Batch: 4012345	RICHRC5037												
H-3	2.72E+00		2.19E-01	2.44E-01	2.63E-01	pCi/g	100%	2.75E+00	8.25E-02	99%	1/20/04 12:28 a	10.0	LSC4
							Rec Limits:	70	130	0.0		G	
Batch: 4012347	CMUD												
							Work Order:	F7VC71AC			Report DB ID:	F7VC71CS	

STL Richland Bias - (Result/Expected)-1 as defined by ANSI N13.30.

rpISTLRchLcs
V4.05 A97

FORM II

Date: 16-Feb-04

LCS RESULTS

Lab Name: STL Richland

SDG: 24921

Matrix: SOIL

Report No.: 24916

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Allquot Size	Primary Detector
SR-90	5.01E-01		4.66E-02	8.57E-02	3.64E-02	pCi/g	78%	4.61E-01	5.60E-03	109%	2/8/04 06:49 a	10.0	GPC40
							Rec Limits:	70	130	0.1			
Batch: 4012341	FBXZ	Work Order: F7VCX1AC			Report DB ID: F7VCX1CS								
FE-55	5.98E+01			1.29E+01	1.49E+01	pCi/g	85%	5.40E+01	2.88E+00	111%	1/30/04 01:43 p	0.25	LSC7
							Rec Limits:	70	130	0.1			

No. of Results: 9 Comments:

28

MATRIX SPIKE RESULTS

Lab Name: STL Richland

SDG: 24921

Lot-Sample No.: J4A080282-2

Report No.: 24916

Matrix: SOIL

Parameter	Spike Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC/MDA	Rpt Unit, CRDL	Yield	Rec- overy	Exp- ected	Exp Uncert	Analysts, Prep Date	Allquot Size	Prima Detect
Batch: 4012343	RICHRC5078												
TC-99	2.51E+01		4.47E-01	1.65E+00	2.49E-01	pCi/g	100%	92.30%	2.72E+01	3.11E-01	2/6/04 02:14 p	5.0	LSC
	1.67E-01	RER2										G	
No. of Results: 1	Comments:												

29

STL Richland
rptSTLRchMs
V4.05 A97

RER - Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{sq}(TPUs)+\text{sq}(TPUd))]$ as defined by ICPT BOA.
Bias - $(\text{Result}/\text{Expected})-1$ as defined by ANSI N13.30.

Kallsen, Theresa

0-55733 CyA

From: Peter D. Hollenbeck [Hollenbeck@CYAPCO.com]
Sent: Wednesday, January 07, 2004 11:33 AM
To: Kallsen, Theresa
Cc: John McCarthy; Jim M. Limbert
Subject: Samples for hard-to-detect radionuclides

Good afternoon-

Soil (bag)

Please analyze the following samples:

①	9536-0000-012F - 11-21 1012	COE #2003-00239	J3L030200.	F5XD7
②	9536-0000-013F - " 0940			F5XD8
③	9537-0000-001F 11-14 1045	2003-00241	J3L030207.	F5XFG
④	9537-0000-014F 11-13 1045	↓ 242		F5XHM

for the radionuclides in column 6 of the attached Table 1 to the corresponding RDLs listed in Table 20 of CY's SOW.

If you have any questions, please call me at 860-267-3923.

LA #

Thanks,
Pete

J4A080282
SD4 24931
Due 2-7

- ① FTPRF
- ② FTPTD
- ③ FTPTH
- ④ FTPTJ

Table 1							
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7	Column 8
Radionuclide	Soil MDC (pCi/g)	Water MDC (pCi/l)	FSSGAM CHGAM Note 1	FSSALL CHALL Note 1	FSSHTD CHHTD Note 1	FSSTRU CHTRU Note 1	FSSOTHR CHOTHR Note 2
H-3 ✓	17.5	26080		√	√		
C-14 ✓	0.23	360		√	√		
Mn-54	0.70	968	√	√			
Fe-55 ✓	1095	2616		√	√		
Cu-60	0.15	45	√	√			
Ag-108m	0.29	169	√	√			
Ni-63 ✓	28.9	1260		√	√		
Sr-90 ✓	0.06	10		√	√		
Nb-94	0.28	270	√	√			
Tc-99 ✓	0.5	1056		√	√		
Cs-134	0.19	13.6	√	√			
Cs-137	0.32	17.2	√	√			
Eu-152	0.4	293	√	√			
Eu-154	0.37	202	√	√			
Eu-155	15.7	1300	√	√			
Pu-238 ✓	1.18	0.6		√	√	√	
Pu-239/240	1.07	0.54		√	√	√	
Pu-241 ✓	34.2	28		√	√	√	
Am-241 ✓	1.03	0.53	√	√	√	√	
Cm-243/244 ✓	1.16	0.78		√	√	√	
K-40	N/A	N/A	√	√			
Tl-208	N/A	N/A	√	√			
Bi-212	N/A	N/A	√	√			
Pb-212	N/A	N/A	√	√			
Bi-214	N/A	N/A	√	√			
Pb-214	N/A	N/A	√	√			
Ra-226	N/A	N/A	√	√			
Ac-228	N/A	N/A	√	√			

