

Final Status Survey Final Report Phase VI

**Appendix A17
Survey Unit Release Record
9804-0000, Subsurface Soils Associated
with South East Site Grounds**

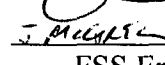
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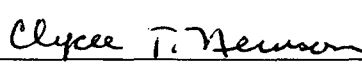
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FINAL STATUS SURVEY RELEASE RECORD
SUBSURFACE AREA ASSOCIATED WITH THE
SOUTHEAST GROUNDS - (NON-PROTECTED AREA)
SURVEY UNIT 9804-0000

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SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

TABLE OF CONTENTS

1.	SURVEY UNIT DESCRIPTION.....	3
2.	CLASSIFICATION BASIS	3
3.	DATA QUALITY OBJECTIVES (DQO)	7
4.	SURVEY DESIGN.....	11
5.	SURVEY IMPLEMENTATION	16
6.	SURVEY RESULTS	17
7.	QUALITY CONTROL.....	22
8.	INVESTIGATIONS AND RESULTS	22
9.	REMEDIATION AND RESULTS	22
10.	CHANGES FROM THE FINAL STATUS SURVEY PLAN.....	22
11.	DATA QUALITY ASSESSMENT (DQA)	23
12.	ANOMALIES	24
13.	CONCLUSION.....	24
14.	ATTACHMENTS.....	25
14.1	Attachment 1 – Figures (5 pages including cover)	
14.2	Attachment 2 – Laboratory Data (124 pages including cover)	
14.3	Attachment 3 – DQA Results (16 pages including covers)	

TOTAL 170

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

1. SURVEY UNIT DESCRIPTION

Survey Unit 9804-0000 (Subsurface Area Associated with the Southeast Site Grounds (non-protected area) is designated as Final Status Survey (FSS) Class "A" subsurface soils area and consists of approximately eleven thousand five hundred and sixty eight (11,568 m²) square meters of area under uninhabited land and is located approximately eight hundred and sixty four feet (864 ft) from the reference coordinate system benchmark used at Haddam Neck Plant (HNP) (see Attachment 1). Survey Unit 9804-0000 includes the subsurface soils located under open land area Survey Units 9522-0001, 9522-0002, 9522-0003 and 9522-0004. The subsurface soils under open land area Survey Units 9522-0005, 9522-0006 and 9522-0007 were formally part of subsurface soil Survey Area 9802. However during decommissioning, large excavations were necessary to facilitate the removal of commodities and contaminated soils. These excavations crossed over into the subsurface soil under open land Survey Units 9522-0003 and 9522-0004. Subsequently, the portion of Survey Area 9802 residing under open land area Survey Units 9522-0005, 9522-0006 and 9522-0007 were absorbed into subsurface Survey Area 9804. The southeast quadrant of the survey unit is comprised mostly of rock outcroppings, rock ledge, underbrush and trees. The survey unit has a moderate slope running from southeast to northwest.

The reference coordinates associated with this survey unit are E008 through E016 by S073 through S081 (refer to "*HNP License Termination Plan*" (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) based on the Connecticut State Plane System North American Datum (NAD) 1927.

2. CLASSIFICATION BASIS

The survey unit was classified in accordance with Procedure RPM 5.1-10, "*Survey Unit Classification*."

The "*Classification Basis Summary*" conducted for Survey Unit 9804-0000 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 Supplement*,"
- c) Historic and current survey records review,

A subsurface characterization study of the site was begun in 2005 to identify areas for radiological remediation based on the existing radiological conditions. Areas of interest were physically defined according to an event or physical boundary and were identified as zones. Zone 12 was associated with Survey Area 9522 (which now includes a former survey area, 9308, that was consolidated into Survey Area 9522 in 2006), Subsurface Area 9802 and Subsurface Survey Area

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

9804. Subsurface surveys for characterization were conducted in 2005 and 2006 under several survey and sampling plans (SSWP 05-09-001, SSWP 05-10-008, SSWP 05-11-002, SSWP 05-12-004 and SSWP 06-05-03).

Open land Survey Area 9522 was at one time an open land immediately adjacent to the southern boundary of the Radiologically Controlled Area (RCA) and security fences. Initially, only a small section of the north side of the unit was paved, with the remainder of the unit gradually sloping down to the original site elevation. As the result of plant operations, there was a need to expand the industrial area to support plant operations and to control exposure to radiation. According to the "*Haddam Neck Plant Historic Site Assessment Supplement*", plant photos reveals that the area was gradually filled in from approximately 1972 to between 1974 and 1976, with soil that may have originated from on-site. This action raised the elevation up to site grade, thereby facilitating a reconfiguration and expansion of the RCA and security protected area. Photos taken in 1976 show that the area was landscaped with grass and small trees and was probably given the name "ball field" at that time. Over the next several years, additional fill was brought in. By 1987, photos show that half of the survey area was paved and occupied with buildings. It is estimated that the elevation in the survey area may have increased by up to five (5) feet from the original site grade.

Plant Incident Report (PIR) 80-37 reported the discovery of several discrete sources of elevated activity on the ball field in March 1980, along with other areas of the site. The investigation into the incident concluded that the elevated activity was most likely ejected from the Primary Vent Stack as a result of operational events in 1979. All elevated areas were removed upon detection according to supplemental reports.

According to PIR 89-35, a section of Survey Area 9522 was contaminated in February 1989 following the release of radioactive material into an uncontrolled drain in the Spent Fuel Building. The drain discharged directly to an open trench that drained into a marshy area of the site. Freezing conditions limited the amount of radioactive material that left the protected area. The unanticipated release of radioactive material was identified during a routine radiological surveillance of the site. The area was remediated in 1989 to the established release criteria at the time ($1\text{E-}5 \mu\text{Ci/g}$) and, according to memo CH 89-854, the Chemistry Group initiated a sampling program at the drainage site to monitor activity.

In 1995, several discrete particles were found outside of the RCA, but within the Industrial Area in Survey Area 9522. These elevated areas were removed upon discovery.

The portion of Survey Area 9522 that was located inside of the Industrial Area fence, and was originally designated as Survey Area 9308, was used during decommissioning as a temporary laydown area for the Steam Generator Lower Assemblies (SGLAs) and the Pressurizer until these components were shipped off-site for disposal in 2001.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

The radiological characterization of subsurface soil in this area to support decommissioning activities commenced in 2005. Sampling activities were primarily concentrated on the area designated as "Zone 12", which was an area that encompassed a majority of open land Survey Unit 9522-0006, a large portion of open land Survey Unit 9522-0007 and portions of open land Survey Units 9522-0005 and 9522-0003. Subsurface soil samples were acquired using both bore hole and test pit approaches. All soil samples were analyzed by an approved off-site laboratory for all radionuclides of concern, including "Hard-to-Detect" (HTD) radionuclides. Cs-137 was the predominant radionuclide detected in the sample population. Co-60 was detected in two samples at very low concentrations. Sr-90 and H-3 were positively identified (i.e. a result greater than two (2) standard deviations uncertainty) in six (6) different samples.

In 2006, demolition activities commenced in this area. Demolition activities consisted of building and building pad demolition in open land Survey Units 9522-0006 and 9522-0007, subsurface system removal in open land Survey Units 9522-0007, 9522-0006, 9522-0005 and 9522-0003 and above grade commodity removal in all areas with the exception of open land Survey Unit 9522-0001. The subsurface systems removed included the sewer/shower drain tank system, the Ground Water Treatment (GWT) discharge pipe, the underground utilities duct and various culverts and drains servicing various areas, including locations from within the former RCA. Thirty seven (37) soil samples were taken to support commodity removal and remediation activities, primarily in open land area Survey Unit 9522-0007 and in Excavation #7, which was a large excavation that was located in open land area Survey Units 9522-0006 and 9522-0003. Two (2) soil samples taken in support of commodity removal had results that exceeded the Operational DCGLs. Cs-137 and Co-60 were positively detected in twenty-six (26) of the thirty-seven (37) soil samples. Eu-155 was positively identified in one (1) sample but was present at a concentration less than 1% of the Operational DCGL. Two (2) samples in this group were also sent to an approved off-site laboratory for HTD analysis. No additional HTD radionuclides were identified.

Following the removal of all above grade commodities, below grade systems and soils identified by previous surveys as exceeding the screening criteria in effect for groundwater dose compliance, fifty four (54) post-remediation soil samples were taken. This sampling effort was supplemented by scanning of excavation sidewalls using an Eberline E-600 using a SPA-3 sodium iodide detector prior to backfill and grading. A summary of the sample results are provided in Table 1.

Cs-137 and Co-60 were the primary radionuclides detected in the sample population and were detected in concentrations up to 44% of the Operational DCGL incorporating the "sum of fractions". Cs-137 was the predominant radionuclide over Co-60 by a factor of 10 to 1. Two (2) samples in this group were also sent to an approved off-site laboratory for HTD analysis. No additional HTD radionuclides were positively identified.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

**Table 1 – Sample Analysis Results from Characterization Soil Samples
Taken Post-Remediation & Prior to Backfill**

	Cs-137 ($\rho\text{Ci/g}$)	Co-60 ($\rho\text{Ci/g}$)
Minimum Value:	-1.05E-02	-3.25E-02
Maximum Value:	1.40E+00	7.35E-01
Mean:	1.90E-01	2.83E-02
Median:	8.58E-02	4.13E-04
Standard Deviation:	2.63E-01	1.08E-01

A review of the “*Initial and Supplemental Characterization Reports*” as well as the previous “*Classification Basis Summaries*” was performed. Survey Unit 9804-0000 was initially designated as Class C during the development of the LTP. The source documents, the “*Connecticut Yankee Haddam Neck Characterization Report*” and “*Initial Classification for Survey Areas at Connecticut Yankee*”, were incorporated by reference in LTP revision 0. Survey Unit 9804-0000 included the subsurface soils located under open land area Survey Units 9522-0001, 9522-0002, 9522-0003 and 9522-0004. As previously explained, the subsurface soils under open land area Survey Units 9522-0005, 9522-0006 and 9522-0007 were formally part of subsurface soil Survey Area 9802. However, the physical dimensions of the excavations created during remediation crossed over into the subsurface soil under open land Survey Units 9522-0003 and 9522-0004. As a logical result, the portion of Survey Area 9802 residing under open land area Survey Units 9522-0005, 9522-0006 and 9522-0007 were absorbed into subsurface Survey Area 9804. Subsequently, as the soils incorporated from Survey Area 9802 were initially classified as subsurface Class B in accordance with LTP revision 0, subsurface Survey Area 9804 was conservatively reclassified as subsurface Class B as well. Additionally, during commodity removal, contaminated soil was identified in subsurface Survey Area 9804 that exceeded the Operational DCGL. Subsurface Class A soils are defined by LTP Section 2.3.3.1.5 as a subsurface soil area that has had known contaminating events and have a high potential to be at or exceed the DCGL. Consequently, subsurface Survey Area 9804, which contains subsurface Survey Unit 9804-0000, was again reclassified to a final classification as subsurface Class A. As discussed in LTP Section 5.7.3.2.2, the Class A classification defines the measurement or sample density. Subsequently, 31 subsurface soil sample measurement locations (approximately one per 500 m²) were established in subsurface soils Survey Unit 9804-0000. In addition, biased measurements or samples will be obtained at the locations of localized remediation efforts where operational events are suspected to may have created potential soil contamination.

RELEASE RECORD

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 indicate that residual activity within the survey unit does not exceed the release criteria. Therefore, the survey unit does satisfy the primary objective of the FSS plan.

The primary objective of the FSS plan was to demonstrate that the level of residual radioactivity in Survey Unit 9804-0000 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).

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 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 that will be contributed by 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

$$H_{\text{Total}} = H_{\text{Soil}} + H_{\text{ExistingGW}} + H_{\text{FutureGW}}$$

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

The total dose under the LTP criteria is twenty-five (25) mrem/yr Total Effective Dose Equivalent (TEDE) from all three (3) components. The allowable total dose under the Connecticut Department of Environmental Protection (CTDEP) radiological remediation standard for CY is nineteen (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 area is affected by existing groundwater (reference CY memo ISC 06-024). Therefore, the dose contribution from existing groundwater is bounded by two (2) mrem/yr TEDE.

This survey unit is considered impacted by future groundwater radioactive contamination, as there are underground foundations 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 bounded by two (2) mrem/yr TEDE.

Equation 2

$$19 \text{ mrem/yr}_{\text{Total}} = 15 \text{ mrem/yr}_{\text{Soil}} + 2 \text{ mrem/yr}_{\text{Existing GW}} + 2 \text{ mrem/yr}_{\text{Future GW}}$$

The allowable dose for soil in this survey unit is fifteen (15) mrem/yr TEDE as shown by Equation 2 above. The concentration of residual radioactivity resulting in fifteen (15) mrem/yr TEDE is designated as the Operational DCGL, and has been established for the radionuclides of concern as provided in Table 2.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

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

Radionuclide ⁽¹⁾	Base Case Soil DCGL (pC/g) ⁽²⁾	Operational DCGL (pC/g) ⁽³⁾	Required MDC (pC/g) ⁽⁴⁾
H-3	4.12E+02	2.47E+02	1.65E+01
C-14	5.66E+00	3.40E+00	2.26E-01
Mn-54	1.74E+01	1.04E+01	6.96E-01
Fe-55	2.74E+04	1.64E+04	1.10E+03
Co-60	3.81E+00	2.29E+00	1.52E-01
Ni-63	7.23E+02	4.34E+02	2.89E+01
Sr-90	1.55E+00	9.30E-01	6.20E-02
Nb-94	7.12E+00	4.27E+00	2.85E-01
Tc-99	1.26E+01	7.56E+00	5.04E-01
Ag-108m	7.14E+00	4.28E+00	2.86E-01
Cs-134	4.67E+00	2.80E+00	1.87E-01
Cs-137	7.91E+00	4.75E+00	3.16E-01
Eu-152	1.01E+01	6.06E+00	4.04E-01
Eu-154	9.29E+00	5.57E+00	3.72E-01
Eu-155	3.92E+02	2.35E+02	1.57E+01
Pu-238	2.96E+01	1.78E+01	1.18E+00
Pu-239/240	2.67E+01	1.60E+01	1.07E+00
Am-241 ⁽⁵⁾	2.58E+01	1.55E+01	1.03E+00
Pu-241	8.70E+02	5.22E+02	3.48E+01
Cm-243/244	2.90E+01	1.74E+01	1.16E+00

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

(2) The Base Case Soil DCGL(s) are specified by the LTP in Chapter 6 and are equivalent to twenty-five (25) mrem/yr TEDE

(3) The Operational DCGL is equivalent to achieving fifteen (15) mrem/yr TEDE

(4) The required MDC is equivalent to achieving one (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

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Another important facet of the DQO process is to identify the radionuclides of concern and determine the concentration variability. During the characterization of the subsurface soils in this survey unit, Cs-137 and Co-60 were identified as the principle gamma emitting radionuclides which were present in sufficient concentrations that could potentially exceed the screening criteria. In addition, Sr-90 and H-3 were positively identified (i.e. a result greater than two (2) standard deviations uncertainty) in six (6) different samples. The sample population as a whole was evaluated to assess the distribution of the detected radionuclides. The radionuclide distribution percentage for each sample in the population was calculated by dividing the concentration of each detected radionuclide by the total activity concentration in the sample, expressing the abundance of the specific nuclide in the sample compared against the total activity. The mean radionuclide distribution was then calculated by taking the average of the individual sample distribution fractions. The resultant distribution fractions are presented in Table 3 below.

Table 3 –Radionuclide Distribution Fraction for Detectable Radionuclides in the Characterization Soil Sample Population	
Detected Radionuclide	Distribution Fraction
Cs-137	0.791
Co-60	0.058
Sr-90	0.036
H-3	0.115

The potential presence of HTD radionuclides such as Sr-90 and H-3 was addressed during the FSS of this survey unit by using a surrogate relationship to another detectable radionuclide as recommended in NUREG-1575 (MARSSIM), in this case Cs-137. This approach directly applies as gamma spectroscopy was the primary analytical method used to assess volumetric soil samples in comparison against the Operational DCGL for soil. To demonstrate compliance with the release criteria for the survey unit, the DCGL for the surrogate radionuclide, in this case Cs-137 was scaled to account for the fact that it was being used as an indicator for additional radionuclides, in this case Sr-90 and H-3. The result is referred to as the surrogate DCGL.

The surrogate DCGL was computed based on the distribution ratio between the hard-to-detect radionuclides and the easy-to-detect radionuclides. The surrogate DCGL is computed as follows:

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Equation 3

$$Surrogate_{DCGL} = \frac{1}{\left[\left(\frac{1}{DCGL_{Sur}} \right) + \left(\frac{R_2}{DCGL_2} \right) + \left(\frac{R_3}{DCGL_3} \right) + \dots + \left(\frac{R_n}{DCGL_n} \right) \right]}$$

Where: DCGL_{Sur} = Surrogate radionuclide DCGL
DCGL_{2,3,...n} = DCGL for radionuclides to be represented by the surrogate
R_n = Ratio of concentration (or nuclide mixture fraction) of radionuclide "n" to surrogate radionuclide

For soils, using the DCGLs presented in Table 2 and the soil nuclide distribution presented in Table 3, the following surrogate calculation was deduced;

Equation 4

$$Surrogate_{DCGL(Cs-137)} = \frac{1}{\left[\left(\frac{1}{4.75_{(Cs-137)}} \right) + \left(\frac{.036/.791}{0.93_{(Sr-90)}} \right) + \left(\frac{.115/.791}{247.00_{(H-3)}} \right) \right]} = 3.85 \text{ pCi/g}$$

Subsequently, the surrogate DCGL that was used for Cs-137 in this survey unit to demonstrate compliance with the operational dose limit of fifteen (15) mrem per year is 3.85 pCi/g.

In addition to the application of a surrogate DCGL to account for the HTD radionuclides of concern, two soil samples were selected to be analyzed by an approved off-site laboratory for all radionuclides specified in Table 1. This exceeds the LTP requirement that a minimum of 5% of the subsurface soil samples be analyzed by an approved off-site laboratory for all HTD radionuclides of concern as specified by the LTP.

As part of the DQOs applied to laboratory processes, analysis results were reported as actual calculated results. Results reported as less than Minimum Detectable Concentration (MDC) were not accepted for FSS. Sample report summaries included unique sample identification, analytical method, radionuclide, result, and uncertainty to two (2) 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. Guidance for preparing FSS plans is provided in Procedure RPM 5.1-11, "Preparation of Final Status Survey Plans". The FSS plan uses a sample design that includes either random or biased media sampling.

The DQO process determined that both Cs-137 and Co-60 would be the primary radionuclides of concern in Survey Unit 9804-0000. In addition, the potential

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

presence of two HTD radionuclides of concern, Sr-90 and H-3, would be accounted for through the use of a surrogate DCGL, in this case Cs-137 (refer to Section 3). Other radionuclides positively identified in concentrations greater than the screening criteria during the performance of this FSS would also be evaluated to ensure adequate survey design. Radionuclide screening or de-selection is a process where an individual radionuclide or aggregates 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.

As the survey unit is classified as a Class A subsurface soils area, and discrete, elevated areas of contamination were possible, the application of the Elevated Measurement Comparison (EMC) remained an option.

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

LTP Section 5.7.3.2.2 states that there will be a minimum of thirty one (31) measurement locations, based on a sample population of approximately one per 500 m² in a Class A subsurface soil area. The sample density for Survey Unit 9804-0000 with a survey population of thirty one (31) measurements over approximately eleven thousand five hundred and sixty eight square meters (11,568 m²) was one measurement every three hundred and seventy three (373) m². In addition, biased measurements or samples were obtained at the locations of localized remediation efforts where there was the potential for soil contamination. LTP Section 5.7.3.2.2 states that the range of the number of measurements in Class A areas corresponds to the range of values for N (for Sign test), considering $\alpha = 0.05$, $\beta = 0.05$, and a relative shift of < 3.0 .

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 A subsurface survey 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 4.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Table 4 - Sample Measurement Locations with Associated GPS Coordinates for Non-parametric Sample Population		
Designation	Northing	Easting
9804-0000-001F	236559.81	669100.78
9804-0000-002F	236500.84	669066.74
9804-0000-003F	236500.84	669134.83
9804-0000-004F	236441.88	668964.61
9804-0000-005F	236441.88	669032.70
9804-0000-006F	236441.88	669100.78
9804-0000-007F	236382.92	668930.57
9804-0000-008F	236382.92	668998.66
9804-0000-009F	236382.92	669066.74
9804-0000-010F	236382.92	669134.83
9804-0000-011F	236382.92	669202.91
9804-0000-012F	236323.95	668896.53
9804-0000-013F	236323.95	668964.61
9804-0000-014F	236323.95	669032.70
9804-0000-015F	236323.95	669100.78
9804-0000-016F	236323.95	669168.87
9804-0000-017F	236323.95	669236.95
9804-0000-019F	236264.99	668998.66
9804-0000-020F	236264.99	669066.74
9804-0000-021F	236264.99	669134.83
9804-0000-022F	236264.99	669202.91
9804-0000-023F	236264.99	669270.99
9804-0000-025F	236206.03	669100.78
9804-0000-026F	236206.03	669236.95

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Table 4 – (continued)		
Designation	Northing	Easting
9804-0000-027F	236206.03	669305.04
9804-0000-028F	236206.03	669373.12
9804-0000-029F	236147.07	669339.08
9804-0000-030F	236147.07	669407.16

During the performance of the survey, it was discovered that three (3) of the thirty-one (31) sample locations identified for non-parametric testing were deemed to be inaccessible due to the rapid change in elevation from east to west toward the canal, changes to the discharge structure, removal of the rip-rap, and area restoration to the banks of the discharge canal. The three (3) locations identified were 9804-0000-018F, 9804-0000-024F and 9804-0000-031F. Subsequently, three (3) additional sample measurement locations were designated to replace the locations that were deemed to be inaccessible. The location of the samples were determined using Visual Sample Plan (VSP) in accordance with RPM 5.1-14, *"Identifying and Marking Surface Sample Locations for FSS in Open Land Areas"* using a random selection which is appropriate for relocating a small number of sample locations in a Class A area. Sample Measurement Locations for the additional samples are listed with the GPS coordinates in Table 5.

Table 5 - Sample Measurement Locations with Associated GPS Coordinates for Replacement Sample Locations		
Designation	Northing	Easting
9804-0000-036F	236365.25	669149.47
9804-0000-037F	236400.39	668982.88
9804-0000-038F	236355.96	669069.10

In accordance with LTP Section 5.7.3.2.2, four (4) judgmental (biased) samples were collected in this survey area. One (1) judgmental location was situated at the base of the discharge canal at the location of the former barge slip, one (1) judgmental sample was situated at the north boundary of the area formally designated as Excavation #7, one (1) judgmental sample was taken in the northeast quadrant at the location where subsurface drain headers were removed and one (1) sample was taken at the former location of the sewer/shower drain tank. Sample Measurement Locations for the judgmental samples are listed with the GPS coordinates in Table 6.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Table 6 - Sample Measurement Locations with Associated GPS Coordinates for Judgmental Sample Locations

Designation	Northing	Easting
9804-0000-032B	236206.11	669139.23
9804-0000-033B	236492.21	669023.32
9804-0000-034B	236400.60	669091.16
9804-0000-035B	236294.04	669153.04

Procedure RPM 5.1-11 specifies that 5% of the samples are required to be selected for HTD analysis. Two (2) soil samples, or about 10% 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 was 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 quality control measures as referenced by Procedure RPM 5.1-24, "*Split Sample Assessment for Final Status Survey*," included the collection of one (1) soil sample for "split sample" analysis by the off-site laboratory. This location was selected randomly using the Microsoft Excel "RANDBETWEEN" function.

Survey Unit 9804-0000 is a subsurface survey unit. Subsequently, no scanning was required.

For this Class A survey unit, the "Investigation Level" for soil sample measurement results are those levels specified in LTP, Table 5-8. Table 7 provides a synopsis of the survey design.

Table 7 – Synopsis of the Survey Design

Feature	Design Criteria	Basis
Subsurface Survey Unit Land Area	11,568 m ²	Based on AutoCAD-LT
Number of Measurements	35 (31 Systematic grid) (4 Judgmental)	IAW LTP Section 5.7.3.2.2 for a Class A Subsurface Soil Survey Unit
Grid Spacing	20.74 m	Based on triangular grid

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Table 7 – (continued)		
Feature	Design Criteria	Basis
Operational DCGL	3.85 pCi/g Cs-137 ⁽²⁾ 2.29 pCi/g Co-60	Administratively set to achieve 15 mrem/yr TEDE ⁽¹⁾
Soil Investigation Level	3.85 pCi/g Cs-137 ⁽²⁾ 2.29 pCi/g Co-60	The Operational DCGL(s) are more conservative than the LTP criteria for a Class 1 survey unit
(1) The allowable dose for soil in this survey unit is fifteen (15) mrem/yr TEDE as the bounding dose from existing and future groundwater has been established based on field data (reference CY memo ISC 06-024).		
(2) The Operational DCGL for Cs-137 has been adjusted as a surrogate to account for the potential presence of HTD radionuclides Sr-90 and H-3.		

5. SURVEY IMPLEMENTATION

Final status survey field activities were conducted under Work Plan and Inspection Record (WP&IR) 2006-0043. The WP&IR package included a detailed FSS plan, 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.

Measurement locations were identified in North American Datum (NAD) 1927 coordinates using GPS coordinates; sample locations were identified and marked with a surveyor’s flag or paint for identification.

Thirty-five (35) subsurface 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 collected using direct push probe technology (GeoProbe®).

