




Final Status Survey Final Report Phase III

**Appendix A5
Survey Unit Release Record
9527-0004, East Mountain Side**

Revision 1, September 2006



CYAPCO
FINAL STATUS SURVEY RELEASE RECORD
EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

Prepared By: 
FSS Engineer

Date: 9/15/06

Reviewed By: 
FSS Engineer

Date: 9-15-06

Approved By: 
Technical Support Manager

Date: 9-18-06

TABLE OF CONTENTS

1. SURVEY UNIT DESCRIPTION	3
2. CLASSIFICATION BASIS	3
3. DATA QUALITY OBJECTIVES (DQO)	5
4. SURVEY DESIGN	8
5. SURVEY IMPLEMENTATION.....	11
6. SURVEY RESULTS.....	12
7. QUALITY CONTROL	16
8. INVESTIGATIONS AND RESULTS.....	17
9. REMEDIATION AND RESULTS	20
10. CHANGES FROM THE FINAL STATUS SURVEY PLAN	20
11. DATA QUALITY ASSESSMENT (DQA)	20
12. ANOMALIES	21
13. CONCLUSION	21
14. ATTACHMENTS	22
14.1 Attachment 1 – Figures (7 pages including cover)	
14.2 Attachment 2 – Sample and Statistical Data (165 pages including covers)	

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

1. SURVEY UNIT DESCRIPTION

Survey Unit 9527-0004 (East Mountain Side) is designated as Final Status Survey (FSS) Class 2 and consists of 3,500 m² (0.86 acres) of uninhabited open land located approximately 0.10 miles from the reference coordinate system benchmark used at Haddam Neck Plant (HNP) (see Attachment 1, Figure 1). The survey unit is bounded by a Class 3 survey unit, 9526-0000 to the north (called north as oriented with the north to south flow of the Connecticut River), a running trail to the east, a fence to the south, and a stone wall to the west. The survey unit comprises wooded terrain with some steep rock ledge and rock outcroppings within the interior. A stream runs through the interior of the survey unit.

The soil of this survey unit meets the requirements for unrestricted release as a Class 2 survey unit under the criteria and requirements of the HNP License Termination Plan (LTP).

The reference coordinates associated with this survey unit are E015 through E025 by S045 through S062 (refer to LTP 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).

2. CLASSIFICATION BASIS

The survey unit was classified in accordance with Procedure RPM 5.1-10, "*Survey Unit Classification*." The historical information, scoping analyses and characterization results provided sufficient data to designate Survey Unit 9527-0004 as Class 2 in August 2005.

The "*Classification Basis Summary*" conducted for Survey Unit 9527-0004 consisted of:

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

A review of the 10CFR50.75 (g) (1) database report identifies six (6) documents associated with or relating to this survey unit.

- a) Event PIR 80-37: Contamination was documented to be present in an area outside the restricted area. Small areas of low-level contamination were found on the facility grounds through routine survey in a normally non-radioactive area. The areas were cleaned up in 1980.

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

- b) Radiological Assessment Branch (RAB) memo NE-83-RA-1374 (September 1983): Results of a contamination survey outside the southeast RCA boundary has identified plant related activity in an adjacent survey unit to 9527. According to the memo the source could have been the events described by PIR 80-37.
- c) Adverse Condition Report ACR 97-0994: Soil sample analysis identified plant related radioactivity on hillside east of plant (in another survey unit of 9527).
- d) Scoping Survey Report 1998: Results of scoping samples performed for decommissioning characterization data. Cesium-137 was the predominate radionuclide found in this survey unit during the scoping survey. No other plant-related radionuclides were identified in this survey unit.
- e) Event CR 05-0244: Tank farm material with low-level fixed contamination was found on the East Mountain Side in another survey unit of 9527. The single piece of tent material was found in survey unit 9527-0005 along the fence and about five hundred fifty (550) feet from the nearest boundary of 9527-0004.
- f) Memo ISC 05-045: Periodic surveillance following final status survey. Surveillance is required periodically by the LTP to ensure the radiological condition does not significantly change from the FSS results. The memo documents no negative change in the radiological status.

A review of the *“Initial and Supplemental Characterization Reports”* as well as the previous *“Classification Basis Summaries”* provided no additional information pertinent to classification.

Characterization was performed by Site Closure personnel in April 2005 to determine existing conditions and obtain radiological data for Final Status Survey (FSS). The reported concentrations of Cs-137 found in the soil were statistically consistent with those concentrations in wooded areas determined from off-site locations as documented by Health Physics Technical Support Document (TSD) BCY-HP-0063, *“Background Cs-137 Concentration in Soil.”* The average concentration was 0.695 pCi/g as expected; however, one (1) sample reported Cs-137 at a concentration of 2.37 pCi/g. The same sample reported Co-60 at a concentration of 0.0954 pCi/g. The basic statistical quantities (i.e., mean, standard deviation, median) for Cs-137 and Co-60 are provided in Table 1.

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Table 1 – Basic Statistical Quantities for Cs-137 and Co-60 from the Characterization Survey

Parameter	Cs-137 (pCi/g)	Co-60 (pCi/g)
Minimum Value:	4.03E-02	-7.80E-03
Maximum Value:	2.37E+00	9.54E-02
Mean:	6.95E-01	2.21E-02
Median:	6.71E-01	1.66E-02
Standard Deviation:	5.75E-01	2.67E-02

The FSS Engineer performed a visual inspection and walkdown during July 2005 to assess the physical condition of the survey unit, evaluate access points and travel paths and identify potentially hazardous conditions.

The final designation was Class 2 based on historical information (HSA Supplement and LTP Table 2.10 and 2.11B) and characterization survey data which resulted in the expectation that no FSS sample would be reported in a concentration that that would exceed the LTP criteria.

3. DATA QUALITY OBJECTIVES (DQO)

FSS design and planning used 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. Probabilistic sampling is a preferred method to select a sample so that each item in the population being studied has a known likelihood of being included in the sample. Probabilistic sampling might include simple random sampling where every sample has the same chance of being included, or systematic random sampling where samples are arranged in some order and a random starting point is selected.

The primary objective of the Final Status Survey Plan (FSSP) was to demonstrate that the level of residual radioactivity in Survey Unit 9527-0004 did not exceed the release criteria specified in the LTP and that the potential dose from residual radioactivity is As Low As Reasonably Achievable (ALARA).

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

A fundamental precursor to survey design is to establish a relationship between the release criteria and some measurable quantity. This is done through the development of Derived Concentration Guideline Values (DCGLs). The DCGLs represent average levels of radioactivity above background levels and are presented in terms of surface or mass activity concentrations. Chapter 6 of the LTP describes in detail the modeling used to develop the DCGLs for soil (called Base Case Soil DCGL), existing groundwater radioactivity and future groundwater radioactivity from building basements and footings.

The DCGLs presented in Chapter 6 of the LTP were developed for exposures from three (3) components, that is, residual radioactivity in soil, existing groundwater radioactivity, and future groundwater radioactivity from the burial of concrete foundations or footings from site buildings containing residual radioactivity. Equation 1 shows the mathematical relationship between the three (3) components and the total dose.

Equation 1:

$$H_{\text{Total}} = H_{\text{Soil}} + H_{\text{Existing GW}} + H_{\text{Future GW}}$$

The total dose under the LTP criteria is 25 mrem/yr TEDE from all three components. The allowable total dose under the Connecticut Department of Environmental Protection (CTDEP) radiological remediation standard for Connecticut Yankee (CY) is 19 mrem/yr TEDE. To satisfy both the LTP and CY CTDEP criteria, the dose from soil must be reduced when using the existing and future groundwater dose values discussed above.

This survey unit is affected by existing groundwater (reference CY memo ISC 06-024 and the Final Status Survey Final Report Phase III). The dose contribution from existing groundwater is bounded at 2 mrem/yr TEDE based on field data.

This survey unit is not considered impacted by future groundwater radioactive contamination, as there are no concrete foundations or footings containing residual radioactive material within the groundwater saturated zone in the area (reference CY memo ISC 06-024). The dose contribution from future groundwater, the third dose component, is therefore 0 mrem/yr TEDE.

Equation 2:

$$19 \text{ mrem/yr}_{\text{Total}} = 17 \text{ mrem/yr}_{\text{Soil}} + 2 \text{ mrem/yr}_{\text{Existing GW}} + 0 \text{ mrem/yr}_{\text{Future GW}}$$

The allowable dose for soil in this survey unit is 17 mrem/yr TEDE as shown by Equation 2 above. The concentration of residual radioactivity resulting in 17 mrem/yr TEDE is designated as the Operational DCGL, and has been established for the radionuclides of concern as provided in Table 2. Note, the survey design used a much smaller value for investigation than the

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Operational DCGL provided by Table 2 to conservatively account for the contribution to the total dose from existing and future groundwater which had not been established at the time of planning the FSS.

Table 2 – Radionuclide Specific Base Case Soil DCGL, Operational DCGLs and Required Minimum Detectable Concentrations

Radionuclide ⁽¹⁾	Base Case Soil DCGL (pCi/g) ⁽²⁾	Operational DCGL (pCi/g) ⁽³⁾	Required MDC (pCi/g) ⁽⁴⁾
H-3	4.12E+02	2.80E+02	1.65E+01
C-14	5.66E+00	3.85E+00	2.26E-01
Mn-54	1.74E+01	1.18E+01	6.96E-01
Fe-55	2.74E+04	1.86E+04	1.10E+03
Co-60	3.81E+00	2.59E+00	1.52E-01
Ag-108m	7.14E+00	4.86E+00	2.86E-01
Ni-63	7.23E+02	4.92E+02	2.89E+01
Sr-90	1.55E+00	1.05E+00	6.20E-02
Nb-94	7.12E+00	4.84E+00	2.85E-01
Tc-99	1.26E+01	8.57E+00	5.04E-01
Cs-134	4.67E+00	3.18E+00	1.87E-01
Cs-137	7.91E+00	5.38E+00	3.16E-01
Eu-152	1.01E+01	6.87E+00	4.04E-01
Eu-154	9.29E+00	6.32E+00	3.72E-01
Eu-155	3.92E+02	2.67E+02	1.57E+01
Pu-238	2.96E+01	2.01E+01	1.18E+00
Pu-239/240	2.67E+01	1.82E+01	1.07E+00
Pu-241	8.70E+02	5.92E+02	3.48E+01
Am-241 ⁽⁵⁾	2.58E+01	1.75E+01	1.03E+00
Cm-243/244	2.90E+01	1.97E+01	1.16E+00

(1) **Bold** indicates those radionuclides considered to be Hard to Detect (HTD)

(2) The Base Case Soil DCGLs for soil are specified by the LTP in Chapter 6 and are equivalent to 25 mrem/yr TEDE

(3) The Operational DCGL is equivalent to 17 mrem/yr TEDE

(4) The required MDC is equivalent to 1 mrem/yr TEDE

(5) Americium-241 can be analyzed by gamma and alpha spectroscopy and is considered to be Easy to Detect (ETD). The preferred result is the alpha spectroscopy's when both analyses are performed.

Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. Characterization was performed in April 2005 as discussed in Section 2. Cesium-137 was found to be the predominate radionuclide of concern. Cobalt-60 was included in the survey design based on the characterization survey results. The basic statistical

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

quantities (i.e., mean, standard deviation, median) for Cs-137 and Co-60 are provided in Table 1.

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 required prior to issue and after the instrument had been used. Control and accountability of survey instruments was required to assure the quality and prevent the loss of data.

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

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, "Preparation of Final Status Survey Plans". By design, the FSSP meets the ALARA criteria for soils as specified in Chapter 4 of the LTP. The FSSP uses an integrated sample design that combines scanning surveys and sampling which can be either random or biased.

Characterization was performed by Site Closure personnel in April 2005 to determine existing conditions and obtain radiological data for Final Status Survey (FSS). The DQO process determined that Cs-137 and Co-60 would be the radionuclides of concern (refer to Section 3). The sum of fractions or unity rule would be used with the individual Operational DCGLs because multiple radionuclides (Cs-137 and Co-60) were considered in the survey design. Other radionuclides identified during FSS would be evaluated to ensure adequate survey design and compliance with the unity rule.

Surrogate DCGLs were not required for this survey unit based on process knowledge from FSS of nearby adjacent areas and via screening under LTP Section 5.4.7.2, "Gross Activity DCGLs". Radionuclide screening or de-selection is a process where an individual radionuclide or aggregate may be considered insignificant and eliminated from the FSS. The criteria for de-selection are concentrations less than 5% for individual radionuclides and less than 10% for aggregates.

The Elevated Measurement Comparison (EMC) did not apply to this survey unit since the survey unit is a Class 2 and discrete, elevated areas of contamination were 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,

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

which simplified survey design and implementation. This approach was conservative since it included background Cs-137 as part of the sample set.

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 Final Status Survey." The Lower Bound of the Gray Region (LBGR) was set in accordance with Procedure RPM 5.1-11 to 0.5 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. Survey design specified fifteen (15) surface soil samples for non-parametric statistical testing.

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 Final Status Survey." 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 locations were identified using AutoCAD-Lt, a commercially available plotting software package with coordinates consistent with the Connecticut State Plane System. These coordinates were integrated with a GPS to locate sample locations in the field. Sample Measurement Locations for the design are listed with the GPS coordinates in Table 3.

Table 3 -Sample Measurement Locations with Associated GPS Coordinates

Designation	Northing	Easting
9527-0004-001F	237259.72	668219.54
9527-0004-002F	237259.72	668273.38
9527-0004-003F	237259.72	668327.22
9527-0004-004F	237259.72	668381.06
9527-0004-005F	237259.72	668434.90
9527-0004-006F	237213.09	668246.46
9527-0004-007F	237213.09	668300.30
9527-0004-008F	237213.09	668354.14
9527-0004-009F	237213.09	668407.98
9527-0004-010F	237213.09	668461.82
9527-0004-011F	237166.47	668273.38
9527-0004-012F	237166.47	668327.22
9527-0004-013F	237166.47	668381.06
9527-0004-014F	237119.84	668354.14
9527-0004-015F	237119.84	668407.98

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

A minimum of two (2) judgmental or biased samples were to be collected at locations selected by FSS Supervision based on professional judgment and observation during characterization and walkdowns to determine areas having the potential for residual radioactivity (e.g., runoff and collection, area disturbance). The number of judgmental samples represented 10% 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, three (3) soil samples or 20% of the number of samples that would be used for non-parametric statistical testing were randomly selected for HTD radionuclide analysis using the Microsoft Excel "RANDBETWEEN" function. Each sample would be sent off-site for a full suite analysis of the HTD radionuclides specified in the LTP, Table 2-12, "Radionuclides Potentially Present at Haddam Neck Plant" and as provided in Table 2.

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. These locations were selected randomly using the Microsoft Excel "RANDBETWEEN" function. The number of quality control soil samples was determined to be 10% of the samples used for non-parametric statistical testing.

The LTP specifies that scanning will be performed in a combination of systematic and judgmental measurements 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. Approximately 25% of the survey unit was to be scanned based on the characterization survey and sampling results.

For this Class 2 survey unit, the "Investigation Level" for soil sample measurement results and area scanning are those levels specified in LTP, Table 5-8, "Investigation Levels." Note, the survey design used a much smaller value for investigation than the Operational DCGL provided by Table 2 to conservatively account for the contribution to the total dose from existing and future groundwater which had not been established at the time of planning the FSS.

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Table 4 – Synopsis of the Survey Design ⁽¹⁾

Feature	Design Criteria	Basis
Survey Unit Land Area	3,500 m ²	Based on AutoCAD-Lt and Visual Sample Plan calculations
Number of Measurements	15	Type 1 and Type 2 errors were 0.05, sigma was 0.228 pCi/g, the LBGR was adjusted to 0.5 to maintain Relative Shift in the range of 1 and 3, Relative Shift was 2.2
Grid Spacing	16.4	Based on triangular grid
Interval Spacing	14.2	Based on triangular grid
Design DCGL	2.53 pCi/g Cs-137 1.52 pCi/g Co-60	To achieve 8 mrem/yr TEDE
Operational DCGL	5.38 pCi/g Cs-137 2.59 pCi/g Co-60	To achieve 17 mrem/yr TEDE ⁽²⁾ to demonstrate compliance with Equation 2 of this Release Record
Scan Survey unit Coverage	Approximately 25% of the area	The LTP requires >10% area coverage for Class 2 Survey Units
Soil Investigation Level	2.53 pCi/g Cs-137 1.52 pCi/g Co-60	The Operational DCGL meets the LTP criteria for a Class 2 survey unit
Scan Investigation Level	Detectable over background	The LTP specifies investigation at the MDC _{SCAN} for a Class 2 survey unit when the MDC _{SCAN} is greater than the Operational DCGL

(1) The survey design used a much smaller value for investigation than the Operational DCGL provided by Table 2 as the total dose from existing and future groundwater had not been established at the time of planning the FSS

(2) The allowable dose for soil in this survey unit is 17 mrem/yr TEDE as the total dose from existing and future groundwater has been established (reference CY memo ISC 06-024 and the Final Status Survey Final Report Phase III)

5. SURVEY IMPLEMENTATION

Final status survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 2005-0054. 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 August 10 through August 17, 2005.

The scan areas were marked out and scanned for elevated readings (see Attachment 2 for Scan Area Results). Scanning was performed with an

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

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. Approximately 26% of the survey unit was scanned.

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

Fifteen (15) surface soil samples were collected and packaged in accordance with Haddam Neck Plant (HNP) Procedure RPM 5.1-3, "Collection of Sample Media for Final Status Survey" and FSS design. Samples were controlled, transported, stored, and transferred to the off-site laboratory using Chain-of-Custody (COC) protocol in accordance with Procedure RPM 5.1-5, "Chain of Custody for Final Status Survey Samples."

Three (3) samples (9527-0004-004F, 9527-0004-009F and 9527-0004-012F) were randomly selected for HTD radionuclide analysis by the off-site laboratory.

Two (2) biased soil samples (9527-0004-016F and 9527-0004-017F) were collected and analyzed by the off-site laboratory for gamma spectroscopy.

The implementation of survey specific quality control measures included the collection of two (2) samples (9527-0004-002F and 9527-0004-013F) for "split sample" analysis by the off-site laboratory.

6. SURVEY RESULTS

The seventeen (17) sample measurement locations identified in the FSS plan were scanned about a one (1) meter radius for elevated radiation levels. Table 5 provides an overview of the scan area survey. Scan area results are provided in Attachment 2.

Table 5- Scan Area Results for Sample Measurement Locations

Sample Measurement Location	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	> Action Level ⁽²⁾
1	12.9	13.6	No
2	17.7	18.9	No
3	25.7	22.0	Yes
4	9.22	11.2	No
5	8.84	9.88	No
6	12.4	12.4	Yes
7	19.4	12.6	Yes
8	12.1	11.3	Yes
9	8.65	8.81	No

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Table 5- Scan Area Results for Sample Measurement Locations

Sample Measurement Location	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	> Action Level ⁽²⁾
10	5.64	6.36	No
11	7.95	9.70	No
12	10.9	11.9	No
13	7.75	9.60	No
14	8.95	10.9	No
15	7.26	8.90	No
16	12.7	14.7	No
17	13.2	13.4	No

(1) The action level is based on a measurement above ambient background

(2) Samples are collected from the location within the boundaries of the scan yielding a response above the action level

Fifteen (15) areas were scanned for elevated radiation levels. Several elevated areas were identified and were determined to be Naturally Occurring Radioactive Material (NORM) based on the presence of rock outcroppings and the lack of soil in the area. Table 6 provides an overview of the scan area survey. Scan area results are provided in Attachment 2.

Table 6- Scan Area Results

Scan Area	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	Elevated Reading Identification ⁽²⁾	Investigation Sample
1	12.1	11.6	SC-01-05-0	None ⁽³⁾
2	32.2	13.4	SC-01-13-0	None ⁽³⁾
			ER-01-13-1	
			ER-01-13-2	
			SC-01-14-0	
			SC-01-15-0	
3	11.2	11.4	None – no elevated areas identified	None
4	12.4	13.5	None – no elevated areas identified	None
5	9.84	20.9	None – no elevated areas identified	None
6	9.75	10.5	None – no elevated areas identified	None

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Table 6- Scan Area Results

Scan Area	Highest Logged Reading (kcpm)	Action Level ⁽¹⁾ (kcpm)	Elevated Reading Identification ⁽²⁾	Investigation Sample
7	10.0	10.6	None – no elevated areas identified	None
8	10.2	10.4	None – no elevated areas identified	None
9	10.1	11.4	None – no elevated areas identified	None
10	9.66	10.0	None – no elevated areas identified	None
11	11.9	12.8	None – no elevated areas identified	None
12	11.5	12.1	None – no elevated areas identified	None
13	37.8	17.4	ER-03-17-1	None ⁽³⁾
			ER-03-18-1	
			ER-03-20-1	
			ER-03-21-1	
			ER-03-23-1	
14	31.3	15.4	SC-03-27-0	None ⁽³⁾
			SC-03-30-0	
			SC-03-32-0	
15	15.8	19.0	None – no elevated areas identified	None

(1) The action level is based on a measurement above ambient background

(2) ER and SC are abbreviations associated with the barcodes used in the field where ER stands for Elevated Reading and SC refers to Scan

(3) Elevated readings were determined to be due to Naturally Occurring Radioactive Material (NORM) as there were outcroppings of rock and no soil in the area (refer to Section 8).

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories, LLC, Charleston, South Carolina. 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

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

MDC. Gamma spectroscopy results identified radionuclides other than Cs-137 and Co-60 meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty). All could be de-selected or excluded using the 5% and 10% rule described in Section 4.

Cesium-137 was identified in all of the fifteen (15) samples. Cobalt-60 was identified in two (2) of the fifteen (15) samples. The average gamma spectroscopy results for Cs-137 were slightly higher than the concentrations of Cs-137 found in soil at off-site locations within the vicinity of the HNP as presented in the Health Physics TSD BCY-HP-0063.

None of the samples exceeded 61% of the Operational DCGL. Two (2) reported sample results exceeded the soil investigation criteria based on achieving 8 mrem/yr TEDE. Investigation was conducted in accordance with the FSSP (refer to Section 8). A summary of the sample gamma spectroscopy results is provided in Table 7.

Table 7- Summary of Soil Sample Results

Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Fraction of the Operational DCGL ⁽¹⁾
9527-0004-001F	1.10E+00	2.74E-02	0.215
9527-0004-002F	2.75E+00	6.67E-02	0.537
9527-0004-003F	3.24E+00	1.59E-02	0.608
9527-0004-004F	5.55E-01	2.96E-02	0.115
9527-0004-005F	6.53E-01	8.33E-03	0.125
9527-0004-006F	1.42E+00	0.00E+00	0.264
9527-0004-007F	5.31E-01	4.41E-02	0.116
9527-0004-008F	1.02E+00	1.84E-02	0.197
9527-0004-009F	7.64E-01	1.93E-02	0.149
9527-0004-010F	9.04E-01	2.09E-02	0.176
9527-0004-011F	1.15E+00	1.97E-02	0.221
9527-0004-012F	1.55E+00	3.47E-02	0.302
9527-0004-013F	5.13E-01	5.56E-03	0.097
9527-0004-014F	1.86E+00	4.85E-02	0.364
9527-0004-015F	6.10E-01	1.39E-02	0.119

(1) The Operational DCGLs from Table 2 are 5.38 pCi/g for Cs-137 and 2.59 pCi/g for Co-60 and are used in conjunction with the unity rule to achieve 17 mrem/yr TEDE

The off-site laboratory also processed three (3) samples for HTD analysis as required by the sample plan. The requested analyses included alpha spectroscopy, gas proportional counting, and liquid scintillation depending on the radionuclide and the measurement method. All analyses met the required MDC. Table 8 lists the results for those radionuclides meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty) in more than one sample. Note, Tc-99 can be de-selected based on the 5% and 10% rules.

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Table 8-Hard-to-Detect Sample Results

Sample	Tc-99 (pCi/g)	Fraction of the Operational DCGL ⁽¹⁾
9527-0004-004F	2.17E-01	0.025
9527-0004-009F	2.10E-01	0.025
9527-0004-010F	2.64E-01	0.031

(1) The Operational DCGL from Table 2 is 8.57 pCi/g for Tc-99 to achieve 17 mrem/yr TEDE

Two (2) biased samples were collected at locations selected by FSS Supervision based on professional judgment and observation. Gamma spectroscopy analysis was performed by the off-site laboratory to the required MDC. A summary of the all sample results is provided in Table 9.

Table 9- Biased Sample Results

Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Fraction of the Operational DCGL ⁽¹⁾
9527-0004-016F	9.91E-02	-9.73E-03	0.015
9527-0004-017F	4.71E-01	-3.15E-03	0.086

(1) The Operational DCGLs from Table 2 are 5.38 pCi/g for Cs-137 and 2.59 pCi/g for Co-60 and are used in conjunction with the unity rule to achieve 17 mrem/yr TEDE

7. QUALITY CONTROL

The off-site laboratory processed the split samples and performed gamma spectroscopy analysis. Ten percent (10%) 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 unacceptable agreement between field split results for Cs-137 which was identified under Condition Report (CR) 05-0781.

Evaluation of the data using the reported results for NORM resulted in acceptable agreement. The source of the disagreement for Cs-137 is likely a disproportionate amount of organic material in the field splits. A review of the Daily Survey Journals (field notes) and interviews with FSS Supervision indicate this to be the apparent cause. Field Supervision noted that the rocky terrain and undergrowth made sample collection difficult (refer to Section 8 for additional discussion on this topic).

The sample analysis vendor, General Engineering Laboratories, LLC, Charleston, South Carolina, maintains quality control and quality assurance plans as part of normal operation. Refer to Attachment 2 for data and data quality analysis results.

RELEASE RECORD

8. INVESTIGATIONS AND RESULTS

Fourteen (14) localized areas were found to verifiably exceed their investigation level during the scan area survey. The Daily Survey Journals described the areas as abounding with rock outcroppings covered by a thin layer (about 1 inch to 2 inch) of dead roots and dead vegetation (refer to picture 1).

Picture 1 – A view showing the topography of the survey unit looking north-northeast.



The suspected source of the high background is NORM given the survey unit's geology. The rock types found on the hill and under the station area consist of a suite of recrystallized volcanic rocks mapped regionally as the Monson Gneiss and Middletown Formation (refer to the HNP Historical Site Assessment Supplement). Rock outcroppings and ledges containing microcline-quartz pegmatite, a coarse grained rock of granitic composition, have been identified on HNP property (refer to Health Physics TSD CY-HP-0150, "Investigation of Rock Outcropping Exhibiting Elevated Activity.") Uranium is included with the minerals associated with this pegmatite. A primary component of pegmatite intrusives is the mineral orthoclase which contains K-40. Although the concentrations of K-40 are relatively small compared to the other isotopes, it is enough to be detected during a survey considering the fact that the pegmatites are extensively injected into the bedrock.

Evaluation of the soil sample data shows that two (2) sample results were higher than the concentrations of Cs-137 found in soil at off-site locations within the vicinity of the HNP and the survey design specification for investigation (see Note in Table 4). The sample locations were 9527-0004-0002 and 9527-0004-

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

0003 (the results can be found in Table 7). Confirmatory samples were collected to determine the cause and extent of contamination. The samples were analyzed by the off-site laboratory and the reported results confirmed elevated radioactivity. Additional samples were collected at sample location 9527-0004-003 and were analyzed by gamma spectroscopy on-site. Additional samples could not be collected at sample location 9527-0004-002 due to the amount of bedrock outcropping and lack of soil to collect according to the Daily Survey Journal. The on-site and off-site gamma spectroscopy results are included in Table 10.

Table 10- Confirmatory Sample Results				
Original Sample Location	Sample Number	Cs-137 pCi/g	Co-60 pCi/g	Fraction of the Operational DCGL ⁽¹⁾
9527-0004-002	9527-0004-2A	3.72E+00	0.00E+00	0.691
	9527-0004-2B	3.25E+00	0.00E+00	0.604
	9527-0004-2C	5.53E+00	0.00E+00	1.028
	9527-0004-2D	3.41E+00	2.86E-01	0.744
9527-0004-003	9527-0004-3A	2.83E+00	1.12E-02	0.530
	9527-0004-3B	3.90E+00	5.13E-02	0.745
	9527-0004-3C	3.83E+00	6.92E-02	0.739
	9527-0004-3D	1.40E+00	-3.24E-03	0.259
	9527-0004-3E	1.58E+00	1.23E-01	0.341
	9527-0004-3F	4.34E-01	1.13E-01	0.124
	9527-0004-3G	1.60E+00	1.46E-01	0.354
	9527-0004-3H	1.03E+00	1.35E-01	0.244
	9527-0004-3I	1.07E+00	1.39E-01	0.253
	9527-0004-3J	6.10E-01	1.34E-01	0.165
	9527-0004-3K	5.32E-01	1.21E-01	0.146
	9527-0004-3L	7.41E-01	1.23E-01	0.185

(1) The Operational DCGLs from Table 2 are 5.38 pCi/g for Cs-137 and 2.59 pCi/g for Co-60 and are used in conjunction with the unity rule to achieve 17 mrem/yr TEDE

Confirmatory sample 9527-0004-002C is above the Operational DCGL which could indicate that the classification criterion for a Class 2 survey unit was exceeded. However, subtracting background from past atmospheric nuclear weapons testing yields a net Cs-137 concentration below the Operational DCGL. The concentration of Cs-137 found in off-site wooded locations was 0.819 pCi/g ± 0.460 as documented by Health Physics Technical Support Document (TSD) BCY-HP-0063, "Background Cs-137 Concentration in Soil." The corresponding net result for confirmatory sample 9527-0004-002C is 4.71 pCi/g, a fraction of the Operational DCGL equal to 0.876. Secondly, what has been identified is a topical and likely artificially biased, increase of Cs-137 due to natural conditions and mechanisms based on the following explanation.

The likely source of the high activity in the confirmatory sample is accumulation and concentration of Cs-137 in the sample media. The media in

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

this case was not soil taken to a depth of 6 inches, the minimum equal depth of soil mixing used in Cy LTP conceptual model for the Resident Farmer scenario, but organic detritus and humus from decaying plant and tree material clumped in a thin, dense layer over rock. The layer of material available for sampling, 1 inch to 2 inches, would have required collecting the media horizontally as opposed to vertically to obtain sufficient sample material. This would tend to bias the Cs-137 activity high due to the increase of surficial activity (pCi/m^2) across the area of collection.

Furthermore, sample location 9527-0004-002 is within an area that receives considerable runoff from the mountainside. Pooling has been observed in the area from runoff and from a nearby stream which swells into the area following heavy rainfall and during spring thaws. The area also contains a dense root system as discussed previously. The MARSSIM recognizes that vegetative cover and foreign material (e.g., plant roots) are generally not considered part of the sample and should be removed. Picture 2 clearly shows a dense root system within the layer of material available for sampling which would be difficult to remove in the field using available equipment and techniques. Cumulative bioaccumulation of deposited radionuclides from the soil to the plant roots would be another likely source of higher than expected radioactivity, especially given the down gradient location and the favorable conditions for runoff and pooling.

Picture 2 – View of sample media from 9527-0004-002 showing the root system and layer depth.



EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Additional scanning was performed in two (2) small locations in February 2006 to obtain additional data relevant to the DQOs. The scanning was performed in two (2) sections of approximately nine hundred square feet (900 ft²). The Daily Survey Journals report that exposed bedrock comprises 70% to 85% of the scan area. Two (2) elevated areas were identified and the source was determined to be exposed bedrock.

9. REMEDIATION AND RESULTS

Historically, no radiological remedial action as described by MARSSIM Section 5.4 was performed in this survey unit prior to or as a result 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 survey was designed to 8 mrem/yr TEDE which was conservative and necessary at the time of FSS planning. It is no longer required as the total dose from existing and future groundwater has been established. The dose for soil used to demonstrate compliance with the LTP criteria is 17 mrem/yr TEDE as discussed in Section 2 of this Release Record.