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 2c
Sample and Scan Area Data
(2 pages)

**Survey Release Record Scan Area Results
Survey Unit 9536-0000**

9536-0000 SCAN AREA # 1 SECTION 1 REPORT 11/17/2003

Survey Location	Background (cpm)	Action Level (cpm)	Reading (gross cpm)	Log Date	Log Time	E-600 S/N	Probe S/N
9536-00-001-BC-001	-	0	8,020	11/17/2003	16:00:00	1106	1007
9536-00-001-SC-001	8,020	9,298	6,810	11/17/2003	16:12:00	1106	1007

9536-0000 SCAN AREA # 1 SECTION 2-56 REPORT 11/18/2003

Survey Location	Background (cpm)	Action Level (cpm)	Reading (gross cpm)	Log Date	Log Time	E-600 S/N	Probe S/N
9536-00-001-BC-001	-	0	8020	11/17/2003	16:00:00	1106	1007
9536-00-001-BC-002	-	0	7470	11/18/2003	9:22:00	1105	1009
9536-00-001-BC-003	-	0	7360	11/18/2003	9:26:00	1112	1005
9536-00-001-ER-001	7470	8703	10500	11/18/2003	9:29:00	1105	1009
9536-00-001-ER-001	7360	8584	8870	11/18/2003	9:52:00	1112	1005
9536-00-001-ER-002	8020	9298	13600	11/18/2003	10:06:00	1106	1007
9536-00-001-ER-003	7360	8584	15100	11/18/2003	10:00:00	1112	1005
9536-00-001-ER-004	7360	8584	9560	11/18/2003	10:42:00	1112	1005
9536-00-001-ER-005	8020	9298	9980	11/18/2003	13:47:00	1106	1007
9536-00-001-ER-006	7360	8584	10600	11/18/2003	14:03:00	1112	1005
9536-00-001-SC-002	8020	9298	7210	11/18/2003	9:39:00	1106	1007
9536-00-001-SC-003	7470	8703	7530	11/18/2003	9:34:00	1105	1009
9536-00-001-SC-004	7360	8584	6410	11/18/2003	9:37:00	1112	1005
9536-00-001-SC-005	7470	8703	7620	11/18/2003	9:44:00	1105	1009
9536-00-001-SC-006	7360	8584	7450	11/18/2003	9:46:00	1112	1005
9536-00-001-SC-007	8020	9298	7600	11/18/2003	9:48:00	1106	1007
9536-00-001-SC-008	7470	8703	7700	11/18/2003	9:53:00	1105	1009
9536-00-001-SC-009	7360	8584	6610	11/18/2003	10:05:00	1112	1005
9536-00-001-SC-010	8020	9298	8330	11/18/2003	10:03:00	1106	1007
9536-00-001-SC-011	8020	9298	8380	11/18/2003	10:17:00	1106	1007
9536-00-001-SC-012	7360	8584	8260	11/18/2003	10:19:00	1112	1005
9536-00-001-SC-013	7470	8703	6430	11/18/2003	10:18:00	1105	1009
9536-00-001-SC-014	8020	9298	7440	11/18/2003	10:28:00	1106	1007
9536-00-001-SC-015	7360	8584	7080	11/18/2003	10:31:00	1112	1005
9536-00-001-SC-016	7470	8703	7360	11/18/2003	10:28:00	1105	1009
9536-00-001-SC-017	8020	9298	8470	11/18/2003	10:41:00	1106	1007
9536-00-001-SC-018	7360	8584	7320	11/18/2003	10:45:00	1112	1005
9536-00-001-SC-020	8020	9298	8790	11/18/2003	10:49:00	1106	1007
9536-00-001-SC-021	8020	9298	8110	11/18/2003	11:03:00	1106	1007
9536-00-001-SC-022	7360	8584	8080	11/18/2003	11:05:00	1112	1005
9536-00-001-SC-024	8020	9298	8270	11/18/2003	13:22:00	1106	1007
9536-00-001-SC-025	7360	8584	7670	11/18/2003	13:22:00	1112	1005
9536-00-001-SC-026	7470	8703	6860	11/18/2003	13:23:00	1105	1009
9536-00-001-SC-027	8020	9298	8120	11/18/2003	13:30:00	1106	1007
9536-00-001-SC-028	7360	8584	7860	11/18/2003	13:31:00	1112	1005
9536-00-001-SC-029	7470	8703	7990	11/18/2003	13:31:00	1105	1009
9536-00-001-SC-030	8020	9298	8400	11/18/2003	13:38:00	1106	1007
9536-00-001-SC-031	7360	8584	8040	11/18/2003	13:39:00	1112	1005
9536-00-001-SC-032	7470	8703	8140	11/18/2003	13:39:00	1105	1009
9536-00-001-SC-033	8020	9298	8140	11/18/2003	13:48:00	1106	1007
9536-00-001-SC-034	7360	8584	7980	11/18/2003	13:45:00	1112	1005
9536-00-001-SC-035	7470	8703	8260	11/18/2003	13:45:00	1105	1009
9536-00-001-SC-036	8020	9298	7510	11/18/2003	14:04:00	1106	1007
9536-00-001-SC-037	7360	8584	7130	11/18/2003	14:08:00	1112	1005