All samples were obtained to a depth of three (3) meters with the exception of sample numbers 9804-0000-005F, 9804-0000-011F, 9804-0000-017F, 9804-0000-020F, 9804-0000-023F and 9804-0000-033, where refusal was encountered due to the presence of bedrock prior to reaching a three (3) meter depth. In addition, sample 9804-0000-019F was relocated approximately three feet to the west of its designed location due to the presence of a rock ledge. Large stones, wood and/or root pieces were removed and the soil matrix was homogenized from each 3 meter soil column. 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*.”

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Two (2) samples (9804-0000-027F and 9804-0000-036F) were randomly selected for HTD radionuclide analysis.

The implementation of survey specific quality control measures included the collection of two (2) samples (9804-0000-007F and 9804-0000-028F) for “split sample” analysis.

6. SURVEY RESULTS

All field survey activities were conducted between November 28, 2006 and November 30, 2006.

The off-site laboratory employed for the radiological analyses of samples was General Engineering Laboratories, LLC. The laboratory analyzed the thirty-one (31) samples collected for non-parametric statistical testing, the associated field splits and the four (4) judgmental samples using gamma spectroscopy. Gamma spectroscopy analysis was performed to the required MDCs. Gamma spectroscopy results identified some radionuclides meeting the accepted criteria for detection (i.e., a result greater than two standard deviations uncertainty). However, Cs-137 and Co-60 were the only gamma-emitting radionuclides reported in concentrations exceeding the de-selection criteria.

Cs-137 was identified in twelve (12) and Co-60 was identified in one (1) of the thirty-one (31) samples collected for non-parametric statistical testing. The mean of the gamma spectroscopic analysis results for the sample population indicated that Cs-137 was present at levels lower 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. A summary of the thirty-one (31) samples collected for non-parametric statistical testing results is provided in Table 8.

**Table 8 - Summary of Gamma Spectroscopy Results for Surface Soil
Samples Comprising the Statistical Sample Population**

Sample Number	Cs-137 pCi/g	Co-60 pCi/g
9804-0000-001F	1.53E-02	6.09E-03
9804-0000-002F	3.69E-02	3.01E-03
9804-0000-003F	2.82E-02	8.66E-03
9804-0000-004F	0.00E+00	-9.72E-03
9804-0000-005F	1.41E-02	5.55E-03
9804-0000-006F	0.00E+00	5.36E-03
9804-0000-007F	-1.02E-02	-8.67E-03

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Table 8 - (continued)

Sample Number	Cs-137 pCi/g	Co-60 pCi/g
9804-0000-008F	5.06E-03	1.01E-02
9804-0000-009F	-4.96E-04	1.41E-02
9804-0000-0010F	7.61E-03	1.18E-02
9804-0000-0011F	1.20E-02	4.00E-03
9804-0000-0012F	0.00E+00	-3.92E-03
9804-0000-0013F	3.82E-02	-1.83E-02
9804-0000-0014F	3.31E-02	-1.38E-03
9804-0000-0015F	3.24E-02	3.89E-02
9804-0000-0016F	1.71E-02	9.88E-04
9804-0000-0017F	7.43E-02	-1.48E-02
9804-0000-0019F	4.67E-02	1.70E-02
9804-0000-0020F	4.50E-02	6.85E-03
9804-0000-0021F	3.10E-02	-4.88E-03
9804-0000-0022F	5.83E-02	1.47E-02
9804-0000-0023F	1.78E-02	1.55E-02
9804-0000-0025F	2.67E-02	1.13E-02
9804-0000-0026F	2.05E-02	-2.50E-03
9804-0000-0027F	1.52E-02	3.33E-03
9804-0000-0028F	5.16E-03	-1.88E-02
9804-0000-0029F	-3.12E-03	-1.25E-02
9804-0000-0030F	-4.96E-04	1.24E-02
9804-0000-0036F	7.61E-03	9.66E-03
9804-0000-0037F	1.20E-02	7.39E-03
9804-0000-0038F	0.00E+00	2.48E-02

The off-site laboratory also processed two (2) 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.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Sr-90 was positively identified (i.e., a result greater than two standard deviations uncertainty) in one of the two samples analyzed for HTD radionuclides. As previously stated in Section 4 of this report, the criteria for de-selection of a radionuclide is a concentration that is less than 5% of the Operational DCGL for individual radionuclides and less than 10% of the Operational DCGLs for aggregates. For Sr-90, the Operational DCGL is 0.93 pCi/g to achieve a TEDE of fifteen (15) mrem/yr. The analytical result for Sr-90 identified in sample number 9804-0000-027F equated to 6% of the Operational DCGL. This concentration was within the observed range for the sample population used to determine the average nuclide distribution. However, as Sr-90 was already identified as a radionuclide of concern for this survey unit and a surrogate DCGL was applied to account for the potential presence of Sr-90 and H-3, no further action was deemed necessary. All other HTD radionuclides were not present in concentrations sufficient for detection (i.e., a result greater than two standard deviations uncertainty) in the two samples selected for HTD analysis. The singular result for Sr-90 is provided below in Table 9.

Table 9 - Summary of Sr-90 Analysis Results for Surface Soil Samples Comprising the Statistical Sample Population	
Sample Number	Sr-90 pCi/g
9804-0000-027F	5.12E-2

The “sum-of-fractions” or “unity rule” is the mathematical test used to evaluate compliance with radiological criteria for license termination when more than one radionuclide has been determined to be potentially present. The unity rule is:

Equation 3

$$\frac{C_1}{DCGL_1} + \frac{C_2}{DCGL_2} + \dots + \frac{C_n}{DCGL_n} \leq 1$$

Where: C_n = concentration of radionuclide n and
 $DCGL_n$ = DCGL of radionuclide n .

The results of the unity rule calculation for the radionuclides of concern in the statistical sample population for Survey Unit 9522-0003 are provided in Table 10 below.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

**Table 10 – Results of Unity Calculation for Subsurface Soil Samples
Comprising the Statistical Sample Population ⁽³⁾**

Sample Number	Fraction of the Operational DCGL ⁽¹⁾		Unity
	Cs-137 ⁽²⁾	Co-60	
9804-0000-001F	-	-	-
9804-0000-002F	0.01	-	0.01
9804-0000-003F	0.01	-	0.01
9804-0000-004F	-	-	-
9804-0000-005F	-	-	-
9804-0000-006F	-	-	-
9804-0000-007F	-	-	-
9804-0000-008F	-	-	-
9804-0000-009F	-	-	-
9804-0000-0010F	0.01	-	0.01
9804-0000-0011F	0.01	-	0.01
9804-0000-0012F	-	-	-
9804-0000-0013F	-	-	-
9804-0000-0014F	-	-	-
9804-0000-0015F	-	-	-
9804-0000-0016F	-	-	-
9804-0000-0017F	-	-	-
9804-0000-0019F	0.01	-	0.01
9804-0000-0020F	-	0.02	0.02
9804-0000-0021F	-	-	-
9804-0000-0022F	0.01	-	0.01
9804-0000-0023F	0.01	-	0.01
9804-0000-0025F	0.01	-	0.01
9804-0000-0026F	0.01	-	0.01
9804-0000-0027F	0.01	-	0.01
9804-0000-0028F	-	-	-

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Table 10 – (continued)			
Sample Number	Fraction of the Operational DCGL⁽¹⁾		Unity
	Cs-137⁽²⁾	Co-60	
9804-0000-0029F	0.01	-	0.01
9804-0000-0030F	0.01	-	0.01
9804-0000-0036F	-	-	-
9804-0000-0037F	-	-	-
9804-0000-0038F	-	-	-

(1) The Operational DCGL is 4.75 pCi/g for Cs-137 and 2.29 pCi/g for Co-60 to achieve fifteen (15) mrem/yr TEDE respectively.

(2) The Operational DCGL for Cs-137 has been adjusted to 3.85 pCi/g as a surrogate to account for the potential presence of HTD radionuclide Sr-90 and H-3.

(3) Blank cells indicate that the radionuclide was not positively detected in the sample

Four (4) biased judgmental subsurface soil samples were collected. The judgmental soil samples were analyzed for Cs-137 and Co-60 in accordance with the DQOs used during the survey design. The samples are denoted as shown in location Table 6, with the sample results shown in Table 11 below.

Table 11 - Judgmental Sample Results ⁽³⁾			
Sample Number	Cs-137 ⁽²⁾ pCi/g	Co-60 pCi/g	Fraction of the Operational DCGL ⁽¹⁾
9804-0000-032B	7.80E-03	1.24E-02	-
9804-0000-033B	1.15E-01	9.66E-03	0.03
9804-0000-034B	1.41E-02	7.39E-03	-
9804-0000-035B	5.77E-02	2.48E-02	0.01

(1) The Operational DCGL is 4.75 pCi/g for Cs-137 and 2.29 pCi/g for Co-60 to achieve fifteen (15) mrem/yr TEDE respectively.

(2) The Operational DCGL for Cs-137 has been adjusted to 3.85 pCi/g as a surrogate to account for the potential presence of HTD radionuclide Sr-90 and H-3.

(3) Blank cells indicate that the radionuclide was not positively detected in the sample

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

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*".

Cs-137 was not detected in sufficient quantities in the field split results at locations 9804-0000-007 or 9804-0000-028 to evaluate in accordance with procedure. Evaluation using the reported results for naturally occurring K-40 resulted in acceptable agreement between the field-split results at these locations.

The sample analysis vendor, GEL, maintains quality control and quality assurance plans as part of normal operation. Refer to Attachment 3 for data and data quality analysis results.

8. INVESTIGATIONS AND RESULTS

No investigations were conducted within this survey unit.

9. REMEDIATION AND RESULTS

Significant remediation activities occurred in this survey unit prior to FSS. All above grade and below grade commodities and facility systems were removed and properly dispositioned. Contaminated soils were identified, excavated and removed as part of the "Zone 12" and "Excavation 7" remediation projects which occurred in this survey area. All excavations were characterized and backfilled with "clean" fill prior to performing FSS. As a byproduct of remediation activities, the ground area is comprised of barren dirt with no vegetation, and the soils have been graded relatively flat to the corresponding elevation of the survey units to the north and west. The majority of the southeastern half of the ground in this survey unit is comprised of stone from the ledge outcroppings along the eastern ridge. 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 is unnecessary and that the remaining residual radioactivity in soil was ALARA.

10. CHANGES FROM THE FINAL STATUS SURVEY PLAN

During the performance of the survey, it was discovered that three (3) of the thirty-one (31) sample locations identified for non-parametric testing were deemed to be inaccessible. The three (3) locations identified were 9804-0000-018F, 9804-0000-024F and 9804-0000-031F. Subsequently, three (3) additional sample measurement locations (9804-0000-036F, 9804-0000-037F and 9804-0000-038F) were designated to replace the locations that are deemed to be inaccessible. This was accomplished through an addendum to the FSS Plan. In

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

addition, sample 9804-0000-019F was relocated approximately three feet to the west of its designed location due to the presence of a rock ledge.

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 evaluation of the Sign Test results demonstrates that the survey unit passes the unrestricted release criteria, thus, the null hypothesis is rejected.

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 A.

The preliminary data review consisted of calculating basic statistical quantities (e.g., mean, median, standard deviation). The mean and median values are well below the Operational DCGL. 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 unrestricted release criteria with adequate power as required by the DQOs. The basic statistical quantities for the statistical sample population are provided below in Table 12.

Table 12 – Basic Statistical Quantities for Cs-137 and Co-60 from the Final Status Survey		
	Cs-137 pCi/g	Co-60 pCi/g
DCGL _{op} :	3.85E+00	2.29E+00
Minimum Value:	-1.02E-02	-1.88E-02
Maximum Value:	7.43E-02	3.89E-02
Mean:	2.12E-02	2.64E-03
Median:	1.78E-02	3.33E-03
Standard Deviation:	1.93E-02	1.21E-02

For Cs-137, the range of the data, about four (4) standard deviations, was not a particularly large variation considering that the levels were essentially at existing environmental levels where such variation is to be expected. The difference between the mean and median was about 18% of the standard deviation which indicates some skewness in the data. The data was represented graphically through posting plots, a frequency plot, and a quantile plot. The frequency plot indicates positive skewness as confirmed by the calculated skew of 0.73.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

Co-60, although included in the FSS plan for compliance purposes, was positively identified in only one (1) of the thirty-one (31) samples collected for non-parametric statistical testing. Data assessment and graphical representation of Co-60 was not considered useful given the limited number of data points to represent the distribution.

All data, assessments, and graphical representations are provided in Attachment 4.

12. ANOMALIES

No anomalies were noted.

13. CONCLUSION

Subsurface soils Survey Unit 9804-0000 has met the final DQOs of the FSS plan. The ALARA criteria for soils as specified in Chapter 4 of the LTP were achieved. Elevated Measurement Comparison was not required.

Cs-137 was used for statistical testing to determine the adequacy of the survey unit for FSS.

The sample data passed the Sign Test. The null hypothesis was rejected. The Retrospective Power Curve generated using COMPASS shows adequate power was achieved. The survey unit is properly designated as Class A.

The dose contribution from soil is 0.10 mrem/yr TEDE based on the average radionuclide concentrations in the samples used for non-parametric statistical sampling.

This survey area is affected by existing groundwater (reference CY memo ISC 06-024); therefore the dose contribution from existing groundwater is bounded at two (2) mrem/yr TEDE.

This survey unit is considered impacted by future groundwater radioactive contamination, as there are underground foundations 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 bounded by two (2) mrem/yr TEDE.

The average total dose from residual radioactivity in this survey unit, including exposures from the three (3) components as described in Section 3, 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, will not exceed 4.10 mrem/yr TEDE. Therefore, Survey Unit 9804-0000 is acceptable for unrestricted release.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

14. ATTACHMENTS

14.1 Attachment 1 – Survey Unit Location Map

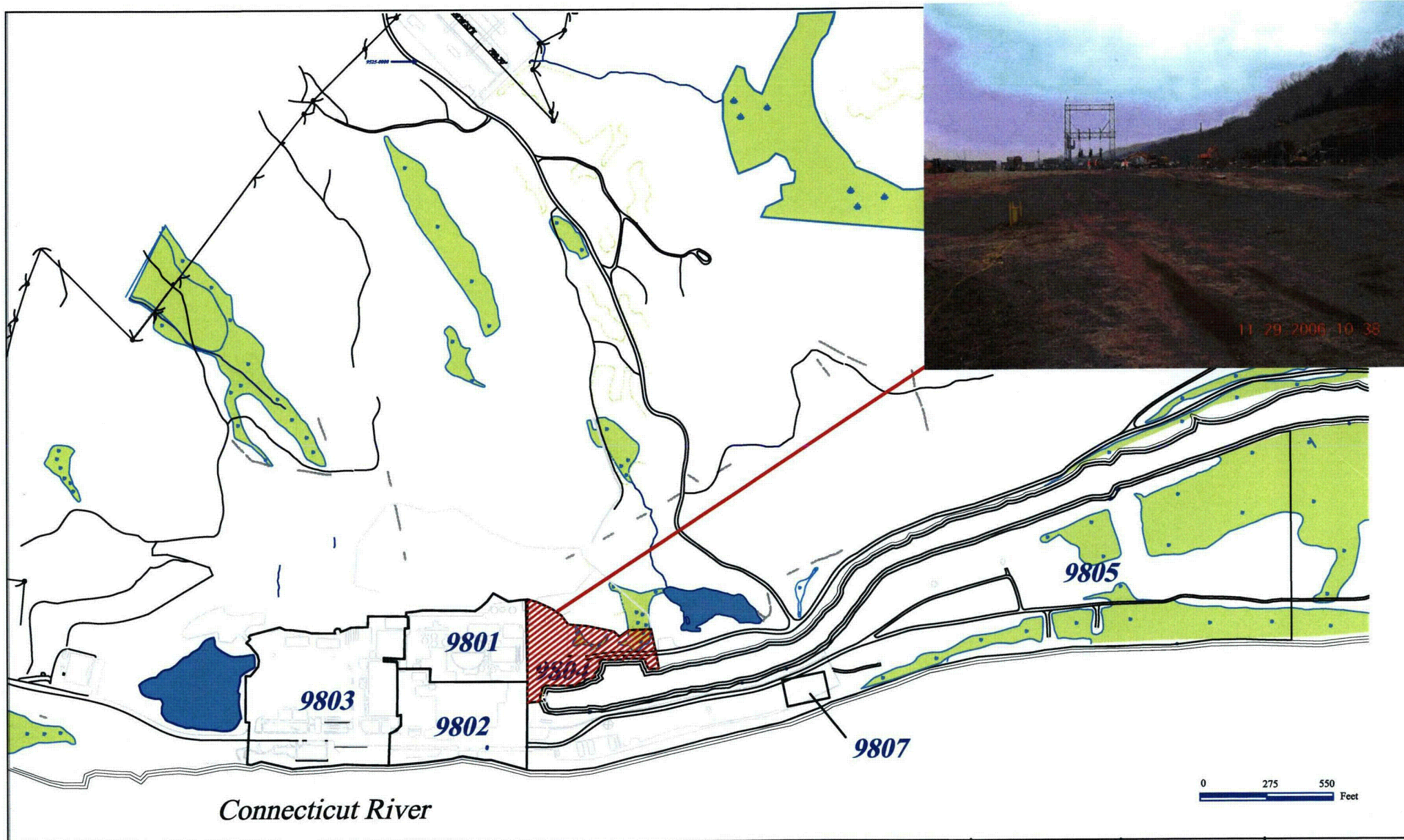
14.3 Attachment 2 – Laboratory Results

14.4 Attachment 3 – DQA Results

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

ATTACHMENT 1 (FIGURES)




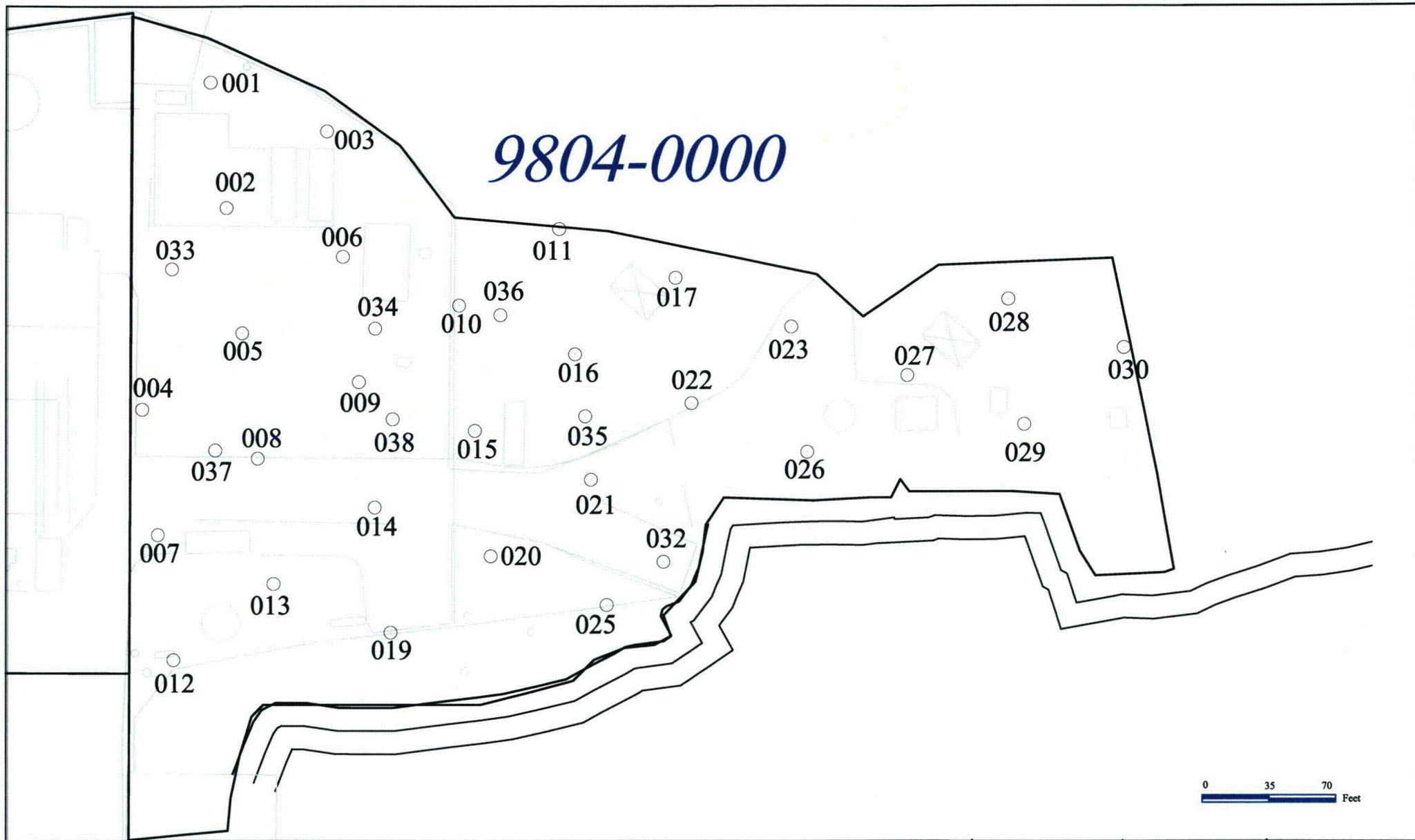
Plant
North



CONNECTICUT YANKEE ATOMIC POWER COMPANY
GENERAL ARRANGEMENT DRAWING
Subsurface Survey Unit 9804-0000



Date:	December 2006	LEGEND  = Survey Unit
Revised By:	R Massengill	
Release Record #:	9804-0000	
Revision #:	0	
Map #:	Figure 1	



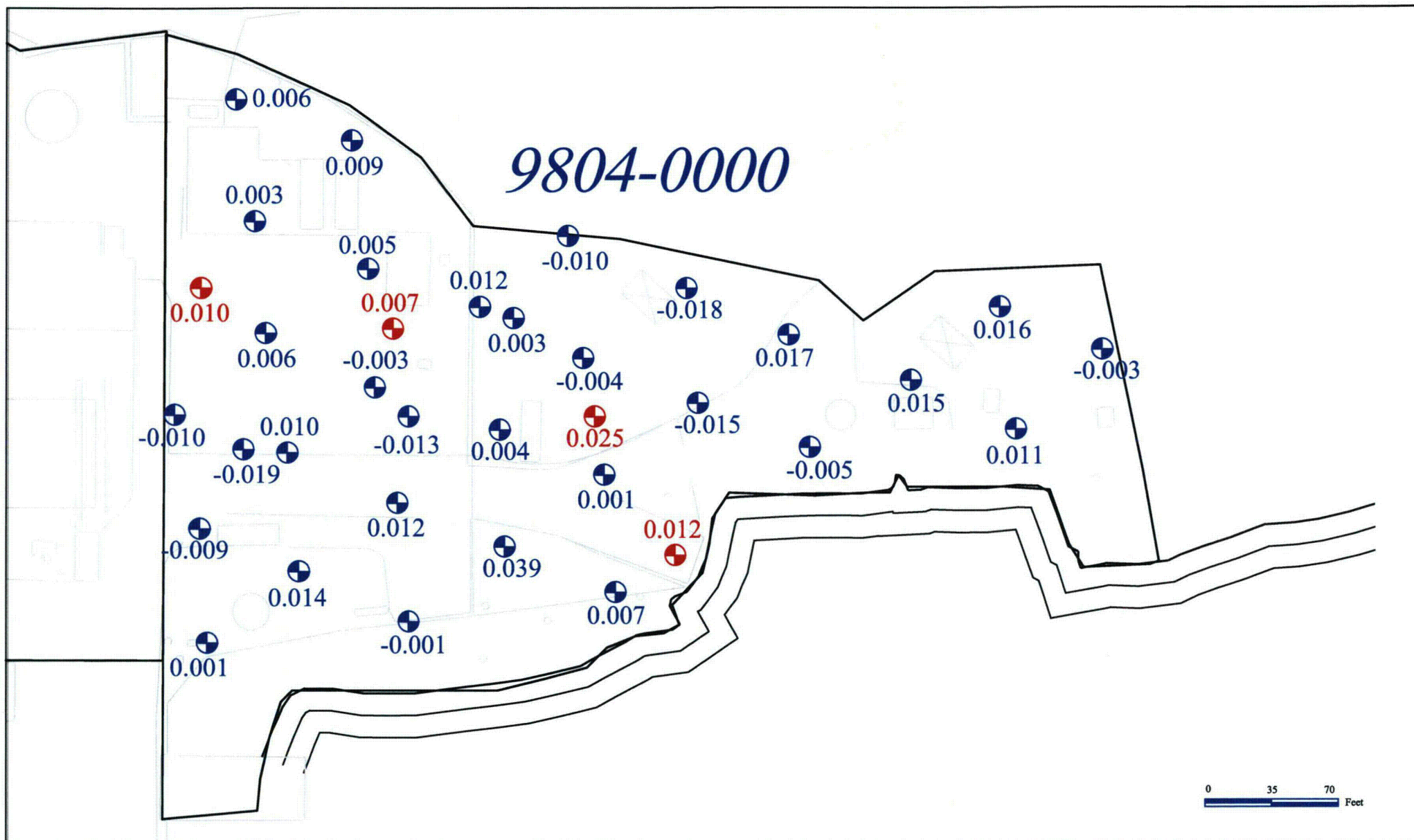
Plant
North



CONNECTICUT YANKEE ATOMIC POWER COMPANY
GENERAL ARRANGEMENT DRAWING
Subsurface Sample Locations



Date:	December 2006	LEGEND = Sample Location
Revised By:	R Massengill	
Release Record #:	9804-0000	
Revision #:	0	
Map #:	Figure 2	



0 35 70 Feet



Plant
North



CONNECTICUT YANKEE ATOMIC POWER COMPANY
GENERAL ARRANGEMENT DRAWING
Cobalt-60 Subsurface Soil Sample Results in ρ Ci/g



Date:	December 2006	LEGEND • = Non-parametric Testing Location Sample Result • = Biased Location Sample Result
Revised By:	R Massengill	
Release Record #:	9804-0000	
Revision #:	0	
Map #:	Figure 4	

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

ATTACHMENT 2 (LABORATORY DATA)

General Narrative

**General Narrative
for
Connecticut Yankee Atomic Power Co.
Work Order: 177084
SDG: MSR#06-1517**

December 08, 2006

Laboratory Identification:

General Engineering Laboratories, LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt

The samples arrived at General Engineering Laboratories, LLC, Charleston, South Carolina on December 05, 2006 for analysis. Shipping container temperatures were checked, documented, and within specifications. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage.