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. The Sign Test shows that the survey unit passed 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 calculating basic statistical quantities (e.g., mean, median, standard deviation).

The sample standard deviation was slightly more than the value used for the survey design. This would indicate a change to the original LBGR to maintain the number of samples at fifteen to meet the Operational DCGL. However, the value of LBGR is less of a critical issue as the survey unit has passed the statistical test, and the mean and median values are well below the Operational DCGL when used in conjunction with the unity rule. Also, the retrospective power curve shows that a sufficient number of samples were collected to achieve the desired power. Therefore, the survey unit meets the release criteria with adequate power as required by the DQOs.

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

The range of the data, about 3.3 standard deviations, was not unusually large. The difference between the mean and median was 27% of the standard deviation. The difference is enough to indicate skewness in the data. The data was represented graphically through posting plots, a frequency plot, and a quantile plot. The frequency plot shows significant positive skewness as confirmed by the calculated skew of 1.5 and probably due to the differences in terrain and the collection of runoff activity in low-lying areas.

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

12. ANOMALIES

The anomalies associate with the disagreement between the field splits has been discussed in Section 7. The source of the disagreement for Cs-137, especially at sample location 9527-0004-0002, was likely a disproportionate amount of organic material between the field splits.

Evaluation of the data showed that one of the investigation sample results exceeded the Operational DCGL in conjunction with the unity rule. Subsequent explanation of the elevated results for Cs-137 was discussed in Section 8. The likely source of the high activity in the samples was accumulation and concentration of Cs-137 due to natural conditions and mechanisms in samples comprised of organic detritus and humus.

No other anomalies were noted.

13. CONCLUSION

Survey Unit 9527-0004 has met the final DQOs of the FSS. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison and remediation were not required.

The sample data passed the Sign Test. The null hypothesis was rejected. Graphical representation of data indicates significant positive skewness as that is probably due to the differences in terrain and the collection of runoff. The Retrospective Power Curve generated using COMPASS shows adequate power was achieved. One confirmatory sample, 9527-0004-002C, was above the Operational DCGL; however, this has been identified as a topical and likely artificially biased increase of Cs-137 due to natural conditions and mechanisms. The survey unit is properly designated as Class 2.

The dose contribution from soil is less than 4 mrem/yr TEDE based on the average concentration of the samples used for non-parametric statistical sampling.

This survey unit is affected by existing groundwater (reference CY memo ISC 06-024 and the Final Status Survey Final Report Phase III). Therefore, the dose contribution from existing groundwater is bounded by 2 mrem/yr TEDE.

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

This survey unit is not considered impacted by future groundwater radioactive contamination, as there are no concrete foundations or footings containing residual radioactive material within the groundwater saturated zone in the area (reference CY memo ISC 06-024 and the Final Status Survey Final Report Phase III). The dose contribution from future groundwater, the third dose component, is therefore 0 mrem/yr TEDE.

14. ATTACHMENTS

14.1 Attachment 1 – Figures

14.2 Attachment 2 – Sample and Statistical Data

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 1
Figures
(6 pages)

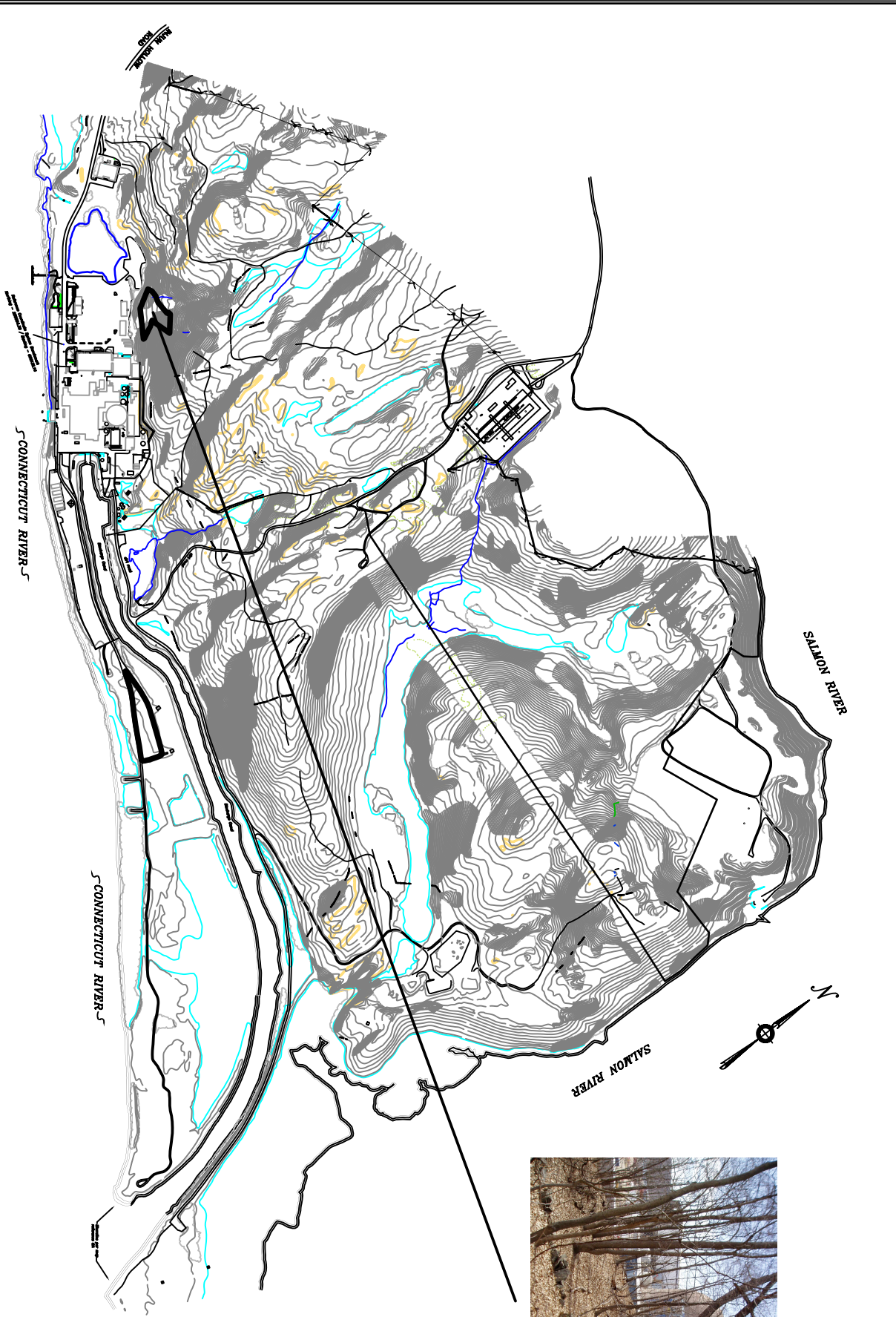
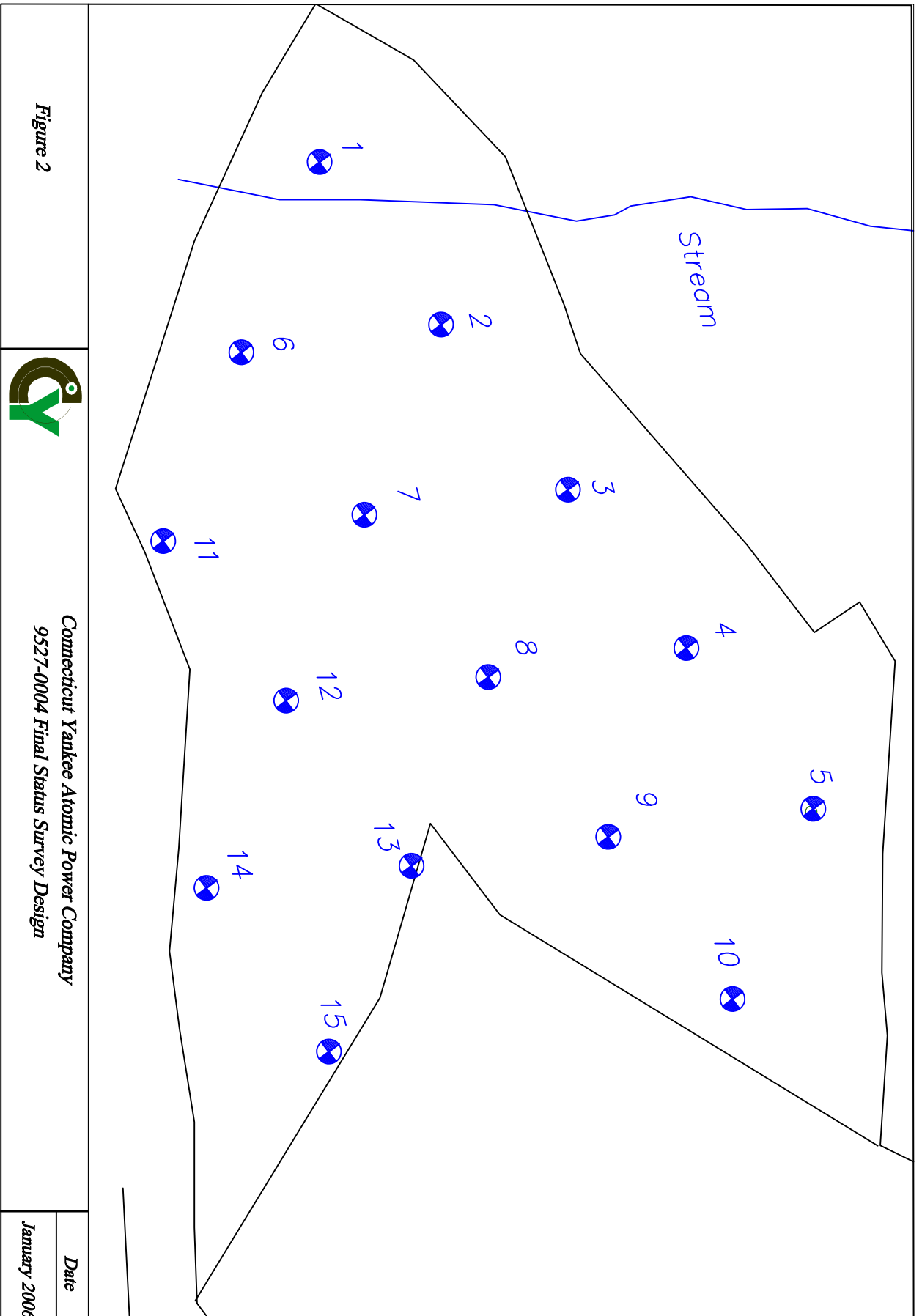


Figure 1



Connecticut Yankee Atomic Power Company
 Site Map With Reference To Survey Unit 9527-0004

Date	By
January 2006	J. McI



Legend
 Sample Location

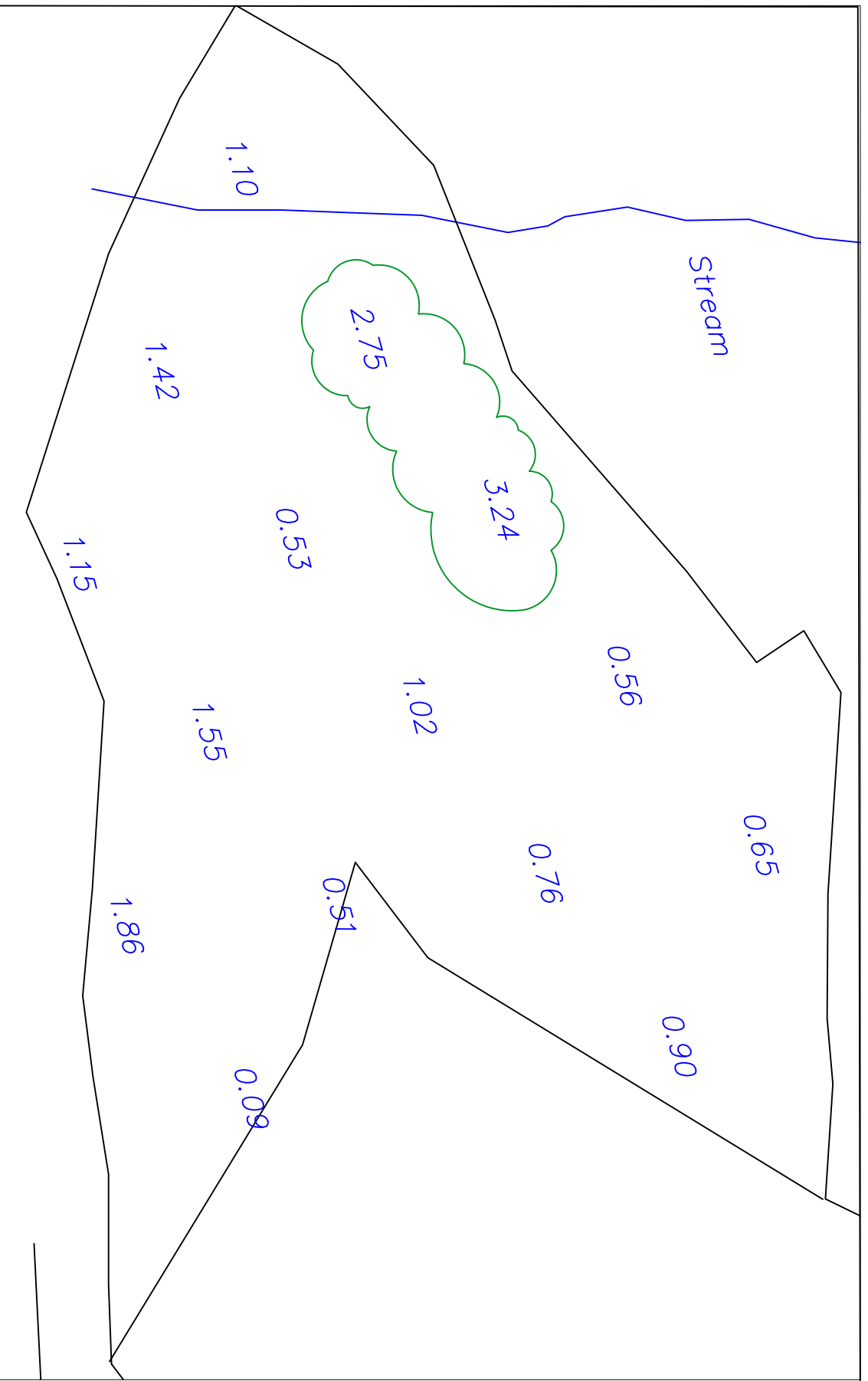


Date	January 2006
By	J. McC.

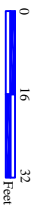
Figure 2



Connecticut Yankee Atomic Power Company
 9527-0004 Final Status Survey Design



Legend




Spatial trend

Notes

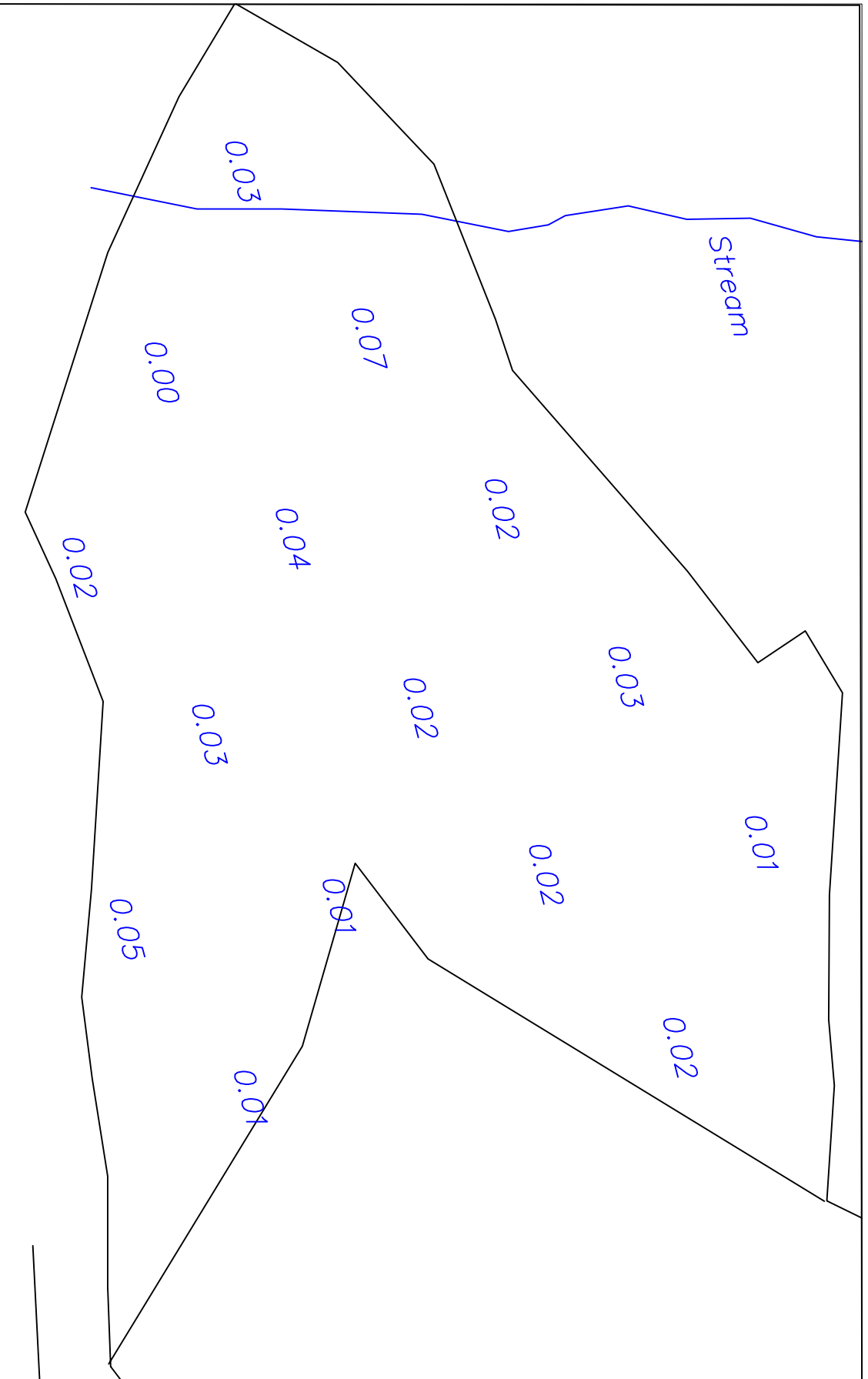
Reported cesium-137 concentrations in pCi/g

Figure 3

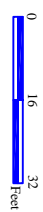


Connecticut Yankee Atomic Power Company
9527-0004 Final Status Survey Cs-137 Posting Plot

Date	By
January 2006	J. McC.



Legend



Notes
 Reported cobalt-60 concentrations in pCi/g

Figure 4

Connecticut Yankee Atomic Power Company
 9527-0004 Final Status Survey Co-60 Posting Plot

Date	By
January 2006	J. McC.

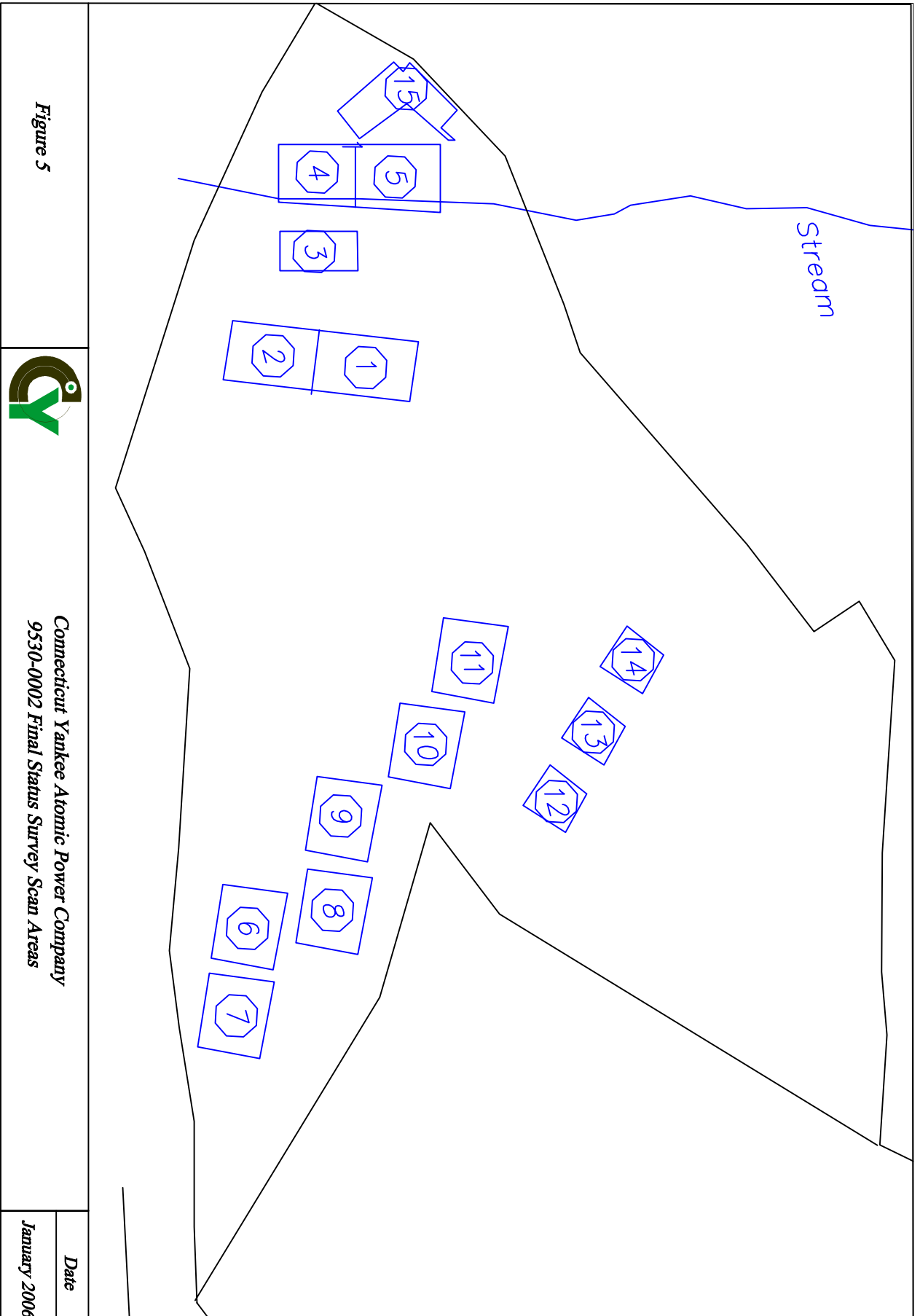


Figure 5



Connecticut Yankee Atomic Power Company
 9530-0002 Final Status Survey Scan Areas

Date	By
January 2006	J. McC.



Legend



Notes

Background ranged from 7.2 kcpm to 23.9 kcpm as determined by an E-600 with SPA-3 Probed
 Refer to Table 6 for scan area results

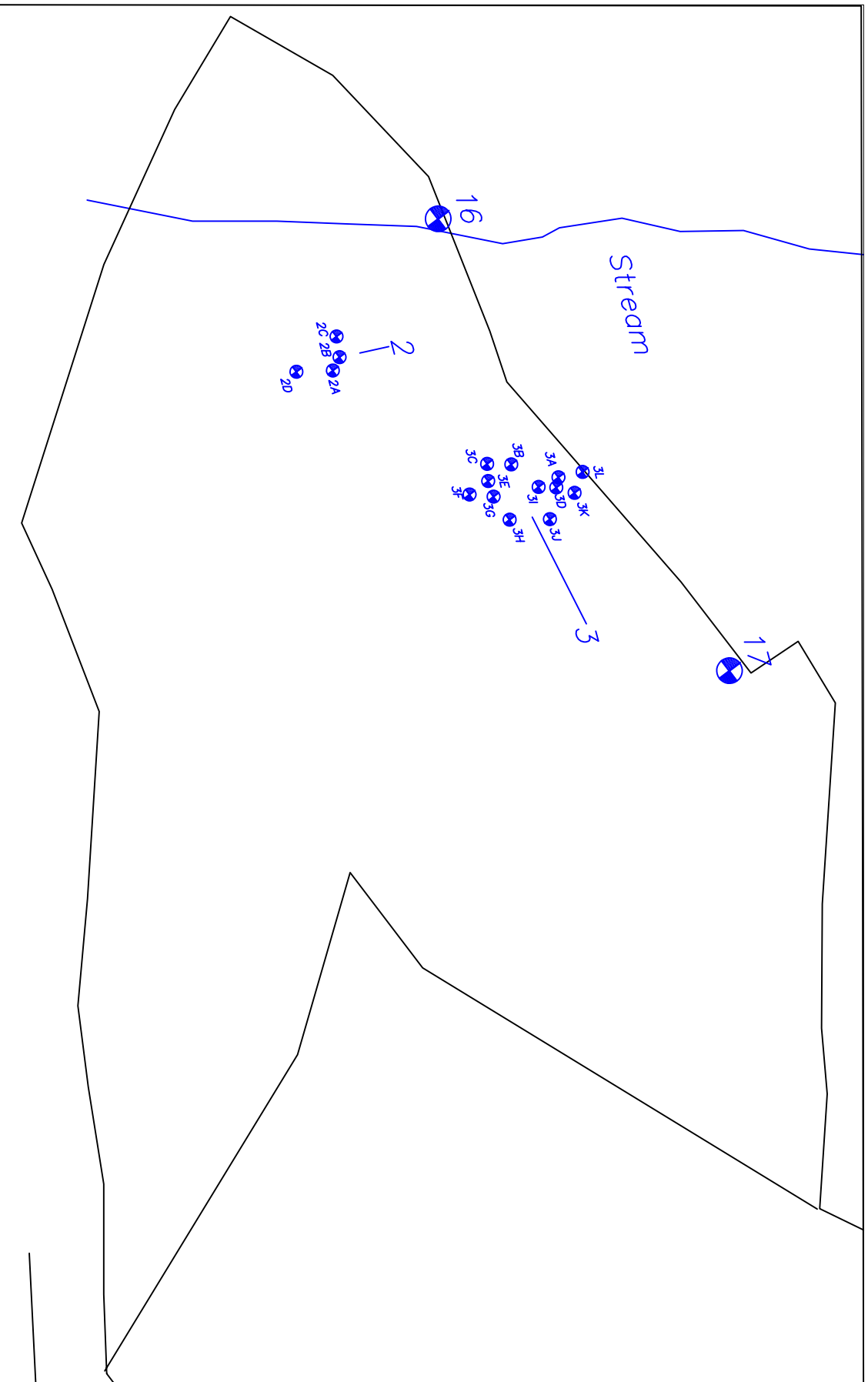


Figure 6

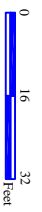


Connecticut Yankee Atomic Power Company
 9527-0004 Biased and Confirmatory Sample Locations

Date	By
January 2006	J. McC.



Legend
 Sample Location



Notes
 Biased samples 16 and 17 were collected along a running trail. Refer to Table 9 for biased sample results and Table 10 for the confirmatory sample results.

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2
Sample and Statistical Data

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2a
Sample Data
(138 Pages)

General Narrative	1
Chain of Custody and Supporting Documentation	4
Radiological Analysis	9
Sample Data Summary	23
Quality Control Data	66

General Narrative	1
Chain of Custody and Supporting Documentation	4
Radiological Analysis	9
Sample Data Summary	23
Quality Control Data	66

General Narrative

CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Soils
PO# 002332
Work Order: 143553
SDG: MSR #05-2074

September 15, 2005

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The samples for the Soil Project for work order 143553 arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina August 19, 2005 for environmental analysis. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following samples:

<u>Sample ID</u>	<u>Client Sample ID</u>
143553001	9527-0004-001F
143553002	9527-0004-002F
143553003	9527-0004-002FS
143553004	9527-0004-003F
143553005	9527-0004-005F
143553006	9527-0004-006F
143553007	9527-0004-007F
143553008	9527-0004-008F

<u>Sample ID</u>	<u>Client Sample ID</u>
143553009	9527-0004-010F
143553010	9527-0004-011F
143553011	9527-0004-013F
143553012	9527-0004-013FS
143553013	9527-0004-014F
143553014	9527-0004-015F
143553015	9527-0004-016F
143553016	9527-0004-017F
143553017	9527-0004-004F
143553018	9527-0004-009F
143553019	9527-0004-012F

Items of Note:

No items to note.

Case Narrative:

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Analytical Request:

Sixteen soil samples were analyzed for FSSGAM
Three soil sample was analyzed for FSSALL.

Internal Chain of Custody:

Custody was maintained for all the samples.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody and Supporting Documentation and all analytical fractions.

I certify that this data package 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.