**Survey Release Record Scan Area Results
Survey Unit 9536-0000**

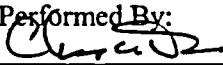
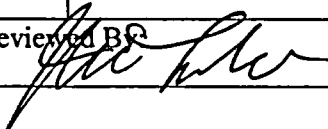
Survey Location	Background (cpm)	Action Level (cpm)	Reading (gross cpm)	Log Date	Log Time	E-600 S/N	Probe S/N
9536-00-001-SC-037	7360	8584	7320	11/18/2003	14:09:00	1112	1005
9536-00-001-SC-038	7470	8703	8050	11/18/2003	14:05:00	1105	1009
9536-00-001-SC-039	8020	9298	8570	11/18/2003	14:14:00	1106	1007
9536-00-001-SC-040	7360	8584	8070	11/18/2003	14:17:00	1112	1005
9536-00-001-SC-041	7470	8703	7690	11/18/2003	14:15:00	1105	1009
9536-00-001-SC-042	8020	9298	7680	11/18/2003	14:21:00	1106	1007
9536-00-001-SC-043	7360	8584	7230	11/18/2003	14:21:00	1112	1005
9536-00-001-SC-044	7470	8703	7840	11/18/2003	14:22:00	1105	1009
9536-00-001-SC-045	8020	9298	8590	11/18/2003	14:26:00	1106	1007
9536-00-001-SC-046	7360	8584	8120	11/18/2003	14:27:00	1112	1005
9536-00-001-SC-047	7470	8703	7210	11/18/2003	14:27:00	1105	1009
9536-00-001-SC-048	8020	9298	8290	11/18/2003	14:31:00	1106	1007
9536-00-001-SC-049	7360	8584	8050	11/18/2003	14:32:00	1112	1005
9536-00-001-SC-050	7470	8703	6860	11/18/2003	14:32:00	1105	1009
9536-00-001-SC-050	7470	8703	7790	11/18/2003	14:32:00	1105	1009
9536-00-001-SC-051	8020	9298	7500	11/18/2003	14:36:00	1106	1007
9536-00-001-SC-052	7360	8584	6980	11/18/2003	14:36:00	1112	1005
9536-00-001-SC-053	7470	8703	8240	11/18/2003	14:37:00	1105	1009
9536-00-001-SC-054	8020	9298	7780	11/18/2003	14:39:00	1106	1007
9536-00-001-SC-055	7360	8584	8100	11/18/2003	14:41:00	1112	1005
9536-00-001-SC-055	7360	8584	7820	11/18/2003	14:41:00	1112	1005
9536-00-001-SC-056	7470	8703	8210	11/18/2003	14:40:00	1105	1009

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000


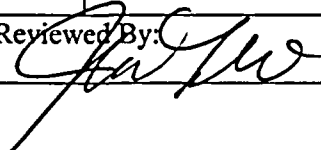
RELEASE RECORD

Attachment 2d
Split Sample Assessment Forms
(2 Pages)

Split Sample Assessment Form

Survey Area#: 9536		Survey Unit #: 0000		Survey Unit name: Construction Piles Near The Rifle Range																
Sample Plan or WPIR#: 24265-000-GEN-0000-00135-000						SML#: 9536-0000-004														
Sample Description: Comparison of split samples collected from sample measurement location #4 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9536-0000-004F, the comparison sample was 9536-0000-004FS.																				
STANDARD					COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
Cs-137	9.10E-3	1.37E-2	0.67	----	5.02E-3	1.41E-2	1.81	N												
K-40	11.7	8.70E-1	13	0.6 – 1.66	10.4	8.15E-1	0.9	Y												
Ra-226	6.09E-1	6.55E-2	9	0.6 – 1.66	5.23E-1	6.25E-2	1.2	Y												
Comments/Corrective Actions: Reported cesium-137 concentrations were too low to effectively perform comparison. Performed split sample comparison using potassium-40 (K-40) and radium-226 (Ra-226). Potassium-40 and radium-226 comparisons satisfactory.					Table is provided to show acceptance criteria used to assess split samples. <table style="margin-left: auto; margin-right: auto; border: none;"> <tr> <td style="text-align: center;"><u>Resolution</u></td> <td style="text-align: center;"><u>Agreement Range</u></td> </tr> <tr> <td style="text-align: center;">4 - 7</td> <td style="text-align: center;">0.5 - 2.0</td> </tr> <tr> <td style="text-align: center;">8 - 15</td> <td style="text-align: center;">0.6 - 1.66</td> </tr> <tr> <td style="text-align: center;">16 - 50</td> <td style="text-align: center;">0.75 - 1.33</td> </tr> <tr> <td style="text-align: center;">51 - 200</td> <td style="text-align: center;">0.80 - 1.25</td> </tr> <tr> <td style="text-align: center;">>200</td> <td style="text-align: center;">0.85 - 1.18</td> </tr> </table>				<u>Resolution</u>	<u>Agreement Range</u>	4 - 7	0.5 - 2.0	8 - 15	0.6 - 1.66	16 - 50	0.75 - 1.33	51 - 200	0.80 - 1.25	>200	0.85 - 1.18
<u>Resolution</u>	<u>Agreement Range</u>																			
4 - 7	0.5 - 2.0																			
8 - 15	0.6 - 1.66																			
16 - 50	0.75 - 1.33																			
51 - 200	0.80 - 1.25																			
>200	0.85 - 1.18																			
Performed By: 		Date: 2.18.05		Reviewed By: 			Date: 2/22/05													