Sample Identification The laboratory received the following samples:

<u>Laboratory Identification</u>	<u>Sample Description</u>
177084001	9804-0000-013F
177084002	9804-0000-020F
177084003	9804-0000-002F
177084004	9804-0000-012F
177084005	9804-0000-003F
177084006	9804-0000-019F
177084007	9804-0000-001F
177084008	9804-0000-021F
177084009	9804-0000-026F
177084010	9804-0000-016F
177084011	9804-0000-035F
177084012	9804-0000-030F
177084013	9804-0000-029F
177084014	9804-0000-036F
177084015	9804-0000-038F
177084016	9804-0000-022F
177084017	9804-0000-010F
177084018	9804-0000-009F
177084019	9804-0000-014F
177084020	9804-0000-025F
177084021	9804-0000-032F
177084022	9804-0000-028F
177084023	9804-0000-015F
177084024	9804-0000-023F
177084025	9804-0000-017F

177084026	9804-0000-028FS
177084027	9804-0000-011F
177084028	9804-0000-027F
177084029	9804-0000-004F
177084030	9804-0000-007F
177084031	9804-0000-007FS
177084032	9804-0000-037F
177084033	9804-0000-033F
177084034	9804-0000-006F
177084035	9804-0000-034F
177084036	9804-0000-008F
177084037	9804-0000-005F

Items of Note

There are 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 contained in the analytical case narratives in the enclosed data package.

Analytical Request

Thirty-five soil samples were analyzed for FSSGAM. Two soil samples were analyzed for FSSALL.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, Data Review Qualifier Definitions, and data from the following fractions: Radiochemistry.

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

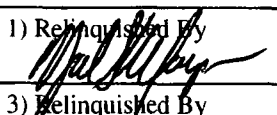
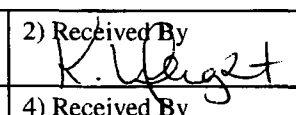
List of current GEL Certifications as of 08 December 2006

State	Certification
Alaska	UST-062
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California	01151CA
Colorado	GenEngLabs
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA	WG-15J
Florida/NELAP	E87156
Georgia	E87156 (FL/NELAP)
Hawaii	N/A
Idaho	N/A
Illinois	200029
Indiana	C-SC-01
Kansas	E-10332
Kentucky	90129
Louisiana	03046
Maryland	270
Massachusetts	M-SC012
Michigan	9903
Nevada	SC12
New Jersey	SC002
New Mexico	FL NELAP E87156
New York	11501
North Carolina	233
North Carolina Drinking W	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania	68-00485
South Carolina	10120001/10585001/10120002
Tennessee	02934
Texas	TX213-2006A
Texas NELAP	T104704235-06-TX
U.S. Dept. of Agriculture	S-52597
US Army Corps of Engineer	N/A
Utah	8037697376 GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

Chain of Custody and Supporting Documentation

9

Connecticut Yankee Atomic Power Company						Chain of Custody Form							No. 2006-00695	
362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556														
Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size & Type Code	Analyses Requested						Lab Use Only		
Contact Name & Phone: Art Hammond 860-267-2556 x 3118						FSSGAM	FSSALL	FSSHDT	FSSTRU	FSSOTHR	H-3, Sr-90	Comments: 177084		
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input checked="" type="checkbox"/> 7 D. Other:														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9804-0000-026F	11/28/06	1505	TS	C	BP	X								
9804-0000-016F	11/29/06	1000	TS	C	BP	X								
9804-0000-035F	11/29/06	0945	TS	C	BP	X								
9804-0000-030F	11/29/06	0805	TS	C	BP	X								
9804-0000-029F	11/29/06	0755	TS	C	BP	X								
9804-0000-036F	11/29/06	1131	TS	C	BP		X				RDL'S: Sr-90: 0.025pCi/g, H-3: 3.0pCi/g			
9804-0000-038F	11/29/06	1500	TS	C	BP	X								
9804-0000-022F	11/29/06	0829	TS	C	BP	X								
NOTES: PO #: 002332 MSR #: 06-1517 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA FSSP 9804-0000 Shipping weight:						Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other:						Internal Container Temp.: 12 Deg. C Custody Sealed? Y N Custody Seal Intact? Y N		
1) Relinquished By [Signature]			Date/Time 11/29/06 @ 1500			2) Received By [Signature]			Date/Time 12/5/06 1015			Bill of Lading #		
3) Relinquished By			Date/Time			4) Received By			Date/Time					
5) Relinquished By			Date/Time			6) Received By			Date/Time					

Connecticut Yankee Atomic Power Company						Chain of Custody Form						No. 2006-00695			
362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556															
Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- & Type Code	Analyses Requested						Lab Use Only			
Contact Name & Phone: Art Hammond 860-267-2556 x 3118						FSSGAM	FSSALL	FSSHTD	FSSSTRU	FSSOTHR	H-3, Sr-90	Comments: <div>177084</div>			
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)															
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input checked="" type="checkbox"/> 7 D. Other:															
Sample Designation	Date	Time										Comment, Preservation	Lab Sample ID		
9804-0000-010F	11/29/06	1311	TS	C	BP	X									
9804-0000-009F	11/29/06	1530	TS	C	BP	X									
9804-0000-014F	11/29/06	1320	TS	C	BP	X									
9804-0000-025F	11/29/06	1435	TS	C	BP	X									
9804-0000-032F	11/29/06	1442	TS	C	BP	X									
9804-0000-028F	11/29/06	1035	TS	C	BP	X									
9804-0000-015F	11/29/06	1015	TS	C	BP	X									
9804-0000-023F	11/29/06	1053	TS	C	BP	X									
NOTES: PO #: 002332 MSR #: 06-1517 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA FSSP 9804-0000 Shipping weight:												Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other:		Internal Container Temp.: 12 Deg. C Custody Sealed? Y <input checked="" type="checkbox"/> N Custody Seal Intact? Y N	
1) Relinquished By 			Date/Time 11/30/06 @ 1500			2) Received By 			Date/Time 12/5/06 1015			Bill of Lading #			
3) Relinquished By			Date/Time			4) Received By			Date/Time						
5) Relinquished By			Date/Time			6) Received By			Date/Time						

Connecticut Yankee Atomic Power Company						Chain of Custody Form							No. 2006-00695	
362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556														
Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size-Type & Type Code	Analyses Requested						Lab Use Only		
Contact Name & Phone: Art Hammond 860-267-2556 x 3118						FSSGAM	FSSALL	FSSH TD	FSS TRU	FSS OTHR	H-3, Sr-90	Comments: <div style="text-align: right;">177084</div>		
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input checked="" type="checkbox"/> 7 D. Other:														
Sample Designation	Date	Time										Comment, Preservation	Lab Sample ID	
9804-0000-017F	11/29/06	1105	TS	C	BP	X								
9804-0000-028FS	11/29/06	1035	TS	C	BP	X								
9804-0000-011F	11/29/06	1120	TS	C	BP	X								
9804-0000-027F	11/29/06	0817	TS	C	BP		X					RDL'S: Sr-90: 0.025pCi/g, H-3: 3.0pCi/g		
9804-0000-004F	11/30/06	0952	TS	C	BP	X								
9804-0000-007F	11/30/06	1005	TS	C	BP	X								
9804-0000-007FS	11/30/06	1005	TS	C	BP	X								
9804-0000-037F	11/30/06	0940	TS	C	BP	X								
NOTES: PO #: 002332 MSR #: 06-1517 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA FSSP 9804-0000 Shipping weight:														
1) Relinquished By _____ Date/Time _____			2) Received By _____ Date/Time _____			Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other: _____ Bill of Lading # _____			Internal Container Temp.: <u>72</u> Deg. C Custody Sealed? Y <u>N</u> Custody Seal Intact? Y N					
3) Relinquished By _____ Date/Time _____			4) Received By _____ Date/Time _____											
5) Relinquished By _____ Date/Time _____			6) Received By _____ Date/Time _____											

Connecticut Yankee Atomic Power Company 362 Injun Hollow Road, East Hampton, CT 06424 860-267-2556						Chain of Custody Form						No. 2006-00695		
Project Name: Haddam Neck Decommissioning			Media Code	Sample Type Code	Container Size- &Type Code	Analyses Requested						Lab Use Only		
Contact Name & Phone: Art Hammond 860-267-2556 x 3118						FSSGAM	FSSALL	FSSHTD	FSSSTRU	FSSOTHR	H-3, Sr-90	Comments: <div style="text-align: center; font-size: 1.5em;">177084</div>		
Analytical Lab (Name, City, State): General Engineering Laboratories 2040 Savage Road Charleston, SC 29407 ATT: Cheryl Jones (843-556-8171)														
Priority: <input type="checkbox"/> 30 D. <input type="checkbox"/> 14 D. <input checked="" type="checkbox"/> 7 D. Other:														
Sample Designation	Date	Time									Comment, Preservation	Lab Sample ID		
9804-0000-033F	11/30/06	0756	TS	C	BP	X								
9804-0000-006F	11/30/06	0738	TS	C	BP	X								
9804-0000-034F	11/30/06	0720	TS	C	BP	X								
9804-0000-008F	11/30/06	0825	TS	C	BP	X								
9804-0000-005F	11/30/06	0811	TS	C	BP	X								
NOTES: PO #: 002332 MSR #: 06-1517 <input checked="" type="checkbox"/> LTP QA <input type="checkbox"/> Radwaste QA <input type="checkbox"/> Non QA FSSP 9804-0000 Shipping weight:											Samples Shipped Via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Hand <input type="checkbox"/> Other:		Internal Container Temp.: <u>12</u> Deg. C Custody Sealed? Y <u>N</u> Custody Seal Intact? Y N	
1) Relinquished By 			Date/Time <u>11/30/06 @ 1500</u>		2) Received By 			Date/Time <u>12/5/06 1015</u>			Bill of Lading #			
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: 12/5/06 1015

SDG#: MSR#06-1517, MSR#06-1519

Work Order Number: 177084, 177087

Shipping Container ID: see cont. sheet Chain of Custody #: see cont. sheet

1. Custody Seals on shipping container intact? Yes ☐ No ☐ NA
2. Custody Seals dated and signed? Yes ☐ No ☐ NA
3. Chain-of-Custody record present? Yes ☒ No ☐
4. Cooler temperature see cont sheet
5. Vermiculite/packing materials is: Wet ☐ Dry ☐ NA
6. Number of samples in shipping container: 55 bta1
7. Sample holding times exceeded? Yes ☐ No ☒

8. Samples have:

☒ tape ☐ hazard labels
☒ custody seals ☒ appropriate sample labels

9. Samples are:

☒ in good condition ☐ leaking
☐ broken ☐ have air bubbles

10. Were any anomalies identified in sample receipt? Yes ☐ No ☒

11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: K. W. Lagitt Date: 12/5/06

Telephoned to: _____ On _____ By _____



SAMPLE RECEIPT & REVIEW FORM

PM use only

Client: <u>Conn. Vank</u>	SDG/ARCOC/Work Order: <u>177084, 177087</u>
Date Received: <u>12/5/06</u>	PM(A) Review (ensure non-conforming items are resolved prior to signing):
Received By: <u>[Signature]</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	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>cpm 20</u>
B PCB Regulated?	/			
C Shipped as DOT Hazardous Material? If yes, contact Waste Manager or ESH Manager.	/			Hazard Class Shipped: UN#:
D Regulated as a Foreign Soil?	/			
PM (or PMA) review of Hazard classification:				Initials <u>CD</u> Date: <u>12/6/06</u>



SAMPLE RECEIPT & REVIEW FORM CONTINUATION FORM

Client:

Date Received:

Chains:

2006-00693

2006-00694

2006-00695

~~2006-00696~~

Fed ex #5

Temp:

7985 5544 5873

12

7985 5544 5862

7901 2861 4738

7985 5544 5884

7901 2861 4716

7985 5544 5851

Data Review Qualifier Definitions

Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or
MDL/IDL < sample value < PQL
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative
identification of the analyte (TIC). Quantitation is based on nearest internal standard
response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration
by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Connecticut Yankee Atomic Power Co. (YANK)
Work Order 177084**

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: 593610
Prep Batch Number: 593155
Dry Soil Prep GL-RAD-A-021 Batch Number: 593151

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201241516	Method Blank (MB)
1201241517	177084014(9804-0000-036F) Sample Duplicate (DUP)
1201241518	177084014(9804-0000-036F) Matrix Spike (MS)
1201241519	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: 177084014 (9804-0000-036F).

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. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201241517 (9804-0000-036F) and 177084014 (9804-0000-036F), did not meet the relative percent difference requirement for Am-241, however they do meet the relative error ratio requirement with a value of 1.47.

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:	593611
Prep Batch Number:	593155
Dry Soil Prep GL-RAD-A-021 Batch Number:	593151

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201241524	Method Blank (MB)
1201241525	177084014(9804-0000-036F) Sample Duplicate (DUP)
1201241526	177084014(9804-0000-036F) Matrix Spike (MS)
1201241527	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: 177084014 (9804-0000-036F).

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. A nonconformance report (NCR) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The sample and the duplicate, 1201241525 (9804-0000-036F) and 177084014 (9804-0000-036F), did not meet the relative percent difference requirement for Pu-239/240, however they do meet the relative error ratio requirement with a value of 1.61.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information**Product:**

Liquid Scint Pu241, 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:

593612

Prep Batch Number:

593155

Dry Soil Prep GL-RAD-A-021 Batch Number: 593151

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201241528	Method Blank (MB)
1201241529	177084014(9804-0000-036F) Sample Duplicate (DUP)
1201241530	177084014(9804-0000-036F) Matrix Spike (MS)
1201241531	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# 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: 177084014 (9804-0000-036F).

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. A nonconformance report (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 226 Ingrowth Waived
Analytical Method: EML HASL 300, 4.5.2.3
Prep Method: Dry Soil Prep
Analytical Batch Number: 593222
Prep Batch Number: 593151

Sample ID	Client ID
177084001	9804-0000-013F
177084002	9804-0000-020F
177084003	9804-0000-002F
177084004	9804-0000-012F
177084005	9804-0000-003F
177084006	9804-0000-019F
177084007	9804-0000-001F
177084008	9804-0000-021F
177084009	9804-0000-026F
177084010	9804-0000-016F
177084011	9804-0000-035F
177084012	9804-0000-030F
177084013	9804-0000-029F
177084014	9804-0000-036F
177084015	9804-0000-038F
177084016	9804-0000-022F
177084017	9804-0000-010F
177084018	9804-0000-009F
177084019	9804-0000-014F
177084020	9804-0000-025F
1201240646	Method Blank (MB)
1201240647	177084001(9804-0000-013F) Sample Duplicate (DUP)
1201240648	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# 13.

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: 177084001 (9804-0000-013F).

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. A nonconformance report (NCR) was not generated for this SDG.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high peak-width.	Cesium-137	177084010
UI	Data rejected due to low abundance.	Cesium-134	177084004
			177084005
			177084007
			177084009
			177084010
			177084012
			177084014
			177084015
			177084020
			1201240647
		Europium-152	177084004
		Lead-214	1201240646

UI	Data rejected due to no valid peak.	Americium-241	177084015
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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: 593223

Prep Batch Number: 593152

Sample ID	Client ID
177084021	9804-0000-032F
177084022	9804-0000-028F
177084023	9804-0000-015F
177084024	9804-0000-023F
177084025	9804-0000-017F
177084026	9804-0000-028FS
177084027	9804-0000-011F
177084028	9804-0000-027F
177084029	9804-0000-004F
177084030	9804-0000-007F
177084031	9804-0000-007FS
177084032	9804-0000-037F
177084033	9804-0000-033F
177084034	9804-0000-006F
177084035	9804-0000-034F
177084036	9804-0000-008F
177084037	9804-0000-005F
1201240649	Method Blank (MB)
1201240650	177084037(9804-0000-005F) Sample Duplicate (DUP)
1201240651	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# 13.

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: 177084037 (9804-0000-005F).

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. A nonconformance report (NCR) was not generated for this SDG.

Additional Comments

The sample and the duplicate, 1201240650 (9804-0000-005F) and 177084037 (9804-0000-005F), for TI-208 did not meet the relative percent difference requirement, however they do meet the relative error ratio requirement with value of 1.30991.

Qualifier information

Qualifier	Reason	Analyte	Sample
UI	Data rejected due to high peak-width.	Bismuth-212	177084031
		Cesium-137	177084029
			177084034
UI	Data rejected due to low abundance.	Cesium-134	177084021
			177084027
			177084029
			177084034
			177084035
			177084036

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:

593221

Prep Batch Number: 593155
Dry Soil Prep GL-RAD-A-021 Batch Number: 593151

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201240642	Method Blank (MB)
1201240643	177087006(9522-0005-005F) Sample Duplicate (DUP)
1201240644	177087006(9522-0005-005F) Matrix Spike (MS)
1201240645	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# 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: 177087006 (9522-0005-005F).

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. A nonconformance report (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: 593284

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201240789	Method Blank (MB)
1201240790	177084014(9804-0000-036F) Sample Duplicate (DUP)
1201240791	177084014(9804-0000-036F) Matrix Spike (MS)
1201240792	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# 13.

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: 177084014 (9804-0000-036F).

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. A nonconformance report (NCR) was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	Liquid Scint Fe55, Solid-ALL FSS
Analytical Method:	DOE RESL Fe-1, Modified
Prep Method:	Ash Soil Prep
Dry Soil Prep GL-RAD-A-021 Method:	Dry Soil Prep
Analytical Batch Number:	593478
Prep Batch Number:	593155
Dry Soil Prep GL-RAD-A-021 Batch Number:	593151

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201241221	Method Blank (MB)
1201241222	177084014(9804-0000-036F) Sample Duplicate (DUP)
1201241223	177084014(9804-0000-036F) Matrix Spike (MS)
1201241224	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: 177084014 (9804-0000-036F).

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. A nonconformance report (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:	593479
Prep Batch Number:	593155
Dry Soil Prep GL-RAD-A-021 Batch Number:	593151

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201241225	Method Blank (MB)
1201241226	177084014(9804-0000-036F) Sample Duplicate (DUP)
1201241227	177084014(9804-0000-036F) Matrix Spike (MS)
1201241228	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# 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: 177084014(9804-0000-036F).

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. A nonconformance report (NCR) was not generated for this SDG.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: LSC, Tritium Dist, Solid - 3 pCi/g

Analytical Method: EPA 906.0 Modified

Analytical Batch Number: 593291

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201240803	Method Blank (MB)
1201240804	177087014(9522-0005-013F) Sample Duplicate (DUP)

1201240805 177087014(9522-0005-013F) Matrix Spike (MS)
1201240806 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# 13.

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: 177087014(9522-0005-013F).

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. A nonconformance report (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: 593288

Sample ID	Client ID
177084014	9804-0000-036F
177084028	9804-0000-027F
1201240796	Method Blank (MB)
1201240797	177084014(9804-0000-036F) Sample Duplicate (DUP)
1201240798	177084014(9804-0000-036F) Matrix Spike (MS)
1201240799	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: 177084014 (9804-0000-036F).

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. A nonconformance report (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:

Reviewer/Date: _____

 12/12/20

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#06-1517 GEL Work Order: 177084

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- ND The analyte concentration is not detected above the detection limit.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure.

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.

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-013F
Sample ID: 177084001
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 6.45%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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Rad Gamma Spec Analysis

*Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth
Waived*

Actinium-228		0.669	+/-0.188	0.0565	+/-0.188	0.122	pCi/g						
Americium-241	U	-0.0958	+/-0.0731	0.0625	+/-0.0731	0.128	pCi/g		MJH1	12/07/06	1115	593222	
Bismuth-212		0.547	+/-0.322	0.140	+/-0.322	0.297	pCi/g						
Bismuth-214		0.604	+/-0.103	0.0333	+/-0.103	0.0706	pCi/g						
Cesium-134	U	0.0294	+/-0.0239	0.0219	+/-0.0239	0.0465	pCi/g						
Cesium-137	U	-0.000496	+/-0.0214	0.0182	+/-0.0214	0.0387	pCi/g						
Cobalt-60	U	0.0141	+/-0.0184	0.0151	+/-0.0184	0.0338	pCi/g						
Europium-152	U	-0.0214	+/-0.053	0.0457	+/-0.053	0.0959	pCi/g						
Europium-154	U	-0.0516	+/-0.0592	0.045	+/-0.0592	0.0998	pCi/g						
Europium-155	U	0.0129	+/-0.0575	0.051	+/-0.0575	0.105	pCi/g						
Lead-212		0.680	+/-0.0829	0.0273	+/-0.0829	0.0567	pCi/g						
Lead-214		0.726	+/-0.106	0.0313	+/-0.106	0.0659	pCi/g						
Manganese-54	U	0.00152	+/-0.020	0.0169	+/-0.020	0.0361	pCi/g						
Niobium-94	U	-0.0059	+/-0.0183	0.0151	+/-0.0183	0.0323	pCi/g						
Potassium-40		10.5	+/-1.02	0.146	+/-1.02	0.328	pCi/g						
Radium-226		0.604	+/-0.103	0.0333	+/-0.103	0.0706	pCi/g						
Silver-108m	U	0.00287	+/-0.0183	0.0161	+/-0.0183	0.034	pCi/g						
Thallium-208		0.169	+/-0.0509	0.0185	+/-0.0509	0.0392	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-013F
Sample ID: 177084001

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was 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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-020F
Sample ID: 177084002
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 8.13%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.449	+/-0.175	0.0561	+/-0.175	0.112	pCi/g					
Americium-241	U	0.0752	+/-0.0761	0.0605	+/-0.0761	0.121	pCi/g		MJH1	12/07/06	1208	593222
Bismuth-212		0.421	+/-0.333	0.140	+/-0.333	0.280	pCi/g					
Bismuth-214		0.515	+/-0.0905	0.0331	+/-0.0905	0.0661	pCi/g					
Cesium-134	U	0.0338	+/-0.0231	0.0218	+/-0.0231	0.0435	pCi/g					
Cesium-137	U	0.0324	+/-0.0338	0.0243	+/-0.0338	0.0485	pCi/g					
Cobalt-60	U	0.0389	+/-0.0232	0.0208	+/-0.0232	0.0415	pCi/g					
Europium-152	U	-0.0416	+/-0.067	0.0479	+/-0.067	0.0957	pCi/g					
Europium-154	U	0.00727	+/-0.0671	0.0567	+/-0.0671	0.113	pCi/g					
Europium-155	U	0.0619	+/-0.0575	0.0519	+/-0.0575	0.104	pCi/g					
Lead-212		0.674	+/-0.0811	0.0262	+/-0.0811	0.0523	pCi/g					
Lead-214		0.562	+/-0.0908	0.0347	+/-0.0908	0.0693	pCi/g					
Manganese-54	U	0.00829	+/-0.0201	0.0179	+/-0.0201	0.0358	pCi/g					
Niobium-94	U	0.00776	+/-0.0184	0.0165	+/-0.0184	0.033	pCi/g					
Potassium-40		10.6	+/-1.04	0.136	+/-1.04	0.272	pCi/g					
Radium-226		0.515	+/-0.0905	0.0331	+/-0.0905	0.0661	pCi/g					
Silver-108m	U	0.00563	+/-0.0181	0.0159	+/-0.0181	0.0317	pCi/g					
Thallium-208		0.196	+/-0.0506	0.0184	+/-0.0506	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-020F
Sample ID: 177084002

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was 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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-002F
Sample ID: 177084003
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 13.2%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.914	+/-0.174	0.0422	+/-0.174	0.0844	pCi/g					
Americium-241	U	0.113	+/-0.119	0.0975	+/-0.119	0.195	pCi/g					
Bismuth-212		0.477	+/-0.221	0.120	+/-0.221	0.240	pCi/g					
Bismuth-214		0.712	+/-0.0962	0.0271	+/-0.0962	0.0542	pCi/g					
Cesium-134	U	0.0315	+/-0.0251	0.0185	+/-0.0251	0.0369	pCi/g					
Cesium-137		0.0369	+/-0.0298	0.0156	+/-0.0298	0.0313	pCi/g					
Cobalt-60	U	0.00301	+/-0.0175	0.0148	+/-0.0175	0.0295	pCi/g					
Europium-152	U	-0.0416	+/-0.0565	0.0386	+/-0.0565	0.0771	pCi/g					
Europium-154	U	0.0108	+/-0.0523	0.0443	+/-0.0523	0.0886	pCi/g					
Europium-155	U	0.0256	+/-0.0605	0.054	+/-0.0605	0.108	pCi/g					
Lead-212		1.00	+/-0.0965	0.0227	+/-0.0965	0.0453	pCi/g					
Lead-214		0.789	+/-0.0966	0.029	+/-0.0966	0.058	pCi/g					
Manganese-54	U	-0.00487	+/-0.0164	0.014	+/-0.0164	0.0279	pCi/g					
Niobium-94	U	0.0145	+/-0.0157	0.0138	+/-0.0157	0.0275	pCi/g					
Potassium-40		11.3	+/-0.951	0.128	+/-0.951	0.255	pCi/g					
Radium-226		0.712	+/-0.0962	0.0271	+/-0.0962	0.0542	pCi/g					
Silver-108m	U	0.00692	+/-0.0153	0.0134	+/-0.0153	0.0268	pCi/g					
Thallium-208		0.284	+/-0.044	0.0132	+/-0.044	0.0263	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804–0000–002F
Sample ID: 177084003