Cheryl Jones
Project Manager

**Chain of Custody
and
Supporting
Documentation**

Chain of Custody Form

Connecticut Yankee Atomic Power Company

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

No. 2005-00364

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
Pete Hollenbeck 860-267-3923

Analytical Lab (Name, City, State):
General Engineering Laboratories
2040 Savage Road
Charleston, SC 29407
ATT: Cheryl Jones (843-556-8171)

Priority: 30 D. 14 D. 7 D.
Other:

Sample Designation	Date	Time	Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested				Lab Use Only		
						FSSGAM	FSSALL			Comments:	Comment, Preservation	Lab Sample ID
9527-0004-001F	8/10/05	1319	TS	G	BP	X						
9527-0004-002F	8/10/05	1340	TS	G	BP	X						
9527-0004-002FS	8/10/05	1350	TS	G	BP	X						
9527-0004-003F	8/10/05	1334	TS	G	BP	X						
9527-0004-004F	8/10/05	1338	TS	G	BP		X					
9527-0004-005F	8/10/05	1344	TS	G	BP	X						
9527-0004-006F	8/10/05	1430	TS	G	BP	X						
9527-0004-007F	8/10/05	1420	TS	G	BP	X						
9527-0004-008F	8/10/05	1412	TS	G	BP	X						
9527-0004-009F	8/10/05	1404	TS	G	BP		X					

% 143553

NOTES: PO #: 002332 MSR #: 05-2074 LTP QA Radwaste QA Non QA

SI-90 RDL = 0.025 pCi/g

1) Relinquished By <i>J.P. [Signature]</i>	Date/Time	2) Received By <i>W. [Signature]</i>	Date/Time
	8/18/05 1400		8-19-05 0900
Relinquished By	Date/Time	4) Received By	Date/Time
5) Relinquished By	Date/Time	6) Received By	Date/Time

Samples Shipped Via:
 Fed Ex UPS Hand
 Other
 Bill of Lading # 7925 0453 4480

Internal Container Temp.: ___ Deg. C
Custody Sealed?
 Y N
Custody Seal Intact?
 Y N

Chain of Custody Form

Connecticut Yankee Atomic Power Company

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

No. 2005-00365

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
Pete Hollenbeck 860-267-3923

Analytical Lab (Name, City, State):
General Engineering Laboratories
2040 Savage Road
Charleston, SC 29407
ATT: Cheryl Jones (843-556-8171)

Priority: 30 D. 14 D. 7 D.
Other:

Sample Designation		Date	Time	Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested			Comments:	Lab Sample ID
							FSSGAM	FSSALL			
9527-0004-010F		8/10/05	* 1319	TS	G	BP	X				
9527-0004-011F		8/10/05	* 1340	TS	G	BP	X				
9527-0004-012F		8/10/05	* 1350	TS	G	BP	X				
9527-0004-013F		8/10/05	* 1334	TS	G	BP	X				
9527-0004-013FS		8/10/05	* 1338	TS	G	BP	X				
9527-0004-014F		8/10/05	* 1344	TS	G	BP	X				
9527-0004-015F		8/10/05	* 1430	TS	G	BP	X				
* * * * *											
* * * * *											

. / . 143653

Internal Container Temp.: ___ Deg. C
Custody Sealed? Y N
Custody Seal Intact? Y N

Samples Shipped Via:
 Fed Ex
 UPS
 Hand
 Other

Bill of Lading # 7925 0453 4480

NOTES: PO #: 002332 MSR #: 05-2074
* See comments on SAR. copy 8/19/05

Sr-90 RDL = 0.025 pCi/g

LTP QA Radwaste QA Non QA

1) Relinquished By <i>[Signature]</i>	Date/Time	2) Received By <i>[Signature]</i>	Date/Time
	8/18/05 1400		8/19/05 0900
3) Relinquished By	Date/Time	4) Received By	Date/Time
5) Relinquished By	Date/Time	6) Received By	Date/Time

Figure 1. Sample Check-in List

Date/Time Received: 8-19-05 0900

SDG#: MSP# 05-2074

Work Order Number: 143553

Shipping Container ID: FED ex# 725 0453 4480 Chain of Custody #: 2005 - 00364

- 1. Custody Seals on shipping container intact? Yes No N/A
- 2. Custody Seals dated and signed? Yes No N/A
- 3. Chain-of-Custody record present? Yes No
- 4. Cooler temperature 23°C NO ICE
- 5. Vermiculite/packing materials is: Wet Dry N/A
- 6. Number of samples in shipping container: 19
- 7. Sample holding times exceeded? Yes No

8. Samples have:

<input checked="" type="checkbox"/> tape	<input type="checkbox"/> hazard labels
<input checked="" type="checkbox"/> custody seals	<input type="checkbox"/> appropriate sample labels

9. Samples are:

<input checked="" type="checkbox"/> in good condition	<input type="checkbox"/> leaking
<input type="checkbox"/> broken	<input type="checkbox"/> have air bubbles

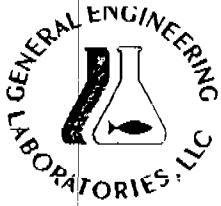
*2/16/05
C/H*

10. Were any anomalies identified in sample receipt? Yes No Per Pete Hollenbeck, Date/Time on Container is correct.

11. Description of anomalies (include sample numbers): SAMPLES 10F THRU 15F TIME IS SAME AS 1F THRU 7F. TIME ON SAMPLES IS 1400 1457 1458 1503 1504 1517 1505
8-17-05 0913 8-17-05 0915
ALSO, RECEIVED SAMPLES 9527-004-16F + 9527-004-17F - NOT ON CHAIN

Sample Custodian/Laboratory: Mike Rubin Date: 8-19-05

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>CONN Yankee / RAD DATA</u>	SDG/ARCO/Work Order: <u>143553</u>
Date Received: <u>8-19-05</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>ML</u>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				
14 Air Bill ,Tracking #'s, & Additional Comments				

Suspected Hazard Information	Non-Regulated	Regulated	High Level	Comments
A Radiological Classification?		✓		RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
B PCB Regulated?	✓			Maximum Counts Observed*: <u>CA 10</u>
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	✓			Comments: Hazard Class Shipped: UN#:

PM (or PMA) review of Hazard classification: _____ Initials CD Date: 8/19/05

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
SDG MSR#05-2074**

Method/Analysis Information

Product:	Alphaspec Am241, Cm, Solid ALL FSS
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	460839
Prep Batch Number:	455336
Dry Soil Prep GL-RAD-A-021 Batch Number:	455334

Sample ID	Client ID
143553017	9527-0004-004F
143553018	9527-0004-009F
143553019	9527-0004-012F
1200931308	Method Blank (MB)
1200931309	143553017(9527-0004-004F) Sample Duplicate (DUP)
1200931310	143553017(9527-0004-004F) Matrix Spike (MS)
1200931311	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 143553017 (9527-0004-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:

Alphaspec Pu, Solid-ALL FSS

Analytical Method:

DOE EML HASL-300, Pu-11-RC Modified

Prep Method:

Ash Soil Prep

Dry Soil Prep GL-RAD-A-021 Method:

Dry Soil Prep

Analytical Batch Number:

460841

Prep Batch Number:

455336

Dry Soil Prep GL-RAD-A-021 Batch Number:

455334

Sample ID

Client ID

143553017

9527-0004-004F

143553018

9527-0004-009F

143553019

9527-0004-012F

1200931312

Method Blank (MB)

1200931313

143553017(9527-0004-004F) Sample Duplicate (DUP)

1200931314

143553017(9527-0004-004F) Matrix Spike (MS)

1200931315

Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-011 REV# 14.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 143553017 (9527-0004-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:**NCR Documentation**

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information**Product:**

Analytical Method:

Prep Method:

Dry Soil Prep GL-RAD-A-021 Method:

Analytical Batch Number:

Prep Batch Number:

Dry Soil Prep GL-RAD-A-021 Batch Number:

Liquid Scint Pu241, Solid-ALL FSS

DOE EML HASL-300, Pu-11-RC Modified

Ash Soil Prep

Dry Soil Prep

460843

455336

455334

Sample ID

143553017

143553018

143553019

1200931316

1200931317

1200931318

1200931319

Client ID

9527-0004-004F

9527-0004-009F

9527-0004-012F

Method Blank (MB)

143553017(9527-0004-004F) Sample Duplicate (DUP)

143553017(9527-0004-004F) Matrix Spike (MS)

Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-035 REV# 7.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 143553017 (9527-0004-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:

Gamma,Solid-FSS GAM & ALL FSS

Analytical Method:

EML HASL 300, 4.5.2.3

Prep Method:

Dry Soil Prep

Analytical Batch Number:

455561

Prep Batch Number:

455334

Sample ID

Client ID

143553001

9527-0004-001F

143553002

9527-0004-002F

143553003

9527-0004-002FS

143553004

9527-0004-003F

143553005	9527-0004-005F
143553006	9527-0004-006F
143553007	9527-0004-007F
143553008	9527-0004-008F
143553009	9527-0004-010F
143553010	9527-0004-011F
143553011	9527-0004-013F
143553012	9527-0004-013FS
143553013	9527-0004-014F
143553014	9527-0004-015F
143553015	9527-0004-016F
143553016	9527-0004-017F
143553017	9527-0004-004F
143553018	9527-0004-009F
143553019	9527-0004-012F
1200918812	Method Blank (MB)
1200918813	143553001(9527-0004-001F) Sample Duplicate (DUP)
1200918814	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 143553001 (9527-0004-001F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1200918813 (9527-0004-001F) and 143553016 (9527-0004-017F) were recounted due to high MDAs.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to low abundance.	Actinium-228	143553009
		Bismuth-214	143553003
			143553004
		Cesium-134	143553001
			143553005
			143553013
		Cobalt-60	143553006
		Thallium-208	143553016
UI	Data rejected due to no valid peak.	Americium-241	143553017
		Bismuth-212	143553004
			143553008
			143553015
			143553016

Method/Analysis Information

Product: GFPC, Sr90, solid - 0.025 pCi/g
Analytical Method: EPA 905.0 Modified
Prep Method: Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method: Dry Soil Prep
Analytical Batch Number: 457354
Prep Batch Number: 455336
Dry Soil Prep GL-RAD-A-021 Batch Number: 455334

Sample ID	Client ID
143553017	9527-0004-004F
143553018	9527-0004-009F
143553019	9527-0004-012F
1200922921	Method Blank (MB)
1200922922	144089001(9106-0001-005TP-001) Sample Duplicate (DUP)
1200922923	144089001(9106-0001-005TP-001) Matrix Spike (MS)
1200922924	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-004 REV# 9.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:**Blank Information**

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 144089001 (9106-0001-005TP-001).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Chemical Recoveries

All chemical recoveries meet the required acceptance limits for this sample set.

Miscellaneous Information:**NCR Documentation**

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information**Product:****Liquid Scint Tc99, Solid-ALL FSS**

Analytical Method:

DOE EML HASL-300, Tc-02-RC Modified

Analytical Batch Number:

455604

Sample ID**Client ID**

143553017

9527-0004-004F

143553018

9527-0004-009F

143553019

9527-0004-012F

1200918896

Method Blank (MB)

1200918897

143735017(3000-0000-205-C-1C-03) Sample Duplicate (DUP)

1200918898

143735017(3000-0000-205-C-1C-03) Matrix Spike (MS)

1200918899

Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in

accordance with GL-RAD-A-005 REV# 12.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 143735017 (3000-0000-205-C-1C-03).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:

Analytical Method:

Prep Method:

Dry Soil Prep GL-RAD-A-021 Method:

Analytical Batch Number:

Prep Batch Number:

Dry Soil Prep GL-RAD-A-021 Batch Number:

Liquid Scint Fe55, Solid-ALL FSS

DOE RESL Fe-1, Modified

Ash Soil Prep

Dry Soil Prep

457431

455336

455334

Sample ID

143553017

Client ID

9527-0004-004F

143553018	9527-0004-009F
143553019	9527-0004-012F
1200923109	Method Blank (MB)
1200923110	144089001(9106-0001-005TP-001) Sample Duplicate (DUP)
1200923111	144089001(9106-0001-005TP-001) Matrix Spike (MS)
1200923112	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-040 REV# 3.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 144089001 (9106-0001-005TP-001).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Ni63, Solid-ALL FSS
Analytical Method:	DOE RESL Ni-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	457432
Prep Batch Number:	455336
Dry Soil Prep GL-RAD-A-021 Batch Number:	455334

Sample ID	Client ID
143553017	9527-0004-004F
143553018	9527-0004-009F
143553019	9527-0004-012F
1200923113	Method Blank (MB)
1200923114	144089001(9106-0001-005TP-001) Sample Duplicate (DUP)
1200923115	144089001(9106-0001-005TP-001) Matrix Spike (MS)
1200923116	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-022 REV# 7.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 144089001 (9106-0001-005TP-001).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: LSC, Tritium Dist, Solid-HTD2,ALL FSS
Analytical Method: EPA 906.0 Modified
Analytical Batch Number: 455633

Sample ID	Client ID
143553017	9527-0004-004F
143553018	9527-0004-009F
143553019	9527-0004-012F
1200918968	Method Blank (MB)
1200918969	143553017(9527-0004-004F) Sample Duplicate (DUP)
1200918970	143553017(9527-0004-004F) Matrix Spike (MS)
1200918971	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 10.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:**Blank Information**

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 143553017 (9527-0004-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:**Holding Time**

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

Samples 1200918969 (9527-0004-004F), 143553017 (9527-0004-004F), and 143553018 (9527-0004-009F) were recounted due to high MDAs.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint C14, Solid All,FSS
Analytical Method:	EPA EERF C-01 Modified
Analytical Batch Number:	459955

Sample ID	Client ID
143553017	9527-0004-004F
143553018	9527-0004-009F
143553019	9527-0004-012F
1200929172	Method Blank (MB)
1200929173	143553017(9527-0004-004F) Sample Duplicate (DUP)
1200929174	143553017(9527-0004-004F) Matrix Spike (MS)
1200929175	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-003 REV# 8.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 143553017 (9527-0004-004F).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

 9/21/05

Reviewer: _____

SAMPLE DATA SUMMARY

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

**Certificate of Analysis Report
for**

YANK001 Connecticut Yankee Atomic Power Co.
Client SDG: MSR#05-2074 GEL Work Order: 143553

The Qualifiers in this report are defined as follows:

- ** Indicates the analyte is a surrogate compound.
- < Result is less than amount reported.
- > Result is greater than amount reported.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- P The response between the confirmation and the primary columns is >40% Different.
- R Sample results are rejected.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- Y QC Samples were not spiked with this compound.
- Z Paint Filter qualifier: Particulates passed through the filter. No free liquids were observed.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

** Indicates the analyte is a surrogate compound.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.



Reviewed by _____

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-001F
Sample ID: 143553001
Matrix: TS
Collect Date: 10-AUG-05
Receive Date: 19-AUG-05
Collector: Client
Moisture: 17.6%

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gamma Spec Analysis											
<i>Gamma, Solid-FSS GAM & ALL FSS</i>											
Actinium-228		0.962	+/-0.271	0.0761	+/-0.266	0.162	pCi/g		JPH1	09/02/05	0948 455561 1
Americium-241	U	-0.0476	+/-0.154	0.113	+/-0.151	0.234	pCi/g				
Bismuth-212		0.763	+/-0.366	0.177	+/-0.358	0.374	pCi/g				
Bismuth-214		1.05	+/-0.159	0.0462	+/-0.156	0.0967	pCi/g				
Cesium-134	UUI	0.00	+/-0.0478	0.0292	+/-0.0468	0.0613	pCi/g				
Cesium-137		1.10	+/-0.116	0.0208	+/-0.114	0.0441	pCi/g				
Cobalt-60	U	0.0274	+/-0.0288	0.0249	+/-0.0282	0.0536	pCi/g				
Europium-152	U	0.0237	+/-0.0742	0.0616	+/-0.0727	0.129	pCi/g				
Europium-154	U	0.0118	+/-0.0734	0.0591	+/-0.072	0.129	pCi/g				
Europium-155	U	0.0818	+/-0.0865	0.0722	+/-0.0848	0.149	pCi/g				
Lead-212		1.17	+/-0.127	0.0342	+/-0.124	0.0709	pCi/g				
Lead-214		1.26	+/-0.177	0.0428	+/-0.173	0.0894	pCi/g				
Manganese-54	U	0.0293	+/-0.037	0.0211	+/-0.0362	0.0448	pCi/g				
Niobium-94	U	-0.00669	+/-0.0254	0.0194	+/-0.0248	0.0411	pCi/g				
Potassium-40		11.1	+/-1.38	0.208	+/-1.35	0.454	pCi/g				
Radium-226		1.05	+/-0.159	0.0462	+/-0.156	0.0967	pCi/g				
Silver-108m	U	-0.0028	+/-0.0251	0.0202	+/-0.0246	0.0423	pCi/g				
Thallium-208		0.367	+/-0.0691	0.0204	+/-0.0677	0.0432	pCi/g				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

** Indicates the analyte is a surrogate compound.

B Target analyte was detected in the sample as well as the associated blank.

BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-001F
Sample ID: 143553001

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-002F
 Sample ID: 143553002
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 31.2%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gamma Spec Analysis											
<i>Gamma, Solid-FSS GAM & ALL FSS</i>											
Actinium-228	U	0.286	+/-0.341	0.224	+/-0.334	0.477	pCi/g		JPH1	09/02/05	1741 455561 1
Americium-241	U	0.0892	+/-0.100	0.0656	+/-0.0983	0.135	pCi/g				
Bismuth-212	U	-0.155	+/-0.545	0.406	+/-0.534	0.870	pCi/g				
Bismuth-214		1.03	+/-0.308	0.109	+/-0.302	0.230	pCi/g				
Cesium-134	U	0.0155	+/-0.0748	0.0584	+/-0.0733	0.126	pCi/g				
Cesium-137		2.75	+/-0.303	0.0594	+/-0.297	0.126	pCi/g				
Cobalt-60	U	0.0667	+/-0.073	0.0641	+/-0.0715	0.140	pCi/g				
Europium-152	U	-0.033	+/-0.182	0.139	+/-0.178	0.290	pCi/g				
Europium-154	U	0.0976	+/-0.107	0.160	+/-0.105	0.352	pCi/g				
Europium-155	U	-0.136	+/-0.158	0.110	+/-0.155	0.226	pCi/g				
Lead-212		0.248	+/-0.192	0.0778	+/-0.188	0.161	pCi/g				
Lead-214		1.14	+/-0.344	0.106	+/-0.337	0.221	pCi/g				
Manganese-54	U	-0.048	+/-0.0663	0.0495	+/-0.065	0.107	pCi/g				
Niobium-94	U	0.0722	+/-0.0658	0.0547	+/-0.0645	0.116	pCi/g				
Potassium-40		2.77	+/-1.74	0.426	+/-1.70	0.970	pCi/g				
Radium-226		1.03	+/-0.308	0.109	+/-0.302	0.230	pCi/g				
Silver-108m	U	0.0335	+/-0.0683	0.054	+/-0.0669	0.113	pCi/g				
Thallium-208	U	0.0873	+/-0.115	0.0549	+/-0.113	0.116	pCi/g				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-002F
Sample ID: 143553002

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-002FS
 Sample ID: 143553003
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 34.2%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gamma Spec Analysis											
<i>Gamma, Solid-FSS GAM & ALL FSS</i>											
Actinium-228	U	0.449	+/-0.612	0.244	+/-0.600	0.507	pCi/g		JPH1 09/02/05	1506	455561 1
Americium-241	U	-0.013	+/-0.0866	0.0641	+/-0.0849	0.131	pCi/g				
Bismuth-212	U	0.380	+/-0.543	0.445	+/-0.532	0.928	pCi/g				
Bismuth-214	UUI	0.00	+/-0.318	0.176	+/-0.312	0.359	pCi/g				
Cesium-134	U	-0.0455	+/-0.0744	0.0565	+/-0.0729	0.119	pCi/g				
Cesium-137		4.44	+/-0.440	0.058	+/-0.431	0.121	pCi/g				
Cobalt-60	U	0.100	+/-0.0675	0.0604	+/-0.0662	0.128	pCi/g				
Europium-152	U	-0.047	+/-0.179	0.137	+/-0.176	0.283	pCi/g				
Europium-154	U	0.0444	+/-0.195	0.160	+/-0.191	0.340	pCi/g				
Europium-155	U	0.125	+/-0.172	0.0988	+/-0.169	0.203	pCi/g				
Lead-212		0.384	+/-0.164	0.0753	+/-0.161	0.155	pCi/g				
Lead-214		1.42	+/-0.303	0.0968	+/-0.297	0.200	pCi/g				
Manganese-54	U	-0.0236	+/-0.0672	0.0517	+/-0.0658	0.109	pCi/g				
Niobium-94	U	-0.0214	+/-0.0617	0.0481	+/-0.0605	0.100	pCi/g				
Potassium-40		4.23	+/-1.85	0.517	+/-1.82	1.11	pCi/g				
Radium-226		1.23	+/-0.318	0.102	+/-0.312	0.211	pCi/g				
Silver-108m	U	-0.0517	+/-0.0663	0.049	+/-0.065	0.101	pCi/g				
Thallium-208	U	0.106	+/-0.128	0.0545	+/-0.126	0.113	pCi/g				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-002FS
Sample ID: 143553003

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-003F
 Sample ID: 143553004
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 16.5%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.600	+/-0.353	0.134	+/-0.346	0.303	pCi/g		JPH1	09/02/05	1507	455561 1
Americium-241	U	0.0796	+/-0.0996	0.0416	+/-0.0976	0.0879	pCi/g					
Bismuth-212	UII	0.00	+/-0.652	0.229	+/-0.639	0.527	pCi/g					
Bismuth-214	UII	0.00	+/-0.255	0.170	+/-0.250	0.353	pCi/g					
Cesium-134	U	0.0629	+/-0.0583	0.0519	+/-0.0572	0.114	pCi/g					
Cesium-137		3.24	+/-0.354	0.0476	+/-0.347	0.104	pCi/g					
Cobalt-60	U	0.0159	+/-0.063	0.0521	+/-0.0618	0.118	pCi/g					
Europium-152	U	0.0877	+/-0.142	0.115	+/-0.139	0.244	pCi/g					
Europium-154	U	-0.0195	+/-0.178	0.139	+/-0.174	0.315	pCi/g					
Europium-155	U	-0.0136	+/-0.0975	0.0706	+/-0.0956	0.150	pCi/g					
Lead-212		0.586	+/-0.160	0.0641	+/-0.157	0.135	pCi/g					
Lead-214		0.996	+/-0.222	0.0717	+/-0.217	0.154	pCi/g					
Manganese-54	U	-0.0442	+/-0.053	0.0354	+/-0.0519	0.0802	pCi/g					
Niobium-94	U	-0.0126	+/-0.0476	0.0361	+/-0.0466	0.0797	pCi/g					
Potassium-40		7.95	+/-1.84	0.400	+/-1.81	0.939	pCi/g					
Radium-226		0.662	+/-0.255	0.0848	+/-0.250	0.184	pCi/g					
Silver-108m	U	0.0604	+/-0.0582	0.042	+/-0.057	0.090	pCi/g					
Thallium-208		0.271	+/-0.0904	0.0403	+/-0.0886	0.0884	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-003F
Sample ID: 143553004

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-005F
 Sample ID: 143553005
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 7.42%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gamma Spec Analysis											
<i>Gamma, Solid-FSS GAM & ALL FSS</i>											
Actinium-228		0.931	+/-0.235	0.0647	+/-0.231	0.140	pCi/g		JPH1	09/02/05	1508 455561 1
Americium-241	U	0.179	+/-0.188	0.119	+/-0.184	0.247	pCi/g				
Bismuth-212	U	0.306	+/-0.357	0.158	+/-0.350	0.338	pCi/g				
Bismuth-214		0.834	+/-0.139	0.0398	+/-0.136	0.0845	pCi/g				
Cesium-134	UUU	0.00	+/-0.0332	0.0246	+/-0.0325	0.0525	pCi/g				
Cesium-137		0.653	+/-0.0807	0.0184	+/-0.0791	0.0396	pCi/g				
Cobalt-60	U	0.00833	+/-0.0237	0.020	+/-0.0232	0.0443	pCi/g				
Europium-152	U	-0.0303	+/-0.0655	0.0554	+/-0.0642	0.117	pCi/g				
Europium-154	U	0.0195	+/-0.0737	0.0616	+/-0.0722	0.135	pCi/g				
Europium-155	U	0.00939	+/-0.0786	0.0702	+/-0.077	0.146	pCi/g				
Lead-212		0.919	+/-0.107	0.0375	+/-0.105	0.078	pCi/g				
Lead-214		0.965	+/-0.146	0.041	+/-0.143	0.0862	pCi/g				
Manganese-54	U	-0.0122	+/-0.0241	0.0195	+/-0.0236	0.0419	pCi/g				
Niobium-94	U	-0.00705	+/-0.0229	0.0181	+/-0.0224	0.0387	pCi/g				
Potassium-40		11.7	+/-1.33	0.164	+/-1.30	0.369	pCi/g				
Radium-226		0.834	+/-0.139	0.0398	+/-0.136	0.0845	pCi/g				
Silver-108m	U	0.00326	+/-0.0211	0.0182	+/-0.0207	0.0386	pCi/g				
Thallium-208		0.266	+/-0.0608	0.0203	+/-0.0596	0.0432	pCi/g				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-005F
Sample ID: 143553005

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-006F
 Sample ID: 143553006
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 37%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.627	+/-0.232	0.0881	+/-0.227	0.192	pCi/g		JPH1	09/02/05	1508	455561 1
Americium-241	U	-0.0029	+/-0.110	0.0813	+/-0.107	0.170	pCi/g					
Bismuth-212	U	0.319	+/-0.319	0.188	+/-0.313	0.406	pCi/g					
Bismuth-214		0.658	+/-0.149	0.050	+/-0.146	0.107	pCi/g					
Cesium-134	U	0.0021	+/-0.0324	0.026	+/-0.0317	0.0565	pCi/g					
Cesium-137		1.42	+/-0.173	0.0251	+/-0.170	0.0539	pCi/g					
Cobalt-60	UUI	0.00	+/-0.0336	0.026	+/-0.0329	0.0577	pCi/g					
Europium-152	U	-0.0619	+/-0.0831	0.0631	+/-0.0815	0.134	pCi/g					
Europium-154	U	0.0359	+/-0.0857	0.0727	+/-0.084	0.161	pCi/g					
Europium-155	U	0.0796	+/-0.0918	0.0769	+/-0.0899	0.160	pCi/g					
Lead-212		0.746	+/-0.111	0.0372	+/-0.108	0.0782	pCi/g					
Lead-214		0.862	+/-0.175	0.0458	+/-0.171	0.0972	pCi/g					
Manganese-54	U	0.0171	+/-0.0302	0.0254	+/-0.0296	0.055	pCi/g					
Niobium-94	U	-0.00571	+/-0.0267	0.0211	+/-0.0262	0.0456	pCi/g					
Potassium-40		6.81	+/-1.02	0.228	+/-1.00	0.514	pCi/g					
Radium-226		0.658	+/-0.149	0.050	+/-0.146	0.107	pCi/g					
Silver-108m	U	-0.0156	+/-0.029	0.0218	+/-0.0284	0.0466	pCi/g					
Thallium-208		0.232	+/-0.0751	0.0234	+/-0.0736	0.0504	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-006F
Sample ID: 143553006

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-007F
 Sample ID: 143553007
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 10.5%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.647	+/-0.293	0.0995	+/-0.287	0.219	pCi/g		JPH1	09/02/05	1732	455561 1
Americium-241	U	0.0876	+/-0.153	0.120	+/-0.150	0.249	pCi/g					
Bismuth-212	U	0.181	+/-0.393	0.206	+/-0.385	0.452	pCi/g					
Bismuth-214		1.12	+/-0.178	0.0548	+/-0.174	0.118	pCi/g					
Cesium-134	U	0.00475	+/-0.0417	0.0343	+/-0.0409	0.0745	pCi/g					
Cesium-137		0.531	+/-0.0833	0.0293	+/-0.0816	0.0636	pCi/g					
Cobalt-60	U	0.0441	+/-0.0383	0.0363	+/-0.0375	0.0805	pCi/g					
Europium-152	U	-0.0805	+/-0.0937	0.0715	+/-0.0918	0.152	pCi/g					
Europium-154	U	0.0588	+/-0.110	0.0968	+/-0.108	0.215	pCi/g					
Europium-155	U	0.105	+/-0.0972	0.0839	+/-0.0953	0.175	pCi/g					
Lead-212		0.618	+/-0.108	0.0434	+/-0.106	0.0911	pCi/g					
Lead-214		1.25	+/-0.190	0.0577	+/-0.187	0.122	pCi/g					
Manganese-54	U	0.022	+/-0.0398	0.034	+/-0.039	0.0734	pCi/g					
Niobium-94	U	0.00153	+/-0.0334	0.0276	+/-0.0328	0.0595	pCi/g					
Potassium-40		12.2	+/-1.61	0.222	+/-1.57	0.524	pCi/g					
Radium-226		1.12	+/-0.178	0.0548	+/-0.174	0.118	pCi/g					
Silver-108m	U	-0.00785	+/-0.0318	0.025	+/-0.0311	0.0536	pCi/g					
Thallium-208		0.166	+/-0.0637	0.0326	+/-0.0624	0.0698	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-007F
Sample ID: 143553007

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID:	9527-0004-008F	Project:	YANK01204
Sample ID:	143553008	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	10-AUG-05		
Receive Date:	19-AUG-05		
Collector:	Client		
Moisture:	11.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.997	+/-0.241	0.049	+/-0.236	0.117	pCi/g		JPH1	09/02/05	1732	455561 1
Americium-241	U	0.00612	+/-0.0388	0.0327	+/-0.038	0.0679	pCi/g					
Bismuth-212	UUI	0.00	+/-0.426	0.209	+/-0.418	0.454	pCi/g					
Bismuth-214		0.883	+/-0.168	0.0455	+/-0.164	0.0986	pCi/g					
Cesium-134	U	0.0328	+/-0.0357	0.0318	+/-0.035	0.069	pCi/g					
Cesium-137		1.02	+/-0.137	0.0269	+/-0.135	0.0583	pCi/g					
Cobalt-60	U	0.0184	+/-0.0341	0.0299	+/-0.0334	0.0672	pCi/g					
Europium-152	U	-0.0284	+/-0.0744	0.0582	+/-0.0729	0.125	pCi/g					
Europium-154	U	0.0255	+/-0.110	0.0923	+/-0.108	0.204	pCi/g					
Europium-155	U	0.0703	+/-0.0668	0.0568	+/-0.0655	0.119	pCi/g					
Lead-212		1.10	+/-0.148	0.0337	+/-0.145	0.0711	pCi/g					
Lead-214		0.992	+/-0.166	0.0454	+/-0.163	0.0967	pCi/g					
Manganese-54	U	0.0108	+/-0.0492	0.0263	+/-0.0482	0.0576	pCi/g					
Niobium-94	U	-0.0146	+/-0.0312	0.0242	+/-0.0306	0.0525	pCi/g					
Potassium-40		10.9	+/-1.32	0.256	+/-1.29	0.586	pCi/g					
Radium-226		0.883	+/-0.168	0.0455	+/-0.164	0.0986	pCi/g					
Silver-108m	U	-0.0134	+/-0.0283	0.0233	+/-0.0278	0.0498	pCi/g					
Thallium-208		0.337	+/-0.0725	0.0206	+/-0.0711	0.0454	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-008F
Sample ID: 143553008

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-010F
 Sample ID: 143553009
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 39.2%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228	UUI	0.00	+/-0.222	0.115	+/-0.218	0.238	pCi/g		JPH1	09/02/05	1732	455561 1
Americium-241	U	-0.0742	+/-0.168	0.115	+/-0.165	0.237	pCi/g					
Bismuth-212	U	0.281	+/-0.368	0.162	+/-0.360	0.340	pCi/g					
Bismuth-214		0.449	+/-0.130	0.0438	+/-0.128	0.0913	pCi/g					
Cesium-134	U	0.0247	+/-0.0299	0.0251	+/-0.0293	0.0527	pCi/g					
Cesium-137		0.904	+/-0.101	0.0227	+/-0.0989	0.0476	pCi/g					
Cobalt-60	U	0.0209	+/-0.0587	0.0305	+/-0.0575	0.0642	pCi/g					
Europium-152	U	-0.0596	+/-0.0741	0.0565	+/-0.0726	0.118	pCi/g					
Europium-154	U	0.00462	+/-0.0943	0.0639	+/-0.0924	0.137	pCi/g					
Europium-155	U	0.0382	+/-0.0856	0.0664	+/-0.0838	0.137	pCi/g					
Lead-212		0.254	+/-0.0826	0.0339	+/-0.081	0.0699	pCi/g					
Lead-214		0.662	+/-0.145	0.0438	+/-0.142	0.0907	pCi/g					
Manganese-54	U	-0.000374	+/-0.0298	0.0239	+/-0.0292	0.0501	pCi/g					
Niobium-94	U	-0.0101	+/-0.0269	0.0201	+/-0.0264	0.0421	pCi/g					
Potassium-40		3.75	+/-0.800	0.213	+/-0.784	0.459	pCi/g					
Radium-226		0.449	+/-0.130	0.0438	+/-0.128	0.0913	pCi/g					
Silver-108m	U	-0.00825	+/-0.0267	0.0207	+/-0.0262	0.0429	pCi/g					
Thallium-208		0.078	+/-0.0542	0.022	+/-0.0532	0.0459	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-010F
Sample ID: 143553009

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-011F
 Sample ID: 143553010
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 15.1%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		1.05	+/-0.237	0.0722	+/-0.233	0.156	pCi/g		JPH1	09/02/05	0952	455561 1
Americium-241	U	-0.0052	+/-0.145	0.118	+/-0.142	0.242	pCi/g					
Bismuth-212		0.775	+/-0.339	0.193	+/-0.332	0.408	pCi/g					
Bismuth-214		1.10	+/-0.180	0.0489	+/-0.176	0.103	pCi/g					
Cesium-134	U	0.0175	+/-0.0309	0.0263	+/-0.0302	0.056	pCi/g					
Cesium-137		1.15	+/-0.126	0.0242	+/-0.123	0.0512	pCi/g					
Cobalt-60	U	0.0197	+/-0.0246	0.0221	+/-0.0241	0.0485	pCi/g					
Europium-152	U	-0.0167	+/-0.0886	0.0714	+/-0.0869	0.148	pCi/g					
Europium-154	U	-0.0539	+/-0.0999	0.0652	+/-0.0979	0.142	pCi/g					
Europium-155	U	0.136	+/-0.150	0.0674	+/-0.147	0.139	pCi/g					
Lead-212		1.05	+/-0.123	0.041	+/-0.120	0.0847	pCi/g					
Lead-214		1.38	+/-0.180	0.0545	+/-0.176	0.113	pCi/g					
Manganese-54	U	0.0127	+/-0.028	0.0236	+/-0.0274	0.0503	pCi/g					
Niobium-94	U	0.00376	+/-0.030	0.0217	+/-0.0294	0.0459	pCi/g					
Potassium-40		12.0	+/-1.21	0.181	+/-1.18	0.404	pCi/g					
Radium-226		1.10	+/-0.180	0.0489	+/-0.176	0.103	pCi/g					
Silver-108m	U	0.00746	+/-0.0301	0.0245	+/-0.0295	0.0512	pCi/g					
Thallium-208		0.275	+/-0.0747	0.0229	+/-0.0732	0.0486	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-011F
Sample ID: 143553010