Split Sample Assessment Form

Survey Area#: 9536		Survey Unit #: 0000		Survey Unit name: Construction Piles Near The Rifle Range																
Sample Plan or WPIR#: 24265-000-GEN-0000-00135-000				SML#: 9536-0000-013																
Sample Description: Comparison of split samples collected from sample measurement location #13 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9536-0000-013F, the comparison sample was 9536-0000-013FS.																				
STANDARD					COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
Cs-137	1.48E-1	2.33E-2	6	0.5 - 2.0	1.87E-2	1.43E-2	0.1	N												
K-40	10.9	8.45E-1	13	0.6 - 1.66	9.09	7.15E-1	0.8	Y												
Ra-226	7.07E-1	7.30E-2	10	0.6 - 1.66	5.85E-1	6.05E-2	0.8	Y												
Comments/Corrective Actions: Reported cesium-137 concentrations were too low to effectively perform comparison. Performed split sample comparison using potassium-40 (K-40) and radium-226 (Ra-226). Potassium-40 and radium-226 comparisons satisfactory.					Table is provided to show acceptance criteria used to assess split samples. <table style="margin-left: auto; margin-right: auto; border: none;"> <tr> <td style="text-align: center;"><u>Resolution</u></td> <td style="text-align: center;"><u>Agreement Range</u></td> </tr> <tr> <td style="text-align: center;">4 - 7</td> <td style="text-align: center;">0.5 - 2.0</td> </tr> <tr> <td style="text-align: center;">8 - 15</td> <td style="text-align: center;">0.6 - 1.66</td> </tr> <tr> <td style="text-align: center;">16 - 50</td> <td style="text-align: center;">0.75 - 1.33</td> </tr> <tr> <td style="text-align: center;">51 - 200</td> <td style="text-align: center;">0.80 - 1.25</td> </tr> <tr> <td style="text-align: center;">>200</td> <td style="text-align: center;">0.85 - 1.18</td> </tr> </table>				<u>Resolution</u>	<u>Agreement Range</u>	4 - 7	0.5 - 2.0	8 - 15	0.6 - 1.66	16 - 50	0.75 - 1.33	51 - 200	0.80 - 1.25	>200	0.85 - 1.18
<u>Resolution</u>	<u>Agreement Range</u>																			
4 - 7	0.5 - 2.0																			
8 - 15	0.6 - 1.66																			
16 - 50	0.75 - 1.33																			
51 - 200	0.80 - 1.25																			
>200	0.85 - 1.18																			
Performed By: 		Date: 2.18.05		Reviewed By: 		Date: 2/22/05														

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 2e
Preliminary Data Review Forms
(1 Page)

PRELIMINARY DATA REVIEW FORM - SAMPLES FOR SIGN TEST

Survey Unit: 9536-0000
 Survey Unit Name: Construction Piles Near The Rifle Range
 Classification: 2
 Survey Media: Soil
 Type of Survey: Final Status Survey
 Type of Measurement: Radionuclide Specific
 Number of Measurements: 15
 Operational DCGL: 1

BASIC STATISTICAL QUANTITIES

	Cs-137	Co-60
RANGE Minimum Value:	-2.30E-02	-2.65E-02
Maximum Value:	1.52E-01	2.88E-02
Mean:	3.61E-02	-1.73E-04
Median:	2.15E-02	-5.25E-03
Standard Deviation:	4.90E-02	1.50E-02
Radioactive concentration variance of the weighted sum ⁽¹⁾ :	1.84E-02	

RADIONUCLIDE CONCENTRATION (pCi/g)