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol–condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-012F
Sample ID: 177084004
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 6.88%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.644	+/-0.164	0.0584	+/-0.164	0.128	pCi/g						
Americium-241	U	-0.0623	+/-0.0878	0.0703	+/-0.0878	0.146	pCi/g						
Bismuth-212		0.481	+/-0.240	0.132	+/-0.240	0.285	pCi/g						
Bismuth-214		0.560	+/-0.094	0.0331	+/-0.094	0.0708	pCi/g						
Cesium-134	UI	0.00	+/-0.0221	0.0224	+/-0.0221	0.048	pCi/g						
Cesium-137	U	0.00746	+/-0.0215	0.0191	+/-0.0215	0.0409	pCi/g						
Cobalt-60	U	0.000975	+/-0.0251	0.0217	+/-0.0251	0.0476	pCi/g						
Europium-152	UI	0.00	+/-0.0987	0.0472	+/-0.0987	0.0994	pCi/g						
Europium-154	U	-0.0187	+/-0.0617	0.051	+/-0.0617	0.114	pCi/g						
Europium-155	U	-0.0174	+/-0.0547	0.0488	+/-0.0547	0.101	pCi/g						
Lead-212		0.645	+/-0.0802	0.0294	+/-0.0802	0.061	pCi/g						
Lead-214		0.678	+/-0.105	0.0287	+/-0.105	0.0611	pCi/g						
Manganese-54	U	0.0136	+/-0.0208	0.0187	+/-0.0208	0.0403	pCi/g						
Niobium-94	U	0.00371	+/-0.0194	0.0169	+/-0.0194	0.0363	pCi/g						
Potassium-40		10.4	+/-1.13	0.192	+/-1.13	0.428	pCi/g						
Radium-226		0.560	+/-0.094	0.0331	+/-0.094	0.0708	pCi/g						
Silver-108m	U	0.00141	+/-0.0162	0.0145	+/-0.0162	0.031	pCi/g						
Thallium-208		0.221	+/-0.044	0.015	+/-0.044	0.0324	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-012F
Sample ID: 177084004

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-003F
Sample ID: 177084005
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 10.8%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.710	+/-0.173	0.0615	+/-0.173	0.123	pCi/g					
Americium-241	U	0.0694	+/-0.104	0.0854	+/-0.104	0.171	pCi/g					
Bismuth-212		0.512	+/-0.301	0.136	+/-0.301	0.271	pCi/g					
Bismuth-214		0.567	+/-0.108	0.0363	+/-0.108	0.0726	pCi/g					
Cesium-134	UI	0.00	+/-0.0388	0.0238	+/-0.0388	0.0476	pCi/g					
Cesium-137	U	0.0282	+/-0.0267	0.0216	+/-0.0267	0.0431	pCi/g					
Cobalt-60	U	0.00866	+/-0.0237	0.0207	+/-0.0237	0.0413	pCi/g					
Europium-152	U	-0.0263	+/-0.0784	0.0513	+/-0.0784	0.103	pCi/g					
Europium-154	U	0.00685	+/-0.0767	0.056	+/-0.0767	0.112	pCi/g					
Europium-155	U	0.0625	+/-0.063	0.0586	+/-0.063	0.117	pCi/g					
Lead-212		0.768	+/-0.0855	0.0293	+/-0.0855	0.0586	pCi/g					
Lead-214		0.702	+/-0.119	0.038	+/-0.119	0.076	pCi/g					
Manganese-54	U	0.0302	+/-0.0295	0.0193	+/-0.0295	0.0386	pCi/g					
Niobium-94	U	-0.0141	+/-0.0214	0.0171	+/-0.0214	0.0343	pCi/g					
Potassium-40		11.1	+/-1.04	0.150	+/-1.04	0.300	pCi/g					
Radium-226		0.567	+/-0.108	0.0363	+/-0.108	0.0726	pCi/g					
Silver-108m	U	-0.00637	+/-0.0189	0.0162	+/-0.0189	0.0323	pCi/g					
Thallium-208		0.221	+/-0.0471	0.0184	+/-0.0471	0.0368	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	TMB1	12/05/06	1233	593151

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-003F
Sample ID: 177084005

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-019F
Sample ID: 177084006
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 8.18%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.916	+/-0.176	0.057	+/-0.176	0.114	pCi/g						
Americium-241	U	0.0575	+/-0.0899	0.0738	+/-0.0899	0.148	pCi/g						
Bismuth-212		0.452	+/-0.369	0.148	+/-0.369	0.296	pCi/g						
Bismuth-214		0.519	+/-0.0955	0.0369	+/-0.0955	0.0738	pCi/g						
Cesium-134	U	0.0447	+/-0.0323	0.0234	+/-0.0323	0.0468	pCi/g						
Cesium-137	U	0.0331	+/-0.029	0.0192	+/-0.029	0.0384	pCi/g						
Cobalt-60	U	-0.00138	+/-0.0273	0.0195	+/-0.0273	0.0391	pCi/g						
Europium-152	U	-0.0589	+/-0.088	0.0488	+/-0.088	0.0976	pCi/g						
Europium-154	U	-0.0562	+/-0.0709	0.0538	+/-0.0709	0.108	pCi/g						
Europium-155	U	0.0839	+/-0.0953	0.0533	+/-0.0953	0.107	pCi/g						
Lead-212		0.674	+/-0.0818	0.0282	+/-0.0818	0.0563	pCi/g						
Lead-214		0.586	+/-0.109	0.0337	+/-0.109	0.0674	pCi/g						
Manganese-54	U	0.019	+/-0.0235	0.0176	+/-0.0235	0.0351	pCi/g						
Niobium-94	U	0.00674	+/-0.021	0.0181	+/-0.021	0.0362	pCi/g						
Potassium-40		11.6	+/-1.09	0.121	+/-1.09	0.242	pCi/g						
Radium-226		0.519	+/-0.0955	0.0369	+/-0.0955	0.0738	pCi/g						
Silver-108m	U	-0.00355	+/-0.0191	0.0164	+/-0.0191	0.0328	pCi/g						
Thallium-208		0.189	+/-0.0538	0.0191	+/-0.0538	0.0383	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	TMB1	12/05/06	1233	593151

The following Analytical Methods were performed

Method	Description
1	EML HASL 300, 4.5.2.3

Notes:

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-019F
Sample ID: 177084006

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-001F
Sample ID: 177084007
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 13%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.911	+/-0.150	0.0502	+/-0.150	0.108	pCi/g						
Americium-241	U	-0.0139	+/-0.117	0.0933	+/-0.117	0.192	pCi/g						
Bismuth-212		0.673	+/-0.226	0.115	+/-0.226	0.243	pCi/g						
Bismuth-214		0.681	+/-0.0735	0.0284	+/-0.0735	0.0599	pCi/g						
Cesium-134	UI	0.00	+/-0.0301	0.0199	+/-0.0301	0.042	pCi/g						
Cesium-137	U	0.0153	+/-0.0299	0.0159	+/-0.0299	0.0335	pCi/g						
Cobalt-60	U	0.00609	+/-0.018	0.0158	+/-0.018	0.0345	pCi/g						
Europium-152	U	-0.00912	+/-0.0468	0.0394	+/-0.0468	0.0822	pCi/g						
Europium-154	U	0.0542	+/-0.0553	0.0513	+/-0.0553	0.110	pCi/g						
Europium-155	U	0.0734	+/-0.0508	0.0497	+/-0.0508	0.102	pCi/g						
Lead-212		0.957	+/-0.0564	0.0236	+/-0.0564	0.0487	pCi/g						
Lead-214		0.774	+/-0.0896	0.0283	+/-0.0896	0.059	pCi/g						
Manganese-54	U	0.0159	+/-0.0199	0.0137	+/-0.0199	0.0293	pCi/g						
Niobium-94	U	-0.00781	+/-0.0168	0.0139	+/-0.0168	0.0294	pCi/g						
Potassium-40		10.9	+/-0.761	0.123	+/-0.761	0.274	pCi/g						
Radium-226		0.681	+/-0.0735	0.0284	+/-0.0735	0.0599	pCi/g						
Silver-108m	U	0.00175	+/-0.0132	0.0119	+/-0.0132	0.0252	pCi/g						
Thallium-208		0.302	+/-0.0397	0.0149	+/-0.0397	0.0313	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-001F
Sample ID: 177084007

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-021F
Sample ID: 177084008
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 9.82%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.642	+/-0.162	0.0691	+/-0.162	0.150	pCi/g					
Americium-241	U	0.0298	+/-0.0331	0.0284	+/-0.0331	0.0585	pCi/g					
Bismuth-212		0.657	+/-0.361	0.145	+/-0.361	0.314	pCi/g					
Bismuth-214		0.570	+/-0.106	0.0362	+/-0.106	0.0775	pCi/g					
Cesium-134	U	0.0547	+/-0.026	0.026	+/-0.026	0.0555	pCi/g					
Cesium-137	U	0.0171	+/-0.0254	0.0227	+/-0.0254	0.0484	pCi/g					
Cobalt-60	U	0.000988	+/-0.0239	0.0204	+/-0.0239	0.0454	pCi/g					
Europium-152	U	-0.0427	+/-0.0531	0.0448	+/-0.0531	0.095	pCi/g					
Europium-154	U	-0.0409	+/-0.0771	0.0614	+/-0.0771	0.136	pCi/g					
Europium-155	U	0.0488	+/-0.0655	0.0469	+/-0.0655	0.0971	pCi/g					
Lead-212		0.722	+/-0.065	0.0262	+/-0.065	0.0548	pCi/g					
Lead-214		0.562	+/-0.101	0.0346	+/-0.101	0.0731	pCi/g					
Manganese-54	U	0.00863	+/-0.0222	0.0193	+/-0.0222	0.0417	pCi/g					
Niobium-94	U	-0.00652	+/-0.0219	0.018	+/-0.0219	0.0386	pCi/g					
Potassium-40		12.3	+/-0.981	0.164	+/-0.981	0.376	pCi/g					
Radium-226		0.570	+/-0.106	0.0362	+/-0.106	0.0775	pCi/g					
Silver-108m	U	0.000719	+/-0.0181	0.0159	+/-0.0181	0.0339	pCi/g					
Thallium-208		0.227	+/-0.0565	0.018	+/-0.0565	0.0388	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-021F
Sample ID: 177084008

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was 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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-026F
Sample ID: 177084009
Matrix: TS
Collect Date: 28-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 13.2%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.667	+/-0.155	0.0551	+/-0.155	0.121	pCi/g					
Americium-241	U	0.00145	+/-0.0931	0.0726	+/-0.0931	0.151	pCi/g					
Bismuth-212		0.692	+/-0.241	0.122	+/-0.241	0.266	pCi/g					
Bismuth-214		0.469	+/-0.0897	0.031	+/-0.0897	0.0667	pCi/g					
Cesium-134	UI	0.00	+/-0.0583	0.0238	+/-0.0583	0.0507	pCi/g					
Cesium-137	U	0.031	+/-0.0293	0.0165	+/-0.0293	0.0357	pCi/g					
Cobalt-60	U	-0.00488	+/-0.0198	0.0158	+/-0.0198	0.0357	pCi/g					
Europium-152	U	0.0198	+/-0.0476	0.0436	+/-0.0476	0.0921	pCi/g					
Europium-154	U	-0.0481	+/-0.0665	0.050	+/-0.0665	0.111	pCi/g					
Europium-155	U	0.0012	+/-0.052	0.0473	+/-0.052	0.0983	pCi/g					
Lead-212		0.473	+/-0.085	0.0317	+/-0.085	0.0657	pCi/g					
Lead-214		0.548	+/-0.0984	0.0289	+/-0.0984	0.0613	pCi/g					
Manganese-54	U	0.00856	+/-0.0209	0.0188	+/-0.0209	0.0404	pCi/g					
Niobium-94	U	0.00131	+/-0.0192	0.0162	+/-0.0192	0.0348	pCi/g					
Potassium-40		10.3	+/-1.12	0.166	+/-1.12	0.374	pCi/g					
Radium-226		0.469	+/-0.0897	0.031	+/-0.0897	0.0667	pCi/g					
Silver-108m	U	-0.00306	+/-0.0186	0.0141	+/-0.0186	0.0301	pCi/g					
Thallium-208		0.236	+/-0.042	0.0153	+/-0.042	0.0331	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-026F
Sample ID: 177084009

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-016F
Sample ID: 177084010
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 19.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.800	+/-0.194	0.0724	+/-0.194	0.155	pCi/g						
Americium-241	U	-0.0547	+/-0.104	0.0822	+/-0.104	0.170	pCi/g						
Bismuth-212		0.763	+/-0.269	0.132	+/-0.269	0.284	pCi/g						
Bismuth-214		0.671	+/-0.112	0.0311	+/-0.112	0.0666	pCi/g						
Cesium-134	UI	0.00	+/-0.0368	0.0245	+/-0.0368	0.052	pCi/g						
Cesium-137	UI	0.00	+/-0.0425	0.0173	+/-0.0425	0.0371	pCi/g						
Cobalt-60	U	-0.00392	+/-0.0233	0.019	+/-0.0233	0.0421	pCi/g						
Europium-152	U	-0.0151	+/-0.0551	0.0477	+/-0.0551	0.100	pCi/g						
Europium-154	U	0.0153	+/-0.0742	0.0634	+/-0.0742	0.138	pCi/g						
Europium-155	U	0.105	+/-0.0896	0.0515	+/-0.0896	0.107	pCi/g						
Lead-212		0.817	+/-0.0903	0.0291	+/-0.0903	0.0604	pCi/g						
Lead-214		0.649	+/-0.101	0.0364	+/-0.101	0.0763	pCi/g						
Manganese-54	U	-0.0258	+/-0.0211	0.0163	+/-0.0211	0.0353	pCi/g						
Niobium-94	U	0.0041	+/-0.0206	0.0175	+/-0.0206	0.0373	pCi/g						
Potassium-40		14.1	+/-1.40	0.166	+/-1.40	0.373	pCi/g						
Radium-226		0.671	+/-0.112	0.0311	+/-0.112	0.0666	pCi/g						
Silver-108m	U	-0.00308	+/-0.0203	0.0174	+/-0.0203	0.0367	pCi/g						
Thallium-208		0.243	+/-0.050	0.020	+/-0.050	0.0423	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-016F
Sample ID: 177084010

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	A
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-035F
Sample ID: 177084011
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 11.7%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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Rad Gamma Spec Analysis

*Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth
Waived*

Actinium-228		0.471	+/-0.160	0.0803	+/-0.160	0.171	pCi/g						
Americium-241	U	-0.00224	+/-0.0327	0.0292	+/-0.0327	0.0601	pCi/g						
Bismuth-212		0.483	+/-0.375	0.174	+/-0.375	0.368	pCi/g						
Bismuth-214		0.654	+/-0.115	0.0427	+/-0.115	0.0899	pCi/g						
Cesium-134	U	-0.007	+/-0.036	0.0259	+/-0.036	0.0549	pCi/g						
Cesium-137		0.0577	+/-0.0486	0.0222	+/-0.0486	0.047	pCi/g						
Cobalt-60	U	0.0248	+/-0.0258	0.0239	+/-0.0258	0.0519	pCi/g						
Europium-152	U	-0.0254	+/-0.0635	0.0529	+/-0.0635	0.111	pCi/g						
Europium-154	U	0.0257	+/-0.0823	0.0715	+/-0.0823	0.154	pCi/g						
Europium-155	U	0.0434	+/-0.079	0.0493	+/-0.079	0.102	pCi/g						
Lead-212		0.512	+/-0.0749	0.0376	+/-0.0749	0.0774	pCi/g						
Lead-214		0.587	+/-0.0984	0.0377	+/-0.0984	0.0789	pCi/g						
Manganese-54	U	0.0155	+/-0.0257	0.0226	+/-0.0257	0.048	pCi/g						
Niobium-94	U	0.0102	+/-0.0247	0.0217	+/-0.0247	0.0457	pCi/g						
Potassium-40		7.69	+/-0.765	0.215	+/-0.765	0.470	pCi/g						
Radium-226		0.654	+/-0.115	0.0427	+/-0.115	0.0899	pCi/g						
Silver-108m	U	-0.0173	+/-0.0193	0.0164	+/-0.0193	0.0347	pCi/g						
Thallium-208		0.166	+/-0.0509	0.0222	+/-0.0509	0.0467	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-035F
Sample ID: 177084011

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-030F
Sample ID: 177084012
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 15.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.869	+/-0.172	0.0568	+/-0.172	0.124	pCi/g		MJH1	12/07/06	1210	593222	
Americium-241	U	-0.00821	+/-0.0288	0.0225	+/-0.0288	0.0466	pCi/g						
Bismuth-212	U	0.251	+/-0.324	0.149	+/-0.324	0.318	pCi/g						
Bismuth-214		0.615	+/-0.0986	0.034	+/-0.0986	0.0723	pCi/g						
Cesium-134	UI	0.00	+/-0.044	0.0245	+/-0.044	0.0521	pCi/g						
Cesium-137	U	0.0205	+/-0.0204	0.0198	+/-0.0204	0.0421	pCi/g						
Cobalt-60	U	-0.0025	+/-0.0216	0.0177	+/-0.0216	0.0395	pCi/g						
Europium-152	U	-0.0149	+/-0.0486	0.0397	+/-0.0486	0.0841	pCi/g						
Europium-154	U	-0.0089	+/-0.0662	0.0545	+/-0.0662	0.120	pCi/g						
Europium-155	U	0.0247	+/-0.041	0.0385	+/-0.041	0.0798	pCi/g						
Lead-212		0.801	+/-0.0585	0.023	+/-0.0585	0.0482	pCi/g						
Lead-214		0.745	+/-0.087	0.0314	+/-0.087	0.0662	pCi/g						
Manganese-54	U	0.0111	+/-0.0245	0.0211	+/-0.0245	0.0449	pCi/g						
Niobium-94	U	0.0212	+/-0.0323	0.0159	+/-0.0323	0.034	pCi/g						
Potassium-40		11.8	+/-0.976	0.172	+/-0.976	0.385	pCi/g						
Radium-226		0.615	+/-0.0986	0.034	+/-0.0986	0.0723	pCi/g						
Silver-108m	U	0.00717	+/-0.0172	0.0156	+/-0.0172	0.033	pCi/g						
Thallium-208		0.273	+/-0.0439	0.0174	+/-0.0439	0.0371	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-030F
Sample ID: 177084012

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-029F
Sample ID: 177084013
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 17.3%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.400	+/-0.186	0.0821	+/-0.186	0.179	pCi/g					
Americium-241	U	-0.0265	+/-0.0296	0.0249	+/-0.0296	0.0518	pCi/g					
Bismuth-212		0.538	+/-0.367	0.146	+/-0.367	0.319	pCi/g					
Bismuth-214		0.456	+/-0.0982	0.0402	+/-0.0982	0.0863	pCi/g					
Cesium-134	U	0.0291	+/-0.0267	0.0255	+/-0.0267	0.0552	pCi/g					
Cesium-137	U	0.0267	+/-0.0256	0.0244	+/-0.0256	0.0523	pCi/g					
Cobalt-60	U	0.0113	+/-0.0257	0.0226	+/-0.0257	0.0507	pCi/g					
Europium-152	U	-0.0363	+/-0.0511	0.0415	+/-0.0511	0.0891	pCi/g					
Europium-154	U	-0.00869	+/-0.0848	0.0688	+/-0.0848	0.153	pCi/g					
Europium-155	U	0.0423	+/-0.0734	0.0413	+/-0.0734	0.0864	pCi/g					
Lead-212		0.646	+/-0.0636	0.0265	+/-0.0636	0.0556	pCi/g					
Lead-214		0.521	+/-0.0752	0.0338	+/-0.0752	0.072	pCi/g					
Manganese-54	U	0.0101	+/-0.0306	0.0205	+/-0.0306	0.0448	pCi/g					
Niobium-94	U	0.0186	+/-0.0245	0.0226	+/-0.0245	0.0484	pCi/g					
Potassium-40		10.1	+/-1.15	0.222	+/-1.15	0.500	pCi/g					
Radium-226		0.456	+/-0.0982	0.0402	+/-0.0982	0.0863	pCi/g					
Silver-108m	U	0.00466	+/-0.0202	0.0174	+/-0.0202	0.0374	pCi/g					
Thallium-208		0.174	+/-0.048	0.0216	+/-0.048	0.0465	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-029F
Sample ID: 177084013

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was 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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-036F
Sample ID: 177084014
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 14%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.0351	+/-0.202	0.152	+/-0.202	0.465	pCi/g		DXH2	12/08/06	1309	593610	
Curium-242	U	0.00	+/-0.122	0.00	+/-0.122	0.168	pCi/g						
Curium-243/244	U	0.115	+/-0.309	0.221	+/-0.310	0.604	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	-0.0285	+/-0.0645	0.0533	+/-0.0645	0.187	pCi/g		DXH2	12/08/06	1309	593611	
Plutonium-239/240	U	0.0261	+/-0.127	0.096	+/-0.127	0.273	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	-4.41	+/-7.46	6.45	+/-7.46	13.5	pCi/g		DXH2	12/12/06	1112	593612	
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.667	+/-0.147	0.0525	+/-0.147	0.113	pCi/g		MJH1	12/07/06	1218	593222	
Americium-241	U	-0.0162	+/-0.0481	0.0421	+/-0.0481	0.087	pCi/g						
Bismuth-212		0.491	+/-0.225	0.138	+/-0.225	0.291	pCi/g						
Bismuth-214		0.485	+/-0.0916	0.0283	+/-0.0916	0.0601	pCi/g						
Cesium-134	UI	0.00	+/-0.0339	0.0198	+/-0.0339	0.042	pCi/g						
Cesium-137	U	0.0152	+/-0.0355	0.0144	+/-0.0355	0.0308	pCi/g						
Cobalt-60	U	0.00333	+/-0.0179	0.0151	+/-0.0179	0.0334	pCi/g						
Europium-152	U	-0.00984	+/-0.0466	0.0401	+/-0.0466	0.0842	pCi/g						
Europium-154	U	-0.0365	+/-0.0531	0.040	+/-0.0531	0.0885	pCi/g						
Europium-155	U	-0.00277	+/-0.0423	0.0402	+/-0.0423	0.0832	pCi/g						
Lead-212		0.622	+/-0.0693	0.0221	+/-0.0693	0.0461	pCi/g						
Lead-214		0.503	+/-0.081	0.0296	+/-0.081	0.0621	pCi/g						
Manganese-54	U	0.0122	+/-0.0223	0.0157	+/-0.0223	0.0336	pCi/g						
Niobium-94	U	0.00309	+/-0.0152	0.0136	+/-0.0152	0.029	pCi/g						
Potassium-40		11.8	+/-1.06	0.120	+/-1.06	0.272	pCi/g						
Radium-226		0.485	+/-0.0916	0.0283	+/-0.0916	0.0601	pCi/g						
Silver-108m	U	0.00203	+/-0.0156	0.0135	+/-0.0156	0.0284	pCi/g						
Thallium-208		0.192	+/-0.047	0.0144	+/-0.047	0.0307	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid - 0.025 pCi/g</i>													
Strontium-90	U	-0.00714	+/-0.00892	0.00834	+/-0.00892	0.0188	pCi/g		KSD1	12/08/06	1700	593221	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid - 3 pCi/g</i>													
Tritium	U	0.731	+/-0.950	0.773	+/-0.950	1.60	pCi/g		DFA1	12/07/06	1451	593291	

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-036F
Sample ID: 177084014

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	-0.0214	+/-0.0914	0.0771	+/-0.0914	0.157	pCi/g		AXD2	12/06/06	1701	593288
<i>Liquid Scint Fe55, Solid-ALL FSS</i>												
Iron-55	U	-17	+/-39.0	30.8	+/-39.0	64.4	pCi/g		MXP1	12/11/06	1340	593478
<i>Liquid Scint Ni63, Solid-ALL FSS</i>												
Nickel-63	U	-4.09	+/-11.1	9.54	+/-11.1	20.0	pCi/g		MXP1	12/08/06	2221	593479
<i>Liquid Scint Tc99, Solid-ALL FSS</i>												
Technetium-99	U	0.132	+/-0.182	0.149	+/-0.182	0.308	pCi/g		KXR1	12/11/06	0744	593284

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	TMB1	12/05/06	1233	593151

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	60	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	100	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	89	(25%-125%)
Strontium-90	GFPC, Sr90, solid - 0.025 pCi/g	89	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid - 0.025 pCi/g	89	(25%-125%)
Iron-55	Liquid Scint Fe55, Solid-ALL FS	82	(15%-125%)
Nickel-63	Liquid Scint Ni63, Solid-ALL FS	68	(25%-125%)

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Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-036F
Sample ID: 177084014