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-013F
Sample ID: 143553011
Matrix: TS
Collect Date: 10-AUG-05
Receive Date: 19-AUG-05
Collector: Client
Moisture: 6.8%

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gamma Spec Analysis											
<i>Gamma, Solid-FSS GAM & ALL FSS</i>											
Actinium-228		0.646	+/-0.161	0.0603	+/-0.158	0.129	pCi/g		JPH1	09/02/05	0947 455561 1
Americium-241	U	-0.0288	+/-0.0343	0.0298	+/-0.0336	0.061	pCi/g				
Bismuth-212		0.834	+/-0.323	0.129	+/-0.317	0.275	pCi/g				
Bismuth-214		0.788	+/-0.120	0.0345	+/-0.117	0.0726	pCi/g				
Cesium-134	U	0.0369	+/-0.0258	0.0233	+/-0.0253	0.0493	pCi/g				
Cesium-137		0.513	+/-0.0621	0.0188	+/-0.0609	0.0397	pCi/g				
Cobalt-60	U	0.00556	+/-0.022	0.0187	+/-0.0216	0.0408	pCi/g				
Europium-152	U	0.0484	+/-0.0655	0.0517	+/-0.0642	0.107	pCi/g				
Europium-154	U	0.0358	+/-0.0555	0.0495	+/-0.0544	0.108	pCi/g				
Europium-155	U	0.0555	+/-0.0554	0.0496	+/-0.0543	0.102	pCi/g				
Lead-212		0.671	+/-0.0941	0.0269	+/-0.0922	0.0555	pCi/g				
Lead-214		0.810	+/-0.121	0.034	+/-0.119	0.0709	pCi/g				
Manganese-54	U	0.0118	+/-0.0241	0.0213	+/-0.0236	0.0449	pCi/g				
Niobium-94	U	0.0112	+/-0.0211	0.0181	+/-0.0207	0.0381	pCi/g				
Potassium-40		9.65	+/-1.05	0.158	+/-1.03	0.350	pCi/g				
Radium-226		0.788	+/-0.120	0.0345	+/-0.117	0.0726	pCi/g				
Silver-108m	U	-0.00911	+/-0.020	0.0167	+/-0.0196	0.0349	pCi/g				
Thallium-208		0.232	+/-0.0563	0.0175	+/-0.0552	0.0369	pCi/g				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-013F
Sample ID: 143553011

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-013FS
 Sample ID: 143553012
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 7.99%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.739	+/-0.181	0.0551	+/-0.178	0.119	pCi/g		JPH1	09/02/05	0956	455561 1
Americium-241	U	0.102	+/-0.0852	0.0764	+/-0.0835	0.157	pCi/g					
Bismuth-212		0.520	+/-0.287	0.127	+/-0.281	0.270	pCi/g					
Bismuth-214		0.735	+/-0.108	0.0335	+/-0.106	0.0705	pCi/g					
Cesium-134	U	0.0402	+/-0.0331	0.0198	+/-0.0324	0.0422	pCi/g					
Cesium-137		0.842	+/-0.085	0.0178	+/-0.0833	0.0378	pCi/g					
Cobalt-60	U	0.0156	+/-0.0232	0.0203	+/-0.0227	0.044	pCi/g					
Europium-152	U	0.00842	+/-0.0582	0.049	+/-0.0571	0.102	pCi/g					
Europium-154	U	-0.0392	+/-0.0619	0.0472	+/-0.0607	0.104	pCi/g					
Europium-155	U	-0.0153	+/-0.0588	0.0491	+/-0.0576	0.101	pCi/g					
Lead-212		0.628	+/-0.0796	0.0263	+/-0.0781	0.0544	pCi/g					
Lead-214		0.844	+/-0.118	0.0359	+/-0.115	0.0747	pCi/g					
Manganese-54	U	0.019	+/-0.0227	0.0198	+/-0.0223	0.0418	pCi/g					
Niobium-94	U	0.00857	+/-0.0194	0.0166	+/-0.019	0.0351	pCi/g					
Potassium-40		9.11	+/-1.03	0.165	+/-1.01	0.364	pCi/g					
Radium-226		0.735	+/-0.108	0.0335	+/-0.106	0.0705	pCi/g					
Silver-108m	U	-0.00512	+/-0.0209	0.0169	+/-0.0205	0.0353	pCi/g					
Thallium-208		0.201	+/-0.0457	0.0176	+/-0.0448	0.0372	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-013FS
Sample ID: 143553012

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID:	9527-0004-014F	Project:	YANK01204
Sample ID:	143553013	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	10-AUG-05		
Receive Date:	19-AUG-05		
Collector:	Client		
Moisture:	20.9%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.667	+/-0.291	0.0924	+/-0.285	0.203	pCi/g		JPH1	09/02/05	1733	455561 1
Americium-241	U	-0.101	+/-0.112	0.0852	+/-0.109	0.179	pCi/g					
Bismuth-212	U	0.161	+/-0.509	0.190	+/-0.499	0.416	pCi/g					
Bismuth-214		0.836	+/-0.193	0.0511	+/-0.190	0.110	pCi/g					
Cesium-134	UUU	0.00	+/-0.0591	0.0324	+/-0.0579	0.070	pCi/g					
Cesium-137		1.86	+/-0.226	0.0265	+/-0.221	0.0574	pCi/g					
Cobalt-60	U	0.0485	+/-0.0361	0.0318	+/-0.0354	0.0704	pCi/g					
Europium-152	U	-0.0546	+/-0.0995	0.0758	+/-0.0975	0.161	pCi/g					
Europium-154	U	0.0097	+/-0.106	0.0855	+/-0.104	0.189	pCi/g					
Europium-155	U	0.0104	+/-0.0985	0.078	+/-0.0965	0.163	pCi/g					
Lead-212		0.558	+/-0.104	0.0446	+/-0.102	0.0935	pCi/g					
Lead-214		0.934	+/-0.172	0.0524	+/-0.169	0.111	pCi/g					
Manganese-54	U	-0.0255	+/-0.0331	0.0236	+/-0.0325	0.0519	pCi/g					
Niobium-94	U	-0.00409	+/-0.033	0.026	+/-0.0323	0.056	pCi/g					
Potassium-40		5.96	+/-1.05	0.255	+/-1.03	0.576	pCi/g					
Radium-226		0.836	+/-0.193	0.0511	+/-0.190	0.110	pCi/g					
Silver-108m	U	-0.0279	+/-0.035	0.0255	+/-0.0343	0.0544	pCi/g					
Thallium-208		0.222	+/-0.0717	0.0216	+/-0.0703	0.0474	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-014F
Sample ID: 143553013

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-015F
 Sample ID: 143553014
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 23.9%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.983	+/-0.206	0.0654	+/-0.202	0.140	pCi/g		JPH1	09/02/05	0956	455561 1
Americium-241	U	3.700E-05	+/-0.0266	0.0222	+/-0.0261	0.0458	pCi/g					
Bismuth-212		0.593	+/-0.340	0.143	+/-0.333	0.304	pCi/g					
Bismuth-214		0.827	+/-0.130	0.0319	+/-0.127	0.0676	pCi/g					
Cesium-134	U	0.0297	+/-0.0307	0.0238	+/-0.0301	0.0503	pCi/g					
Cesium-137		0.610	+/-0.0801	0.0156	+/-0.0785	0.0335	pCi/g					
Cobalt-60	U	0.0139	+/-0.0247	0.019	+/-0.0242	0.0416	pCi/g					
Europium-152	U	0.00809	+/-0.0548	0.0449	+/-0.0537	0.0938	pCi/g					
Europium-154	U	-0.00395	+/-0.0685	0.0553	+/-0.0672	0.120	pCi/g					
Europium-155	U	0.064	+/-0.0622	0.035	+/-0.0609	0.0723	pCi/g					
Lead-212		0.840	+/-0.105	0.0225	+/-0.103	0.0468	pCi/g					
Lead-214		0.985	+/-0.135	0.0303	+/-0.133	0.0635	pCi/g					
Manganese-54	U	0.0293	+/-0.0263	0.0173	+/-0.0258	0.037	pCi/g					
Niobium-94	U	-0.0018	+/-0.0204	0.0165	+/-0.020	0.0351	pCi/g					
Potassium-40		8.14	+/-0.940	0.141	+/-0.921	0.319	pCi/g					
Radium-226		0.827	+/-0.130	0.0319	+/-0.127	0.0676	pCi/g					
Silver-108m	U	5.480E-05	+/-0.0187	0.016	+/-0.0183	0.0335	pCi/g					
Thallium-208		0.244	+/-0.0537	0.0186	+/-0.0527	0.0393	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-015F
Sample ID: 143553014

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID:	9527-0004-016F	Project:	YANK01204
Sample ID:	143553015	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	17-AUG-05		
Receive Date:	19-AUG-05		
Collector:	Client		
Moisture:	11.9%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.663	+/-0.195	0.0701	+/-0.191	0.155	pCi/g		JPH1	09/03/05	1311	455561 1
Americium-241	U	0.0191	+/-0.0354	0.0296	+/-0.0347	0.0613	pCi/g					
Bismuth-212	UUI	0.00	+/-0.348	0.186	+/-0.341	0.400	pCi/g					
Bismuth-214		1.09	+/-0.159	0.0435	+/-0.155	0.0933	pCi/g					
Cesium-134	U	0.0352	+/-0.0308	0.0282	+/-0.0302	0.0608	pCi/g					
Cesium-137		0.0981	+/-0.0361	0.0236	+/-0.0353	0.0508	pCi/g					
Cobalt-60	U-0.000973		+/-0.0309	0.0251	+/-0.0303	0.0561	pCi/g					
Europium-152	U	0.0204	+/-0.0636	0.0544	+/-0.0623	0.116	pCi/g					
Europium-154	U	-0.0269	+/-0.0876	0.0688	+/-0.0859	0.153	pCi/g					
Europium-155	U	-0.0184	+/-0.0568	0.0427	+/-0.0557	0.0894	pCi/g					
Lead-212		0.497	+/-0.0832	0.0314	+/-0.0815	0.0657	pCi/g					
Lead-214		1.21	+/-0.172	0.0422	+/-0.169	0.0892	pCi/g					
Manganese-54	U	-0.0014	+/-0.0294	0.0239	+/-0.0288	0.0517	pCi/g					
Niobium-94	U	0.00878	+/-0.0248	0.0213	+/-0.0243	0.0459	pCi/g					
Potassium-40		16.3	+/-1.62	0.159	+/-1.59	0.377	pCi/g					
Radium-226		1.09	+/-0.159	0.0435	+/-0.155	0.0933	pCi/g					
Silver-108m	U	0.00147	+/-0.0199	0.0175	+/-0.0195	0.0376	pCi/g					
Thallium-208	U	0.00	+/-0.0571	0.0199	+/-0.0559	0.0431	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-016F
Sample ID: 143553015

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-017F
 Sample ID: 143553016
 Matrix: TS
 Collect Date: 17-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 49.1%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS</i>												
Actinium-228		0.408	+/-0.144	0.0647	+/-0.141	0.139	pCi/g		JPH1	09/16/05	1304	455561 2
Americium-241	U	-0.0911	+/-0.0688	0.0516	+/-0.0674	0.108	pCi/g					
Bismuth-212	UUI	0.00	+/-0.286	0.129	+/-0.280	0.277	pCi/g					
Bismuth-214		0.590	+/-0.121	0.0331	+/-0.119	0.0701	pCi/g					
Cesium-134	U	0.0436	+/-0.0384	0.0228	+/-0.0377	0.0483	pCi/g					
Cesium-137		0.471	+/-0.0726	0.0176	+/-0.0711	0.0374	pCi/g					
Cobalt-60	U	-0.00315	+/-0.029	0.0194	+/-0.0284	0.0421	pCi/g					
Europium-152	U	0.00172	+/-0.0583	0.0463	+/-0.0571	0.0971	pCi/g					
Europium-154	U	0.0018	+/-0.0705	0.0564	+/-0.0691	0.122	pCi/g					
Europium-155	U	0.0324	+/-0.0618	0.0497	+/-0.0605	0.103	pCi/g					
Lead-212		0.449	+/-0.0757	0.0266	+/-0.0742	0.0554	pCi/g					
Lead-214		0.739	+/-0.135	0.0348	+/-0.132	0.073	pCi/g					
Manganese-54	U	0.0093	+/-0.0225	0.0183	+/-0.022	0.0392	pCi/g					
Niobium-94	U	0.0124	+/-0.0246	0.0179	+/-0.0241	0.0377	pCi/g					
Potassium-40		4.65	+/-0.717	0.188	+/-0.703	0.409	pCi/g					
Radium-226		0.590	+/-0.121	0.0331	+/-0.119	0.0701	pCi/g					
Silver-108m	U	-0.00376	+/-0.0202	0.0155	+/-0.0198	0.0328	pCi/g					
Thallium-208	UUI	0.00	+/-0.0422	0.0309	+/-0.0414	0.0638	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3
2	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-017F
Sample ID: 143553016

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- BD Results below the MDC or low tracer recovery.
 - E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-004F
 Sample ID: 143553017
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 7.98%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Alpha Spec Analysis											
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>											
Americium-241	U	-0.0283	+/-0.0597	0.0337	+/-0.0598	0.148	pCi/g		JXG1	09/18/05	1406 460839 1
Curium-242	U	0.00	+/-0.0687	0.00	+/-0.0687	0.0949	pCi/g				
Curium-243/244	U	-0.0143	+/-0.0615	0.0479	+/-0.0615	0.176	pCi/g				
<i>Alphaspec Pu, Solid-ALL FSS</i>											
Plutonium-238	U	0.0166	+/-0.0616	0.053	+/-0.0616	0.162	pCi/g		JXG1	09/18/05	1406 460841 2
Plutonium-239/240	U	-0.0249	+/-0.0218	0.0529	+/-0.022	0.162	pCi/g				
<i>Liquid Scint Pu241, Solid-ALL FSS</i>											
Plutonium-241	U	-5.3	+/-9.76	8.41	+/-9.78	17.5	pCi/g		JXG1	09/16/05	1256 460843 3
Rad Gamma Spec Analysis											
<i>Gamma,Solid-FSS GAM & ALL FSS</i>											
Actinium-228		0.626	+/-0.305	0.101	+/-0.299	0.225	pCi/g		JPH1	09/03/05	1312 455561 4
Americium-241	UUI	0.00	+/-0.0878	0.0403	+/-0.086	0.0839	pCi/g				
Bismuth-212		0.528	+/-0.423	0.205	+/-0.415	0.454	pCi/g				
Bismuth-214		0.927	+/-0.178	0.0463	+/-0.174	0.102	pCi/g				
Cesium-134	U	0.0756	+/-0.059	0.0419	+/-0.0578	0.0902	pCi/g				
Cesium-137		0.555	+/-0.112	0.0303	+/-0.110	0.0659	pCi/g				
Cobalt-60	U	0.0296	+/-0.0292	0.0315	+/-0.0286	0.0716	pCi/g				
Europium-152	U	0.0316	+/-0.0838	0.0727	+/-0.0821	0.155	pCi/g				
Europium-154	U	-0.0747	+/-0.119	0.085	+/-0.116	0.193	pCi/g				
Europium-155	U	0.0762	+/-0.123	0.0589	+/-0.121	0.124	pCi/g				
Lead-212		0.877	+/-0.115	0.0357	+/-0.113	0.0756	pCi/g				
Lead-214		1.05	+/-0.178	0.0468	+/-0.174	0.100	pCi/g				
Manganese-54	U	0.00833	+/-0.0372	0.032	+/-0.0365	0.0699	pCi/g				
Niobium-94	U	0.00324	+/-0.0306	0.0263	+/-0.030	0.0574	pCi/g				
Potassium-40		9.80	+/-1.47	0.237	+/-1.44	0.561	pCi/g				
Radium-226		0.927	+/-0.178	0.0463	+/-0.174	0.102	pCi/g				
Silver-108m	U	-0.0139	+/-0.0295	0.0232	+/-0.0289	0.0502	pCi/g				
Thallium-208		0.295	+/-0.0734	0.0249	+/-0.0719	0.0547	pCi/g				
Rad Gas Flow Proportional Counting											
<i>GFPC, Sr90, solid - 0.025 pCi/g</i>											
Strontium-90	U	0.00373	+/-0.010	0.0083	+/-0.010	0.0171	pCi/g		EXW108/31/05	2039	457354 5
Rad Liquid Scintillation Analysis											
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>											
Tritium	U	7.90	+/-8.19	6.60	+/-8.19	13.7	pCi/g		MXP1	09/03/05	0607 455633 6
<i>Liquid Scint C14, Solid All,FSS</i>											

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-004F
 Sample ID: 143553017

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Liquid Scintillation Analysis												
<i>Liquid Scint C14, Solid All, FSS</i>												
Carbon-14	U	0.0671	+/-0.0802	0.0662	+/-0.0802	0.135	pCi/g		BXF1	09/14/05	0632	459955 7
<i>Liquid Scint Fe55, Solid-ALL FSS</i>												
Iron-55	U	0.550	+/-64.2	43.1	+/-64.2	88.7	pCi/g		AF1	09/02/05	0423	457431 8
<i>Liquid Scint Ni63, Solid-ALL FSS</i>												
Nickel-63	U	-4.49	+/-5.77	4.98	+/-5.78	10.3	pCi/g		AF1	09/03/05	0017	457432 9
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.217	+/-0.165	0.133	+/-0.165	0.273	pCi/g		BXF1	08/31/05	0339	455604 10

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	PD	08/25/05	1056	455336
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EML HASL 300, 4.5.2.3
5	EPA 905.0 Modified
6	EPA 906.0 Modified
7	EPA EERF C-01 Modified
8	DOE RESL Fe-1, Modified
9	DOE RESL Ni-1, Modified
10	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	88	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	108	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	82	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid - 0.025 pCi/g	84	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	85	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	77	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-004F
Sample ID: 143553017

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			74		(15%-125%)				

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-009F
 Sample ID: 143553018
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 8.52%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Alpha Spec Analysis											
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>											
Americium-241	U	-0.0139	+/-0.0301	0.0509	+/-0.0302	0.172	pCi/g		JXG1 09/18/05	1406	460839 1
Curium-242	U	0.00	+/-0.0598	0.00	+/-0.0598	0.0827	pCi/g				
Curium-243/244	U	0.0849	+/-0.104	0.0511	+/-0.104	0.172	pCi/g				
<i>Alphaspec Pu, Solid-ALL FSS</i>											
Plutonium-238	U	0.0296	+/-0.0668	0.0456	+/-0.0668	0.154	pCi/g		JXG1 09/18/05	1406	460841 2
Plutonium-239/240	U	-0.137	+/-0.0894	0.151	+/-0.0904	0.365	pCi/g				
<i>Liquid Scint Pu241, Solid-ALL FSS</i>											
Plutonium-241	U	1.10	+/-8.88	7.41	+/-8.88	15.4	pCi/g		JXG1 09/16/05	1313	460843 3
Rad Gamma Spec Analysis											
<i>Gamma,Solid-FSS GAM & ALL FSS</i>											
Actinium-228		1.06	+/-0.255	0.0917	+/-0.250	0.205	pCi/g		JPH1 09/03/05	1312	455561 4
Americium-241	U	-0.0731	+/-0.171	0.120	+/-0.168	0.250	pCi/g				
Bismuth-212		0.906	+/-0.435	0.190	+/-0.426	0.421	pCi/g				
Bismuth-214		1.04	+/-0.160	0.0491	+/-0.157	0.107	pCi/g				
Cesium-134	U	0.0311	+/-0.0383	0.0339	+/-0.0375	0.074	pCi/g				
Cesium-137		0.764	+/-0.0872	0.028	+/-0.0854	0.0611	pCi/g				
Cobalt-60	U	0.0193	+/-0.0418	0.0328	+/-0.0409	0.0739	pCi/g				
Europium-152	U	-0.0439	+/-0.0943	0.072	+/-0.0924	0.154	pCi/g				
Europium-154	U	-0.0298	+/-0.0841	0.0643	+/-0.0824	0.151	pCi/g				
Europium-155	U	0.029	+/-0.086	0.0745	+/-0.0843	0.156	pCi/g				
Lead-212		0.977	+/-0.100	0.0428	+/-0.0983	0.0901	pCi/g				
Lead-214		1.16	+/-0.159	0.0555	+/-0.156	0.118	pCi/g				
Manganese-54	U	-0.00863	+/-0.0315	0.0243	+/-0.0309	0.0543	pCi/g				
Niobium-94	U	0.0106	+/-0.0332	0.028	+/-0.0326	0.0606	pCi/g				
Potassium-40		11.4	+/-1.43	0.204	+/-1.40	0.491	pCi/g				
Radium-226		1.04	+/-0.160	0.0491	+/-0.157	0.107	pCi/g				
Silver-108m	U	0.00276	+/-0.0317	0.0269	+/-0.0311	0.0577	pCi/g				
Thallium-208		0.328	+/-0.0657	0.024	+/-0.0644	0.0527	pCi/g				
Rad Gas Flow Proportional Counting											
<i>GFPC, Sr90, solid - 0.025 pCi/g</i>											
Strontium-90	U	0.00673	+/-0.0111	0.00907	+/-0.0111	0.0187	pCi/g		EXW108/31/05	2103	457354 5
Rad Liquid Scintillation Analysis											
<i>LSC, Tritium Dist, Solid-HTD2,ALL FSS</i>											
Tritium	U	3.68	+/-8.18	6.74	+/-8.18	14.0	pCi/g		MXP1 09/03/05	0659	455633 6
<i>Liquid Scint C14, Solid All,FSS</i>											

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-009F
 Sample ID: 143553018

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Liquid Scintillation Analysis												
<i>Liquid Scint C14, Solid All, FSS</i>												
Carbon-14	U	0.0926	+/-0.081	0.0664	+/-0.081	0.135	pCi/g		BXF1	09/14/05	0806	459955 7
<i>Liquid Scint Fe55, Solid-ALL FSS</i>												
Iron-55	U	-43.8	+/-42.1	29.0	+/-42.1	59.8	pCi/g		AF1	09/02/05	0440	457431 8
<i>Liquid Scint Ni63, Solid-ALL FSS</i>												
Nickel-63	U	-7.85	+/-5.99	5.27	+/-6.01	10.9	pCi/g		AF1	09/03/05	0050	457432 9
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.210	+/-0.167	0.135	+/-0.167	0.277	pCi/g		BXF1	08/31/05	0412	455604 10

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	PD	08/25/05	1056	455336
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	EML HASL 300, 4.5.2.3
5	EPA 905.0 Modified
6	EPA 906.0 Modified
7	EPA EERF C-01 Modified
8	DOE RESL Fe-1, Modified
9	DOE RESL Ni-1, Modified
10	DOE EML HASL-300, Tc-02-RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243	Alphaspec Am241, Cm, Solid ALL	88	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	98	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid-ALL FS	94	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid - 0.025 pCi/g	82	(25%-125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid-ALL FS	92	(15%-125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid-ALL FS	76	(25%-125%)

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-009F
Sample ID: 143553018

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			72		(15%-125%)				

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-012F
 Sample ID: 143553019
 Matrix: TS
 Collect Date: 10-AUG-05
 Receive Date: 19-AUG-05
 Collector: Client
 Moisture: 12.5%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Alpha Spec Analysis											
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>											
Americium-241	U	-0.00742	+/-0.0292	0.0427	+/-0.0292	0.157	pCi/g		JXG1 09/18/05	1406	460839 1
Curium-242	U	-0.00752	+/-0.0632	0.0357	+/-0.0633	0.156	pCi/g				
Curium-243/244	U	0.00744	+/-0.0564	0.0525	+/-0.0564	0.177	pCi/g				
<i>Alphaspec Pu, Solid-ALL FSS</i>											
Plutonium-238	U	0.00193	+/-0.074	0.0776	+/-0.074	0.220	pCi/g		JXG1 09/18/05	1406	460841 2
Plutonium-239/240	U	0.0115	+/-0.128	0.131	+/-0.128	0.328	pCi/g				
<i>Liquid Scint Pu241, Solid-ALL FSS</i>											
Plutonium-241	U	-2.31	+/-8.15	6.94	+/-8.16	14.4	pCi/g		JXG1 09/16/05	1330	460843 3
Rad Gamma Spec Analysis											
<i>Gamma, Solid-FSS GAM & ALL FSS</i>											
Actinium-228		0.867	+/-0.211	0.0903	+/-0.207	0.191	pCi/g		JPH1 09/03/05	1312	455561 4
Americium-241	U	0.00811	+/-0.140	0.110	+/-0.137	0.226	pCi/g				
Bismuth-212		0.498	+/-0.363	0.187	+/-0.356	0.396	pCi/g				
Bismuth-214		1.04	+/-0.184	0.0454	+/-0.180	0.0956	pCi/g				
Cesium-134	U	0.0569	+/-0.0454	0.0299	+/-0.0445	0.063	pCi/g				
Cesium-137		1.55	+/-0.142	0.0277	+/-0.139	0.0581	pCi/g				
Cobalt-60	U	0.0347	+/-0.040	0.0225	+/-0.0392	0.049	pCi/g				
Europium-152	U	-0.00925	+/-0.0873	0.0692	+/-0.0856	0.144	pCi/g				
Europium-154	U	-0.052	+/-0.0842	0.0647	+/-0.0826	0.141	pCi/g				
Europium-155	U	0.114	+/-0.121	0.0732	+/-0.119	0.150	pCi/g				
Lead-212		0.926	+/-0.117	0.0387	+/-0.115	0.080	pCi/g				
Lead-214		1.31	+/-0.189	0.0475	+/-0.185	0.0989	pCi/g				
Manganese-54	U	0.0503	+/-0.054	0.0262	+/-0.0529	0.0553	pCi/g				
Niobium-94	U	0.00715	+/-0.0272	0.0225	+/-0.0266	0.0474	pCi/g				
Potassium-40		10.3	+/-1.17	0.209	+/-1.14	0.458	pCi/g				
Radium-226		1.04	+/-0.184	0.0454	+/-0.180	0.0956	pCi/g				
Silver-108m	U	-0.00112	+/-0.0309	0.0243	+/-0.0303	0.0507	pCi/g				
Thallium-208		0.238	+/-0.0639	0.0267	+/-0.0626	0.056	pCi/g				
Rad Gas Flow Proportional Counting											
<i>GFPC, Sr90, solid - 0.025 pCi/g</i>											
Strontium-90	U	0.00972	+/-0.0135	0.0111	+/-0.0135	0.0227	pCi/g		EXW108/31/05	2103	457354 5
Rad Liquid Scintillation Analysis											
<i>LSC, Tritium Dist, Solid-HTD2, ALL FSS</i>											
Tritium	U	-1.03	+/-1.81	1.57	+/-1.81	3.27	pCi/g		MXP1 09/02/05	0217	455633 6
<i>Liquid Scint C14, Solid All, FSS</i>											

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556–8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527–0004–012F
Sample ID: 143553019

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch
Rad Liquid Scintillation Analysis												
<i>Liquid Scint C14, Solid All, FSS</i>												
Carbon–14	U	0.0548	+/-0.0809	0.067	+/-0.0809	0.136	pCi/g		BXF1	09/14/05	0941	459955 7
<i>Liquid Scint Fe55, Solid–ALL FSS</i>												
Iron–55	U	–29.4	+/-50.7	34.6	+/-50.7	71.3	pCi/g		AF1	09/02/05	0457	457431 8
<i>Liquid Scint Ni63, Solid–ALL FSS</i>												
Nickel–63	U	–2.67	+/-5.56	4.75	+/-5.56	9.79	pCi/g		AF1	09/03/05	0123	457432 9
<i>Liquid Scint Tc99, Solid–ALL FSS</i>												
Technetium–99	U	0.264	+/-0.181	0.145	+/-0.181	0.297	pCi/g		BXF1	08/31/05	0446	455604 10

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL–RAD–A–021B	PD	08/25/05	1056	455336
Dry Soil Prep	Dry Soil Prep GL–RAD–A–021	TC1	08/24/05	1104	455334

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL–300, Am–05–RC Modified
2	DOE EML HASL–300, Pu–11–RC Modified
3	DOE EML HASL–300, Pu–11–RC Modified
4	EML HASL 300, 4.5.2.3
5	EPA 905.0 Modified
6	EPA 906.0 Modified
7	EPA EERF C–01 Modified
8	DOE RESL Fe–1, Modified
9	DOE RESL Ni–1, Modified
10	DOE EML HASL–300, Tc–02–RC Modified

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium–243	Alphaspec Am241, Cm, Solid ALL	86	(15%–125%)
Plutonium–242	Alphaspec Pu, Solid–ALL FSS	92	(15%–125%)
Carrier/Tracer Recovery	Liquid Scint Pu241, Solid–ALL FS	101	(25%–125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid – 0.025 pCi/g	71	(25%–125%)
Carrier/Tracer Recovery	Liquid Scint Fe55, Solid–ALL FS	87	(15%–125%)
Carrier/Tracer Recovery	Liquid Scint Ni63, Solid–ALL FS	74	(25%–125%)

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: September 20, 2005

Client Sample ID: 9527-0004-012F
Sample ID: 143553019

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			68		(15%-125%)				

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: September 21, 2005

Page 1 of 9

Client : Connecticut Yankee Atomic Power
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut
Contact: Mr. Pete Hollenbeck
Workorder: 143553

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	460839										
QC1200931309	143553017 DUP										
Americium-241	U	-0.0283	U	-0.0695	pCi/g	N/A		(0% - 100%)	JXG1	09/18/05	14:06
	Uncert:	+/-0.0597		+/-0.0596							
	TPU:	+/-0.0598		+/-0.0597							
Curium-242	U	0.00	U	0.0226	pCi/g			(0% - 100%)			
	Uncert:	+/-0.0687		+/-0.060							
	TPU:	+/-0.0687		+/-0.0601							
Curium-243/244	U	-0.0143	U	0.0212	pCi/g	N/A		(0% - 100%)			
	Uncert:	+/-0.0615		+/-0.0928							
	TPU:	+/-0.0615		+/-0.0929							
QC1200931311	LCS										
Americium-241	10.9			11.1	pCi/g		102	(75%-125%)			
	Uncert:			+/-1.04							
	TPU:			+/-1.84							
Curium-242			U	-0.0124	pCi/g						
	Uncert:			+/-0.0172							
	TPU:			+/-0.0173							
Curium-243/244	13.3			15.6	pCi/g		117	(75%-125%)			
	Uncert:			+/-1.24							
	TPU:			+/-2.48							
QC1200931308	MB										
Americium-241			U	-0.0139	pCi/g					09/18/05	14:06
	Uncert:			+/-0.0298							
	TPU:			+/-0.0298							
Curium-242			U	0.00	pCi/g						
	Uncert:			+/-0.0513							
	TPU:			+/-0.0513							
Curium-243/244			U	0.0133	pCi/g						
	Uncert:			+/-0.0531							
	TPU:			+/-0.0531							
QC1200931310	143553017 MS										
Americium-241	10.9	U	-0.0283	10.5	pCi/g		96	(75%-125%)		09/18/05	14:06
	Uncert:		+/-0.0597	+/-0.996							
	TPU:		+/-0.0598	+/-1.74							
Curium-242		U	0.00	U	-0.00697	pCi/g					
	Uncert:		+/-0.0687	+/-0.0137							
	TPU:		+/-0.0687	+/-0.0137							
Curium-243/244	13.4	U	-0.0143	15.7	pCi/g		117	(75%-125%)			
	Uncert:		+/-0.0615	+/-1.22							
	TPU:		+/-0.0615	+/-2.45							
Batch	460841										
QC1200931313	143553017 DUP										
Plutonium-238	U	0.0166	U	-0.0113	pCi/g	N/A		(0% - 100%)	JXG1	09/18/05	14:06