NUMBER	Cs-137	Identified?	Co-60	Identified?
9536-0000-001F01	2.27E-02		9.00E-03	
9536-0000-002F	1.91E-02		-6.71E-03	
9536-0000-003F	2.97E-02		-9.61E-03	
9536-0000-004F	9.10E-03		-5.25E-03	
9536-0000-005F	2.23E-02		3.25E-03	
9536-0000-006F01	-2.30E-02		-1.41E-02	
9536-0000-007F	1.19E-02		-9.67E-03	
9536-0000-008F	1.37E-02		-2.65E-02	
9536-0000-009F01	1.57E-02		-1.49E-03	
9536-0000-010F	2.92E-02		2.88E-02	Y
9536-0000-011F	1.34E-02		2.66E-02	
9536-0000-012F	1.52E-01	Y	-7.82E-03	
9536-0000-013F	1.48E-01	Y	-9.81E-03	
9536-0000-014F	2.15E-02		9.51E-03	
9536-0000-015F01	5.65E-02	Y	1.12E-02	

(1) MARSSIM Section I.11.3 describes the use of the radioactive concentration variance of the weighted sum when measured concentrations of the various radionuclides are assumed to be uncorrelated (i.e., there is not a fixed ratio between the concentrations)

CS 2.13.05
 Submitted by/Date

[Signature]
 Reviewed by/Date

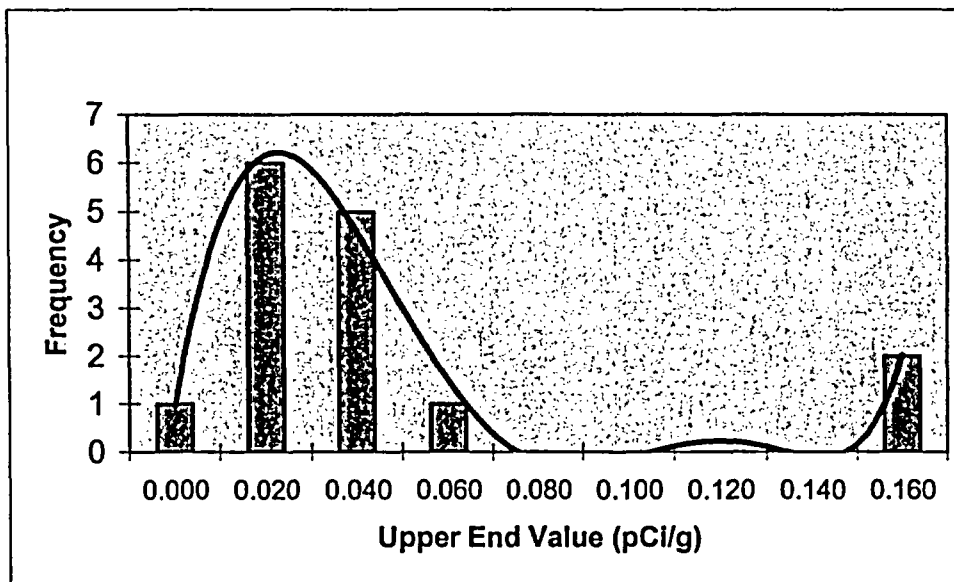
CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 2f
Graphical Representation of Data
(4 Pages)

FREQUENCY PLOT FOR CESIUM-137

Survey Unit: 9536-0000
 Survey Unit Name: Construction Piles Near The Rifle Range
 Mean: 0.0361 pCi/g



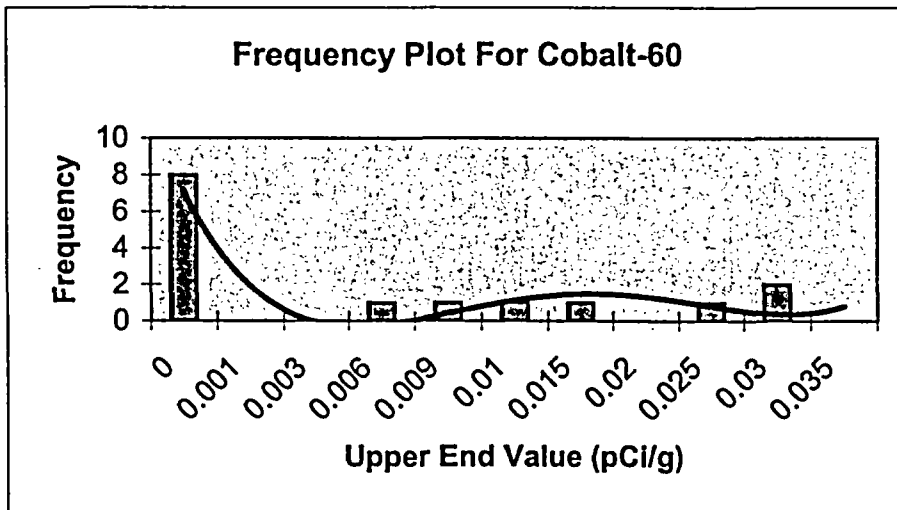
Upper End Value	Observation Frequency	Observation Frequency
0	1	7%
0.02	6	40%
0.04	5	33%
0.06	1	7%
0.08	0	0%
0.1	0	0%
0.12	0	0%
0.14	0	0%
0.16	2	13%
Total:	15	100%