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Carrier/Tracer Recovery		Liquid Scint Ni63, Solid-ALL FS			68		(25%-125%)						
Technetium-99		Liquid Scint Tc99, Solid-ALL FS			70		(15%-125%)						
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			70		(15%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
 - < Result is less than value reported
 - > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-038F
Sample ID: 177084015
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 9.7%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.821	+/-0.163	0.0608	+/-0.163	0.133	pCi/g						
Americium-241	UI	0.00	+/-0.107	0.0795	+/-0.107	0.166	pCi/g						
Bismuth-212		0.677	+/-0.268	0.135	+/-0.268	0.291	pCi/g						
Bismuth-214		0.608	+/-0.0913	0.0345	+/-0.0913	0.0736	pCi/g						
Cesium-134	UI	0.00	+/-0.047	0.0256	+/-0.047	0.0544	pCi/g						
Cesium-137	U	-0.00312	+/-0.0222	0.0187	+/-0.0222	0.0402	pCi/g						
Cobalt-60	U	-0.0125	+/-0.0274	0.0181	+/-0.0274	0.0406	pCi/g						
Europium-152	U	0.0152	+/-0.0568	0.0487	+/-0.0568	0.103	pCi/g						
Europium-154	U	0.0408	+/-0.0628	0.0615	+/-0.0628	0.135	pCi/g						
Europium-155	U	0.0296	+/-0.0594	0.0556	+/-0.0594	0.115	pCi/g						
Lead-212		0.742	+/-0.0639	0.0278	+/-0.0639	0.058	pCi/g						
Lead-214		0.747	+/-0.0992	0.0328	+/-0.0992	0.0694	pCi/g						
Manganese-54	U	-0.00245	+/-0.0234	0.0193	+/-0.0234	0.0416	pCi/g						
Niobium-94	U	0.00252	+/-0.0189	0.0162	+/-0.0189	0.0349	pCi/g						
Potassium-40		11.9	+/-0.922	0.130	+/-0.922	0.304	pCi/g						
Radium-226		0.608	+/-0.0913	0.0345	+/-0.0913	0.0736	pCi/g						
Silver-108m	U	-0.015	+/-0.0174	0.0144	+/-0.0174	0.0308	pCi/g						
Thallium-208		0.249	+/-0.0391	0.0174	+/-0.0391	0.0373	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-038F
Sample ID: 177084015

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy—Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-022F
Sample ID: 177084016
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 10.6%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.587	+/-0.165	0.0754	+/-0.165	0.161	pCi/g		MJH1	12/07/06	1603	593222	
Americium-241	U	0.00872	+/-0.036	0.0301	+/-0.036	0.0619	pCi/g						
Bismuth-212	U	0.274	+/-0.289	0.176	+/-0.289	0.372	pCi/g						
Bismuth-214		0.666	+/-0.107	0.039	+/-0.107	0.0825	pCi/g						
Cesium-134	U	0.0305	+/-0.0226	0.0262	+/-0.0226	0.0555	pCi/g						
Cesium-137		0.0743	+/-0.0335	0.0218	+/-0.0335	0.0462	pCi/g						
Cobalt-60	U	-0.0148	+/-0.0296	0.0236	+/-0.0296	0.0512	pCi/g						
Europium-152	U	0.0337	+/-0.064	0.0564	+/-0.064	0.118	pCi/g						
Europium-154	U	0.0216	+/-0.0813	0.0704	+/-0.0813	0.152	pCi/g						
Europium-155	U	0.0732	+/-0.0776	0.048	+/-0.0776	0.0992	pCi/g						
Lead-212		0.575	+/-0.0708	0.0414	+/-0.0708	0.085	pCi/g						
Lead-214		0.746	+/-0.0978	0.0425	+/-0.0978	0.0885	pCi/g						
Manganese-54	U	-0.013	+/-0.0283	0.0228	+/-0.0283	0.0485	pCi/g						
Niobium-94	U	-0.00364	+/-0.0255	0.0216	+/-0.0255	0.0455	pCi/g						
Potassium-40		10.4	+/-0.952	0.208	+/-0.952	0.457	pCi/g						
Radium-226		0.666	+/-0.107	0.039	+/-0.107	0.0825	pCi/g						
Silver-108m	U	0.00485	+/-0.0213	0.0193	+/-0.0213	0.0406	pCi/g						
Thallium-208		0.230	+/-0.0502	0.0227	+/-0.0502	0.0478	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-022F
Sample ID: 177084016

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Notes
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-010F
Sample ID: 177084017
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 14.3%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.803	+/-0.132	0.053	+/-0.132	0.112	pCi/g						
Americium-241	U	0.028	+/-0.0654	0.055	+/-0.0654	0.113	pCi/g		MJH1	12/07/06	1603	593222	
Bismuth-212		0.444	+/-0.271	0.106	+/-0.271	0.224	pCi/g						
Bismuth-214		0.517	+/-0.0674	0.0296	+/-0.0674	0.0619	pCi/g						
Cesium-134	U	0.0174	+/-0.0223	0.0178	+/-0.0223	0.0375	pCi/g						
Cesium-137		0.0355	+/-0.0257	0.0139	+/-0.0257	0.0293	pCi/g						
Cobalt-60	U	0.012	+/-0.0162	0.0148	+/-0.0162	0.0318	pCi/g						
Europium-152	U	0.0485	+/-0.0548	0.0387	+/-0.0548	0.0807	pCi/g						
Europium-154	U	0.0353	+/-0.0571	0.0451	+/-0.0571	0.0965	pCi/g						
Europium-155	U	-0.01	+/-0.0511	0.0447	+/-0.0511	0.0921	pCi/g						
Lead-212		0.697	+/-0.0516	0.0223	+/-0.0516	0.0462	pCi/g						
Lead-214		0.630	+/-0.0784	0.0252	+/-0.0784	0.0528	pCi/g						
Manganese-54	U	0.0132	+/-0.0164	0.0149	+/-0.0164	0.0314	pCi/g						
Niobium-94	U	0.000614	+/-0.0169	0.0143	+/-0.0169	0.030	pCi/g						
Potassium-40		12.5	+/-0.718	0.132	+/-0.718	0.286	pCi/g						
Radium-226		0.517	+/-0.0674	0.0296	+/-0.0674	0.0619	pCi/g						
Silver-108m	U	-0.000501	+/-0.0146	0.0129	+/-0.0146	0.027	pCi/g						
Thallium-208		0.221	+/-0.0357	0.0143	+/-0.0357	0.030	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-010F
Sample ID: 177084017

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy—Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-009F
Sample ID: 177084018
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 8.05%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.623	+/-0.130	0.0453	+/-0.130	0.0905	pCi/g					
Americium-241	U	-0.0686	+/-0.119	0.0948	+/-0.119	0.190	pCi/g					
Bismuth-212		0.436	+/-0.226	0.109	+/-0.226	0.218	pCi/g					
Bismuth-214		0.494	+/-0.0776	0.0286	+/-0.0776	0.0571	pCi/g					
Cesium-134	U	0.0342	+/-0.0319	0.0183	+/-0.0319	0.0365	pCi/g					
Cesium-137	U	0.0179	+/-0.0307	0.0134	+/-0.0307	0.0267	pCi/g					
Cobalt-60	U	-0.0033	+/-0.0189	0.013	+/-0.0189	0.026	pCi/g					
Europium-152	U	-0.0658	+/-0.0524	0.0384	+/-0.0524	0.0768	pCi/g					
Europium-154	U	-0.0284	+/-0.0529	0.0422	+/-0.0529	0.0844	pCi/g					
Europium-155	U	0.0202	+/-0.066	0.0532	+/-0.066	0.106	pCi/g					
Lead-212		0.561	+/-0.0641	0.0251	+/-0.0641	0.0501	pCi/g					
Lead-214		0.644	+/-0.086	0.0279	+/-0.086	0.0557	pCi/g					
Manganese-54	U	-0.0162	+/-0.0181	0.014	+/-0.0181	0.0281	pCi/g					
Niobium-94	U	0.00579	+/-0.0159	0.0135	+/-0.0159	0.027	pCi/g					
Potassium-40		9.18	+/-0.856	0.126	+/-0.856	0.253	pCi/g					
Radium-226		0.494	+/-0.0776	0.0286	+/-0.0776	0.0571	pCi/g					
Silver-108m	U	0.00321	+/-0.0157	0.0133	+/-0.0157	0.0267	pCi/g					
Thallium-208		0.193	+/-0.0365	0.0144	+/-0.0365	0.0288	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-009F
Sample ID: 177084018

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-014F
Sample ID: 177084019
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 5.9%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.633	+/-0.242	0.0775	+/-0.242	0.155	pCi/g		MJH1	12/07/06	1607	593222
Americium-241	U	0.000307	+/-0.0413	0.0305	+/-0.0413	0.0609	pCi/g					
Bismuth-212		0.588	+/-0.309	0.174	+/-0.309	0.348	pCi/g					
Bismuth-214		0.481	+/-0.112	0.0381	+/-0.112	0.0761	pCi/g					
Cesium-134	U	0.0545	+/-0.0341	0.0304	+/-0.0341	0.0607	pCi/g					
Cesium-137	U	0.00761	+/-0.0291	0.026	+/-0.0291	0.0521	pCi/g					
Cobalt-60	U	0.0118	+/-0.0276	0.0245	+/-0.0276	0.0489	pCi/g					
Europium-152	U	0.0399	+/-0.0928	0.0509	+/-0.0928	0.102	pCi/g					
Europium-154	U	0.0941	+/-0.0917	0.0765	+/-0.0917	0.153	pCi/g					
Europium-155	U	0.0112	+/-0.0533	0.0474	+/-0.0533	0.0948	pCi/g					
Lead-212		0.587	+/-0.0774	0.0289	+/-0.0774	0.0579	pCi/g					
Lead-214		0.518	+/-0.101	0.0392	+/-0.101	0.0784	pCi/g					
Manganese-54	U	0.00919	+/-0.028	0.0249	+/-0.028	0.0498	pCi/g					
Niobium-94	U	0.00128	+/-0.024	0.0211	+/-0.024	0.0421	pCi/g					
Potassium-40		9.69	+/-1.03	0.180	+/-1.03	0.360	pCi/g					
Radium-226		0.481	+/-0.112	0.0381	+/-0.112	0.0761	pCi/g					
Silver-108m	U	-0.00998	+/-0.0207	0.0172	+/-0.0207	0.0344	pCi/g					
Thallium-208		0.207	+/-0.0667	0.0204	+/-0.0667	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-014F
Sample ID: 177084019

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Notes
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-025F
Sample ID: 177084020
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 18.5%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.785	+/-0.115	0.0407	+/-0.115	0.0859	pCi/g						
Americium-241	U	-0.0432	+/-0.0677	0.0554	+/-0.0677	0.114	pCi/g						
Bismuth-212		0.429	+/-0.205	0.0893	+/-0.205	0.187	pCi/g						
Bismuth-214		0.564	+/-0.0642	0.0218	+/-0.0642	0.0454	pCi/g						
Cesium-134	UI	0.00	+/-0.0211	0.0146	+/-0.0211	0.0306	pCi/g						
Cesium-137		0.045	+/-0.0238	0.0126	+/-0.0238	0.0264	pCi/g						
Cobalt-60	U	0.00685	+/-0.0153	0.0133	+/-0.0153	0.0284	pCi/g						
Europium-152	U	-0.00174	+/-0.0376	0.0311	+/-0.0376	0.0643	pCi/g						
Europium-154	U	-0.0141	+/-0.0464	0.038	+/-0.0464	0.0809	pCi/g						
Europium-155	U	0.0466	+/-0.0594	0.0327	+/-0.0594	0.0669	pCi/g						
Lead-212		0.712	+/-0.0437	0.0172	+/-0.0437	0.0354	pCi/g						
Lead-214		0.650	+/-0.060	0.0202	+/-0.060	0.0419	pCi/g						
Manganese-54	U	0.00854	+/-0.0209	0.00962	+/-0.0209	0.0204	pCi/g						
Niobium-94	U	-0.00521	+/-0.013	0.0107	+/-0.013	0.0224	pCi/g						
Potassium-40		12.1	+/-0.635	0.106	+/-0.635	0.231	pCi/g						
Radium-226		0.564	+/-0.0642	0.0218	+/-0.0642	0.0454	pCi/g						
Silver-108m	U	-0.00918	+/-0.0118	0.00993	+/-0.0118	0.0207	pCi/g						
Thallium-208		0.231	+/-0.033	0.0107	+/-0.033	0.0225	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	TMB1	12/05/06	1233	593151

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-025F
Sample ID: 177084020

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-032F
Sample ID: 177084021
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 5.06%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.996	+/-0.185	0.0593	+/-0.185	0.127	pCi/g		MJH1	12/08/06	0720	593223
Americium-241	U	0.0473	+/-0.101	0.0831	+/-0.101	0.171	pCi/g					
Bismuth-212		0.778	+/-0.308	0.128	+/-0.308	0.272	pCi/g					
Bismuth-214		0.795	+/-0.0877	0.0296	+/-0.0877	0.0627	pCi/g					
Cesium-134	UI	0.00	+/-0.0382	0.0222	+/-0.0382	0.0467	pCi/g					
Cesium-137	U	0.0078	+/-0.021	0.0184	+/-0.021	0.0387	pCi/g					
Cobalt-60	U	0.0124	+/-0.0196	0.0177	+/-0.0196	0.0385	pCi/g					
Europium-152	U-0.000668		+/-0.0513	0.0434	+/-0.0513	0.0907	pCi/g					
Europium-154	U	-0.0643	+/-0.0649	0.0497	+/-0.0649	0.108	pCi/g					
Europium-155	U	0.0891	+/-0.0894	0.0489	+/-0.0894	0.101	pCi/g					
Lead-212		1.11	+/-0.0629	0.0247	+/-0.0629	0.0512	pCi/g					
Lead-214		0.917	+/-0.0867	0.0329	+/-0.0867	0.0685	pCi/g					
Manganese-54	U	0.00631	+/-0.0194	0.0166	+/-0.0194	0.0354	pCi/g					
Niobium-94	U	0.0223	+/-0.018	0.0166	+/-0.018	0.035	pCi/g					
Potassium-40		15.3	+/-0.896	0.140	+/-0.896	0.311	pCi/g					
Radium-226		0.795	+/-0.0877	0.0296	+/-0.0877	0.0627	pCi/g					
Silver-108m	U	0.0156	+/-0.0209	0.0136	+/-0.0209	0.0287	pCi/g					
Thallium-208		0.378	+/-0.0442	0.0156	+/-0.0442	0.033	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-032F
Sample ID: 177084021

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-028F
Sample ID: 177084022
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 7.72%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.618	+/-0.174	0.0664	+/-0.174	0.133	pCi/g		MJH1	12/08/06	0725	593223
Americium-241	U	0.106	+/-0.111	0.0975	+/-0.111	0.195	pCi/g					
Bismuth-212		0.504	+/-0.237	0.152	+/-0.237	0.303	pCi/g					
Bismuth-214		0.456	+/-0.109	0.0338	+/-0.109	0.0675	pCi/g					
Cesium-134	U	0.0249	+/-0.0189	0.0255	+/-0.0189	0.051	pCi/g					
Cesium-137	U	0.0178	+/-0.025	0.0204	+/-0.025	0.0408	pCi/g					
Cobalt-60	U	0.0155	+/-0.026	0.0212	+/-0.026	0.0424	pCi/g					
Europium-152	U	-0.0433	+/-0.100	0.0489	+/-0.100	0.0977	pCi/g					
Europium-154	U	-0.0379	+/-0.0918	0.0617	+/-0.0918	0.123	pCi/g					
Europium-155	U	0.0262	+/-0.0707	0.0672	+/-0.0707	0.134	pCi/g					
Lead-212		0.644	+/-0.0851	0.0319	+/-0.0851	0.0637	pCi/g					
Lead-214		0.584	+/-0.0936	0.0344	+/-0.0936	0.0687	pCi/g					
Manganese-54	U	-0.00598	+/-0.0408	0.0186	+/-0.0408	0.0373	pCi/g					
Niobium-94	U	0.00252	+/-0.0199	0.0173	+/-0.0199	0.0345	pCi/g					
Potassium-40		12.0	+/-1.20	0.170	+/-1.20	0.340	pCi/g					
Radium-226		0.456	+/-0.109	0.0338	+/-0.109	0.0675	pCi/g					
Silver-108m	U	-0.0102	+/-0.0211	0.0182	+/-0.0211	0.0364	pCi/g					
Thallium-208		0.178	+/-0.0476	0.0185	+/-0.0476	0.037	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-028F
Sample ID: 177084022

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Notes
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-015F
Sample ID: 177084023
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 5.53%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.429	+/-0.134	0.0734	+/-0.134	0.160	pCi/g					
Americium-241	U	0.0434	+/-0.0969	0.082	+/-0.0969	0.172	pCi/g		MJH1	12/08/06	0720	593223
Bismuth-212		0.480	+/-0.203	0.157	+/-0.203	0.340	pCi/g					
Bismuth-214		0.480	+/-0.102	0.0324	+/-0.102	0.0706	pCi/g					
Cesium-134	U	0.0315	+/-0.028	0.0237	+/-0.028	0.0513	pCi/g					
Cesium-137	U	0.012	+/-0.0227	0.0206	+/-0.0227	0.0445	pCi/g					
Cobalt-60	U	0.004	+/-0.022	0.019	+/-0.022	0.0432	pCi/g					
Europium-152	U	-0.0374	+/-0.0493	0.0425	+/-0.0493	0.0913	pCi/g					
Europium-154	U	-0.00153	+/-0.0689	0.0579	+/-0.0689	0.130	pCi/g					
Europium-155	U	0.0385	+/-0.0609	0.0593	+/-0.0609	0.124	pCi/g					
Lead-212		0.501	+/-0.0762	0.0278	+/-0.0762	0.0584	pCi/g					
Lead-214		0.569	+/-0.107	0.0361	+/-0.107	0.0767	pCi/g					
Manganese-54	U	0.00622	+/-0.0237	0.019	+/-0.0237	0.0416	pCi/g					
Niobium-94	U	0.00761	+/-0.0201	0.0178	+/-0.0201	0.0386	pCi/g					
Potassium-40		10.3	+/-1.15	0.143	+/-1.15	0.337	pCi/g					
Radium-226		0.480	+/-0.102	0.0324	+/-0.102	0.0706	pCi/g					
Silver-108m	U	0.0125	+/-0.018	0.0171	+/-0.018	0.0366	pCi/g					
Thallium-208		0.166	+/-0.0438	0.0178	+/-0.0438	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-015F
Sample ID: 177084023

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy—Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-023F
Sample ID: 177084024
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 6.43%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.818	+/-0.221	0.0593	+/-0.221	0.133	pCi/g		MJH1	12/08/06	0721	593223
Americium-241	U	-0.074	+/-0.146	0.0921	+/-0.146	0.192	pCi/g					
Bismuth-212		0.413	+/-0.313	0.140	+/-0.313	0.307	pCi/g					
Bismuth-214		0.663	+/-0.109	0.0347	+/-0.109	0.0756	pCi/g					
Cesium-134	U	0.0381	+/-0.0317	0.027	+/-0.0317	0.0583	pCi/g					
Cesium-137		0.0467	+/-0.0407	0.0184	+/-0.0407	0.0403	pCi/g					
Cobalt-60	U	0.017	+/-0.0235	0.0219	+/-0.0235	0.0495	pCi/g					
Europium-152	U	0.041	+/-0.0605	0.0526	+/-0.0605	0.112	pCi/g					
Europium-154	U	0.0147	+/-0.0808	0.0695	+/-0.0808	0.154	pCi/g					
Europium-155	U	0.0299	+/-0.0693	0.0635	+/-0.0693	0.132	pCi/g					
Lead-212		0.757	+/-0.0928	0.0308	+/-0.0928	0.0648	pCi/g					
Lead-214		0.639	+/-0.130	0.0395	+/-0.130	0.084	pCi/g					
Manganese-54	U	-0.0187	+/-0.0241	0.0193	+/-0.0241	0.0424	pCi/g					
Niobium-94	U	0.0115	+/-0.0229	0.0202	+/-0.0229	0.0436	pCi/g					
Potassium-40		11.2	+/-1.30	0.150	+/-1.30	0.356	pCi/g					
Radium-226		0.663	+/-0.109	0.0347	+/-0.109	0.0756	pCi/g					
Silver-108m	U	0.0207	+/-0.0217	0.0204	+/-0.0217	0.0434	pCi/g					
Thallium-208		0.275	+/-0.0606	0.0194	+/-0.0606	0.042	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-023F
Sample ID: 177084024

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy—Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-017F
Sample ID: 177084025
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 6.36%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	A
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.831	+/-0.159	0.0676	+/-0.159	0.145	pCi/g		MJH1	12/08/06	0725	593223	
Americium-241	U	-0.179	+/-0.111	0.0845	+/-0.111	0.174	pCi/g						
Bismuth-212	U	0.283	+/-0.196	0.142	+/-0.196	0.304	pCi/g						
Bismuth-214		0.550	+/-0.0837	0.0364	+/-0.0837	0.0769	pCi/g						
Cesium-134	U	0.043	+/-0.0321	0.022	+/-0.0321	0.0468	pCi/g						
Cesium-137	U	0.0382	+/-0.0511	0.0194	+/-0.0511	0.0413	pCi/g						
Cobalt-60	U	-0.0183	+/-0.0204	0.0145	+/-0.0204	0.0328	pCi/g						
Europium-152	U	-0.0294	+/-0.0572	0.0473	+/-0.0572	0.0993	pCi/g						
Europium-154	U	0.0547	+/-0.0645	0.0588	+/-0.0645	0.128	pCi/g						
Europium-155	U	0.0531	+/-0.062	0.0579	+/-0.062	0.119	pCi/g						
Lead-212		0.795	+/-0.0607	0.0281	+/-0.0607	0.0585	pCi/g						
Lead-214		0.689	+/-0.0883	0.0329	+/-0.0883	0.0693	pCi/g						
Manganese-54	U	-0.00975	+/-0.0261	0.0185	+/-0.0261	0.0396	pCi/g						
Niobium-94	U	0.00611	+/-0.019	0.0168	+/-0.019	0.0358	pCi/g						
Potassium-40		10.5	+/-0.850	0.158	+/-0.850	0.355	pCi/g						
Radium-226		0.550	+/-0.0837	0.0364	+/-0.0837	0.0769	pCi/g						
Silver-108m	U	0.00174	+/-0.0202	0.0171	+/-0.0202	0.0361	pCi/g						
Thallium-208		0.233	+/-0.0495	0.0177	+/-0.0495	0.0377	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-017F
Sample ID: 177084025

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-028FS
Sample ID: 177084026
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 7.78%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.728	+/-0.242	0.115	+/-0.242	0.248	pCi/g		MJH1	12/08/06	0726	593223
Americium-241	U	0.0152	+/-0.0462	0.0407	+/-0.0462	0.0844	pCi/g					
Bismuth-212	U	0.495	+/-0.360	0.233	+/-0.360	0.501	pCi/g					
Bismuth-214		0.806	+/-0.145	0.0502	+/-0.145	0.108	pCi/g					
Cesium-134	U	-0.00972	+/-0.0421	0.0342	+/-0.0421	0.0737	pCi/g					
Cesium-137	U	0.0535	+/-0.0376	0.0356	+/-0.0376	0.0757	pCi/g					
Cobalt-60	U	0.00821	+/-0.0352	0.0303	+/-0.0352	0.0675	pCi/g					
Europium-152	U	0.0368	+/-0.0851	0.0738	+/-0.0851	0.156	pCi/g					
Europium-154	U	0.0265	+/-0.103	0.0889	+/-0.103	0.197	pCi/g					
Europium-155	U	0.0718	+/-0.076	0.0668	+/-0.076	0.139	pCi/g					
Lead-212		0.674	+/-0.0978	0.0522	+/-0.0978	0.108	pCi/g					
Lead-214		0.620	+/-0.145	0.0536	+/-0.145	0.113	pCi/g					
Manganese-54	U	-0.0338	+/-0.0408	0.0311	+/-0.0408	0.067	pCi/g					
Niobium-94	U	0.000183	+/-0.0351	0.0296	+/-0.0351	0.0632	pCi/g					
Potassium-40		12.7	+/-1.26	0.276	+/-1.26	0.620	pCi/g					
Radium-226		0.806	+/-0.145	0.0502	+/-0.145	0.108	pCi/g					
Silver-108m	U	-0.000186	+/-0.0291	0.0257	+/-0.0291	0.0546	pCi/g					
Thallium-208		0.272	+/-0.0649	0.0289	+/-0.0649	0.0619	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	MXP2	12/05/06	1535	593152

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 :

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- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-028FS
Sample ID: 177084026

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Notes
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-011F
Sample ID: 177084027
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 13.7%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.814	+/-0.129	0.0451	+/-0.129	0.0986	pCi/g					
Americium-241	U	0.0216	+/-0.0933	0.0809	+/-0.0933	0.167	pCi/g					
Bismuth-212		0.703	+/-0.263	0.109	+/-0.263	0.234	pCi/g					
Bismuth-214		0.736	+/-0.0839	0.0295	+/-0.0839	0.0625	pCi/g					
Cesium-134	UI	0.00	+/-0.0288	0.0204	+/-0.0288	0.0431	pCi/g					
Cesium-137	U	0.0306	+/-0.0187	0.0164	+/-0.0187	0.0348	pCi/g					
Cobalt-60	U	-0.0096	+/-0.0186	0.0149	+/-0.0186	0.0329	pCi/g					
Europium-152	U	-0.0372	+/-0.0443	0.0368	+/-0.0443	0.0775	pCi/g					
Europium-154	U	0.00889	+/-0.0558	0.0489	+/-0.0558	0.107	pCi/g					
Europium-155	U	0.041	+/-0.0486	0.0492	+/-0.0486	0.102	pCi/g					
Lead-212		0.781	+/-0.0573	0.0254	+/-0.0573	0.0527	pCi/g					
Lead-214		0.921	+/-0.0817	0.0299	+/-0.0817	0.0627	pCi/g					
Manganese-54	U	0.00824	+/-0.0173	0.0155	+/-0.0173	0.0332	pCi/g					
Niobium-94	U	0.00586	+/-0.0158	0.0142	+/-0.0158	0.0303	pCi/g					
Potassium-40		10.8	+/-0.777	0.140	+/-0.777	0.313	pCi/g					
Radium-226		0.736	+/-0.0839	0.0295	+/-0.0839	0.0625	pCi/g					
Silver-108m	U	-0.00641	+/-0.0142	0.0127	+/-0.0142	0.0269	pCi/g					
Thallium-208		0.232	+/-0.0398	0.0143	+/-0.0398	0.0305	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-011F
Sample ID: 177084027