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 2 of 9

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec										
Batch	460841									
Plutonium-239/240										
	Uncert:	+/-0.0616	+/-0.0156							
	TPU:	+/-0.0616	+/-0.0157							
	U	-0.0249	U	0.0141	pCi/g	N/A	(0% - 100%)			
	Uncert:	+/-0.0218	+/-0.0871							
	TPU:	+/-0.022	+/-0.0871							
QC1200931315	LCS									
Plutonium-238			U	-0.0414	pCi/g		(75%-125%)			
	Uncert:			+/-0.0753						
	TPU:			+/-0.0754						
Plutonium-239/240	10.1			9.11	pCi/g	91	(75%-125%)			
	Uncert:			+/-0.892						
	TPU:			+/-1.26						
QC1200931312	MB									
Plutonium-238			U	-0.0115	pCi/g					
	Uncert:			+/-0.0593						
	TPU:			+/-0.0593						
Plutonium-239/240			U	-0.0417	pCi/g					
	Uncert:			+/-0.0865						
	TPU:			+/-0.0866						
QC1200931314	143553017	MS								
Plutonium-238		U	0.0166	U	0.0798	pCi/g	(75%-125%)			
	Uncert:		+/-0.0616		+/-0.111					
	TPU:		+/-0.0616		+/-0.112					
Plutonium-239/240	10.1	U	-0.0249	9.61	pCi/g	95	(75%-125%)			
	Uncert:		+/-0.0218	+/-0.908						
	TPU:		+/-0.022	+/-1.30						
Batch	460843									
QC1200931317	143553017	DUP								
Plutonium-241		U	-5.3	U	2.95	pCi/g	N/A	(0% - 100%)	JXG1	09/16/05 14:05
	Uncert:		+/-9.76		+/-8.54					
	TPU:		+/-9.78		+/-8.55					
QC1200931319	LCS									
Plutonium-241			134		109	pCi/g	81	(75%-125%)		09/16/05 14:39
	Uncert:				+/-13.3					
	TPU:				+/-18.7					
QC1200931316	MB									
Plutonium-241			U	-0.957	pCi/g					09/16/05 13:48
	Uncert:			+/-9.33						
	TPU:			+/-9.33						
QC1200931318	143553017	MS								
Plutonium-241		134	U	-5.3	106	pCi/g	79	(75%-125%)		09/16/05 14:22
	Uncert:			+/-9.76	+/-12.3					
	TPU:			+/-9.78	+/-17.2					
Rad Gamma Spec										
Batch	455561									
QC1200918813	143553001	DUP								
Actinium-228			0.962		0.742	pCi/g	26	(0% - 100%)	JPH1	09/16/05 13:05
	Uncert:		+/-0.271		+/-0.276					
					+/-0.271					

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 3 of 9

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	455561									
Americium-241		TPU: +/-0.266								
	U	-0.0476	U	0.0653	pCi/g	N/A	(0% - 100%)			
		Uncert: +/-0.154		+/-0.121						
Bismuth-212		TPU: +/-0.151		+/-0.119						
		0.763		0.832	pCi/g	9	(0% - 100%)			
		Uncert: +/-0.366		+/-0.454						
Bismuth-214		TPU: +/-0.358		+/-0.445						
		1.05		1.00	pCi/g	5				
		Uncert: +/-0.159		+/-0.182						
Cesium-134		TPU: +/-0.156		+/-0.179						
	UUI	0.00	U	0.0459	pCi/g	79	(0% - 100%)			
		Uncert: +/-0.0478		+/-0.0675						
Cesium-137		TPU: +/-0.0468		+/-0.0661						
		1.10		0.970	pCi/g	12	(0% - 100%)			
		Uncert: +/-0.116		+/-0.128						
Cobalt-60		TPU: +/-0.114		+/-0.126						
	U	0.0274	U	0.0518	pCi/g	62	(0% - 100%)			
		Uncert: +/-0.0288		+/-0.0506						
		TPU: +/-0.0282		+/-0.0496						
Europium-152		U	U	-0.0371	pCi/g	N/A	(0% - 100%)			
		0.0237		+/-0.0891						
		Uncert: +/-0.0742		+/-0.0873						
Europium-154		TPU: +/-0.0727		+/-0.0873						
	U	0.0118	U	-0.0221	pCi/g	N/A	(0% - 100%)			
		Uncert: +/-0.0734		+/-0.0911						
Europium-155		TPU: +/-0.072		+/-0.0893						
	U	0.0818	U	0.00729	pCi/g	167	(0% - 100%)			
		Uncert: +/-0.0865		+/-0.0869						
Lead-212		TPU: +/-0.0848		+/-0.0852						
		1.17		1.06	pCi/g	9	(0% - 20%)			
		Uncert: +/-0.127		+/-0.130						
Lead-214		TPU: +/-0.124		+/-0.128						
		1.26		1.03	pCi/g	20	(0% - 20%)			
		Uncert: +/-0.177		+/-0.175						
Manganese-54		TPU: +/-0.173		+/-0.172						
	U	0.0293	U	0.0139	pCi/g	71	(0% - 100%)			
		Uncert: +/-0.037		+/-0.0343						
		TPU: +/-0.0362		+/-0.0336						
Niobium-94		U	U	0.00844	pCi/g	N/A	(0% - 100%)			
		-0.00669		+/-0.0305						
		Uncert: +/-0.0254		+/-0.0298						
Potassium-40		TPU: +/-0.0248		+/-0.0298						
		11.1		10.6	pCi/g	5	(0% - 20%)			
		Uncert: +/-1.38		+/-1.29						
Radium-226		TPU: +/-1.35		+/-1.27						
		1.05		1.00	pCi/g	5	(0% - 100%)			
		Uncert: +/-0.159		+/-0.182						
Silver-108m		TPU: +/-0.156		+/-0.179						
	U	-0.0028	U	-0.0337	pCi/g	N/A	(0% - 100%)			
		Uncert: +/-0.0251		+/-0.0311						

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 4 of 9

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	455561								
Thallium-208	TPU:	+/-0.0246	+/-0.0304						
		0.367	0.348	pCi/g	5		(0% - 100%)		
	Uncert:	+/-0.0691	+/-0.0806						
	TPU:	+/-0.0677	+/-0.079						
QC1200918814	LCS								
Actinium-228			U	0.0895	pCi/g				09/02/05 10:32
	Uncert:			+/-0.788					
	TPU:			+/-0.773					
Americium-241	24.4			26.0	pCi/g	106	(75%-125%)		
	Uncert:			+/-1.23					
	TPU:			+/-1.21					
Bismuth-212			U	0.0796	pCi/g				
	Uncert:			+/-1.64					
	TPU:			+/-1.61					
Bismuth-214			U	0.193	pCi/g				
	Uncert:			+/-0.389					
	TPU:			+/-0.382					
Cesium-134			U	0.0404	pCi/g				
	Uncert:			+/-0.221					
	TPU:			+/-0.217					
Cesium-137	9.41			9.86	pCi/g	105	(75%-125%)		
	Uncert:			+/-0.731					
	TPU:			+/-0.717					
Cobalt-60	14.4			14.3	pCi/g	99	(75%-125%)		
	Uncert:			+/-0.886					
	TPU:			+/-0.869					
Europium-152			U	-0.0295	pCi/g				
	Uncert:			+/-0.441					
	TPU:			+/-0.432					
Europium-154			U	0.135	pCi/g				
	Uncert:			+/-0.512					
	TPU:			+/-0.502					
Europium-155			U	-0.143	pCi/g				
	Uncert:			+/-0.480					
	TPU:			+/-0.471					
Lead-212			U	0.0912	pCi/g				
	Uncert:			+/-0.234					
	TPU:			+/-0.229					
Lead-214			U	0.0951	pCi/g				
	Uncert:			+/-0.308					
	TPU:			+/-0.302					
Manganese-54			U	-0.181	pCi/g				
	Uncert:			+/-0.198					
	TPU:			+/-0.194					
Niobium-94				0.338	pCi/g				
	Uncert:			+/-0.247					
	TPU:			+/-0.242					
Potassium-40			U	-0.755	pCi/g				

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 5 of 9

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	455561								
			Uncert:						
			TPU:						
Radium-226		U	0.193	pCi/g			(75%-125%)		
			Uncert:						
			TPU:						
Silver-108m		U	-0.000549	pCi/g					
			Uncert:						
			TPU:						
Thallium-208		U	0.150	pCi/g					
			Uncert:						
			TPU:						
QC1200918812	MB								
Actinium-228		U	0.0299	pCi/g					09/03/05 13:08
			Uncert:						
			TPU:						
Americium-241		U	-0.0291	pCi/g					
			Uncert:						
			TPU:						
Bismuth-212		U	0.0216	pCi/g					
			Uncert:						
			TPU:						
Bismuth-214		U	0.0277	pCi/g					
			Uncert:						
			TPU:						
Cesium-134		U	0.00486	pCi/g					
			Uncert:						
			TPU:						
Cesium-137		U	0.00374	pCi/g					
			Uncert:						
			TPU:						
Cobalt-60		U	0.00814	pCi/g					
			Uncert:						
			TPU:						
Europium-152		U	0.00266	pCi/g					
			Uncert:						
			TPU:						
Europium-154		U	0.0119	pCi/g					
			Uncert:						
			TPU:						
Europium-155		U	0.0486	pCi/g					
			Uncert:						
			TPU:						
Lead-212		U	0.00983	pCi/g					
			Uncert:						
			TPU:						
Lead-214		U	-0.0132	pCi/g					
			Uncert:						
			TPU:						

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 6 of 9

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 455561											
Manganese-54			U	0.00485	pCi/g						
				Uncert: +/-0.0148							
				TPU: +/-0.0145							
Niobium-94			U	0.0198	pCi/g						
				Uncert: +/-0.0456							
				TPU: +/-0.0447							
Potassium-40			U	0.105	pCi/g						
				Uncert: +/-0.213							
				TPU: +/-0.209							
Radium-226			U	0.0277	pCi/g						
				Uncert: +/-0.0366							
				TPU: +/-0.0358							
Silver-108m			U	-0.00498	pCi/g						
				Uncert: +/-0.0162							
				TPU: +/-0.0159							
Thallium-208			U	0.0219	pCi/g						
				Uncert: +/-0.0195							
				TPU: +/-0.0191							
Rad Gas Flow											
Batch 457354											
QC1200922922	144089001	DUP									
Strontium-90			U	-0.00891	pCi/g	N/A		(0% - 100%)	3XW1	08/31/05	22:11
				Uncert: +/-0.012							
				TPU: +/-0.012							
QC1200922924	LCS										
Strontium-90			1.12	0.988	pCi/g		88	(75%-125%)		08/31/05	20:58
				Uncert: +/-0.0734							
				TPU: +/-0.0834							
QC1200922921	MB										
Strontium-90				U	0.00853	pCi/g				08/31/05	22:11
				Uncert: +/-0.00989							
				TPU: +/-0.00996							
QC1200922923	144089001	MS									
Strontium-90			2.56	U	-0.00891	pCi/g		80	(75%-125%)	08/31/05	20:58
				Uncert: +/-0.012							
				TPU: +/-0.012							
Rad Liquid Scintillation											
Batch 455604											
QC1200918897	143735017	DUP									
Technetium-99			U	0.190	pCi/g	0		(0% - 100%)	BXF1	08/31/05	06:26
				Uncert: +/-0.277							
				TPU: +/-0.277							
QC1200918899	LCS										
Technetium-99			12.3	11.2	pCi/g		91	(75%-125%)		08/31/05	07:33
				Uncert: +/-0.318							
				TPU: +/-0.417							
QC1200918896	MB										
Technetium-99				U	0.0309	pCi/g				08/31/05	05:53

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 7 of 9

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation									
Batch	455604								
			Uncert:						+/-0.123
			TPU:						+/-0.123
QC1200918898	143735017 MS								
Technetium-99		23.3 U	0.190		21.4	pCi/g	92 (75%-125%)		08/31/05 06:59
			Uncert:	+/-0.277	+/-0.619				
			TPU:	+/-0.277	+/-0.810				
Batch	455633								
QC1200918969	143553017 DUP								
Tritium		U	7.90 U		5.06	pCi/g	0 (0% - 100%) MXP1		09/03/05 07:52
			Uncert:	+/-8.19	+/-7.44				
			TPU:	+/-8.19	+/-7.44				
QC1200918971	LCS								
Tritium			25.4		20.7	pCi/g	82 (75%-125%)		09/02/05 04:25
			Uncert:		+/-2.66				
			TPU:		+/-2.68				
QC1200918968	MB								
Tritium				U	1.16	pCi/g			09/02/05 02:49
			Uncert:		+/-1.90				
			TPU:		+/-1.90				
QC1200918970	143553017 MS								
Tritium		147 U	7.90		115	pCi/g	78 (75%-125%)		09/02/05 03:53
			Uncert:	+/-8.19	+/-15.3				
			TPU:	+/-8.19	+/-15.4				
Batch	457431								
QC1200923110	144089001 DUP								
Iron-55		U	-4.13 U		-14	pCi/g	N/A (0% - 100%) AF1		09/02/05 05:31
			Uncert:	+/-57.7	+/-49.6				
			TPU:	+/-57.7	+/-49.6				
QC1200923112	LCS								
Iron-55			72.8		68.5	pCi/g	94 (75%-125%)		09/02/05 06:05
			Uncert:		+/-6.45				
			TPU:		+/-7.36				
QC1200923109	MB								
Iron-55				U	-2.36	pCi/g			09/02/05 01:42
			Uncert:		+/-1.56				
			TPU:		+/-1.56				
QC1200923111	144089001 MS								
Iron-55		834 U	-4.13		724	pCi/g	87 (75%-125%)		09/02/05 05:48
			Uncert:	+/-57.7	+/-61.4				
			TPU:	+/-57.7	+/-73.9				
Batch	457432								
QC1200923114	144089001 DUP								
Nickel-63		U	-4.18 U		0.259	pCi/g	N/A (0% - 100%) AF1		09/03/05 03:33
			Uncert:	+/-6.36	+/-6.51				
			TPU:	+/-6.37	+/-6.51				
QC1200923116	LCS								
Nickel-63			74.7		78.0	pCi/g	104 (75%-125%)		09/03/05 04:38
			Uncert:		+/-2.66				
			TPU:		+/-5.14				

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 8 of 9

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation									
Batch	457432								
QC1200923113	MB								
Nickel-63			U	0.265	pCi/g				09/03/05 03:00
				Uncert: +/-1.00					
				TPU: +/-1.00					
QC1200923115	144089001 MS								
Nickel-63		475 U	-4.18	480	pCi/g	101	(75%-125%)		09/03/05 04:05
			Uncert: +/-6.36	+/-16.3					
			TPU: +/-6.37	+/-33.0					
Batch	459955								
QC1200929173	143553017 DUP								
Carbon-14		U	0.0671	U	-0.0359	pCi/g	N/A	(0% - 100%) BXF1	09/15/05 08:50
			Uncert: +/-0.0802	+/-0.0765					
			TPU: +/-0.0802	+/-0.0766					
QC1200929175	LCS								
Carbon-14		7.22		6.51	pCi/g	90	(75%-125%)		09/15/05 11:42
			Uncert: +/-0.172						
			TPU: +/-0.200						
QC1200929172	MB								
Carbon-14			U	-0.0717	pCi/g				09/15/05 07:16
			Uncert: +/-0.0773						
			TPU: +/-0.0773						
QC1200929174	143553017 MS								
Carbon-14		7.01 U	0.0671	5.92	pCi/g	84	(75%-125%)		09/17/05 00:11
			Uncert: +/-0.0802	+/-0.242					
			TPU: +/-0.0802	+/-0.259					

Notes:

The Qualifiers in this report are defined as follows:

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 143553

Page 9 of 9

<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
-----------------	------------	--------------------	-----------	--------------	-------------	-------------	--------------	--------------	-------------	-------------

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

** Indicates analyte is a surrogate compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

CASE NARRATIVE
For
CONNECTICUT YANKEE
RE: Soils
PO# 002332
Work Order: 147165
SDG: MSR #05-2390

October 10, 2005

Laboratory Identification:

General Engineering Laboratories, LLC

Mailing Address:

P.O. Box 30712
Charleston, South Carolina 29417

Express Mail Delivery and Shipping Address:

2040 Savage Road
Charleston, South Carolina 29407

Telephone Number:

(843) 556-8171

Summary:

Sample receipt

The samples for the Soil Project for work order 147165 arrived at General Engineering Laboratories, LLC, (GEL) in Charleston, South Carolina on October 6, 2005. All sample containers arrived without any visible signs of tampering or breakage. The chain of custody contained the proper documentation and signatures.

The laboratory received the following samples:

<u>Sample ID</u>	<u>Client Sample ID</u>
147165001	9527-0004-2A
147165002	9527-0004-2B
147165003	9527-0004-2C
147165004	9527-0004-2D
147165005	9527-0004-3A
147165006	9527-0004-3B
147165007	9527-0004-3C
147165008	9527-0004-3D

Items of Note:

As per Pete Hollenbeck's request via email October 6, 2005, sample ID 9527-0004-2B on the COC was corrected to 9527-0004-3B (ID on container).

Case Narrative:

Sample analyses were conducted using methodology as outlined in General Engineering Laboratories (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are listed below by analytical parameter.

Analytical Request:

Eight soil samples were analyzed for FSSGAM.

Internal Chain of Custody:

Custody was maintained for all the samples.

Data Package:

The enclosed data package contains the following sections: Case Narrative, Chain of Custody and Supporting Documentation and all analytical fractions.

I certify that this data package 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.



Cheryl Jones
Project Manager

Chain of Custody and Supporting Documentation

Chain of Custody Form

Connecticut Yankee Atomic Power Company

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

No. 2005-00414

Project Name: Haddam Neck Decommissioning

Contact Name & Phone:
Pete Hollenbeck 860-267-3923

Analytical Lab (Name, City, State):
General Engineering Laboratories
2040 Savage Road
Charleston, SC 29407
ATT: Cheryl Jones (843-556-8171)

Priority: 30 D. 15 D. 7 D.
Other:

Lab Use Only

Comments:

147(65%)

Comment, Preservation

Lab Sample ID

Analyses Requested

Container Size & Type Code

Sample Type Code

Media Code

FSSGAM

Sample Designation	Date	Time
9527-0004-2A	10/4/05	1330
9527-0004-2B	10/4/05	1340
9527-0004-2C	10/4/05	1400
9527-0004-2D	10/4/05	1400
9527-0004-3A	10/4/05	1330
9527-0004-2B <i>or 3B</i>	10/4/05	1333
9527-0004-3C	10/4/05	1343
9527-0004-3D	10/4/05	1347

TS X BP X X X X X X X X X X X X X X

NOTES: PO #: 002332 MSR #: 05-2390 LTP QA Radwaste QA Non QA

* ID is 9527-0004-3B per Pete Hollenbeck, 10/4/05 *adforms*

1) Relinquished By *[Signature]* Date/Time 10/5/05 13/0

3) Relinquished By *[Signature]* Date/Time 10/6/05 930

5) Relinquished By _____ Date/Time _____

2) Received By *[Signature]* Date/Time 10/6/05 930

4) Received By *[Signature]* Date/Time _____

6) Received By _____ Date/Time _____

Samples Shipped Via:

Fed Ex

UPS

Hand

Other

790667904563

Bill of Lading #

Internal Container Temp.: ___ Deg. C

Custody Sealed? Y N

Custody Seal Intact? Y N

Figure 1. Sample Check-in List

Date/Time Received: 10/6/05 930

SDG#: USD#05-2390

Work Order Number: 147165

Shipping Container ID: 790667904563 Chain of Custody #: 2005-00414

1. Custody Seals on shipping container intact? Yes [] No []
2. Custody Seals dated and signed? Yes [] No []
3. Chain-of-Custody record present? Yes [] No []
4. Cooler temperature 22°C
5. Vermiculite/packing materials is: Wet [] Dry []
6. Number of samples in shipping container: 8 Samples
7. Sample holding times exceeded? Yes [] No []

8. Samples have:	
<input checked="" type="checkbox"/> tape	<input type="checkbox"/> hazard labels
<input type="checkbox"/> custody seals	<input type="checkbox"/> appropriate sample labels
9. Samples are:	
<input checked="" type="checkbox"/> in good condition	<input type="checkbox"/> leaking
<input type="checkbox"/> broken	<input type="checkbox"/> have air bubbles

10. Were any anomalies identified in sample receipt? Yes [] No []

11. Description of anomalies (include sample numbers): Sample ID 9527-0004-3B
Reads on COP. 9527-0004-2B. 3B is correct ID for
Sample collected 10/4/05 @ 1333 Per Pete Hollenbeak 10/6/05 CTP

Sample Custodian/Laboratory: Maria Atherton Date: 10/6/05 930

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Connecticut Yankee</u>	SDG/ARCO/Work Order: <u>147165</u>
Date Received: <u>10/6/05</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing): <i>[Signature]</i>
Received By: <i>[Signature]</i>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within (4 +/- 2 C)? Record preservation method.				Circle Coolant # ice bags blue ice dry ice none other describe)
3 Chain of custody documents included with shipment?				
4 Sample containers intact and sealed?				Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?				Sample ID's, containers affected and observed pH:
6 VOA vials free of headspace (defined as < 6mm bubble)?				Sample ID's and containers affected:
7 Are Encore containers present? (If yes, immediately deliver to VOA laboratory)				
8 Samples received within holding time?				Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?				Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?				Sample ID's affected:
11 Number of containers received match number indicated on COC?				Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?				
14 Air Bill, Tracking #'s, & Additional Comments				

Suspected Hazard Information	Non-Regulated	Regulated	High Level	RSO RAD Receipt # _____ *If > x2 area background is observed on samples identified as "non-regulated/non-radioactive", contact the Radiation Safety group for further investigation.
A Radiological Classification?				Maximum Counts Observed*: <u>CPM100</u>
B PCB Regulated?				Comments:
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.				Hazard Class Shipped: UN#:
PM (or PMA) review of Hazard classification: <u>CAJ</u> Initials <u>10/6/05</u> Date:				

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
SDG MSR#05-2390**

Method/Analysis Information

Product: Gamma,Solid-FSS GAM & ALL FSS 226 Ingrowth Waived
Analytical Method: EML HASL 300, 4.5.2.3
Prep Method: Dry Soil Prep
Analytical Batch Number: 470244
Prep Batch Number: 469742

Sample ID	Client ID
147165001	9527-0004-2A
147165002	9527-0004-2B
147165003	9527-0004-2C
147165004	9527-0004-2D
147165005	9527-0004-3A
147165006	9527-0004-3B
147165007	9527-0004-3C
147165008	9527-0004-3D
1200953827	Method Blank (MB)
1200953828	147165001(9527-0004-2A) Sample Duplicate (DUP)
1200953829	Laboratory Control Sample (LCS)

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by General Engineering Laboratories, LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 10.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met.

Standards Information

Standard solution(s) for these analyses are NIST traceable and used before the expiration date(s).

Sample Geometry

All counting sources were prepared in the same geometry as the calibration standards.

Quality Control (QC) Information:

Blank Information

The blank volume is representative of the sample volume in this batch.

Designated QC

The following sample was used for QC: 147165001 (9527-0004-2A).

QC Information

All of the QC samples met the required acceptance limits.

Technical Information:

Holding Time

All sample procedures for this sample set were performed within the required holding time.

Preparation Information

All preparation criteria have been met for these analyses.

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

NCR Documentation

Nonconformance reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. An NCR was not generated for this SDG.

Additional Comments

The relative percent difference for K-40 did not meet the duplication criteria. However, when a relative error ratio is calculated, precision is shown at 2.31687.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to low abundance.	Actinium-228	147165003
		Cesium-134	147165006
			147165008
		Cobalt-60	147165001
			147165002
		Thallium-208	147165001
UI	Data rejected due to no valid peak.	Actinium-228	147165001
		Cobalt-60	147165003
		Potassium-40	1200953827

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Review Validation:

GEL requires all analytical data to be verified by a qualified data validator. In addition, all data designated for CLP or CLP-like packaging will receive a third level validation upon completion of the data package.

The following data validator verified the information presented in this case narrative:

Handwritten signature: A. [unclear] by [unclear] 10/12/05

Reviewer: _____

SAMPLE DATA SUMMARY

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

**Certificate of Analysis Report
for**

YANK001 Connecticut Yankee Atomic Power Co.
Client SDG: MSR#05-2390 GEL Work Order: 147165

The Qualifiers in this report are defined as follows:

- ** Indicates the analyte is a surrogate compound.
- < Result is less than amount reported.
- > Result is greater than amount reported.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- P The response between the confirmation and the primary columns is >40% Different.
- R Sample results are rejected.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- Y QC Samples were not spiked with this compound.
- Z Paint Filter qualifier: Particulates passed through the filter. No free liquids were observed.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

** Indicates the analyte is a surrogate compound.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Cheryl Jones.



Reviewed by _____

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID:	9527-0004-2A	Project:	YANK01204
Sample ID:	147165001	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	04-OCT-05		
Receive Date:	06-OCT-05		
Collector:	Client		
Moisture:	67.3%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
Rad Gamma Spec Analysis											
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>											
<i>Waived</i>											
Actinium-228	UUI	0.00	+/-0.237	0.0766	+/-0.233	0.160	pCi/g		MJH1 10/09/05	1922	470244 1
Americium-241	U	0.0805	+/-0.173	0.119	+/-0.170	0.243	pCi/g				
Bismuth-212	U	0.0978	+/-0.505	0.163	+/-0.495	0.338	pCi/g				
Bismuth-214		0.438	+/-0.125	0.0479	+/-0.122	0.0986	pCi/g				
Cesium-134	U	0.0447	+/-0.0294	0.0251	+/-0.0288	0.052	pCi/g				
Cesium-137		3.72	+/-0.114	0.0236	+/-0.112	0.0488	pCi/g				
Cobalt-60	UUI	0.00	+/-0.033	0.0286	+/-0.0323	0.0596	pCi/g				
Europium-152	U	-0.0152	+/-0.0843	0.0655	+/-0.0826	0.134	pCi/g				
Europium-154	U	0.0227	+/-0.082	0.0651	+/-0.0804	0.137	pCi/g				
Europium-155	U	0.0781	+/-0.0897	0.0685	+/-0.0879	0.140	pCi/g				
Lead-212		0.273	+/-0.0803	0.0394	+/-0.0787	0.0804	pCi/g				
Lead-214		0.574	+/-0.168	0.0463	+/-0.165	0.0951	pCi/g				
Manganese-54	U	0.00154	+/-0.0322	0.0224	+/-0.0316	0.0465	pCi/g				
Niobium-94	U	0.0196	+/-0.0281	0.022	+/-0.0276	0.0455	pCi/g				
Potassium-40		3.92	+/-0.849	0.239	+/-0.832	0.503	pCi/g				
Radium-226		0.438	+/-0.125	0.0479	+/-0.122	0.0986	pCi/g				
Silver-108m	U	0.00301	+/-0.0303	0.0236	+/-0.0297	0.0484	pCi/g				
Thallium-208	UUI	0.00	+/-0.0613	0.032	+/-0.060	0.0655	pCi/g				

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-2A
Sample ID: 147165001

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- BD Results below the MDC or low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value.
U Target analyte was analyzed for but not detected above the MDL or LOD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
d The 2:1 depletion requirement was not met for this sample
h Sample preparation or preservation holding time exceeded.
The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID:	9527-0004-2B	Project:	YANK01204
Sample ID:	147165002	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	04-OCT-05		
Receive Date:	06-OCT-05		
Collector:	Client		
Moisture:	61.6%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.417	+/-0.320	0.0987	+/-0.313	0.206	pCi/g		MJH1	10/09/05	1922	470244 1
Americium-241	U	0.0461	+/-0.123	0.0897	+/-0.120	0.183	pCi/g					
Bismuth-212	U	0.354	+/-0.292	0.236	+/-0.286	0.488	pCi/g					
Bismuth-214		0.557	+/-0.184	0.0544	+/-0.180	0.112	pCi/g					
Cesium-134	U	0.0208	+/-0.0392	0.0309	+/-0.0384	0.0644	pCi/g					
Cesium-137		3.25	+/-0.349	0.0284	+/-0.342	0.0589	pCi/g					
Cobalt-60	UUI	0.00	+/-0.0397	0.0346	+/-0.0389	0.0724	pCi/g					
Europium-152	U	0.103	+/-0.106	0.0819	+/-0.104	0.168	pCi/g					
Europium-154	U	-0.0074	+/-0.105	0.0822	+/-0.103	0.173	pCi/g					
Europium-155	U	0.00722	+/-0.107	0.077	+/-0.104	0.157	pCi/g					
Lead-212		0.304	+/-0.119	0.0419	+/-0.116	0.0858	pCi/g					
Lead-214		0.939	+/-0.210	0.0559	+/-0.206	0.115	pCi/g					
Manganese-54	U	0.00553	+/-0.0382	0.0295	+/-0.0374	0.0612	pCi/g					
Niobium-94	U	0.0185	+/-0.0364	0.0287	+/-0.0357	0.0593	pCi/g					
Potassium-40		3.83	+/-1.01	0.296	+/-0.994	0.624	pCi/g					
Radium-226		0.557	+/-0.184	0.0544	+/-0.180	0.112	pCi/g					
Silver-108m	U	-0.0238	+/-0.0382	0.0278	+/-0.0375	0.0573	pCi/g					
Thallium-208		0.0903	+/-0.0799	0.0267	+/-0.0783	0.0553	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-2B
Sample ID: 147165002

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- BD Results below the MDC or low tracer recovery.
 - E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID:	9527-0004-2C	Project:	YANK01204
Sample ID:	147165003	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	04-OCT-05		
Receive Date:	06-OCT-05		
Collector:	Client		
Moisture:	42.9%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228	UUI	0.00	+/-0.314	0.176	+/-0.308	0.365	pCi/g		MJH1	10/09/05	1923	470244 1
Americium-241	U	0.0867	+/-0.0741	0.043	+/-0.0727	0.0875	pCi/g					
Bismuth-212	U	0.016	+/-0.606	0.268	+/-0.594	0.559	pCi/g					
Bismuth-214		1.05	+/-0.210	0.0746	+/-0.206	0.154	pCi/g					
Cesium-134	U	0.028	+/-0.0485	0.0384	+/-0.0476	0.0803	pCi/g					
Cesium-137		5.53	+/-0.447	0.0374	+/-0.438	0.0778	pCi/g					
Cobalt-60	UUI	0.00	+/-0.103	0.0302	+/-0.101	0.0651	pCi/g					
Europium-152	U	-0.0542	+/-0.127	0.0967	+/-0.125	0.199	pCi/g					
Europium-154	U	0.0408	+/-0.123	0.100	+/-0.121	0.214	pCi/g					
Europium-155	U	0.0552	+/-0.106	0.0774	+/-0.104	0.158	pCi/g					
Lead-212		0.530	+/-0.131	0.058	+/-0.128	0.118	pCi/g					
Lead-214		1.30	+/-0.215	0.0705	+/-0.210	0.145	pCi/g					
Manganese-54	U	-0.0267	+/-0.0408	0.0314	+/-0.040	0.066	pCi/g					
Niobium-94	U	-0.0136	+/-0.0438	0.0331	+/-0.043	0.0688	pCi/g					
Potassium-40		7.28	+/-1.17	0.311	+/-1.15	0.669	pCi/g					
Radium-226		1.05	+/-0.210	0.0746	+/-0.206	0.154	pCi/g					
Silver-108m	U	0.0101	+/-0.0495	0.0384	+/-0.0485	0.0788	pCi/g					
Thallium-208		0.260	+/-0.0874	0.035	+/-0.0857	0.0727	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-2C
Sample ID: 147165003