[Signature] 2.17.05
 Submitted By/Date

[Signature] 2/22/05
 Reviewed By/Date

FREQUENCY PLOT FOR COBALT-60

Survey Unit: 9536-0000
 Survey Unit Name: Construction Piles Near the Rifle Range
 Mean: -0.003 pCi/g



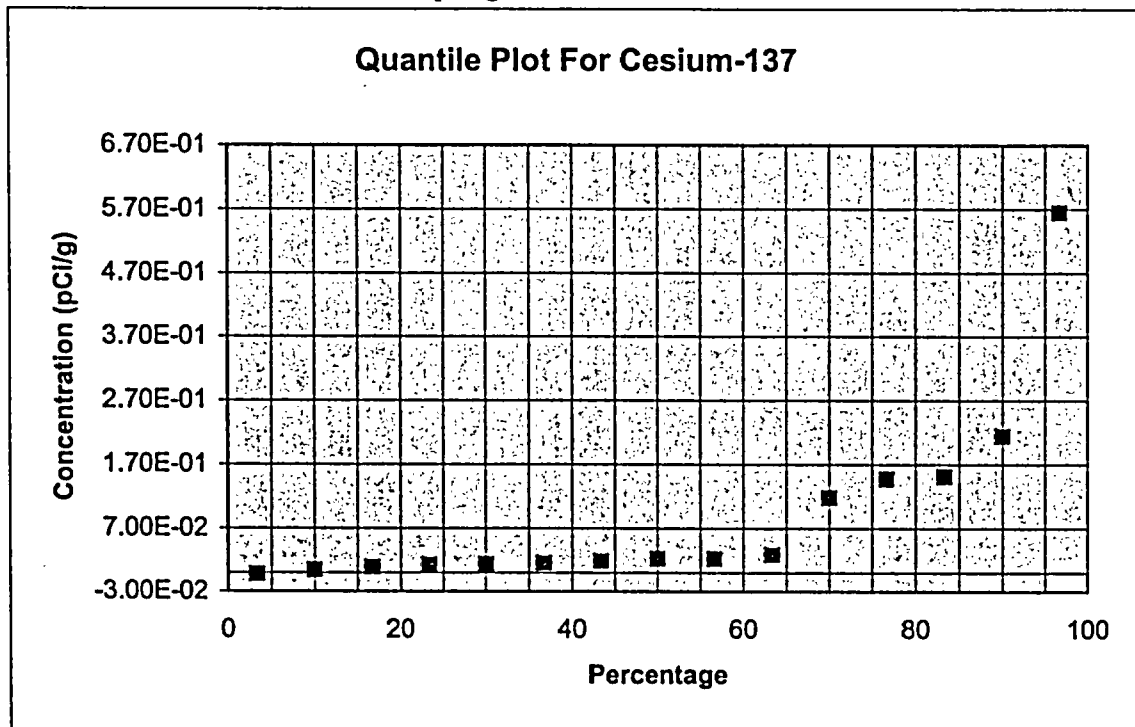
Upper End Value	Observation Frequency	Observation Frequency
0	8	53%
0.001	0	0%
0.003	0	0%
0.006	1	7%
0.009	1	7%
0.01	1	7%
0.015	1	7%
0.02	0	0%
0.025	1	7%
0.03	2	13%
0.035	0	0%
Total=	15	100%

[Signature] 2.17.05
 Submitted by/Date

[Signature] 2/22/05
 Reviewed by/Date

Quantile Plot for Cs-137

Survey Unit: 9536-0000
 Survey Unit Name: Countruction Piles Near the Rifle Range
 Mean: 8.98E-02 pCi/g