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Notes
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- > Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy—Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-027F
Sample ID: 177084028
Matrix: TS
Collect Date: 29-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 7.82%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Alpha Spec Analysis													
<i>Alphaspec Am241, Cm, Solid ALL FSS</i>													
Americium-241	U	0.123	+/-0.214	0.125	+/-0.214	0.385	pCi/g		DXH2	12/08/06	1309	593610	
Curium-242	U	-0.0247	+/-0.0342	0.0653	+/-0.0344	0.270	pCi/g						
Curium-243/244	U	0.0791	+/-0.207	0.140	+/-0.207	0.414	pCi/g						
<i>Alphaspec Pu, Solid-ALL FSS</i>													
Plutonium-238	U	0.0371	+/-0.141	0.103	+/-0.141	0.296	pCi/g		DXH2	12/08/06	1309	593611	
Plutonium-239/240	U	0.0199	+/-0.123	0.0939	+/-0.123	0.278	pCi/g						
<i>Liquid Scint Pu241, Solid-ALL FSS</i>													
Plutonium-241	U	-4.16	+/-7.39	6.38	+/-7.39	13.4	pCi/g		DXH2	12/12/06	1056	593612	
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.820	+/-0.210	0.0764	+/-0.210	0.153	pCi/g		MJH1	12/08/06	0926	593223	
Americium-241	U	0.0414	+/-0.111	0.0919	+/-0.111	0.184	pCi/g						
Bismuth-212		0.415	+/-0.367	0.169	+/-0.367	0.338	pCi/g						
Bismuth-214		0.440	+/-0.111	0.0376	+/-0.111	0.0751	pCi/g						
Cesium-134	U	0.0304	+/-0.0463	0.0287	+/-0.0463	0.0574	pCi/g						
Cesium-137		0.0583	+/-0.0377	0.0213	+/-0.0377	0.0425	pCi/g						
Cobalt-60	U	0.0147	+/-0.0252	0.0229	+/-0.0252	0.0459	pCi/g						
Europium-152	U	0.0031	+/-0.0732	0.0571	+/-0.0732	0.114	pCi/g						
Europium-154	U	-0.0288	+/-0.0872	0.0703	+/-0.0872	0.141	pCi/g						
Europium-155	U	0.0903	+/-0.0943	0.0654	+/-0.0943	0.131	pCi/g						
Lead-212		0.715	+/-0.0939	0.0328	+/-0.0939	0.0655	pCi/g						
Lead-214		0.632	+/-0.108	0.0366	+/-0.108	0.0732	pCi/g						
Manganese-54	U	-0.00162	+/-0.0221	0.0192	+/-0.0221	0.0384	pCi/g						
Niobium-94	U	-0.00175	+/-0.0227	0.0185	+/-0.0227	0.0371	pCi/g						
Potassium-40		10.1	+/-1.21	0.200	+/-1.21	0.400	pCi/g						
Radium-226		0.440	+/-0.111	0.0376	+/-0.111	0.0751	pCi/g						
Silver-108m	U	-0.0138	+/-0.0228	0.0191	+/-0.0228	0.0381	pCi/g						
Thallium-208		0.177	+/-0.0517	0.0188	+/-0.0517	0.0376	pCi/g						
Rad Gas Flow Proportional Counting													
<i>GFPC, Sr90, solid - 0.025 pCi/g</i>													
Strontium-90		0.0513	+/-0.0174	0.00757	+/-0.0174	0.0185	pCi/g		KSD1	12/08/06	1700	593221	
Rad Liquid Scintillation Analysis													
<i>LSC, Tritium Dist, Solid - 3 pCi/g</i>													
Tritium	U	0.515	+/-0.892	0.732	+/-0.892	1.52	pCi/g		DFA1	12/07/06	1624	593291	

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-027F
Sample ID: 177084028

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Liquid Scintillation Analysis													
<i>Liquid Scint C14, Solid All, FSS</i>													
Carbon-14	U	-0.007	+/-0.0956	0.0803	+/-0.0956	0.164	pCi/g		AXD2	12/06/06	1803	593288	
<i>Liquid Scint Fe55, Solid-ALL FSS</i>													
Iron-55	U	-26.5	+/-28.9	23.5	+/-28.9	49.5	pCi/g		MXP1	12/11/06	1357	593478	
<i>Liquid Scint Ni63, Solid-ALL FSS</i>													
Nickel-63	U	1.08	+/-9.75	8.14	+/-9.75	17.1	pCi/g		MXP1	12/08/06	2238	593479	
<i>Liquid Scint Tc99, Solid-ALL FSS</i>													
Technetium-99	U	0.234	+/-0.179	0.144	+/-0.179	0.296	pCi/g		KXR1	12/11/06	0815	593284	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	MXP2	12/05/06	1535	593152

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	67	(15%-125%)
Plutonium-242	Alphaspec Pu, Solid-ALL FSS	87	(15%-125%)
Plutonium-241	Liquid Scint Pu241, Solid-ALL FS	93	(25%-125%)
Strontium-90	GFPC, Sr90, solid - 0.025 pCi/g	103	(25%-125%)
Carrier/Tracer Recovery	GFPC, Sr90, solid - 0.025 pCi/g	103	(25%-125%)
Iron-55	Liquid Scint Fe55, Solid-ALL FS	65	(15%-125%)
Nickel-63	Liquid Scint Ni63, Solid-ALL FS	73	(25%-125%)

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Certificate of Analysis

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East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-027F
Sample ID: 177084028

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Carrier/Tracer Recovery		Liquid Scint Ni63, Solid-ALL FS			73		(25%-125%)						
Technetium-99		Liquid Scint Tc99, Solid-ALL FS			73		(15%-125%)						
Carrier/Tracer Recovery		Liquid Scint Tc99, Solid-ALL FS			73		(15%-125%)						

Notes:

The Qualifiers in this report are defined as follows :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-004F
Sample ID: 177084029
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 5.2%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.747	+/-0.127	0.0362	+/-0.127	0.0723	pCi/g					
Americium-241	U	0.0628	+/-0.0899	0.0758	+/-0.0899	0.152	pCi/g					
Bismuth-212		0.476	+/-0.191	0.0761	+/-0.191	0.152	pCi/g					
Bismuth-214		0.542	+/-0.0779	0.0207	+/-0.0779	0.0415	pCi/g					
Cesium-134	UI	0.00	+/-0.0254	0.0141	+/-0.0254	0.0282	pCi/g					
Cesium-137	UI	0.00	+/-0.0188	0.0107	+/-0.0188	0.0214	pCi/g					
Cobalt-60	U	-0.00972	+/-0.0154	0.0103	+/-0.0154	0.0205	pCi/g					
Europium-152	U	-0.0272	+/-0.045	0.0293	+/-0.045	0.0586	pCi/g					
Europium-154	U	0.010	+/-0.045	0.0331	+/-0.045	0.0662	pCi/g					
Europium-155	U	0.0149	+/-0.0505	0.0409	+/-0.0505	0.0818	pCi/g					
Lead-212		0.644	+/-0.0632	0.0194	+/-0.0632	0.0388	pCi/g					
Lead-214		0.532	+/-0.0701	0.0202	+/-0.0701	0.0405	pCi/g					
Manganese-54	U	0.0113	+/-0.0174	0.0116	+/-0.0174	0.0231	pCi/g					
Niobium-94	U	0.000372	+/-0.012	0.0102	+/-0.012	0.0203	pCi/g					
Potassium-40		10.2	+/-0.777	0.0957	+/-0.777	0.191	pCi/g					
Radium-226		0.542	+/-0.0779	0.0207	+/-0.0779	0.0415	pCi/g					
Silver-108m	U	-0.0134	+/-0.0112	0.00931	+/-0.0112	0.0186	pCi/g					
Thallium-208		0.205	+/-0.0295	0.0106	+/-0.0295	0.0211	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	MPX2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-004F
Sample ID: 177084029

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	M
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-007F
Sample ID: 177084030
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 5.11%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.498	+/-0.129	0.0503	+/-0.129	0.109	pCi/g		MJH1	12/08/06	0727	593223
Americium-241	U	-0.00884	+/-0.070	0.0598	+/-0.070	0.124	pCi/g					
Bismuth-212		0.557	+/-0.191	0.116	+/-0.191	0.247	pCi/g					
Bismuth-214		0.540	+/-0.0752	0.0311	+/-0.0752	0.0657	pCi/g					
Cesium-134	U	0.0184	+/-0.0241	0.0175	+/-0.0241	0.0373	pCi/g					
Cesium-137	U	-0.0102	+/-0.0227	0.0161	+/-0.0227	0.0342	pCi/g					
Cobalt-60	U	-0.00867	+/-0.0194	0.016	+/-0.0194	0.0349	pCi/g					
Europium-152	U	0.0104	+/-0.0526	0.041	+/-0.0526	0.0862	pCi/g					
Europium-154	U	-0.00605	+/-0.054	0.0463	+/-0.054	0.101	pCi/g					
Europium-155	U	0.0198	+/-0.0538	0.0499	+/-0.0538	0.104	pCi/g					
Lead-212		0.560	+/-0.0514	0.0234	+/-0.0514	0.0488	pCi/g					
Lead-214		0.715	+/-0.0816	0.0288	+/-0.0816	0.0605	pCi/g					
Manganese-54	U	0.00131	+/-0.0169	0.0149	+/-0.0169	0.0319	pCi/g					
Niobium-94	U	0.00542	+/-0.0184	0.014	+/-0.0184	0.0298	pCi/g					
Potassium-40		9.17	+/-0.726	0.142	+/-0.726	0.313	pCi/g					
Radium-226		0.540	+/-0.0752	0.0311	+/-0.0752	0.0657	pCi/g					
Silver-108m	U2.940E-05		+/-0.0158	0.0143	+/-0.0158	0.0302	pCi/g					
Thallium-208		0.181	+/-0.0383	0.0154	+/-0.0383	0.0326	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-007F
Sample ID: 177084030

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-007FS
Sample ID: 177084031
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 5.72%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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Rad Gamma Spec Analysis

*Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth
Waived*

Actinium-228		0.572	+/-0.132	0.0488	+/-0.132	0.106	pCi/g						
Americium-241	U	-0.0672	+/-0.113	0.0904	+/-0.113	0.188	pCi/g						
Bismuth-212	UI	0.00	+/-0.216	0.114	+/-0.216	0.245	pCi/g						
Bismuth-214		0.550	+/-0.0786	0.0308	+/-0.0786	0.0653	pCi/g						
Cesium-134	U	0.0351	+/-0.026	0.0184	+/-0.026	0.0392	pCi/g						
Cesium-137	U	0.00527	+/-0.0165	0.0148	+/-0.0165	0.0318	pCi/g						
Cobalt-60	U	0.00288	+/-0.0199	0.0172	+/-0.0199	0.0379	pCi/g						
Europium-152	U	-0.00478	+/-0.0457	0.0394	+/-0.0457	0.0828	pCi/g						
Europium-154	U	-0.013	+/-0.0533	0.0442	+/-0.0533	0.0976	pCi/g						
Europium-155	U	0.0505	+/-0.0489	0.049	+/-0.0489	0.101	pCi/g						
Lead-212		0.530	+/-0.049	0.0229	+/-0.049	0.0478	pCi/g						
Lead-214		0.652	+/-0.0781	0.0298	+/-0.0781	0.0626	pCi/g						
Manganese-54	U	0.00313	+/-0.0168	0.0145	+/-0.0168	0.0313	pCi/g						
Niobium-94	U	-0.00172	+/-0.0162	0.0139	+/-0.0162	0.0297	pCi/g						
Potassium-40		8.87	+/-0.723	0.138	+/-0.723	0.309	pCi/g						
Radium-226		0.550	+/-0.0786	0.0308	+/-0.0786	0.0653	pCi/g						
Silver-108m	U	-0.000895	+/-0.0139	0.0126	+/-0.0139	0.0268	pCi/g						
Thallium-208		0.156	+/-0.0302	0.0125	+/-0.0302	0.027	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-007FS
Sample ID: 177084031

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-037F
Sample ID: 177084032
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 4.98%

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 226 Ingrowth</i>												
<i>Waived</i>												
Actinium-228		0.736	+/-0.166	0.0524	+/-0.166	0.114	pCi/g		MJH1	12/08/06	0925	593223
Americium-241	U	-0.00582	+/-0.0876	0.0706	+/-0.0876	0.146	pCi/g					
Bismuth-212		0.527	+/-0.198	0.116	+/-0.198	0.249	pCi/g					
Bismuth-214		0.546	+/-0.106	0.0287	+/-0.106	0.0613	pCi/g					
Cesium-134	U	0.0429	+/-0.0256	0.0204	+/-0.0256	0.0434	pCi/g					
Cesium-137	U	0.00516	+/-0.0199	0.0174	+/-0.0199	0.0371	pCi/g					
Cobalt-60	U	-0.0188	+/-0.0199	0.0144	+/-0.0199	0.0323	pCi/g					
Europium-152	U	0.054	+/-0.0441	0.0407	+/-0.0441	0.0857	pCi/g					
Europium-154	U	0.0049	+/-0.0544	0.0463	+/-0.0544	0.102	pCi/g					
Europium-155	U	0.0383	+/-0.0485	0.047	+/-0.0485	0.0974	pCi/g					
Lead-212		0.643	+/-0.0716	0.0229	+/-0.0716	0.0477	pCi/g					
Lead-214		0.561	+/-0.0878	0.0268	+/-0.0878	0.0567	pCi/g					
Manganese-54	U	0.0248	+/-0.0177	0.0173	+/-0.0177	0.037	pCi/g					
Niobium-94	U	0.0136	+/-0.0171	0.0155	+/-0.0171	0.0331	pCi/g					
Potassium-40		10.1	+/-1.01	0.159	+/-1.01	0.355	pCi/g					
Radium-226		0.546	+/-0.106	0.0287	+/-0.106	0.0613	pCi/g					
Silver-108m	U	0.0114	+/-0.0146	0.0138	+/-0.0146	0.0292	pCi/g					
Thallium-208		0.190	+/-0.0404	0.0142	+/-0.0404	0.0305	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-037F
Sample ID: 177084032

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was 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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-033F
Sample ID: 177084033
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 6.31%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.686	+/-0.156	0.0506	+/-0.156	0.109	pCi/g						
Americium-241	U	0.00986	+/-0.0812	0.0709	+/-0.0812	0.146	pCi/g						
Bismuth-212		0.660	+/-0.241	0.0981	+/-0.241	0.212	pCi/g						
Bismuth-214		0.593	+/-0.0984	0.028	+/-0.0984	0.0595	pCi/g						
Cesium-134	U	0.0273	+/-0.0306	0.0205	+/-0.0306	0.0434	pCi/g						
Cesium-137		0.115	+/-0.0336	0.0165	+/-0.0336	0.035	pCi/g						
Cobalt-60	U	0.00966	+/-0.017	0.0154	+/-0.017	0.0339	pCi/g						
Europium-152	U	-0.0138	+/-0.0444	0.0398	+/-0.0444	0.0836	pCi/g						
Europium-154	U	0.0136	+/-0.065	0.051	+/-0.065	0.111	pCi/g						
Europium-155	U	0.0388	+/-0.0473	0.0455	+/-0.0473	0.094	pCi/g						
Lead-212		0.682	+/-0.0725	0.0229	+/-0.0725	0.0475	pCi/g						
Lead-214		0.631	+/-0.089	0.0294	+/-0.089	0.0617	pCi/g						
Manganese-54	U	0.00943	+/-0.017	0.0157	+/-0.017	0.0336	pCi/g						
Niobium-94	U	0.00543	+/-0.0168	0.0147	+/-0.0168	0.0313	pCi/g						
Potassium-40		10.4	+/-1.01	0.154	+/-1.01	0.338	pCi/g						
Radium-226		0.593	+/-0.0984	0.028	+/-0.0984	0.0595	pCi/g						
Silver-108m	U	0.0123	+/-0.0152	0.0143	+/-0.0152	0.0301	pCi/g						
Thallium-208		0.214	+/-0.0396	0.0144	+/-0.0396	0.0308	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-033F
Sample ID: 177084033

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy--Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-006F
Sample ID: 177084034
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 9.27%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	Notes
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		1.11	+/-0.154	0.0601	+/-0.154	0.129	pCi/g						
Americium-241	U	-0.105	+/-0.091	0.0851	+/-0.091	0.175	pCi/g						
Bismuth-212		0.819	+/-0.288	0.130	+/-0.288	0.277	pCi/g						
Bismuth-214		0.682	+/-0.078	0.0325	+/-0.078	0.0687	pCi/g						
Cesium-134	UI	0.00	+/-0.0322	0.0222	+/-0.0322	0.0468	pCi/g						
Cesium-137	UI	0.00	+/-0.0369	0.016	+/-0.0369	0.0342	pCi/g						
Cobalt-60	U	0.00536	+/-0.0216	0.0185	+/-0.0216	0.0404	pCi/g						
Europium-152	U	-0.00175	+/-0.0546	0.0477	+/-0.0546	0.0995	pCi/g						
Europium-154	U	0.00509	+/-0.0714	0.0601	+/-0.0714	0.129	pCi/g						
Europium-155	U	0.0962	+/-0.0899	0.0593	+/-0.0899	0.122	pCi/g						
Lead-212		0.967	+/-0.0615	0.0279	+/-0.0615	0.0576	pCi/g						
Lead-214		0.711	+/-0.0783	0.0334	+/-0.0783	0.0697	pCi/g						
Manganese-54	U	-0.000118	+/-0.0197	0.0171	+/-0.0197	0.0364	pCi/g						
Niobium-94	U	0.0159	+/-0.0187	0.0173	+/-0.0187	0.0365	pCi/g						
Potassium-40		15.6	+/-0.935	0.139	+/-0.935	0.311	pCi/g						
Radium-226		0.682	+/-0.078	0.0325	+/-0.078	0.0687	pCi/g						
Silver-108m	U	-0.00505	+/-0.0182	0.0154	+/-0.0182	0.0324	pCi/g						
Thallium-208		0.312	+/-0.0409	0.016	+/-0.0409	0.0338	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-006F
Sample ID: 177084034

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was exceeded
- The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-034F
Sample ID: 177084035
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 9.44%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	NA
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.773	+/-0.176	0.0762	+/-0.176	0.162	pCi/g						
Americium-241	U	0.0114	+/-0.0313	0.0294	+/-0.0313	0.0605	pCi/g						
Bismuth-212		0.449	+/-0.357	0.141	+/-0.357	0.299	pCi/g						
Bismuth-214		0.730	+/-0.118	0.0367	+/-0.118	0.0773	pCi/g						
Cesium-134	UI	0.00	+/-0.0505	0.0272	+/-0.0505	0.0571	pCi/g						
Cesium-137	U	0.0141	+/-0.0337	0.0203	+/-0.0337	0.0429	pCi/g						
Cobalt-60	U	0.00739	+/-0.0412	0.0225	+/-0.0412	0.0486	pCi/g						
Europium-152	U	0.0169	+/-0.0569	0.0506	+/-0.0569	0.105	pCi/g						
Europium-154	U	0.0606	+/-0.110	0.0647	+/-0.110	0.139	pCi/g						
Europium-155	U	0.0804	+/-0.0697	0.046	+/-0.0697	0.0948	pCi/g						
Lead-212		0.725	+/-0.0766	0.0419	+/-0.0766	0.0858	pCi/g						
Lead-214		0.844	+/-0.0961	0.0344	+/-0.0961	0.0719	pCi/g						
Manganese-54	U	0.0211	+/-0.0242	0.0219	+/-0.0242	0.0462	pCi/g						
Niobium-94	U	0.00842	+/-0.022	0.0196	+/-0.022	0.0412	pCi/g						
Potassium-40		11.5	+/-0.833	0.185	+/-0.833	0.405	pCi/g						
Radium-226		0.730	+/-0.118	0.0367	+/-0.118	0.0773	pCi/g						
Silver-108m	U	0.0222	+/-0.0295	0.0182	+/-0.0295	0.0381	pCi/g						
Thallium-208		0.290	+/-0.0469	0.0187	+/-0.0469	0.0395	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-034F
Sample ID: 177084035

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy—Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

GENERAL ENGINEERING LABORATORIES, LLC

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Certificate of Analysis

Company : Connecticut Yankee Atomic Power
Address : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-008F
Sample ID: 177084036
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 4.04%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth													
Waived													
Actinium-228		0.743	+/-0.114	0.0384	+/-0.114	0.0814	pCi/g		MJH1	12/08/06	0930	593223	
Americium-241	U	0.0143	+/-0.0524	0.0472	+/-0.0524	0.0971	pCi/g						
Bismuth-212		0.535	+/-0.138	0.0941	+/-0.138	0.197	pCi/g						
Bismuth-214		0.471	+/-0.0536	0.0243	+/-0.0536	0.0507	pCi/g						
Cesium-134	UI	0.00	+/-0.024	0.0153	+/-0.024	0.032	pCi/g						
Cesium-137	U	0.00506	+/-0.0132	0.0118	+/-0.0132	0.0248	pCi/g						
Cobalt-60	U	0.0101	+/-0.0134	0.0124	+/-0.0134	0.0264	pCi/g						
Europium-152	U	0.00518	+/-0.0345	0.0311	+/-0.0345	0.0647	pCi/g						
Europium-154	U	-0.0133	+/-0.0379	0.0322	+/-0.0379	0.069	pCi/g						
Europium-155	U	0.00646	+/-0.0404	0.0382	+/-0.0404	0.0786	pCi/g						
Lead-212		0.667	+/-0.0406	0.0178	+/-0.0406	0.0368	pCi/g						
Lead-214		0.541	+/-0.0587	0.0217	+/-0.0587	0.0451	pCi/g						
Manganese-54	U	0.00783	+/-0.0127	0.0118	+/-0.0127	0.0247	pCi/g						
Niobium-94	U	0.00662	+/-0.0129	0.0115	+/-0.0129	0.0241	pCi/g						
Potassium-40		10.5	+/-0.585	0.114	+/-0.585	0.244	pCi/g						
Radium-226		0.471	+/-0.0536	0.0243	+/-0.0536	0.0507	pCi/g						
Silver-108m	U	0.0103	+/-0.0114	0.011	+/-0.0114	0.0229	pCi/g						
Thallium-208		0.210	+/-0.0294	0.0103	+/-0.0294	0.0217	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-008F
Sample ID: 177084036

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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> Result is greater than value reported
A The TIC is a suspected aldol-condensation product
B Target analyte was detected in the associated blank
BD Results are either below the MDC or tracer recovery is low
C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
H Analytical holding time was exceeded
J Value is estimated
N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
h Preparation or preservation holding time was 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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-005F
Sample ID: 177084037
Matrix: TS
Collect Date: 30-NOV-06
Receive Date: 05-DEC-06
Collector: Client
Moisture: 6.25%

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
Rad Gamma Spec Analysis													
<i>Gamma, Solid-FSS GAM & ALL FSS 226 Ingrowth</i>													
<i>Waived</i>													
Actinium-228		0.626	+/-0.135	0.0446	+/-0.135	0.0892	pCi/g						
Americium-241	U	0.0641	+/-0.113	0.0966	+/-0.113	0.193	pCi/g						
Bismuth-212		0.377	+/-0.197	0.103	+/-0.197	0.206	pCi/g						
Bismuth-214		0.486	+/-0.0819	0.0257	+/-0.0819	0.0514	pCi/g						
Cesium-134	U	0.019	+/-0.0213	0.0162	+/-0.0213	0.0324	pCi/g						
Cesium-137	U	0.0141	+/-0.0184	0.0156	+/-0.0184	0.0312	pCi/g						
Cobalt-60	U	0.00555	+/-0.017	0.0143	+/-0.017	0.0286	pCi/g						
Europium-152	U	-0.0103	+/-0.058	0.0389	+/-0.058	0.0778	pCi/g						
Europium-154	U	0.021	+/-0.0571	0.0432	+/-0.0571	0.0863	pCi/g						
Europium-155	U	0.092	+/-0.0814	0.0527	+/-0.0814	0.105	pCi/g						
Lead-212		0.624	+/-0.0677	0.0227	+/-0.0677	0.0454	pCi/g						
Lead-214		0.619	+/-0.0804	0.0263	+/-0.0804	0.0525	pCi/g						
Manganese-54	U	0.00176	+/-0.0173	0.0146	+/-0.0173	0.0292	pCi/g						
Niobium-94	U	-0.0126	+/-0.0154	0.0122	+/-0.0154	0.0243	pCi/g						
Potassium-40		10.4	+/-0.890	0.124	+/-0.890	0.247	pCi/g						
Radium-226		0.486	+/-0.0819	0.0257	+/-0.0819	0.0514	pCi/g						
Silver-108m	U	-0.00147	+/-0.0144	0.0121	+/-0.0144	0.0241	pCi/g						
Thallium-208		0.175	+/-0.0376	0.0137	+/-0.0376	0.0274	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	MXP2	12/05/06	1535	593152

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 :

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported

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 : 362 Injun Hollow Rd

East Hampton, Connecticut 06424
Contact: Mr. Jack McCarthy
Project: Soils PO# 002332