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- BD Results below the MDC or low tracer recovery.
 - E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID:	9527-0004-2D	Project:	YANK01204
Sample ID:	147165004	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	04-OCT-05		
Receive Date:	06-OCT-05		
Collector:	Client		
Moisture:	46.1%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.367	+/-0.177	0.0658	+/-0.173	0.139	pCi/g		MJH1	10/10/05	2006	470244 1
Americium-241	U	0.0119	+/-0.109	0.0727	+/-0.107	0.149	pCi/g					
Bismuth-212		0.434	+/-0.299	0.152	+/-0.293	0.319	pCi/g					
Bismuth-214		0.541	+/-0.131	0.0387	+/-0.128	0.0804	pCi/g					
Cesium-134	U	0.0233	+/-0.0273	0.0219	+/-0.0268	0.046	pCi/g					
Cesium-137		3.41	+/-0.286	0.0226	+/-0.280	0.0469	pCi/g					
Cobalt-60	U	0.0346	+/-0.0282	0.0245	+/-0.0276	0.052	pCi/g					
Europium-152	U	0.0181	+/-0.0757	0.060	+/-0.0741	0.123	pCi/g					
Europium-154	U-0.000192	+/-0.0738	0.0589	+/-0.0724	0.126	pCi/g						
Europium-155	U	0.0192	+/-0.0712	0.0532	+/-0.0698	0.109	pCi/g					
Lead-212		0.344	+/-0.0694	0.0362	+/-0.068	0.074	pCi/g					
Lead-214		0.807	+/-0.145	0.0426	+/-0.142	0.0877	pCi/g					
Manganese-54	U	0.00818	+/-0.0259	0.0203	+/-0.0254	0.0425	pCi/g					
Niobium-94	U	-0.013	+/-0.0228	0.017	+/-0.0223	0.0355	pCi/g					
Potassium-40		4.85	+/-0.809	0.187	+/-0.792	0.404	pCi/g					
Radium-226		0.541	+/-0.131	0.0387	+/-0.128	0.0804	pCi/g					
Silver-108m	U	0.0295	+/-0.0247	0.0206	+/-0.0243	0.0426	pCi/g					
Thallium-208		0.0973	+/-0.0619	0.0196	+/-0.0607	0.0408	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-2D
Sample ID: 147165004

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

BD Results below the MDC or low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value.
U Target analyte was analyzed for but not detected above the MDL or LOD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
d The 2:1 depletion requirement was not met for this sample
h Sample preparation or preservation holding time exceeded.
The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID:	9527-0004-3A	Project:	YANK01204
Sample ID:	147165005	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	04-OCT-05		
Receive Date:	06-OCT-05		
Collector:	Client		
Moisture:	25.9%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.801	+/-0.292	0.0869	+/-0.286	0.183	pCi/g		MJH1	10/10/05	2007	470244 1
Americium-241	U	0.0431	+/-0.0385	0.0291	+/-0.0377	0.0595	pCi/g					
Bismuth-212		0.626	+/-0.445	0.188	+/-0.436	0.393	pCi/g					
Bismuth-214		1.03	+/-0.176	0.0438	+/-0.173	0.0914	pCi/g					
Cesium-134	U	0.047	+/-0.0541	0.029	+/-0.053	0.0606	pCi/g					
Cesium-137		2.83	+/-0.249	0.0274	+/-0.244	0.0569	pCi/g					
Cobalt-60	U	0.0112	+/-0.0327	0.0276	+/-0.0321	0.0588	pCi/g					
Europium-152	U	-0.0147	+/-0.0756	0.0582	+/-0.0741	0.120	pCi/g					
Europium-154	U	0.0497	+/-0.104	0.0842	+/-0.102	0.178	pCi/g					
Europium-155	U	0.0574	+/-0.0987	0.0435	+/-0.0967	0.0892	pCi/g					
Lead-212		0.829	+/-0.101	0.0334	+/-0.0989	0.0685	pCi/g					
Lead-214		1.14	+/-0.170	0.0434	+/-0.167	0.0895	pCi/g					
Manganese-54	U	-0.0143	+/-0.0322	0.0251	+/-0.0316	0.0525	pCi/g					
Niobium-94	U	0.0302	+/-0.028	0.0237	+/-0.0274	0.0493	pCi/g					
Potassium-40		9.90	+/-1.24	0.264	+/-1.21	0.565	pCi/g					
Radium-226		1.03	+/-0.176	0.0438	+/-0.173	0.0914	pCi/g					
Silver-108m	U	-0.0169	+/-0.0286	0.0214	+/-0.028	0.0442	pCi/g					
Thallium-208		0.289	+/-0.0759	0.0243	+/-0.0744	0.0505	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-3A
Sample ID: 147165005

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- BD Results below the MDC or low tracer recovery.
 - E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-3B
 Sample ID: 147165006
 Matrix: TS
 Collect Date: 04-OCT-05
 Receive Date: 06-OCT-05
 Collector: Client
 Moisture: 29.5%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.666	+/-0.187	0.0617	+/-0.183	0.131	pCi/g		MJH1	10/09/05	2145	470244 1
Americium-241	U	-0.00122	+/-0.101	0.0734	+/-0.0994	0.151	pCi/g					
Bismuth-212		0.436	+/-0.242	0.130	+/-0.237	0.275	pCi/g					
Bismuth-214		0.894	+/-0.140	0.0381	+/-0.137	0.0794	pCi/g					
Cesium-134	UUI	0.00	+/-0.0404	0.0228	+/-0.0396	0.0479	pCi/g					
Cesium-137		3.90	+/-0.121	0.020	+/-0.119	0.0418	pCi/g					
Cobalt-60	U	0.0513	+/-0.034	0.0248	+/-0.0333	0.0526	pCi/g					
Europium-152	U	-0.0516	+/-0.0718	0.0559	+/-0.0704	0.115	pCi/g					
Europium-154	U	-0.0382	+/-0.0826	0.0645	+/-0.0809	0.138	pCi/g					
Europium-155	U	0.0285	+/-0.0615	0.0492	+/-0.0603	0.101	pCi/g					
Lead-212		0.689	+/-0.0753	0.0282	+/-0.0738	0.058	pCi/g					
Lead-214		0.942	+/-0.128	0.0419	+/-0.125	0.0863	pCi/g					
Manganese-54	U	0.0243	+/-0.0399	0.0195	+/-0.0391	0.0411	pCi/g					
Niobium-94	U	0.0251	+/-0.0217	0.0187	+/-0.0212	0.0391	pCi/g					
Potassium-40		10.5	+/-0.918	0.196	+/-0.900	0.424	pCi/g					
Radium-226		0.894	+/-0.140	0.0381	+/-0.137	0.0794	pCi/g					
Silver-108m	U	-0.00543	+/-0.0267	0.0209	+/-0.0262	0.0432	pCi/g					
Thallium-208		0.212	+/-0.0582	0.0181	+/-0.057	0.038	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-3B
Sample ID: 147165006

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- BD Results below the MDC or low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value.
U Target analyte was analyzed for but not detected above the MDL or LOD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
d The 2:1 depletion requirement was not met for this sample
h Sample preparation or preservation holding time exceeded.
The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-3C
 Sample ID: 147165007
 Matrix: TS
 Collect Date: 04-OCT-05
 Receive Date: 06-OCT-05
 Collector: Client
 Moisture: 40%

Project: YANK01204
 Client ID: YANK001
 Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.514	+/-0.217	0.0693	+/-0.212	0.146	pCi/g		MJH1	10/10/05	2027	470244 1
Americium-241	U	-0.0276	+/-0.104	0.0777	+/-0.102	0.159	pCi/g					
Bismuth-212	U	0.260	+/-0.336	0.160	+/-0.329	0.335	pCi/g					
Bismuth-214		0.773	+/-0.132	0.0411	+/-0.130	0.0852	pCi/g					
Cesium-134	U	0.0475	+/-0.0414	0.0234	+/-0.0405	0.049	pCi/g					
Cesium-137		3.83	+/-0.284	0.0224	+/-0.278	0.0465	pCi/g					
Cobalt-60		0.0692	+/-0.0372	0.0223	+/-0.0365	0.0474	pCi/g					
Europium-152	U	-0.00547	+/-0.078	0.060	+/-0.0765	0.123	pCi/g					
Europium-154	U	-0.0413	+/-0.0971	0.0634	+/-0.0951	0.135	pCi/g					
Europium-155	U	0.016	+/-0.0728	0.0544	+/-0.0713	0.111	pCi/g					
Lead-212		0.518	+/-0.0875	0.0306	+/-0.0857	0.0626	pCi/g					
Lead-214		0.997	+/-0.172	0.0416	+/-0.169	0.0855	pCi/g					
Manganese-54	U	-0.0227	+/-0.0267	0.0198	+/-0.0261	0.0414	pCi/g					
Niobium-94	U	0.0127	+/-0.024	0.0194	+/-0.0235	0.0404	pCi/g					
Potassium-40		7.22	+/-1.15	0.206	+/-1.13	0.441	pCi/g					
Radium-226		0.773	+/-0.132	0.0411	+/-0.130	0.0852	pCi/g					
Silver-108m	U	0.00941	+/-0.0289	0.0223	+/-0.0283	0.0459	pCi/g					
Thallium-208		0.118	+/-0.0558	0.0206	+/-0.0547	0.0428	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-3C
Sample ID: 147165007

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

- BD Results below the MDC or low tracer recovery.
 - E Concentration of the target analyte exceeds the instrument calibration range.
 - H Analytical holding time exceeded.
 - J Indicates an estimated value.
 - U Target analyte was analyzed for but not detected above the MDL or LOD.
 - UI Uncertain identification for gamma spectroscopy.
 - X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
 - d The 2:1 depletion requirement was not met for this sample
 - h Sample preparation or preservation holding time exceeded.
- The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
 Address : Haddam Neck Plant
 362 Injun Hollow Road
 East Hampton, Connecticut 06424
 Contact: Mr. Pete Hollenbeck
 Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID:	9527-0004-3D	Project:	YANK01204
Sample ID:	147165008	Client ID:	YANK001
Matrix:	TS	Vol. Recv.:	
Collect Date:	04-OCT-05		
Receive Date:	06-OCT-05		
Collector:	Client		
Moisture:	14.7%		

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch M
Rad Gamma Spec Analysis												
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.908	+/-0.236	0.0656	+/-0.231	0.140	pCi/g		MJH1	10/10/05	1121	470244 1
Americium-241	U	0.0955	+/-0.102	0.0755	+/-0.0995	0.155	pCi/g					
Bismuth-212		0.560	+/-0.273	0.120	+/-0.268	0.256	pCi/g					
Bismuth-214		0.923	+/-0.145	0.0325	+/-0.142	0.0686	pCi/g					
Cesium-134	UUI	0.00	+/-0.0318	0.0223	+/-0.0312	0.047	pCi/g					
Cesium-137		1.40	+/-0.130	0.0176	+/-0.128	0.0373	pCi/g					
Cobalt-60	U	-0.00324	+/-0.0247	0.0197	+/-0.0242	0.0427	pCi/g					
Europium-152	U	-0.0188	+/-0.0645	0.0521	+/-0.0632	0.108	pCi/g					
Europium-154	U	-0.0176	+/-0.0661	0.0521	+/-0.0648	0.113	pCi/g					
Europium-155	U	0.00472	+/-0.0657	0.0522	+/-0.0643	0.107	pCi/g					
Lead-212		0.801	+/-0.094	0.0339	+/-0.0922	0.0695	pCi/g					
Lead-214		1.21	+/-0.153	0.0389	+/-0.150	0.0807	pCi/g					
Manganese-54	U	0.0315	+/-0.0247	0.0178	+/-0.0242	0.0378	pCi/g					
Niobium-94	U	0.0253	+/-0.0288	0.018	+/-0.0282	0.0379	pCi/g					
Potassium-40		10.2	+/-1.18	0.185	+/-1.16	0.402	pCi/g					
Radium-226		0.923	+/-0.145	0.0325	+/-0.142	0.0686	pCi/g					
Silver-108m	U	0.0105	+/-0.0223	0.0185	+/-0.0218	0.0385	pCi/g					
Thallium-208		0.248	+/-0.0624	0.0184	+/-0.0611	0.0387	pCi/g					

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TC1	10/06/05	1121	469742

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut 06424
Contact: Mr. Pete Hollenbeck
Project: Soils PO# 002332

Report Date: October 12, 2005

Client Sample ID: 9527-0004-3D
Sample ID: 147165008

Project: YANK01204
Client ID: YANK001
Vol. Recv.:

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	AnalystDate	Time	Batch M
-----------	-----------	--------	-------------	----	-----	-----	-------	----	-------------	------	---------

BD Results below the MDC or low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value.
U Target analyte was analyzed for but not detected above the MDL or LOD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier—please see case narrative, data summary package or contact your project manager for details.
d The 2:1 depletion requirement was not met for this sample
h Sample preparation or preservation holding time exceeded.
The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: October 12, 2005

Page 1 of 5

Client : Connecticut Yankee Atomic Power
Haddam Neck Plant
362 Injun Hollow Road
East Hampton, Connecticut
Contact: Mr. Pete Hollenbeck
Workorder: 147165

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	470244										
QC1200953828	147165001 DUP										
Actinium-228	UUI	0.00	U	0.0742	pCi/g	73		(0% - 100%)	MJH1	10/10/05	20:28
	Uncert:	+/-0.237		+/-0.412							
	TPU:	+/-0.233		+/-0.403							
Americium-241	U	0.0805	U	0.0828	pCi/g	34		(0% - 100%)			
	Uncert:	+/-0.173		+/-0.0886							
	TPU:	+/-0.170		+/-0.0868							
Bismuth-212	U	0.0978	U	0.384	pCi/g	78		(0% - 100%)			
	Uncert:	+/-0.505		+/-0.583							
	TPU:	+/-0.495		+/-0.571							
Bismuth-214		0.438		0.801	pCi/g	82*		(0% - 100%)			
	Uncert:	+/-0.125		+/-0.260							
	TPU:	+/-0.122		+/-0.255							
Cesium-134	U	0.0447	U	0.00468	pCi/g	166		(0% - 100%)			
	Uncert:	+/-0.0294		+/-0.0691							
	TPU:	+/-0.0288		+/-0.0678							
Cesium-137		3.72		3.70	pCi/g	1		(0% - 20%)			
	Uncert:	+/-0.114		+/-0.369							
	TPU:	+/-0.112		+/-0.362							
Cobalt-60	UUI	0.00	U	0.0283	pCi/g	72		(0% - 100%)			
	Uncert:	+/-0.033		+/-0.0671							
	TPU:	+/-0.0323		+/-0.0658							
Europium-152	U	-0.0152	U	0.037	pCi/g	N/A		(0% - 100%)			
	Uncert:	+/-0.0843		+/-0.180							
	TPU:	+/-0.0826		+/-0.177							
Europium-154	U	0.0227	U	-0.0232	pCi/g	N/A		(0% - 100%)			
	Uncert:	+/-0.082		+/-0.186							
	TPU:	+/-0.0804		+/-0.182							
Europium-155	U	0.0781	U	0.00707	pCi/g	165		(0% - 100%)			
	Uncert:	+/-0.0897		+/-0.129							
	TPU:	+/-0.0879		+/-0.126							
Lead-212		0.273		0.232	pCi/g	20		(0% - 100%)			
	Uncert:	+/-0.0803		+/-0.156							
	TPU:	+/-0.0787		+/-0.152							
Lead-214		0.574		0.701	pCi/g	14		(0% - 20%)			
	Uncert:	+/-0.168		+/-0.241							
	TPU:	+/-0.165		+/-0.236							
Manganese-54	U	0.00154	U	0.0133	pCi/g	229		(0% - 100%)			
	Uncert:	+/-0.0322		+/-0.0621							
	TPU:	+/-0.0316		+/-0.0609							
Niobium-94	U	0.0196	U	0.0286	pCi/g	8		(0% - 100%)			
	Uncert:	+/-0.0281		+/-0.0579							
	TPU:	+/-0.0276		+/-0.0568							

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 147165

Page 2 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	470244								
Potassium-40		3.92	5.53	pCi/g	37*		(0%-20%)		
		Uncert: +/-0.849	+/-1.27						
		TPU: +/-0.832	+/-1.24						
Radium-226		0.438	0.801	pCi/g	82		(0% - 100%)		
		Uncert: +/-0.125	+/-0.260						
		TPU: +/-0.122	+/-0.255						
Silver-108m	U	0.00301	0.049	pCi/g	91		(0% - 100%)		
		Uncert: +/-0.0303	+/-0.0609						
		TPU: +/-0.0297	+/-0.0597						
Thallium-208	UUI	0.00	0.149	pCi/g	42*		(0% - 100%)		
		Uncert: +/-0.0613	+/-0.145						
		TPU: +/-0.060	+/-0.142						
QC1200953829	LCS								
Actinium-228			0.498	pCi/g					10/09/05 21:45
		Uncert: +/-0.729	+/-0.715						
		TPU: +/-0.715	+/-0.715						
Americium-241	24.4		25.0	pCi/g		102	(75%-125%)		
		Uncert: +/-1.13	+/-1.11						
		TPU: +/-1.11	+/-1.11						
Bismuth-212			0.463	pCi/g					
		Uncert: +/-1.61	+/-1.58						
		TPU: +/-1.58	+/-1.58						
Bismuth-214			-0.0651	pCi/g					
		Uncert: +/-0.363	+/-0.356						
		TPU: +/-0.356	+/-0.356						
Cesium-134			-0.0986	pCi/g					
		Uncert: +/-0.246	+/-0.241						
		TPU: +/-0.241	+/-0.241						
Cesium-137	9.38		10.3	pCi/g		110	(75%-125%)		
		Uncert: +/-0.697	+/-0.683						
		TPU: +/-0.683	+/-0.683						
Cobalt-60	14.2		15.1	pCi/g		106	(75%-125%)		
		Uncert: +/-0.852	+/-0.835						
		TPU: +/-0.835	+/-0.835						
Europium-152			-0.248	pCi/g					
		Uncert: +/-0.422	+/-0.414						
		TPU: +/-0.414	+/-0.414						
Europium-154			-0.448	pCi/g					
		Uncert: +/-0.435	+/-0.426						
		TPU: +/-0.426	+/-0.426						
Europium-155			0.256	pCi/g					
		Uncert: +/-0.451	+/-0.442						
		TPU: +/-0.442	+/-0.442						
Lead-212			-0.152	pCi/g					
		Uncert: +/-0.220	+/-0.215						
		TPU: +/-0.215	+/-0.215						
Lead-214			-0.196	pCi/g					
		Uncert: +/-0.306	+/-0.306						

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 147165

Page 3 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	470244									
Manganese-54	TPU:		+/-0.300							
		U	0.010	pCi/g						
	Uncert:		+/-0.198							
Niobium-94	TPU:		+/-0.194							
		U	-0.18	pCi/g						
	Uncert:		+/-0.192							
Potassium-40	TPU:		+/-0.188							
		U	1.01	pCi/g						
	Uncert:		+/-1.78							
Radium-226	TPU:		+/-1.75							
		U	-0.0651	pCi/g			(75%-125%)			
	Uncert:		+/-0.363							
Silver-108m	TPU:		+/-0.356							
		U	0.0669	pCi/g						
	Uncert:		+/-0.166							
Thallium-208	TPU:		+/-0.163							
		U	-0.179	pCi/g						
	Uncert:		+/-0.192							
	TPU:		+/-0.188							
QC1200953827	MB									
Actinium-228										10/10/05 11:22
	Uncert:		+/-0.175							
	TPU:		+/-0.172							
Americium-241										
		U	0.013	pCi/g						
	Uncert:		+/-0.0429							
	TPU:		+/-0.042							
Bismuth-212										
		U	0.116	pCi/g						
	Uncert:		+/-0.322							
	TPU:		+/-0.315							
Bismuth-214										
		U	0.0808	pCi/g						
	Uncert:		+/-0.135							
	TPU:		+/-0.132							
Cesium-134										
		U	-0.00238	pCi/g						
	Uncert:		+/-0.0464							
	TPU:		+/-0.0454							
Cesium-137										
		U	0.0519	pCi/g						
	Uncert:		+/-0.0407							
	TPU:		+/-0.0399							
Cobalt-60										
		U	0.00406	pCi/g						
	Uncert:		+/-0.0391							
	TPU:		+/-0.0383							
Europium-152										
		U	-0.068	pCi/g						
	Uncert:		+/-0.0966							
	TPU:		+/-0.0947							
Europium-154										
		U	0.0271	pCi/g						
	Uncert:		+/-0.124							
	TPU:		+/-0.122							
Europium-155										
		U	0.0258	pCi/g						

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 147165

Page 4 of 5

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	470244									
			Uncert:							+/-0.0793
			TPU:							+/-0.0778
Lead-212		U								0.0604 pCi/g
			Uncert:							+/-0.0873
			TPU:							+/-0.0856
Lead-214		U								0.0197 pCi/g
			Uncert:							+/-0.123
			TPU:							+/-0.121
Manganese-54		U								0.00187 pCi/g
			Uncert:							+/-0.0377
			TPU:							+/-0.0369
Niobium-94		U								0.0209 pCi/g
			Uncert:							+/-0.0366
			TPU:							+/-0.0358
Potassium-40		UUI								0.00 pCi/g
			Uncert:							+/-0.989
			TPU:							+/-0.969
Radium-226		U								0.0808 pCi/g
			Uncert:							+/-0.135
			TPU:							+/-0.132
Silver-108m		U								-0.0155 pCi/g
			Uncert:							+/-0.0354
			TPU:							+/-0.0346
Thallium-208		U								0.0605 pCi/g
			Uncert:							+/-0.0414
			TPU:							+/-0.0406

Notes:

The Qualifiers in this report are defined as follows:

- ** Indicates the analyte is a surrogate compound.
- B Target analyte was detected in the sample as well as the associated blank.
- BD Results below the MDC or low tracer recovery.
- E Concentration of the target analyte exceeds the instrument calibration range.
- H Analytical holding time exceeded.
- J Indicates an estimated value.
- U Target analyte was analyzed for but not detected above the MDL or LOD.
- UI Uncertain identification for gamma spectroscopy.
- X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
- d The 2:1 depletion requirement was not met for this sample
- h Sample preparation or preservation holding time exceeded.

GENERAL ENGINEERING LABORATORIES, LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 147165

Page 5 of 5

<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
-----------------	------------	--------------------	-----------	--------------	-------------	-------------	--------------	--------------	-------------	-------------

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

** Indicates analyte is a surrogate compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.



Analysis Report for 9527-0004-3E
Soil sample 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3E
Sample Description : Soil sample 9527-0004
Sample Type : Final Status Survey Soil Sample

Sample Size : 8.350E+02 grams
Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 2:00:00PM
Acquisition Started : 10/20/2005 9:35:01AM

Procedure : Soil 1L Marinelli
Operator : Mark Brennan
Detector Name : DET-01
Geometry : 1 liter Marinelli Sand
Live Time : 300.0 seconds
Real Time : 300.2 seconds

Dead Time : 0.06 %

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 100 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
Efficiency Calibration Used Done O : 3/8/2005
Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2037

B

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/20/2005 9:40:06AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	77.45	148 -	158	6.02E+01	23.19	7.41E+01	1.47E+01
2	238.73	473 -	481	2.59E+01	17.33	5.31E+01	1.19E+01
3	295.50	588 -	594	7.43E+00	10.16	2.27E+01	7.25E+00
4	338.42	673 -	679	7.78E+00	9.22	1.81E+01	6.23E+00
5	351.96	699 -	708	3.91E+01	14.00	1.36E+01	5.68E+00

Analysis Report for 9527-0004-3E

Soil sample 9527-0004

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
6	583.10	1161 -	1170	1.46E+01	9.16	8.68E+00	4.44E+00
7	609.21	1212 -	1221	2.29E+01	10.97	9.96E+00	4.76E+00
8	661.53	1317 -	1326	1.35E+02	23.30	7.35E+00	4.06E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
CS-137	0.998	1.58E+00	2.83E-01	
TL-208	0.696	1.53E-01	9.66E-02	
PB-212	0.630	3.19E-01	1.61E-01	
BI-214	0.368	4.56E-01	2.19E-01	
PB-214	0.705	4.71E-01	1.65E-01	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/20/2005 9:40:06AM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
4	338.42	2.59E-02	AC-228 60.46

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.960 sigma

Analysis Report for 9527-0004-3E

Soil sample 9527-0004

NUCLIDE MDA REPORT

Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	1.75E-01	LLDs were met
CO-60	1173.22	100.00	1.23E-01	LLDs were met
	1332.49	100.00		
NB-94	702.63	100.00	7.74E-02	LLDs were met
	871.10	100.00		
AG-108M	433.93	89.90	1.35E-01	LLDs were met
	614.37	90.40		
	722.95	90.50		
CS-134	563.23	8.38	1.63E-01	LLDs were met
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
	801.93	8.73		
+ CS-137	661.65	* 85.12	1.27E-01	LLDs were met
EU-152	121.78	28.40	2.73E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	1.96E-01	LLDs were met
	723.30	19.70		
	1274.45	35.50		
EU-155	86.54	30.90	3.80E-01	LLDs were met
	105.31	20.70		
AM-241	59.54	35.90	5.91E-01	LLDs were met

- + = Nuclide identified during the nuclide identification
 * = Energy line found in the spectrum
 > = MDA value not calculated
 @ = Half-life too short to be able to perform the decay correction

[Signature] 1/26/06

Reviewed by Supervision/Designee



Analysis Report for 9527-0004-3F
SOIL SAMPLE 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3F
Sample Description : SOIL SAMPLE 9527-0004
Sample Type : Final Status Survey Soil Sample

Sample Size : 1.017E+03 grams
Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 1:58:00PM
Acquisition Started : 10/20/2005 9:46:12AM

Procedure : Soil 1L Marinelli
Operator : Mark Brennan
Detector Name : DET-01
Geometry : 1 liter Marinelli Sand
Live Time : 300.0 seconds
Real Time : 300.2 seconds

C

Dead Time : 0.07 %

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 100 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
Efficiency Calibration Used Done On : 3/8/2005
Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2038

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/20/2005 9:51:16AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	1	77.39	152 - 158	2.00E+01	19.71	8.82E+01	1.48E+01
	2	186.62	368 - 377	1.70E+01	15.54	4.90E+01	1.11E+01
M	3	238.64	473 - 487	5.73E+01	19.09	1.87E+01	7.19E+00
m	4	241.87	473 - 487	1.72E+01	9.15	1.56E+01	6.57E+00
	5	295.43	586 - 596	3.46E+01	14.83	2.23E+01	7.82E+00

Analysis Report for 9527-0004-3F

SOIL SAMPLE 9527-0004

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
6	351.98	700 -	709	5.20E+01	16.34	1.96E+01	6.88E+00
7	609.23	1213 -	1222	3.63E+01	12.75	7.35E+00	4.06E+00
8	661.69	1319 -	1326	4.52E+01	13.81	5.44E+00	3.46E+00
9	1460.82	2916 -	2926	3.14E+01	11.16	1.23E+00	1.67E+00

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	1.000	4.86E+00	1.74E+00	
CS-137	1.000	4.34E-01	1.34E-01	
PB-212	0.632	3.99E-01	1.45E-01	
BI-214	0.368	5.92E-01	2.11E-01	
PB-214	0.870	6.61E-01	1.59E-01	
? RA-226	0.973	1.58E+00	1.45E+00	
? U-235	0.469	9.59E-02	8.80E-02	

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/20/2005 9:51:16AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
----------	--------------	-----------------	---------------------------

Analysis Report for 9527-0004-3F

SOIL SAMPLE 9527-0004

All peaks were identified.