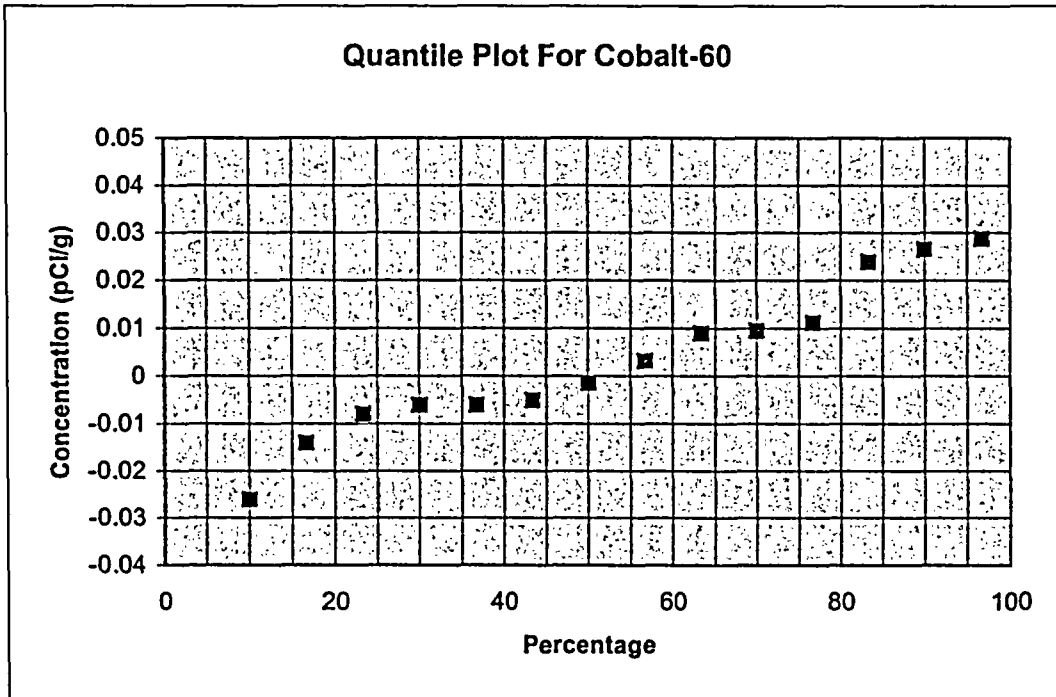
Cs-137	Rank	Percentage
-2.00E-03	1	3%
5.00E-03	2	10%
9.10E-03	3	17%
1.34E-02	4	23%
1.37E-02	5	30%
1.57E-02	6	37%
1.91E-02	7	43%
2.23E-02	8	50%
2.27E-02	9	57%
2.92E-02	10	63%
1.19E-01	11	70%
1.48E-01	12	77%
1.52E-01	13	83%
2.15E-01	14	90%
5.65E-01	15	97%

Chen 2.17.05
 Submitted By/Date

[Signature] 2/22/05
 Reviewed By/Date

Quantile Plot for Cobalt-60

Survey Unit: 9536-0000
 Survey Unit Name: Construction Piles Near the Rifle Range
 Mean: -0.003 pCi/g



Co-60	Rank	Percentage
-9.81E-02	1	3%
-2.60E-02	2	10%
-1.40E-02	3	17%
-7.82E-03	4	23%
-6.00E-03	5	30%
-6.00E-03	6	37%
-5.00E-03	7	43%
-1.40E-03	8	50%
3.25E-03	9	57%
9.00E-03	10	63%
9.51E-03	11	70%
1.12E-02	12	77%
2.39E-02	13	83%
2.66E-02	14	90%
2.88E-02	15	97%

Chris R 2.17.05
 Submitted By/Date

[Signature] 2/22/05
 Reviewed By/Date

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 2g
Sign Test Calculation
(1 Page)

Sign Test Calculation Sheet For Multiple Radionuclides

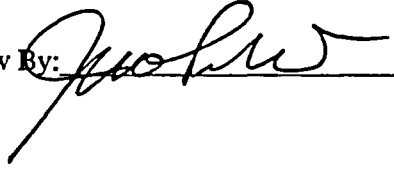
Survey Unit Number: 9536-0000				
Survey Unit Name: Construction Piles Near Rifle Range				
WP&IR#: 24265-000-GEN-0000-00135-000				
Classification: 2		TYPE I (α error): 0.05		TYPE II (β error): 0.05
Radionuclides:		Cesium-137	Cobalt-60	
Survey Design DCGL (pCi/g):		3.16	1.52	
Results 1 st Radionuclide (pCi/g)	Results 2 nd Radionuclide (pCi/g)	Weighted sum (W_s)	$1 - W_s$	Sign
2.27E-02	9.00E-03	1.31E-02	9.87E-01	1
1.91E-02	-6.71E-03	1.63E-03	9.98E-01	1
2.97E-02	-9.61E-03	3.08E-03	9.97E-01	1
9.10E-03	-5.25E-03	-5.74E-04	1.00E+00	1
2.23E-02	3.25E-03	9.20E-03	9.91E-01	1
-2.30E-02	-1.41E-02	-1.66E-02	1.02E+00	1
1.19E-02	-9.67E-03	-2.60E-03	1.00E+00	1
1.37E-02	-2.65E-02	-1.31E-02	1.01E+00	1
1.57E-02	-1.49E-03	3.99E-03	9.96E-01	1
2.92E-02	2.88E-02	2.82E-02	9.72E-01	1
1.34E-02	2.66E-02	2.17E-02	9.78E-01	1
1.52E-01	-7.82E-03	4.30E-02	9.57E-01	1
1.48E-01	-9.81E-03	4.04E-02	9.60E-01	1
2.15E-02	9.51E-03	1.31E-02	9.87E-01	1
5.65E-02	1.12E-02	2.52E-02	9.75E-01	1
Number Of Positive Differences (S+):				15