Report Date: December 12, 2006

Client Sample ID: 9804-0000-005F
Sample ID: 177084037

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

Parameter	Qualifier	Result	Uncertainty	LC	TPU	MDA	Units	DF	Analyst	Date	Time	Batch	N
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- > Result is greater than value reported
 - A The TIC is a suspected aldol-condensation product
 - B Target analyte was detected in the associated blank
 - BD Results are either below the MDC or tracer recovery is low
 - C Analyte has been confirmed by GC/MS analysis
 - D Results are reported from a diluted aliquot of the sample
 - H Analytical holding time was exceeded
 - J Value is estimated
 - N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
 - R Sample results are rejected
 - U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
 - UI Gamma Spectroscopy—Uncertain identification
 - X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
 - Y QC Samples were not spiked with this compound
 - ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
 - h Preparation or preservation holding time was 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: December 12, 2006

Page 1 of 12

Client : Connecticut Yankee Atomic Power
362 Injun Hollow Rd

Contact: East Hampton, Connecticut
Mr. Jack McCarthy

Workorder: 177084

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	593610										
QC1201241517	177084014	DUP									
Americium-241		U	0.0351	0.252	pCi/g	151		(0% - 100%)	DXH2	12/08/06	13:09
		Uncert:	+/-0.202	+/-0.206							
		TPU:	+/-0.202	+/-0.208							
Curium-242		U	0.00	0.00	pCi/g	0		(0% - 100%)			
		Uncert:	+/-0.122	+/-0.0851							
		TPU:	+/-0.122	+/-0.0851							
Curium-243/244		U	0.115	0.125	pCi/g	8		(0% - 100%)			
		Uncert:	+/-0.309	+/-0.142							
		TPU:	+/-0.310	+/-0.143							
QC1201241519	LCS										
Americium-241			13.2	12.9	pCi/g		98	(75%-125%)			
			Uncert:	+/-1.28							
			TPU:	+/-2.03							
Curium-242			U	0.0253	pCi/g						
			Uncert:	+/-0.0671							
			TPU:	+/-0.0672							
Curium-243/244			11.4	10.2	pCi/g		90	(75%-125%)			
			Uncert:	+/-1.14							
			TPU:	+/-1.69							
QC1201241516	MB										
Americium-241			U	0.0825	pCi/g						
			Uncert:	+/-0.129							
			TPU:	+/-0.129							
Curium-242			U	0.00	pCi/g						
			Uncert:	+/-0.0619							
			TPU:	+/-0.0619							
Curium-243/244			U	-0.0363	pCi/g						
			Uncert:	+/-0.0755							
			TPU:	+/-0.0756							
QC1201241518	177084014	MS									
Americium-241		U	0.0351	12.2	pCi/g		90	(75%-125%)			
			Uncert:	+/-0.202	+/-1.22						
			TPU:	+/-0.202	+/-1.91						
Curium-242		U	0.00	0.00	pCi/g						
			Uncert:	+/-0.122	+/-0.0641						
			TPU:	+/-0.122	+/-0.0641						
Curium-243/244		U	0.115	9.96	pCi/g		85	(75%-125%)			
			Uncert:	+/-0.309	+/-1.10						
			TPU:	+/-0.310	+/-1.62						
Batch	593611										
QC1201241525	177084014	DUP									
Plutonium-238		U	-0.0285	-0.063	pCi/g	75		(0% - 100%)	DXH2	12/08/06	13:09

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

QC Summary

Workorder: 177084

Page 2 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	593611										
Plutonium-239/240		Uncert:		+/-0.0645							
		TPU:		+/-0.0645							
		U		0.0261	U						
				-0.0986		pCi/g	344	(0% - 100%)			
		Uncert:		+/-0.127							
		TPU:		+/-0.127							
QC1201241527	LCS										
Plutonium-238			U	0.0649	pCi/g			(75%-125%)		12/08/06	13:09
Plutonium-239/240		Uncert:		+/-0.112							
		TPU:		+/-0.112							
		12.2		11.3	pCi/g		93	(75%-125%)			
		Uncert:		+/-1.18							
		TPU:		+/-1.65							
QC1201241524	MB										
Plutonium-238			U	0.00439	pCi/g					12/08/06	13:09
Plutonium-239/240		Uncert:		+/-0.138							
		TPU:		+/-0.138							
			U	-0.0161	pCi/g						
		Uncert:		+/-0.0831							
		TPU:		+/-0.0832							
QC1201241526	177084014	MS									
Plutonium-238		U	-0.0285	U	0.0821	pCi/g		(75%-125%)		12/08/06	13:09
Plutonium-239/240		Uncert:		+/-0.0645							
		TPU:		+/-0.0645							
		12.5	U	0.0261		12.7	pCi/g		102	(75%-125%)	
		Uncert:		+/-0.127		+/-1.15					
		TPU:		+/-0.127		+/-1.69					
Batch	593612										
QC1201241529	177084014	DUP									
Plutonium-241		U	-4.41	U	-5.33	pCi/g	0	(0% - 100%)	DXH2	12/12/06	09:18
Plutonium-241		Uncert:		+/-7.46							
		TPU:		+/-7.46							
		138				115	pCi/g		84	(75%-125%)	12/12/06 08:45
		Uncert:		+/-11.6							
		TPU:		+/-16.0							
QC1201241528	MB										
Plutonium-241			U	-5.28	pCi/g					12/12/06	09:34
Plutonium-241		Uncert:		+/-6.97							
		TPU:		+/-6.97							
		141	U	-4.41		130	pCi/g		92	(75%-125%)	12/12/06 09:02
		Uncert:		+/-7.46		+/-12.3					
		TPU:		+/-7.46		+/-17.4					
Rad Gamma Spec											
Batch	593222										
QC1201240647	177084001	DUP									
Actinium-228			0.669		0.653	pCi/g	2	(0% - 100%)	MJH1	12/07/06	19:22
		Uncert:	+/-0.188		+/-0.104						
					+/-0.104						

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

QC Summary

Workorder: 177084

Page 3 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch 593222											
Americium-241		TPU:		+/-0.188							
	U			-0.0958	U	0.104		pCi/g	4780	(0% - 100%)	
		Uncert:		+/-0.0731		+/-0.0728					
Bismuth-212		TPU:		+/-0.0731		+/-0.0728					
				0.547		0.462		pCi/g	17	(0% - 100%)	
		Uncert:		+/-0.322		+/-0.149					
Bismuth-214		TPU:		+/-0.322		+/-0.149					
				0.604		0.501		pCi/g	19	(0% - 100%)	
		Uncert:		+/-0.103		+/-0.0665					
Cesium-134		TPU:		+/-0.103		+/-0.0665					
	U		UI	0.0294		0.00		pCi/g	18	(0% - 100%)	
		Uncert:		+/-0.0239		+/-0.0198					
Cesium-137		TPU:		+/-0.0239		+/-0.0198					
	U		U	-0.000496		-0.00765		pCi/g	176	(0% - 100%)	
		Uncert:		+/-0.0214		+/-0.0127					
Cobalt-60		TPU:		+/-0.0214		+/-0.0127					
	U		U	0.0141		-0.00142		pCi/g	245	(0% - 100%)	
		Uncert:		+/-0.0184		+/-0.0135					
Europium-152		TPU:		+/-0.0184		+/-0.0135					
	U		U	-0.0214		-0.0234		pCi/g	9	(0% - 100%)	
		Uncert:		+/-0.053		+/-0.0357					
Europium-154		TPU:		+/-0.053		+/-0.0357					
	U		U	-0.0516		0.00182		pCi/g	215	(0% - 100%)	
		Uncert:		+/-0.0592		+/-0.0353					
Europium-155		TPU:		+/-0.0592		+/-0.0353					
	U		U	0.0129		0.0506		pCi/g	119	(0% - 100%)	
		Uncert:		+/-0.0575		+/-0.0486					
Lead-212		TPU:		+/-0.0575		+/-0.0486					
				0.680		0.640		pCi/g	6	(0% - 20%)	
		Uncert:		+/-0.0829		+/-0.0586					
Lead-214		TPU:		+/-0.0829		+/-0.0586					
				0.726		0.621		pCi/g	16	(0% - 20%)	
		Uncert:		+/-0.106		+/-0.068					
Manganese-54		TPU:		+/-0.106		+/-0.068					
	U		U	0.00152		0.0104		pCi/g	149	(0% - 100%)	
		Uncert:		+/-0.020		+/-0.0152					
Niobium-94		TPU:		+/-0.020		+/-0.0152					
	U		U	-0.0059		0.00788		pCi/g	1390	(0% - 100%)	
		Uncert:		+/-0.0183		+/-0.0101					
Potassium-40		TPU:		+/-0.0183		+/-0.0101					
				10.5		11.3		pCi/g	8	(0% - 20%)	
		Uncert:		+/-1.02		+/-0.778					
Radium-226		TPU:		+/-1.02		+/-0.778					
				0.604		0.501		pCi/g	19	(0% - 100%)	
		Uncert:		+/-0.103		+/-0.0665					
Silver-108m		TPU:		+/-0.103		+/-0.0665					
	U		U	0.00287		-0.00621		pCi/g	544	(0% - 100%)	
		Uncert:		+/-0.0183		+/-0.0104					

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

QC Summary

Workorder: 177084

Page 4 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	593222										
Thallium-208	TPU:	+/-0.0183		+/-0.0104							
		0.169		0.187	pCi/g	10		(0% - 100%)			
	Uncert:	+/-0.0509		+/-0.0264							
	TPU:	+/-0.0509		+/-0.0264							
QC1201240648 LCS Actinium-228			U	-0.0152	pCi/g					12/08/06 07:15	
	Uncert:			+/-0.819							
	TPU:			+/-0.819							
Americium-241	23.4			25.7	pCi/g		110	(75%-125%)			
	Uncert:			+/-2.15							
	TPU:			+/-2.15							
Bismuth-212			U	0.285	pCi/g						
	Uncert:			+/-1.23							
	TPU:			+/-1.23							
Bismuth-214			U	0.232	pCi/g						
	Uncert:			+/-0.319							
	TPU:			+/-0.319							
Cesium-134			U	-0.045	pCi/g						
	Uncert:			+/-0.198							
	TPU:			+/-0.198							
Cesium-137	9.52			10.2	pCi/g		107	(75%-125%)			
	Uncert:			+/-1.10							
	TPU:			+/-1.10							
Cobalt-60	14.0			14.8	pCi/g		106	(75%-125%)			
	Uncert:			+/-0.785							
	TPU:			+/-0.785							
Europium-152			U	-0.284	pCi/g						
	Uncert:			+/-0.402							
	TPU:			+/-0.402							
Europium-154			U	-0.205	pCi/g						
	Uncert:			+/-0.346							
	TPU:			+/-0.346							
Europium-155			U	0.136	pCi/g						
	Uncert:			+/-0.290							
	TPU:			+/-0.290							
Lead-212			U	0.208	pCi/g						
	Uncert:			+/-0.176							
	TPU:			+/-0.176							
Lead-214			U	-0.173	pCi/g						
	Uncert:			+/-0.251							
	TPU:			+/-0.251							
Manganese-54			U	-0.0484	pCi/g						
	Uncert:			+/-0.172							
	TPU:			+/-0.172							
Niobium-94			U	-0.0168	pCi/g						
	Uncert:			+/-0.149							
	TPU:			+/-0.149							
Potassium-40			U	-0.351	pCi/g						

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 177084

Page 5 of 12

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	593222									
			Uncert:							
			TPU:							
Radium-226		U	0.232	pCi/g			(75%-125%)			
			Uncert:							
			TPU:							
Silver-108m		U	-0.0931	pCi/g						
			Uncert:							
			TPU:							
Thallium-208		U	0.0423	pCi/g						
			Uncert:							
			TPU:							
QC1201240646 MB										
Actinium-228		U	0.0752	pCi/g					12/07/06	19:18
			Uncert:							
			TPU:							
Americium-241		U	0.000231	pCi/g						
			Uncert:							
			TPU:							
Bismuth-212		U	-0.0591	pCi/g						
			Uncert:							
			TPU:							
Bismuth-214		U	0.0327	pCi/g						
			Uncert:							
			TPU:							
Cesium-134		U	0.00527	pCi/g						
			Uncert:							
			TPU:							
Cesium-137		U	-0.00736	pCi/g						
			Uncert:							
			TPU:							
Cobalt-60		U	0.00958	pCi/g						
			Uncert:							
			TPU:							
Europium-152		U	0.00224	pCi/g						
			Uncert:							
			TPU:							
Europium-154		U	-0.0396	pCi/g						
			Uncert:							
			TPU:							
Europium-155		U	0.0291	pCi/g						
			Uncert:							
			TPU:							
Lead-212		U	0.00563	pCi/g						
			Uncert:							
			TPU:							
Lead-214		UI	0.00	pCi/g						
			Uncert:							
			TPU:							

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 177084

Page 6 of 12

Parmname			NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec													
Batch	593222												
Manganese-54					U	0.0151	pCi/g						
			Uncert:			+/-0.0176							
			TPU:			+/-0.0176							
Niobium-94					U	0.000867	pCi/g						
			Uncert:			+/-0.0121							
			TPU:			+/-0.0121							
Potassium-40					U	0.111	pCi/g						
			Uncert:			+/-0.129							
			TPU:			+/-0.129							
Radium-226					U	0.0327	pCi/g						
			Uncert:			+/-0.0245							
			TPU:			+/-0.0245							
Silver-108m					U	-0.00836	pCi/g						
			Uncert:			+/-0.00976							
			TPU:			+/-0.00976							
Thallium-208					U	0.00254	pCi/g						
			Uncert:			+/-0.0239							
			TPU:			+/-0.0239							
Batch	593223												
QC1201240650 177084037 DUP													
Actinium-228				0.626		0.619	pCi/g	1		(0% - 100%)	MJH1	12/08/06	10:25
			Uncert:	+/-0.135		+/-0.187							
			TPU:	+/-0.135		+/-0.187							
Americium-241		U		0.0641	U	0.0506	pCi/g	23		(0% - 100%)			
			Uncert:	+/-0.113		+/-0.0359							
			TPU:	+/-0.113		+/-0.0359							
Bismuth-212				0.377		0.622	pCi/g	49		(0% - 100%)			
			Uncert:	+/-0.197		+/-0.319							
			TPU:	+/-0.197		+/-0.319							
Bismuth-214				0.486		0.551	pCi/g	13		(0% - 100%)			
			Uncert:	+/-0.0819		+/-0.135							
			TPU:	+/-0.0819		+/-0.135							
Cesium-134		U		0.019	U	0.0464	pCi/g	84		(0% - 100%)			
			Uncert:	+/-0.0213		+/-0.0355							
			TPU:	+/-0.0213		+/-0.0355							
Cesium-137		U		0.0141	U	0.0365	pCi/g	88		(0% - 100%)			
			Uncert:	+/-0.0184		+/-0.030							
			TPU:	+/-0.0184		+/-0.030							
Cobalt-60		U		0.00555	U	0.00175	pCi/g	104		(0% - 100%)			
			Uncert:	+/-0.017		+/-0.0291							
			TPU:	+/-0.017		+/-0.0291							
Europium-152		U		-0.0103	U	-0.00749	pCi/g	32		(0% - 100%)			
			Uncert:	+/-0.058		+/-0.0681							
			TPU:	+/-0.058		+/-0.0681							
Europium-154		U		0.021	U	0.0149	pCi/g	34		(0% - 100%)			
			Uncert:	+/-0.0571		+/-0.0848							
			TPU:	+/-0.0571		+/-0.0848							
Europium-155		U		0.092	U	0.0558	pCi/g	49		(0% - 100%)			

GENERAL ENGINEERING LABORATORIES, LLC

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

QC Summary

Workorder: 177084

Page 7 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	593223										
Lead-212		Uncert:	+/-0.0814	+/-0.0528							
		TPU:	+/-0.0814	+/-0.0528							
			0.624	0.676	pCi/g	8		(0% - 20%)			
Lead-214		Uncert:	+/-0.0677	+/-0.0839							
		TPU:	+/-0.0677	+/-0.0839							
			0.619	0.530	pCi/g	16		(0% - 20%)			
Manganese-54		Uncert:	+/-0.0804	+/-0.101							
		TPU:	+/-0.0804	+/-0.101							
	U		0.00176	0.00791	pCi/g	127		(0% - 100%)			
		Uncert:	+/-0.0173	+/-0.0254							
		TPU:	+/-0.0173	+/-0.0254							
Niobium-94			-0.0126	-0.00817	pCi/g	43		(0% - 100%)			
	U										
		Uncert:	+/-0.0154	+/-0.0418							
		TPU:	+/-0.0154	+/-0.0418							
Potassium-40			10.4	9.70	pCi/g	6		(0% - 20%)			
		Uncert:	+/-0.890	+/-0.966							
		TPU:	+/-0.890	+/-0.966							
Radium-226			0.486	0.551	pCi/g	13		(0% - 100%)			
		Uncert:	+/-0.0819	+/-0.135							
		TPU:	+/-0.0819	+/-0.135							
Silver-108m			-0.00147	-0.0118	pCi/g	155		(0% - 100%)			
	U										
		Uncert:	+/-0.0144	+/-0.0215							
		TPU:	+/-0.0144	+/-0.0215							
Thallium-208			0.175	0.218	pCi/g	22		(0% - 100%)			
		Uncert:	+/-0.0376	+/-0.0526							
		TPU:	+/-0.0376	+/-0.0526							
QC1201240651	LCS										
Actinium-228				0.682	pCi/g					12/08/06	09:23
		Uncert:		+/-0.819							
		TPU:		+/-0.819							
Americium-241	23.4			25.6	pCi/g		110	(75%-125%)			
		Uncert:		+/-2.12							
		TPU:		+/-2.12							
Bismuth-212				0.900	pCi/g						
		Uncert:		+/-1.36							
		TPU:		+/-1.36							
Bismuth-214				0.150	pCi/g						
		Uncert:		+/-0.277							
		TPU:		+/-0.277							
Cesium-134				-0.00387	pCi/g						
		Uncert:		+/-0.178							
		TPU:		+/-0.178							
Cesium-137	9.52			10.4	pCi/g		109	(75%-125%)			
		Uncert:		+/-1.10							
		TPU:		+/-1.10							
Cobalt-60	14.0			14.9	pCi/g		107	(75%-125%)			
		Uncert:		+/-0.772							
		TPU:		+/-0.772							

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

QC Summary

Workorder: 177084

Page 8 of 12

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec										
Batch	593223									
Europium-152		U	0.148	pCi/g						
	Uncert:		+/-0.335							
	TPU:		+/-0.335							
Europium-154		U	-0.196	pCi/g						
	Uncert:		+/-0.385							
	TPU:		+/-0.385							
Europium-155		U	0.212	pCi/g						
	Uncert:		+/-0.283							
	TPU:		+/-0.283							
Lead-212		U	0.113	pCi/g						
	Uncert:		+/-0.189							
	TPU:		+/-0.189							
Lead-214		U	0.236	pCi/g						
	Uncert:		+/-0.254							
	TPU:		+/-0.254							
Manganese-54		U	0.0987	pCi/g						
	Uncert:		+/-0.173							
	TPU:		+/-0.173							
Niobium-94		U	-0.0728	pCi/g						
	Uncert:		+/-0.151							
	TPU:		+/-0.151							
Potassium-40		U	0.360	pCi/g						
	Uncert:		+/-1.21							
	TPU:		+/-1.21							
Radium-226		U	0.150	pCi/g			(75%-125%)			
	Uncert:		+/-0.277							
	TPU:		+/-0.277							
Silver-108m		U	0.180	pCi/g						
	Uncert:		+/-0.137							
	TPU:		+/-0.137							
Thallium-208		U	0.111	pCi/g						
	Uncert:		+/-0.245							
	TPU:		+/-0.245							
QC1201240649 MB										
Actinium-228		U	0.00435	pCi/g					12/08/06	10:21
	Uncert:		+/-0.0452							
	TPU:		+/-0.0452							
Americium-241		U	0.00483	pCi/g						
	Uncert:		+/-0.0302							
	TPU:		+/-0.0302							
Bismuth-212		U	0.0347	pCi/g						
	Uncert:		+/-0.0812							
	TPU:		+/-0.0812							
Bismuth-214		U	0.0311	pCi/g						
	Uncert:		+/-0.0219							
	TPU:		+/-0.0219							
Cesium-134		U	-0.00659	pCi/g						
	Uncert:		+/-0.0101							

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

QC Summary

Workorder: 177084

Page 9 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	593223										
Cesium-137	TPU:			+/-0.0101							
			U	-0.00142	pCi/g						
	Uncert:			+/-0.00888							
Cobalt-60	TPU:			+/-0.00888							
			U	0.00205	pCi/g						
	Uncert:			+/-0.0115							
Europium-152	TPU:			+/-0.0115							
			U	0.0132	pCi/g						
	Uncert:			+/-0.0278							
Europium-154	TPU:			+/-0.0278							
			U	5.630E-05	pCi/g						
	Uncert:			+/-0.0238							
Europium-155	TPU:			+/-0.0238							
			U	-0.0124	pCi/g						
	Uncert:			+/-0.0238							
Lead-212	TPU:			+/-0.0238							
			U	0.0246	pCi/g						
	Uncert:			+/-0.0163							
Lead-214	TPU:			+/-0.0163							
			U	0.00937	pCi/g						
	Uncert:			+/-0.0204							
Manganese-54	TPU:			+/-0.0204							
			U	-5.830E-05	pCi/g						
	Uncert:			+/-0.00905							
Niobium-94	TPU:			+/-0.00905							
			U	-0.00715	pCi/g						
	Uncert:			+/-0.00981							
Potassium-40	TPU:			+/-0.00981							
			U	0.0129	pCi/g						
	Uncert:			+/-0.200							
Radium-226	TPU:			+/-0.200							
			U	0.0311	pCi/g						
	Uncert:			+/-0.0219							
Silver-108m	TPU:			+/-0.0219							
			U	0.00263	pCi/g						
	Uncert:			+/-0.00788							
Thallium-208	TPU:			+/-0.00788							
			U	0.00657	pCi/g						
	Uncert:			+/-0.0106							
	TPU:			+/-0.0106							
Rad Gas Flow											
Batch	593221										
QC1201240643	177087006 DUP										
Strontium-90		U	-0.00152	U	0.00411	pCi/g	0	(0% - 100%)	KSD1	12/08/06	17:02
	Uncert:		+/-0.00993		+/-0.0104						
	TPU:		+/-0.00993		+/-0.0104						
QC1201240645	LCS										
Strontium-90		1.13			1.13	pCi/g	100	(75%-125%)		12/08/06	17:02

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

QC Summary

Workorder: 177084

Page 10 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	593221										
				Uncert:							
				TPU:							
QC1201240642	MB										
Strontium-90			U	-8.670E-05	pCi/g					12/08/06	17:01
				Uncert:							
				TPU:							
QC1201240644	177087006	MS									
Strontium-90			5.07	U	-0.00152	5.23		pCi/g	103	(75%-125%)	12/08/06 17:02
				Uncert:	+/-0.00993	+/-0.499					
				TPU:	+/-0.00993	+/-0.513					
Rad Liquid Scintillation											
Batch	593284										
QC1201240790	177084014	DUP									
Technetium-99			U	0.132	U	-0.111		pCi/g	0	(0% - 100%) KXR1	12/11/06 10:22
				Uncert:	+/-0.182	+/-0.156					
				TPU:	+/-0.182	+/-0.156					
QC1201240792	LCS										
Technetium-99			13.0			12.1		pCi/g	93	(75%-125%)	12/11/06 11:25
				Uncert:		+/-0.349					
				TPU:		+/-0.460					
QC1201240789	MB										
Technetium-99				U	0.0296			pCi/g			12/11/06 09:50
				Uncert:	+/-0.148						
				TPU:	+/-0.148						
QC1201240791	177084014	MS									
Technetium-99			13.0	U	0.132	12.1		pCi/g	93	(75%-125%)	12/11/06 10:53
				Uncert:	+/-0.182	+/-0.397					
				TPU:	+/-0.182	+/-0.498					
Batch	593288										
QC1201240797	177084014	DUP									
Carbon-14			U	-0.0214	U	0.0237		pCi/g	0	(0% - 100%) AXD2	12/06/06 22:14
				Uncert:	+/-0.0914	+/-0.102					
				TPU:	+/-0.0914	+/-0.102					
QC1201240799	LCS										
Carbon-14			6.60			6.53		pCi/g	99	(75%-125%)	12/07/06 00:19
				Uncert:		+/-0.185					
				TPU:		+/-0.211					
QC1201240796	MB										
Carbon-14				U	-0.00806			pCi/g			12/06/06 21:11
				Uncert:	+/-0.0931						
				TPU:	+/-0.0931						
QC1201240798	177084014	MS									
Carbon-14			7.01	U	-0.0214	7.02		pCi/g	100	(75%-125%)	12/06/06 23:16
				Uncert:	+/-0.0914	+/-0.198					
				TPU:	+/-0.0914	+/-0.226					
Batch	593291										
QC1201240804	177087014	DUP									
Tritium			U	0.506	U	0.635		pCi/g	0	(0% - 100%) DFA1	12/07/06 22:36

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

QC Summary

Workorder: 177084

Page 11 of 12

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation											
Batch	593291										
		Uncert:	+/-0.876	+/-0.885							
		TPU:	+/-0.877	+/-0.885							
QC1201240806	LCS										
Tritium		10.7		10.1	pCi/g		95	(75%-125%)		12/08/06	01:42
		Uncert:		+/-0.698							
		TPU:		+/-0.719							
QC1201240803	MB										
Tritium			U	0.321	pCi/g					12/07/06	21:03
		Uncert:		+/-0.426							
		TPU:		+/-0.426							
QC1201240805	177087014	MS									
Tritium		11.1	U	0.506	pCi/g		91	(75%-125%)		12/08/06	00:09
		Uncert:		+/-0.876							
		TPU:		+/-0.877							
Batch	593478										
QC1201241222	177084014	DUP									
Iron-55			U	-17	pCi/g	0		(0% - 100%)	MXPI	12/11/06	15:02
		Uncert:		+/-39.0							
		TPU:		+/-39.0							
QC1201241224	LCS										
Iron-55		608		635	pCi/g		104	(75%-125%)		12/11/06	15:34
		Uncert:		+/-49.4							
		TPU:		+/-94.0							
QC1201241221	MB										
Iron-55			U	-23.2	pCi/g					12/11/06	14:46
		Uncert:		+/-43.3							
		TPU:		+/-43.3							
QC1201241223	177084014	MS									
Iron-55		642	U	-17	pCi/g		101	(75%-125%)		12/11/06	15:18
		Uncert:		+/-39.0							
		TPU:		+/-39.0							
Batch	593479										
QC1201241226	177084014	DUP									
Nickel-63			U	-4.09	pCi/g	0		(0% - 100%)	MXPI	12/08/06	23:43
		Uncert:		+/-11.1							
		TPU:		+/-11.1							
QC1201241228	LCS										
Nickel-63		506		514	pCi/g		102	(75%-125%)		12/09/06	00:15
		Uncert:		+/-23.3							
		TPU:		+/-29.2							
QC1201241225	MB										
Nickel-63			U	-2.75	pCi/g					12/08/06	23:27
		Uncert:		+/-8.97							
		TPU:		+/-8.97							
QC1201241227	177084014	MS									
Nickel-63		545	U	-4.09	pCi/g		95	(75%-125%)		12/08/06	23:59
		Uncert:		+/-11.1							
		TPU:		+/-11.1							

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

QC Summary

Workorder: 177084

Page 12 of 12

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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Notes:

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- H Analytical holding time was exceeded
- J Value is estimated
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- h Preparation or preservation holding time was exceeded

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.