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

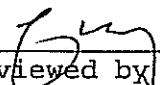
Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	1.70E-01	LLDs were met
CO-60	1173.22	100.00	1.13E-01	LLDs were met
	1332.49	100.00		
NB-94	702.63	100.00	9.30E-02	LLDs were met
	871.10	100.00		
AG-108M	433.93	89.90	8.71E-02	LLDs were met
	614.37	90.40		
	722.95	90.50		
CS-134	563.23	8.38	1.16E-01	LLDs were met
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
	801.93	8.73		
+ CS-137	661.65	* 85.12	9.23E-02	LLDs were met
EU-152	121.78	28.40	2.88E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	2.05E-01	LLDs were met
	723.30	19.70		
	1274.45	35.50		
EU-155	86.54	30.90	3.65E-01	LLDs were met
	105.31	20.70		
AM-241	59.54	35.90	4.38E-01	LLDs were met

+ = Nuclide identified during the nuclide identification

* = Energy line found in the spectrum

> = MDA value not calculated

@ = Half-life too short to be able to perform the decay correction

 1/20/06
 Reviewed by Supervision/Designee



Analysis Report for 9527-0004-3G
SOIL SAMPLE 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3G
 Sample Description : SOIL SAMPLE 9527-0004
 Sample Type : Final Status Survey Soil Sample

Sample Size : 6.480E+02 grams
 Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 2:05:00PM
 Acquisition Started : 10/20/2005 9:53:35AM

Procedure : Soil 1L Marinelli
 Operator : Mark Brennan
 Detector Name : DET-01
 Geometry : 1 liter Marinelli Sand
 Live Time : 650.0 seconds
 Real Time : 650.4 seconds

Dead Time : 0.06 %

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 1 - 4096
 Peak Area Range (in channels) : 100 - 4096
 Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
 Efficiency Calibration Used Done On : 3/8/2005
 Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2039

6

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/20/2005 10:04:32AM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M 1	74.73	146 -	160	4.30E+01	15.91	8.56E+01	1.54E+01
m 2	77.20	146 -	160	6.94E+01	19.68	7.37E+01	1.43E+01
3	93.06	182 -	191	2.60E+01	24.20	1.21E+02	1.85E+01
4	185.88	366 -	375	2.93E+01	19.35	7.20E+01	1.36E+01
M 5	238.66	473 -	487	9.01E+01	21.46	4.68E+01	1.14E+01

Analysis Report for 9527-0004-3G

SOIL SAMPLE 9527-0004

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	6	241.93	473 -	487	2.54E+01	11.13	3.45E+01	9.75E+00
	7	295.20	587 -	596	3.06E+01	16.78	4.39E+01	1.07E+01
	8	338.47	672 -	679	1.26E+01	13.05	3.80E+01	9.27E+00
	9	352.18	700 -	707	5.65E+01	17.65	3.04E+01	8.15E+00
	10	440.08	875 -	884	9.36E+00	11.24	2.67E+01	7.98E+00
	11	510.90	1017 -	1025	1.01E+01	10.97	2.52E+01	7.57E+00
	12	583.42	1162 -	1170	3.29E+01	13.25	1.59E+01	5.88E+00
	13	609.22	1212 -	1223	5.54E+01	16.04	1.30E+01	5.61E+00
	14	661.61	1318 -	1328	2.30E+02	30.46	1.29E+01	5.49E+00
	15	911.24	1817 -	1826	1.99E+01	9.11	2.18E+00	2.17E+00
	16	1120.40	2235 -	2244	1.35E+01	7.79	3.01E+00	2.52E+00
	17	1460.78	2914 -	2926	5.60E+01	15.09	3.86E+00	2.97E+00

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	1.000	6.29E+00	1.71E+00	
	CS-137	1.000	1.60E+00	2.26E-01	
	TL-208	0.686	2.05E-01	8.35E-02	
	PB-212	0.834	5.64E-01	1.16E-01	
	BI-214	0.606	6.81E-01	1.80E-01	
	PB-214	0.995	5.72E-01	1.26E-01	
?	RA-226	0.983	1.97E+00	1.31E+00	
?	U-235	0.558	1.19E-01	7.95E-02	

? = nuclide is part of an undetermined solution

X = nuclide rejected by the interference analysis

@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/20/2005 10:04:32AM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Analysis Report for 9527-0004-3G

SOIL SAMPLE 9527-0004

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%)	Uncertainty
3	93.06	4.00E-02	TH-234	47.45
8	338.47	1.94E-02	AC-228	52.78
10	440.08	1.44E-02	K-40 asc	61.29
11	510.90	1.56E-02	MN-110	55.17
15	911.24	3.06E-02	AC-228	23.38

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.960 sigma

NUCLIDE MDA REPORT

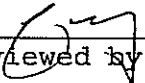
Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	1.23E-01	LLDs were met
CO-60	1173.22	100.00	1.46E-01	LLDs were met
	1332.49	100.00		
NB-94	702.63	100.00	9.17E-02	LLDs were met
	871.10	100.00		
AG-108M	433.93	89.90	9.79E-02	LLDs were met
	614.37	90.40		
	722.95	90.50		
CS-134	563.23	8.38	1.16E-01	LLDs were met
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
	801.93	8.73		
+ CS-137	661.65	* 85.12	9.51E-02	LLDs were met
EU-152	121.78	28.40	1.92E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	1.45E-01	LLDs were met
	723.30	19.70		
	1274.45	35.50		
EU-155	86.54	30.90	3.34E-01	LLDs were met
	105.31	20.70		
AM-241	59.54	35.90	4.25E-01	LLDs were met

Analysis Report for 9527-0004-3G

SOIL SAMPLE 9527-0004

- + = Nuclide identified during the nuclide identification
 - * = Energy line found in the spectrum
 - > = MDA value not calculated
 - @ = Half-life too short to be able to perform the decay correction
-

 1/26/06
Reviewed by Supervision/Designee



Analysis Report for 9527-0004-3H
SOIL SAMPLE 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3H
 Sample Description : SOIL SAMPLE 9527-0004
 Sample Type : Final Status Survey Soil Sample

Sample Size : 7.740E+02 grams
 Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 2:05:00PM
 Acquisition Started : 10/26/2005 1:12:56PM

Procedure : Soil 1L Marinelli
 Operator : Ricardo sosa
 Detector Name : DET-01
 Geometry : 1 liter Marinelli Sand
 Live Time : 900.0 seconds
 Real Time : 901.1 seconds

Dead Time : 0.12 %

Peak Locate Threshold : 5.00
 Peak Locate Range (In channels) : 1 - 4096
 Peak Area Range (In channels) : 100 - 4096
 Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
 Efficiency Calibration Used Done O : 3/8/2005
 Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2052

6

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/26/2005 1:28:02PM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M 1	74.80	147 -	158	9.58E+01	53.71	1.40E+02	1.97E+01
m 2	77.08	147 -	158	1.27E+02	59.00	1.86E+02	2.26E+01
3	92.87	183 -	192	3.49E+01	32.90	2.31E+02	2.58E+01
4	186.42	365 -	378	7.23E+01	31.76	1.70E+02	2.27E+01
M 5	238.64	474 -	491	1.92E+02	28.17	7.66E+01	1.45E+01

Analysis Report for 9527-0004-3H

SOIL SAMPLE 9527-0004

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
m	6	241.73	474 -	491	5.74E+01	15.94	6.44E+01	1.33E+01
	7	295.14	586 -	594	7.44E+01	22.49	6.39E+01	1.24E+01
	8	338.78	673 -	685	3.74E+01	20.43	6.99E+01	1.39E+01
	9	351.90	698 -	708	1.70E+02	29.70	6.49E+01	1.27E+01
	10	511.49	1018 -	1027	2.89E+01	15.28	3.55E+01	9.29E+00
	11	583.37	1162 -	1171	4.98E+01	16.38	2.40E+01	7.38E+00
	12	609.31	1213 -	1223	1.19E+02	23.28	2.54E+01	7.72E+00
	13	661.69	1316 -	1328	2.44E+02	32.37	3.05E+01	8.76E+00
	14	727.40	1450 -	1458	1.03E+01	9.65	1.70E+01	6.14E+00
	15	767.87	1530 -	1539	8.02E+00	10.67	2.54E+01	7.65E+00
	16	860.32	1715 -	1723	1.05E+01	9.45	1.66E+01	5.87E+00
	17	911.46	1817 -	1827	3.79E+01	13.56	1.19E+01	5.19E+00
	18	969.39	1933 -	1941	2.17E+01	11.72	1.82E+01	6.16E+00
	19	1120.45	2235 -	2243	2.02E+01	11.51	1.93E+01	6.22E+00
	20	1460.72	2915 -	2927	1.49E+02	24.47	8.73E+00	4.46E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.999	1.01E+01	1.70E+00	
	CS-137	1.000	1.03E+00	1.45E-01	
	TL-208	0.849	1.94E-01	6.18E-02	
	BI-212	0.991	3.41E-01	3.20E-01	
	PB-212	0.835	6.65E-01	1.09E-01	
	BI-214	0.699	8.35E-01	1.58E-01	
	PB-214	0.999	8.83E-01	1.25E-01	
?	RA-226	0.993	2.94E+00	1.31E+00	
	AC-228	0.437	6.57E-01	1.73E-01	
?	U-235	0.506	1.79E-01	7.98E-02	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

Analysis Report for 9527-0004-3H

SOIL SAMPLE 9527-0004

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/26/2005 1:28:02PM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
3	92.87	3.88E-02	48.04
10	511.49	3.21E-02	26.98

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 1.960 sigma

NUCLIDE MDA REPORT

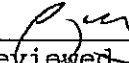
Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	9.63E-02	LLDs were met
CO-60	1173.22	100.00	1.35E-01	LLDs were met
	1332.49	100.00		
NB-94	702.63	100.00	9.09E-02	LLDs were met
	871.10	100.00		
AG-108M	433.93	89.90	8.28E-02	LLDs were met
	614.37	90.40		
	722.95	90.50		
CS-134	563.23	8.38	8.81E-02	LLDs were met
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
	801.93	8.73		
+ CS-137	661.65	* 85.12	8.50E-02	LLDs were met
EU-152	121.78	28.40	1.81E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	1.31E-01	LLDs were met
	723.30	19.70		
	1274.45	35.50		
EU-155	86.54	30.90	2.76E-01	LLDs were met
	105.31	20.70		
AM-241	59.54	35.90	3.35E-01	LLDs were met

Analysis Report for 9527-0004-3H

SOIL SAMPLE 9527-0004

- + = Nuclide identified during the nuclide identification
 - * = Energy line found in the spectrum
 - > = MDA value not calculated
 - @ = Half-life too short to be able to perform the decay correction
-

 1/26/06
Reviewed by Supervision/Designee



Analysis Report for 9527-0004-3I
SOIL SAMPLE 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3I
 Sample Description : SOIL SAMPLE 9527-0004
 Sample Type : Final Status Survey Soil Sample

Sample Size : 6.190E+02 grams
 Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 2:10:00PM
 Acquisition Started : 10/26/2005 1:28:55PM

Procedure : Soil 1L Marinelli
 Operator : Ricardo sosa
 Detector Name : DET-01
 Geometry : 1 liter Marinelli Sand *B*
 Live Time : 774.0 seconds
 Real Time : 774.8 seconds

Dead Time : 0.10 %

Peak Locate Threshold : 5.00
 Peak Locate Range (in channels) : 1 - 4096
 Peak Area Range (in channels) : 100 - 4096
 Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
 Efficiency Calibration Used Done On : 3/8/2005
 Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2053

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/26/2005 1:41:57PM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	63.90	124 -	133	4.32E+01	25.33	1.19E+02	1.83E+01
M 2	74.73	145 -	158	5.11E+01	17.70	1.30E+02	1.90E+01
m 3	76.99	145 -	158	7.75E+01	21.34	1.38E+02	1.95E+01
4	88.35	171 -	180	3.23E+01	27.86	1.64E+02	2.14E+01
5	93.07	183 -	193	4.24E+01	28.67	1.52E+02	2.15E+01

Analysis Report for 9527-0004-3I

SOIL SAMPLE 9527-0004

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
	6	185.78	369 -	377	2.07E+01	20.73	1.01E+02	1.57E+01
M	7	238.65	471 -	489	1.12E+02	49.02	6.33E+01	1.32E+01
m	8	242.00	471 -	489	5.51E+01	25.11	4.65E+01	1.13E+01
	9	295.12	588 -	593	6.77E+01	19.93	4.57E+01	9.83E+00
	10	352.16	698 -	709	1.25E+02	25.94	5.28E+01	1.16E+01
	11	511.62	1019 -	1027	8.99E+00	10.63	2.35E+01	7.43E+00
	12	583.52	1162 -	1170	2.34E+01	11.73	1.48E+01	5.78E+00
	13	609.40	1213 -	1223	9.65E+01	20.36	1.28E+01	5.58E+00
	14	661.64	1315 -	1329	1.75E+02	27.07	1.62E+01	6.59E+00
	15	911.32	1818 -	1825	1.81E+01	9.27	5.76E+00	3.42E+00
	16	1120.92	2235 -	2245	2.01E+01	10.32	9.67E+00	4.55E+00
	17	1237.72	2471 -	2478	1.08E+01	8.03	8.15E+00	4.02E+00
	18	1460.76	2916 -	2925	4.99E+01	14.28	4.06E+00	2.93E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	1.000	4.93E+00	1.42E+00	
	CS-137	1.000	1.07E+00	1.74E-01	
	TL-208	0.678	1.29E-01	6.48E-02	
	PB-212	0.834	5.45E-01	1.81E-01	
	BI-214	0.684	1.03E+00	2.02E-01	
	PB-214	0.995	9.90E-01	1.61E-01	
?	RA-226	0.971	1.22E+00	1.23E+00	
	TH-234	0.943	3.89E+00	2.37E+00	
?	U-235	0.561	7.42E-02	7.46E-02	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

Analysis Report for 9527-0004-3I

SOIL SAMPLE 9527-0004

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/26/2005 1:41:57PM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
4	88.35	4.18E-02	43.99
5	93.07	5.48E-02	34.50
11	511.62	1.16E-02	60.34
15	911.32	2.33E-02	26.19

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 1.960 sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

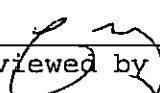
Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	1.36E-01	LLDs were met
CO-60	1173.22	100.00	1.39E-01	LLDs were met
	1332.49	100.00		
NB-94	702.63	100.00	1.11E-01	LLDs were met
	871.10	100.00		
AG-108M	433.93	89.90	1.00E-01	LLDs were met
	614.37	90.40		
	722.95	90.50		
CS-134	563.23	8.38	6.47E-02	LLDs were met
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
	801.93	8.73		
+ CS-137	661.65	* 85.12	9.71E-02	LLDs were met
EU-152	121.78	28.40	2.10E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	1.40E-01	LLDs were met
	723.30	19.70		
	1274.45	35.50		
EU-155	86.54	30.90	3.28E-01	LLDs were met
	105.31	20.70		

Analysis Report for 9527-0004-3I

SOIL SAMPLE 9527-0004

Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
AM-241	59.54	35.90	3.70E-01	LLDs were met

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction

 1/26/06
Reviewed by Supervision/Designee



Analysis Report for 9527-0004-3J
SOIL SAMPLE 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3J
Sample Description : SOIL SAMPLE 9527-0004
Sample Type : Final Status Survey Soil Sample

Sample Size : 7.270E+02 grams
Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 2:12:00PM
Acquisition Started : 10/26/2005 1:42:43PM

Procedure : Soil 1L Marinelli
Operator : Ricardo sosa
Detector Name : DET-01
Geometry : 1 liter Marinelli Sand
Live Time : 519.0 seconds
Real Time : 519.7 seconds

B

Dead Time : 0.14 %

Peak Locate Threshold : 5.00
Peak Locate Range (In channels) : 1 - 4096
Peak Area Range (in channels) : 100 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
Efficiency Calibration Used Done On : 3/8/2005
Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2054

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/26/2005 1:51:30PM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M 1	74.76	145 -	157	3.93E+01	16.12	9.74E+01	1.64E+01
m 2	77.09	145 -	157	9.03E+01	24.27	7.95E+01	1.48E+01
3	87.41	171 -	181	-5.99E+00	31.59	2.21E+02	2.68E+01
4	92.74	182 -	192	4.15E+01	25.27	1.15E+02	1.84E+01
5	186.08	367 -	377	2.43E+01	23.23	1.13E+02	1.77E+01

Analysis Report for 9527-0004-3J

SOIL SAMPLE 9527-0004

	Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M	6	238.63	472 -	489	9.94E+01	49.94	5.04E+01	1.18E+01
m	7	241.87	472 -	489	4.37E+01	23.32	4.64E+01	1.13E+01
	8	294.94	585 -	596	5.11E+01	22.00	7.04E+01	1.42E+01
	9	300.52	598 -	604	1.09E+01	11.39	2.76E+01	7.86E+00
	10	338.60	673 -	681	2.42E+01	14.37	3.48E+01	8.93E+00
	11	351.84	699 -	707	1.32E+02	24.52	2.86E+01	8.09E+00
	12	583.01	1160 -	1170	1.95E+01	12.01	2.05E+01	6.98E+00
	13	609.45	1214 -	1223	7.72E+01	18.42	1.32E+01	5.47E+00
	14	661.59	1318 -	1328	7.86E+01	18.72	1.46E+01	5.85E+00
	15	911.73	1818 -	1826	1.32E+01	8.54	7.47E+00	3.96E+00
	16	968.65	1933 -	1941	1.58E+01	9.60	1.03E+01	4.72E+00
	17	1120.53	2234 -	2243	1.59E+01	8.63	4.18E+00	3.08E+00
	18	1460.90	2916 -	2927	5.80E+01	14.93	0.00E+00	0.00E+00
	19	1764.33	3524 -	3533	2.06E+01	9.02	7.64E-01	1.23E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

	Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
	K-40	0.998	7.27E+00	1.89E+00	
	CS-137	0.999	6.10E-01	1.48E-01	
	TL-208	0.694	1.36E-01	8.40E-02	
	PB-212	1.000	6.60E-01	2.35E-01	
	BI-214	0.811	1.10E+00	2.24E-01	
	PB-214	0.997	1.22E+00	2.05E-01	
?	RA-226	0.997	1.82E+00	1.75E+00	
	AC-228	0.420	5.74E-01	2.16E-01	
?	U-235	0.546	1.10E-01	1.06E-01	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

Analysis Report for 9527-0004-3J

SOIL SAMPLE 9527-0004

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/26/2005 1:51:29PM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%)	Uncertainty
4	92.74	8.01E-02	74-234	31.04
9	300.52	2.10E-02	pb-212	53.30

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 1.960 sigma

NUCLIDE MDA REPORT

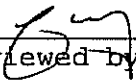
Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	1.18E-01	LLDs were met
CO-60	1173.22	100.00	1.34E-01	LLDs were met
NB-94	1332.49	100.00	1.16E-01	LLDs were met
	702.63	100.00		
AG-108M	871.10	100.00	1.06E-01	LLDs were met
	433.93	89.90		
	614.37	90.40		
CS-134	722.95	90.50	9.94E-02	LLDs were met
	563.23	8.38		
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
+ CS-137	801.93	8.73	1.12E-01	LLDs were met
	661.65	* 85.12		
EU-152	121.78	28.40	2.48E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	1.60E-01	LLDs were met
	723.30	19.70		
EU-155	1274.45	35.50	4.03E-01	LLDs were met
	86.54	30.90		
AM-241	105.31	20.70	4.99E-01	LLDs were met
	59.54	35.90		

Analysis Report for 9527-0004-3J

SOIL SAMPLE 9527-0004

- + = Nuclide identified during the nuclide identification
 - * = Energy line found in the spectrum
 - > = MDA value not calculated
 - @ = Half-life too short to be able to perform the decay correction
-

 1/26/06
Reviewed by Supervision/Designee



Analysis Report for 9527-0004-3K
SOIL SAMPLE 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3K
Sample Description : SOIL SAMPLE 9527-0004
Sample Type : Final Status Survey Soil Sample

Sample Size : 9.530E+02 grams
Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 2:20:00PM
Acquisition Started : 10/26/2005 1:52:11PM

Procedure : Soil 1L Marinelli
Operator : Ricardo sosa
Detector Name : DET-01
Geometry : 1 liter Marinelli Sand
Live Time : 300.0 seconds
Real Time : 300.4 seconds

6

Dead Time : 0.12 %

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 100 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
Efficiency Calibration Used Done On : 3/8/2005
Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2055

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/26/2005 1:57:15PM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
1	77.44	151 -	159	1.98E+01	17.72	5.52E+01	1.29E+01
2	93.25	181 -	193	1.59E+01	19.30	6.67E+01	1.48E+01
3	186.48	369 -	378	1.24E+01	14.00	4.05E+01	1.02E+01
4	238.62	472 -	480	3.18E+01	16.34	4.16E+01	1.01E+01
5	295.48	587 -	595	1.22E+01	10.07	1.52E+01	6.19E+00

Analysis Report for 9527-0004-3K

SOIL SAMPLE 9527-0004

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
6	351.75	698 -	707	3.49E+01	13.46	1.40E+01	5.77E+00
7	609.38	1214 -	1223	2.57E+01	11.33	8.36E+00	4.57E+00
8	661.68	1318 -	1328	5.20E+01	14.84	5.88E+00	3.81E+00
9	1461.01	2917 -	2925	1.61E+01	8.18	1.76E+00	1.88E+00

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.993	2.66E+00	1.36E+00	
CS-137	1.000	5.32E-01	1.54E-01	
PB-212	0.631	2.61E-01	1.31E-01	
BI-214	0.368	4.48E-01	1.99E-01	
PB-214	0.704	3.87E-01	1.40E-01	
? RA-226	0.988	1.22E+00	1.39E+00	
? U-235	0.495	7.43E-02	8.44E-02	

? = nuclide is part of an undetermined solution
X = nuclide rejected by the interference analysis
@ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/26/2005 1:57:15PM
Peak Locate From Channel : 1
Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
2	93.25	5.31E-02 <i>Th-232</i>	61.77

Analysis Report for 9527-0004-3K
 SOIL SAMPLE 9527-0004


M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 1.960 sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	1.19E-01	LLDs were met
CO-60	1173.22	100.00	1.21E-01	LLDs were met
	1332.49	100.00		
NB-94	702.63	100.00	8.28E-02	LLDs were met
	871.10	100.00		
AG-108M	433.93	89.90	9.71E-02	LLDs were met
	614.37	90.40		
	722.95	90.50		
CS-134	563.23	8.38	6.09E-02	LLDs were met
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
	801.93	8.73		
+ CS-137	661.65	* 85.12	1.06E-01	LLDs were met
EU-152	121.78	28.40	1.91E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	1.39E-01	LLDs were met
	723.30	19.70		
	1274.45	35.50		
EU-155	86.54	30.90	2.42E-01	LLDs were met
	105.31	20.70		
AM-241	59.54	35.90	4.19E-01	LLDs were met

- + = Nuclide identified during the nuclide identification
- * = Energy line found in the spectrum
- > = MDA value not calculated
- @ = Half-life too short to be able to perform the decay correction

 1/24/06
 Reviewed By Supervision/Designee



Analysis Report for 9527-0004-3L
SOIL SAMPLE 9527-0004

GAMMA SPECTRUM ANALYSIS

Sample Identification : 9527-0004-3L
Sample Description : SOIL SAMPLE 9527-0004
Sample Type : Final Status Survey Soil Sample

Sample Size : 7.750E+02 grams
Facility : CY-FSS-Gamma

Sample Taken On : 10/18/2005 2:20:00PM
Acquisition Started : 10/26/2005 1:58:21PM

Procedure : Soil 1L Marinelli
Operator : Ricardo sosa
Detector Name : DET-01
Geometry : 1 liter Marinelli Sand
Live Time : 457.0 seconds
Real Time : 457.5 seconds

6

Dead Time : 0.11 %

Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 100 - 4096
Identification Energy Tolerance : 1.000 keV

Energy Calibration Used Done On : 9/10/2005
Efficiency Calibration Used Done On : 3/8/2005
Efficiency Calibration Description : Efficiency Calibration

Sample Number : 2056

PEAK ANALYSIS REPORT

Peak Analysis Performed on : 10/26/2005 2:06:05PM

Peak Analysis From Channel : 1
Peak Analysis To Channel : 4096

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
M 1	74.74	143 -	157	4.22E+01	27.05	7.61E+01	1.45E+01
m 2	77.03	143 -	157	6.80E+01	37.85	6.77E+01	1.37E+01
3	93.26	182 -	191	2.38E+01	19.69	7.49E+01	1.44E+01
4	187.03	369 -	379	2.44E+01	15.64	3.84E+01	1.03E+01
5	238.67	474 -	480	6.61E+01	20.32	5.07E+01	1.06E+01

Analysis Report for 9527-0004-3L

SOIL SAMPLE 9527-0004

Peak No.	Energy (keV)	ROI start	ROI end	Net Peak Area	Net Area Uncertainty	Continuum Counts	Critical Level
6	295.26	587 -	594	3.26E+01	14.86	2.83E+01	8.21E+00
7	338.03	672 -	679	1.03E+01	9.66	1.71E+01	6.16E+00
8	351.75	697 -	708	5.47E+01	16.84	2.02E+01	7.19E+00
9	583.45	1163 -	1170	1.19E+01	8.38	8.09E+00	4.16E+00
10	609.34	1214 -	1222	7.07E+01	17.24	8.41E+00	4.26E+00
11	661.63	1317 -	1328	8.97E+01	19.51	1.04E+01	5.05E+00
12	910.79	1816 -	1824	1.25E+01	8.97	1.08E+01	4.78E+00
13	1460.96	2916 -	2925	3.50E+01	11.60	0.00E+00	0.00E+00

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet
 Errors quoted at 1.960 sigma

INTERFERENCE CORRECTED REPORT

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/grams)	Wt mean Activity Uncertainty	Comments
K-40	0.996	4.67E+00	1.56E+00	
CS-137	1.000	7.41E-01	1.65E-01	
TL-208	0.684	8.82E-02	6.24E-02	
PB-212	0.834	4.77E-01	1.38E-01	
BI-214	0.369	9.95E-01	2.48E-01	
PB-214	0.835	6.10E-01	1.52E-01	
RA-226	0.898	1.95E+00	1.26E+00	

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.960 sigma

UNIDENTIFIED PEAKS

Peak Locate Performed on : 10/26/2005 2:06:05PM
 Peak Locate From Channel : 1
 Peak Locate To Channel : 4096

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
3	93.26	5.21E-02	42.22
7	338.03	2.25E-02	47.90

Th-232
Ac-228

Analysis Report for 9527-0004-3L

SOIL SAMPLE 9527-0004

Peak No.	Energy (keV)	Peak Rate (CPS)	Peak Rate (%) Uncertainty
12	910.79	2.73E-02	Ac-228 36.65

M = First peak in a multiplet region
m = Other peak in a multiplet region
F = Fitted singlet
Errors quoted at 1.960 sigma

NUCLIDE MDA REPORT

Nuclide Library Used : \\GAMMASPEC\ApexRoot\CY-FSS-Gamma\Library\FSS SOIL.NLB

Nuclide Name	Energy (keV)	Yield(%)	Nuclide MDA (pCi/grams)	Comments
MN-54	834.83	99.98	1.17E-01	LLDs were met
CO-60	1173.22	100.00	1.23E-01	LLDs were met
	1332.49	100.00		
NB-94	702.63	100.00	9.78E-02	LLDs were met
	871.10	100.00		
AG-108M	433.93	89.90	6.21E-02	LLDs were met
	614.37	90.40		
	722.95	90.50		
CS-134	563.23	8.38	1.16E-01	LLDs were met
	569.32	15.43		
	604.70	97.60		
	795.84	85.40		
	801.93	8.73		
+ CS-137	661.65	* 85.12	1.06E-01	LLDs were met
EU-152	121.78	28.40	2.24E-01	LLDs were met
	344.27	26.50		
	1407.95	20.70		
EU-154	123.07	40.50	1.55E-01	LLDs were met
	723.30	19.70		
	1274.45	35.50		
EU-155	86.54	30.90	3.15E-01	LLDs were met
	105.31	20.70		
AM-241	59.54	35.90	4.73E-01	LLDs were met

- + = Nuclide identified during the nuclide identification
* = Energy line found in the spectrum
> = MDA value not calculated
@ = Half-life too short to be able to perform the decay correction

Reviewed by T. [Signature] 1/26/06
Supervision/Designee

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2b
Sample and Scan Area Data
(7 Pages)

Survey Release Record Scan Area Results

Survey Unit 9527-0004

SAMPLE LOCATION SCANS 9527-0004

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9527-04-SL-00-01-0	12000	13563	12900		08/10/2005	1:11 PM	1105	1006
9527-04-SL-00-02-0	17100	18966	17700		08/10/2005	1:19 PM	1107	1010
9527-04-ER-00-03-0	20000	22018	25700	+	08/10/2005	1:23 PM	1105	1006
9527-04-SL-00-04-0	9830	11245	9220		08/10/2005	1:31 PM	1105	1006
9527-04-SL-00-05-0	8560	9880	8840		08/10/2005	1:41 PM	1107	1010
9527-04-SL-00-06-0	10900	12390	12400	+	08/10/2005	2:18 PM	1105	1006
9527-04-ER-00-06-0	10900	12390	11900		08/10/2005	2:20 PM	1105	1006
9527-04-ER-00-07-0	11100	12604	19400	+	08/10/2005	2:13 PM	1107	1010
9527-04-SL-00-08-0	9910	11331	12100	+	08/10/2005	2:03 PM	1105	1006
9527-04-SL-00-09-0	7570	8812	8650		08/10/2005	1:57 PM	1107	1010
9527-04-SL-00-10-0	5320	6361	5640		08/10/2005	1:48 PM	1105	1006
9527-04-SL-00-11-0	8390	9697	7950		08/10/2005	2:48 PM	1107	1010
9527-04-SL-00-12-0	10400	11855	10900		08/10/2005	2:52 PM	1105	1006
9527-04-SL-00-13-0	8280	9579	7750		08/10/2005	3:01 PM	1107	1010
9527-04-SL-00-14-0	9530	10923	8950		08/10/2005	3:04 PM	1105	1006
9527-04-SL-00-15-0	7650	8898	7260		08/10/2005	3:11 PM	1107	1010
9527-04-SL-00-16-0	13100	14733	12700		08/17/2005	9:02 AM	1112	1010
9527-04-SL-00-17-0	11800	13350	13200		08/17/2005	8:57 AM	1112	1010

Survey Release Record Scan Area Results

Survey Unit 9527-0004

9527-0004 SCAN AREA 1 SECTIONS 1 THROUGH 5

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9527-04-SC-01-01-0	10700	12176	10700		08/11/2005	9:53 AM	1109	1007
9527-04-SC-01-02-0	10700	12176	10200		08/11/2005	10:04 AM	1109	1007
9527-04-SC-01-03-0	9940	11363	11000		08/11/2005	10:09 AM	1109	1007
9527-04-SC-01-04-0	10000	11427	9920		08/11/2005	10:12 AM	1109	1007
9527-04-SC-01-05-0	10200	11641	12100	+	08/11/2005	10:16 AM	1109	1007
9527-04-SC-01-06-0	10900	12390	10500		08/11/2005	10:19 AM	1109	1007
9527-04-SC-01-07-0	12100	13670	10600		08/11/2005	10:23 AM	1109	1007
9527-04-SC-01-08-0	10500	11962	10900		08/11/2005	10:27 AM	1109	1007
9527-04-SC-01-09-0	11000	12497	11400		08/11/2005	10:57 AM	1109	1007
9527-04-SC-01-10-0	10700	12176	8810		08/11/2005	10:59 AM	1109	1007
9527-04-SC-01-11-0	14300	16007	14600		08/11/2005	11:01 AM	1109	1007
9527-04-SC-01-12-0	15400	17171	11600		08/11/2005	11:04 AM	1109	1007
9527-04-SC-01-13-0	11800	13350	16300	+	08/11/2005	11:16 AM	1109	1007
9527-04-ER-01-13-1	11800	13350	15600	+	08/11/2005	11:15 AM	1109	1007
9527-04-ER-01-13-2	11800	13350	32200	+	08/11/2005	11:15 AM	1109	1007
9527-04-SC-01-14-0	16000	17805	15000		08/11/2005	11:21 AM	1109	1007
9527-04-SC-01-15-0	13300	14946	15000	+	08/11/2005	11:23 AM	1109	1007
9527-04-SC-01-16-0	11100	12604	11100		08/11/2005	11:28 AM	1109	1007
9527-04-SC-01-17-0	9960	11384	11200		08/16/2005	2:01 PM	1105	1006
9527-04-SC-01-18-0	10300	11748	9550		08/16/2005	2:03 PM	1105	1006
9527-04-SC-01-19-0	9120	10483	9710		08/16/2005	2:05 PM	1105	1006
9527-04-SC-01-20-0	9480	10870	9370		08/16/2005	2:09 PM	1105	1006
9527-04-SC-01-21-0	11800	13350	9710		08/16/2005	2:11 PM	1105	1006
9527-04-SC-01-22-0	16000	17805	10000		08/16/2005	2:13 PM	1105	1006
9527-04-SC-01-23-0	11000	12497	10800		08/16/2005	2:15 PM	1105	1006
9527-04-SC-01-24-0	10600	12069	10200		08/16/2005	2:16 PM	1105	1006
9527-04-SC-01-25-0	9970	11395	7150		08/11/2005	2:14 PM	1107	1010
9527-04-SC-01-26-0	8480	9794	9230		08/11/2005	2:19 PM	1107	1010
9527-04-SC-01-27-0	11900	13457	12400		08/11/2005	2:24 PM	1107	1010
9527-04-SC-01-28-0	11000	12497	8040		08/11/2005	2:28 PM	1107	1010
9527-04-SC-01-29-0	12000	13563	11900		08/11/2005	2:34 PM	1107	1010
9527-04-SC-01-30-0	10800	12283	11000		08/11/2005	2:37 PM	1107	1010
9527-04-SC-01-31-0	10800	12283	12100		08/11/2005	2:39 PM	1107	1010
9527-04-SC-01-32-0	11500	13030	11300		08/11/2005	2:41 PM	1107	1010

(1) AL - Action Level

Survey Release Record Scan Area Results

Survey Unit 9527-0004

9527-0004 SCAN AREA 1 SECTIONS 1 THROUGH 5

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9527-04-SC-01-33-0	15400	17171	8740		08/11/2005	2:56 PM	1107	1010
9527-04-SC-01-34-0	18100	20020	9270		08/11/2005	2:59 PM	1107	1010
9527-04-SC-01-35-0	18900	20862	9840		08/11/2005	3:02 PM	1107	1010
9527-04-SC-01-36-0	15700	17488	9340		08/11/2005	3:04 PM	1107	1010
9527-04-SC-01-37-0	18100	20020	9240		08/11/2005	3:08 PM	1107	1010
9527-04-SC-01-38-0	16500	18333	9220		08/11/2005	3:11 PM	1107	1010
9527-04-SC-01-39-0	18300	20231	6910		08/11/2005	3:15 PM	1107	1010
9527-04-SC-01-40-0	20400	22438	8010		08/11/2005	3:17 PM	1107	1010