Critical Value: 11

Survey Unit: Meets Acceptance Criterion

Performed By: 

Date: 2.19.05

Independent Review By: 

Date: 2/22/05

CONSTRUCTION PILES NEAR THE RIFLE RANGE
SURVEY UNIT 9536-0000

RELEASE RECORD

Attachment 2h
COMPASS DQA Surface Soil Report With
Retrospective Power Curve
(3 Pages)

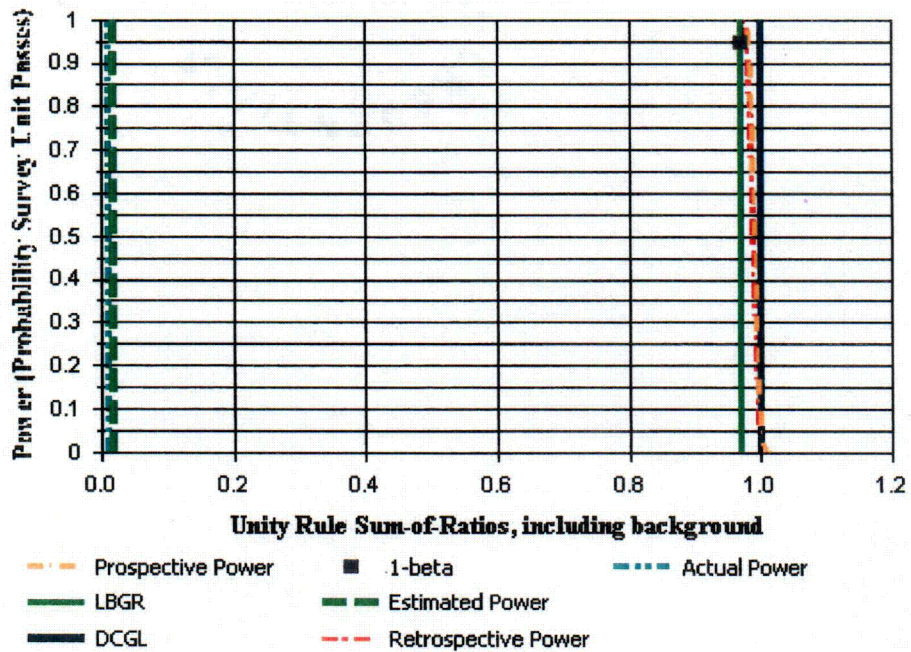


DQA Surface Soil Report

Assessment Summary

Site: Survey Unit 9536-0000
Planner(s): John McCarthy
Survey Unit Name: Construction Piles near the Rifle Range
Report Number: 1
Survey Unit Samples: 15
Reference Area Samples: 0
Test Performed: Sign Test Result: Not Performed
Judgmental Samples: 0 EMC Result: Not Performed
Assessment Conclusion: **Reject Null Hypothesis (Survey Unit PASSES)**

Retrospective Power Curve





DQA Surface Soil Report

Survey Unit Data

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Co-60 (pCi/g)	Cs-137 (pCi/g)
9536-0000-001F01	S	0.01	0.02
9536-0000-002F	S	-0.01	0.02
9536-0000-003F	S	-0.01	0.01
9536-0000-004F	S	0.02	0.01
9536-0000-005F	S	0	0.02
9536-0000-006F01	S	-0.01	-0.02
9536-0000-007F	S	-0.01	0.01
9536-0000-008F	S	-0.03	0.01
9536-0000-009F01	S	0	0.02
9536-0000-010F	S	0.03	0.03
9536-0000-011F	S	0.03	0.01
9536-0000-012F	S	-0.01	0.15
9536-0000-013F	S	-0.01	0.15
9536-0000-014F	S	0.01	0.02
9536-0000-015F01	S	0.01	0.06

Modified Data (Unity Rule SOR)

NOTE: Type = "S" indicates survey unit sample.
Type = "R" indicates reference area sample.

Sample Number	Type	Sum-of-Ratios (SOR)
9536-0000-001F01	S	0.01
9536-0000-002F	S	0
9536-0000-003F	S	0
9536-0000-004F	S	0.02
9536-0000-005F	S	0.01
9536-0000-006F01	S	-0.02
9536-0000-007F	S	0
9536-0000-008F	S	-0.01
9536-0000-009F01	S	0
9536-0000-010F	S	0.03
9536-0000-011F	S	0.02
9536-0000-012F	S	0.04
9536-0000-013F	S	0.04
9536-0000-014F	S	0.01
9536-0000-015F01	S	0.03



DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=18
Mean (SOR)	0.01	N/A	0.02
Median (SOR)	0.01	N/A	N/A
Std Dev (SOR)	0.02	N/A	0.02
High Value (SOR)	0.04	N/A	N/A
Low Value (SOR)	-0.02	N/A	N/A