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

ATTACHMENT 3 (DQA RESULTS)

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

ATTACHMENT 3A (PRELIMINARY DATA REVIEW)

Survey Unit: 9804-0000
Area Description Southeast Grounds (non-protected)
Classification A
Survey Media Subsurface Soils
Type of Survey Final Status Survey
Number of Measurements 31 Static, 4 Biased

**STATISTICS on TOTAL
POPULATION**

	Cs-137	Co-60
DCGL_{op} (pCi/g):	3.85E+00	2.29E+00
Minimum Value:	-1.02E-02	-1.88E-02
Maximum Value:	1.15E-01	3.89E-02
Mean:	2.44E-02	3.89E-03
Median:	1.78E-02	5.36E-03
Standard Deviation:	2.50E-02	1.21E-02

**STATISTICS on NON-
PARAMETRIC POPULATION**

	Cs-137	Co-60
DCGL_{op} (pCi/g):	3.85E+00	2.29E+00
Minimum Value:	-1.02E-02	-1.88E-02
Maximum Value:	7.43E-02	3.89E-02
Mean:	2.12E-02	2.64E-03
Median:	1.78E-02	3.33E-03
Standard Deviation:	1.93E-02	1.21E-02

Sample ID	GPS Coordinates		Cs-137				Co-60				Fraction of DCGL
			Result (pCi/g)	2σ	MDA (pCi/g)	Identified	Result (pCi/g)	2σ	MDA (pCi/g)	Identified	
9804-0000-001F	669100.78	236559.81	1.53E-02	0.030	3.35E-02		6.09E-03	0.018	3.45E-02		0.01
9804-0000-002F	669066.74	236500.84	3.69E-02	0.030	3.13E-02	+	3.01E-03	0.018	2.95E-02		0.01
9804-0000-003F	669134.83	236500.84	2.82E-02	0.027	4.31E-02	+	8.66E-03	0.024	4.13E-02		0.01
9804-0000-004F	668964.61	236441.88	0.00E+00	0.019	2.14E-02		-9.72E-03	0.015	2.05E-02		0.00

Sample ID	GPS Coordinates		Cs-137				Co-60				Fraction of DCGL
			Result (pCi/g)	2σ	MDA (pCi/g)	Identified	Result (pCi/g)	2σ	MDA (pCi/g)	Identified	
9804-0000-005F	669032.70	236441.88	1.41E-02	0.018	3.12E-02		5.55E-03	0.017	2.86E-02		0.01
9804-0000-006F	669100.78	236441.88	0.00E+00	0.037	3.42E-02		5.36E-03	0.022	4.04E-02		0.00
9804-0000-007F	668930.57	236382.92	-1.02E-02	0.023	3.42E-02		-8.67E-03	0.019	3.49E-02		0.00
9804-0000-008F	668998.66	236382.92	5.06E-03	0.013	2.48E-02		1.01E-02	0.013	2.64E-02		0.01
9804-0000-009F	669066.74	236382.92	1.79E-02	0.031	2.67E-02		-3.30E-03	0.019	2.60E-02		0.00
9804-0000-0010F	669134.83	236382.92	3.55E-02	0.026	2.93E-02	+	1.20E-02	0.016	3.18E-02		0.01
9804-0000-0011F	669202.91	236382.92	3.06E-02	0.019	3.48E-02	+	-9.60E-03	0.019	3.29E-02		0.00
9804-0000-0012F	668896.53	236323.95	7.46E-03	0.022	4.09E-02		9.75E-04	0.025	4.76E-02		0.00
9804-0000-0013F	668964.61	236323.95	-4.96E-04	0.021	3.87E-02		1.41E-02	0.018	3.38E-02		0.01
9804-0000-0014F	669032.70	236323.95	7.61E-03	0.029	5.21E-02		1.18E-02	0.028	4.89E-02		0.01
9804-0000-0015F	669100.78	236323.95	1.20E-02	0.023	4.45E-02		4.00E-03	0.022	4.32E-02		0.00
9804-0000-0016F	669168.87	236323.95	0.00E+00	0.043	3.71E-02		-3.92E-03	0.023	4.21E-02		0.00
9804-0000-0017F	669236.95	236323.95	3.82E-02	0.051	4.13E-02		-1.83E-02	0.020	3.28E-02		0.00
9804-0000-0019F	668998.66	236264.99	3.31E-02	0.029	3.84E-02	+	-1.38E-03	0.027	3.91E-02		0.01
9804-0000-0020F	669066.74	236264.99	3.24E-02	0.034	4.85E-02		3.89E-02	0.023	4.15E-02	+	0.03
9804-0000-0021F	669134.83	236264.99	1.71E-02	0.025	4.84E-02		9.88E-04	0.024	4.54E-02		0.00
9804-0000-0022F	669202.91	236264.99	7.43E-02	0.034	4.62E-02	+	-1.48E-02	0.030	5.12E-02		0.01
9804-0000-0023F	669270.99	236264.99	4.67E-02	0.041	4.03E-02	+	1.70E-02	0.024	4.95E-02		0.02
9804-0000-0025F	669100.78	236206.03	4.50E-02	0.024	2.64E-02	+	6.85E-03	0.015	2.84E-02		0.01
9804-0000-0026F	669236.95	236206.03	3.10E-02	0.029	3.57E-02	+	-4.88E-03	0.020	3.57E-02		0.01
9804-0000-0027F	669305.04	236206.03	5.83E-02	0.038	4.25E-02	+	1.47E-02	0.025	4.59E-02		0.02

Sample ID	GPS Coordinates		Cs-137				Co-60				Fraction of DCGL
			Result (pCi/g)	2 σ	MDA (pCi/g)	Identified	Result (pCi/g)	2 σ	MDA (pCi/g)	Identified	
9804-0000-0028F	669373.12	236206.03	1.78E-02	0.025	4.08E-02		1.55E-02	0.026	4.24E-02		0.01
9804-0000-0029F	669339.08	236147.07	2.67E-02	0.026	5.23E-02	+	1.13E-02	0.026	5.07E-02		0.01
9804-0000-0030F	669407.16	236147.07	2.05E-02	0.020	4.21E-02	+	-2.50E-03	0.022	3.95E-02		0.00
9804-0000-0036F	236365.25	669149.47	1.52E-02	0.036	3.08E-02		3.33E-03	0.018	3.34E-02		0.01
9804-0000-0037F	236400.39	668982.88	5.16E-03	0.020	3.71E-02		-1.88E-02	0.020	3.23E-02		0.00
9804-0000-0038F	236355.96	669069.10	-3.12E-03	0.022	4.02E-02		-1.25E-02	0.027	4.06E-02		0.00
9804-0000-0032B	236206.11	669139.23	7.80E-03	0.021	3.87E-02		1.24E-02	0.020	3.85E-02		0.01
9804-0000-0033B	236492.21	669023.32	1.15E-01	0.034	3.50E-02	+	9.66E-03	0.017	3.39E-02		0.03
9804-0000-0034B	236400.60	669091.16	1.41E-02	0.034	4.29E-02		7.39E-03	0.041	4.86E-02		0.01
9804-0000-0035B	236294.04	669153.04	5.77E-02	0.049	4.70E-02	+	2.48E-02	0.026	5.19E-02		0.03
9804-0000-007FS	668998.66	236382.92	5.27E-03	0.017	3.18E-02		2.88E-03	0.020	3.79E-02		0.00
9804-0000-028FS	669373.12	236206.03	5.35E-02	0.038	7.57E-02		8.21E-03	0.035	6.75E-02		0.02

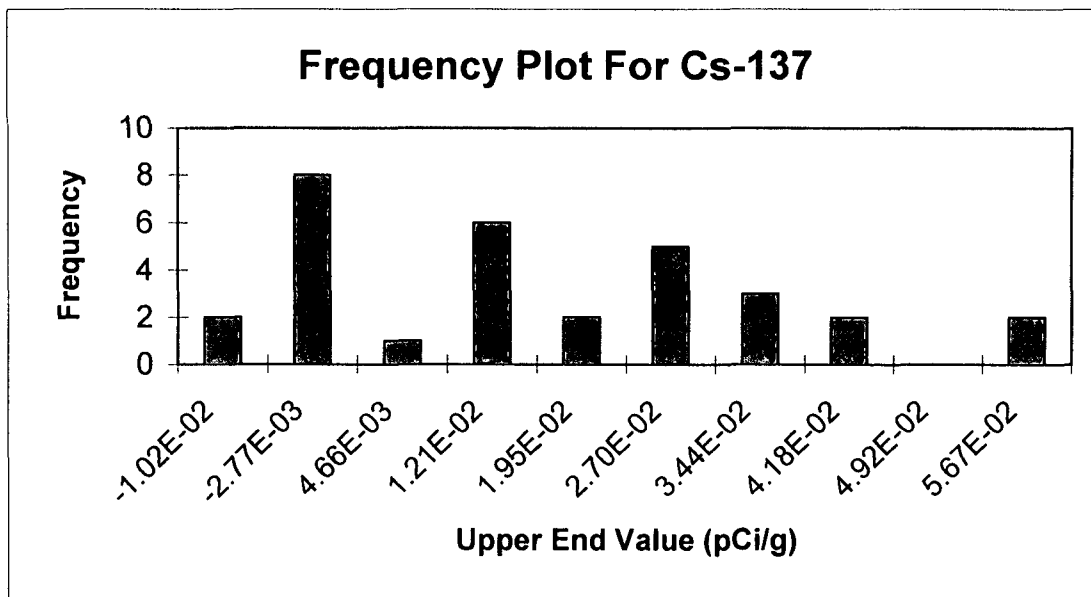
SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

**ATTACHMENT 3B (GRAPHICAL REPRESENTATION OF
DATA)**

FREQUENCY PLOT FOR CESIUM-137

Survey Unit: 9804-0000
 Survey Unit Name: Southeast Site Grounds Sub-surface Soils
 Mean: 2.12E-02 pCi/g



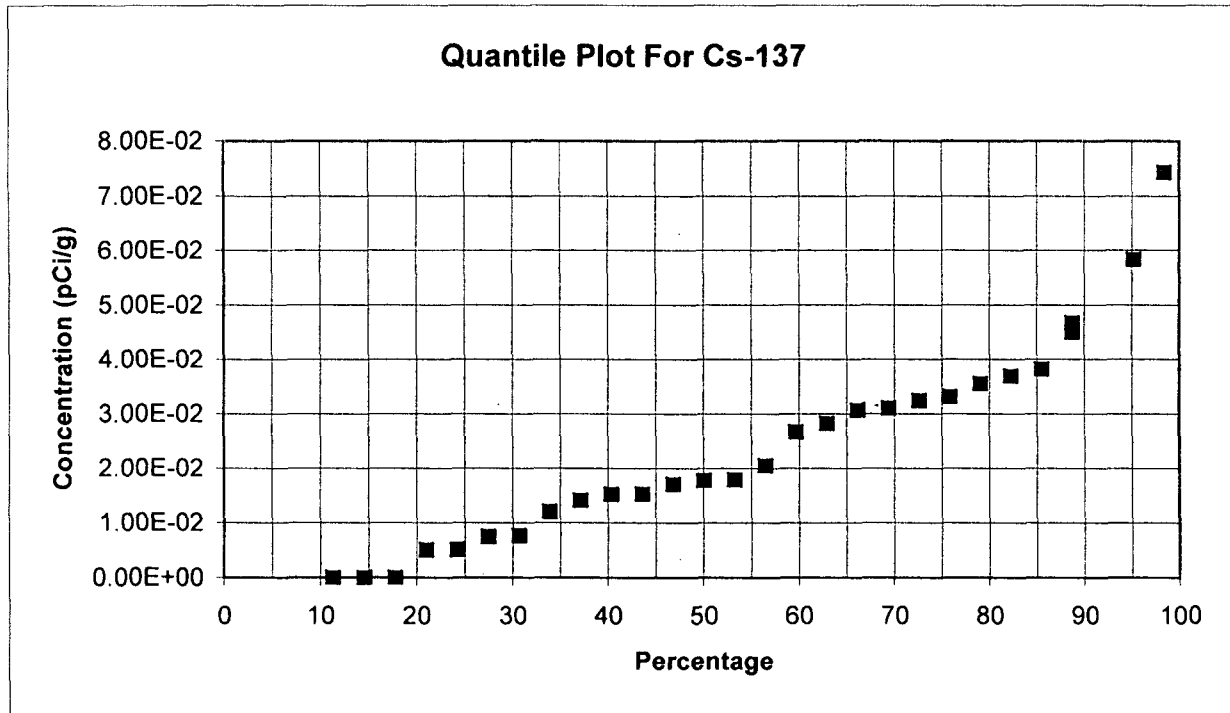
Upper End Value	Observation Frequency	Observation Frequency
-1.02E-02	2	6%
-2.77E-03	8	26%
4.66E-03	1	3%
1.21E-02	6	19%
1.95E-02	2	6%
2.70E-02	5	16%
3.44E-02	3	10%
4.18E-02	2	6%
4.92E-02	0	0%
5.67E-02	2	6%
Total:	31	100%

[Signature]
 Submitted by/Date D. WOJTKOWIAK 12/14/06

[Signature]
 Reviewed by/Date J. M. C. 1/2/07

QUANTILE PLOT FOR CESIUM-137

Survey Unit: 9804-0000
 Survey Unit Name: Southeast Site Grounds Sub-surface Soils
 Mean: 2.12E-02 pCi/g



Cs-137	Rank	Percentage	Cs-137	Rank	Percentage
-1.02E-02	1	1.6%	1.78E-02	16	50.0%
-3.12E-03	2	4.8%	1.79E-02	17	53.2%
-4.96E-04	3	8.1%	2.05E-02	18	56.5%
0.00E+00	4	11.3%	2.67E-02	19	59.7%
0.00E+00	5	14.5%	2.82E-02	20	62.9%
0.00E+00	6	17.7%	3.06E-02	21	66.1%
5.06E-03	7	21.0%	3.10E-02	22	69.4%
5.16E-03	8	24.2%	3.24E-02	23	72.6%
7.46E-03	9	27.4%	3.31E-02	24	75.8%
7.61E-03	10	30.6%	3.55E-02	25	79.0%
1.20E-02	11	33.9%	3.69E-02	26	82.3%
1.41E-02	12	37.1%	3.82E-02	27	85.5%
1.52E-02	13	40.3%	4.50E-02	28	88.7%
1.53E-02	14	43.5%	4.67E-02	28	88.7%
1.71E-02	15	46.8%	5.83E-02	30	95.2%
			7.43E-02	31	98.4%

Submitted by/Date
 J. WATKOWIAK 12/14/06
 S.M. GILLEY
 Reviewed by/Date
 1/2/07

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

ATTACHMENT 3C (SIGN TEST)

Sign Test Calculation Sheet for Multiple Radionuclides

Survey Area Number: 9804		Survey Unit Number: 0000		WPIR #: 2006-0043		
Survey Area Name: Southeast Site Grounds Subsurface Soils		Classification: A	TYPE I (a error): 0.05	N: 32		
Radionuclides:	1 st Radionuclide Cs-137	2 nd Radionuclide Co-60				
DCGL:	3.85E+00	2.29E+00				
Results 1 st Radionuclide (pCi/g)	Results 2 nd Radionuclide (pCi/g)	Results 3 rd Radionuclide (pCi/g)	Results 4 th Radionuclide (pCi/g)	Weighted Sum (W _s)	1-W _s	Sign
1.53E-02	6.09E-03			0.01	0.99	+1
3.69E-02	3.01E-03			0.01	0.99	+1
2.82E-02	8.66E-03			0.01	0.99	+1
0.00E+00	-9.72E-03			0.00	1.00	+1
1.41E-02	5.55E-03			0.01	0.99	+1
0.00E+00	5.36E-03			0.00	1.00	+1
-1.02E-02	-8.67E-03			-0.01	1.01	+1
5.06E-03	1.01E-02			0.01	0.99	+1
1.79E-02	-3.30E-03			0.00	1.00	+1
3.55E-02	1.20E-02			0.01	0.99	+1
3.06E-02	-9.60E-03			0.00	1.00	+1
7.46E-03	9.75E-04			0.00	1.00	+1
-4.96E-04	1.41E-02			0.01	0.99	+1
7.61E-03	1.18E-02			0.01	0.99	+1
1.20E-02	4.00E-03			0.00	1.00	+1
0.00E+00	-3.92E-03			0.00	1.00	+1
3.82E-02	-1.83E-02			0.00	1.00	+1
3.31E-02	-1.38E-03			0.01	0.99	+1
3.24E-02	3.89E-02			0.03	0.97	+1
1.71E-02	9.88E-04			0.00	1.00	+1
7.43E-02	-1.48E-02			0.01	0.99	+1
4.67E-02	1.70E-02			0.02	0.98	+1

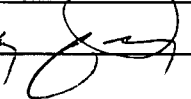
Results 1 st Radionuclide (pCi/g)	Results 2 nd Radionuclide (pCi/g)	Results 3 rd Radionuclide (pCi/g)	Results 4 th Radionuclide (pCi/g)	Weighted Sum (W _s)	1-W _s	Sign
4.50E-02	6.85E-03			0.01	0.99	+1
3.10E-02	-4.88E-03			0.01	0.99	+1
5.83E-02	1.47E-02			0.02	0.98	+1
1.78E-02	1.55E-02			0.01	0.99	+1
2.67E-02	1.13E-02			0.01	0.99	+1
2.05E-02	-2.50E-03			0.00	1.00	+1
1.52E-02	3.33E-03			0.01	0.99	+1
5.16E-03	-1.88E-02			-0.01	1.01	+1
-3.12E-03	-1.25E-02			-0.01	1.01	+1
Number of positive differences (S+)						31

Critical Value 20

Survey Unit Meets the Acceptance Criteria

Performed by: David Wojtkowiak 

Date: 12/14/2006

Independent Review by: Jack McClellan 

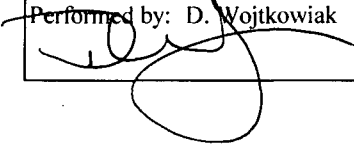
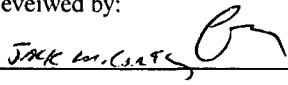
Date: 1/2/07

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

ATTACHMENT 3D (QC SPLIT RESULTS)

Split Sample Assessment Form

Survey Area #:	9804	Survey Unit #	0000	Survey Unit Name:	Southeast Site Grounds Sub-surface Soils (non-protected area)															
Sample Plan or WPIR#:	2006-0043				SML#:	9804-0000-007														
Sample Description: Comparison of split samples collected from sample measurement location #7 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9804-0000-007F, the comparison sample was 9804-0000-007FS.																				
STANDARD					COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
K-40	9.17E+00	0.363	25	0.75 - 1.33	8.87E+00	0.36	0.97	Y												
Comments/Corrective Actions: Cs-137 was not detected in sufficient quantities in the field split results at location 9804-0000-007 to evaluate in accordance with procedure. Evaluation using the reported results for K-40 resulted in acceptable agreement between the field-split results at these locations.. Since K-40 was found to be present at an acceptable level of agreement, no further action is warranted.					Table is provided to show acceptance criteria used to assess split samples.															
					<table> <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: D. Wojtkowiak		Date:		Reveiwed by:		Date:														
		12/14/2006				1/2/07														

Split Sample Assessment Form

Survey Area #:	9804	Survey Unit #	0000	Survey Unit Name:	Southeast Site Grounds Sub-surface Soils (non-protected area)															
Sample Plan or WPIR#:	2006-0043				SML#:	9804-0000-028														
Sample Description: Comparison of split samples collected from sample measurement location #28 and analyzed using gamma spectroscopy by off-site Vendor Laboratory. The standard sample was 9804-0000-028F, the comparison sample was 9804-0000-028FS.																				
STANDARD					COMPARISON															
Radionuclide	Activity Value	Standard Error	Resolution	Agreement Range	Activity Value	Standard Error	Comparison Ratio	Acceptable (Y/N)												
K-40	1.20E+01	0.6	20	0.75 - 1.33	1.27E+01	0.63	1.06	Y												
Comments/Corrective Actions: Cs-137 was not detected in sufficient quantities in the field split results at location 9804-0000-028 to evaluate in accordance with procedure. Evaluation using the reported results for K-40 resulted in acceptable agreement between the field-split results at these locations.. Since K-40 was found to be present at an acceptable level of agreement, no further action is warranted.					Table is provided to show acceptance criteria used to assess split samples. <table> <tr> <th>Resolution</th> <th>Agreement Range</th> </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>				Resolution	Agreement Range	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
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16 - 50	0.75 - 1.33																			
51 - 200	0.80 - 1.25																			
>200	0.85 - 1.18																			
Performed by: D. Wojtkowiak		Date: 12/14/2006		Reveiwed by: <i>JMK mcs</i>		Date: 1/2/07														

SUBSURFACE AREA ASSOCIATED WITH THE SOUTHEAST GROUNDS
SURVEY UNIT 9804-0000

RELEASE RECORD

ATTACHMENT 3E (COMPASS DQA WITH POWER CURVE)

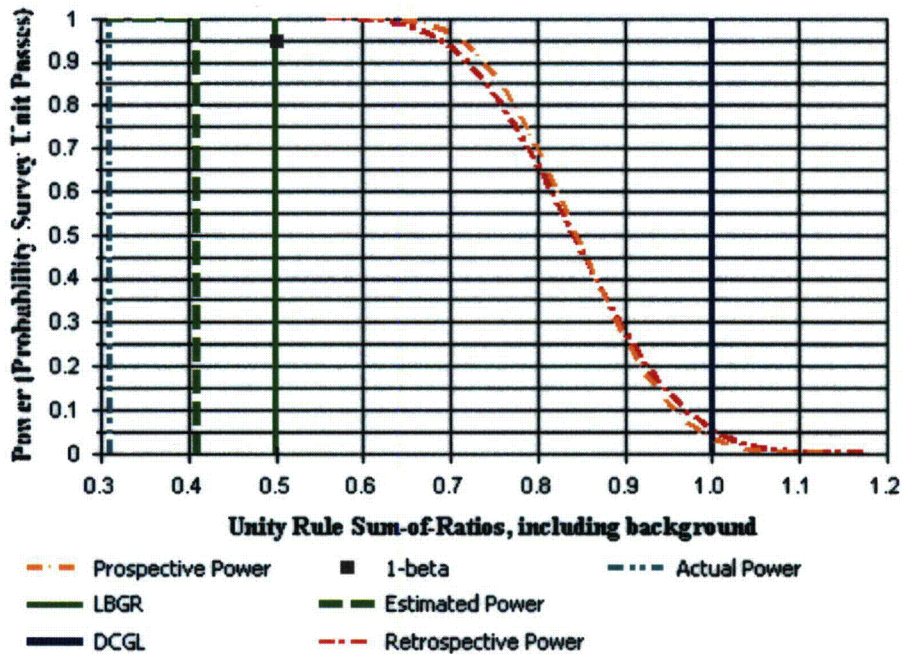


DQA Surface Soil Report

Assessment Summary

Site:	9527-0006 F		
Planner(s):	McCarthy		
Survey Unit Name:	East Mountainside Area		
Report Number:	1		
Survey Unit Samples:	14		
Reference Area Samples:	0		
Test Performed:	Sign	Test Result:	Not Performed
Judgmental Samples:	0	EMC Result:	Not Performed
Assessment Conclusion:	<i>Reject Null Hypothesis (Survey Unit PASSES)</i>		

Retrospective Power Curve



EAST MOUNTAINSIDE AREA
SURVEY UNIT 9527-0006

RELEASE RECORD

ATTACHMENT 4E (COMPASS DQA WITH POWER CURVE)