Survey Release Record Scan Area Results

Survey Unit 9527-0004

9527-0004 SCAN AREA 2 SECTIONS 6 THROUGH 10

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9527-04-SC-02-01-0	8930	10279	9320		08/16/2005	8:43 AM	1112	1010
9527-04-SC-02-02-0	9750	11159	8450		08/16/2005	8:45 AM	1112	1010
9527-04-SC-02-03-0	8920	10268	9190		08/16/2005	8:49 AM	1112	1010
9527-04-SC-02-04-0	9010	10365	9330		08/16/2005	8:52 AM	1112	1010
9527-04-SC-02-05-0	8580	9902	9080		08/16/2005	8:54 AM	1112	1010
9527-04-SC-02-06-0	9130	10494	9750		08/16/2005	8:56 AM	1112	1010
9527-04-SC-02-07-0	9650	11052	9160		08/16/2005	8:58 AM	1112	1010
9527-04-SC-02-08-0	9170	10537	9730		08/16/2005	9:00 AM	1112	1010
9527-04-SC-02-09-0	8750	10085	8780		08/16/2005	9:03 AM	1112	1010
9527-04-SC-02-10-0	10700	12176	8520		08/16/2005	9:04 AM	1112	1010
9527-04-SC-02-11-0	8960	10311	8660		08/16/2005	9:06 AM	1112	1010
9527-04-SC-02-12-0	9300	10676	8970		08/16/2005	9:08 AM	1112	1010
9527-04-SC-02-13-0	9400	10784	8780		08/16/2005	9:10 AM	1112	1010
9527-04-SC-02-14-0	9200	10569	10000		08/16/2005	9:12 AM	1112	1010
9527-04-SC-02-15-0	8760	10096	8210		08/16/2005	9:15 AM	1112	1010
9527-04-SC-02-16-0	8370	9676	8860		08/16/2005	9:17 AM	1112	1010
9527-04-SC-02-17-0	9200	10569	10100		08/16/2005	9:22 AM	1112	1010
9527-04-SC-02-18-0	10400	11855	8850		08/16/2005	9:23 AM	1112	1010
9527-04-SC-02-19-0	8780	10117	9610		08/16/2005	9:26 AM	1112	1010
9527-04-SC-02-20-0	9580	10977	10000		08/16/2005	9:27 AM	1112	1010
9527-04-SC-02-21-0	9970	11395	9050		08/16/2005	9:30 AM	1112	1010
9527-04-SC-02-22-0	9050	10408	10200		08/16/2005	9:32 AM	1112	1010
9527-04-SC-02-23-0	9120	10483	9960		08/16/2005	9:33 AM	1112	1010
9527-04-SC-02-24-0	8220	9514	8620		08/16/2005	9:35 AM	1112	1010
9527-04-SC-02-25-0	8770	10107	9520		08/16/2005	10:59 AM	1112	1010
9527-04-SC-02-26-0	8950	10300	9050		08/16/2005	11:00 AM	1112	1010
9527-04-SC-02-27-0	10000	11427	10000		08/16/2005	11:01 AM	1112	1010
9527-04-SC-02-28-0	9490	10880	9210		08/16/2005	11:02 AM	1112	1010
9527-04-SC-02-29-0	9640	11041	9620		08/16/2005	11:07 AM	1112	1010
9527-04-SC-02-30-0	9980	11406	10100		08/16/2005	11:08 AM	1112	1010
9527-04-SC-02-31-0	9670	11073	9270		08/16/2005	11:10 AM	1112	1010
9527-04-SC-02-32-0	9680	11084	9820		08/16/2005	11:11 AM	1112	1010
9527-04-SC-02-33-0	9220	10590	8790		08/16/2005	11:16 AM	1112	1010
9527-04-SC-02-34-0	8210	9503	8980		08/16/2005	11:17 AM	1112	1010

(1) AL - Action Level

Survey Release Record Scan Area Results

Survey Unit 9527-0004

9527-0004 SCAN AREA 2 SECTIONS 6 THROUGH 10

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9527-04-SC-02-35-0	9420	10805	6850		08/16/2005	11:19 AM	1112	1010
9527-04-SC-02-36-0	8700	10031	9660		08/16/2005	11:21 AM	1112	1010
9527-04-SC-02-37-0	8710	10042	6800		08/16/2005	11:23 AM	1112	1010
9527-04-SC-02-38-0	7190	8400	7650		08/16/2005	11:25 AM	1112	1010
9527-04-SC-02-39-0	7950	9222	6590		08/16/2005	11:26 AM	1112	1010
9527-04-SC-02-40-0	8150	9438	7570		08/16/2005	11:29 AM	1112	1010

Survey Release Record Scan Area Results

Survey Unit 9527-0004

9527-0004 SCAN AREA 3 SECTIONS 11 THROUGH 15

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9527-04-SC-03-01-0	9480	10870	10000		08/11/2005	1:08 PM	1105	1006
9527-04-SC-03-02-0	9830	11245	10900		08/11/2005	1:13 PM	1105	1006
9527-04-SC-03-03-0	11200	12710	11000		08/11/2005	1:16 PM	1105	1006
9527-04-SC-03-04-0	10300	11748	11000		08/11/2005	1:20 PM	1105	1006
9527-04-SC-03-05-0	11100	12604	10600		08/11/2005	1:24 PM	1105	1006
9527-04-SC-03-06-0	10900	12390	10700		08/11/2005	1:26 PM	1105	1006
9527-04-SC-03-07-0	10500	11962	10400		08/11/2005	1:29 PM	1105	1006
9527-04-SC-03-08-0	11300	12817	11900		08/11/2005	1:31 PM	1105	1006
9527-04-SC-03-09-0	10600	12069	11500		08/11/2005	1:35 PM	1105	1006
9527-04-SC-03-10-0	11400	12924	8720		08/11/2005	1:39 PM	1105	1006
9527-04-SC-03-11-0	9410	10794	10400		08/11/2005	1:44 PM	1105	1006
9527-04-SC-03-12-0	11100	12604	10400		08/11/2005	1:47 PM	1105	1006
9527-04-SC-03-13-0	11200	12710	11000		08/11/2005	1:50 PM	1105	1006
9527-04-SC-03-14-0	10900	12390	10700		08/11/2005	1:52 PM	1105	1006
9527-04-SC-03-15-0	10800	12283	10200		08/11/2005	1:54 PM	1105	1006
9527-04-SC-03-16-0	10600	12069	11100		08/11/2005	1:57 PM	1105	1006
9527-04-SC-03-17-0	15100	16854	16400		08/11/2005	2:25 PM	1105	1006
9527-04-ER-03-17-1	15100	16854	19200	+	08/11/2005	2:22 PM	1105	1006
9527-04-SC-03-18-0	16700	18544	17100		08/11/2005	2:34 PM	1105	1006
9527-04-ER-03-18-1	16700	18544	27000	+	08/11/2005	2:31 PM	1105	1006
9527-04-SC-03-19-0	19700	21703	13300		08/11/2005	2:38 PM	1105	1006
9527-04-SC-03-20-0	14700	16430	14300		08/11/2005	2:46 PM	1105	1006
9527-04-ER-03-20-1	14700	16430	20100	+	08/11/2005	2:45 PM	1105	1006
9527-04-SC-03-21-0	15600	17383	15900		08/11/2005	2:56 PM	1105	1006
9527-04-ER-03-21-1	15600	17383	37800	+	08/11/2005	2:52 PM	1105	1006
9527-04-SC-03-22-0	23900	26106	25200		08/11/2005	3:00 PM	1105	1006
9527-04-SC-03-23-0	20200	22228	21900		08/11/2005	3:10 PM	1105	1006
9527-04-ER-03-23-1	20200	22228	37200	+	08/11/2005	3:07 PM	1105	1006
9527-04-SC-03-24-0	22100	24222	19300		08/11/2005	3:13 PM	1105	1006
9527-04-SC-03-25-0	15400	17171	14400		08/15/2005	1:52 PM	1112	1010
9527-04-SC-03-26-0	18400	20336	17400		08/15/2005	1:58 PM	1112	1010
9527-04-SC-03-27-0	13700	15370	31300	+	08/15/2005	2:05 PM	1112	1010
9527-04-SC-03-28-0	13900	15583	11900		08/15/2005	2:12 PM	1112	1010
9527-04-SC-03-29-0	12600	14202	12400		08/15/2005	2:16 PM	1112	1010

(1) AL - Action Level

Survey Release Record Scan Area Results

Survey Unit 9527-0004

9527-0004 SCAN AREA 3 SECTIONS 11 THROUGH 15

<u>Sample Name</u>	<u>Background (cpm)</u>	<u>Action Level (cpm)</u>	<u>Results (cpm)</u>	<u>Above AL</u>	<u>Log Date</u>	<u>Log Time</u>	<u>E600 S/N</u>	<u>Probe S/N</u>
9527-04-SC-03-30-0	11700	13244	13800	+	08/15/2005	2:20 PM	1112	1010
9527-04-SC-03-31-0	14500	16219	14400		08/15/2005	2:24 PM	1112	1010
9527-04-SC-03-32-0	11800	13350	15300	+	08/15/2005	2:26 PM	1112	1010
9527-04-SC-03-33-0	17100	18966	15800		08/16/2005	2:21 PM	1105	1006
9527-04-SC-03-34-0	13100	14733	9260		08/15/2005	2:44 PM	1112	1010
9527-04-SC-03-35-0	14200	15901	8400		08/15/2005	2:46 PM	1112	1010
9527-04-SC-03-36-0	13400	15052	13500		08/15/2005	2:48 PM	1112	1010
9527-04-SC-03-37-0	13900	15583	11900		08/15/2005	2:51 PM	1112	1010
9527-04-SC-03-38-0	10500	11962	9610		08/15/2005	2:57 PM	1112	1010
9527-04-SC-03-39-0	10900	12390	8870		08/15/2005	2:58 PM	1112	1010
9527-04-SC-03-40-0	13200	14840	10000		08/15/2005	3:00 PM	1112	1010

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2c
Split Sample Assessment Forms
(2 Pages)

Split Sample Assessment Form

Survey Area#: 9527		Survey Unit #: 0004		Survey Unit name: East Mountain Side																
Sample Plan or WPIR#: 2005-0054						SML#: 9527-0004-002														
Sample Description: Comparison of split samples collected from sample measurement location #2 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9527-0000-002F, the comparison sample was 9527-0004-002FS.																				
STANDARD					COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
Cs-137	2.75	1.52E-1	18	0.75 – 1.33	4.44	2.2E-1	1.61	N												
Ra-226	1.03	1.54E-1	7	0.6 – 1.66	1.23	3.18E-1	1.2	Y												
Pb-214	1.14	1.72E-1	7	0.6 – 1.66	1.42	1.52E-1	1.2	Y												
Comments/Corrective Actions: N/A					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: <i>Jack McLeskey</i>		Date: <i>3/16/06</i>		Reviewed By: <i>John Randall</i>		Date: <i>3-16-06</i>														

Jack McLeskey

Split Sample Assessment Form

Survey Area#: 9527		Survey Unit #: 0004		Survey Unit name: East Mountain Side															
Sample Plan or WPIR#: 2005-0054				SML#: 9527-0004-013															
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 9527-0000-013F, the comparison sample was 9527-0004-013FS.																			
STANDARD				COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)											
Cs-137	5.13E-1	3.1E-2	16	0.75 – 1.33	8.42E-1	4.3E-2	1.64	N											
Ra-226	7.88E-1	6.0E-2	13	0.6 – 1.66	7.35E-1	5.4E-2	0.9	Y											
Pb-214	8.1E-1	6.1E-2	13	0.6 – 1.66	8.44E-1	5.9E-2	1.0	Y											
Comments/Corrective Actions: N/A					Table is provided to show acceptance criteria used to assess split samples.														
					<table style="margin-left: auto; margin-right: auto;"> <tr> <td><u>Resolution</u></td> <td><u>Agreement Range</u></td> </tr> <tr> <td>4 - 7</td> <td>0.5 - 2.0</td> </tr> <tr> <td>8 - 15</td> <td>0.6 - 1.66</td> </tr> <tr> <td>16 - 50</td> <td>0.75 - 1.33</td> </tr> <tr> <td>51 - 200</td> <td>0.80 - 1.25</td> </tr> <tr> <td>>200</td> <td>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: <i>Jocik [Signature]</i>		Date: <i>3/16/06</i>		Reviewed By: <i>Carl [Signature]</i>		Date: <i>3-16-06</i>													

[Handwritten signature]

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2d
Preliminary Data Forms
(2 Pages)

PRELIMINARY DATA REVIEW FORM

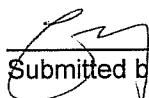
WP&IR No. : 2005-0054
 Survey Unit : 9527-0004
 Survey Unit Name : East Mountainside
 Classification : 2
 Survey Media : Soil
 Type of Survey : Final Status Survey
 Type of Measurement : Radionuclide Specific
 Number of Measurements : 15

BASIC STATISTICAL QUANTITIES

	Cs-137	Co-60
Operational DCGL (pCi/g) :	5.38E+00	2.59E+00
Minimum Value :	5.13E-01	0.00E+00
Maximum Value :	3.24E+00	6.67E-02
Mean :	1.24E+00	2.34E-02
Median :	1.02E+00	1.93E-02
Standard Deviation :	8.22E-01	1.81E-02

Sample Identification	Reported Results		
	Cs-137 Concentration (pCi/g)	Co-60 Concentration (pCi/g)	Fraction of Operational DCGL
9527-0004-001F	1.10E+00	2.74E-02	0.215
9527-0004-002F	2.75E+00	6.67E-02	0.537
9527-0004-003F	3.24E+00	1.59E-02	0.608
9527-0004-004F	5.55E-01	8.33E-03	0.106
9527-0004-005F	6.53E-01	8.33E-03	0.125
9527-0004-006F	1.42E+00	0.00E+00	0.264
9527-0004-007F	5.31E-01	4.41E-02	0.116
9527-0004-008F	1.02E+00	1.84E-02	0.197
9527-0004-009F	7.64E-01	1.93E-02	0.149
9527-0004-010F	9.04E-01	2.09E-02	0.176
9527-0004-011F	1.15E+00	1.97E-02	0.221
9527-0004-012F	1.55E+00	3.47E-02	0.302
9527-0004-013F	5.13E-01	5.56E-03	0.097
9527-0004-014F	1.86E+00	4.85E-02	0.364
9527-0004-015F	6.10E-01	1.39E-02	0.119

Reported results for the listed radionuclides did not always meet the accepted level of detection (i.e., a result greater than two standard deviations uncertainty)

 9/5/06
 Submitted by/Date

PRELIMINARY DATA REVIEW FORM


WP&IR No. : 2005-0054
 Survey Unit : 9527-0004
 Survey Unit Name : East Mountainside
 Classification : 2
 Survey Media : Soil
 Type of Survey : Final Status Survey - Investigation
 Type of Measurement : Radionuclide Specific
 Number of Measurements : 16

BASIC STATISTICAL QUANTITIES

	Cs-137	Co-60
Operational DCGL(pCi/g) :	5.38E+00	2.590E+00
Minimum Value :	4.34E-01	-3.24E-03
Maximum Value :	5.53E+00	2.86E-01
Mean :	2.22E+00	9.05E-02
Median :	1.59E+00	1.17E-01
Standard Deviation :	1.56E+00	7.86E-02

RANGE

Sample Identification	Reported Results		
	Cs-137 Concentration (pCi/g)	Co-60 Concentration (pCi/g)	Fraction of Operational DCGL
9527-0004-2A	3.72E+00	0.00E+00	0.691
9527-0004-2B	3.25E+00	0.00E+00	0.604
9527-0004-2C	5.53E+00	0.00E+00	1.028
9527-0004-2D	3.41E+00	2.86E-01	0.744
9527-0004-3A	2.83E+00	1.12E-02	0.530
9527-0004-3B	3.90E+00	5.13E-02	0.745
9527-0004-3C	3.83E+00	6.92E-02	0.739
9527-0004-3D	1.40E+00	-3.24E-03	0.259
9527-0004-3E	1.58E+00	1.23E-01	0.341
9527-0004-3F	4.34E-01	1.13E-01	0.124
9527-0004-3G	1.60E+00	1.46E-01	0.354
9527-0004-3H	1.03E+00	1.35E-01	0.244
9527-0004-3I	1.07E+00	1.39E-01	0.253
9527-0004-3J	6.10E-01	1.34E-01	0.165
9527-0004-3K	5.32E-01	1.21E-01	0.146
9527-0004-3L	7.41E-01	1.23E-01	0.185

 9/5/06
 Submitted by/Date

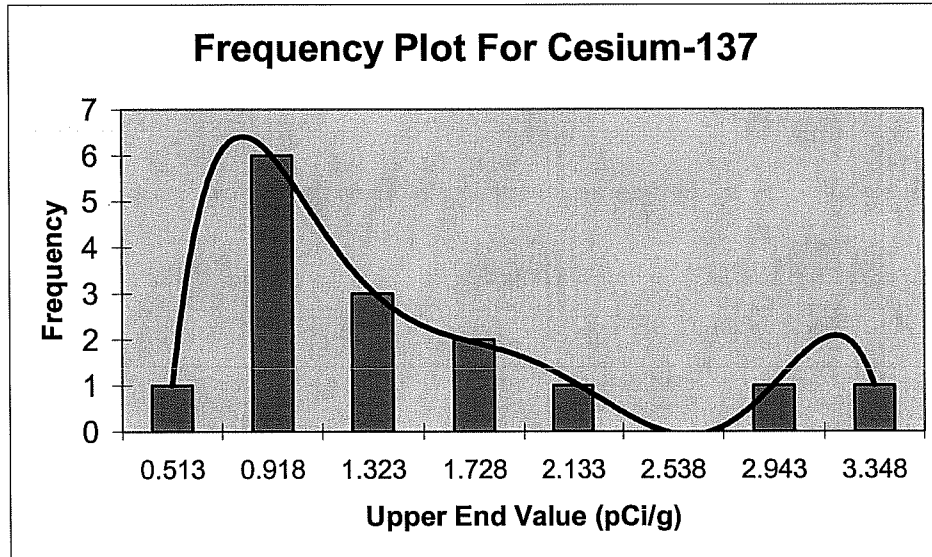
EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2e
Graphical Representation of Data
(4 Pages)

FREQUENCY PLOT FOR CESIUM-137

Survey Unit: 9527-0004
 Survey Unit Name: East Mountain Side
 Mean: 1.24E+00 pCi/g



Upper End Value	Observation Frequency	Observation Frequency
0.513	1	7%
0.918	6	40%
1.323	3	20%
1.728	2	13%
2.133	1	7%
2.538	0	0%
2.943	1	7%
3.348	1	7%
Total:	15	100%

Jack McCarty
 Submitted By/Date 3/16/06

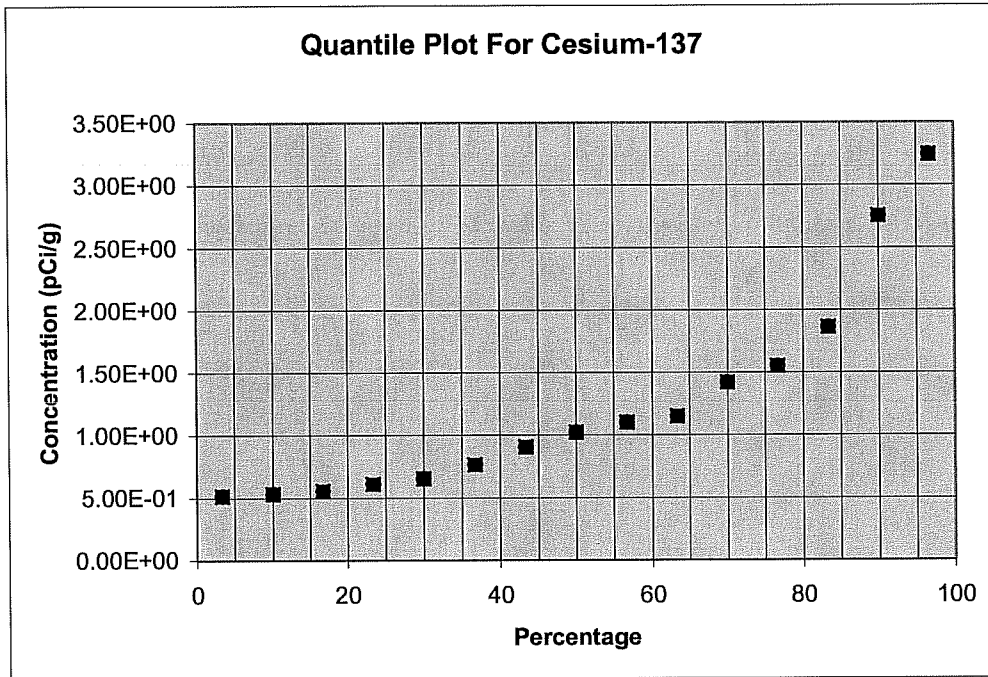
Dwight Randall
 Reviewed By/Date 3-16-06

QUANTILE PLOT FOR CESIUM-137

Survey Unit: 9527-0004

Survey Unit Name: East Mountain Side

Mean: 1.24E+00 pCi/g



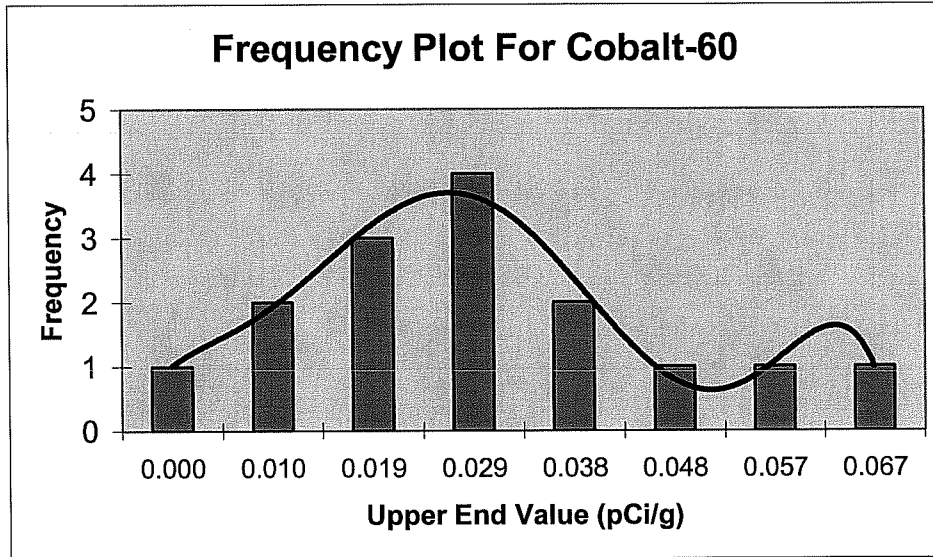
Cs-137	Rank	Percentage
5.13E-01	1	3%
5.31E-01	2	10%
5.55E-01	3	17%
6.10E-01	4	23%
6.53E-01	5	30%
7.64E-01	6	37%
9.04E-01	7	43%
1.02E+00	8	50%
1.10E+00	9	57%
1.15E+00	10	63%
1.42E+00	11	70%
1.55E+00	12	77%
1.86E+00	13	83%
2.75E+00	14	90%
3.24E+00	15	97%

Jack
 Submitted By/Date Jack Weidner 3/14/06

Reviewed By/Date Paul Marshall 3-16-06

FREQUENCY PLOT FOR COBALT-60

Survey Unit: 9527-0004
 Survey Unit Name: East Mountain Side
 Mean: 2.49E-02 pCi/g



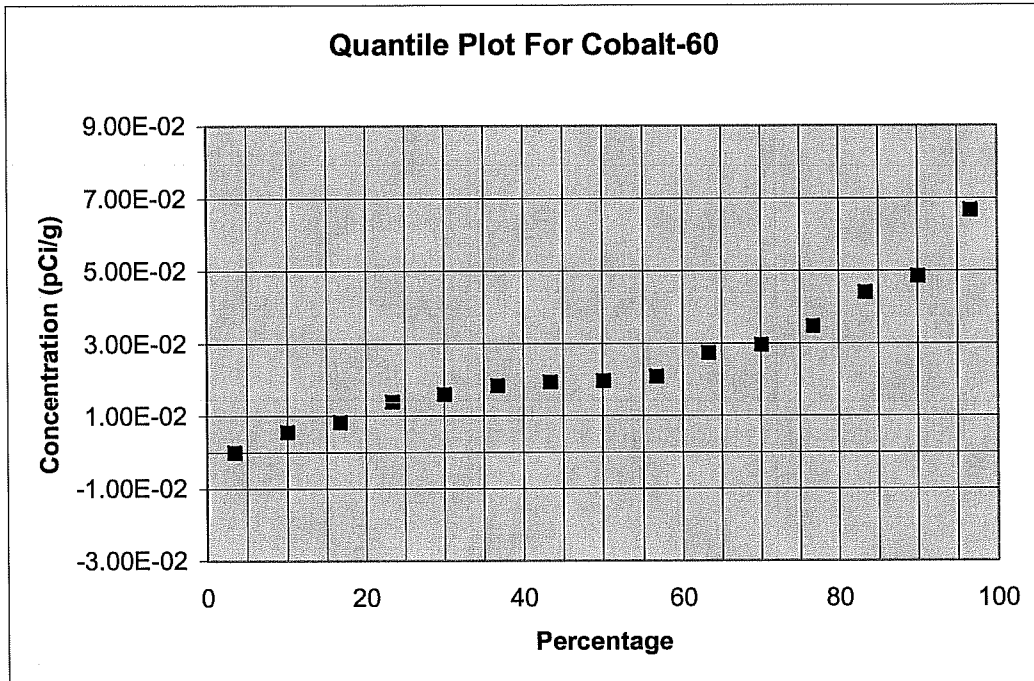
Upper End Value	Observation Frequency	Observation Frequency
0.000	1	7%
0.010	2	13%
0.019	3	20%
0.029	4	27%
0.038	2	13%
0.048	1	7%
0.057	1	7%
0.067	1	7%
Total:	15	100%

Jack
 Submitted By/Date Jack [signature] 3/16/06

Darl
 Reviewed By/Date Darl [signature] 3-16-06

QUANTILE PLOT FOR COBALT-60

Survey Unit: 9527-0004
 Survey Unit Name: East Mountain side
 Mean: 2.49E-02 pCi/g



Co-60	Rank	Percentage
0.00E+00	1	3%
5.56E-03	2	10%
8.33E-03	3	17%
1.39E-02	4	23%
1.59E-02	5	30%
1.84E-02	6	37%
1.93E-02	7	43%
1.97E-02	8	50%
2.09E-02	9	57%
2.74E-02	10	63%
2.96E-02	11	70%
3.47E-02	12	77%
4.41E-02	13	83%
4.85E-02	14	90%
6.67E-02	15	97%

Jack McLaughlin
 Submitted By/Date 3/14/06
Paul Marshall
 Reviewed By/Date 3-16-06

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2f
Sign Test Calculation
(1 Page)

Attachment B

Sign Test Calculation Sheet For Multiple Radionuclides

Survey Area Number: 9527				
Survey Unit Number: 0004				
Survey Area Name: East Mountain Side				
WPIR#: 2005-0054				
Classification: 2		TYPE I (α error): 0.05		(N): 15
Radionuclides:		Cesium-137		Co-60
DCGL:		5.38 pCi/g		2.59 pCi/g
Results 1 st Radionuclide (pCi/g)	Results 2 nd Radionuclide (pCi/g)	Weighted Sum (W _s)	1 - W _s	Sign
1.10E+00	2.74E-02	2.15E-01	7.85E-01	1
2.75E+00	6.67E-02	5.37E-01	4.63E-01	1
3.24E+00	1.59E-02	6.08E-01	3.92E-01	1
5.55E-01	2.96E-02	1.15E-01	8.85E-01	1
6.53E-01	8.33E-03	1.25E-01	8.75E-01	1
1.42E+00	0.00E+00	2.64E-01	7.36E-01	1
5.31E-01	4.41E-02	1.16E-01	8.84E-01	1
1.02E+00	1.84E-02	1.97E-01	8.03E-01	1
7.64E-01	1.93E-02	1.49E-01	8.51E-01	1
9.04E-01	2.09E-02	1.76E-01	8.24E-01	1
1.15E+00	1.97E-02	2.21E-01	7.79E-01	1
1.55E+00	3.47E-02	3.02E-01	6.98E-01	1
5.13E-01	5.56E-03	9.75E-02	9.03E-01	1
1.86E+00	4.85E-02	3.64E-01	6.36E-01	1
6.10E-01	1.39E-02	1.19E-01	8.81E-01	1
Number of positive differences (S+):				15

Critical Value: 11

Survey Unit Meets Acceptance Criterion

Performed by: *S. J. ...* Date: 9/15/06

Independent Review by: *Paul Randall* Date: 9-15-06

EAST MOUNTAIN SIDE
SURVEY UNIT 9527-0004

RELEASE RECORD

Attachment 2g
COMPASS DQA Surface Soil Report with
Retrospective Power Curve
(3 Pages)

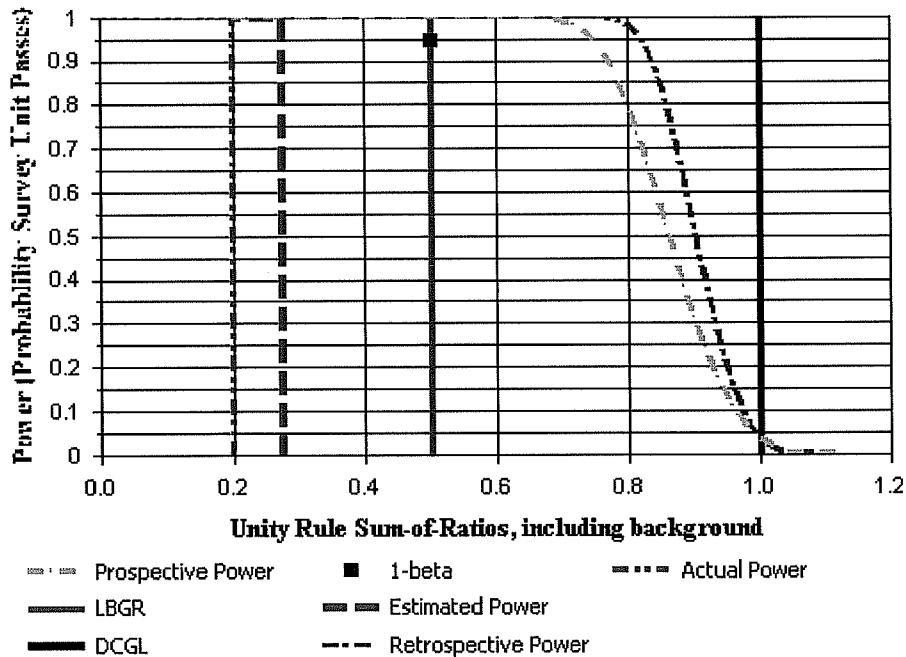


DQA Surface Soil Report

Assessment Summary

Site: 9527-0004
Planner(s): McCarthy
Survey Unit Name: East Mountainside *By 9/5/06*
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)
9527-0004-001F	S	0.03	1.1
9527-0004-002F	S	0.07	2.75
9527-0004-003F	S	0.02	3.24
9527-0004-004F	S	0.03	0.56
9527-0004-005F	S	0.01	0.65
9527-0004-006F	S	0	1.42
9527-0004-007F	S	0.04	0.53
9527-0004-008F	S	0.02	1.02
9527-0004-009F	S	0.02	0.76
9527-0004-010F	S	0.02	0.9
9527-0004-011F	S	0.02	1.15
9527-0004-012F	S	0.03	1.55
9527-0004-013F	S	0.01	0.51
9527-0004-014F	S	0.05	1.86
9527-0004-015F	S	0.01	0.61

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)
9527-0004-001F	S	0.22
9527-0004-002F	S	0.54
9527-0004-003F	S	0.61
9527-0004-004F	S	0.11
9527-0004-005F	S	0.12
9527-0004-006F	S	0.26
9527-0004-007F	S	0.12
9527-0004-008F	S	0.2
9527-0004-009F	S	0.15
9527-0004-010F	S	0.18
9527-0004-011F	S	0.22
9527-0004-012F	S	0.3
9527-0004-013F	S	0.1
9527-0004-014F	S	0.36
9527-0004-015F	S	0.12



DQA Surface Soil Report

Basic Statistical Quantities Summary

Statistic	Survey Unit	Background	DQO Results
Sample Number	15	N/A	N=15
Mean (SOR)	0.24	N/A	0.27
Median (SOR)	0.20	N/A	N/A
Std Dev (SOR)	0.16	N/A	0.22
High Value (SOR)	0.61	N/A	N/A
Low Value (SOR)	0.10	N/A	N/A